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UNITED STATES BANKRUPTCY COURT
CENTRAL DISTRICT OF CALIFORNIA
LOS ANGELES DIVISION

In re: **VERITY HEALTH SYSTEM OF CALIFORNIA, INC. *et al.*,** Debtor(s). ☐ Affects All Debtors ☒ Affects Verity Health System of California, Inc. ☒ Affects O'Connor Hospital ☒ Affects Saint Louise Regional Hospital ☒ Affects St. Francis Medical Center ☒ Affects St. Vincent Medical Center ☒ Affects Seton Medical Center ☐ Affects O'Connor Hospital Foundation ☐ Affects Saint Louise Regional Hospital Foundation ☐ Affects St. Francis Medical Center of Lynwood Foundation ☐ Affects St. Vincent Foundation ☒ Affects St. Vincent Dialysis Center, Inc. ☐ Affects Seton Medical Center Foundation ☐ Affects Verity Business Services ☒ Affects Verity Medical Foundation ☐ Affects Verity Holdings, LLC ☐ Affects De Paul Ventures, LLC ☒ Affects De Paul Ventures – San Jose Dialysis, LLC Debtors and Debtors In Possession	Lead Case No.: 2:18-bk-20151-ER Jointly Administered With: Case No.: 2:18-bk-20162-ER; Case No.: 2:18-bk-20163-ER; Case No.: 2:18-bk-20164-ER; Case No.: 2:18-bk-20165-ER; Case No.: 2:18-bk-20167-ER; Case No.: 2:18-bk-20168-ER; Case No.: 2:18-bk-20169-ER; Case No.: 2:18-bk-20171-ER; Case No.: 2:18-bk-20172-ER; Case No.: 2:18-bk-20173-ER; Case No.: 2:18-bk-20175-ER; Case No.: 2:18-bk-20176-ER; Case No.: 2:18-bk-20178-ER; Case No.: 2:18-bk-20179-ER; Case No.: 2:18-bk-20180-ER; Case No.: 2:18-bk-20181-ER Chapter 11 Cases **APPENDIX OF LITERATURE AND ARTICLES IN SUPPORT OF ELEVENTH REPORT BY PATIENT CARE OMBUDSMAN, JACOB NATHAN RUBIN, MD, FACC, PURSUANT TO 11 U.S.C. § 333(b)(2)** NO HEARING REQUIRED

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Jacob Nathan Rubin, MD, FAAC, the Patient Care Ombudsman ("PCO") appointed under 11 U.S.C. § 333 in the above-referenced chapter 11 bankruptcy cases of the affected debtors and debtors in possession (collectively, "Debtors"), hereby provides copies of literature and articles in support of his eleventh report ("Report") to the Court pursuant to 11 U.S.C. § 333(b) regarding the quality of patient care provided to patients of the affected Debtors.

Submitted by:

LEVENE, NEALE, BENDER, YOO & BRILL L.L.P.

By: */s/ Ron Bender*
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MONICA Y. KIM

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Exhibit 1

Since January 2020 Elsevier has created a COVID-19 resource centre with free information in English and Mandarin on the novel coronavirus COVID-19. The COVID-19 resource centre is hosted on Elsevier Connect, the company's public news and information website.

Elsevier hereby grants permission to make all its COVID-19-related research that is available on the COVID-19 resource centre - including this research content - immediately available in PubMed Central and other publicly funded repositories, such as the WHO COVID database with rights for unrestricted research re-use and analyses in any form or by any means with acknowledgement of the original source. These permissions are granted for free by Elsevier for as long as the COVID-19 resource centre remains active.

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Letters

Association of Treatment Dose Anticoagulation With In-Hospital Survival Among Hospitalized Patients With COVID-19

The novel coronavirus disease-2019 (COVID-19) has affected nearly every country worldwide. Reports note increased thromboembolic events among hospitalized patients (1,2), and there are anecdotal observations of improved outcomes with systemic anticoagulation (AC); however, the specific role of AC in disease management remains unclear (3,4). We assessed the association between administration of in-hospital AC and survival in a large cohort of hospitalized patients with COVID-19. This work was approved by the Institutional Review Board at the Icahn School of Medicine at Mount Sinai (#20-03271).

Between March 14 and April 11, 2020, 2,773 patients were hospitalized with laboratory-confirmed COVID-19 within the Mount Sinai Health System in New York City. We used a Cox proportional hazards model to evaluate the effect of treatment-dose systemic AC (including oral, subcutaneous, or intravenous forms) on in-hospital mortality. We adjusted for age, sex, ethnicity, body mass index, history of hypertension, heart failure, atrial fibrillation, type 2 diabetes, AC use prior to hospitalization, and admission date. To adjust for differential length of stay and initiation of AC treatment, AC treatment duration was used as a covariate while intubation was treated as a time-dependent variable.

Among 2,773 hospitalized patients with COVID-19, 786 (28%) received systemic treatment-dose AC during their hospital course. The median hospitalization duration was 5 days (interquartile range [IQR]: 3 to 8 days). Median time from admission to AC initiation was 2 days (IQR: 0 to 5 days). Median duration of AC treatment was 3 days (IQR: 2 to 7 days). In-hospital mortality for patients treated with AC was 22.5% with a median survival of 21 days, compared to 22.8% and median survival of 14 days in patients who did not receive treatment-dose AC (Figure 1A). Patients who received treatment-dose AC were more likely to require invasive mechanical ventilation (29.8% vs 8.1%; $p < 0.001$) as compared to those who received prophylactic dose AC or did not receive AC. Overall, we observed significantly increased baseline prothrombin time, activated partial thromboplastin time, lactate dehydrogenase, ferritin, C reactive protein, and D-dimer values among individuals who received in-hospital AC compared with those who did not. These differences were not observed, however, among mechanically ventilated patients. In patients who required mechanical ventilation ($n = 395$), in-hospital mortality was 29.1% with a median survival of 21 days for those treated with AC as compared to 62.7% with a median survival of 9 days in patients who did not receive treatment-dose AC (Figure 1B). In a multivariate proportional hazards model, longer duration of AC treatment was associated with a reduced risk of mortality (adjusted HR of 0.86 per day; 95% confidence interval: 0.82 to 0.89; $p < 0.001$).

We also explored the association of systemic treatment-dose AC administration with bleeding events. Major bleeding was defined as: 1) hemoglobin <7 g/dl and any red blood cell transfusion; 2) at least 2 U of red blood cell transfusion within 48 h; or 3) a diagnosis code for major bleeding including intracranial hemorrhage, hematemesis, melena, peptic ulcer with hemorrhage, colon, rectal, or anal hemorrhage, hematuria, ocular hemorrhage, and acute hemorrhagic gastritis. Among those who did not receive treatment-dose AC, 38 (1.9%) individuals had bleeding events, compared with 24 (3%) among those who received treatment-dose AC ($p = 0.2$). Of the 24 patients who had bleeding events on AC, 15 (63%) had bleeding events after starting AC and 9 (37%) had bleeding events before starting AC. Bleeding events were more common among intubated patients (30 of 395; 7.5%) than among non-intubated patients (32 of 2,378; 1.35%).

Although limited by its observational nature, unobserved confounding, unknown indication for AC, lack of metrics to further classify illness severity in the mechanically ventilated subgroup, and indication bias, our findings suggest that systemic treatment-dose AC may be associated with improved outcomes

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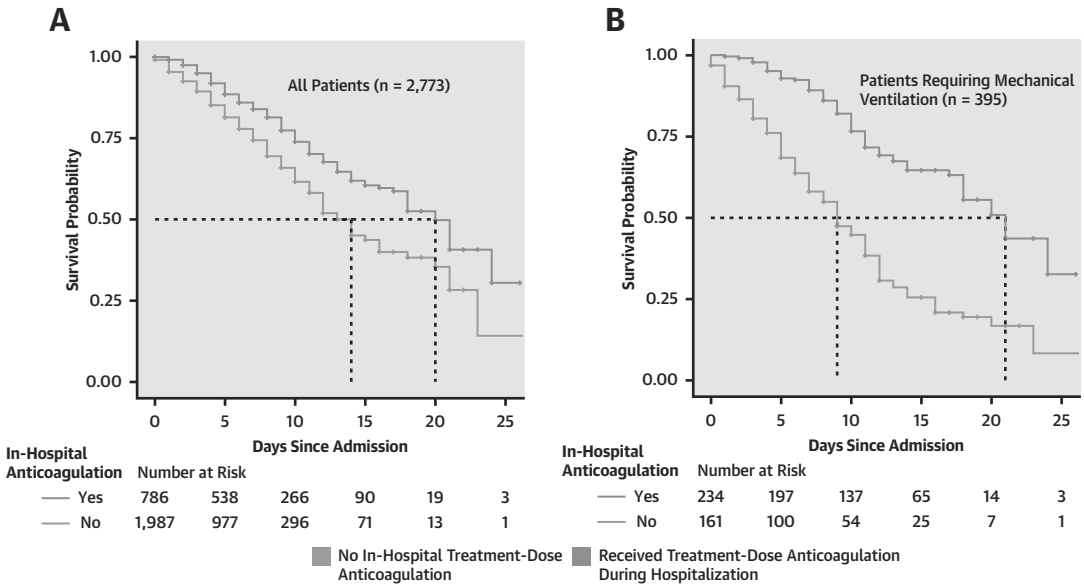
FIGURE 1 Kaplan-Meier Curve for Hospitalized Patients With COVID-19 and Those Mechanically Ventilated



Kaplan-Meier curve for hospitalized patients with COVID-19 **(A)** and those mechanically ventilated **(B)**. **Colors** indicate treatment-dose anticoagulation. Patients hospitalized at time of data-freeze or discharged within the study period were right-censored. COVID-19 = novel coronavirus disease-2019.

among patients hospitalized with COVID-19. The potential benefits of systemic AC, however, need to be weighed against the risk of bleeding and therefore should be individualized. The association of in-hospital AC and mechanical ventilation likely reflects reservation of treatment-dose AC for more severe clinical presentations. Interestingly, there was an association with AC and improved survival after adjusting for mechanical ventilation.

These data, derived from a large United States cohort, provide clinical insights for consideration in the management of patients hospitalized with COVID-19. Prospective randomized trials are needed to determine whether systemic AC confers a survival benefit in hospitalized patients with COVID-19.

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The authors attest they are in compliance with human studies committees and animal welfare regulations of the authors' institutions and Food and Drug Administration guidelines, including patient consent where appropriate. For more information, visit the *JACC* author instructions page.

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Acute Myocardial Injury at Hospital Admission Is Associated With All-Cause Mortality in COVID-19

The outbreak of coronavirus disease-2019 (COVID-19), caused by severe acute respiratory syndrome-coronavirus-2 (SARS-CoV-2), has now become a global pandemic. SARS-CoV-2 uses angiotensin-converting enzyme (ACE) 2 as the receptor for entry into host cells. The virus can attack organs with high ACE2 expression such as the heart, kidney, and gastrointestinal tract, in addition to the lungs. Acute myocardial injury is common among patients with COVID-19, and fulminant myocarditis and even sudden cardiac death are not rare. Recent studies found that patients with myocardial injury in hospitalization had a significantly higher in-hospital mortality rate than did those without myocardial injury (1,2). However, it is still unclear whether myocardial injury at the time of admission indicating early cardiac involvement is also a risk factor for mortality in COVID-19.

To study the association between acute myocardial injury at admission and all-cause mortality risk in COVID-19, we conducted a retrospective single-center cohort study among adult inpatients (age >18 years) in the Central Hospital of Wuhan, a COVID-designated hospital in Wuhan, China. All patients had been diagnosed with COVID-19 by both nucleic acid testing and chest computed tomography scanning. Patients who died or were discharged between January 28 and March 16, 2020 were included in our study. According to the Chinese management guideline for COVID-19 (version 7.0) (3), the discharge criteria are that patients have no fever for at least 3 days, have significant relief of respiratory symptoms and improvement on chest computed tomography, and have a negative SARS-CoV-2 laboratory test result twice in succession. Acute myocardial injury is defined as elevation of troponin I above the 99th percentile upper reference limit (4). This study was approved by the Research Ethics Commission of the Central Hospital of Wuhan, and was conducted in accordance with the Declaration of Helsinki.

A total of 179 patients were enrolled, and 176 (116 survivors, 60 nonsurvivors) with troponin I tests at admission were included in the current study. Median age was 67 years (interquartile range: 57 to 73 years), and 57.39% of the patients were men. The most common comorbidities were hypertension (n = 87 [49.43%]), diabetes (n = 47 [26.70%]), hyperlipidemia (n = 30 [17.05%]), coronary heart disease (n = 25 [14.20%]), and cerebrovascular disease (n = 24 [13.64%]). No patients had myocardial infarction or heart failure within 1 month before admission. Compared with survivors, nonsurvivors were older; had a higher proportion of comorbidities, including hypertension, cerebrovascular disease, and pulmonary diseases; had worse disease severity status; and had a higher proportion of acute myocardial injury on admission (58.33% vs. 12.07%). Among the 60 nonsurvivors, 25 (41.67%) with myocardial injury at admission died of circulatory failure or both respiratory failure and circulatory failure. Kaplan-Meier curves showed that acute myocardial injury at admission increased the risk of death in patients with COVID-19 (**Figure 1**). We included 169 patients in multivariable binary logistic regression models. After adjusting for sex, age, fever, severity status, comorbidities, background use of ACE inhibitors or angiotensin II receptor blockers, pulse, fasting plasma glucose, creatinine, white blood cell count, neutrophil count, platelet count, albumin, and glucocorticoid treatment, the regression models showed that acute myocardial injury significantly increased the death risk (crude odds ratio: 10.20; 95% confidence interval: 4.78 to 21.78; $p < 0.0001$; adjusted odds ratio: 6.93; 95% confidence interval: 1.83 to 26.22; $p = 0.0044$). The stratified analyses also showed that the results of the aforementioned associations remained robust according to baseline characteristics.

In summary, our cohort study demonstrated that acute myocardial injury at admission was associated with a higher risk of all-cause mortality in patients with COVID-19, which highlighted the importance of closely monitoring changes of myocardial enzymes, cardiac rhythm, and cardiac functions, and thus providing timely interventions, especially when

Exhibit 2

Morbidity and Mortality Weekly Report

Characteristics and Clinical Outcomes of Adult Patients Hospitalized with COVID-19 — Georgia, March 2020

Jeremy A. W. Gold, MD[1,2]; Karen K. Wong, MD[1]; Christine M. Szablewski, DVM[1,2,3]; Priti R. Patel, MD[1]; John Rossow, DVM[1,2]; Juliana da Silva, MD[1]; Pavithra Natarajan, BMBS[1]; Sapna Bamrah Morris, MD[1]; Robyn Neblett Fanfair, MD[1]; Jessica Rogers-Brown, PhD[1]; Beau B. Bruce, MD, PhD[1]; Sean D. Browning, MSc[1,4]; Alfonso C. Hernandez-Romieu, MD[5]; Nathan W. Furukawa, MD[1,2]; Mohleen Kang, MD[5]; Mary E. Evans, MD[1]; Nadine Oosmanally, MSPH[3]; Melissa Tobin-D'Angelo, MD[3]; Cherie Drenzek, DVM[3]; David J. Murphy, MD, PhD[5]; Julie Hollberg, MD[5]; James M. Blum, MD[5,6]; Robert Jansen, MD[7]; David W. Wright, MD[5,7]; William M. Sewell III, MD[8]; Jack D. Owens, MD[8]; Benjamin Lefkove, MD[9]; Frank W. Brown, MD[5,9]; Deron C. Burton, MD[1]; Timothy M. Uyeki, MD[1]; Stephanie R. Bialek, MD[1]; Brendan R. Jackson, MD[1]

On April 29, 2020, this report was posted as an MMWR *Early Release on the* MMWR *website (https://www.cdc.gov/mmwr).*

SARS-CoV-2, the novel coronavirus that causes coronavirus disease 2019 (COVID-19), was first detected in the United States during January 2020 (*1*). Since then, >980,000 cases have been reported in the United States, including >55,000 associated deaths as of April 28, 2020 (*2*). Detailed data on demographic characteristics, underlying medical conditions, and clinical outcomes for persons hospitalized with COVID-19 are needed to inform prevention strategies and community-specific intervention messages. For this report, CDC, the Georgia Department of Public Health, and eight Georgia hospitals (seven in metropolitan Atlanta and one in southern Georgia) summarized medical record–abstracted data for hospitalized adult patients with laboratory-confirmed* COVID-19 who were admitted during March 2020. Among 305 hospitalized patients with COVID-19, 61.6% were aged <65 years, 50.5% were female, and 83.2% with known race/ethnicity were non-Hispanic black (black). Over a quarter of patients (26.2%) did not have conditions thought to put them at higher risk for severe disease, including being aged ≥65 years. The proportion of hospitalized patients who were black was higher than expected based on overall hospital admissions. In an adjusted time-to-event analysis, black patients were not more likely than were nonblack patients to receive invasive mechanical ventilation† (IMV) or to die during hospitalization (hazard ratio [HR] = 0.63; 95% confidence interval [CI] = 0.35–1.13). Given the overrepresentation of black patients within this hospitalized cohort, it is important for public health officials to ensure that prevention activities prioritize communities and racial/ethnic groups most affected by COVID-19. Clinicians and public officials should be aware that all adults, regardless of underlying conditions or age, are at risk for serious illness from COVID-19.

Hospitalized cases were selected to describe patients with severe manifestations of COVID-19 that warranted inpatient management. Data were collected from a convenience sample of 305 patients at seven hospitals in metropolitan Atlanta (five community hospitals, one university hospital, and one public hospital) and one community hospital in southern Georgia. Patients were selected sequentially from lists provided in real time by hospitals from a total of 698 patients aged ≥18 years who were hospitalized with laboratory-confirmed COVID-19 during March 1–March 30, 2020, including stays for observation and deaths in the emergency department. Over a 3-week period, data were abstracted from electronic medical records and recorded using Research Electronic Data Capture software (version 8.8.0; Vanderbilt University) (*3*). Hospitalizations for patients transferred between participating hospitals or admitted multiple times to the same hospital were analyzed as a single hospitalization. Data on patient race/ethnicity, age, sex, body mass index (BMI), insurance status, residence (e.g., in a long-term care facility), risk factors for severe COVID-19 (based on currently available data and clinical expertise)§ (*4*), and outcomes were abstracted from medical records. Race was categorized as black (non-Hispanic) or nonblack (all other racial/ethnic groups), and age was analyzed in three groups: 18–49, 50–64, and ≥65 years. Fisher's exact tests for proportions and the Wilcoxon rank sum test or the Kruskal-Wallis H test for medians were used to test differences identified in descriptive analyses. Multivariable Cox proportional-hazards analysis was performed on the association between race and time to meeting a composite outcome of IMV or death, adjusting for age, sex, BMI, hospital, admission date, and underlying medical conditions (selected through a stepwise Akaike information criterion approach, which balances a model's fit against its complexity); censoring was used to account for patients still

* COVID-19 was confirmed with laboratory detection of SARS-CoV-2 by reverse transcription-polymerase chain reaction.

† Endotracheal intubation and mechanical ventilation.

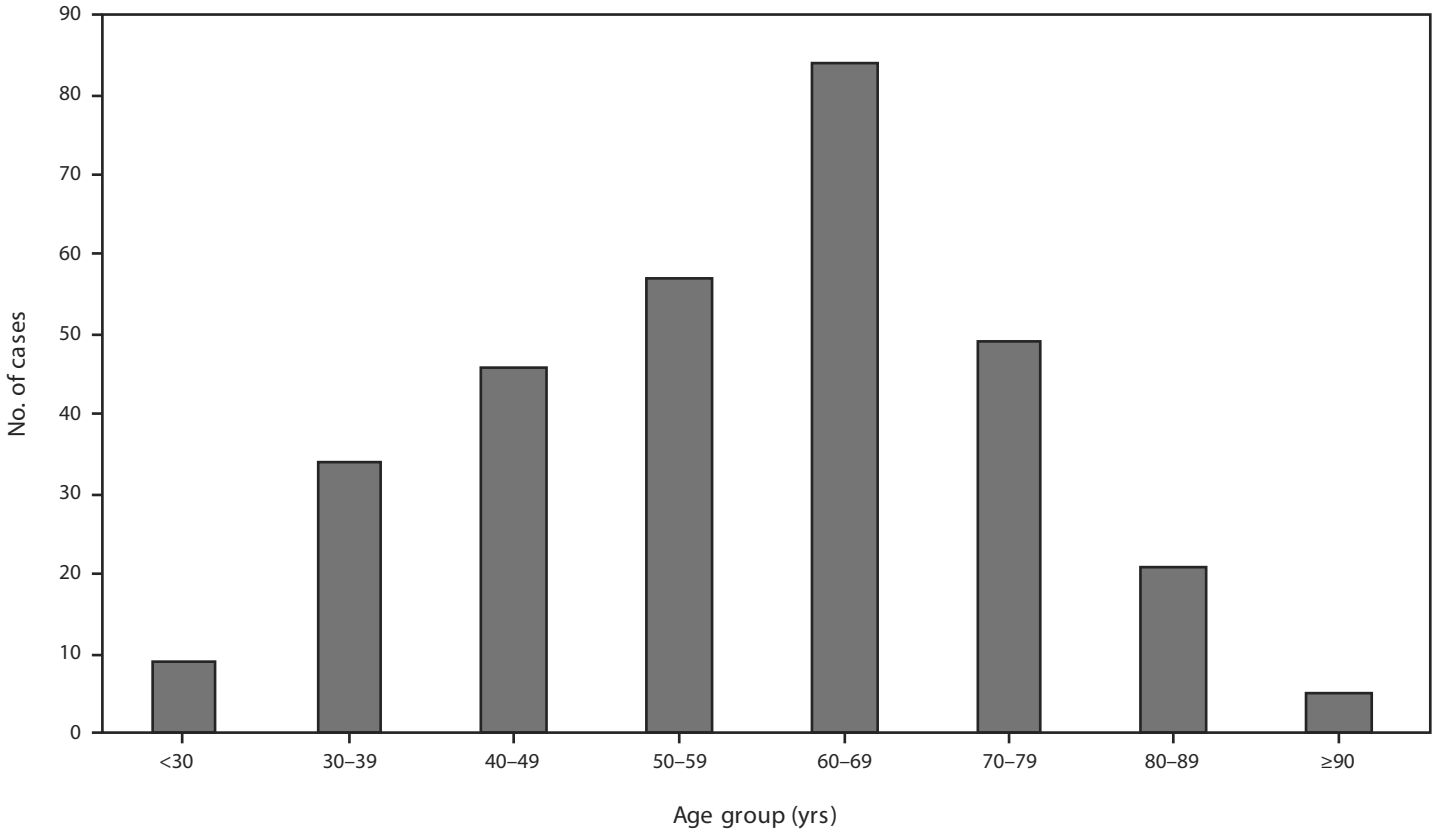
§ Persons aged ≥65 years, persons living in a nursing home or long-term care facility, persons of any age with underlying medical conditions (particularly if the condition is not well controlled), including chronic lung disease or moderate to severe asthma, serious heart conditions, immunocompromise (including cancer treatment, bone marrow or organ transplantation, immune deficiencies, poorly controlled human immunodeficiency virus infection or acquired immunodeficiency syndrome, prolonged use of corticosteroids and other immune system–weakening medications), smoking, severe obesity (body mass index ≥40 kg per m^2), diabetes mellitus, chronic kidney disease undergoing dialysis, or liver disease.

hospitalized without receiving IMV. P-values <0.05 were considered statistically significant. R statistical software (version 3.6.3; The R Foundation) was used to conduct all analyses.

Among 305 patients hospitalized with COVID-19, the median age was 60 years (range = 23–95 years, interquartile range [IQR] = 46–69 years) (Figure 1); 50.5% of patients were female, and 284 (93%) were hospitalized in metropolitan Atlanta. Data on race/ethnicity were available for 297 (97.4%) patients, among whom, 247 (83.2%) were black, 32 (10.8%) were non-Hispanic white, eight (2.7%) were non-Hispanic Asian or Pacific Islander, and 10 (3.4%) were Hispanic (Figure 2). Median age was not significantly different between black patients (60 years, IQR = 45.5–69.0 years) and nonblack patients (64.5 years, IQR = 44.8–74.0 years). Most patients had private insurance (40.1%) or Medicare (33.4%); 10.9% had Medicaid, and 14.9% were uninsured. Compared with nonblack patients, black patients were more likely to have Medicaid (13.5% versus 0.0%, p = 0.002) but not more likely to be uninsured. Overall, 20 (6.6%) patients resided in long-term care facilities before hospitalization. Current smoking was reported for 5.2% of patients.

Overall, 225 (73.8%) patients had conditions considered high-risk for severe COVID-19 (Table 1). Diabetes was documented in 39.7% of patients. Diabetes was most common in patients aged 50–64 years (46.5%; p = 0.001) but was not significantly more common in black patients than in nonblack patients (41.7% versus 32.0%; p = 0.21). Cardiovascular disease, documented in 25.6% of patients, was more prevalent in those aged ≥65 years (47.0%; p<0.001) but prevalence was similar in black (25.1%) and nonblack patients (30.0%) (p = 0.48). Overall, 20.3% of patients had chronic lung disease, with no significant differences by age or race. Asthma was documented in 10.5% of all patients and chronic obstructive pulmonary disease in 5.2%. Severe obesity (BMI ≥40), present in 12.7% of patients, was most common in those aged 18–49 years (21.8%; p<0.001). Severe obesity did not differ significantly by race, although median BMI was higher in black (31.4 [IQR = 27.6–36.9]) than in nonblack patients (29.6 [IQR = 24.3–32.5]; p = 0.003). Hypertension (not considered a high-risk condition) was documented in 67.5% of patients and was more common among black versus nonblack patients (69.6% versus 54.0%; p=0.047).

FIGURE 1. Age distribution of adults hospitalized with COVID–19 (N = 305) — eight hospitals, Georgia, March 2020



Abbreviation: COVID-19 = coronavirus disease 2019.

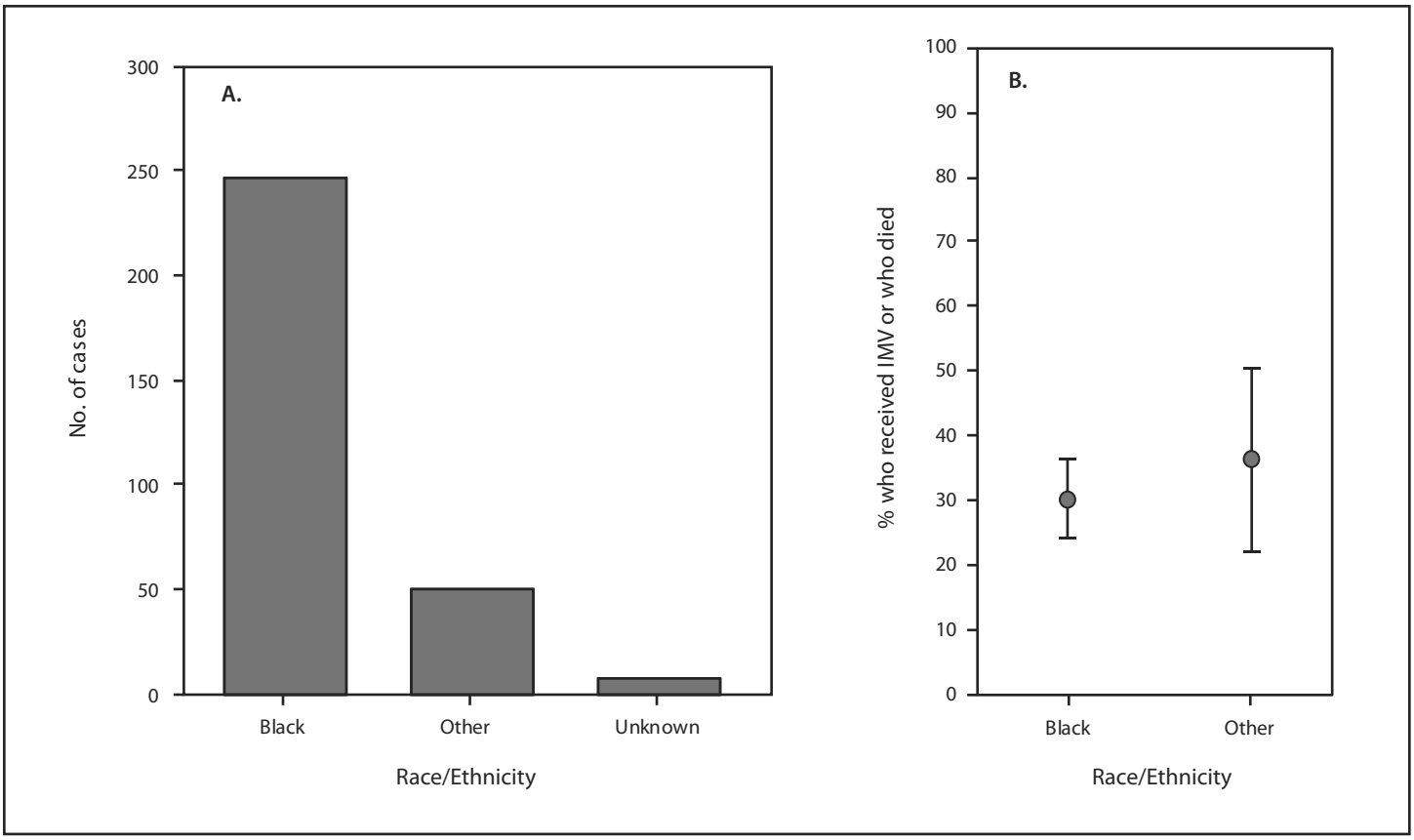
Among the 305 hospitalized patients, the median duration of hospitalization was 8.5 days and duration increased with age (Table 2). Intensive care unit (ICU) admission occurred among 119 (39.0%) patients and increased significantly with age group: among patients aged ≥65 years, 53.8% were admitted to an ICU (p<0.001). Overall, 92 (30.2%) patients received IMV, representing 77.3% of those admitted to an ICU.

Among 281 (92.1%) patients who were no longer hospitalized at the time of data abstraction, 48 (17.1%) died. Case fatality among patients aged 18–49 years, 50–64 years, and ≥65 years was 3.4%, 9.8%, and 35.6%, respectively (p<0.001). Black patients were not more likely than were nonblack patients to receive IMV, to die, or to experience the composite outcome of IMV or death (Figure 2). Among patients without high-risk conditions, 22.5% were admitted to the ICU, 15.0% received IMV, and 5.1% died while in the hospital. As of April 24, 2020, 24 (7.9%) patients remained hospitalized, including 14 (58.3%) in the ICU and nine (37.5%) on IMV. Overall, the estimated percentage of deaths among patients who received ICU care ranged from 37.0%, assuming all remaining ICU patients survived, to 48.7%, assuming all remaining ICU patients died. In an adjusted time-to-event analysis of IMV or death as a composite outcome, no significant difference was found between black and nonblack patients (HR = 0.63; 95% CI = 0.35–1.13).

Discussion

This report characterizing a cohort of hospitalized adults with COVID-19 in Georgia (primarily metropolitan Atlanta) found that most patients in the cohort were black, and black patients had a similar probability of receiving IMV or dying during hospitalization compared with nonblack patients. Although a larger proportion of older patients had worse outcomes (IMV or death), a considerable proportion of patients aged 18–64 years who lacked high-risk conditions received ICU-level care and died (23% and 5%, respectively). Estimated

FIGURE 2. Number of hospitalized patients with COVID-19 (N = 305)* (A) and percentage who received invasive mechanical ventilation or died (B),† by race/ethnicity§ — eight hospitals, Georgia, March 2020



Abbreviations: COVID-19 = coronavirus disease 2019; IMV = invasive mechanical ventilation.
* A total of 273 patients had available race/ethnicity data and known hospitalization outcomes.
† Vertical bars represent 95% confidence intervals for proportions.
§ Black was defined as non-Hispanic black race/ethnicity; other includes all other racial/ethnic groups.

TABLE 1. Underlying medical conditions of adults hospitalized with COVID-19 (N = 305), by age group and race/ethnicity* — eight hospitals, Georgia, March 2020

Characteristic	All patients, no. (%) (N = 305)	Age group (yrs)				Race/Ethnicity*,§		
		No. (%)				No. (%)		
		18–49 (n = 89)	50–64 (n = 99)	≥65 (n = 117)	P-value†	Black (n = 247)	Other (n = 50)	P-value†
High-risk conditions								
None¶	80 (26.2)	47 (52.8)	33 (33.3)	N/A	0.008	62 (25.1)	16 (32.0)	0.38
Any	225 (73.8)	42 (47.2)	66 (66.7)	N/A	N/A	185 (74.9)	34 (68.0)	N/A
Diabetes mellitus	121 (39.7)	21 (23.6)	46 (46.5)	54 (46.2)	0.001	103 (41.7)	16 (32.0)	0.21
Cardiovascular disease	78 (25.6)	10 (11.2)	13 (13.1)	55 (47.0)	<0.001	62 (25.1)	15 (30.0)	0.48
Coronary artery disease	35 (11.5)	1 (1.1)	8 (8.1)	26 (22.2)	<0.001	27 (10.9)	7 (14.0)	0.63
Congestive heart failure	33 (10.8)	8 (9.0)	4 (4.0)	21 (17.9)	0.004	29 (11.7)	4 (8.0)	0.62
Arrhythmia	18 (5.9)	2 (2.2)	1 (1.0)	15 (12.8)	<0.001	11 (4.5)	7 (14.0)	0.018
Chronic lung disease	62 (20.3)	14 (15.7)	26 (26.3)	22 (18.8)	0.18	53 (21.5)	6 (12.0)	0.17
Asthma	32 (10.5)	12 (13.5)	13 (13.1)	7 (6.0)	0.12	30 (12.1)	2 (4.0)	0.13
COPD	16 (5.2)	0 (—)	7 (7.1)	9 (7.7)	0.011	14 (5.7)	1 (2.0)	0.48
Severe obesity (BMI ≥40)**	37 (12.7)	19 (21.8)	14 (14.6)	4 (3.7)	<0.001	33 (13.9)	2 (4.2)	0.088
Immunocompromising conditions or therapies§§	28 (9.2)	9 (10.1)	8 (8.1)	11 (9.4)	0.91	20 (8.1)	7 (14.0)	0.18
End-stage renal disease, on dialysis	16 (5.2)	4 (4.5)	5 (5.1)	7 (6.0)	0.95	15 (6.1)	1 (2.0)	0.49
Liver disease	7 (2.3)	0 (—)	4 (4.0)	3 (2.6)	0.18	4 (1.6)	2 (4.0)	0.27
Other underlying conditions								
No underlying conditions	18 (5.9)	13 (14.6)	1 (1.0)	4 (3.4)	<0.001	12 (4.9)	6 (12.0)	0.094
Hypertension	206 (67.5)	30 (33.7)	75 (75.8)	101 (86.3)	<0.001	172 (69.6)	27 (54.0)	0.047
Neurologic disorder	38 (12.5)	8 (9.0)	10 (10.1)	20 (17.1)	0.17	30 (12.1)	6 (12.0)	>0.99
Chronic kidney disease, without dialysis	32 (10.5)	2 (2.2)	12 (12.1)	18 (15.4)	0.003	24 (9.7)	8 (16.0)	0.21
Cancer	12 (3.9)	3 (3.4)	3 (3.0)	6 (5.1)	0.76	10 (4.0)	2 (4.0)	>0.99
Rheumatologic or autoimmune condition	8 (2.6)	1 (1.1)	5 (5.1)	2 (1.7)	0.22	6 (2.4)	2 (4.0)	0.63

Abbreviations: BMI = body mass index; COPD = chronic obstructive pulmonary disease; COVID-19 = coronavirus disease 2019; IQR = interquartile range; N/A = not applicable.

* Black was defined as non-Hispanic black race/ethnicity; other includes all other racial/ethnic groups.

† P-values were calculated using Fisher's exact tests for proportions.

§ Eight patients were excluded from race comparisons because race and ethnicity data were missing.

¶ Age ≥65 years was considered a high-risk condition.

** BMI data were missing for 13 patients.

§§ Documented conditions included solid organ transplant (eight), human immunodeficiency virus infection (eight), cancer with chemotherapy receipt within the previous year (three), stem cell transplant (three), and leukemia (two); 16 patients were taking immunosuppressive medications.

case fatality among patients who received ICU care was high (37%–49%) but comparable with that observed in a smaller case series of COVID-19 patients in the state of Washington (*5*). Among hospitalized patients, 26% lacked high-risk factors for severe COVID-19, and few patients (7%) lived in institutional settings before admission, suggesting that SARS-CoV-2 infection can cause significant morbidity in relatively young persons without severe underlying medical conditions. Community mitigation recommendations (e.g., social distancing) should be widely instituted, not only to protect older adults and those with underlying medical conditions, but also to prevent the spread of SARS-CoV-2 among persons in the general population who might not consider themselves to be at risk for severe illness (*6*).

The proportion of hospitalized patients who were black was higher than expected based on overall hospitalizations. At four affiliated hospitals, which accounted for 67% of patients in the cohort, 80% of cohort patients were black compared with 47% of hospitalized patients overall during March 2020 (D. Murphy, personal communication, April 7, 2020). Similarly, COVID-NET, which conducts population-based surveillance for laboratory-confirmed COVID-19–associated hospitalizations across 14 sites nationwide,¶ found that black persons were disproportionately represented among hospitalized patients with COVID-19 (*7*). It is important to continue ongoing efforts to understand why black persons are disproportionately hospitalized for COVID-19, including the role of social and economic factors (including occupational exposures) in SARS-CoV-2 acquisition risk. It is critical that public health officials ensure that prevention activities prioritize communities and racial groups most affected by COVID-19.

¶ https://gis.cdc.gov/grasp/COVIDNet/COVID19_5.html.

TABLE 2. Health care use, interventions, and outcomes in adults hospitalized with COVID-19 (N = 305), by age group and race/ethnicity* — eight hospitals, Georgia, March 2020

Characteristic of hospitalization	Total no. (%) (N = 305)	Age group (yrs) No. (%) 18–49 (n = 89)	50–64 (n = 99)	≥65 (n = 117)	P-value§	Race/Ethnicity*,† No. (%) Black (n = 247)	Other (n = 50)	P-value§
Health care use								
Median hospital duration, days¶	8.5 (5.0–14.0)	7.0 (4.3–11.8)	8.0 (5.0–12.8)	10.0 (6.0–16.0)	0.001	8.0 (5.0–13.8)	8.0 (4.0–14.0)	0.084
Any supplemental oxygen	232 (76.1)	58 (65.2)	70 (70.7)	104 (88.9)	<0.001	186 (75.3)	40 (80.0)	0.59
Nasal cannula	220 (72.1)	57 (64.0)	67 (67.7)	96 (82.1)	0.007	177 (71.7)	37 (74.0)	0.86
Noninvasive ventilation	11 (3.6)	2 (2.2)	4 (4.0)	5 (4.3)	0.80	10 (4.0)	0 (—)	0.22
High-flow nasal cannula	69 (22.6)	13 (14.6)	17 (17.2)	39 (33.3)	0.002	55 (22.3)	14 (28.0)	0.37
ICU admission and interventions								
Admitted to ICU	119 (39.0)	24 (27.0)	32 (32.3)	63 (53.8)	<0.001	96 (38.9)	21 (42.0)	0.75
Median ICU duration, days¶	8.0 (5.0–12.0)	7.0 (4.0–14.0)	8.0 (6.0–11.0)	9.0 (5.0–12.0)	0.74	8.0 (5.0–12.0)	9.0 (6.0–11.0)	0.92
Invasive mechanical ventilation	92 (30.2)	17 (19.1)	27 (27.3)	48 (41.0)	0.003	75 (30.4)	16 (32.0)	0.87
Median ventilator days¶	9.0 (5.0–12.0)	8.5 (5.0–13.3)	9.0 (5.5–10.5)	10.0 (6.0–12.0)	0.74	9.0 (5.0–11.5)	9.5 (6.3–13.3)	0.20
Acute renal replacement therapy	23 (7.5)	2 (2.2)	8 (8.1)	13 (11.1)	0.037	19 (7.7)	3 (6.0)	>0.99
Vasopressor support	84 (27.5)	13 (14.6)	21 (21.2)	50 (42.7)	<0.001	70 (28.3)	13 (26.0)	0.86
Cardiopulmonary resuscitation	13 (4.3)	2 (2.2)	3 (3.0)	8 (6.8)	0.25	11 (4.5)	2 (4.0)	>0.99
Outcome								
Discharged alive	233 (76.4)	85 (95.5)	83 (83.8)	65 (55.6)	<0.001	192 (77.7)	34 (68.0)	0.15
Still hospitalized	24 (7.9)	1 (1.1)	7 (7.1)	16 (13.7)	0.002	18 (7.3)	6 (12.0)	0.26
Died**	48 (17.1)	3 (3.4)	9 (9.8)	36 (35.6)	<0.001	37 (16.2)	10 (22.7)	0.28
Invasive mechanical ventilation or death**	86 (30.6)	16 (18.2)	22 (23.9)	48 (47.5)	<0.001	69 (30.1)	16 (36.4)	0.48

Abbreviations: COVID-19 = coronavirus disease 2019; ICU = intensive care unit; IQR = interquartile range.
* Black was defined as non-Hispanic black race/ethnicity; other includes all other racial/ethnic groups.
† Eight patients were excluded from race comparisons because race and ethnicity data were missing.
§ P-values were calculated using Fisher's exact tests for proportions and the Wilcoxon rank-sum test or the Kruskal-Wallis H test for medians.
¶ Continuous variables are presented as median (IQR).
** Among 281 total patients who were no longer hospitalized, 88 (31.3%) were aged 18–49 years, 92 (32.7%) were aged 50–64 years, and 101 (35.9%) were aged ≥65 years; among 273 patients with available race/ethnicity data who were no longer hospitalized, 229 (83.9%) were non-Hispanic black, and 44 (16.1) were of other race/ethnicity.

The findings in this report are subject to at least three limitations. First, the data are from a convenience sample of hospitalized adult patients in metropolitan Atlanta and southern Georgia, and data collection for this assessment was limited by the intention to conduct the investigation quickly. These patients do not necessarily represent all hospitalized patients with COVID-19 at those hospitals, or within Georgia. Second, patients were not tracked after discharge in this investigation. Finally, race and ethnicity were abstracted from medical records, and methods for recording these categories might have differed across hospitals, which could result in misclassification.

This report provides valuable clinical data on a large cohort of hospitalized patients. Although frequency of IMV and fatality did not differ by race, black patients were disproportionately represented among hospitalized patients, reflecting greater severity of COVID-19 among this population. Public officials should consider racial differences among patients affected by COVID-19 when planning prevention activities. Approximately one quarter of patients had no high-risk

Summary

What is already known about this topic?

Older adults and persons with underlying medical conditions are at higher risk for severe COVID-19. Non-Hispanic black patients are overrepresented among hospitalized U.S. COVID-19 patients.

What is added by this report?

In a cohort of 305 hospitalized adults with COVID-19 in Georgia (primarily metropolitan Atlanta), black patients were overrepresented, and their clinical outcomes were similar to those of nonblack patients. One in four hospitalized patients had no recognized risk factors for severe COVID-19.

What are the implications for public health practice?

Prevention activities should prioritize communities and racial groups most affected by severe COVID-19. Increased awareness of the risk for serious illness among all adults, regardless of underlying medical conditions or age, is needed.

conditions, and 5% of these patients died, suggesting that all adults, regardless of underlying conditions or age, are at risk for serious COVID-19–associated illness.

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Exhibit 3

Morbidity and Mortality Weekly Report

Characteristics of Health Care Personnel with COVID-19 — United States, February 12–April 9, 2020

CDC COVID-19 Response Team

On April 14, 2020, this report was posted as an MMWR *Early Release on the* MMWR *website (https://www.cdc.gov/mmwr).*

As of April 9, 2020, the coronavirus disease 2019 (COVID-19) pandemic had resulted in 1,521,252 cases and 92,798 deaths worldwide, including 459,165 cases and 16,570 deaths in the United States (*1*,*2*). Health care personnel (HCP) are essential workers defined as paid and unpaid persons serving in health care settings who have the potential for direct or indirect exposure to patients or infectious materials (*3*). During February 12–April 9, among 315,531 COVID-19 cases reported to CDC using a standardized form, 49,370 (16%) included data on whether the patient was a health care worker in the United States; including 9,282 (19%) who were identified as HCP. Among HCP patients with data available, the median age was 42 years (interquartile range [IQR] = 32–54 years), 6,603 (73%) were female, and 1,779 (38%) reported at least one underlying health condition. Among HCP patients with data on health care, household, and community exposures, 780 (55%) reported contact with a COVID-19 patient only in health care settings. Although 4,336 (92%) HCP patients reported having at least one symptom among fever, cough, or shortness of breath, the remaining 8% did not report any of these symptoms. Most HCP with COVID-19 (6,760, 90%) were not hospitalized; however, severe outcomes, including 27 deaths, occurred across all age groups; deaths most frequently occurred in HCP aged ≥65 years. These preliminary findings highlight that whether HCP acquire infection at work or in the community, it is necessary to protect the health and safety of this essential national workforce.

Data from laboratory-confirmed COVID-19 cases voluntarily reported to CDC from 50 states, four U.S. territories and affiliated islands, and the District of Columbia, during February 12–April 9 were analyzed. Cases among persons repatriated to the United States from Wuhan, China, and the Diamond Princess cruise ship during January and February were excluded. Public health departments report COVID-19 cases to CDC using a standardized case report form* that collects information on patient demographics, whether the patient is a U.S. health care worker, symptom onset date, specimen collection dates, history of exposures in the 14 days preceding illness onset, COVID-19 symptomology, preexisting medical conditions, and patient outcomes, including hospitalization, intensive care unit (ICU) admission, and death. HCP patient health outcomes, overall and stratified by age, were classified as hospitalized, hospitalized with ICU admission, and deaths. The lower bound of these percentages was estimated by including all cases within each age group in the denominators. Upper bounds were estimated by including only those cases with known information on each outcome as denominators. Data reported to CDC are preliminary and can be updated by health departments over time. The upper quartile of the lag between onset date and reporting to CDC was 10 days. Because submitted forms might have missing or unknown information at the time of report, all analyses are descriptive, and no statistical comparisons were performed. Stata (version 15.1; StataCorp) and SAS (version 9.4; SAS Institute) were used to conduct all analyses.

Among 315,531 U.S. COVID-19 cases reported to CDC during February 12–April 9, data on HCP occupational status were available for 49,370 (16%), among whom 9,282 (19%) were identified as HCP (Figure). Data completeness for HCP status varied by reporting jurisdiction; among 12 states that included HCP status on >80% of all reported cases and reported at least one HCP patient, HCP accounted for 11% (1,689 of 15,194) of all reported cases.

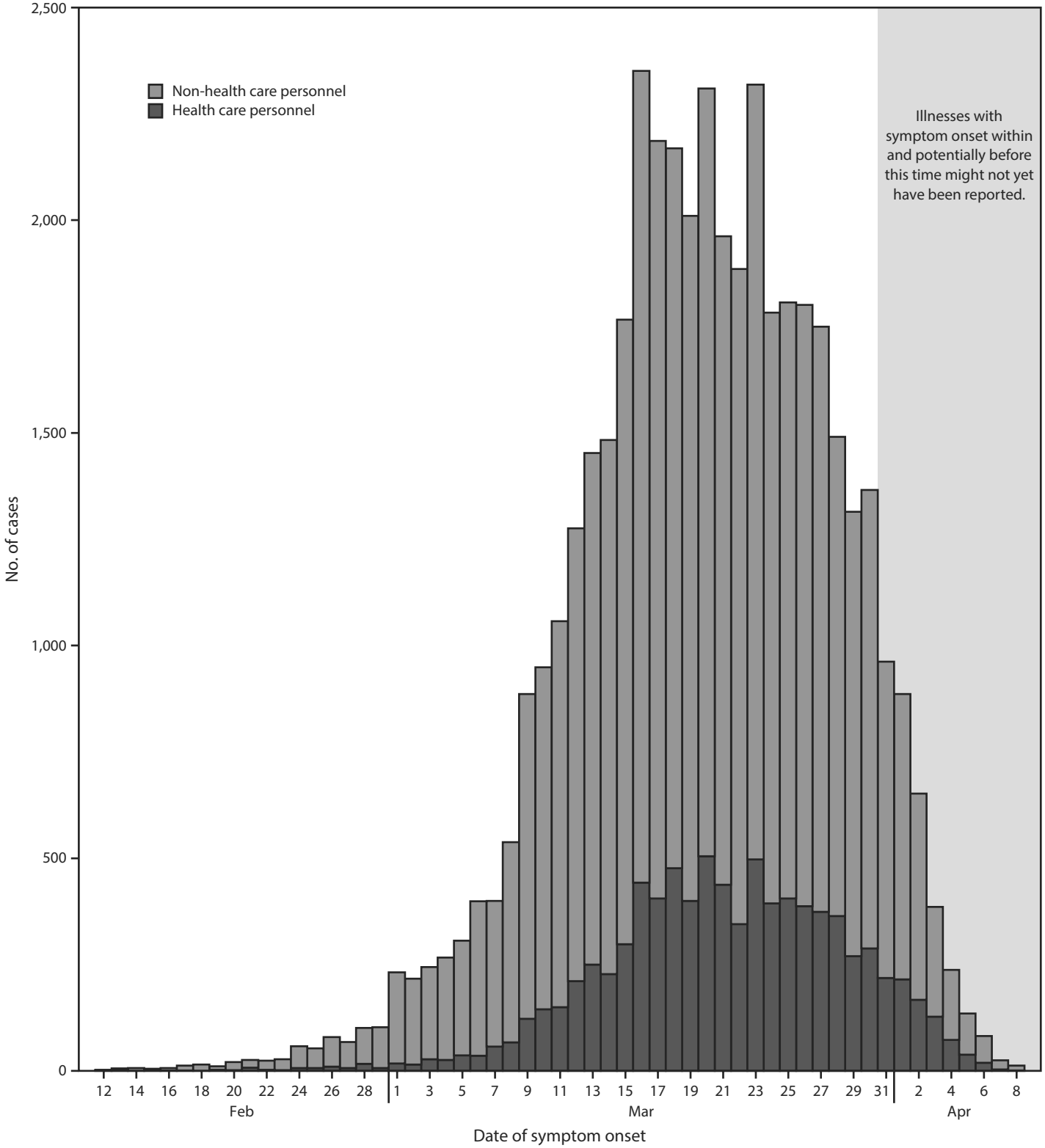
Among the 8,945 (96%) HCP patients reporting age, the median was 42 years (IQR = 32–54 years); 6,603 (73%) were female (Table 1). Among the 3,801 (41%) HCP patients with available data on race, a total of 2,743 (72%) were white, 801 (21%) were black, 199 (5%) were Asian, and 58 (2%) were other or multiple races. Among 3,624 (39%) with ethnicity specified, 3,252 (90%) were reported as non-Hispanic/Latino and 372 (10%) as Hispanic/Latino. At least one underlying health condition† was reported by 1,779 (38%) HCP patients with available information.

Among 1,423 HCP patients who reported contact with a laboratory-confirmed COVID-19 patient in either health care, household, or community settings, 780 (55%) reported having such contact only in a health care setting within the 14 days before their illness onset; 384 (27%) reported contact only

* https://www.cdc.gov/coronavirus/2019-ncov/php/reporting-pui.html.

† Preexisting medical conditions and other risk factors (yes, no, or unknown) included the following: chronic lung disease (inclusive of asthma, chronic obstructive pulmonary disease, and emphysema); diabetes mellitus; cardiovascular disease; chronic renal disease; chronic liver disease; immunocompromised condition; neurologic disorder, neurodevelopmental or intellectual disability; pregnancy; current smoker; former smoker; or other chronic disease. Data available for 4,733 (51%) HCP.

FIGURE. Daily number of COVID-19 cases, by date of symptom onset, among health care personnel and non-health care personnel (N = 43,986)*,† — United States, February 12–April 9, 2020



Abbreviation: COVID-19 = coronavirus disease 2019.

* Onset date was calculated for 5,892 (13%) cases where onset date was missing. This was done by subtracting 4 days (median interval from symptom onset to specimen collection date) from the date of earliest specimen collection. Cases with unknown onset and specimen collection dates were excluded.

† Ten-day window is used to reflect the upper quartile in lag between the date of symptom onset and date reported to CDC.

TABLE 1. Demographic characteristics, exposures, symptoms, and underlying health conditions among health care personnel with COVID-19 (N = 9,282) — United States, February 12–April 9, 2020

Characteristic (no. with available information)	No. (%)
Age group (yrs) (8,945)	
16–44	4,898 (55)
45–54	1,919 (21)
55–64	1,620 (18)
≥65	508 (6)
Sex (9,067)	
Female	6,603 (73)
Male	2,464 (27)
Race (3,801)	
Asian	199 (5)
Black	801 (21)
White	2,743 (72)
Other*	58 (2)
Ethnicity (3,624)	
Hispanic/Latino	372 (10)
Non-Hispanic/Latino	3,252 (90)
Exposures†,§ (1,423)	
Only health care exposure	780 (55)
Only household exposure	384 (27)
Only community exposure	187(13)
Multiple exposure settings¶	72 (5)
Symptoms reported§, (4,707)**	
Fever, cough, or shortness of breath††	4,336 (92)
Cough	3,694 (78)
Fever§§	3,196 (68)
Muscle aches	3,122 (66)
Headache	3,048 (65)
Shortness of breath	1,930 (41)
Sore throat	1,790 (38)
Diarrhea	1,507 (32)
Nausea or vomiting	923 (20)
Loss of smell or taste¶¶	750 (16)
Abdominal pain	612 (13)
Runny nose	583 (12)
Any underlying health condition§,* (4,733)**	1,779 (38)

Abbreviation: COVID-19 = coronavirus disease 2019.

* "Other" includes patients who were identified as American Indian or Alaska Native (16), Native Hawaiian or Other Pacific Islander (22), or two or more races (20).

† Cases were included in the denominator if the patient reported a known contact with a laboratory-confirmed COVID-19 patient within the 14 days before illness onset in a health care, household, or community setting.

§ Responses include data from standardized fields supplemented with data from free-text fields.

¶ Includes all patients with contact reported in more than one of these settings: health care, household, and community.

** Cases were included in the denominator if the patient had a known symptom status for fever, cough, shortness of breath, nausea or vomiting, and diarrhea. HCP with mild or asymptomatic infections might have been less likely to be tested, thus less likely to be reported.

†† Includes all patients with at least one of these symptoms.

§§ Patients were included if they had information for either measured or subjective fever variables and were considered to have a fever if "yes" was indicated for either variable.

¶¶ Symptom data on loss of smell or taste was extracted only from free-text symptom fields, thus the proportion with this symptom is likely an underestimate.

*** Preexisting medical conditions and other risk factors (yes, no, or unknown) included the following: chronic lung disease (inclusive of asthma, chronic obstructive pulmonary disease, and emphysema); diabetes mellitus; cardiovascular disease; chronic renal disease; chronic liver disease; immunocompromised condition; neurologic disorder, neurodevelopmental or intellectual disability; pregnancy; current smoking status; former smoking status; or other chronic disease.

Summary

What is already known about this topic?

Limited information is available about COVID-19 infections among U.S. health care personnel (HCP).

What is added by this report?

Of 9,282 U.S. COVID-19 cases reported among HCP, median age was 42 years, and 73% were female, reflecting these distributions among the HCP workforce. HCP patients reported contact with COVID-19 patients in health care, household, and community settings. Most HCP patients were not hospitalized; however, severe outcomes, including death, were reported among all age groups.

What are the implications for public health practice?

It is critical to ensure the health and safety of HCP, both at work and in the community. Improving surveillance through routine reporting of occupation and industry not only benefits HCP, but all workers during the COVID-19 pandemic.

in a household setting; 187 (13%) reported contact only in a community setting; 72 (5%) reported contact in more than one of these settings. Among HCP patients with data available on a core set of signs and symptoms,§ a total of 4,336 (92%) reported having at least one of fever, cough, shortness of breath. Two thirds (3,122, 66%) reported muscle aches, and 3,048 (65%) reported headache. Loss of smell or taste was written in for 750 (16%) HCP patients as an "other" symptom.

Among HCP patients with data available on age and health outcomes, 6,760 (90%) were not hospitalized, 723 (8%–10%) were hospitalized, 184 (2%–5%) were admitted to an ICU, and 27 (0.3%–0.6%) died (Table 2). Although only 6% of HCP patients were aged ≥65 years, 10 (37%) deaths occurred among persons in this age group.

Discussion

As of April 9, 2020, a total of 9,282 U.S. HCP with confirmed COVID-19 had been reported to CDC. This is likely an underestimation because HCP status was available for only 16% of reported cases nationwide. HCP with mild or asymptomatic infections might also have been less likely to be tested, thus less likely to be reported. Overall, only 3% (9,282 of 315,531) of reported cases were among HCP; however, among states with more complete reporting of HCP status, HCP accounted for 11% (1,689 of 15,194) of reported cases. The total number of COVID-19 cases among HCP is expected to rise as more U.S. communities experience widespread transmission. Compared with reports of COVID-19 patients in the overall populations of China and Italy (*4,5*), reports of

§ Cases were included in the denominator if the patient had a known symptom status for fever, cough, shortness of breath, nausea or vomiting, and diarrhea. Data available for 4,707 (51%) HCP.

TABLE 2. Hospitalizations,* intensive care unit (ICU) admissions,† and deaths,§ by age group among health care personnel with COVID-19 — United States, February 12–April 9, 2020

Age group¶ (yrs) (no. of cases)	Outcome, no. (%)**		
	Hospitalization††	ICU admission	Death
16–44 (4,898)	260 (5.3–6.4)	44 (0.9–2.2)	6 (0.1–0.3)
45–54 (1,919)	178 (9.3–11.1)	51 (2.7–6.3)	3 (0.2–0.3)
55–64 (1,620)	188 (11.6–13.8)	54 (3.3–7.5)	8 (0.5–1.0)
≥65 (508)	97 (19.1–22.3)	35 (6.9–16.0)	10 (2.0–4.2)
Total (8,945)	**723 (8.1–9.7)**	**184 (2.1–4.9)**	**27 (0.3–0.6)**

Abbreviation: COVID-19 = coronavirus disease 2019.
* Hospitalization status known for 7,483 (84%) patients.
† ICU status known for 3,739 (42%) patients.
§ Death outcomes known for 4,407 (49%) patients.
¶ Age status known for 8,945 (96%) patients.
** Lower bound of range = number of persons hospitalized, admitted to ICU, or who died among total in age group; upper bound of range = number of persons hospitalized, admitted to ICU, or who died among total in age group with known hospitalization status, ICU admission status, or death.
†† Hospitalization status includes hospitalization with or without ICU admission.

HCP patients in the United States during February 12–April 9 were slightly younger, and a higher proportion were women; this likely reflects the age and sex distributions among the U.S. HCP workforce. Race and ethnicity distributions among HCP patients reported to CDC are different from those in the overall U.S. population but are more similar to those in the HCP workforce.¶,**

Among HCP patients who reported having contact with a laboratory-confirmed COVID-19 patient in health care, household, or community settings, the majority reported contact that occurred in health care settings. However, there were also known exposures in households and in the community, highlighting the potential for exposure in multiple settings, especially as community transmission increases. Further, transmission might come from unrecognized sources, including presymptomatic or asymptomatic persons (*6,7*). Together, these exposure possibilities underscore several important considerations for prevention. Done alone, contact tracing after recognized occupational exposures likely will fail to identify many HCP at risk for developing COVID-19. Additional measures that will likely reduce the risk for infected HCP transmitting the virus to colleagues and patients include screening all HCP for fever and respiratory symptoms at the beginning of their shifts, prioritizing HCP for testing, and ensuring options to discourage working while ill (e.g., flexible and nonpunitive medical leave policies). Given the evidence for presymptomatic and asymptomatic transmission (*7*), covering the nose and mouth (i.e., source control) is recommended in community settings where other social distancing measures are difficult to maintain.†† Assuring source control among all HCP, patients, and visitors in health care settings is another promising strategy for further reducing transmission. Even if everyone in a health care setting is covering their nose and mouth to contain their respiratory secretions, it is still critical that, when caring for patients, HCP continue to wear recommended personal protective equipment (PPE) (e.g., gown, N95 respirator [or facemask if N95 is not available], eye protection, and gloves for COVID-19 patient care). Training of HCP on preventive measures, including hand hygiene and PPE use, is another important safeguard against transmission in health care settings.

Among HCP with COVID-19 whose age status was known, 8%–10% were reported to be hospitalized. This is lower than the 21%–31% of U.S. COVID-19 cases with known hospitalization status described in a recent report (*8*) and might reflect the younger median age (42 years) of HCP patients compared with that of reported COVID-19 patients overall, as well as prioritization of HCP for testing, which might identify less severe illness. Similar to earlier findings (*8*), increasing age was associated with a higher prevalence of severe outcomes, although severe outcomes, including death, were observed in all age groups. Preliminary estimates of the prevalence of underlying health conditions among all patients with COVID-19 reported to CDC through March 2020 (*9*) suggested that 38% had at least one underlying condition, the same percentage found in this HCP patient population. Older HCP or those with underlying health conditions (*8*,*9*) should consider consulting with their health care provider and employee health program to better understand and manage their risks regarding COVID-19. The increased prevalence of severe outcomes in older HCP should be considered when mobilizing retired HCP to increase surge capacity, especially in the face of limited PPE availability§§; one consideration is preferential assignment of retired HCP to lower-risk settings (e.g., telemedicine, administrative assignments, or clinics for non–COVID-19 patients).

The findings in this report are subject to at least five limitations. First, approximately 84% of patients were missing data on HCP status. Thus, the number of cases in HCP reported here must be considered a lower bound because additional cases likely have gone unidentified or unreported. Second, among cases reported in HCP, the amount of missing data varied across demographic groups, exposures, symptoms, underlying conditions, and health outcomes; cases with available information might differ systematically from those without available information. Therefore, additional data are needed to confirm findings about the impact of potentially important factors (e.g., disparities in race and ethnicity or underlying health conditions

¶ https://www.bls.gov/cps/tables.htm#charemp.
** https://data.census.gov/cedsci/.
†† https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/cloth-face-cover.html.

§§ https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/index.html.

among HCP). Third, additional time will be necessary for full ascertainment of outcomes, such as hospitalization status or death. Fourth, details of occupation and health care setting were not routinely collected through case-based surveillance and, therefore, were unavailable for this analysis. Finally, among HCP patients who reported contact with a confirmed COVID-19 patient in a health care setting, the nature of this contact, including whether it was with a patient, visitor, or other HCP, and the details of potential occupational exposures, including whether HCP were unprotected (i.e., without recommended PPE) or were present during high risk procedures (e.g., aerosol-generating procedures) are unknown (*10*).

It is critical to make every effort to ensure the health and safety of this essential national workforce of approximately 18 million HCP, both at work and in the community. Surveillance is necessary for monitoring the impact of COVID-19-associated illness and better informing the implementation of infection prevention and control measures. Improving surveillance through routine reporting of occupation and industry not only benefits HCP, but all workers during the COVID-19 pandemic.

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Exhibit 4

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Compassionate Use of Remdesivir for Patients with Severe Covid-19

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ABSTRACT

BACKGROUND

Remdesivir, a nucleotide analogue prodrug that inhibits viral RNA polymerases, has shown in vitro activity against SARS-CoV-2.

METHODS

We provided remdesivir on a compassionate-use basis to patients hospitalized with Covid-19, the illness caused by infection with SARS-CoV-2. Patients were those with confirmed SARS-CoV-2 infection who had an oxygen saturation of 94% or less while they were breathing ambient air or who were receiving oxygen support. Patients received a 10-day course of remdesivir, consisting of 200 mg administered intravenously on day 1, followed by 100 mg daily for the remaining 9 days of treatment. This report is based on data from patients who received remdesivir during the period from January 25, 2020, through March 7, 2020, and have clinical data for at least 1 subsequent day.

RESULTS

Of the 61 patients who received at least one dose of remdesivir, data from 8 could not be analyzed (including 7 patients with no post-treatment data and 1 with a dosing error). Of the 53 patients whose data were analyzed, 22 were in the United States, 22 in Europe or Canada, and 9 in Japan. At baseline, 30 patients (57%) were receiving mechanical ventilation and 4 (8%) were receiving extracorporeal membrane oxygenation. During a median follow-up of 18 days, 36 patients (68%) had an improvement in oxygen-support class, including 17 of 30 patients (57%) receiving mechanical ventilation who were extubated. A total of 25 patients (47%) were discharged, and 7 patients (13%) died; mortality was 18% (6 of 34) among patients receiving invasive ventilation and 5% (1 of 19) among those not receiving invasive ventilation.

CONCLUSIONS

In this cohort of patients hospitalized for severe Covid-19 who were treated with compassionate-use remdesivir, clinical improvement was observed in 36 of 53 patients (68%). Measurement of efficacy will require ongoing randomized, placebo-controlled trials of remdesivir therapy. (Funded by Gilead Sciences.)

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Since the first cases were reported in December 2019, infection with the severe acute respiratory coronavirus 2 (SARS-CoV-2) has become a worldwide pandemic.[1,2] Covid-19 — the illness caused by SARS-CoV-2 — is overwhelming health care systems globally.[3,4] The symptoms of SARS-CoV-2 infection vary widely, from asymptomatic disease to pneumonia and life-threatening complications, including acute respiratory distress syndrome, multisystem organ failure, and ultimately, death.[5-7] Older patients and those with preexisting respiratory or cardiovascular conditions appear to be at the greatest risk for severe complications.[6,7] In the absence of a proven effective therapy, current management consists of supportive care, including invasive and noninvasive oxygen support and treatment with antibiotics.[8,9] In addition, many patients have received off-label or compassionate-use therapies, including antiretrovirals, antiparasitic agents, antiinflammatory compounds, and convalescent plasma.[10-13]

Remdesivir is a prodrug of a nucleotide analogue that is intracellularly metabolized to an analogue of adenosine triphosphate that inhibits viral RNA polymerases. Remdesivir has broad-spectrum activity against members of several virus families, including filoviruses (e.g., Ebola) and coronaviruses (e.g., SARS-CoV and Middle East respiratory syndrome coronavirus [MERS-CoV]) and has shown prophylactic and therapeutic efficacy in nonclinical models of these coronaviruses.[14-17] In vitro testing has also shown that remdesivir has activity against SARS-CoV-2. Remdesivir appears to have a favorable clinical safety profile, as reported on the basis of experience in approximately 500 persons, including healthy volunteers and patients treated for acute Ebola virus infection,[18,19] and supported by our data (on file and shared with the World Health Organization [WHO]). In this report, we describe outcomes in a cohort of patients hospitalized for severe Covid-19 who were treated with remdesivir on a compassionate-use basis.

METHODS

PATIENTS

Gilead Sciences began accepting requests from clinicians for compassionate use of remdesivir on January 25, 2020. To submit a request, clinicians completed an assessment form with demographic and disease-status information about their patient (see the Supplementary Appendix, available with the full text of this article at NEJM.org). Approval of requests was reserved for hospitalized patients who had SARS-CoV-2 infection confirmed by reverse-transcriptase–polymerase-chain-reaction assay and either an oxygen saturation of 94% or less while the patient was breathing ambient air or a need for oxygen support. In addition, patients were required to have a creatinine clearance above 30 ml per minute and serum levels of alanine aminotransferase (ALT) and aspartate aminotransferase (AST) less than five times the upper limit of the normal range, and they had to agree not to use other investigational agents for Covid-19.

In approved cases, the planned treatment was a 10-day course of remdesivir, consisting of a loading dose of 200 mg intravenously on day 1, plus 100 mg daily for the following 9 days. Supportive therapy was to be provided at the discretion of the clinicians. Follow-up was to continue through at least 28 days after the beginning of treatment with remdesivir or until discharge or death. Data that were collected through March 30, 2020, are reported here. This open-label program did not have a predetermined number of patients, number of sites, or duration. Data for some patients included in this analysis have been reported previously.[20-22] Details of the study design and conduct can be seen in the protocol (available at NEJM.org).

STUDY ASSESSMENTS

Data on patients' oxygen-support requirements, adverse events, and laboratory values, including serum creatinine, ALT, and AST, were to be reported daily, from day 1 through day 10, and additional follow-up information was solicited through day 28. Although there were no prespecified end points for this program, we quantified the incidence of key clinical events, including changes in oxygen-support requirements (ambient air, low-flow oxygen, nasal high-flow oxygen, noninvasive positive pressure ventilation [NIPPV], invasive mechanical ventilation, and extracorporeal membrane oxygenation [ECMO]), hospital discharge, and reported adverse events, including those leading to discontinuation of treatment, serious adverse events, and death. In addition, we evaluated the proportion of patients with clinical improvement, as defined by live discharge from

the hospital, a decrease of at least 2 points from baseline on a modified ordinal scale (as recommended by the WHO R&D Blueprint Group), or both. The six-point scale consists of the following categories: 1, not hospitalized; 2, hospitalized, not requiring supplemental oxygen; 3, hospitalized, requiring supplemental oxygen; 4, hospitalized, requiring nasal high-flow oxygen therapy, noninvasive mechanical ventilation, or both; 5, hospitalized, requiring invasive mechanical ventilation, ECMO, or both; and 6, death.

PROGRAM OVERSIGHT

Regulatory and institutional review board or independent ethics committee approval was obtained for each patient treated with remdesivir, and consent was obtained for all patients in accordance with local regulations. The program was designed and conducted by the sponsor (Gilead Sciences), in accordance with the protocol. The sponsor collected the data, monitored conduct of the program, and performed the statistical analyses. All authors had access to the data and assume responsibility for the integrity and completeness of the reported data. The initial draft of the manuscript was prepared by a writer employed by Gilead Sciences along with one of the authors, with input from all the authors.

STATISTICAL ANALYSIS

No sample-size calculations were performed. The analysis population included all patients who received their first dose of remdesivir on or before March 7, 2020, and for whom clinical data for at least 1 subsequent day were available. Clinical improvement and mortality in the remdesivir compassionate-use cohort were described with the use of Kaplan–Meier analysis. Associations between pretreatment characteristics and these outcomes were evaluated with Cox proportional hazards regression. Because the analysis did not include a provision for correcting for multiple comparisons in tests for association between baseline variables and outcomes, results are reported as point estimates and 95% confidence intervals. The widths of the confidence intervals have not been adjusted for multiple comparisons, so the intervals should not be used to infer definitive associations with outcomes. All analyses were conducted with SAS software, version 9.4 (SAS Institute).

RESULTS

PATIENTS

In total, 61 patients received at least one dose of remdesivir on or before March 7, 2020; 8 of these patients were excluded because of missing post-baseline information (7 patients) and an erroneous remdesivir start date (1 patient) (Fig. S1 in the Supplementary Appendix). Of the 53 remaining patients included in this analysis, 40 (75%) received the full 10-day course of remdesivir, 10 (19%) received 5 to 9 days of treatment, and 3 (6%) fewer than 5 days of treatment.

BASELINE CHARACTERISTICS OF THE PATIENTS

Table 1 shows baseline demographic and clinical characteristics of the 53 patients in the compassionate-use cohort. Patients were enrolled in the United States (22 patients), Japan (9), Italy (12), Austria (1), France (4), Germany (2), Netherlands (1), Spain (1), and Canada (1). A total of 40 patients (75%) were men, the age range was 23 to 82 years, and the median age was 64 years (interquartile range, 48 to 71). At baseline, the majority of patients (34 [64%]) were receiving invasive ventilation, including 30 (57%) receiving mechanical ventilation and 4 (8%) receiving ECMO. The median duration of invasive mechanical ventilation before the initiation of remdesivir treatment was 2 days (interquartile range, 1 to 8). As compared with patients who were receiving noninvasive oxygen support at baseline, those receiving invasive ventilation tended to be older (median age, 67 years, vs. 53 years), were more likely to be male (79%, vs. 68%), had higher median serum ALT (48 U per liter, vs. 27) and creatinine (0.90 mg per deciliter, vs. 0.79 [79.6 μmol per liter, vs. 69.8]), and a higher prevalence of coexisting conditions, including hypertension (26%, vs. 21%), diabetes (24%, vs. 5%), hyperlipidemia (18%, vs. 0%), and asthma (15%, vs. 5%). The median duration of symptoms before the initiation of remdesivir treatment was 12 days (interquartile range, 9 to 15) and did not differ substantially between patients receiving invasive ventilation and those receiving noninvasive ventilation (Table 1).

CLINICAL IMPROVEMENT DURING REMDESIVIR TREATMENT

Over a median follow-up of 18 days (interquartile range, 13 to 23) after receiving the first dose

Table 1. Baseline Demographic and Clinical Characteristics of the Patients.*

Characteristic	Invasive Ventilation (N=34)	Noninvasive Oxygen Support (N=19)	Total (N=53)
Median age (IQR) — yr	67 (56–72)	53 (41–68)	64 (48–71)
Age category — no. (%)			
<50 yr	6 (18)	8 (42)	14 (26)
50 to <70 yr	14 (41)	7 (37)	21 (40)
≥70 yr	14 (41)	4 (21)	18 (34)
Male sex — no. (%)	27 (79)	13 (68)	40 (75)
Region — no. (%)			
United States	14 (41)	8 (42)	22 (42)
Japan	8 (24)	1 (5)	9 (17)
Europe or Canada	12 (35)	10 (53)	22 (42)
Oxygen-support category — no. (%)			
Invasive ventilation	34 (100)	—	34 (64)
Invasive mechanical ventilation	30 (88)	—	30 (57)
Extracorporeal membrane oxygenation	4 (12)	—	4 (8)
Noninvasive oxygen support	—	19 (100)	19 (36)
Noninvasive positive-pressure ventilation	—	2 (11)	2 (4)
High-flow oxygen	—	5 (26)	5 (9)
Low-flow oxygen	—	10 (53)	10 (19)
Ambient air	—	2 (11)	2 (4)
Median duration of symptoms before remdesivir therapy (IQR) — days	11 (8–15)	13 (10–14)	12 (9–15)
Coexisting conditions — no. (%)			
Any condition	25 (74)	11 (58)	36 (68)
Hypertension	9 (26)	4 (21)	13 (25)
Diabetes	8 (24)	1 (5)	9 (17)
Hyperlipidemia	6 (18)	0	6 (11)
Asthma	5 (15)	1 (5)	6 (11)
Median laboratory values (IQR)			
ALT — IU per liter	48 (31–79)	27 (20–45)	37 (25–61)
AST — IU per liter	39 (30–76)	35 (28–46)	36 (29–67)
Creatinine — mg per deciliter	0.90 (0.66–1.17)	0.79 (0.63–1.00)	0.89 (0.64–1.08)

* ALT denotes alanine aminotransferase, AST aspartate aminotransferase, and IQR interquartile range. To convert the values for creatinine to micromoles per liter, multiply by 88.4.

of remdesivir, 36 of 53 patients (68%) showed an improvement in the category of oxygen support, whereas 8 of 53 patients (15%) showed worsening (Fig. 1). Improvement was observed in all 12 patients who were breathing ambient air or receiving low-flow supplemental oxygen and in 5 of 7 patients (71%) who were receiving noninvasive oxygen support (NIPPV or high-flow supplemental oxygen). It is notable that 17 of 30 patients (57%) who were receiving invasive mechanical ventilation were extubated, and 3 of 4 patients (75%) receiving ECMO stopped receiving it; all were alive at last follow-up. Individual patients' changes in the category of oxygen support are shown in Figure 2. By the date of the most recent follow-up, 25 of 53 patients (47%) had been

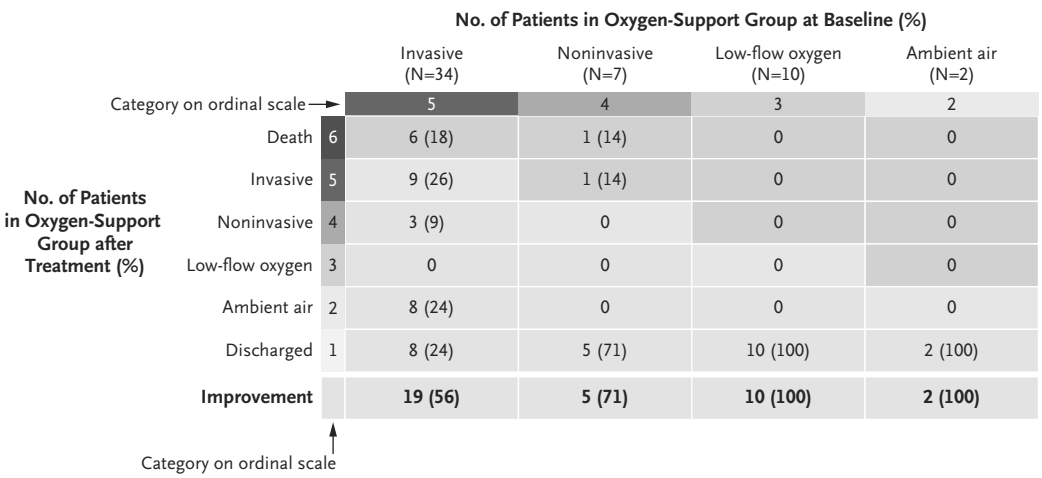

Figure 1. Oxygen-Support Status at Baseline and after Treatment.

For each oxygen-support category, percentages were calculated with the number of patients at baseline as the denominator. Improvement (blue cells), no change (beige) and worsening (gray) in oxygen-support status are shown. Invasive ventilation includes invasive mechanical ventilation, extracorporeal membrane oxygenation (ECMO), or both. Noninvasive ventilation includes nasal high-flow oxygen therapy, noninvasive positive pressure ventilation (NIPPV), or both.

discharged (24% receiving invasive ventilation [8 of 34 patients] and 89% [17 of 19 patients] receiving noninvasive oxygen support).

By 28 days of follow-up, the cumulative incidence of clinical improvement, as defined by either a decrease of 2 points or more on the six-point ordinal scale or live discharge, was 84% (95% confidence interval [CI], 70 to 99) by Kaplan–Meier analysis (Fig. 3A). Clinical improvement was less frequent among patients receiving invasive ventilation than among those receiving noninvasive ventilation (hazard ratio for improvement, 0.33; 95% CI, 0.16 to 0.68) (Fig. 3B) and among patients 70 years of age or older (hazard ratio as compared with patients younger than 50 years, 0.29; 95% CI, 0.11 to 0.74) (Fig. 3C). Sex, region of enrollment, coexisting conditions, and duration of symptoms before remdesivir treatment was initiated were not significantly associated with clinical improvement (Table S1).

MORTALITY

Seven of the 53 patients (13%) died after the completion of remdesivir treatment, including 6 of 34 patients (18%) who were receiving invasive ventilation and 1 of 19 (5%) who were receiving noninvasive oxygen support (see the Supplementary Appendix for case narratives). The median interval between remdesivir initiation and death was 15 days (interquartile range, 9 to 17). Overall mortality from the date of admission was 0.56 per 100 hospitalization days (95% CI, 0.14 to 0.97) and did not differ substantially among patients receiving invasive ventilation (0.57 per 100 hospitalization days; 95% CI, 0 to 1.2]) as compared with those receiving noninvasive ventilation (0.51 per 100 hospitalization days; 95% CI, 0.07 to 1.1]). Risk of death was greater among patients who were 70 years of age or older (hazard ratio as compared with patients younger than 70 years, 11.34; 95% CI, 1.36 to 94.17) and among those with higher serum creatinine at baseline (hazard ratio per milligram per deciliter, 1.91; 95% CI, 1.22 to 2.99). The hazard ratio for patients receiving invasive ventilation as compared with those receiving noninvasive oxygen support was 2.78 (95% CI, 0.33 to 23.19) (Table S2).

SAFETY

A total of 32 patients (60%) reported adverse events during follow-up (Table 2). The most common adverse events were increased hepatic enzymes, diarrhea, rash, renal impairment, and hypotension. In general, adverse events were more common in patients receiving invasive ventilation. A total of 12 patients (23%) had serious adverse events. The

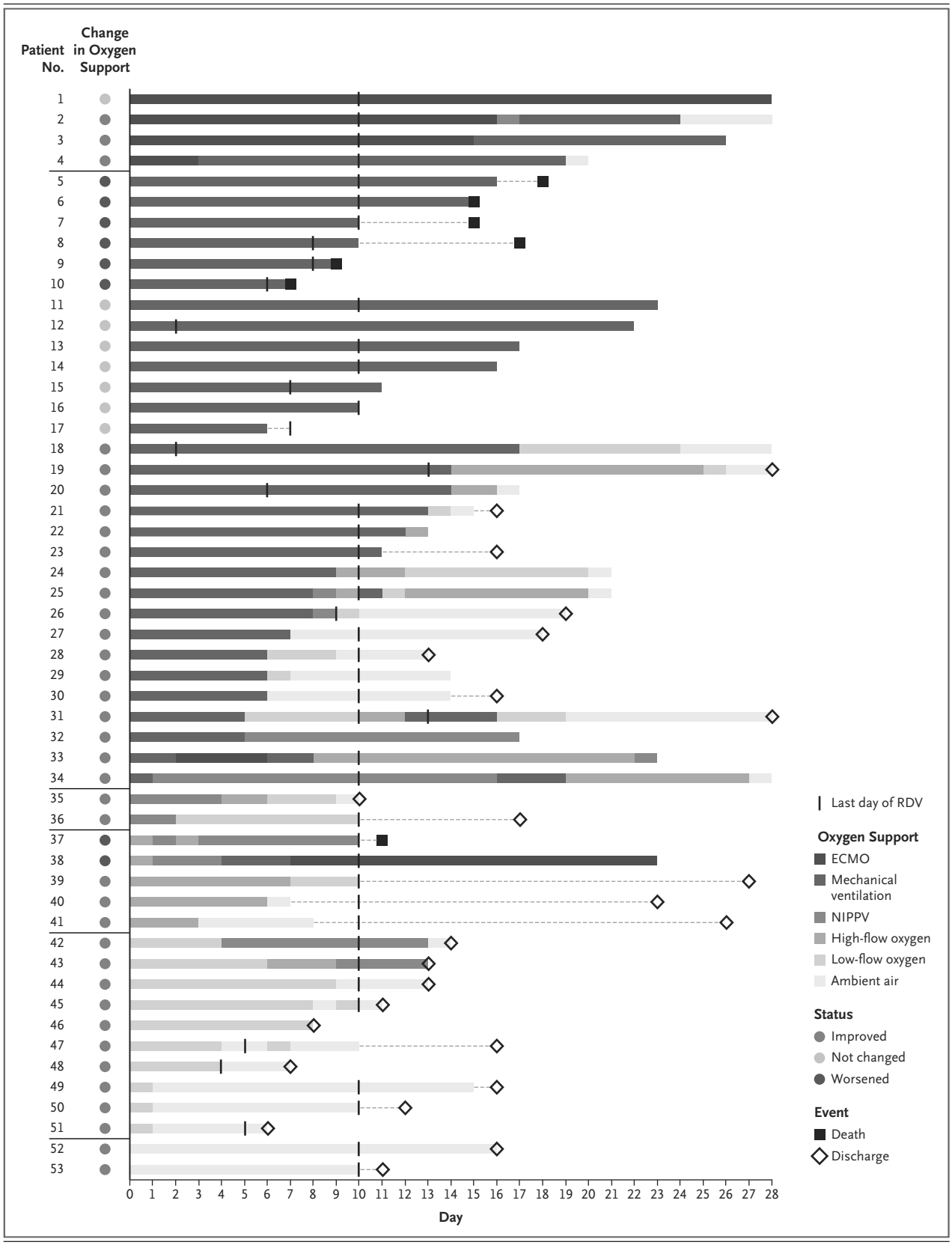

Figure 2 (facing page). Changes in Oxygen-Support Status from Baseline in Individual Patients.

Baseline (day 0) was the day on which treatment with remdesivir (RDV) was initiated. Final oxygen support statuses shown are based on the most recent reported data. For each patient, the colors in the line represent the oxygen-support status of the patient over time. The colored circles to the left of each line indicate the patient's overall change in status from baseline. A patient's status "improved" if the oxygen-support status improved before the last follow-up or the patient was discharged. The vertical black marks show the last day of treatment with RDV. The gray dashed lines represent missing data between the patient's most recent reported oxygen status and an event (death or discharge) or the last dose of RDV. A solid square at the end of a line indicates that the patient died; an open diamond indicates that the patient was discharged from the hospital. If there is neither a square nor a diamond at the end of a line, neither death nor discharge had occurred. Patient 2 was breathing ambient air through day 36. Patients 19 and 31 were discharged on day 44.

most common serious adverse events — multiple-organ-dysfunction syndrome, septic shock, acute kidney injury, and hypotension — were reported in patients who were receiving invasive ventilation at baseline.

Four patients (8%) discontinued remdesivir treatment prematurely: one because of worsening of preexisting renal failure, one because of multiple organ failure, and two because of elevated aminotransferases, including one patient with a maculopapular rash.

LABORATORY DATA

Given the nature of this compassionate-use program, data on a limited number of laboratory measures were collected. Median serum ALT, AST, and creatinine fluctuated during follow-up (Fig. S2).

DISCUSSION

To date, no therapy has demonstrated efficacy for patients with Covid-19. This preliminary report describes the clinical outcomes in a small cohort of patients who were severely ill with Covid-19 and were treated with remdesivir. Although data from several ongoing randomized, controlled trials will soon provide more informative evidence

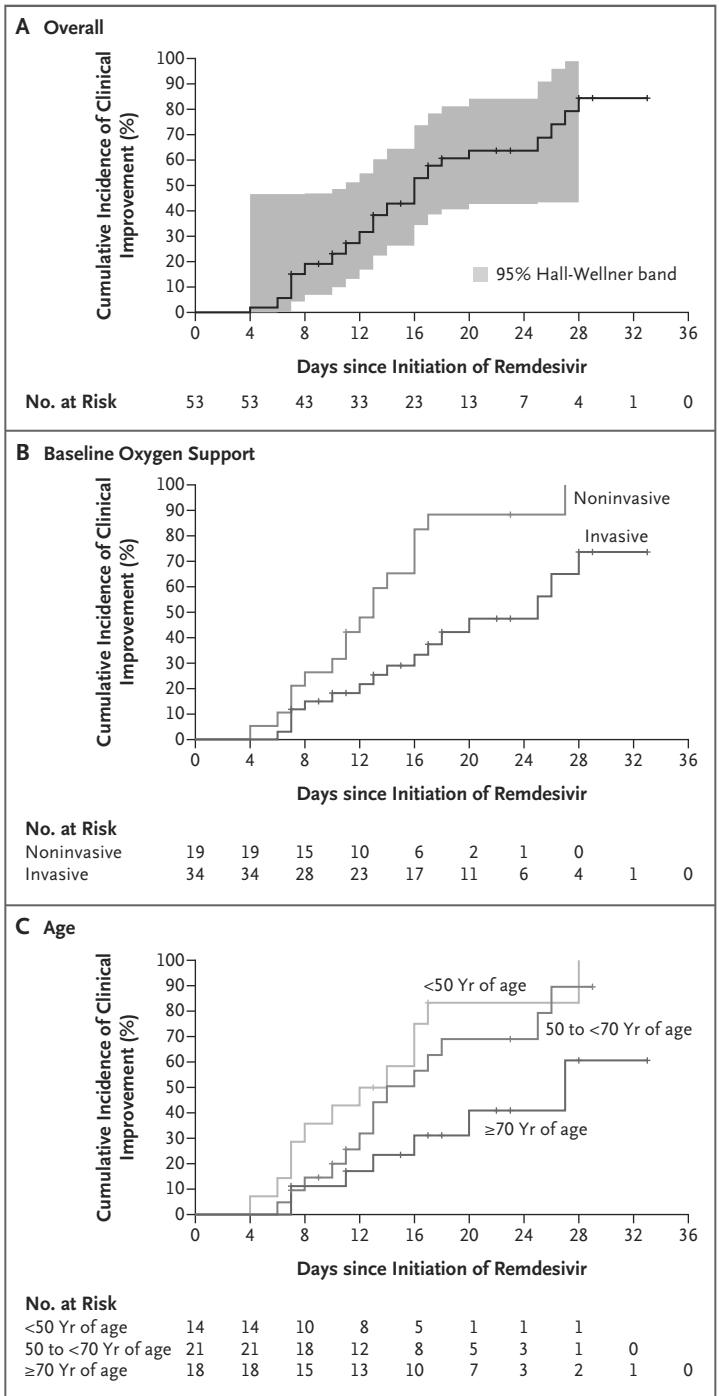

Figure 3. Cumulative Incidence of Clinical Improvement from Baseline to Day 36.

Clinical improvement is shown in the full cohort, in the cohort stratified according to ventilation status at baseline, and in the cohort stratified by age.

Table 2. Summary of Adverse Events.

Event	Invasive Ventilation (N=34)	Noninvasive Oxygen Support (N=19)	Total (N=53)
		number of patients (percent)	
Any adverse event	22 (65)	10 (53)	32 (60)
Adverse events occurring in 2 or more patients			
Hepatic enzyme increased*	8 (24)	4 (21)	12 (23)
Diarrhea	1 (3)	4 (21)	5 (9)
Rash	3 (9)	1 (5)	4 (8)
Renal impairment	4 (12)	0	4 (8)
Hypotension	3 (9)	1 (5)	4 (8)
Acute kidney injury	2 (6)	1 (5)	3 (6)
Atrial fibrillation	2 (6)	1 (5)	3 (6)
Multiple-organ-dysfunction syndrome	3 (9)	0	3 (6)
Hypernatremia	3 (9)	0	3 (6)
Deep-vein thrombosis	3 (9)	0	3 (6)
Acute respiratory distress syndrome	1 (3)	1 (5)	2 (4)
Pneumothorax	2 (6)	0	2 (4)
Hematuria	2 (6)	0	2 (4)
Delirium	1 (3)	1 (5)	2 (4)
Septic shock	2 (6)	0	2 (4)
Pyrexia	1 (3)	1 (5)	2 (4)
Any serious adverse event	9 (26)	3 (16)	12 (23)
Serious events occurring in 2 or more patients			
Multiple-organ-dysfunction syndrome	2 (6)	0	2 (4)
Septic shock	2 (6)	0	2 (4)
Acute kidney injury	2 (6)	0	2 (4)
Hypotension	2 (6)	0	2 (4)

* Adverse-event terms are based on the *Medical Dictionary for Regulatory Activities*, version 22.1. Hepatic enzyme increased includes the following terms: hepatic enzyme increased, alanine aminotransferase increased, aspartate aminotransferase increased, and transaminases increased. Elevated hepatic enzymes resulted in discontinuation of remdesivir therapy in 2 patients.

regarding the safety and efficacy of remdesivir for Covid-19, the outcomes observed in this compassionate-use program are the best currently available data. Specifically, improvement in oxygen-support status was observed in 68% of patients, and overall mortality was 13% over a median follow-up of 18 days. In a recent randomized, controlled trial of lopinavir–ritonavir in patients hospitalized for Covid-19, the 28-day mortality was 22%.[10] It is important to note that only 1 of 199 patients in that trial were receiving invasive ventilation at baseline. In case series and cohort studies, largely from China, mortality rates of 17 to 78% have been reported in severe cases, defined by the need for admission to an intensive care unit, invasive ventilation, or both.[23-28] For example, among 201 patients hospitalized in Wuhan, China, mortality was 22% overall and 66% (44 of 67) among patients receiving invasive mechanical ventilation.[7] By way of comparison, the 13% mortality observed in this remdesivir compassionate-use cohort is noteworthy, considering the severity of disease in this patient population; however, the patients enrolled in this compassionate-treatment program are not directly comparable to those studied in these other re-

ports. For example, 64% of remdesivir-treated patients were receiving invasive ventilation at baseline, including 8% who were receiving ECMO, and mortality in this subgroup was 18% (as compared with 5.3% in patients receiving noninvasive oxygen support), and the majority (75%) of patients were male, were over 60 years of age, and had coexisting conditions.

Unfortunately, our compassionate-use program did not collect viral load data to confirm the antiviral effects of remdesivir or any association between baseline viral load and viral suppression, if any, and clinical response. Moreover, the duration of remdesivir therapy was not entirely uniform in our study, largely because clinical improvement enabled discharge from the hospital. The effectiveness of a shorter duration of therapy (e.g., 5 days, as compared with 10 days), which would allow the treatment of more patients during the pandemic, is being assessed in ongoing randomized trials of this therapy.

No new safety signals were detected during short-term remdesivir therapy in this compassionate-use cohort. Nonclinical toxicology studies have shown renal abnormalities, but no clear evidence of nephrotoxicity due to remdesivir therapy was observed. As reported in studies in healthy volunteers and patients infected with Ebola virus, mild-to-moderate elevations in ALT, AST, or both were observed in this cohort of patients with severe Covid-19.[18,19] However, considering the frequency of liver dysfunction in patients with Covid-19, attribution of hepatotoxicity to either remdesivir or the underlying disease is challenging.[29] Nevertheless, the safety and side-effect profile of remdesivir in patients with Covid-19 require proper assessment in placebo-controlled trials.

Interpretation of the results of this study is limited by the small size of the cohort, the relatively short duration of follow-up, potential missing data owing to the nature of the program, the lack of information on 8 of the patients initially treated, and the lack of a randomized control group. Although the latter precludes definitive conclusions, comparisons with contemporaneous cohorts from the literature, in whom general care is expected to be consistent with that of our cohort, suggest that remdesivir may have clinical benefit in patients with severe Covid-19. Nevertheless, other factors may have contributed to differences in outcomes, including the type of supportive care (e.g., concomitant medications or variations in ventilatory practices) and differences in institutional treatment protocols and thresholds for hospitalization. Moreover, the use of invasive ventilation as a proxy for disease severity may be influenced by the availability of ventilators in a given location. The findings from these uncontrolled data will be informed by the ongoing randomized, placebo-controlled trials of remdesivir therapy for Covid-19.

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Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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APPENDIX

The authors' full names and academic degrees are as follows: Jonathan Grein, M.D., Norio Ohmagari, M.D., Ph.D., Daniel Shin, M.D., George Diaz, M.D., Erika Asperges, M.D., Antonella Castagna, M.D., Torsten Feldt, M.D., Gary Green, M.D., Margaret L. Green, M.D., M.P.H., François-Xavier Lescure, M.D., Ph.D., Emanuele Nicastri, M.D., Rentaro Oda, M.D., Kikuo Yo, M.D., D.M.Sc., Eugenia Quiros-Roldan, M.D., Alex Studemeister, M.D., John Redinski, D.O., Seema Ahmed, M.D., Jorge Bernett, M.D., Daniel Chelliah, M.D., Danny Chen, M.D., Shingo Chihara, M.D., Stuart H. Cohen, M.D., Jennifer Cunningham, M.D., Antonella D'Arminio Monforte, M.D., Saad Ismail, M.D., Hideaki Kato, M.D., Giuseppe Lapadula, M.D., Erwan L'Her, M.D., Ph.D., Toshitaka Maeno, M.D., Sumit Majumder, M.D., Marco Massari, M.D., Marta Mora-Rillo, M.D., Yoshikazu Mutoh, M.D., Duc Nguyen, M.D., Pharm.D., Ewa Verweij, M.D., Alexander Zoufaly, M.D., Anu O. Osinusi, M.D., Adam DeZure, M.D., Yang Zhao, Ph.D., Lijie Zhong, Ph.D., Anand Chokkalingam, Ph.D., Emon Elboudwarej, Ph.D., Laura Telep, M.P.H., Leighann Timbs, B.A., Ilana Henne, M.S., Scott Sellers, Ph.D., Huyen Cao, M.D., Susanna K. Tan, M.D., Lucinda Winterbourne, B.A., Polly Desai, M.P.H., Robertino Mera, M.D., Ph.D., Anuj Gaggar, M.D., Ph.D., Robert P. Myers, M.D., Diana M. Brainard, M.D., Richard Childs, M.D., and Timothy Flanigan, M.D.

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Exhibit 5

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July 16, 2020

VIA EMAIL AND US MAIL
Davis Wright Tremaine LLP
Hope R. Levy-Biehl
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HopeLevyBiehl@dwt.com

RE: Verity Sale of St. Francis Medical Center to Prime Healthcare

Dear Ms. Levy-Biehl:

Under Corporations Code section 5914 et seq., and California Code of Regulations, title 11, section 999.5, the Attorney General has considered the proposed transaction submitted by Verity Health System of California, Inc. In coming to the decision, described below, we have carefully considered the factors set forth in Corporations Code section 5917 and the applicable regulations, including whether the transaction is in the public interest and whether the transaction affects the availability or accessibility of health care services to the affected community. Our decision is based on the material contained in the notice, the information and documents subsequently submitted by the applicants, comments made by members of the public, discussions with the applicants, and the results of our investigation.

The Attorney General hereby conditionally consents to Verity Health System of California, Inc.'s proposed sale of the assets of St. Francis Medical Center to Prime Healthcare Services, Inc. and/or one or more of its affiliates. The Attorney General's conditional approval of the sale is subject to the attached conditions that are incorporated by reference herein.

Sincerely,
[original signed]

SCOTT CHAN
Deputy Attorney General

For XAVIER BECERRA
Attorney General

Conditions to the Sale of St. Francis Medical Center[1] and Approval of the Asset Purchase Agreement by and among Verity Health System of California, Inc., Verity Holdings, LLC, St. Francis Medical Center, Prime Healthcare Services, Inc.

I.

These Conditions shall be legally binding on Verity Health System of California, Inc., a California nonprofit public benefit corporation, Verity Holdings, LLC, a California limited liability company, St. Francis Medical Center, a California nonprofit public benefit corporation, and St. Francis Medical Center Foundation, a nonprofit public benefit corporation, and Prime Healthcare Services, Inc. a Delaware corporation, any other subsidiary, parent, general partner, limited partner, member, affiliate, successor, successor in interest, assignee, or person or entity serving in a similar capacity of any of the above-listed entities including, but not limited to, any entity succeeding thereto as a result of consolidation, affiliation, merger, or acquisition of all or substantially all of the real property or operating assets of St. Francis Medical Center, or the real property on which St. Francis Medical Center is located, any and all current and future owners, lessees, licensees, or operators of St. Francis Medical Center, and any and all current and future lessees and owners of the real property on which St. Francis Medical Center is located.

II.

The transaction conditionally approved by the Attorney General consists of the Asset Purchase Agreement dated April 3, 2020, by and among, Verity Health System of California, Inc., a California nonprofit public benefit corporation, Verity Holdings, LLC, a California limited liability company, St. Francis Medical Center, a California nonprofit public benefit corporation, and Prime Healthcare Services, Inc., a Delaware corporation, and any agreements or documents referenced in or attached to as an exhibit or schedule and any other documents referenced in the Asset Purchase Agreement, including, but not limited to, the Sale Leaseback Agreement and Interim Management Agreement.

All the entities listed in Condition I, and any other parties referenced in the above agreements shall fulfill the terms of these agreements or documents and shall notify and obtain the Attorney General's approval in writing of any proposed modification or rescission of any of the terms of these agreements or documents. Such notifications shall be provided at least sixty days prior to their effective date in order to allow the Attorney General to consider whether they affect the factors set forth in Corporations Code section 5917 and require the Attorney General's approval.

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[1] Throughout this document, the term "St. Francis Medical Center" shall mean the general acute care hospital located at 3630 East Imperial Highway, Lynwood, CA 90262, and any other clinics, laboratories, units, services, or beds included on the license issued to St. Francis Medical Center by the California Department of Public Health, effective April 14, 2020, unless otherwise indicated.

III.

For ten years from the closing date of the Asset Purchase Agreement, Verity Health System of California, Inc., Verity Holdings, LLC, Prime Healthcare Services, Inc., and all future owners, managers, lessees, licensees, or operators of St. Francis Medical Center shall be required to provide written notice to the Attorney General sixty days prior to entering into any agreement or transaction to do any of the following:

(a) Sell, transfer, lease, exchange, option, convey, manage, or otherwise dispose of St. Francis Medical Center;

(b) Transfer control, responsibility, management, or governance of St. Francis Medical Center. The substitution, merger or addition of a new member or members of the governing body of Prime Healthcare Services, Inc. that transfers the control of, responsibility for or governance of St. Francis Medical Center, shall be deemed a transfer for purposes of this Condition. The substitution or addition of one or more members of the governing body of Prime Healthcare Services Inc., or any arrangement, written or oral, that would transfer voting control of the members of the governing body of Prime Healthcare Services, Inc. shall also be deemed a transfer for purposes of this Condition.

IV.

For ten years from the closing date of the Asset Purchase Agreement, St. Francis Medical Center shall be operated and maintained as a licensed general acute care hospital (as defined in California Health and Safety Code Section 1250) and shall maintain and provide 24-hour emergency and trauma medical services at no less than current[2] licensure and designation with the same types and/or levels of services, including the following:

a. 46 emergency treatment stations at a minimum;
b. Designation as a Level II Trauma Center;
c. Designation as a 5150 Receiving Facility, as defined by the Welfare and Institutions Code, section 5150, for behavioral health patients under involuntary evaluation;
d. Psychiatric evaluation team;
e. Designation as an Emergency Department Approved for Pediatrics (EDAP);
f. Designation as a Paramedic Base Station; and
g. Certification as a Primary Stroke Center.

Prime Healthcare Services, Inc. must give one-year advance written notice to the Los Angeles County Emergency Medical Services Agency and the California Department of Public Health if St. Francis Medical Center seeks to reduce trauma or trauma-related care services or stop

[2] The term "current" or "currently" throughout this document means as of January 1, 2020.

operating the Level II Trauma Center after ten years from the closing date of the Asset Purchase Agreement.

V.

For at least ten years from the closing date of the Asset Purchase Agreement, St. Francis Medical shall maintain on-call coverage contracts and/or comparable coverage arrangements with physicians at fair market value that are necessary to retain its qualification as a Level II trauma center. The following on-call coverage contracts and/or comparable coverage arrangements are required to retain St. Francis Medical Center's status as a Level II trauma Center:

a. Neurology;
b. Obstetrics/gynecology;
c. Ophthalmology;
d. Oral or maxillofacial or head and neck;
e. Orthopedic;
f. Plastic surgery;
g. Reimplantation/microsurgery capability (this surgical service may be provided through a written transfer agreement); and
h. Urology.

VI.

For at least ten years from the closing date of the Asset Purchase Agreement, St. Francis Medical Center shall maintain the following services at current licensure, types, and/or levels of services:

a. Cardiac services, including three cardiac catheterization labs and the designation as a STEMI Receiving Center;
b. Critical care services, including a minimum of 36 intensive care unit beds or 24 intensive care beds and 12 definitive observation beds;
c. Neonatal intensive care services, including a minimum of 29 neonatal intensive care beds, and at minimum, maintaining a Level II NICU;
d. Women's health services, including women's imaging services;
e. Cancer services, including radiation oncology;
f. Pediatric services, including a designated area with at least five general acute care beds for pediatric services;
g. Orthopedic and rehabilitation services;
h. Wound care services;
i. Behavioral health services, including a minimum of 40 distinct part inpatient acute psychiatric beds; and
j. Perinatal services, including a minimum of 50 perinatal beds.

Prime Healthcare Services, Inc. shall not place all or any portion of its above-listed licensed-bed capacity or services in voluntary suspension or surrender its license for any of these beds or services.

VII.

For at least ten years from the closing date of the Asset Purchase Agreement, St. Francis Medical Center shall maintain the same types and/or levels of women's healthcare services currently provided at the location below or a location within three miles of St. Francis Medical Center:

a. Family Life Center at St. Francis Medical Center, located at 3630 E Imperial Highway, Lynwood, California, including, expert gynecologic care, family planning, advanced cancer care, minimally invasive gynecological surgery, comprehensive obstetrical and maternity services, specialized newborn care.

VIII.

For at least five years from the closing date of the Asset Purchase Agreement, Prime Healthcare Services, Inc. shall either: (1) operate clinics (listed below) with the same number of physicians and mid-level provider full-time equivalents in the same or similar alignment structures, or (2) sell the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the purchaser(s) to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein, or (3) ensure that a third party is operating the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the third party to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein. For any of these options, each clinic can be moved to a different location within a three-mile radius of each clinic's current location, and St. Francis Medical Center can utilize an alternative structure in providing such services. The following clinics are subject to this condition:

a. Pediatric services at Children's Counseling Center, 4390 Tweedy Ave, South Gate, California;
b. Wound care services at Wound Care Center, 3628 E. Imperial Highway, Suite 103, Lynwood, California; and
c. Orthopedic services at 3628 E. Imperial Highway, Suite 300, Lynwood, California.

IX.

For ten years from the closing date of the Asset Purchase Agreement, Prime Healthcare Services, Inc. shall:

a) Be certified to participate in the Medi-Cal program at St. Francis Medical Center;

b) Maintain and have Medi-Cal Managed Care contracts with the below listed Medi-Cal Managed Care Plans to provide the same types and levels of emergency and non-emergency services at St. Francis Medical Center to Medi-Cal beneficiaries (both Traditional Medi-Cal and Medi-Cal Managed Care) as required in these Conditions, on the same terms and conditions as

other similarly situated hospitals offering substantially the same services, without any loss, interruption of service or diminution in quality, or gap in contracted hospital coverage, unless the contract is terminated for cause or not extended or renewed by the Medi-Cal Managed Care Plan:

i) Local Initiative: L.A. Care Health Plan or its successor; and
ii) Commercial Plan: Health Net Community Solutions, Inc. or its successor.

If Prime Healthcare Services, Inc. questions whether it is being reimbursed on the same terms and conditions as other similarly situated hospitals offering substantially the same services, it shall notify the Attorney General's Office with at least 120 days' notice prior to taking any action that would effectuate any loss, interruption of service or diminution in quality, or gap in contracted hospital coverage or prior to giving any required notice of taking such action.

c) Be certified to participate in the Medicare program by maintaining a Medicare Provider Number to provide the same types and levels of emergency and non-emergency services at St. Francis Medical Center to Medicare beneficiaries (both Traditional Medicare and Medicare Managed Care), on the same terms and conditions as other similarly situated hospitals, as required in these Conditions.

X.

For six fiscal years from the closing date of the Asset Purchase Agreement, Prime Healthcare Services, Inc. shall provide an annual amount of Charity Care (as defined below) at St. Francis Medical Center equal to or greater than $10,186,173 (the Minimum Charity Care Amount). For purposes hereof, the term "charity care" shall mean the amount of charity care costs (not charges) incurred by Prime Healthcare, Inc. in connection with the operation and provision of services at St. Francis Medical Center. The definition and methodology for calculating "charity care" and the methodology for calculating "costs" shall be the same as that used by Office of Statewide Health Planning Development (OSHPD) for annual hospital reporting purposes.[3]

Prime Healthcare Services, Inc.'s obligation under this Condition shall be prorated on a daily basis if the closing date of the Asset Purchase Agreement is a date other than the first day of Verity Health System of California, Inc.'s fiscal year.

For the second fiscal year and each subsequent fiscal year, the Minimum Charity Care Amount shall be increased (but not decreased) by an amount equal to the Annual Percent increase, if any, in the 12 Months Percent Change: All Items Consumer Price Index for All Urban Consumers in the Los Angeles-Long Beach-Anaheim Average Base Period: 1982-84=100 (CPI-LA, as published by the U.S. Bureau of Labor Statistics).

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[3] OSHPD defines charity care by contrasting charity care and bad debt. According to OSHPD, "the determination of what is classified as . . . charity care can be made by establishing whether or not the patient has the ability to pay. The patient's accounts receivable must be written off as bad debt if the patient has the ability but is unwilling to pay off the account."

If the actual amount of charity care provided at St. Francis Medical Center for any fiscal year is less than the Minimum Charity Care Amount (as adjusted pursuant to the above-referenced Consumer Price Index) required for such fiscal year, Prime Healthcare Services, Inc. shall pay an amount equal to the deficiency to the California Community Foundation where the funds shall be regranted to one or more tax-exempt entities that provide direct healthcare services to residents in the St. Francis Medical Center's service area (30 ZIP codes), as described on page 62 in the Healthcare Impact Report authored by JD Healthcare dated June 4, 2020. (Exhibit 1.) Such payment(s) shall be made within six months following the end of such fiscal year. These funds should not be treated in an endowed matter, but instead that the funds be regranted rapidly to one or more tax-exempt entities.

XI.

Charity care, which entails free medical care services, shall be provided by Prime Healthcare Services, Inc. at St. Francis Medical Center to patients who are uninsured, ineligible for governmental or other insurance coverage and who have family incomes not in excess of 400 percent of the Federal Poverty level. Prime Healthcare Services, Inc. will provide a discount payment program at St. Francis Medical Center to patients who have family incomes in excess of 400 percent but not to exceed 600 percent of the Federal Poverty Level. Prime Healthcare Services, Inc. will memorialize these charity care and discount payment policies within 90 days from the closing of the Asset Purchase Agreement.

Within 90 days from the closing of the Asset Purchase Agreement, Prime Healthcare Services, Inc. will amend the Financial Assistance Policy at St. Francis Medical Center to include as follows:

a. A copy of the Financial Assistance Policy and the plain language summary of the Financial Assistance Policy must be posted at St. Francis Medical Center in a prominent location in the emergency room, admissions area, and any other location in the hospital where there is a high volume of patient traffic, including waiting rooms, billing offices, and hospital outpatient service settings.
b. A copy of the Financial Assistance Policy, the Application for Financial Assistance, and the plain language summary of the Financial Assistance Policy must be posted in a prominent place on St. Francis Medical Center's website.
c. If requested by a patient, a copy of the Financial Assistance Policy, Application for Financial Assistance, and the plain language summary must be sent by mail at no cost to the patient.
d. As necessary, and at least on an annual basis, Prime Healthcare Services, Inc. will place an advertisement regarding the availability of financial assistance at St. Francis Medical Center in a newspaper of general circulation in the communities served by the hospital, or issue a Press Release to widely publicize the availability of the Financial Assistance Policy to the communities served by the hospital.
e. Prime Healthcare Services, Inc., on no less than annual basis, will work with, affiliated organizations, physicians, community clinics, other health care providers, houses of worship, and other community-based organizations to notify members of the community

(especially those who are most likely to require financial assistance) about the availability of financial assistance at St. Francis Medical Center.

f. By December 1, 2020, all staff that interacts with patients and their families concerning payment of services shall be given training to make patients and their families aware of and informed of Prime Healthcare Services, Inc.'s Financial Assistance Policy at St. Francis Medical Center.

Any planning of, and any subsequent changes to, the charity care and collection policies, and charity care services provided at St. Francis Medical Center shall be decided after consultation with the Local Governing Board of Directors.

XII.

For six fiscal years from the closing date of the Asset Purchase Agreement, Prime Healthcare Services, Inc. shall provide an annual amount of Community Benefit Services at St. Francis Medical Center equal to or greater than $1,597,077 (the "Minimum Community Benefit Services Amount") exclusive of any funds from grants. For six fiscal years, the following community benefit programs and services shall continue to be offered at its current or equivalent location:

a. Southern California Crossroads Program;
b. Health Benefit Resource Center;
c. Welcome Baby Program;
d. Healthy Community Initiatives;
e. American Career College access for onsite training;
f. Paramedic Training and Education; and
g. Patient Transportation support.

The planning of, and any subsequent changes to, the community benefit services provided at St. Francis Medical Center shall be decided after consultation with the Local Governing Board of Directors.

Prime Healthcare Services, Inc.'s obligation under this Condition shall be prorated on a daily basis if the effective date of the Asset Purchase Agreement is a date other than the first day of Verity Health System of California, Inc.'s fiscal year.

For the second fiscal year and each subsequent fiscal year, the Minimum Community Benefit Services Amount shall be increased (but not decreased) by an amount equal to the Annual Percent increase, if any, in the 12 Months Percent Change: All Items Consumer Price Index for All Urban Consumers in the Los Angeles-Long Beach-Anaheim Average Base Period: 1982-84=100 (CPI-LA, as published by the U.S. Bureau of Labor Statistics).

If the actual amount of community benefit services provided at St. Francis Medical Center for any fiscal year is less than the Minimum Community Benefit Services Amount (as adjusted pursuant to the above-referenced Consumer Price Index) required for such fiscal year, Prime Healthcare Services, Inc. shall pay an amount equal to the deficiency to the California Community Foundation where the funds shall be regranted to one or more tax-exempt entities

that provide community benefit services to residents in the St. Francis Medical Center's service area (30 ZIP codes), as described on page 62 in the Healthcare Impact Report authored by JD Healthcare dated June 4, 2020. (Exhibit 1.) Such payment(s) shall be made within six months following the end of such fiscal year. These funds should not be treated in an endowed matter, but instead that the funds be regranted rapidly to one or more tax-exempt entities.

XIII.

For at least ten years from the closing date of the Asset Purchase Agreement unless otherwise indicated, Prime Healthcare Services, Inc. shall maintain its contracts and any amendments and exhibits thereto with the City and/or County of Los Angeles for services, including the following:

a. Participation in the Hospital Preparedness Program between the Hospital and Los Angeles County;
b. Department of Mental Health Legal Entity Contract between the Hospital and Los Angeles County;
c. Paramedic Base Hospital Services between the Hospital and Los Angeles County;
d. Master Agreement between Los Angeles County and the Hospital for Radiation Therapy Services Radiation Therapy Services between the Hospital and Los Angeles County;
e. Designation Agreement between the County of Los Angeles Department of Mental Health (LAC-DMH) and the Hospital and approved as a 72-hour Evaluation and Intensive Treatment facility;
f. Affiliation Agreement for physicians in post graduate training;
g. Trauma Center Service Agreement between the Hospital and Los Angeles County; and
h. Paramedic Training Institute Students between the Hospital and Los Angeles County;
i. Mental Health Service - Children 's Counseling between Los Angeles County and the Hospital; and
j. Memorandum of Understanding for Mental Health Hospital Portal between the Superior Court of California, County of Los Angeles and the Hospital.

For at least ten years from the closing date of the Asset Purchase Agreement, Prime Healthcare Services, Inc. shall provide to the Los Angeles County Department of Health Services and Los Angeles County of Department of Mental Health information and documents related to staffing assessments, clinical guidelines, services provided, and technology needs for St. Francis Medical Center. Such information and documents will also be provided to the Local Governing Board.

XIV.

For ten years from the closing date of the Asset Purchase Agreement, Prime Healthcare Services, Inc. shall have at St. Francis Medical Center a Local Governing Board of Directors. Prime Healthcare Services, Inc. shall consult with the Local Governing Board of Directors prior to making changes to medical services, community benefit programs, making capital expenditures,

including making changes to the charity care and collection policies, and making changes to charity care services provided at St. Francis Medical Center. The members of the Local Governing Board shall include physicians from St. Francis Medical Center's medical staff, St. Francis Medical Center's Chief of Staff, one member designated by the Los Angeles County Board of Supervisors, and community representatives from St. Francis Medical Center's primary service area (30 ZIP codes), as described on page 62 in the Healthcare Impact Report authored by JD Healthcare dated June 4, 2020 attached hereto as Exhibit 1, including at least one member from a local healthcare advocacy group. Such consultation shall occur at least sixty days prior to the effective date of such changes or actions unless done so on an emergency basis. The Local Governing Board may comment on all reports and its comments will be part of the written report provided to the Attorney General.

XV.

Prime Healthcare Services, Inc. shall expend at least $35 million for capital improvements, excluding seismic retrofit costs, at St. Francis Medical Center over the five-year period from the Closing Date, including but not limited to upgrading its electronic medical records system.

XVI.

Prime Healthcare Services, Inc. shall commit the necessary investments required to maintain OSHPD seismic compliance requirements at the Hospital through 2030 under the Alfred Alquist Hospital Facilities Seismic Safety Act of 1983, as amended by the California Hospital Facilities Seismic Safety Act, (Health & Safety. Code, § 129675-130070)

XVII.

Prime Healthcare Services, Inc. shall maintain privileges for current medical staff who are in good standing as of the closing date of the Asset Purchase Agreement. Further, the closing of the Asset Purchase Agreement shall not change the medical staff officers, committee chairs, or independence of the medical staff, and such persons shall remain in good standing for the remainder of their tenure at St. Francis Medical Center.

XVIII.

There shall be no discrimination against lesbian, gay, bisexual, or transgender individuals at St. Francis Medical Center, and no restriction or limitation on providing or making reproductive health services available at St. Francis Medical Center, its medical office buildings, or at any of its facilities. Both of these prohibitions shall be set forth in Prime Healthcare Services, Inc.'s written policies, adhered to, and strictly enforced.

XIX.

For eleven fiscal years from the closing date of the Asset Purchase Agreement Prime Healthcare Services, Inc. shall submit to the Attorney General, no later than four months after the conclusion

of each fiscal year, a report describing in detail compliance with each Condition set forth herein. The Chairman of the Board of Directors of Prime Healthcare Services, Inc. shall certify that the report is true, accurate, and complete and provide documentation of the review. The Local Governing Board may comment on all reports and its comments will be part of the written report provided to the Attorney General.

Prime Healthcare Services, Inc. will include in its annual reports a copy of the Office of Statewide Health Planning and Development's Summary Individual Disclosure Report that OSPHD produces using data audited by OSHPD. If OSHPD's Summary Individual Disclosure Report is not available then Prime Healthcare Services, Inc. must provide the full Hospital Disclosure Report.

XX.

At the request of the Attorney General, all parties listed in Condition I, Verity Health System of California, Inc., Verity Holdings, LLC, Prime Healthcare Services, Inc., and any other parties referenced in the agreements listed in Condition II shall provide such information as is reasonably necessary for the Attorney General to monitor compliance with these Conditions and the terms of the transaction as set forth herein. The Attorney General shall, at the request of a party and to the extent provided by law, keep confidential any information so produced to the extent that such information is a trade secret or is privileged under state or federal law, or if the private interest in maintaining confidentiality clearly outweighs the public interest in disclosure.

XXI.

Once the Asset Purchase Agreement is closed, all parties listed in Condition I, and any other parties referenced in the agreements listed in Condition II are deemed to have explicitly and implicitly consented to the applicability and compliance with each and every Condition and to have waived any right to seek judicial relief with respect to each and every Condition.

The Attorney General reserves the right to enforce each and every Condition set forth herein to the fullest extent provided by law. In addition to any legal remedies the Attorney General may have, the Attorney General shall be entitled to specific performance, injunctive relief, and such other equitable remedies as a court may deem appropriate for breach of any of these Conditions. Pursuant to Government Code section 12598, the Attorney General's office shall also be entitled to recover its attorney fees and costs incurred in remedying each and every violation.

Analysis of the Hospital's Service Area

Service Area Definition

Based on the Hospital's CY 2018 inpatient discharges, the Hospital's service area is comprised of 30 ZIP Codes from which 79% of the Hospital's inpatient discharges emanate. Approximately 54% of the Hospital's discharges originated from the top eight ZIP Codes, located in Lynwood, South Gate, Los Angeles, Bell, Compton, Bell Gardens, and Huntington Park. In CY 2018, the Hospital's market share was approximately 11% based on total area discharges.

Patient Origin, CY2018						
Patient ZIP	Patient City	St. Francis Discharges	Percentage of Discharges	Cumulative Percentage	Market Share	Total Discharges
90262	Lynwood	3,004	13.5%	13.5%	41.9%	7,174
90280	South Gate	2,263	10.2%	23.6%	30.0%	7,543
90221	Compton	1,419	6.4%	30.0%	24.6%	5,766
90201	Bell Gardens	1,386	6.2%	36.2%	16.3%	8,482
90002	Los Angeles	1,095	4.9%	41.1%	18.8%	5,836
90255	Huntington Park	979	4.4%	45.5%	15.8%	6,191
90001	Los Angeles	958	4.3%	49.8%	16.4%	5,829
90059	Los Angeles	890	4.0%	53.8%	13.5%	6,601
90220	Compton	811	3.6%	57.5%	14.1%	5,732
90222	Compton	753	3.4%	60.9%	18.6%	4,052
90003	Los Angeles	595	2.7%	63.5%	7.5%	7,980
90723	Paramount	544	2.4%	66.0%	11.5%	4,728
90044	Los Angeles	509	2.3%	68.2%	4.2%	12,223
90650	Norwalk	380	1.7%	70.0%	3.6%	10,509
90061	Los Angeles	368	1.7%	71.6%	9.8%	3,744
90242	Downey	304	1.4%	73.0%	6.8%	4,499
90270	Maywood	281	1.3%	74.2%	12.7%	2,209
90706	Bellflower	246	1.1%	75.3%	3.3%	7,425
90805	Long Beach	230	1.0%	76.4%	2.4%	9,566
90241	Downey	206	0.9%	77.3%	5.2%	3,950
90240	Downey	78	0.4%	77.6%	3.9%	2,007
90660	Pico Rivera	70	0.3%	78.0%	1.1%	6,647
90605	Whittier	58	0.3%	78.2%	1.2%	4,658
90670	Santa Fe Springs	44	0.2%	78.4%	2.6%	1,712
90703	Cerritos	38	0.2%	78.6%	1.0%	3,962
90638	La Mirada	37	0.2%	78.8%	0.9%	4,203
90701	Artesia	35	0.2%	78.9%	1.9%	1,818
90606	Whittier	35	0.2%	79.1%	1.1%	3,294
90604	Whittier	29	0.1%	79.2%	0.8%	3,833
90603	Whittier	11	0.0%	79.2%	0.5%	2,063
Sub-Total		**17,656**	**79.2%**	**79.2%**	**10.8%**	**164,236**
All Other		4,624	20.8%	100%		
Grand Total		**22,280**	**100.0%**			
Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns						

Exhibit 1

Exhibit 6

COVID-19 in a Long-Term Care Facility — King County, Washington, February 27–March 9, 2020

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On March 18, 2020, this report was posted as an MMWR *Early Release on the* MMWR *website (https://www.cdc.gov/mmwr).*

On February 28, 2020, a case of coronavirus disease (COVID-19) was identified in a woman resident of a long-term care skilled nursing facility (facility A) in King County, Washington.* Epidemiologic investigation of facility A identified 129 cases of COVID-19 associated with facility A, including 81 of the residents, 34 staff members, and 14 visitors; 23 persons died. Limitations in effective infection control and prevention and staff members working in multiple facilities contributed to intra- and interfacility spread. COVID-19 can spread rapidly in long-term residential care facilities, and persons with chronic underlying medical conditions are at greater risk for COVID-19–associated severe disease and death. Long-term care facilities should take proactive steps to protect the health of residents and preserve the health care workforce by identifying and excluding potentially infected staff members and visitors, ensuring early recognition of potentially infected patients, and implementing appropriate infection control measures.

On February 27, Public Health – Seattle and King County (PHSKC) was notified by a local health care provider of a patient whose symptom history and clinical presentation met the revised testing criteria† for COVID-19, which included testing of persons with severe respiratory illness of unknown etiology (*1*). The patient was a woman aged 73 years with a history of coronary artery disease, insulin-dependent type II diabetes mellitus, obesity, chronic kidney disease, hypertension, and congestive heart failure, who resided in facility A along with approximately 130 residents who were cared for by 170 health care personnel. Beginning in mid-February, the facility had experienced a cluster of febrile respiratory illnesses. Rapid influenza test results were obtained from several residents; all were negative. The patient had cough, fever, and shortness of breath requiring oxygen for 5 days at facility A. She reported no travel or known contact with anyone with COVID-19. On February 24, she was transported to a local hospital because of worsening respiratory symptoms and hypoxemia.

Upon hospital admission, the patient was febrile to 103.3°F (39.6°C), tachycardic, and was found to have hypoxemic respiratory failure. On February 25, she required intubation and mechanical ventilation. Computed tomography scan showed diffuse bilateral infiltrates; however, multiplex viral respiratory panel and bacterial cultures of sputum and bronchoalveolar lavage fluid were negative. Four days after hospital admission, nasopharyngeal and oropharyngeal swabs and sputum specimens were collected to test for SARS-CoV-2; results were reported positive for all specimens on February 28. The patient died on March 2.

Following notification of the index case of COVID-19, PHSKC and CDC immediately began investigating the cluster of respiratory illness in facility A to collect information on symptoms, severity, comorbidities, travel history, and close contacts to known COVID-19 cases by interviewing patients or a proxy for cases in which the patient could not be interviewed. Diagnostic testing by real-time reverse transcription–polymerase chain reaction (RT-PCR) (*2–5*) was performed for patients and staff members meeting clinical case criteria for COVID-19 (*1*). As of March 9, a total of 129 COVID-19 cases were confirmed among facility residents (81 of approximately 130), staff members, including health care personnel (34), and visitors (14). Health care personnel with confirmed COVID-19 included the following occupations: physical therapist, occupational therapist assistant, environmental care worker, nurse, certified nursing assistant, health information officer, physician, and case manager. Overall, 111 (86%) cases occurred among residents of King County (81 facility A residents, 17 staff members, and 13 visitors) and 18 (14%) among residents of Snohomish County (directly north of King County) (17 staff members and one visitor).

Reported symptom onset dates for facility residents and staff members ranged from February 16 to March 5. The median patient age was 81 years (range = 54–100 years) among facility residents, 42.5 years (range = 22–79 years) among staff members, and 62.5 years (range = 52–88 years) among visitors;

* The facility provides inpatient and outpatient rehabilitation and short-term and long-term care. Services include physical therapy, occupational therapy, and speech therapy. The facility, which has a medical director, also provides medication management and post-surgical care.

† https://emergency.cdc.gov/han/2020/han00428.asp.

84 (65.1%) patients were women (Table). Overall, 56.8% of facility A residents, 35.7% of visitors, and 5.9% of staff members with COVID-19 were hospitalized. Preliminary case fatality rates among residents and visitors as of March 9 were 27.2% and 7.1%, respectively; no deaths occurred among staff members. The most common chronic underlying conditions among facility residents were hypertension (69.1%), cardiac disease (56.8%), renal disease (43.2%), diabetes (37.0%), obesity (33.3%), and pulmonary disease (32.1%). Six residents and one visitor had hypertension as their only chronic underlying condition.

As part of the response effort, approximately 100 long-term care facilities in King County were contacted through an emailed survey using REDCap (*6*), and information was requested about residents or staff members known to have COVID-19 or clusters of respiratory illness among residents and staff members. In addition, countywide databases of emergency medical service transfers from long-term care facilities to acute care facilities were reviewed daily for evidence of cases or clusters of serious respiratory illness. Routine active surveillance reports to PHSKC for influenza-like illness clusters from long-term care facilities were employed to identify clusters of illness consistent with COVID-19. All long-term care facilities with evidence of a cluster of respiratory illness were contacted by telephone for additional information, including infection control strategies in place and availability of personal protective equipment (PPE). Based on this information, the long-term care facilities were prioritized by risk for COVID-19 introduction and spread, and highest priority facilities were visited by response personnel for provision of emergency on-site testing and infection control assessment, support, and training. As of March 9, at least eight other King County skilled nursing and assisted living facilities had reported one or more confirmed COVID-19 cases.

Information received from the survey and on-site visits identified factors that likely contributed to the vulnerability of these facilities, including 1) staff members who worked while symptomatic; 2) staff members who worked in more than one facility; 3) inadequate familiarity and adherence to standard, droplet, and contact precautions and eye protection recommendations; 4) challenges to implementing infection control practices including inadequate supplies of PPE and other items (e.g., alcohol-based hand sanitizer)[§]; 5) delayed recognition of cases because of low index of suspicion, limited testing availability, and difficulty identifying persons with COVID-19 based on signs and symptoms alone.

[§] Some examples of specific PPE challenges included initial lack of access to eye protection, frequent changing of PPE types as supply chains were disrupted and PPE was provided via various donations or supplies, and a need for ongoing auditing of PPE use to ensure consistent and safe use of PPE by staff members (e.g., not touching or adjusting face protection, primarily facemasks, during extended use).

Discussion

These findings demonstrate that outbreaks of COVID-19 in long-term care facilities can have a critical impact on vulnerable older adults. In Washington, local and state authorities implemented comprehensive prevention measures for long-term care facilities (*7–9*) that included 1) implementation of symptom screening and restriction policies for visitors and nonessential personnel; 2) active screening of health care personnel, including measurement and documentation of body temperature and ascertainment of respiratory symptoms to identify and exclude symptomatic workers; 3) symptom monitoring of residents; 4) social distancing, including restricting resident movement and group activities; 5) staff training on infection control and PPE use; and 6) establishment of plans to address local PPE shortages, including county and state coordination of supply chains and stockpile releases to meet needs. These strategies require coordination and support from public health authorities, partnering health care systems, regulatory agencies, and their respective governing bodies (*8–10*).

The findings in this report suggest that once COVID-19 has been introduced into a long-term care facility, it has the potential to result in high attack rates among residents, staff members, and visitors. In the context of rapidly escalating COVID-19 outbreaks in much of the United States, it is critical that long-term care facilities implement active measures to prevent introduction of COVID-19. Measures to consider include identifying and excluding symptomatic staff members, restricting visitation except in compassionate care situations, and strengthening infection prevention and control guidance and adherence (*7,9,10*).[¶] Substantial morbidity and mortality might be averted if all long-term care facilities take steps now to prevent exposure of their residents to COVID-19. The underlying health conditions and advanced age of many long-term care facility residents and the shared location of patients in one facility places these persons at risk for severe morbidity and death. Rapid and sustained public health interventions focusing on surveillance, infection control, and mitigation efforts are resource-intensive but are critical to curtailing COVID-19 transmission and decreasing the impact on vulnerable populations, such as residents of long-term care facilities, and the community at large. As this pandemic expands, continued implementation of public health measures targeting vulnerable populations such as residents of long-term care facilities (*8*) and health care personnel will be critical. As public health measures are continually implemented, public information needs will only grow. To provide information for

[¶] https://www.doh.wa.gov/Portals/1/Documents/1600/coronavirus/RecommendationsForLTC-COVID19.pdf.

TABLE. Characteristics of patients with COVID-19 epidemiologically linked to facility A among residents of King and Snohomish counties — Washington, February 27–March 9, 2020

Characteristics	No. (%)			
	Resident (n = 81)	Health care personnel (n = 34)	Visitor (n = 14)	Total (n = 129)
Median age, yrs (range)	81 (54–100)	42.5 (22–79)	62.5 (52–88)	**71 (22–100)**
Sex				
Men	28 (34.6)	7 (20.6)	10 (71.4)	**45 (34.9)**
Women	53 (65.4)	27 (79.4)	4 (28.6)	**84 (65.1)**
Hospitalized				
Yes	46 (56.8)	2 (5.9)	5 (35.7)	**53 (41.1)**
No	3 (3.7)	30 (88.2)	9 (64.3)	**42 (32.6)**
Unknown	32 (39.5)	2 (5.9)	0	**34 (26.4)**
Died				
Yes	22 (27.2)	0	1 (7.1)	**23 (17.8)**
No	59 (72.8)	34 (100.0)	13 (92.9)	**106 (82.2)**
Chronic underlying conditions*,†				
Hypertension§	56 (69.1)	0	2 (14.3)	**58 (45.0)**
Cardiac disease	46 (56.8)	3 (8.8)	2 (14.3)	**51 (39.5)**
Renal disease	35 (43.2)	0	1 (7.1)	**36 (27.9)**
Diabetes mellitus	30 (37.0)	3 (8.8)	1 (7.1)	**34 (26.4)**
Obesity	27 (33.3)	0	3 (21.4)	**30 (23.3)**
Pulmonary disease	26 (32.1)	2 (5.9)	2 (14.3)	**30 (23.3)**
Malignancy	11 (13.6)	0	0	**11 (8.5)**
Immunocompromised	8 (9.9)	0	0	**8 (6.2)**
Liver disease	5 (6.2)	0	0	**5 (3.9)**

* Percentages represent the number with information on the comorbidity, irrespective of missing data.
† Data on chronic underlying conditions were missing for four health care personnel and two visitors with COVID-19.
§ Hypertension was the only reported chronic underlying condition for 6 residents and 1 visitor with COVID-19.

Summary

What is already known about this topic?

Coronavirus disease (COVID-19) can cause severe illness and death, particularly among older adults with chronic health conditions.

What is added by this report?

Introduction of COVID-19 into a long-term residential care facility in Washington resulted in cases among 81 residents, 34 staff members, and 14 visitors; 23 persons died. Limitations in effective infection control and prevention and staff members working in multiple facilities contributed to intra- and interfacility spread.

What are the implications for public health practice?

Long-term care facilities should take proactive steps to protect the health of residents and preserve the health care workforce by identifying and excluding potentially infected staff members, restricting visitation except in compassionate care situations, ensuring early recognition of potentially infected patients, and implementing appropriate infection control measures.

patients and families as well as communicate more broadly to all stakeholders, public officials and other community leaders need to work together to encourage everyone to understand and adhere to recommended guidelines to manage this outbreak.

Public Health – Seattle & King County, EvergreenHealth, and CDC COVID-19 Investigation Team

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All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. No potential conflicts of interest were disclosed.

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Exhibit 7

Morbidity and Mortality Weekly Report

Detection of SARS-CoV-2 Among Residents and Staff Members of an Independent and Assisted Living Community for Older Adults — Seattle, Washington, 2020

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In the Seattle, Washington metropolitan area, where the first case of novel coronavirus 2019 disease (COVID-19) in the United States was reported (*1*), a community-level outbreak is ongoing with evidence of rapid spread and high morbidity and mortality among older adults in long-term care skilled nursing facilities (SNFs) (*2*,*3*). However, COVID-19 morbidity among residents of senior independent and assisted living communities, in which residents do not live as closely together as do residents in SNFs and do not require skilled nursing services, has not been described. During March 5–9, 2020, two residents of a senior independent and assisted living community in Seattle (facility 1) were hospitalized with confirmed COVID-19 infection; on March 6, social distancing and other preventive measures were implemented in the community. UW Medicine (the health system linked to the University of Washington), Public Health – Seattle & King County, and CDC conducted an investigation at the facility. On March 10, all residents and staff members at facility 1 were tested for SARS-CoV-2, the virus that causes COVID-19, and asked to complete a questionnaire about their symptoms; all residents were tested again 7 days later. Among 142 residents and staff members tested during the initial phase, three of 80 residents (3.8%) and two of 62 staff members (3.2%) had positive test results. The three residents had no symptoms at the time of testing, although one reported an earlier cough that had resolved. A fourth resident, who had negative test results in the initial phase, had positive test results 7 days later. This resident was asymptomatic on both days. Possible explanations for so few cases of COVID-19 in this residential community compared with those in several Seattle SNFs with high morbidity and mortality include more social distancing among residents and less contact with health care providers. In addition, early implementation of stringent isolation and protective measures after identification of two COVID-19 cases might have been effective in minimizing spread of the virus in this type of setting. When investigating a potential outbreak of COVID-19 in senior independent and assisted living communities, symptom screening is unlikely to be sufficient to identify all persons infected with SARS-CoV-2. Adherence to CDC guidance to prevent COVID-19 transmission in senior independent and assisted living communities (*4*) could be instrumental in preventing a facility outbreak.

Facility 1 comprises 83 apartments (45 independent living and 38 assisted living) along multiple hallways; and communal dining, library, and activity areas. Residents are physically able to move about the facility with minimal assistance. Independent-living residents have access to help if needed but are otherwise unaided; assisted-living residents have daily in-home help with medications and activities of daily living.

All residents were able to leave their rooms and move about the facility until March 6, when social distancing and other preventive measures were implemented. Residents were isolated in their rooms with no communal meals or activities, no visitors were allowed in the facility, and staff member screening and exclusion of symptomatic staff members were implemented. Enhanced hygiene practices were put into effect, including cleaning and disinfection of frequently touched surfaces and additional hand hygiene stations in hallways for workers to use.

All residents and staff members participated in this investigation with the exception of the two hospitalized residents with COVID-19 and one resident staying with relatives off-site for an extended period. Two rounds of SARS-CoV-2 testing were conducted, 7 days apart. On the day of the first round of testing, March 10, social distancing and other preventive measures had been in effect for >72 hours. Nasopharyngeal swabs were used to collect specimens from all residents and staff members; SARS-CoV-2 real-time reverse transcription–polymerase chain reaction assay was performed on specimens. Residents and staff members were also asked to complete a questionnaire assessing fever, cough, and other symptoms during the preceding 14 days; some residents received assistance from staff members to complete the questionnaire. Staff members from all shifts came to the facility for the assessment, including two ill staff members who were tested in their cars. In addition, specimens and symptom questionnaires were collected on March 11 from two residents who had been off-site and from

several staff members who had been unable to go to the facility on March 10. All residents were tested again 7 days later; symptom information was not collected at that time, with the exception of symptom ascertainment through follow-up of any resident with a positive test result. Staff members were not retested because they had no new facility exposure to SARS-CoV-2; all residents who had positive test results during the first round were in isolation, and the facility's personal protective equipment protocols* were being followed. Testing procedures for the second round were the same as those used for the first round.

In total, 80 residents and 62 staff members were tested on March 10 and 11. Mean age of residents was 86 years (range = 69–102 years); 77% were female; and 79% had one or more chronic medical conditions including chronic lung disease, diabetes mellitus, cardiovascular disease, cerebrovascular disease, renal disease, cognitive impairment, or obesity. Mean age of staff members was 40 years (range = 16–70 years), and 72% were female.

SARS-CoV-2 was detected in three (3.8%) residents and two (3.2%) staff members (Table). None of the residents with positive tests reported symptoms at the time of testing; however, one (resident C) reported resolved mild cough and loose stool during the preceding 14 days. All three residents with positive test results were living on separate floors in their own apartments; one received assistance with activities of daily living. One resident lived on the same floor as the two hospitalized residents with known COVID-19, and one had known close contact with one of the hospitalized residents; the third resident who had positive test results had no contact with either of the hospitalized residents. One staff member who had positive test results for SARS-CoV-2 worked in dining services, and the other worked as a health aide. Both reported symptoms. One staff member (staff member D) reported headache for 10 days, and the other (staff member E) reported a 5-day history of body aches, headache, and cough; this staff member had not worked while ill. When the second round of testing was conducted 7 days later, one additional positive test result was reported for an asymptomatic resident who had negative test results on the first round.

During the first round of testing and symptom screening, symptoms were reported by 42% of residents and 25% of staff members who had negative test results for SARS-CoV-2. Symptoms reported by residents who had negative test results included sore throat, chills, confusion, body aches, dizziness, malaise, headaches, cough, shortness of breath, and diarrhea. Signs and symptoms reported by staff members who had negative test results included fever, sore throat, chills, confusion, malaise, headache, cough, and diarrhea. All residents remained in the independent and assisted living facility in isolation and were clinically stable (i.e., no change in their usual state of health) as of March 31.

Summary

What is already known about this topic?

Community transmission of COVID-19 has been associated with rapid spread and high morbidity and mortality among older adults in long-term skilled nursing facilities. COVID-19 transmission in other types of senior living communities has not been described.

What is added by this report?

Following identification of two COVID-19 cases in a Seattle independent and assisted living facility, stringent preventive measures were implemented. Testing of all residents and staff members found few cases of COVID-19. Three of four residents who had positive test results were asymptomatic.

What are the implications for public health practice?

Symptom-based screening might not identify SARS-CoV-2 infections in independent and assisted living facility residents, underscoring the importance of adhering to CDC guidance to prevent COVID-19 transmission in senior living communities.

Discussion

In this senior independent and assisted living facility, symptom screening of residents did not identify persons who had positive test results for SARS-CoV-2; three of the four residents who had positive test results were asymptomatic at the time of testing, and one reported a cough that had resolved. Moreover, >40% of residents who had test results (whether positive or negative) reported one or more symptoms potentially compatible with COVID-19 during the preceding 2 weeks.

That only four residents had positive test results differed markedly from reports from two Seattle SNFs that experienced high COVID-19 transmission, morbidity, and mortality (*2*,*3*). Possible explanations for differences in findings in this residential community from those in SNFs include more social distancing among residents and less contact with health care providers in independent and assisted living communities than that in SNFs. In addition, early implementation of stringent isolation and protective measures after identification of two COVID-19 cases might have been effective in minimizing spread of the virus.

The findings in this report are subject to at least one limitation. Symptom reports by residents and staff members might have been subject to recall bias, given the general anxiety about

* Current CDC recommendations on use of personal protective equipment by health care personnel caring for patients with suspected or confirmed COVID-19 are available at https://www.cdc.gov/coronavirus/2019-ncov/infection-control/control-recommendations.html.

TABLE. Characteristics of residents and staff members with positive SARS-CoV-2 test results* on day 1 and day 7 — independent and assisted living community for older adults, Seattle, Washington, March 10 and 17, 2020

Test group/Case ID	Sex	Age (yrs)	Symptoms reported in 14 days preceding first test	SARS-CoV-2 test results	
				Day 1	Day 7
Persons with positive test results on day 1					
Resident A	Female	92	None	Positive	Negative
Resident B	Female	82	None	Positive	Positive
Resident C	Male	75	Cough (resolved) and one loose stool on day of test	Positive	Positive
Staff member D	Female	24	Headache x 10 days	Positive	Not retested
Staff member E	Female	51	Body aches, cough, and headache x 5 days	Positive	Not retested
Person with positive test result on day 7					
Resident F	Female	86	None	Negative	Positive

* Defined as a real-time reverse transcription–polymerase chain reaction testing cycle threshold value <40.

COVID-19 in response to the identification of the two initial COVID-19 cases. Nonetheless, the high percentage of both residents and staff members who had negative test results for SARS-CoV-2, yet reported symptoms, illustrates the limitations associated with COVID-19 case identification strategies determined by presence of symptoms alone. The findings from this investigation underscore the importance of SARS-CoV-2 mitigation measures, including social distancing, visitor restriction, resident and staff member testing, exclusion of ill staff members, and enhanced disinfection and hygiene practices, which are consistent with current CDC guidance for preventing transmission of COVID-19 in independent and assisted living communities (*4*).

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Exhibit 8

The NEW ENGLAND JOURNAL of MEDICINE

ORIGINAL ARTICLE

Dexamethasone in Hospitalized Patients with Covid-19 — Preliminary Report

The RECOVERY Collaborative Group*

ABSTRACT

BACKGROUND

Coronavirus disease 2019 (Covid-19) is associated with diffuse lung damage. Glucocorticoids may modulate inflammation-mediated lung injury and thereby reduce progression to respiratory failure and death.

METHODS

In this controlled, open-label trial comparing a range of possible treatments in patients who were hospitalized with Covid-19, we randomly assigned patients to receive oral or intravenous dexamethasone (at a dose of 6 mg once daily) for up to 10 days or to receive usual care alone. The primary outcome was 28-day mortality. Here, we report the preliminary results of this comparison.

RESULTS

A total of 2104 patients were assigned to receive dexamethasone and 4321 to receive usual care. Overall, 482 patients (22.9%) in the dexamethasone group and 1110 patients (25.7%) in the usual care group died within 28 days after randomization (age-adjusted rate ratio, 0.83; 95% confidence interval [CI], 0.75 to 0.93; P<0.001). The proportional and absolute between-group differences in mortality varied considerably according to the level of respiratory support that the patients were receiving at the time of randomization. In the dexamethasone group, the incidence of death was lower than that in the usual care group among patients receiving invasive mechanical ventilation (29.3% vs. 41.4%; rate ratio, 0.64; 95% CI, 0.51 to 0.81) and among those receiving oxygen without invasive mechanical ventilation (23.3% vs. 26.2%; rate ratio, 0.82; 95% CI, 0.72 to 0.94) but not among those who were receiving no respiratory support at randomization (17.8% vs. 14.0%; rate ratio, 1.19; 95% CI, 0.91 to 1.55).

CONCLUSIONS

In patients hospitalized with Covid-19, the use of dexamethasone resulted in lower 28-day mortality among those who were receiving either invasive mechanical ventilation or oxygen alone at randomization but not among those receiving no respiratory support. (Funded by the Medical Research Council and National Institute for Health Research and others; RECOVERY ClinicalTrials.gov number, NCT04381936; ISRCTN number, 50189673.)

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*A complete list of collaborators in the RECOVERY trial is provided in the Supplementary Appendix, available at NEJM.org.

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Severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2), the cause of coronavirus disease 2019 (Covid-19), emerged in China in late 2019 from a zoonotic source.[1] The majority of Covid-19 cases either are asymptomatic or result in only mild disease. However, in a substantial percentage of patients, a respiratory illness requiring hospital care develops,[2] and such infections can progress to critical illness with hypoxemic respiratory failure requiring prolonged ventilatory support.[3-6] Among patients with Covid-19 who have been admitted to hospitals in the United Kingdom, the case fatality rate has been approximately 26%, a percentage that has increased to more than 37% among patients who were undergoing invasive mechanical ventilation.[7] Although remdesivir has been shown to shorten the time until recovery in hospitalized patients,[8] no therapeutic agents have been shown to reduce mortality.

The pathophysiological features of severe Covid-19 are dominated by an acute pneumonic process with extensive radiologic opacity and, on autopsy, diffuse alveolar damage, inflammatory infiltrates, and microvascular thrombosis.[9] In other severe viral pneumonias, such as highly pathogenic avian influenza,[10] SARS,[11] and pandemic and seasonal influenza,[12] the host immune response is thought to play a key role in the pathophysiological effects of organ failure. Inflammatory organ injury may occur in severe Covid-19, with a subgroup of patients having markedly elevated levels of inflammatory markers, including C-reactive protein, ferritin, interleukin-1, and interleukin-6.[6,13,14] Several therapeutic interventions have been proposed to mitigate inflammatory organ injury in viral pneumonia, but the value of glucocorticoids has been widely debated.[15,16]

Although one small trial has reported improved clinical outcomes in patients with Covid-19 who were given methylprednisolone,[17] the absence of reliable evidence from large-scale randomized clinical trials means there is uncertainty about the effectiveness of glucocorticoids in patients with Covid-19. Many guidelines for the treatment of such patients have stated that glucocorticoids were either contraindicated or not recommended,[18] although in China, glucocorticoids have been recommended for severe cases.[19] However, practice has varied widely across the world: in some series, as many as 50% of patients have been treated with glucocorticoids.[20,21] Here, we report the preliminary results of the controlled, open-label Randomized Evaluation of Covid-19 Therapy (RECOVERY) trial of dexamethasone in patients hospitalized with Covid-19.

METHODS

TRIAL DESIGN AND OVERSIGHT

The RECOVERY trial was designed to evaluate the effects of potential treatments in patients hospitalized with Covid-19 at 176 National Health Service organizations in the United Kingdom and was supported by the National Institute for Health Research Clinical Research Network. (Details regarding this trial are provided in the Supplementary Appendix, available with the full text of this article at NEJM.org.) The trial is being coordinated by the Nuffield Department of Population Health at the University of Oxford, the trial sponsor. Although the randomization of patients to receive dexamethasone, hydroxychloroquine, or lopinavir–ritonavir has now been stopped, the trial continues randomization to groups receiving azithromycin, tocilizumab, or convalescent plasma.

Hospitalized patients were eligible for the trial if they had clinically suspected or laboratory-confirmed SARS-CoV-2 infection and no medical history that might, in the opinion of the attending clinician, put patients at substantial risk if they were to participate in the trial. Initially, recruitment was limited to patients who were at least 18 years of age, but the age limit was removed starting on May 9, 2020. Pregnant or breast-feeding women were eligible.

Written informed consent was obtained from all the patients or from a legal representative if they were unable to provide consent. The trial was conducted in accordance with the principles of the Good Clinical Practice guidelines of the International Conference on Harmonisation and was approved by the U.K. Medicines and Healthcare Products Regulatory Agency and the Cambridge East Research Ethics Committee. The protocol with its statistical analysis plan is available at NEJM.org and on the trial website at www.recoverytrial.net.

The initial version of the manuscript was drafted by the first and last authors, developed by the writing committee, and approved by all members of the trial steering committee. The funders

had no role in the analysis of the data, in the preparation or approval of the manuscript, or in the decision to submit the manuscript for publication. The first and last members of the writing committee vouch for the completeness and accuracy of the data and for the fidelity of the trial to the protocol and statistical analysis plan.

RANDOMIZATION

We collected baseline data using a Web-based case-report form that included demographic data, the level of respiratory support, major coexisting illnesses, suitability of the trial treatment for a particular patient, and treatment availability at the trial site. Randomization was performed with the use of a Web-based system with concealment of the trial-group assignment. Eligible and consenting patients were assigned in a 2:1 ratio to receive either the usual standard of care alone or the usual standard of care plus oral or intravenous dexamethasone (at a dose of 6 mg once daily) for up to 10 days (or until hospital discharge if sooner) or to receive one of the other suitable and available treatments that were being evaluated in the trial.

For some patients, dexamethasone was unavailable at the hospital at the time of enrollment or was considered by the managing physician to be either definitely indicated or definitely contraindicated. These patients were excluded from entry in the randomized comparison between dexamethasone and usual care and hence were not included in this report. The randomly assigned treatment was prescribed by the treating clinician. Patients and local members of the trial staff were aware of the assigned treatments.

PROCEDURES

A single online follow-up form was to be completed when the patients were discharged or had died or at 28 days after randomization, whichever occurred first. Information was recorded regarding the patients' adherence to the assigned treatment, receipt of other trial treatments, duration of admission, receipt of respiratory support (with duration and type), receipt of renal support, and vital status (including the cause of death). In addition, we obtained routine health care and registry data, including information on vital status (with date and cause of death), discharge from the hospital, and respiratory and renal support therapy.

OUTCOME MEASURES

The primary outcome was all-cause mortality within 28 days after randomization; further analyses were specified at 6 months. Secondary outcomes were the time until discharge from the hospital and, among patients not receiving invasive mechanical ventilation at the time of randomization, subsequent receipt of invasive mechanical ventilation (including extracorporeal membrane oxygenation) or death. Other prespecified clinical outcomes included cause-specific mortality, receipt of renal hemodialysis or hemofiltration, major cardiac arrhythmia (recorded in a subgroup), and receipt and duration of ventilation.

STATISTICAL ANALYSIS

As stated in the protocol, appropriate sample sizes could not be estimated when the trial was being planned at the start of the Covid-19 pandemic. As the trial progressed, the trial steering committee, whose members were unaware of the results of the trial comparisons, determined that if 28-day mortality was 20%, then the enrollment of at least 2000 patients in the dexamethasone group and 4000 in the usual care group would provide a power of at least 90% at a two-sided P value of 0.01 to detect a clinically relevant proportional reduction of 20% (an absolute difference of 4 percentage points) between the two groups. Consequently, on June 8, 2020, the steering committee closed recruitment to the dexamethasone group, since enrollment had exceeded 2000 patients.

For the primary outcome of 28-day mortality, the hazard ratio from Cox regression was used to estimate the mortality rate ratio. Among the few patients (0.1%) who had not been followed for 28 days by the time of the data cutoff on July 6, 2020, data were censored either on that date or on day 29 if the patient had already been discharged. That is, in the absence of any information to the contrary, these patients were assumed to have survived for 28 days. Kaplan–Meier survival curves were constructed to show cumulative mortality over the 28-day period. Cox regression was used to analyze the secondary outcome of hospital discharge within 28 days, with censoring of data on day 29 for patients who had died during hospitalization. For the prespecified composite secondary outcome of invasive mechanical ventilation or death within 28 days (among patients who were not receiving invasive mechani-

cal ventilation at randomization), the precise date of invasive mechanical ventilation was not available, so a log-binomial regression model was used to estimate the risk ratio.

Through the play of chance in the unstratified randomization, the mean age was 1.1 years older among patients in the dexamethasone group than among those in the usual care group (Table 1). To account for this imbalance in an important prognostic factor, estimates of rate ratios were adjusted for the baseline age in three categories (<70 years, 70 to 79 years, and ≥80 years). This adjustment was not specified in the first version of the statistical analysis plan but was added once the imbalance in age became apparent. Results without age adjustment (corresponding to the first version of the analysis plan) are provided in the Supplementary Appendix.

Prespecified analyses of the primary outcome were performed in five subgroups, as defined by characteristics at randomization: age, sex, level of respiratory support, days since symptom onset, and predicted 28-day mortality risk. (One further prespecified subgroup analysis regarding race will be conducted once the data collection has been completed.) In prespecified subgroups, we estimated rate ratios (or risk ratios in some analyses) and their confidence intervals using regression models that included an interaction term between the treatment assignment and the subgroup of interest. Chi-square tests for linear trend across the subgroup-specific log estimates were then performed in accordance with the prespecified plan.

All P values are two-sided and are shown without adjustment for multiple testing. All analyses were performed according to the intention-to-treat principle. The full database is held by the trial team, which collected the data from trial sites and performed the analyses at the Nuffield Department of Population Health, University of Oxford.

RESULTS

PATIENTS

Of the 11,303 patients who underwent randomization from March 19 to June 8, 2020, a total of 9355 patients (83%) were eligible to receive dexamethasone (i.e., the drug was available in the hospital at the time and the patient had no known indication for or contraindication to dexamethasone). Of these patients, 6425 underwent randomization to receive either dexamethasone (2104 patients) or usual care alone (4321 patients) (Fig. 1). The remaining patients were randomly assigned to one of the other treatment groups being evaluated in the trial.

The mean (±SD) age of the patients in this comparison was 66.1±15.7 years, and 36% of the patients were female (Table 1). A history of diabetes was present in 24% of the patients, heart disease in 27%, and chronic lung disease in 21%, with 56% having at least one major coexisting illness recorded. In this analysis, 89% of the patients had laboratory-confirmed SARS-CoV-2 infection, and 0.4% were currently awaiting the result. At randomization, 16% were receiving invasive mechanical ventilation or extracorporeal membrane oxygenation, 60% were receiving oxygen only (with or without noninvasive ventilation), and 24% were receiving neither.

Follow-up information for the primary outcome was complete for 6418 patients (99.9%) who had undergone randomization. In the dexamethasone group, 95% of the patients received at least one dose of the drug (Table S1). The median duration of treatment was 7 days (interquartile range, 3 to 10). In the usual care group, 8% of the patients received dexamethasone as part of their clinical care. The use of azithromycin during the follow-up period was similar in the dexamethasone group and the usual care group (24% vs. 25%), and 0 to 3% of patients received hydroxychloroquine, lopinavir–ritonavir, or interleukin-6 antagonists during follow-up (Table S1 in the Supplementary Appendix). After remdesivir became available in the United Kingdom on May 26, 2020, the drug was administered to 3 patients in the dexamethasone group and 2 patients in the usual care group.

PRIMARY OUTCOME

Mortality at 28 days was significantly lower in the dexamethasone group than in the usual care group, with deaths reported in 482 of 2104 patients (22.9%) and in 1110 of 4321 patients (25.7%), respectively (rate ratio, 0.83; 95% confidence interval [CI], 0.75 to 0.93; P<0.001) (Fig. 2A). In a prespecified analysis according to

Table 1. Characteristics of the Patients at Baseline, According to Treatment Assignment and Level of Respiratory Support.*

Characteristic	Treatment Assignment		Respiratory Support Received at Randomization		
	Dexamethasone (N=2104)	Usual Care (N=4321)	No Receipt of Oxygen (N=1535)	Oxygen Only (N=3883)	Invasive Mechanical Ventilation (N=1007)
Age†					
Mean — yr	66.9±15.4	65.8±15.8	69.4±17.5	66.7±15.3	59.1±11.4
Distribution — no. (%)					
<70 yr	1141 (54)	2504 (58)	659 (43)	2148 (55)	838 (83)
70 to 79 yr	469 (22)	859 (20)	338 (22)	837 (22)	153 (15)
≥80 yr	494 (23)	958 (22)	538 (35)	898 (23)	16 (2)
Sex — no. (%)					
Male	1338 (64)	2749 (64)	891 (58)	2462 (63)	734 (73)
Female‡	766 (36)	1572 (36)	644 (42)	1421 (37)	273 (27)
Median no. of days since symptom onset (IQR)§	8 (5–13)	9 (5–13)	6 (3–10)	9 (5–12)	13 (8–18)
Median no. of days since hospitalization (IQR)	2 (1–5)	2 (1–5)	2 (1–6)	2 (1–4)	5 (3–9)
Respiratory support received — no. (%)					
No oxygen	501 (24)	1034 (24)	1535 (100)	NA	NA
Oxygen only	1279 (61)	2604 (60)	NA	3883 (100)	NA
Invasive mechanical ventilation	324 (15)	683 (16)	NA	NA	1007 (100)
Previous coexisting disease					
Any	1174 (56)	2417 (56)	911 (59)	2175 (56)	505 (50)
Diabetes	521 (25)	1025 (24)	342 (22)	950 (24)	254 (25)
Heart disease	586 (28)	1171 (27)	519 (34)	1074 (28)	164 (16)
Chronic lung disease	415 (20)	931 (22)	351 (23)	883 (23)	112 (11)
Tuberculosis	6 (<1)	19 (<1)	8 (1)	11 (<1)	6 (1)
HIV infection	12 (1)	20 (<1)	5 (<1)	21 (1)	6 (1)
Severe liver disease¶	37 (2)	82 (2)	32 (2)	72 (2)	15 (1)
Severe kidney impairment‖	166 (8)	358 (8)	119 (8)	253 (7)	152 (15)
SARS-CoV-2 test result					
Positive	1850 (88)	3848 (89)	1333 (87)	3416 (88)	949 (94)
Negative	247 (12)	453 (10)	193 (13)	452 (12)	55 (5)
Test result not yet known	7 (<1)	20 (<1)	9 (1)	15 (<1)	3 (<1)

* Plus–minus values are means ±SD. HIV denotes human immunodeficiency virus, IQR interquartile range, NA not applicable, and SARS-CoV-2 severe acute respiratory syndrome coronavirus 2.
† There was a significant (P=0.01) difference in the mean age between patients in the dexamethasone group and those in the usual care group, but there were no significant differences between the groups in any other baseline characteristic.
‡ Included in this category were 6 pregnant women.
§ Data regarding the number of days since symptom onset were missing for 4 patients in the dexamethasone group and 13 patients in the usual care group; these patients were excluded from estimates of the median number of days since onset.
¶ Severe liver disease was defined as requiring ongoing specialist care.
‖ Severe kidney impairment was defined as an estimated glomerular filtration rate of less than 30 ml per minute per 1.73 m^2.

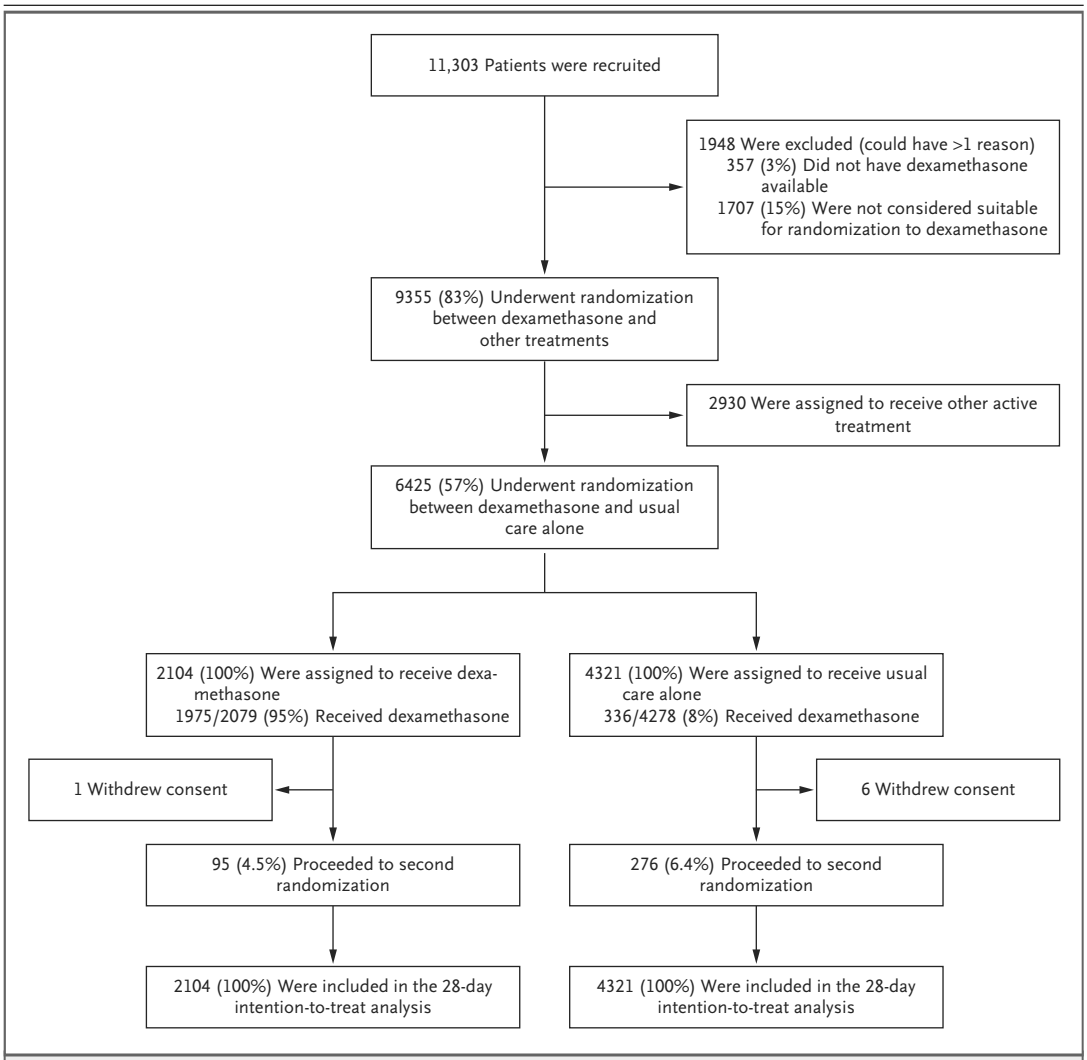

Figure 1. Enrollment, Randomization, and Inclusion in the Primary Analysis.

At the time of this analysis, completed follow-up forms were available for 2079 of 2104 patients (98.8%) in the dexamethasone group and 4278 of 4321 patients (99.0%) in the usual care group. The subgroup of patients who later underwent a second randomization to tocilizumab versus usual care in the RECOVERY trial included 95 of 2104 patients (4.5%) in the dexamethasone group and 276 of 4321 patients (6.4%) in the usual care group. In addition, 13 patients were randomly assigned to receive either convalescent plasma or usual care alone.

the level of respiratory support that the patients were receiving at randomization, there was a trend showing the greatest absolute and proportional benefit among patients who were receiving invasive mechanical ventilation (11.5 by chi-square test for trend) (Fig. 3). In the dexamethasone group, the incidence of death was lower than that in the usual care group among patients receiving invasive mechanical ventilation (29.3% vs. 41.4%; rate ratio, 0.64; 95% CI, 0.51 to 0.81) and in those receiving oxygen without invasive mechanical ventilation (23.3% vs. 26.2%; rate ratio, 0.82; 95% CI, 0.72 to 0.94) (Fig. 2B and 2C). However, there was no clear effect of dexamethasone among patients who were not receiving any respiratory support at randomization (17.8% vs. 14.0%; rate ratio, 1.19; 95% CI, 0.91 to 1.55) (Fig. 2D). The results were similar in a post hoc exploratory analysis restricted to the 5698 patients (89%) with a positive SARS-CoV-2 test result. Likewise, sensitivity analyses without adjustment for age resulted in similar findings (Table S2).

Patients who were receiving invasive mechan-

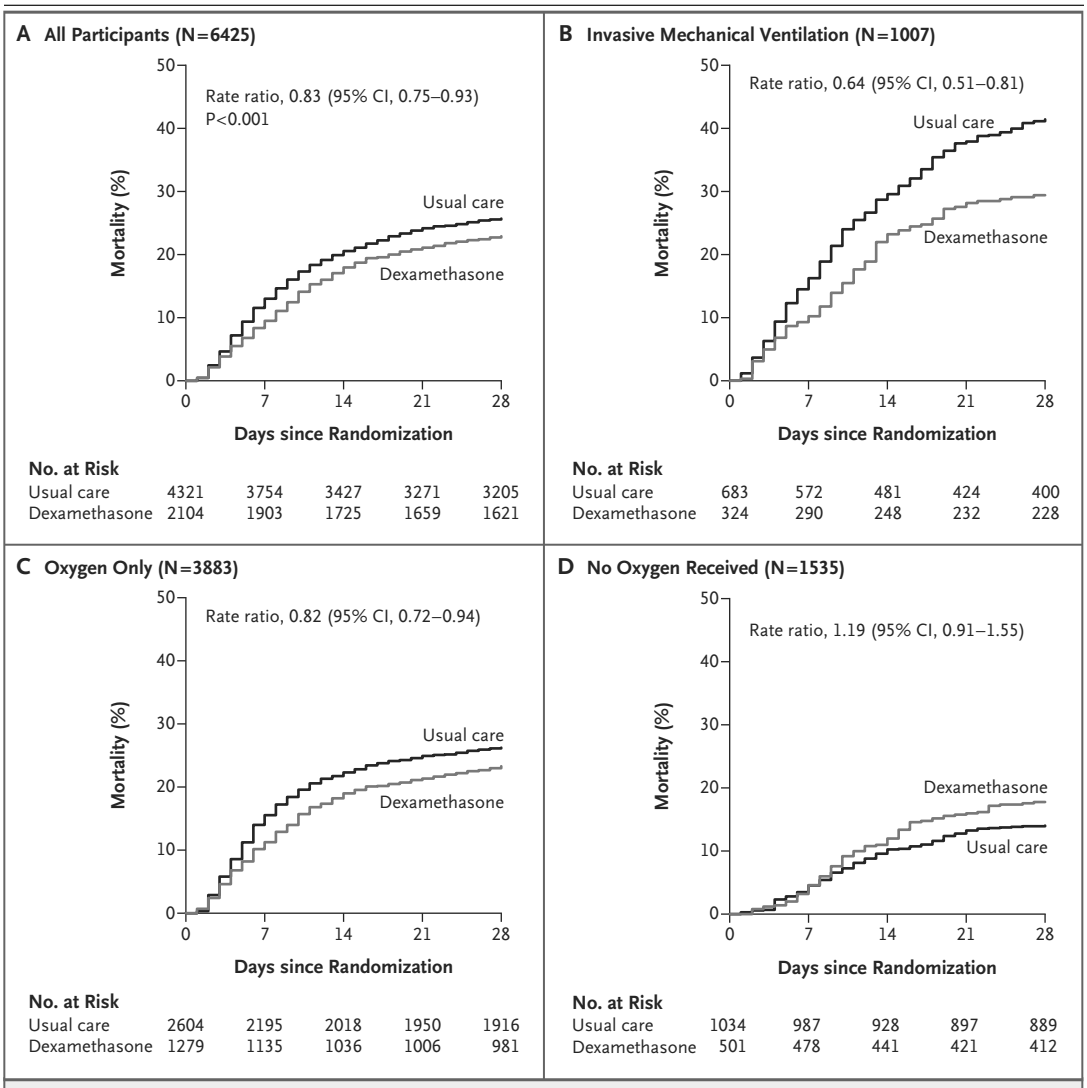

Figure 2. Mortality at 28 Days in All Patients and According to Respiratory Support at Randomization.

Shown are Kaplan–Meier survival curves for 28-day mortality among all the patients in the trial (primary outcome) (Panel A) and in three respiratory-support subgroups according to whether the patients were undergoing invasive mechanical ventilation (Panel B), receiving oxygen only without mechanical ventilation (Panel C), or receiving no supplemental oxygen (Panel D) at the time of randomization. The Kaplan–Meier curves have not been adjusted for age. The rate ratios have been adjusted for the age of the patients in three categories (<70 years, 70 to 79 years, and ≥80 years). Estimates of the rate ratios and 95% confidence intervals in Panels B, C, and D were derived from a single age-adjusted regression model involving an interaction term between treatment assignment and level of respiratory support at randomization.

ical ventilation at randomization were on average 10 years younger than those not receiving any respiratory support and had a history of symptoms before randomization for an average of 7 days longer (Table 1 and Table S3). The age-adjusted absolute reductions in 28-day mortality associated with the use of dexamethasone were 12.3 percentage points (95% CI, 6.3 to 17.6) among the patients who were receiving invasive mechanical ventilation and 4.2 percentage points (95% CI, 1.4 to 6.7) among those receiving oxygen only.

Patients with a longer duration of symptoms (who were more likely to have been receiving invasive mechanical ventilation at randomization) had a greater mortality benefit in response to treatment with dexamethasone. The receipt of

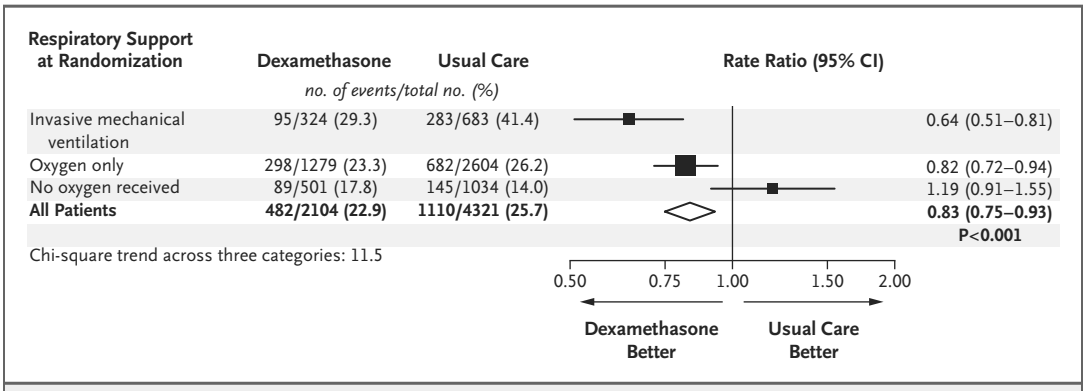

Figure 3. Effect of Dexamethasone on 28-Day Mortality, According to Respiratory Support at Randomization.

Shown are subgroup-specific rate ratios for all the patients and for those who were receiving no oxygen, receiving oxygen only, or undergoing invasive mechanical ventilation at the time of randomization. Rate ratios are plotted as squares, with the size of each square proportional to the amount of statistical information that was available; the horizontal lines represent 95% confidence intervals.

dexamethasone was associated with a reduction in 28-day mortality among those with symptoms for more than 7 days but not among those with a more recent symptom onset (12.3 by chi-square test for trend) (Fig. S1).

SECONDARY OUTCOMES

Patients in the dexamethasone group had a shorter duration of hospitalization than those in the usual care group (median, 12 days vs. 13 days) and a greater probability of discharge alive within 28 days (rate ratio, 1.10; 95% CI, 1.03 to 1.17) (Table 2). The greatest effect regarding discharge within 28 days was seen among patients who were receiving invasive mechanical ventilation at randomization (11.5 by chi-square test for trend) (Fig. S2A).

Among the patients who were not receiving invasive mechanical ventilation at randomization, the number of patients who progressed to the prespecified composite secondary outcome of invasive mechanical ventilation or death was lower in the dexamethasone group than in the usual care group (risk ratio, 0.92; 95% CI, 0.84 to 1.01) (Table 2). This effect was greater among the patients who were receiving oxygen at randomization (6.2 by chi-square test for trend) (Fig. S2B).

OTHER PRESPECIFIED CLINICAL OUTCOMES

The risk of progression to invasive mechanical ventilation was lower in the dexamethasone group than in the usual care group (risk ratio, 0.77; 95% CI, 0.62 to 0.95) (Table 2). Analyses are ongoing regarding cause-specific mortality, the need for renal dialysis or hemofiltration, and the duration of ventilation.

DISCUSSION

Our preliminary results show that among hospitalized patients with Covid-19, the use of dexamethasone for up to 10 days resulted in lower 28-day mortality than usual care in patients who were receiving invasive mechanical ventilation at randomization (by 12.3 age-adjusted percentage points, a proportional reduction of approximately one third) and those who were receiving oxygen without invasive mechanical ventilation (by 4.1 age-adjusted percentage points, a proportional reduction of approximately one fifth). However, there was no evidence that dexamethasone provided any benefit among patients who were not receiving respiratory support at randomization, and the results were consistent with possible harm in this subgroup. The benefit was also clear in patients who were being treated more than 7 days after symptom onset, when inflammatory lung damage is likely to have been more common. In a recent trial involving patients with acute respiratory distress syndrome who were undergoing mechanical ventilation, mortality at 60 days was 15 percentage points lower among those receiving dexamethasone than among those receiving usual care, a finding that was consistent with our results.[22]

The RECOVERY trial was designed to provide

Table 2. Primary and Secondary Outcomes.

Outcome	Dexamethasone (N=2104)	Usual Care (N=4321)	Rate or Risk Ratio (95% CI)*
	no./total no. of patients (%)		
Primary outcome			
Mortality at 28 days	482/2104 (22.9)	1110/4321 (25.7)	0.83 (0.75–0.93)
Secondary outcomes			
Discharged from hospital within 28 days	1413/2104 (67.2)	2745/4321 (63.5)	1.10 (1.03–1.17)
Invasive mechanical ventilation or death†	456/1780 (25.6)	994/3638 (27.3)	0.92 (0.84–1.01)
Invasive mechanical ventilation	102/1780 (5.7)	285/3638 (7.8)	0.77 (0.62–0.95)
Death	387/1780 (21.7)	827/3638 (22.7)	0.93 (0.84–1.03)

* Rate ratios have been adjusted for age with respect to the outcomes of 28-day mortality and hospital discharge. Risk ratios have been adjusted for age with respect to the outcome of receipt of invasive mechanical ventilation or death and its subcomponents.

† Excluded from this category are patients who were receiving invasive mechanical ventilation at randomization.

a rapid and robust assessment of the effect of readily available potential treatments for Covid-19 on 28-day mortality. Approximately 15% of all hospitalized patients with Covid-19 in the United Kingdom were enrolled in the trial, and mortality in the usual care group was consistent with the overall case fatality rate for hospitalized patients with Covid-19 in the United Kingdom.[7] Only essential data were collected at hospital sites, with additional information (including longer-term mortality) ascertained through linkage with routine data sources. We did not collect information on physiologic, laboratory, or virologic measures. The protocol combines the methods that were used in large, simple trials of treatments for acute myocardial infarction in the 1980s with the opportunities provided by digital health care in the 2020s.[23-25] The trial has progressed rapidly, as is essential for studies during epidemics.[26] These preliminary results for dexamethasone were announced on June 16, 2020, nearly 100 days after the protocol was first drafted, and were adopted into U.K. practice later the same day.[27]

Glucocorticoids have been widely used in syndromes closely related to Covid-19, including SARS, Middle East respiratory syndrome (MERS), severe influenza, and community-acquired pneumonia. However, the evidence to support or discourage the use of glucocorticoids under these conditions has been weak owing to the lack of data from sufficiently powered randomized, controlled trials.[28-31] In addition, the evidence base has suffered from heterogeneity in glucocorticoid doses, medical conditions, and disease severity. It is likely that the beneficial effect of glucocorticoids in severe viral respiratory infections is dependent on a selection of the right dose, at the right time, in the right patient. High doses may be more harmful than helpful, as may such treatment given at a time when control of viral replication is paramount and inflammation is minimal. Slower clearance of viral RNA has been observed in patients with SARS, MERS, and influenza who were treated with systemic glucocorticoids, but the clinical significance of these findings is unknown.[29,32,33] Unlike with SARS, in which viral replication peaks in the second week of illness,[34] viral shedding in SARS-CoV-2 appears to be higher early in the illness and declines thereafter.[35-38] The greater mortality benefit of dexamethasone in patients with Covid-19 who are receiving respiratory support and among those recruited after the first week of their illness suggests that at that stage the disease may be dominated by immunopathological elements, with active viral replication playing a secondary role. This hypothesis would caution against extrapolation of the effect of dexamethasone in patients with Covid-19 to patients with other viral respiratory diseases with a different natural history.

The RECOVERY trial provides evidence that treatment with dexamethasone at a dose of 6 mg once daily for up to 10 days reduces 28-day mortality in patients with Covid-19 who are receiving respiratory support. We found no benefit (and

the possibility of harm) among patients who did not require oxygen. Before the completion of the trial, many Covid-19 treatment guidelines stated that the use of glucocorticoids was either contraindicated or not recommended.[18] Dexamethasone is on the list of essential medicines of the World Health Organization and is readily available worldwide at low cost. Guidelines issued by the U.K. chief medical officers and by the National Institutes of Health in the United States have already been updated to recommend the use of glucocorticoids in patients hospitalized with Covid-19.[27,39]

The views expressed in this article are those of the authors and do not necessarily reflect those of the National Health Service, the National Institute for Health Research, or the Department of Health and Social Care.

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A data sharing statement provided by the authors is available with the full text of this article at NEJM.org.

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APPENDIX

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Exhibit 9

Morbidity and Mortality Weekly Report

Hospitalization Rates and Characteristics of Patients Hospitalized with Laboratory-Confirmed Coronavirus Disease 2019 — COVID-NET, 14 States, March 1–30, 2020

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Since SARS-CoV-2, the novel coronavirus that causes coronavirus disease 2019 (COVID-19), was first detected in December 2019 (*1*), approximately 1.3 million cases have been reported worldwide (*2*), including approximately 330,000 in the United States (*3*). To conduct population-based surveillance for laboratory-confirmed COVID-19–associated hospitalizations in the United States, the COVID-19–Associated Hospitalization Surveillance Network (COVID-NET) was created using the existing infrastructure of the Influenza Hospitalization Surveillance Network (FluSurv-NET) (*4*) and the Respiratory Syncytial Virus Hospitalization Surveillance Network (RSV-NET). This report presents age-stratified COVID-19–associated hospitalization rates for patients admitted during March 1–28, 2020, and clinical data on patients admitted during March 1–30, 2020, the first month of U.S. surveillance. Among 1,482 patients hospitalized with COVID-19, 74.5% were aged ≥50 years, and 54.4% were male. The hospitalization rate among patients identified through COVID-NET during this 4-week period was 4.6 per 100,000 population. Rates were highest (13.8) among adults aged ≥65 years. Among 178 (12%) adult patients with data on underlying conditions as of March 30, 2020, 89.3% had one or more underlying conditions; the most common were hypertension (49.7%), obesity (48.3%), chronic lung disease (34.6%), diabetes mellitus (28.3%), and cardiovascular disease (27.8%). These findings suggest that older adults have elevated rates of COVID-19–associated hospitalization and the majority of persons hospitalized with COVID-19 have underlying medical conditions. These findings underscore the importance of preventive measures (e.g., social distancing, respiratory hygiene, and wearing face coverings in public settings where social distancing measures are difficult to maintain)[†] to protect older adults and persons with underlying medical conditions, as well as the general public. In addition, older adults and persons with serious underlying medical conditions should avoid contact with persons who are ill and immediately contact their health care provider(s) if they have symptoms consistent with COVID-19 (https://www.cdc.gov/coronavirus/2019-ncov/symptoms-testing/symptoms.html) (*5*). Ongoing monitoring of hospitalization rates, clinical characteristics, and outcomes of hospitalized patients will be important to better understand the evolving epidemiology of COVID-19 in the United States and the clinical spectrum of disease, and to help guide planning and prioritization of health care system resources.

COVID-NET conducts population-based surveillance for laboratory-confirmed COVID-19–associated hospitalizations among persons of all ages in 99 counties in 14 states (California, Colorado, Connecticut, Georgia, Iowa, Maryland, Michigan, Minnesota, New Mexico, New York, Ohio, Oregon, Tennessee, and Utah), distributed across all 10 U.S Department of Health and Human Services regions.[§] The catchment area represents approximately 10% of the U.S. population. Patients must be residents of a designated COVID-NET catchment area and hospitalized within 14 days of a positive SARS-CoV-2 test to meet the surveillance case definition. Testing is requested at the discretion of treating health care providers. Laboratory-confirmed SARS-CoV-2 is defined as a positive result by any test that has received Emergency Use Authorization for SARS-CoV-2 testing.[¶] COVID-NET surveillance officers in each state identify cases through active review of notifiable disease and laboratory databases and hospital admission and infection control practitioner logs. Weekly age-stratified hospitalization rates are estimated using the number of catchment area residents hospitalized with laboratory-confirmed COVID-19 as the numerator and National Center for Health Statistics vintage 2018 bridged-race postcensal population estimates for the denominator.[**] As of April 3, 2020, COVID-NET

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[†] https://www.cdc.gov/coronavirus/2019-ncov/prevent-getting-sick/diy-cloth-face-coverings.html.

[§] https://www.hhs.gov/about/agencies/iea/regional-offices/index.html.

[¶] https://www.fda.gov/medical-devices/emergency-situations-medical-devices/emergency-use-authorizations.

[**] https://www.cdc.gov/nchs/nvss/bridged_race.htm.

hospitalization rates are being published each week at https://gis.cdc.gov/grasp/covidnet/COVID19_3.html. For each case, trained surveillance officers conduct medical chart abstractions using a standard case report form to collect data on patient characteristics, underlying medical conditions, clinical course, and outcomes. Chart reviews are finalized once patients have a discharge disposition. COVID-NET surveillance was initiated on March 23, 2020, with retrospective case identification of patients admitted during March 1–22, 2020, and prospective case identification during March 23–30, 2020. Clinical data on underlying conditions and symptoms at admission are presented through March 30; hospitalization rates are updated weekly and, therefore, are presented through March 28 (epidemiologic week 13).

The COVID-19–associated hospitalization rate among patients identified through COVID-NET for the 4-week period ending March 28, 2020, was 4.6 per 100,000 population (Figure 1). Hospitalization rates increased with age, with a rate of 0.3 in persons aged 0–4 years, 0.1 in those aged 5–17 years, 2.5 in those aged 18–49 years, 7.4 in those aged 50–64 years, and 13.8 in those aged ≥65 years. Rates were highest among persons aged ≥65 years, ranging from 12.2 in those aged 65–74 years to 17.2 in those aged ≥85 years. More than half (805; 54.4%) of hospitalizations occurred among men; COVID-19-associated hospitalization rates were higher among males than among females (5.1 versus 4.1 per 100,000 population). Among the 1,482 laboratory-confirmed COVID-19–associated hospitalizations reported through COVID-NET, six (0.4%) each were patients aged 0–4 years and 5–17 years, 366 (24.7%) were aged 18–49 years, 461 (31.1%) were aged 50–64 years, and 643 (43.4%) were aged ≥65 years. Among patients with race/ethnicity data (580), 261 (45.0%) were non-Hispanic white (white), 192 (33.1%) were non-Hispanic black (black), 47 (8.1%) were Hispanic, 32 (5.5%) were Asian, two (0.3%) were American Indian/Alaskan Native, and 46 (7.9%) were of other or unknown race. Rates varied widely by COVID-NET surveillance site (Figure 2).

During March 1–30, underlying medical conditions and symptoms at admission were reported through COVID-NET for approximately 180 (12.1%) hospitalized adults (Table); 89.3% had one or more underlying conditions. The most commonly reported were hypertension (49.7%), obesity (48.3%), chronic lung disease (34.6%), diabetes mellitus (28.3%), and cardiovascular disease (27.8%). Among patients aged 18–49 years, obesity was the most prevalent underlying condition, followed by chronic lung disease (primarily asthma) and diabetes mellitus. Among patients aged 50–64 years, obesity was most prevalent, followed by hypertension and diabetes mellitus; and among those aged ≥65 years, hypertension was most prevalent, followed by cardiovascular disease and diabetes mellitus. Among 33 females aged 15–49 years hospitalized with COVID-19, three (9.1%) were pregnant. Among 167 patients with available data, the median interval from symptom onset to admission was 7 days (interquartile range [IQR] = 3–9 days). The most common signs and symptoms at admission included cough (86.1%), fever or chills (85.0%), and shortness of breath (80.0%). Gastrointestinal symptoms were also common; 26.7% had diarrhea, and 24.4% had nausea or vomiting.

Discussion

During March 1–28, 2020, the overall laboratory-confirmed COVID-19–associated hospitalization rate was 4.6 per 100,000 population; rates increased with age, with the highest rates among adults aged ≥65 years. Approximately 90% of hospitalized patients identified through COVID-NET had one or more underlying conditions, the most common being obesity, hypertension, chronic lung disease, diabetes mellitus, and cardiovascular disease.

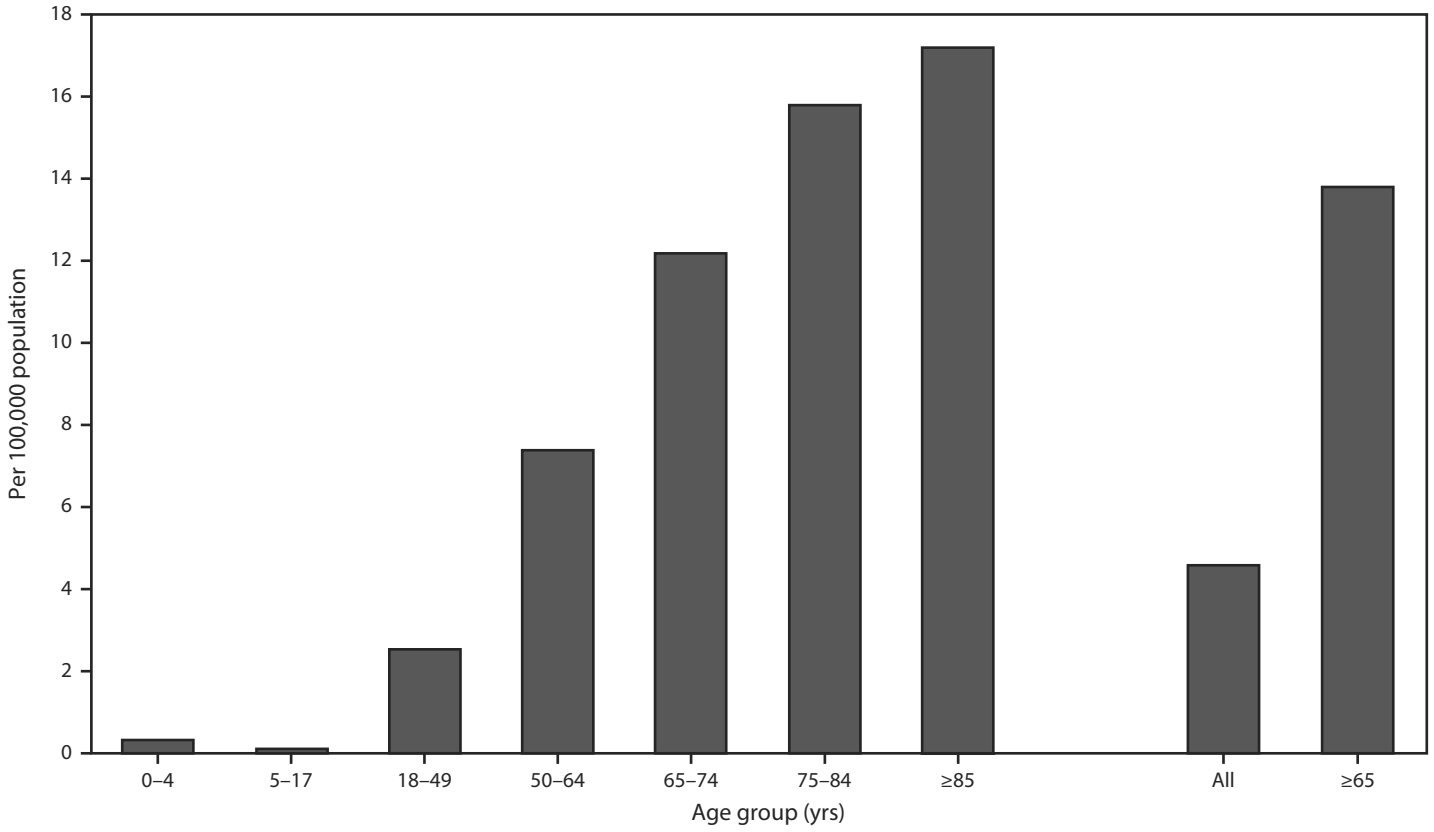
Using the existing infrastructure of two respiratory virus surveillance platforms, COVID-NET was implemented to produce robust, weekly, age-stratified hospitalization rates using standardized data collection methods. These data are being used, along with data from other surveillance platforms (https://www.cdc.gov/coronavirus/2019-ncov/covid-data/covidview.html), to monitor COVID-19 disease activity and severity in the United States. During the first month of surveillance, COVID-NET hospitalization rates ranged from 0.1 per 100,000 population in persons aged 5–17 years to 17.2 per 100,000 population in adults aged ≥85 years, whereas cumulative influenza hospitalization rates during the first 4 weeks of each influenza season (epidemiologic weeks 40–43) over the past 5 seasons have ranged from 0.1 in persons aged 5–17 years to 2.2–5.4 in adults aged ≥85 years (*6*). COVID-NET rates during this first 4-week period of surveillance are preliminary and should be interpreted with caution; given the rapidly evolving nature of the COVID-19 pandemic, rates are expected to increase as additional cases are identified and as SARS-CoV-2 testing capacity in the United States increases.

In the COVID-NET catchment population, approximately 49% of residents are male and 51% of residents are female, whereas 54% of COVID-19-associated hospitalizations occurred in males and 46% occurred in females. These data suggest that males may be disproportionately affected by COVID-19 compared with females. Similarly, in the COVID-NET catchment population, approximately 59% of residents are white, 18% are black, and 14% are Hispanic; however, among 580 hospitalized COVID-19 patients with race/ethnicity data, approximately 45% were white, 33% were black, and 8% were Hispanic, suggesting that black populations might be disproportionately affected by COVID-19. These findings, including the potential impact of both sex and

race on COVID-19-associated hospitalization rates, need to be confirmed with additional data.

Most of the hospitalized patients had underlying conditions, some of which are recognized to be associated with severe COVID-19 disease, including chronic lung disease, cardiovascular disease, diabetes mellitus (5). COVID-NET does not collect data on nonhospitalized patients; thus, it was not possible to compare the prevalence of underlying conditions in hospitalized versus nonhospitalized patients. Many of the documented underlying conditions among hospitalized COVID-19 patients are highly prevalent in the United States. According to data from the National Health and Nutrition Examination Survey, hypertension prevalence among U.S. adults is 29% overall, ranging from 7.5%–63% across age groups (*7*), and age-adjusted obesity prevalence is 42% (range across age groups = 40%–43%) (*8*). Among hospitalized COVID-19 patients, hypertension prevalence was 50% (range across age groups = 18%–73%), and obesity prevalence was 48% (range across age groups = 41%–59%). In addition, the prevalences of several underlying conditions identified through COVID-NET were similar to those for hospitalized influenza patients identified through FluSurv-NET during influenza seasons 2014–15 through 2018–19: 41%–51% of patients had cardiovascular disease (excluding hypertension), 39%–45% had chronic metabolic disease, 33%–40% had obesity, and 29%–31% had chronic lung disease (*6*). Data on hypertension are not collected by FluSurv-NET. Among women aged 15–49 years hospitalized with COVID-19 and identified through COVID-NET, 9% were pregnant, which is similar to an estimated 9.9% of the general population

FIGURE 1. Laboratory-confirmed coronavirus disease 2019 (COVID-19)–associated hospitalization rates,* by age group — COVID-NET, 14 states,† March 1–28, 2020

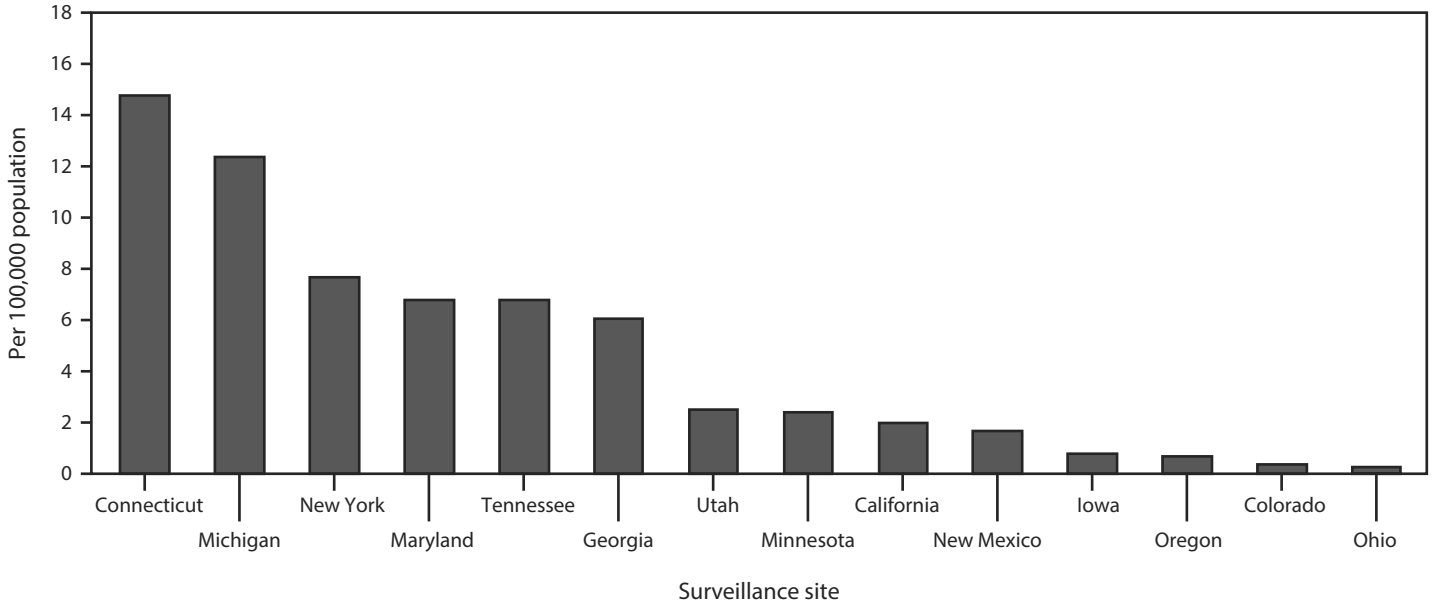


Abbreviation: COVID-NET = Coronavirus Disease 2019–Associated Hospitalization Surveillance Network.

* Number of patients hospitalized with COVID-19 per 100,000 population.

† Counties included in COVID-NET surveillance: California (Alameda, Contra Costa, and San Francisco counties); Colorado (Adams, Arapahoe, Denver, Douglas, and Jefferson counties); Connecticut (New Haven and Middlesex counties); Georgia (Clayton, Cobb, DeKalb, Douglas, Fulton, Gwinnett, Newton, and Rockdale counties); Iowa (one county represented); Maryland (Allegany, Anne Arundel, Baltimore, Baltimore City, Calvert, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, and Worcester counties); Michigan (Clinton, Eaton, Genesee, Ingham, and Washtenaw counties); Minnesota (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties); New Mexico (Bernalillo, Chaves, Dona Ana, Grant, Luna, San Juan, and Santa Fe counties); New York (Albany, Columbia, Genesee, Greene, Livingston, Monroe, Montgomery, Ontario, Orleans, Rensselaer, Saratoga, Schenectady, Schoharie, Wayne, and Yates counties); Ohio (Delaware, Fairfield, Franklin, Hocking, Licking, Madison, Morrow, Perry, Pickaway and Union counties); Oregon (Clackamas, Multnomah, and Washington counties); Tennessee (Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson counties); and Utah (Salt Lake County).

FIGURE 2. Laboratory-confirmed coronavirus disease 2019 (COVID-19)–associated hospitalization rates,* by surveillance site†— COVID-NET, 14 states, March 1–28, 2020



Abbreviation: COVID-NET = Coronavirus Disease 2019–Associated Hospitalization Surveillance Network.
* Number of patients hospitalized with COVID-19 per 100,000 population.
† Counties included in COVID-NET surveillance: California (Alameda, Contra Costa, and San Francisco counties); Colorado (Adams, Arapahoe, Denver, Douglas, and Jefferson counties); Connecticut (New Haven and Middlesex counties); Georgia (Clayton, Cobb, DeKalb, Douglas, Fulton, Gwinnett, Newton, and Rockdale counties); Iowa (one county represented); Maryland (Allegany, Anne Arundel, Baltimore, Baltimore City, Calvert, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, and Worcester counties); Michigan (Clinton, Eaton, Genesee, Ingham, and Washtenaw counties); Minnesota (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties); New Mexico (Bernalillo, Chaves, Dona Ana, Grant, Luna, San Juan, and Santa Fe counties); New York (Albany, Columbia, Genesee, Greene, Livingston, Monroe, Montgomery, Ontario, Orleans, Rensselaer, Saratoga, Schenectady, Schoharie, Wayne, and Yates counties); Ohio (Delaware, Fairfield, Franklin, Hocking, Licking, Madison, Morrow, Perry, Pickaway and Union counties); Oregon (Clackamas, Multnomah, and Washington counties); Tennessee (Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson counties); and Utah (Salt Lake County).

of women aged 15–44 years who are pregnant at any given time based on 2010 data.†† Similar to other reports from the United States (*9*) and China (*1*), these findings indicate that a high proportion of U.S. patients hospitalized with COVID-19 are older and have underlying medical conditions.

The findings in this report are subject to at least three limitations. First, hospitalization rates by age and COVID-NET site are preliminary and might change as additional cases are identified from this surveillance period. Second, whereas minimum case data to produce weekly age-stratified hospitalization rates are usually available within 7 days of case identification, availability of detailed clinical data are delayed because of the need for medical chart abstractions. As of March 30, chart abstractions had been conducted for approximately 200 COVID-19 patients; the frequency and distribution of underlying conditions during this time might change as additional data become available. Clinical course and outcomes will be presented once the number of cases with complete medical chart abstractions are sufficient; many patients are still hospitalized at the time of this report. Finally, testing for SARS-CoV-2 among patients identified through COVID-NET is performed at the discretion of treating health care providers, and testing practices and capabilities might vary widely across providers and facilities. As a result, underascertainment of cases in COVID-NET is likely. Additional data on testing practices related to SARS-CoV-2 will be collected in the future to account for underascertainment using described methods (*10*).

Early data from COVID-NET suggest that COVID-19–associated hospitalizations in the United States are highest among older adults, and nearly 90% of persons hospitalized have one or more underlying medical conditions. These findings underscore the importance of preventive measures (e.g., social distancing, respiratory hygiene, and wearing face coverings in public settings where social distancing measures are difficult to maintain) to protect older adults and persons with underlying medical conditions. Ongoing monitoring of hospitalization rates, clinical characteristics, and outcomes of hospitalized patients will be important to better understand the evolving epidemiology of COVID-19 in the United States and the clinical spectrum of disease, and to help guide planning and prioritization of health care system resources.

†† https://www.cdc.gov/nchs/data/hestat/pregnancy/2010_pregnancy_rates.htm.

TABLE. Underlying conditions and symptoms among adults aged ≥18 years with coronavirus disease 2019 (COVID-19)–associated hospitalizations — COVID-NET, 14 states,* March 1–30, 2020†

	Age group (yrs), no./total no. (%)			
Underlying condition	**Overall**	**18–49**	**50–64**	**≥65 years**
Any underlying condition	159/178 (89.3)	41/48 (85.4)	51/59 (86.4)	67/71 (94.4)
Hypertension	79/159 (49.7)	7/40 (17.5)	27/57 (47.4)	45/62 (72.6)
Obesity§	73/151 (48.3)	23/39 (59.0)	25/51 (49.0)	25/61 (41.0)
Chronic metabolic disease¶	60/166 (36.1)	10/46 (21.7)	21/56 (37.5)	29/64 (45.3)
Diabetes mellitus	47/166 (28.3)	9/46 (19.6)	18/56 (32.1)	20/64 (31.3)
Chronic lung disease	55/159 (34.6)	16/44 (36.4)	15/53 (28.3)	24/62 (38.7)
Asthma	27/159 (17.0)	12/44 (27.3)	7/53 (13.2)	8/62 (12.9)
Chronic obstructive pulmonary disease	17/159 (10.7)	0/44 (0.0)	3/53 (5.7)	14/62 (22.6)
Cardiovascular disease**	45/162 (27.8)	2/43 (4.7)	11/56 (19.6)	32/63 (50.8)
Coronary artery disease	23/162 (14.2)	0/43 (0.0)	7/56 (12.5)	16/63 (25.4)
Congestive heart failure	11/162 (6.8)	2/43 (4.7)	3/56 (5.4)	6/63 (9.5)
Neurologic disease	22/157 (14.0)	4/42 (9.5)	4/55 (7.3)	14/60 (23.3)
Renal disease	20/153 (13.1)	3/41 (7.3)	2/53 (3.8)	15/59 (25.4)
Immunosuppressive condition	15/156 (9.6)	5/43 (11.6)	4/54 (7.4)	6/59 (10.2)
Gastrointestinal/Liver disease	10/152 (6.6)	4/42 (9.5)	0/54 (0.0)	6/56 (10.7)
Blood disorder	9/156 (5.8)	1/43 (2.3)	1/55 (1.8)	7/58 (12.1)
Rheumatologic/Autoimmune disease	3/154 (1.9)	1/42 (2.4)	0/54 (0.0)	2/58 (3.4)
Pregnancy††	3/33 (9.1)	3/33 (9.1)	N/A	N/A
Symptom§§				
Cough	155/180 (86.1)	43/47 (91.5)	54/60 (90.0)	58/73 (79.5)
Fever/Chills	153/180 (85.0)	38/47 (80.9)	53/60 (88.3)	62/73 (84.9)
Shortness of breath	144/180 (80.0)	40/47 (85.1)	50/60 (83.3)	54/73 (74.0)
Myalgia	62/180 (34.4)	20/47 (42.6)	23/60 (38.3)	19/73 (26.0)
Diarrhea	48/180 (26.7)	10/47 (21.3)	17/60 (28.3)	21/73 (28.8)
Nausea/Vomiting	44/180 (24.4)	12/47 (25.5)	17/60 (28.3)	15/73 (20.5)
Sore throat	32/180 (17.8)	8/47 (17.0)	13/60 (21.7)	11/73 (15.1)
Headache	29/180 (16.1)	10/47 (21.3)	12/60 (20.0)	7/73 (9.6)
Nasal congestion/Rhinorrhea	29/180 (16.1)	8/47 (17.0)	13/60 (21.7)	8/73 (11.0)
Chest pain	27/180 (15.0)	9/47 (19.1)	13/60 (21.7)	5/73 (6.8)
Abdominal pain	15/180 (8.3)	6/47 (12.8)	6/60 (10.0)	3/73 (4.1)
Wheezing	12/180 (6.7)	3/47 (6.4)	2/60 (3.3)	7/73 (9.6)
Altered mental status/Confusion	11/180 (6.1)	3/47 (6.4)	2/60 (3.3)	6/73 (8.2)

Abbreviations: COVID-NET = Coronavirus Disease 2019–Associated Hospitalization Surveillance Network; N/A = not applicable.

* Counties included in COVID-NET surveillance: California (Alameda, Contra Costa, and San Francisco counties); Colorado (Adams, Arapahoe, Denver, Douglas, and Jefferson counties); Connecticut (New Haven and Middlesex counties); Georgia (Clayton, Cobb, DeKalb, Douglas, Fulton, Gwinnett, Newton, and Rockdale counties); Iowa (one county represented); Maryland (Allegany, Anne Arundel, Baltimore, Baltimore City, Calvert, Caroline, Carroll, Cecil, Charles, Dorchester, Frederick, Garrett, Harford, Howard, Kent, Montgomery, Prince George's, Queen Anne's, St. Mary's, Somerset, Talbot, Washington, Wicomico, and Worcester counties); Michigan (Clinton, Eaton, Genesee, Ingham, and Washtenaw counties); Minnesota (Anoka, Carver, Dakota, Hennepin, Ramsey, Scott, and Washington counties); New Mexico (Bernalillo, Chaves, Dona Ana, Grant, Luna, San Juan, and Santa Fe counties); New York (Albany, Columbia, Genesee, Greene, Livingston, Monroe, Montgomery, Ontario, Orleans, Rensselaer, Saratoga, Schenectady, Schoharie, Wayne, and Yates counties); Ohio (Delaware, Fairfield, Franklin, Hocking, Licking, Madison, Morrow, Perry, Pickaway and Union counties); Oregon (Clackamas, Multnomah, and Washington counties); Tennessee (Cheatham, Davidson, Dickson, Robertson, Rutherford, Sumner, Williamson, and Wilson counties); and Utah (Salt Lake County).

† COVID-NET included data for one child aged 5–17 years with underlying medical conditions and symptoms at admission; data for this child are not included in this table. This child was reported to have chronic lung disease (asthma). Symptoms included fever, cough, gastrointestinal symptoms, shortness of breath, chest pain, and a sore throat on admission.

§ Obesity is defined as calculated body mass index (BMI) ≥30 kg/m2, and if BMI is missing, by International Classification of Diseases discharge diagnosis codes. Among 73 patients with obesity, 51 (69.9%) had obesity defined as BMI 30–<40 kg/m2, and 22 (30.1%) had severe obesity defined as BMI ≥40 kg/m2.

¶ Among the 60 patients with chronic metabolic disease, 45 had diabetes mellitus only, 13 had thyroid dysfunction only, and two had diabetes mellitus and thyroid dysfunction.

** Cardiovascular disease excludes hypertension.

†† Restricted to women aged 15–49 years.

§§ Symptoms were collected through review of admission history and physical exam notes in the medical record and might be determined by subjective or objective findings. In addition to the symptoms in the table, the following less commonly reported symptoms were also noted for adults with information on symptoms (180): hemoptysis/bloody sputum (2.2%), rash (1.1%), conjunctivitis (0.6%), and seizure (0.6%).

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Summary

What is already known about this topic?

Population-based rates of laboratory-confirmed coronavirus disease 2019 (COVID-19)–associated hospitalizations are lacking in the United States.

What is added by this report?

COVID-NET was implemented to produce robust, weekly, age-stratified COVID-19–associated hospitalization rates. Hospitalization rates increase with age and are highest among older adults; the majority of hospitalized patients have underlying conditions.

What are the implications for public health practice?

Strategies to prevent COVID-19, including social distancing, respiratory hygiene, and face coverings in public settings where social distancing measures are difficult to maintain, are particularly important to protect older adults and those with underlying conditions. Ongoing monitoring of hospitalization rates is critical to understanding the evolving epidemiology of COVID-19 in the United States and to guide planning and prioritization of health care resources.

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Exhibit 10

Morbidity and Mortality Weekly Report

Impact of the COVID-19 Pandemic on Emergency Department Visits — United States, January 1, 2019–May 30, 2020

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On June 3, 2020, this report was posted as an MMWR *Early Release on the* MMWR *website (https://www.cdc.gov/mmwr).*

On March 13, 2020, the United States declared a national emergency to combat coronavirus disease 2019 (COVID-19). As the number of persons hospitalized with COVID-19 increased, early reports from Austria (*1*), Hong Kong (*2*), Italy (*3*), and California (*4*) suggested sharp drops in the numbers of persons seeking emergency medical care for other reasons. To quantify the effect of COVID-19 on U.S. emergency department (ED) visits, CDC compared the volume of ED visits during four weeks early in the pandemic March 29–April 25, 2020 (weeks 14 to 17; the early pandemic period) to that during March 31–April 27, 2019 (the comparison period). During the early pandemic period, the total number of U.S. ED visits was 42% lower than during the same period a year earlier, with the largest declines in visits in persons aged ≤14 years, females, and the Northeast region. Health messages that reinforce the importance of immediately seeking care for symptoms of serious conditions, such as myocardial infarction, are needed. To minimize SARS-CoV-2, the virus that causes COVID-19, transmission risk and address public concerns about visiting the ED during the pandemic, CDC recommends continued use of virtual visits and triage help lines and adherence to CDC infection control guidance.

To assess trends in ED visits during the pandemic, CDC analyzed data from the National Syndromic Surveillance Program (NSSP), a collaborative network developed and maintained by CDC, state and local health departments, and academic and private sector health partners to collect electronic health data in real time. The national data in NSSP includes ED visits from a subset of hospitals in 47 states (all but Hawaii, South Dakota, and Wyoming), capturing approximately 73% of ED visits in the United States able to be analyzed at the national level. During the most recent week, 3,552 EDs reported data. Total ED visit volume, as well as patient age, sex, region, and reason for visit were analyzed.

Weekly number of ED visits were examined during January 1, 2019–May 30, 2020. In addition, ED visits during two 4-week periods were compared using mean differences and ratios. The change in mean visits per week during the early pandemic period and the comparison period was calculated as the mean difference in total visits in a diagnostic category between the two periods, divided by 4 weeks ([visits in diagnostic category {early pandemic period} – visits in diagnostic category {comparison period}]/4). The visit prevalence ratio (PR) was calculated for each diagnostic category as the proportion of ED visits during the early pandemic period divided by the proportion of visits during the comparison period ([visits in category {early pandemic period}/all visits {early pandemic period}]/[visits in category {comparison period}/all visits {comparison period}]). All analyses were conducted using R software (version 3.6.0; R Foundation).

Reason for visit was analyzed using a subset of records that had at least one specific, billable *International Classification of Diseases, Tenth Revision, Clinical Modification* (ICD-10-CM) code. In addition to Hawaii, South Dakota, and Wyoming, four states (Florida, Louisiana, New York outside New York City, and Oklahoma), two California counties reporting to the NSSP (Santa Cruz and Solano), and the District of Columbia were also excluded from the diagnostic code analysis because they did not report diagnostic codes during both periods or had differences in completeness of codes between 2019 and 2020. Among eligible visits for the diagnostic code analysis, 20.3% without a valid ICD-10-CM code were excluded. ED visits were categorized using the Clinical Classifications Software Refined tool (version 2020.2; Healthcare Cost and Utilization Project), which combines ICD-10-CM codes into clinically meaningful groups (*5*). A visit with multiple ICD-10-CM codes could be included in multiple categories; for example, a visit by a patient with diabetes and hypertension would be included in the category for diabetes and the category for hypertension. Because COVID-19 is not yet classified in this tool, a custom category, defined as any visit with the ICD-10-CM code for confirmed COVID-19 diagnosis (U07.1), was created (*6*). The analysis was limited to the top 200 diagnostic categories during each period.

The lowest number of visits reported to NSSP occurred during April 12–18, 2020 (week 16). Although visits have increased since the nadir, the most recent complete week (May 24–30, week 22) remained 26% below the corresponding week in 2019 (Figure 1). The number of ED visits decreased 42%, from a mean of 2,099,734 per week during March 31–April 27, 2019, to a mean of 1,220,211 per week during the early pandemic period of March 29–April 25, 2020. Visits declined for every age group (Figure 2), with the largest proportional declines in visits by children aged ≤10 years (72%) and 11–14 years (71%).

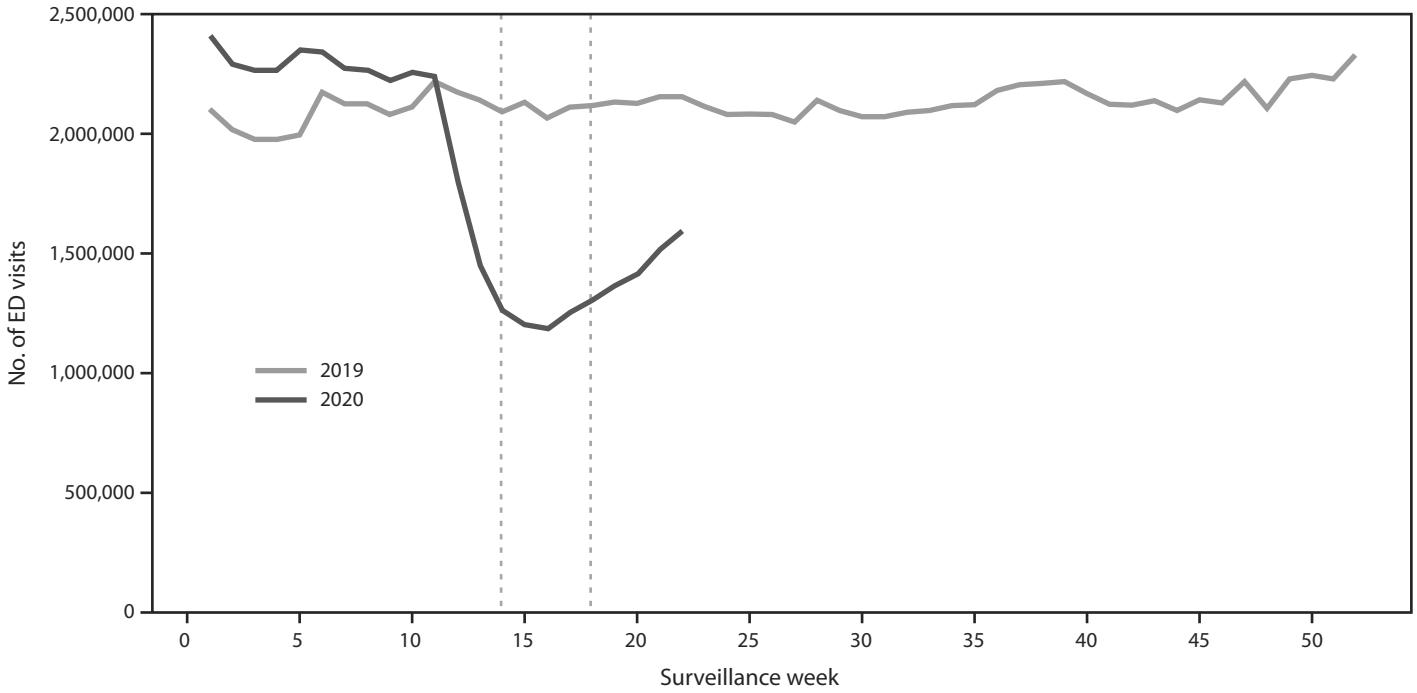
Declines in ED visits varied by U.S. Department of Health and Human Services region,* with the largest declines in the Northeast (Region 1, 49%) and in the region that includes New Jersey and New York (Region 2, 48%) (Figure 2). Visits declined 37% among males and 45% among females across all NSSP EDs between the comparison and early pandemic periods.

Among all ages, an increase of >100 mean visits per week from the comparison period to the early pandemic period occurred in eight of the top 200 diagnostic categories (Table). These included 1) exposure, encounters, screening, or contact with infectious disease (mean increase 18,834 visits per week); 2) COVID-19 (17,774); 3) other general signs and symptoms (4,532); 4) pneumonia not caused by tuberculosis (3,911); 5) other specified and unspecified lower respiratory disease (1,506); 6) respiratory failure, insufficiency, or arrest (776); 7) cardiac arrest and ventricular fibrillation (472); and 8) socioeconomic or psychosocial factors (354). The largest declines were in visits for abdominal pain and other digestive or abdomen signs and symptoms (–66,456), musculoskeletal pain excluding low back pain (–52,150), essential hypertension (–45,184), nausea and vomiting (–38,536), other specified upper respiratory infections (–36,189), sprains and strains (–33,709), and superficial injuries (–30,918). Visits for nonspecific chest pain were also among the top 20 diagnostic categories for which visits decreased (–24,258). Although not in the top 20 declining diagnoses, visits for acute myocardial infarction also declined (–1,156).

During the early pandemic period, the proportion of ED visits for exposure, encounters, screening, or contact with infectious disease compared with total visits was nearly four times as large as during the comparison period (Table) (prevalence ratio [PR] = 3.79, 95% confidence interval [CI] = 3.76–3.83). The other diagnostic categories with the highest proportions of visits during the early pandemic compared with the comparison period were other specified and unspecified lower respiratory disease, which did not include influenza, pneumonia, asthma, or bronchitis (PR = 1.99; 95% CI = 1.96–2.02), cardiac arrest and ventricular fibrillation (PR = 1.98; 95% CI = 1.93–2.03), and pneumonia not caused by tuberculosis (PR = 1.91; 95% CI = 1.90–1.93). Diagnostic categories that were recorded less commonly during the early pandemic period included influenza (PR = 0.16; 95% CI = 0.15–0.16), no immunization or underimmunization (PR = 0.28; 95% CI = 0.27–0.30), otitis media (PR = 0.35; 95% CI = 0.34–0.36), and neoplasm-related encounters (PR = 0.40; 95% CI = 0.39–0.42).

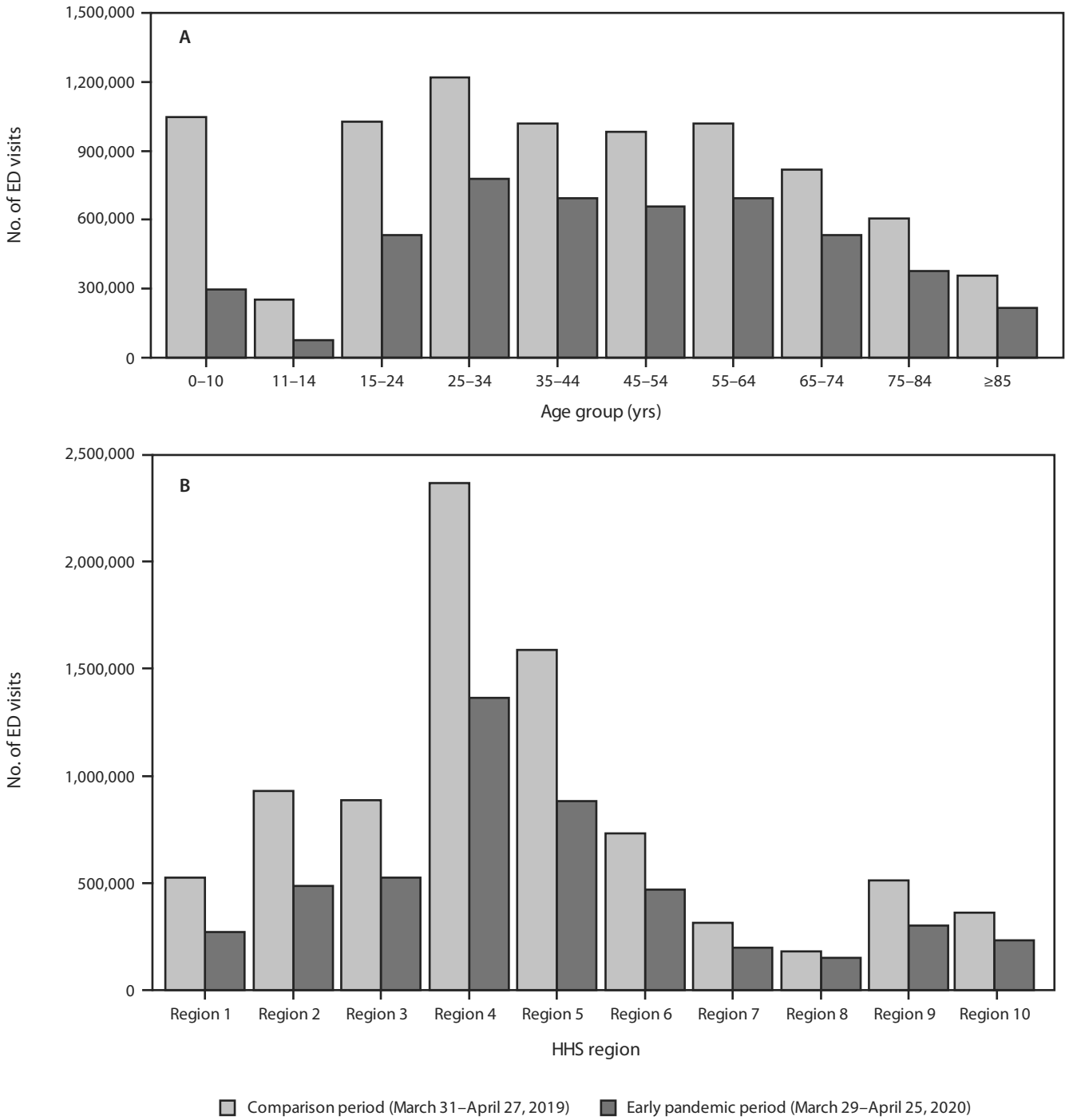
* https://www.hhs.gov/about/agencies/iea/regional-offices/index.html.

FIGURE 1. Weekly number of emergency department (ED) visits — National Syndromic Surveillance Program, United States,* January 1, 2019–May 30, 2020†



* Hawaii, South Dakota, and Wyoming are not included.
† Vertical lines indicate the beginning and end of the 4-week coronavirus disease 2019 (COVID-19) early pandemic period (March 29–April 25, 2020) and the comparison period (March 31–April 27, 2019).

FIGURE 2. Emergency department (ED) visits, by age group (A) and U.S. Department of Health and Human Services (HHS) region* (B) — National Syndromic Surveillance Program, United States,† March 31–April 27, 2019 (comparison period) and March 29–April 25, 2020 (early pandemic period)



* *Region 1*: Connecticut, Maine, Massachusetts, New Hampshire, Rhode Island, and Vermont; *Region 2*: New Jersey and New York; *Region 3*: Delaware, District of Columbia, Maryland, Pennsylvania, Virginia, and West Virginia; *Region 4*: Alabama, Florida, Georgia, Kentucky, Mississippi, North Carolina, South Carolina, and Tennessee; *Region 5*: Illinois, Indiana, Michigan, Minnesota, Ohio, and Wisconsin; *Region 6*: Arkansas, Louisiana, New Mexico, Oklahoma, and Texas; *Region 7*: Iowa, Kansas, Missouri, and Nebraska; *Region 8*: Colorado, Montana, North Dakota, and Utah; *Region 9*: Arizona, California, and Nevada; *Region 10*: Alaska, Idaho, Oregon, and Washington.
† Hawaii, South Dakota, and Wyoming are not included.

In the 2019 comparison period, 12% of all ED visits were in children aged ≤10 years old, compared with 6% during the early pandemic period. Among children aged ≤10 years, the largest declines were in visits for influenza (97% decrease), otitis media (85%), other specified upper respiratory conditions (84%), nausea and vomiting (84%), asthma (84%), viral infection (79%), respiratory signs and symptoms (78%), abdominal pain and other digestive or abdomen symptoms (78%), and fever (72%). Mean weekly visits with confirmed COVID-19 diagnoses and screening for infectious disease during the early pandemic period were lower among children than among adults. Among all ages, the diagnostic categories with the largest changes (abdominal pain and other digestive or abdomen signs and symptoms, musculoskeletal pain, and essential hypertension), were the same in males and females, but declines in those categories were larger in females than males. Females also had large declines in visits for urinary tract infections (–19,833 mean weekly visits).

Discussion

During an early 4-week interval in the COVID-19 pandemic, ED visits were substantially lower than during the same 4-week period during the previous year; these decreases were especially pronounced for children and females and in the Northeast. In addition to diagnoses associated with lower respiratory disease, pneumonia, and difficulty breathing, the number and ratio of visits (early pandemic period versus comparison period) for cardiac arrest and ventricular fibrillation increased. The number of visits for conditions including nonspecific chest pain and acute myocardial infarction decreased, suggesting that some persons could be delaying care for conditions that might result in additional mortality if left untreated. Some declines were in categories including otitis media, superficial injuries, and sprains and strains that can often be managed through primary or urgent care. Future analyses will help clarify the proportion of the decline in ED visits that were not preventable or avoidable such as those for life-threatening conditions, those that were manageable through primary care, and those that represented actual reductions in injuries or illness attributable to changing activity patterns during the pandemic (such as lower risks for occupational and motor vehicle injuries or other infectious diseases).

The striking decline in ED visits nationwide, with the highest declines in regions where the pandemic was most severe in April 2020, suggests that the pandemic has altered the use of the ED by the public. Persons who use the ED as a safety net because they lack access to primary care and telemedicine might be disproportionately affected if they avoid seeking care because of concerns about the infection risk in the ED.

Summary

What is already known about this topic?

The National Syndromic Surveillance Program (NSSP) collects electronic health data in real time.

What is added by this report?

NSSP found that emergency department (ED) visits declined 42% during the early COVID-19 pandemic, from a mean of 2.1 million per week (March 31–April 27, 2019) to 1.2 million (March 29–April 25, 2020), with the steepest decreases in persons aged ≤14 years, females, and the Northeast. The proportion of infectious disease–related visits was four times higher during the early pandemic period.

What are the implications for public health practice?

To minimize SARS-CoV-2 transmission risk and address public concerns about visiting the ED during the pandemic, CDC recommends continued use of virtual visits and triage help lines and adherence to CDC infection control guidance.

Syndromic surveillance has important strengths, including automated electronic reporting and the ability to track outbreaks in real time (*7*). Among all visits, 74% are reported within 24 hours, with 75% of discharge diagnoses typically added to the record within 1 week.

The findings in this report are subject to at least four limitations. First, hospitals reporting to NSSP change over time as facilities are added, and more rarely, as they close (*8*). An average of 3,173 hospitals reported to NSSP nationally in April 2019, representing an estimated 66% of U.S. ED visits, and an average of 3,467 reported in April 2020, representing 73% of ED visits. Second, diagnostic categories rely on the use of specific codes, which were missing in 20% of visits and might be used inconsistently across hospitals and providers, which could result in misclassification. The COVID-19 diagnosis code was introduced recently (April 1, 2020) and timing of uptake might have differed across hospitals (*6*). Third, NSSP coverage is not uniform across or within all states; in some states nearly all hospitals report, whereas in others, a lower proportion statewide or only those in certain counties report. Finally, because this analysis is limited to ED visit data, the proportion of persons who did not visit EDs but received treatment elsewhere is not captured.

Health care systems should continue to address public concern about exposure to SARS-CoV-2 in the ED through adherence to CDC infection control recommendations, such as immediately screening every person for fever and symptoms of COVID-19, and maintaining separate, well-ventilated triage areas for patients with and without signs and symptoms of COVID-19 (*9*). Wider access is needed to health messages that reinforce the importance of immediately seeking care for

TABLE. Differences in mean weekly numbers of emergency department (ED) visits* for diagnostic categories with the largest increases or decreases† and prevalence ratios§ comparing the proportion of ED visits in each diagnostic category, for categories with the highest and lowest ratios — National Syndromic Surveillance Program, United States,¶ March 31–April 27, 2019 (comparison period) and March 29–April 25, 2020 (early pandemic period)

Diagnostic category	Change in mean no. of weekly ED visits*	Prevalence ratio (95% CI)§
All categories with higher visit counts during the early pandemic period		
Exposure, encounters, screening, or contact with infectious disease**	18,834	3.79 (3.76–3.83)
COVID-19	17,774	—
Other general signs and symptoms**	4,532	1.87 (1.86–1.89)
Pneumonia (except that caused by tuberculosis)**	3,911	1.91 (1.90–1.93)
Other specified and unspecified lower respiratory disease**	1,506	1.99 (1.96–2.02)
Respiratory failure, insufficiency, arrest**	776	1.76 (1.74–1.78)
Cardiac arrest and ventricular fibrillation**	472	1.98 (1.93–2.03)
Socioeconomic or psychosocial factors**	354	1.78 (1.75–1.81)
Other top 10 highest prevalence ratios		
Mental and substance use disorders, in remission**	6	1.69 (1.64–1.75)
Other specified encounters and counseling**	22	1.69 (1.67–1.72)
Stimulant-related disorders**	−189	1.65 (1.62–1.67)
Top 20 categories with lower visit counts during the early pandemic period		
Abdominal pain and other digestive or abdomen signs and symptoms	−66,456	0.93 (0.93–0.93)
Musculoskeletal pain, not low back pain	−52,150	0.81 (0.81–0.82)
Essential hypertension	−45,184	1.11 (1.10–1.11)
Nausea and vomiting	−38,536	0.85 (0.84–0.85)
Other specified upper respiratory infections	−36,189	0.82 (0.81–0.82)
Sprains and strains, initial encounter††	−33,709	0.61 (0.61–0.62)
Superficial injury; contusion, initial encounter	−30,918	0.85 (0.84–0.85)
Personal or family history of disease	−28,734	1.21 (1.20–1.22)
Headache, including migraine	−27,458	0.85 (0.84–0.85)
Other unspecified injury	−25,974	0.84 (0.83–0.84)
Nonspecific chest pain	−24,258	1.20 (1.20–1.21)
Tobacco-related disorders	−23,657	1.19 (1.18–1.19)
Urinary tract infections	−23,346	1.02 (1.02–1.03)
Asthma	−20,660	0.91 (0.90–0.91)
Disorders of lipid metabolism	−20,145	1.12 (1.11–1.13)
Spondylopathies/Spondyloarthropathy (including infective)	−19,441	0.78 (0.77–0.79)
Otitis media††	−17,852	0.35 (0.34–0.36)
Diabetes mellitus without complication	−15,893	1.10 (1.10–1.11)
Skin and subcutaneous tissue infections	−15,598	1.01 (1.00–1.02)
Chronic obstructive pulmonary disease and bronchiectasis	−15,520	1.05 (1.04–1.06)
Other top 10 lowest prevalence ratios		
Influenza††	−12,094	0.16 (0.15–0.16)
No immunization or underimmunization††	−1,895	0.28 (0.27–0.30)
Neoplasm-related encounters††	−1,926	0.40 (0.39–0.42)
Intestinal infection††	−5,310	0.52 (0.51–0.54)
Cornea and external disease††	−9,096	0.54 (0.53–0.55)
Sinusitis††	−7,283	0.55 (0.54–0.56)
Acute bronchitis††	−15,470	0.59 (0.58–0.60)
Noninfectious gastroenteritis††	−11,572	0.63 (0.62–0.64)

Abbreviations: CI = confidence interval; COVID-19 = coronavirus disease 2019.

* The change in visits per week during the early pandemic and comparison periods was calculated as the difference in total visits between the two periods, divided by 4 weeks ([visits in diagnostic category, {early pandemic period} – visits in diagnostic category, {comparison period}] / 4).

† Analysis is limited to the 200 most common diagnostic categories. All eight diagnostic categories with an increase of >100 in the mean number of visits nationwide in the early pandemic period are shown. The top 20 categories with decreasing visit counts are shown.

§ Ratio calculated as the proportion of all ED visits in each diagnostic category during the early pandemic period, divided by the proportion of all ED visits in that category during the comparison period ([visits in category {early pandemic period}/all visits {early pandemic period}])/(visits in category {comparison period}/all visits {comparison period}]). Ratios >1 indicate a higher proportion of visits in that category during the early pandemic period than the comparison period; ratios <1 indicate a lower proportion during the early pandemic than during the comparison period. Analysis is limited to the 200 most common diagnostic categories. The 10 categories with the highest and lowest ratios are shown.

¶ Florida, Hawaii, Louisiana, New York outside of New York City, Oklahoma, South Dakota, Wyoming, Santa Cruz and Solano counties in California, and the District of Columbia are not included.

** Top 10 highest prevalence ratios; higher proportion of visits in the early pandemic period than the comparison period.

†† Top 10 lowest prevalence ratios; lower proportion of visits in the early pandemic period than the comparison period.

serious conditions for which ED visits cannot be avoided, such as symptoms of myocardial infarction. Expanded access to triage telephone lines that help persons rapidly decide whether they need to go to an ED for symptoms of possible COVID-19 infection and other urgent conditions is also needed. For conditions that do not require immediate care or in-person treatment, health care systems should continue to expand the use of virtual visits during the pandemic (*10*).

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Exhibit 11

Morbidity and Mortality Weekly Report

Initial and Repeated Point Prevalence Surveys to Inform SARS-CoV-2 Infection Prevention in 26 Skilled Nursing Facilities — Detroit, Michigan, March–May 2020

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Skilled nursing facilities (SNFs) are focal points of the coronavirus disease 2019 (COVID-19) pandemic, and asymptomatic infections with SARS-CoV-2, the virus that causes COVID-19, among SNF residents and health care personnel have been described (*1*–*3*). Repeated point prevalence surveys (serial testing of all residents and health care personnel at a health care facility irrespective of symptoms) have been used to identify asymptomatic infections and have reduced SARS-CoV-2 transmission during SNF outbreaks (*1*,*3*). During March 2020, the Detroit Health Department and area hospitals detected a sharp increase in COVID-19 diagnoses, hospitalizations, and associated deaths among SNF residents. The Detroit Health Department collaborated with local government, academic, and health care system partners and a CDC field team to rapidly expand SARS-CoV-2 testing and implement infection prevention and control (IPC) activities in all Detroit-area SNFs. During March 7–May 8, among 2,773 residents of 26 Detroit SNFs, 1,207 laboratory-confirmed cases of COVID-19 were identified during three periods: before (March 7–April 7) and after two point prevalence surveys (April 8–25 and April 30–May 8): the overall attack rate was 44%. Within 21 days of receiving their first positive test results, 446 (37%) of 1,207 COVID-19 patients were hospitalized, and 287 (24%) died. Among facilities participating in both surveys (n = 12), the percentage of positive test results declined from 35% to 18%. Repeated point prevalence surveys in SNFs identified asymptomatic COVID-19 cases, informed cohorting and IPC practices aimed at reducing transmission, and guided prioritization of health department resources for facilities experiencing high levels of SARS-CoV-2 transmission. With the increased availability of SARS-CoV-2 testing, repeated point prevalence surveys and enhanced and expanded IPC support should be standard tools for interrupting and preventing COVID-19 outbreaks in SNFs.

From mid-March through early April, rapid increases in confirmed COVID-19 cases were detected among SNF residents in Detroit. During March 7–April 7, limited SARS-CoV-2 testing capacity resulted in prioritization of symptomatic residents for testing. Expansion of the Detroit Health Department testing capacity in early April enabled testing of Detroit residents from all 26 SNFs who had not previously been tested. Any testing conducted during April 8–25 was considered part of the first point prevalence survey. After the first survey, 12 facilities were prioritized for a second survey, in which participation was determined by the proportion of positive results from the first survey and the feasibility of conducting repeat on-site testing. The second survey occurred on a single date at each facility during April 30–May 8.

A Detroit Health Department rapid-testing clinic was established on April 2, 2020, using the Abbott ID NOW molecular COVID-19 test (*4*). During the first point prevalence survey, specimens collected from residents' anterior nares were tested using the point-of-care platform in the Detroit Health Department rapid-testing clinic. Because of limited test availability for this platform, testing of specimens for the second survey was performed by an off-site reference laboratory using nasopharyngeal specimens and the SARS-CoV-2 real-time reverse transcription–polymerase chain reaction (RT-PCR) assay. At two facilities, anterior nares specimens for the second survey were collected and sent to a different reference laboratory for real-time RT-PCR testing. All specimens were collected, transported, and tested in accordance with CDC recommendations (*5*).

On-site IPC assessments and consultation were provided to facility leaders in all 26 SNFs during the first survey. Two follow-up IPC assessments were conducted for the 12 facilities participating in the second survey and included examination of cohorting practices using a facility floorplan, supply and use of personal protective equipment, hand hygiene practices, staffing mitigation planning, and other IPC activities.

Individual-level data on positive test dates, symptom status, hospitalizations, and fatalities were collected from Detroit Health Department COVID-19 case investigations, laboratory requisition forms, cases reported to the Michigan Department of Health and Human Services, and a review of death certificates. Symptom information at the time of testing was collected

by oral report from facility nurse managers or from documentation of resident symptom screening. Hospitalizations included those with admission dates 2 days before through 21 days after the collection of a specimen with a positive test result for SARS-CoV-2, and deaths included those occurring within 21 days of collection of a positive specimen. To identify ongoing transmission, facility-level percentages of newly identified cases (residents with newly diagnosed SARS-CoV-2 infection divided by total number of residents tested without previous positive test results) were compared across facilities for each of the survey periods. Data were collected as part of public health response activities and were determined by CDC not to constitute human subject research.* Persons provided consent for testing and symptom screening, consistent with the policies of the facility. Analyses were conducted using SAS software (version 9.4; SAS Institute).

During March 7–May 8, among 2,773 Detroit SNF residents, 1,207 (44%) laboratory-confirmed COVID-19 cases were identified (Table). Among residents with positive test results, the median patient age was 72 years (interquartile range [IQR] = 64–82 years), 446 (37%) were hospitalized, and 287 (24%) died (Figure), including 233 (52%) hospitalized patients. Among 1,027 COVID-19 patients with symptom data available, 566 (55%) were symptomatic at the time of their first positive test result; this was highest before the first point prevalence survey (93%), decreased to 48% in the first survey, and decreased further to 4% in the second survey. Among 566 COVID-19 patients who reported symptoms, 227 (40%) died within 21 days of testing, compared with 25 (5%) among 461 patients who reported no symptoms; 35 (19%) deaths occurred among 180 patients for whom symptom status was unknown. Before the first survey, 332 residents had positive SARS-CoV-2 test results (range = 2–32 per facility). The median interval from first documented symptom onset in a facility until the first survey was 33 days (range = 20–44 days). The average facility census during the time of the first survey (April 8–25) was 96 residents (range = 38–169). During this time, 716 residents (32%) received a positive SARS-CoV-2 test result among 2,218 who had not previously received a positive test result; facilities each identified six to 77 residents with newly diagnosed infections (range = 7%–58% of residents).

Among the 12 facilities participating in the second point prevalence survey during April 30–May 8, eight had implemented cohorting of residents with positive test results in a dedicated COVID-19 unit before the first survey; the remaining four facilities initiated cohorting shortly after receiving results from the first survey. Four of 12 facilities that took part in the second survey did not dedicate health care personnel to exclusively care for residents within the COVID-19 unit, primarily because of staffing shortages.

The average census of facilities participating in the second survey was 80 residents (range = 36–147), and 373 of 1,063 (35%) residents had received positive test results during the first survey. Among 637 residents tested during the second survey who were not previously known to have COVID-19, 18% (115) had positive SARS-CoV-2 test results; including 17% (85 of 491) of residents whose test results during the first survey had been negative. The median interval between the first and second surveys was 15 days (IQR = 14–17 days). Facilities identified two to 19 new cases during the second point prevalence survey (range = 3%–31% of residents tested).

Discussion

Facility-wide testing conducted among residents living in 26 SNFs in an urban Detroit jurisdiction with high SARS-CoV-2 prevalence identified an overall attack rate of 44%, a 37% COVID-19 hospitalization rate, and a 24% fatality rate amid ongoing and widespread SARS-CoV-2 transmission. Repeated point prevalence surveys enabled early identification of COVID-19 cases (including asymptomatic patients), informed cohorting and IPC practices, and guided prioritization of health department resources.

Despite barriers to implementing rapid repeated point prevalence surveys, this assessment demonstrates benefits of conducting repeated surveys in SNFs. Among facilities participating in both surveys, the percentage of new laboratory-confirmed cases declined from 35% to 18%, suggesting that facility-wide testing and on-site IPC support might have contributed to reductions in SARS-CoV-2 transmission. Following testing and establishment of a COVID-19 care unit, IPC assessment and consultation were critical to assisting facilities in targeting interventions to mitigate suspected causes of ongoing transmission. These included incomplete resident and health care personnel cohorting, continued reintroduction of the virus (e.g., from admission of residents with unknown COVID-19 status or residents requiring routine outpatient medical treatment, such as hemodialysis), and space limitations prohibiting use of private rooms to isolate residents whose infection status was unknown. Repeated point prevalence surveys might also improve patient outcomes by enabling earlier identification and initiation of clinical patient monitoring (e.g., assessing vital signs more frequently) and, when warranted, rapid transfer to acute care facilities.

The findings in this report are subject to at least four limitations. First, although asymptomatic health care personnel with SARS-CoV-2 infection are a likely source of transmission, health care personnel were not tested on the same day as were residents, and results of health care personnel testing

* https://www.ecfr.gov/cgi-bin/retrieveECFR?gp=&SID=83cd09e1c0f4c6937cd9d7413160fc3f&pitd=20180719&n=pt44.1.46&r=PART&ty=HTML.

TABLE. Initial and follow-up point prevalence survey test results for Detroit skilled nursing facility residents before the survey period, at the first survey, and at the second survey — Detroit, April–May 2020

Facility	Total tested, no.	Total positive, no. (%)	Hospitalized,* no. (%)	Died,* no. (%)	Pre-survey (March 7–April 7) Positive, no.	Pre-survey (March 7–April 7) Symptomatic, %	First survey (April 8–25) Tested,† no.	First survey (April 8–25) Positive, no. (%)	First survey (April 8–25) Symptomatic, %	Second survey (April 30–May 8) Tested,† no.	Second survey (April 30–May 8) Positive, no. (%)	Second survey (April 30–May 8) Symptomatic, %
All	**2,773**	**1,207 (44)**	**446 (37)**	**287 (24)**	**332**	**93**	**2,218**	**716 (32)**	**48**	**637**	**115 (18)**	**4**
A	185	91 (49)	35 (38)	20 (22)	31	97	122	39 (32)	38	80	19 (24)	5
B	166	87 (52)	37 (43)	23 (26)	32	97	108	35 (32)	60	75	19 (25)	11
C	137	61 (45)	15 (25)	6 (10)	2	100	115	46 (40)	18	68	12 (18)	0
D	118	24 (20)	18 (75)	11 (46)	16	100	87	6 (7)	83	64	2 (3)	50
E	137	75 (55)	40 (53)	24 (32)	27	100	102	29 (28)	61	59	18 (31)	0
F	97	51 (53)	11 (22)	10 (20)	14	100	76	23 (30)	22	54	13 (24)	8
G	98	31 (32)	5 (16)	3 (10)	3	100	76	20 (26)	100	51	8 (16)	0
H	175	105 (60)	31 (30)	23 (22)	22	95	139	77 (55)	47	48	5 (10)	0
I	100	52 (52)	19 (37)	14 (27)	16	88	66	29 (44)	36	48	5 (10)	0
J	121	68 (56)	18 (26)	14 (21)	26	92	80	35 (44)	41	42	7 (17)	0
K	61	26 (43)	10 (38)	6 (23)	3	100	55	19 (35)	100	29	3 (10)	0
L	51	26 (51)	8 (31)	2 (8)	7	71	37	15 (41)	20	19	4 (21)	0
M	161	34 (21)	20 (59)	14 (41)	10	90	151	24 (16)	47	—§	—	—
N	122	36 (30)	9 (25)	9 (25)	7	100	112	27 (24)	100	—	—	—
O	122	44 (36)	24 (55)	13 (30)	18	83	97	24 (25)	50	—	—	—
P	109	40 (37)	15 (38)	7 (18)	12	92	88	21 (24)	37	—	—	—
Q	106	67 (63)	16 (24)	12 (18)	15	67	85	38 (45)	73	—	—	—
R	100	29 (29)	14 (48)	12 (41)	13	92	86	16 (19)	44	—	—	—
S	87	32 (37)	16 (50)	11 (34)	16	93	66	15 (23)	36	—	—	—
T	85	14 (16)	8 (57)	3 (21)	8	Unknown	77	6 (8)	Unknown	—	—	—
U	83	55 (66)	18 (33)	12 (22)	14	86	66	38 (58)	89	—	—	—
V	79	48 (61)	24 (50)	15 (31)	5	100	73	41 (56)	72	—	—	—
W	80	36 (45)	7 (19)	6 (17)	2	50	77	34 (44)	26	—	—	—
X	75	26 (35)	13 (50)	4 (15)	4	100	68	19 (28)	42	—	—	—
Y	64	34 (53)	10 (29)	7 (21)	3	100	61	31 (51)	13	—	—	—
Z	54	15 (28)	5 (31)	6 (38)	6	100	48	9 (19)	50	—	—	—

* Hospitalizations with admission dates documented as 2 days before, through 21 days after, the specimen collection date for a positive SARS-CoV-2 test result were counted; deaths within 21 days of positive specimen collection date were counted. Missing dates were considered to be within 21 days of specimen collection.
† Total tsted refers to residents tested at any time through May 8, 2020. Tested refers to residents tested in each period who were not previously known to have SARS-CoV-2 infection.
§ Dashes indicate that facilities did not participate in the follow-up survey.

were not available for inclusion in this report. Second, the long testing interval might influence interpretation of results. The first point prevalence survey occurred approximately 1 month after SARS-CoV-2 introduction in most facilities; therefore, asymptomatic cases identified during the first survey might represent residents who recovered from illness but still had positive RT-PCR test results. Further, the 14-day interval between the two surveys might have resulted in less effective case identification than a shorter interval would have. Third, testing methods in the two surveys varied, as did test characteristics across different platforms and specimen sources (*6*). Finally, at the time of manuscript drafting, data for repeated point prevalence surveys were available for only 12 out of 26 facilities, which limited our ability to fully describe ongoing SARS-CoV-2 transmission among Detroit SNFs.

When repeated point prevalence surveys are implemented as part of COVID-19 response strategies in SNFs, testing results should inform prompt and specific actions, such as 1) using transmission-based precautions for resident care and

Summary

What is already known about this topic?

Symptom-based screening in skilled nursing facilities (SNFs) is inadequate to detect SARS-CoV-2 transmission. Repeated point prevalence surveys can identify asymptomatic cases during outbreaks.

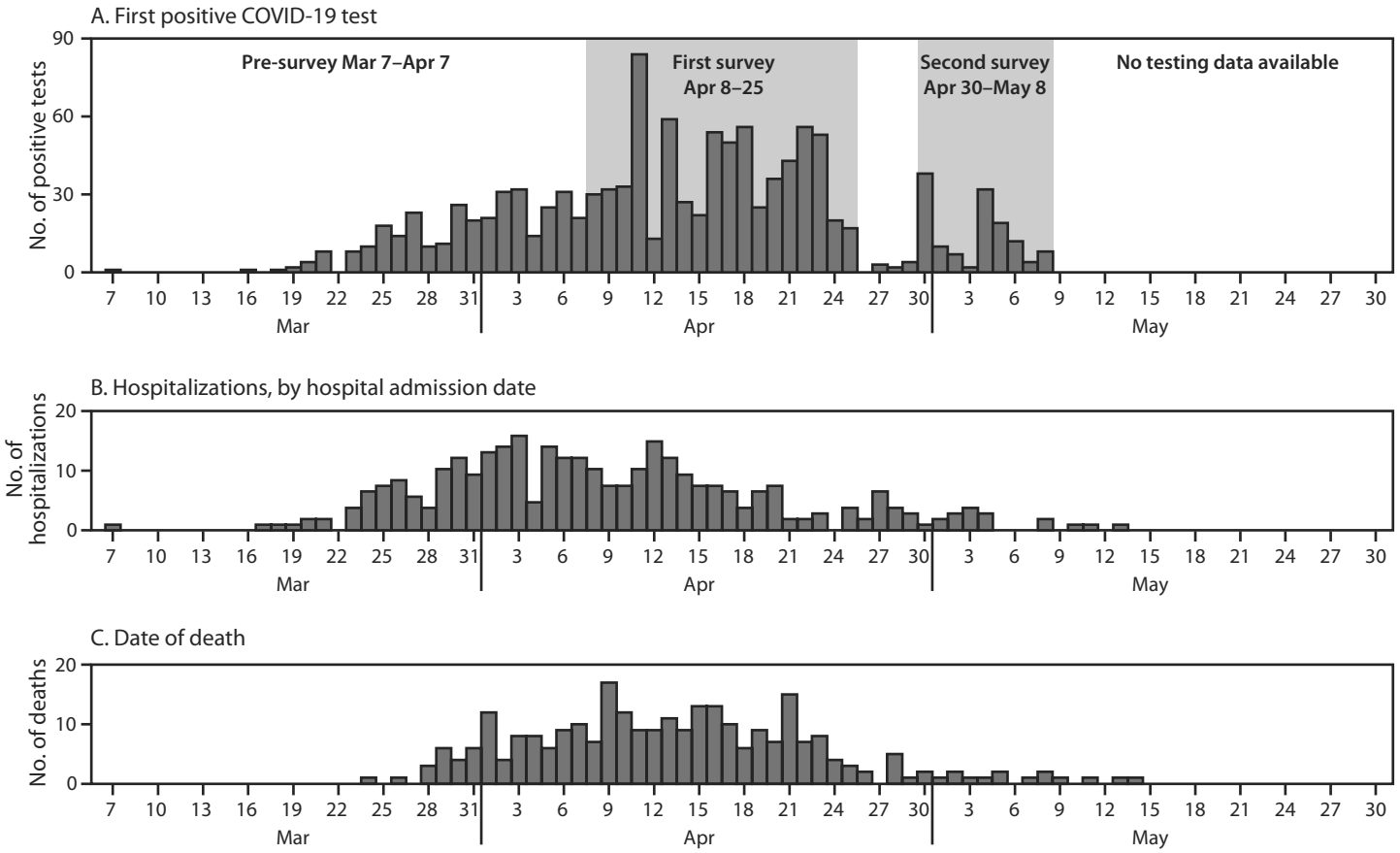
What is added by this report?

Repeated point prevalence surveys at 26 Detroit SNFs identified an attack rate of 44%; within 21 days of diagnosis, 37% of infected patients were hospitalized and 24% died. Among 12 facilities participating in a second survey and receiving on-site infection prevention and control (IPC) support, the percentage of newly identified cases decreased from 35% to 18%.

What are the implications for public health practice?

Repeated point prevalence surveys in SNFs can identify asymptomatic COVID-19 cases, inform cohorting and IPC practices, and guide prioritization of health department resources.

FIGURE. Skilled nursing facility residents with confirmed COVID-19 diagnosed by May 8, 2020, (A) by date of first positive SARS-CoV-2 test result (n = 1,190)*; (B) date of hospital admission (n = 331)†,§; and (C) date of death (n = 282)§,¶ — 26 facilities, Detroit, March 7–May 29, 2020**



Abbreviation: COVID-19 = coronavirus disease 2019.

* Seventeen dates of first positive test results are not known.

† Five residents had multiple admissions; 120 had unknown hospitalization dates.

§ Hospitalization and mortality data were current as of May 29, 2020. Hospitalizations with admission dates documented as 2 days before, through 21 days after the specimen collection date for a positive SARS-CoV-2 test were counted; deaths within 21 days of positive specimen collection date were counted.

¶ Five dates of death are not known.

** Data from all 26 facilities are displayed; only 12 facilities were tested during the second survey. COVID-19 testing data are not shown after May 8.

excluding health care personnel with positive test results from work; 2) strict cohorting of residents and health care personnel; 3) active clinical monitoring of confirmed COVID-19 cases; 4) managing safe transitions of care to and from outside facilities; and 5) discontinuing transmission-based precautions if a test-based strategy is used (*7*,*8*). In response to a confirmed case, CDC now recommends repeat testing (e.g., every 3–7 days) of all residents and health care personnel who previously had negative test results until testing identifies no new cases of COVID-19 among residents or health care personnel (*9*). Widescale testing activities should be integrated with intensified IPC support from local and state health departments.

Repeated point prevalence surveys coupled with IPC support might have reduced SARS-CoV-2 transmission in SNFs in Detroit and have the potential to improve outcomes among SNF residents. New cases continued to be identified during the second survey; however, reductions in 21-day hospitalization and mortality rates were observed throughout the implementation period. Future studies of COVID-19 in SNFs should further explore the impact of repeated point prevalence surveys on morbidity and mortality, the role of asymptomatic health care personnel in SARS-CoV-2 transmission, and the role of serologic testing in reopening SNFs following outbreaks. As the availability of SARS-CoV-2 testing increases, repeated point prevalence surveys and intensified IPC support from public health practitioners are essential components of COVID-19 IPC strategies in SNFs experiencing COVID-19 outbreaks.

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Exhibit 12

Intensive care management of coronavirus disease 2019 (COVID-19): challenges and recommendations

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For the Arabic translation of the abstract see Online for appendix 1

For the Chinese translation of the abstract see Online for appendix 2

For the Japanese translation of the abstract see Online for appendix 3

For the Korean translation of the abstract see Online for appendix 4

For the Nepali translation of the abstract see Online for appendix 5

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As coronavirus disease 2019 (COVID-19) spreads across the world, the intensive care unit (ICU) community must prepare for the challenges associated with this pandemic. Streamlining of workflows for rapid diagnosis and isolation, clinical management, and infection prevention will matter not only to patients with COVID-19, but also to health-care workers and other patients who are at risk from nosocomial transmission. Management of acute respiratory failure and haemodynamics is key. ICU practitioners, hospital administrators, governments, and policy makers must prepare for a substantial increase in critical care bed capacity, with a focus not just on infrastructure and supplies, but also on staff management. Critical care triage to allow the rationing of scarce ICU resources might be needed. Researchers must address unanswered questions, including the role of repurposed and experimental therapies. Collaboration at the local, regional, national, and international level offers the best chance of survival for the critically ill.

Introduction

Coronavirus disease 2019 (COVID-19) is the third coronavirus infection in two decades that was originally described in Asia, after severe acute respiratory syndrome (SARS) and Middle East respiratory syndrome (MERS).[1] As the COVID-19 pandemic spreads worldwide, intensive care unit (ICU) practitioners, hospital administrators, governments, policy makers, and researchers must prepare for a surge in critically ill patients. Many lessons can be learnt from the cumulative experience of Asian ICUs dealing with the COVID-19, SARS, and MERS outbreaks. In this Review, we draw on the experience of Asian ICU practitioners from a variety of settings—and available literature on the management of critically ill patients with COVID-19 and related conditions—to provide an overview of the challenges the ICU community faces and recommendations for navigating these complexities. These challenges and recommendations are summarised in tables 1 and 2.

Key messages

- Clinical features of coronavirus disease 2019 (COVID-19) are non-specific and do not easily distinguish it from other causes of severe community-acquired pneumonia
- As the pandemic worsens, intensive care unit (ICU) practitioners should increasingly have a high index of suspicion and a low threshold for diagnostic testing for COVID-19
- Many questions on clinical management remain unanswered, including the significance of myocardial dysfunction, and the role of non-invasive ventilation, high-flow nasal cannula, corticosteroids, and various repurposed and experimental therapies
- ICU practitioners, hospital administrators, governments, and policy makers must prepare early for a substantial increase in critical care capacity, or risk being overwhelmed by the pandemic
- Surge options include the addition of beds to a pre-existing ICU, provision of intensive care outside ICUs, and centralisation of intensive care in designated ICUs, while considering critical care triage and rationing of resources should surge efforts be insufficient
- Preparations must focus not just on infrastructure and supplies, but also on staff, including protection from nosocomial transmission and promotion of mental wellbeing

Epidemiology and clinical features of critically ill patients

The number of people diagnosed with COVID-19 worldwide crossed the one million mark on April 2, 2020; the case fatality rate across 204 countries and territories was 5·2%.[2] By comparison, the SARS epidemic infected 8096 people in 29 countries from November, 2002, to July, 2003, and had a case fatality rate of 9·6%,[3] whereas the MERS outbreak infected 2494 people in 27 countries from April, 2012, to November, 2019, and had a case fatality rate of 34·4%.[4] These fatality rates should be interpreted with caution, because they vary across regions, are higher in strained health-care systems, and do not account for undiagnosed patients with mild disease who do not contribute to the denominator.[5–7]

In a review by the WHO-China Joint Mission of 55 924 laboratory-confirmed cases in China, 6·1% were classified as critical (respiratory failure, shock, and multiple organ dysfunction or failure) and 13·8% as severe (dyspnoea, respiratory rate ≥30 breaths per min, oxygen saturation ≤93%, partial pressure of arterial oxygen to fraction of inspired oxygen [PaO_2/FiO_2] ratio <300 mm Hg, and increase in lung infiltrates >50% within 24–48 h).[8] Not all critical cases were admitted to the ICU. Indeed, ICU admissions are dependent on the severity of illness and the ICU capacity of the health-care system. In Italy, the country outside China with the most patients with COVID-19 until March 29, 2020, up to 12% of all positive cases required ICU admission.[9,10]

Critically ill patients with COVID-19 are older and have more comorbidities, including hypertension and

diabetes, than do non-critically ill patients.[11,12] The most common symptoms are non-specific: fever, cough, fatigue, and dyspnoea.[11–16] The median time from symptom onset to the development of pneumonia is approximately 5 days,[12,15] and the median time from symptom onset to severe hypoxaemia and ICU admission is approximately 7–12 days.[8,13,15,17,18] Most patients have bilateral opacities on chest radiograph and CT.[11–14,16] Common CT findings are ground glass opacities and consolidation.[19,20] Acute hypoxaemic respiratory failure—sometimes with severe hypercapnia—from acute respiratory distress syndrome (ARDS) is the most common complication (in 60–70% of patients admitted to the ICU), followed by shock (30%), myocardial dysfunction (20–30%), and acute kidney injury (10–30%).[11,13,15,16] Elderly patients might develop hypoxaemia without respiratory distress.[5] In one study, arrhythmia was noted in 44% of ICU patients.[11]

In a large report, 49% of all 2087 critically ill patients with COVID-19 in China died.[21,22] Small, single-ICU studies found mortality rates of 62% (in Wuhan, China) and 67% (in Washington State, USA), but these figures had not accounted for many who were still in the ICU.[15,16] Although 97% of patients on invasive mechanical ventilation died in a multicentre study conducted early in the Wuhan outbreak, mortality is affected by local practices, and larger studies are awaited.[23] The same study reported that 53% of deaths were related to respiratory failure, 7% to shock (presumably from fulminant myocarditis), 33% to both, and 7% to unclear mechanisms.[23] Mortality is associated with older age, comorbidities (including hypertension, diabetes, cardiovascular disease, chronic lung disease, and cancer), higher severity of illness scores, worse respiratory failure, higher d-dimer and C-reactive protein concentrations, lower lymphocyte counts, and secondary infections.[5,8,12,15,18,21–24] Although patients older than 60 years account for more than 80% of deaths, younger patients are not spared.[21,22] The median time from symptom onset to death is 2–8 weeks, whereas the median time from symptom onset to clinical recovery is 6–8 weeks.[8,18] Prediction of the trajectory of illness from symptom onset is difficult, and prognostic tools and biomarkers are urgently needed.[5]

	Recommendations
Epidemiology and clinical features	
Prediction of disease trajectory from the time of symptom onset is difficult	Support research to develop and validate prognostic tools and biomarkers
Diagnosis	
Clinical features are non-specific; risk of missing a case early in a local outbreak is substantial	Adopt a low threshold for diagnostic testing, where available
Sensitivity of RT-PCR assays for critically ill patients is unknown	Repeat the sampling if necessary, preferably from lower respiratory tract
RT-PCR assays might not be available in many ICUs; if available, assays will take time to complete	Maintain a high index of suspicion for COVID-19
Management of acute respiratory failure	
Benefits of NIV and HFNC, and associated risks of viral transmission through aerosolisation, are unclear	Reserve for mild ARDS, with airborne precautions, preferably in single rooms, and a low threshold for intubation
Intubation poses a risk of viral transmission to health-care workers	Perform intubation drills; the most skilled operator should intubate with full PPE and limited bag-mask ventilation
ECMO is extremely resource-intensive, even if centralised at designated centres	Balance the needs of a larger number of patients with less severe disease against the (unproven) benefit to a few
Other intensive care management	
Patients often develop myocardial dysfunction in addition to acute respiratory failure	Administer fluids cautiously for hypovolaemia, preferably with assessments for pre-load responsiveness; detect myocardial involvement early with troponin and beta-natriuretic peptide measurements and echocardiography
Bacterial and influenza pneumonia or co-infection are difficult to distinguish from COVID-19 alone	Consider empirical broad-spectrum antibiotics and neuraminidase inhibitors at presentation and subsequent rapid de-escalation
Benefits and risks of systemic corticosteroids are unclear	Avoid routine use until more evidence is available
Transfer out of the ICU for investigations such as CT scans poses risk of viral transmission	Minimise transfers by using alternatives such as point-of-care ultrasound
Viral shedding in the upper respiratory tract continues beyond 10 days after symptom onset in severe COVID-19	De-isolate patients only after clinical recovery and two negative RT-PCR assays performed 24 h apart
Repurposed and experimental therapies that are not supported by strong evidence are being used	Seek expert guidance from local or international societies and enrol patients in clinical studies where possible

ARDS=acute respiratory distress syndrome. COVID-19=coronavirus disease 2019. ECMO=extracorporeal membrane oxygenation. HFNC=high-flow nasal cannula. ICU=intensive care unit. NIV=non-invasive ventilation. PPE=personal protective equipment.

Table 1: **Challenges in clinical management**

Diagnosis

Figure 1 suggests an initial approach for ICU practitioners who are called to assess a patient with suspected COVID-19 infection. The non-specific clinical features do not easily distinguish severe COVID-19 from other causes of severe community-acquired pneumonia.[25] WHO suggests that COVID-19 be suspected in patients with acute respiratory illness and fever, plus travel to or residence in a location reporting community transmission, or contact with a confirmed or probable COVID-19 case in the 14 days before symptom onset; and in patients with severe acute respiratory illness who require hospitalisation without an alternative diagnosis that fully explains the clinical presentation.[26] Given the exponential rise in the number of areas with community transmission worldwide and the substantial risk of missing cases early in a local outbreak,[9] ICU practitioners should increasingly have a high index of suspicion and a low threshold for diagnostic testing for any patient with severe acute respiratory infection, where available.

Diagnosis is based on RT-PCR assays for severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). Patients with pneumonia might have falsely negative upper respiratory tract samples.[20] Although sampling from the lower respiratory tract is recommended by WHO, such as with sputum and endotracheal aspirates,[26] this procedures potentially generate aerosol and must be performed with strict airborne precautions.[8,27] Although the diagnostic yield of bronchoalveolar lavage for COVID-19 might be high,[28] bronchoscopy should generally be avoided to minimise exposure of health-care workers to

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	Recommendations
Infection prevention	
A global shortage of medical masks and respirators threatens efforts to prevent transmission	Consider reuse between patients and use beyond the manufacturer-designated shelf life
N95 respirators that do not fit facial contours might not provide the necessary protection	Conduct regular fit testing, preferably before outbreaks
Self-contamination often happens during removal of PPE	Train on both the donning and doffing of PPE
Viable virus on health-care workers' mobile phones and hospital equipment can cause nosocomial transmission	Conduct surface decontamination and consider wrapping mobile phones in disposable specimen bags
SARS-CoV-2 might be transmitted faecally	Practise immediate and proper disposal of soiled objects
ICU visits pose a risk of infection to visitors	Restrict or ban visits to minimise transmission; use video conferencing for communication between family members and patients or health-care workers
ICU infrastructure	
Airborne infection isolation rooms with negative pressure are not universally available, especially in resource-limited settings	Consider adequately ventilated single rooms without negative pressure or, if necessary, cohort cases in shared rooms with beds spaced apart
ICU capacity	
Surges in numbers of critically ill patients with COVID-19 can occur rapidly	Implement national and regional modelling of needs for intensive care
Low-income and middle-income countries have insufficient ICU beds in general, and even high-income countries will be put under strain in an outbreak like COVID-19	Consider whether increasing intensive care provision is an appropriate use of resources; if so, make plans for an increase in capacity, including providing intensive care in areas outside ICUs and centralising intensive care in designated ICUs
Increasing ICU capacity requires more equipment (eg, ventilators), consumables, and pharmaceuticals, which might be in short supply	Pay close attention to logistical support and the supply chain; reduce the inflow of patients who do not urgently require intensive care (eg, by postponing elective surgeries)
Ventilators are in short supply	Consider transport, operating theatre, and military ventilators
ICU staffing	
Increasing ICU bed numbers and workload without increasing staff could result in increased mortality	Make plans for augmentation of staff from other ICUs or non-ICU areas, and provision of appropriate training (eg, with standardised short courses)
Risk of loss of staff to illness, medical leave, or quarantine after unprotected exposure to COVID-19, with a potentially devastating effect on morale, is high	Minimise risk of infection; consider segregation of teams and physical distancing to limit unprotected exposure of multiple team members, and travel restrictions to limit exposure to COVID-19, which is now global
Staff are especially vulnerable to mental health problems such as depression and anxiety during outbreaks	Reassure staff through infection prevention measures, clear communication, limitation of shift hours, provision of rest areas, and mental health support
ICU triage	
ICUs can become overwhelmed as surge strategies might not be sufficient in an emerging pandemic like COVID-19	Consider implementing a triage policy that prioritises patients for intensive care and rations scarce resources
ICU research	
The traditional pace of research might not match the pace of the outbreak	Use and adapt pre-approved research plans and platforms
Studies are often single-centre and underpowered	Collaborate through international research networks and platforms
Rapid conduct and sharing of research might compromise scientific quality and ethical integrity	Cautiously analyse the study methodology when interpreting the literature

COVID-19=coronavirus disease 2019. ICU=intensive care unit. PPE=personal protective equipment.

Table 2: **Challenges in infection prevention, ICU infrastructure, capacity, staffing, triage, and research**

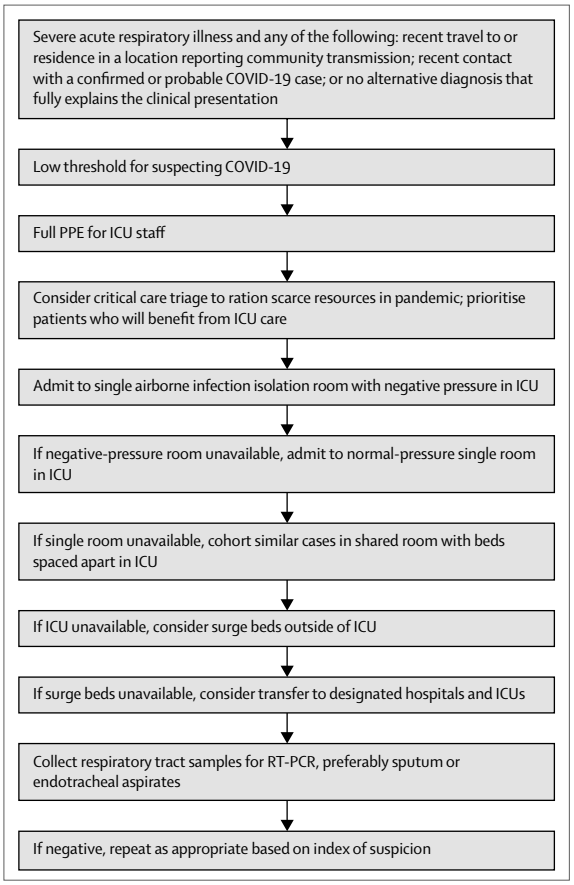

Figure 1: **Initial approach to critically ill patients with suspected COVID-19**
COVID-19=coronavirus disease 2019. ICU=intensive care unit. PPE=personal protective equipment.

SARS-CoV-2.[29,30] The sensitivity of RT-PCR assays for the critically ill is currently unknown. Repeated sampling might be required when initial tests are negative despite suspicious clinical features.[31] Importantly, RT-PCR assays might be unavailable in many ICUs, and where available still take time to run. Meanwhile, serological assays are being developed.[32]

Management of acute respiratory failure

Specific data on supportive ICU care for COVID-19 are lacking, and current recommendations are based on existing evidence from other viral respiratory infections and general intensive care management (figure 2).[33]

Reports suggest that non-invasive ventilation (NIV) and high-flow nasal cannula (HFNC) were used in between one-third and two-thirds of critically ill patients with COVID-19 in China.[11–13,15] Minimal data exist to confirm or refute safety concerns regarding the risk of aerosol generation by these devices. Epidemiological data suggest that NIV was associated with nosocomial transmission of SARS;[34] however, human laboratory data suggest that NIV does not generate aerosols.[35] Suggestions that HFNC might be safe are questionable: studies that might be taken to support the safety of HFNC were not designed to show whether or not HFNC is aerosol generating and did not examine the spread of viruses.[36,37] Moreover, although

NIV might reduce intubation and mortality in mild ARDS,[38] it is associated with higher mortality in moderate-to-severe ARDS from multiple causes,[39] and a high risk of failure in MERS.[40] Although weak evidence suggests that HFNC might reduce intubation rates without affecting mortality in unselected patients with acute hypoxaemic respiratory failure,[41] delayed intubation as a consequence of its use might increase mortality.[42] Thus, NIV and HFNC should be reserved for patients with mild ARDS until further data are available, with close monitoring, airborne precautions, and preferably use of single rooms. Thresholds for intubation in the event of deterioration and the absence of single rooms should be kept low.

Extrapolating from SARS, intubation of patients with COVID-19 also poses a risk of viral transmission to health-care workers, and intubation drills are crucial.[34,43] The most skilled operator available should perform the task with full personal protective equipment (PPE) and the necessary preparation for difficult airways. The number of assistants should be limited to reduce exposure. Bag-mask ventilation, which generates aerosols, should be minimised by prolonged pre-oxygenation; a viral filter can be placed between the exhalation valve and the mask.[43] Rapid sequence induction with muscle relaxants will reduce coughing. End-tidal carbon dioxide detection and observation of chest rise should be used to confirm endotracheal tube placement. The use of closed suctioning systems post-intubation will reduce aerosolisation.

A major focus of mechanical ventilation for COVID-19 is the avoidance of ventilator-induced lung injury while facilitating gas exchange via lung-protective ventilation.[44,45] Prone positioning should be applied early, given its association with reduced mortality in other causes of severe ARDS. Although outcome data on prone positioning in COVID-19 (used in 12% of patients in one ICU study from Wuhan[15]) are currently lacking, the tendency for SARS-CoV-2 to affect the peripheral and dorsal areas of the lungs provides the ideal conditions for a positive oxygenation response to prone positioning. Veno-venous extracorporeal membrane oxygenation (ECMO) is reserved for the most severe of ARDS patients in view of evidence that it might improve survival, including in MERS.[46–48] However, the decision to provide very advanced care for fewer patients should be balanced against the requirement to provide less advanced care for more patients.[49] Preliminary data for COVID-19 are not encouraging.[11,13,15,17] In one report, out of 28 patients who received ECMO, 14 died, nine were still on ECMO, and only five were successfully weaned.[5]

Other intensive care management

Patients with COVID-19 might have hypovolaemia due to anorexia, vomiting, and diarrhoea.[11–15] Nevertheless, fluids should be administered cautiously, and preferably with assessments for pre-load responsiveness such as the passive leg raise test, given the high incidence of myocardial dysfunction in COVID-19.[11,13,15,16,23] This incidence might be due to strong binding affinity of the SARS-CoV-2 spike protein to human angiotensin converting enzyme 2 (ACE2), a membrane-bound receptor crucial for host cell entry that is expressed in the heart and lungs, among other organs.[50,51] A conservative or de-resuscitative fluid strategy,[52] with early detection of myocardial involvement through the measurement of troponin and beta-natriuretic peptide concentrations and echocardiography,[53,54] and early use of vasopressors and inotropes are recommended (figure 2).

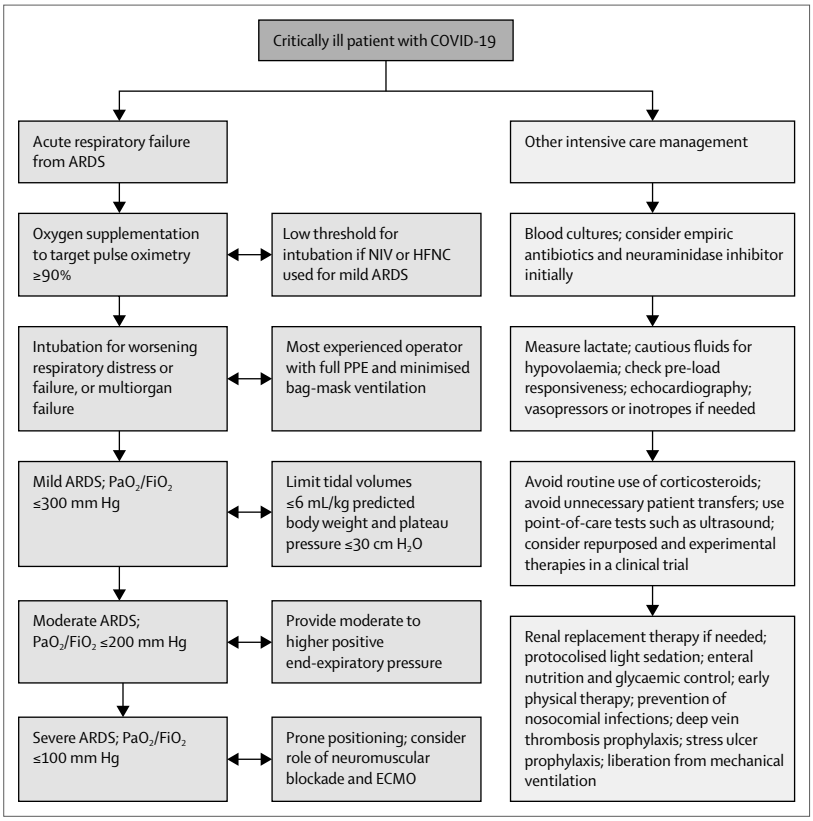

Figure 2: **Clinical management of critically ill patients with COVID-19**
ARDS=acute respiratory distress syndrome. COVID-19=coronavirus disease 2019. ECMO=extracorporeal membrane oxygenation. HFNC=high-flow nasal cannula. NIV=non-invasive ventilation. PaO_2/FiO_2=partial pressure of arterial oxygen to fraction of inspired oxygen. PPE=personal protective equipment.

Most patients with COVID-19 in China were given empirical broad-spectrum antibiotics and many, oseltamivir, because laboratory diagnosis of COVID-19 takes time, and distinguishing the disease from other bacterial and viral pneumonias is often difficult.[11–15] One study of 201 patients with COVID-19 found only one co-infection with a different virus and none with bacteria.[24] Another study of 92 patients found six co-infections by other common respiratory viruses,[55] and a third study of 115 patients found five co-infections with influenza.[56] Any empirical antibiotic and anti-influenza therapy should be rapidly de-escalated based on microbiology test results and clinical response.

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	Efficacy	Safety
Remdesivir (nucleotide analogue)		
Deemed to be the most promising candidate drug by experts convened in January, 2020, by WHO;[66] relevant studies include PALM, an RCT of remdesivir and different monoclonal antibodies in 681 patients with Ebola virus disease (primary outcome: death at 28 days);[67] study of remdesivir, lopinavir–ritonavir, and interferon beta in mice infected with MERS-CoV;[68] in-vitro studies of remdesivir on SARS-CoV-2, MERS-CoV, and SARS-CoV[69,70]	Not efficacious for Ebola virus disease compared with other investigational therapies;[67] superior activity compared with lopinavir–ritonavir in mice with MERS-CoV;[68] effectively inhibited SARS-CoV-2, MERS-CoV, and SARS-CoV in vitro[69,70]	No peer-reviewed, published safety data available for SARS-CoV-2; in the PALM trial, only 1 of 175 patients randomised to remdesivir had a potentially serious adverse event (hypotension during a loading dose followed by cardiac arrest, possibly due to remdesivir or to fulminant Ebola virus disease itself)[67]
Lopinavir–ritonavir (protease inhibitor)		
Second candidate identified for rapid implementation in clinical trials, alone or in combination with interferon beta, by WHO;[66] relevant studies include an RCT of lopinavir–ritonavir versus standard care in 199 hospitalised adults with SARS-CoV-2-associated pneumonia and hypoxaemia (primary outcome: time to clinical improvement);[71] MIRACLE, an ongoing RCT of lopinavir–ritonavir plus interferon beta versus placebo in patients with MERS-CoV infection (primary oucome: 90-day mortality);[72] case reports describing use of lopinavir–ritonavir plus interferon alfa in patients with MERS-CoV infection;[73] observational study of lopinavir–ritonavir in patients with SARS-CoV[74]	No significant difference in time to clinical improvement, reduction in viral load, or 28-day mortality with lopinavir–ritonavir compared with standard care in patients with severe COVID-19 (28-day mortality was numerically lower: 19·2% *vs* 25·0%), but median time to randomisation was 13 days after symptom onset, so effects of earlier treatment remain unknown;[71] efficacy unclear in case reports of patients with MERS-CoV;[73] associated with reduced viral load and mortality in an observational study of SARS-CoV[74]	Gastrointestinal side-effects, including diarrhoea, nausea, and vomiting[31,71]
Chloroquine (antimalarial)		
Studies ongoing in patients with COVID-19;[75] in vitro studies of chloroquine on SARS-CoV and SARS-CoV-2[76,77]	According to a news briefing,[75] chloroquine slowed the progression of pneumonia and accelerated SARS-CoV-2 clearance and recovery in >100 patients with COVID-19, but results have not been published in the peer-reviewed literature and caution is advised in interpreting these findings;[75] in-vitro antiviral effects reported for both SARS-CoV and SARS-CoV-2[76,77]	No peer-reviewed, published safety data available for SARS-CoV-2, but concerns include the possibility of QT prolongation[78]
Hydroxychloroquine (antimalarial)		
Open label, non-randomised trial in 36 patients with COVID-19 (endpoint: presence or absence of virus at 6 days);[79] in-vitro studies of hydroxychloroquine on SARS-CoV-2[80]	Reduced SARS-CoV-2 load in the nasopharynx of patients with COVID-19, especially when combined with azithromycin;[79] more potent than chloroquine in inhibiting SARS-CoV-2 in vitro[80]	No peer-reviewed, published safety data available for SARS-CoV-2, but concerns include the possibility of QT prolongation[78]
Intravenous immunoglobulin (immunotherapy)		
Phase 1 trial of human polyclonal immunoglobulin G (SAB-301) in healthy participants;[81] study of human polyclonal immunoglobulin G (SAB-300) in a mouse model of MERS-CoV[82]	SAB-301 found to be safe and well tolerated;[81] SAB-300 reduced viral lung titres near or below the limit of detection in mice infected with MERS-CoV[82]	No peer-reviewed, published safety data available for the various types of interferon (alfa and beta) for SARS-CoV-2, but generally well tolerated[81]
Convalescent plasma (immunotherapy)		
Meta-analysis of 27 studies of treatment in patients with SARS-CoV infection;[83] use has been protocolised for MERS-CoV;[84] uncontrolled case series of 5 patients with SARS-CoV-2[85]	Might reduce mortality in severe acute respiratory infections due to SARS-CoV and influenza;[83] associated with reduction in viral load and improvement in fever, oxygenation, and chest imaging in a case series, but study limited by small sample size, multiple possible confounders, and absence of controls[85]	No peer-reviewed, published safety data available for SARS-CoV-2, but studies of SARS-CoV have not reported serious adverse events[83]
Tocilizumab (monoclonal antibody against interleukin-6)		
Licensed for cytokine release syndrome; hypothesised to work against cytokine storm with raised ferritin and interleukin-6 levels due to SARS-CoV-2[57,86]	No peer-reviewed, published efficacy data available for SARS-CoV-2	No peer-reviewed, published safety data available for SARS-CoV-2
Favipiravir (RNA-dependent RNA polymerase inhibitor)		
Hypothesised to have an antiviral action on SARS-CoV-2 (RNA virus); multiple clinical studies underway for SARS-CoV-2[87]	No peer-reviewed, published efficacy data available for SARS-CoV-2; preliminary, unpublished trial data suggest a more potent antiviral action with favipiravir compared with lopinavir–ritonavir, but caution is advised in interpreting these results[87]	No peer-reviewed, published safety data available for SARS-CoV-2; preliminary, unpublished trial data suggest fewer adverse events with favipiravir compared with lopinavir–ritonavir, but caution is advised in interpreting these results[87]
XueBiJing and others		
Traditional Chinese medicines, such as XueBiJing, suggested as candidates to treat SARS-CoV-2 infection are being studied[88]	No peer-reviewed, published efficacy data available for SARS-CoV-2, but XueBiJing reported to reduce mortality in patients with severe community-acquired pneumonia with mixed aetiologies[89]	No peer-reviewed, published safety data available for SARS-CoV-2

COVID-19=coronavirus disease 2019. MERS-CoV=Middle East respiratory syndrome coronavirus. MIRACLE=MERS-CoV Infection Treated with a Combination of Lopinavir/Ritonavir and Interferon-β1b. PALM=Pamoja Tulinde Maisha. RCT=randomised controlled trial. SARS-CoV=severe acute respiratory syndrome coronavirus. SARS-CoV-2=severe acute respiratory syndrome coronavirus 2.

Table 3: **Evidence for the safety and potential benefits of repurposed and experimental therapies**

Chinese reports also show that systemic corticosteroids were administered to approximately half of patients with COVID-19 with severe or critical illness.[12–15,17] A retrospective study of 84 patients with ARDS associated with COVID-19 found lower mortality in those treated with methylprednisolone, but the findings are limited by the observational design of the study, small sample size, and possible confounders.[24] Because COVID-19 might be associated with a cytokine storm like that seen in other viral infections, immunosuppression has been proposed as an approach that might be beneficial for patients with signs of hyperinflammation, such as increasing ferritin concentrations.[57] Although the benefits of immunosuppression are unproven and the role of corticosteroids in COVID-19 remains unclear, a systematic review of observational studies of corticosteroids for SARS found no impact on mortality but possible harms, including avascular necrosis, psychosis, diabetes, and delayed viral clearance.[58] Similarly, an observational study found that corticosteroids for MERS did not affect mortality, but did delay viral clearance.[59] A systematic review of observational studies suggested that corticosteroids might increase mortality and secondary infections in influenza.[60] Until further data are available, the routine use of corticosteroids in viral severe acute respiratory infections, including COVID-19, is not recommended.[61]

Rapid liberation from invasive mechanical ventilation to reduce the incidence of ventilator-associated pneumonia and to create ICU capacity must be balanced against the risks of premature extubation (especially without facilitative post-extubation NIV and HFNC) and subsequent re-intubation (and the attendant risks of viral transmission to health-care workers). Transfer of patients out of the ICU for investigations such as CT scans risks spreading SARS-CoV-2 and can be minimised with alternatives such as point-of-care ultrasound.[62] The latter was prioritised by some Chinese ICUs, and evidence of varying degrees of an interstitial pattern and consolidation on lung ultrasonography now exists for patients with COVID-19.[63,64] Finally, the median ICU length of stay for COVID-19 was 8 days in a Chinese report;[18] however, larger studies are needed to better understand the course of COVID-19 after admission to the ICU. WHO recommends that de-isolation of patients requires clinical recovery and two negative RT-PCR assays performed 24 h apart.[61] Viral shedding in the upper respiratory tract continues beyond 10 days after symptom onset in severe COVID-19.[65] This fact has significant implications for the use of isolation facilities.

Repurposed and experimental therapies

No proven therapy for COVID-19 exists, but several candidates—some previously used against SARS-CoV and MERS-CoV—have been used empirically and are undergoing investigation.[61,66] Table 3 summarises the evidence for some of the more prominent therapies: remdesivir,[67–70] lopinavir–ritonavir,[71–74] chloroquine,[75–77] hydroxychloroquine,[79,80] intravenous immunoglobulin,[81,82] convalescent plasma,[83–85] tocilizumab,[57,86] favipiravir,[87] and traditional Chinese medicines.[88,89]

Admittedly, therapies for which efficacy is not supported by strong evidence—not in COVID-19, and not even in SARS and MERS—are being administered in the hope of improving outcomes, before or in parallel with clinical studies. This enthusiasm to try new therapies during outbreaks must be balanced against ethical and scientific safeguards. During the Ebola outbreak, WHO experts concluded that due to "exceptional circumstances", it was "ethically acceptable to offer unproven interventions that have shown promising results in the laboratory and in animal models but have not yet been evaluated for safety and efficacy in humans as potential treatment or prevention".[90] During the SARS outbreak, however, ribavirin was widely used, but was subsequently found to be at best ineffective and at worst harmful.[58] Although expert guidance can be sought from local or international societies, patients treated with experimental therapies should be enrolled in a clinical study when possible.

Infection prevention

COVID-19 is extremely transmissible, with every case seeding more than two secondary cases.[10,91] In the WHO-China Joint Mission report, 2055 health-care workers accounted for 3·7% of cases with laboratory-confirmed COVID-19 in China.[8] WHO recommends that PPE for health-care workers providing direct care to patients with COVID-19 should include medical masks, gowns, gloves, and eye protection with goggles or face shields.[92] For aerosol-generating procedures (tracheal intubation, NIV, tracheostomy, cardiopulmonary resuscitation, bag-mask ventilation, and bronchoscopy), masks should be N95 or FFP2-equivalent respirators, and gowns or aprons should be fluid resistant. Although some clinicians have suggested the additional use of powered air-purifying respirators (PAPRs)—given accounts of health-care workers acquiring SARS despite wearing N95 respirators, and available albeit limited evidence that PAPRs result in less contamination of health-care workers[43]—their use comes with significant logistical challenges.[93]

There are several pitfalls related to PPE. Close attention to the supply chain is needed given the global shortage of medical masks and respirators.[5,6,94] Reuse between patients and use beyond the manufacturer-designated shelf life might be required.[95] Fit testing—preferably done before outbreaks—is crucial and should be regularly performed as facial contours change with time.[96] Non-N95 reusable masks with high-efficiency particulate air (HEPA) filters that do not require fit testing might be considered.[96] Although health-care workers often focus on donning PPE, data suggest a substantial risk of self-contamination when doffing PPE.[97] Training on the specific steps of wearing and removing PPE, together with hand cleansing, is crucial, and references for these procedures are widely available.[98]

Building a safety culture and encouraging staff to point out protocol errors were useful to reduce nosocomial SARS transmission.[99]

Surface decontamination is also key to infection prevention. Viable SARS-CoV-2 persists on inanimate surfaces such as plastic and stainless steel for up to 72 h.[27] Because more than one-third of health-care workers' mobile phones might be contaminated with common viral pathogens,[100] these should be cleaned regularly or wrapped with specimen bags that are discarded after contact with patients or daily. Environmental contamination by SARS-CoV-2 was detected on furniture and equipment within a patient's room and toilet in Singapore.[101] During the MERS outbreak in South Korea, viable coronavirus was detected on doorknobs, bed guardrails, air exhaust dampers, and elevators.[102] Immediate and proper disposal of soiled objects is also warranted as SARS-CoV-2 might be transmitted faecally.[28,31,101]

Visits to the ICU should be restricted or banned to prevent further transmission, except perhaps for the imminently dying.[63,93] Where feasible, video conferencing via mobile phones or other interfaces can be used for communication between family members and patients or health-care workers.

ICU infrastructure

To protect other patients and health-care workers, critically ill patients with suspected or confirmed COVID-19 should ideally be admitted to an airborne infection isolation room (AIIR) that is at negative pressure relative to surrounding areas, with accessible sinks and alcohol hand gel dispensers (figure 1), especially if aerosol-generating procedures are done.[103] However, a survey of 335 ICUs across 20 Asian countries showed that only 12% of ICU rooms were AIIRs, and 37% of ICUs had no AIIRs. During the SARS outbreak in Singapore, negative pressure ventilation was created by mounting industrial exhaust fans.[93]

If AIIRs are unavailable, patients can be placed in adequately ventilated single rooms with the doors closed, as recommended by WHO.[104] In the same Asian survey, only 37% of ICU rooms were single rooms, and 13% of ICUs had no single rooms.[105] The number of single rooms and AIIRs was generally lowest in low-income countries.

Where single ICU rooms are unavailable, cohorting of cases in shared rooms with dedicated staff is an alternative, with beds spaced apart.[104] Although the current evidence points towards droplet rather than airborne transmission of COVID-19,[8] concerns of nosocomial transmission in shared rooms remain, especially when aerosol-generating procedures are performed. Thus, PPE should be considered for patients in shared rooms. Oxygen masks with HEPA filters might provide some protection for non-intubated patients.[106]

ICU capacity

Controlling the community spread of COVID-19 is difficult but possible,[107] and crucial for the preservation of ICU capacity. National and regional modelling of needs for intensive care is crucial.[9,10] Many countries might not have enough ICU beds in the first place, let alone isolation or single rooms. The median number of critical care beds per 100 000 population was 2·3 in ten low-income and lower-middle-income countries, 4·6 in five upper-middle-income countries, and 12·3 in eight high-income countries in Asia in one analysis,[108] and 9·6 in 28 high-income countries in Europe in a 2012 report.[109] China, an upper-middle-income country, has 3·6 critical care beds per 100 000 population,[108] and Wuhan was initially overwhelmed by COVID-19.[5,6,15] Italy, a high-income country with 12·5 critical care beds per 100 000 population,[109] continues to struggle with the outbreak.[9,10,110] By contrast, a low-income country such as Uganda has only 0·1 critical care bed per 100 000 population.[108,111] This raises serious concerns about the ability of resource-limited settings to manage critically ill patients with COVID-19.[112]

Most countries cannot match China's feat of rapidly building new hospitals and ICUs during the COVID-19 outbreak in Wuhan.[15] Surges in the number of critically ill patients with COVID-19 can occur rapidly. Thus, ICU practitioners, hospital administrators, governments, and policy makers must plan in advance for a substantial increase in critical care bed capacity.[9,10,113] Adding beds into a pre-existing ICU is a possibility, but space constraints and nosocomial transmission from crowding limit this option.[6] Other options include the provision of intensive care outside ICUs, such as in high-dependency units, remodelled general wards, post-anaesthesia care units, emergency departments, or deployable field units (figure 1).[6,113] Another option is the transfer of patients to designated hospitals and ICUs. Although the centralisation of expertise and resources might improve outcomes and efficiency, these benefits must be weighed against the risks of inter-hospital transfer.[6,9] The sustainability of depending on a few centres, or scarcity thereof, even as the outbreak worsens must be considered.

A substantial increase in ICU capacity involves increases not only in bed numbers, but also in equipment (eg, ventilators), consumables, pharmaceuticals, and staffing.[6,10,93,113] Although focusing on bed numbers without ensuring the availability of necessary equipment is unsafe, such equipment might be in short supply. Use of transport, operating theatre, and military ventilators might be required. To reduce strain on ICUs, elective surgeries should be postponed, and lower-acuity patients discharged to other areas, including designated de-escalation wards for recovering ICU patients with COVID-19 who might still require isolation.

ICU staffing

High ICU workload-to-staffing ratios are associated with an increase in patient mortality.[114] Augmentation of staff with colleagues from other ICUs or even non-ICU areas might be required.[6] Training of these external staff on

general intensive care management and specific COVID-19 protocols is crucial.[6,93,113] Standardised short courses exist,[115] such as the BASIC course, which incorporates a mobile app for access to course material while caring for patients. Incredibly, more than 40 000 health-care workers were deployed from other parts of China to Wuhan.[8] However, as the pandemic spreads, support from other sectors of a hospital or a country might increasingly be scarce as every area starts to become overwhelmed.

Staffing of ICUs must take into account the risk that health-care workers might become infected with SARS-CoV-2.[6,93] Minimising the risk of infection is essential, not only because of the direct loss of manpower but because of the potentially devastating effect of staff infection on morale, which might result in absenteeism. Where possible, rostering of staff should consider segregation of teams to limit unprotected exposure of all team members to infected patients or colleagues, and the resultant loss of staff to illness, medical leave, or quarantine.[116] Physical distancing of staff, including having meals separately, is important. Travel restrictions to limit exposure to COVID-19 are being implemented and should be considered worldwide.[117]

Health-care workers in ICUs are especially vulnerable to mental health problems, including depression and anxiety, during outbreaks like COVID-19, because of the constant fear of being infected and the demanding workload.[118] Staff who worked in high-risk SARS units continued to suffer from post-traumatic stress disorder years later.[119] Measures to prevent such problems include a focus on infection prevention to reassure staff, clear communication from hospital and ICU leadership, limitation of shift hours and provision of rest areas where feasible, and mental health support through multidisciplinary teams, including psychiatrists, psychologists, and counsellors.[117,118]

ICU triage

Should ICUs become overwhelmed by COVID-19 despite surge strategies,[5,6,9,10,15] critical care triage that prioritises patients for intensive care and rations scarce resources will be required (figure 1).[110,120] This applies to patients with and without COVID-19, because both groups will be competing for the same ICU resources. Critical care triage is ethically complex and can be emotionally draining. It should ideally be coordinated at a regional or national health-care systems level, and some countries have now provided guidelines for COVID-19.[121,122] A triage policy implemented by clinicians trained in triage or senior ICU practitioners, complemented by clinical decision support systems, might identify patients with such a low probability of survival that they are unlikely to benefit from ICU care.[120] Although generic physiological outcome prediction scores might not accurately predict the course of illness,[5] older adults with comorbidities, higher d-dimer and C-reactive protein concentrations, and lower lymphocyte counts do worse.[5,8,12,15,18,21–24] Rationing of resources also involves the withholding and withdrawal of life-sustaining treatments for existing ICU patients. To this end, it is noteworthy that a quarter of patients who died early in the Wuhan outbreak did not receive invasive ventilation.[5]

For more on the **BASIC course** see https://www.aic.cuhk.edu.hk/basic/country.php

Research questions and methodology

A search of WHO's International Clinical Trials Registry Platform on March 31, 2020, revealed 667 registered trials on COVID-19. Although many are trials of repurposed or experimental therapeutic agents, other more basic questions that are equally crucial should be addressed through research. Some of these questions have been listed as potential challenges in tables 1 and 2. The short-term and long-term prognoses of critically ill patients have to be clarified. Data on the effectiveness of NIV and HFNC, and the associated risk of viral transmission, remain scarce.[34–37] The risk of nosocomial transmission in shared ICU rooms should be studied. More data on cardiac involvement and myocardial dysfunction are needed.[11,13,15,16,23] The role of ECMO is unclear.[49] The indications for corticosteroids should be crystallised, while considering interactions between different therapies.[61] For example, although limited by confounding from differences in baseline severities, a post-hoc analysis of a non-COVID-19 ARDS trial suggested that beta-interferon use was associated with higher mortality compared with placebo in patients receiving corticosteroids, but not in those who were not on corticosteroids.[123]

For **WHO's International Clinical Trials Registry Platform** see https://www.who.int/ictrp/en/

Multiple challenges to research exist during pandemics. First, the surge of disease often outpaces the traditional steps for research, including protocol design, securing of funding, and ethics approval, all amidst busy clinical work. Pre-approved adaptable plans drawn prior to an outbreak are useful. For example, several interventions against SARS-CoV-2 are being incorporated into the Randomized, Embedded, Multi-factorial Adaptive Platform Trial for Community-Acquired Pneumonia (REMAP-CAP), a pre-approved platform trial for severe community-acquired pneumonia.

For more on the **REMAP-CAP** see https://www.remapcap.org/

Second, many ongoing studies of COVID-19 are single-centre and underpowered to detect significant differences in meaningful outcomes between arms. To this end, pandemics provide a great opportunity for collaboration. Platforms such as the International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC) and the International Forum for Acute Care Trialists (InFACT)—formed during the 2009 H1N1 pandemic—enable large research networks to share common goals and standardise data collection globally.[124] WHO has also produced a master protocol for trials on experimental therapeutics for COVID-19.[125] Last, the pace of research and data sharing must be balanced with scientific quality and ethical integrity. China's rapid sharing of the SARS-CoV-2 genetic code had an

For more on the **ISARIC** see https://isaric.tghn.org/

For more on the **InFACT** see https://www.infactglobal.org/

Search strategy and selection criteria

We identified the references for this Review through searches of PubMed for articles published between Jan 1, 1950, and March 22, 2020, using combinations of the terms "coronavirus", "COVID-19", "SARS-CoV-2", "nCoV", "severe acute respiratory syndrome", "SARS", "Middle East respiratory syndrome", "MERS", "outbreak", "epidemic", "pandemic", "acute respiratory distress syndrome", and "intensive care". We reviewed guidelines for the management of COVID-19 published by WHO and the US Centers for Disease Control and Prevention. We added articles through searches of the authors' personal files. We also reviewed relevant references cited in retrieved articles. Articles published in English and Chinese were included. The final reference list was generated on the basis of relevance to the topics covered in this Review, with the aim of highlighting the multiple challenges the intensive care community might face in the management of COVID-19, and providing recommendations for navigating these complexities.

immediate impact on case identification, isolation, and the spread of the virus.[126] The COVID-19 pandemic also saw a ballooning of the number of preprints (manuscripts openly posted online before peer review). During the Ebola and Zika outbreaks, the median time between preprints and peer-reviewed publication was 150 days.[127] Although preprints rapidly provide new knowledge, ICU practitioners should be aware of the potential compromise in data quality when the conventional peer-review process is bypassed. A systematic review also found that only 50% of Ebola intervention studies fully complied with frameworks for ethical trial conduct.[128]

Conclusion

As countries ramp up efforts to prevent or delay the spread of COVID-19, the world must prepare for the possibility that containment and mitigation measures might fail. Even if SARS-CoV-2 infects a small proportion of the 7·8 billion people on Earth, many thousands will still become critically ill and require ICU care. The ICU community must brace itself for this potentially overwhelming surge of patients and optimise workflows, in advance, for rapid diagnosis and isolation, clinical management, and infection prevention. Hospital administrators, governments, and policy makers must work with ICU practitioners to prepare for a substantial increase in critical care bed capacity. They must protect health-care workers from nosocomial transmission, physical exhaustion, and mental health issues that might be aggravated by the need to make ethically difficult decisions on the rationing of intensive care. Researchers must address key questions about what remains a poorly understood disease. Collaboration at the local, regional, national, and international level—with a focus on high-quality research, evidence-based practice, sharing of data and resources, and ethical integrity in the face of unprecedented challenges—will be key to the success of these efforts.

Contributors

All authors did the literature search and drafted sections of the manuscript. JP combined and edited the drafts, prepared the figures, and supervised the manuscript. All authors subsequently revised the manuscript.

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This Review was not funded by any organisation. JVD reports personal fees from Edwards India, outside the submitted work. YMA reports that he is principal investigator on a clinical trial of lopinavir–ritonavir and interferon for Middle East respiratory syndrome (MERS) and that he was a non-paid consultant on therapeutics for MERS-coronavirus (CoV) for Gilead Sciences and SAB Biotherapeutics. He is a co-investigator on the Randomized, Embedded, Multi-factorial Adaptive Platform Trial for Community-Acquired Pneumonia (REMAP-CAP) and a board member of the International Severe Acute Respiratory and Emerging Infection Consortium (ISARIC). CDG reports that he is chairman of the BASIC Collaboration steering committee. BASIC Collaboration has received unrestricted educational funding from manufacturers of mechanical ventilators (Gettinge, Drager, Hamilton) and high-flow nasal oxygen devices (Fischer & Paykel). MN reports personal fees from Nihon Kohden, personal fees from Getinge Group Japan, and personal fees from Total Medical Supply, outside the submitted work. All other authors declare no competing interests.

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Exhibit 13

The NEW ENGLAND JOURNAL of MEDICINE

CLINICAL PRACTICE

Caren G. Solomon, M.D., M.P.H., *Editor*

Severe Covid-19

David A. Berlin, M.D., Roy M. Gulick, M.D., M.P.H., and Fernando J. Martinez, M.D.

This Journal *feature begins with a case vignette highlighting a common clinical problem. Evidence supporting various strategies is then presented, followed by a review of formal guidelines, when they exist. The article ends with the authors' clinical recommendations.*

A 50-year-old, previously healthy man presents to the emergency department with 2 days of worsening dyspnea. He had fever, cough, and fatigue during the week before presentation. He appears acutely ill. The body temperature is 39.5°C (103°F), heart rate 110 beats per minute, respiratory rate 24 breaths per minute, and blood pressure 130/60 mm Hg. The oxygen saturation is 87% while the patient is breathing ambient air. The white-cell count is 7300 per microliter with lymphopenia. Chest radiography shows patchy bilateral opacities in the lung parenchyma. A reverse-transcriptase–polymerase-chain-reaction assay detects the presence of severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2) RNA in a nasopharyngeal swab. How would you evaluate and manage this case?

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THE CLINICAL PROBLEM

The most common initial symptoms of coronavirus disease 2019 (Covid-19) are fever, cough, fatigue, anorexia, myalgias, and diarrhea.[1] Severe illness usually begins approximately 1 week after the onset of symptoms. Dyspnea is the most common symptom of severe disease and is often accompanied by hypoxemia[2,3] (Fig. 1). A striking feature of Covid-19 is the rapid progression of respiratory failure soon after the onset of dyspnea and hypoxemia. Patients with severe Covid-19 commonly meet the criteria for the acute respiratory distress syndrome (ARDS), which is defined as the acute onset of bilateral infiltrates, severe hypoxemia, and lung edema that is not fully explained by cardiac failure or fluid overload.[4] The majority of patients with severe Covid-19 have lymphopenia,[5] and some have disorders of the central or peripheral nervous system.[6] Severe Covid-19 may also lead to acute cardiac, kidney, and liver injury, in addition to cardiac arrhythmias, rhabdomyolysis, coagulopathy, and shock.[7-9] These organ failures may be associated with a cytokine release syndrome characterized by high fevers, thrombocytopenia, hyperferritinemia, and elevation of other inflammatory markers.[10]

The diagnosis of Covid-19 can be established on the basis of a suggestive clinical history and the detection of SARS-CoV-2 RNA in respiratory secretions. Chest radiography should be performed and commonly shows bilateral consolidations or ground-glass opacities[11] (Fig. 2).

For epidemiologic purposes, severe Covid-19 in adults is defined as dyspnea, a respiratory rate of 30 or more breaths per minute, a blood oxygen saturation of 93%

KEY CLINICAL POINTS

EVALUATION AND MANAGEMENT OF SEVERE COVID-19

- Patients with severe coronavirus disease 2019 (Covid-19) may become critically ill with acute respiratory distress syndrome that typically begins approximately 1 week after the onset of symptoms.
- Deciding when a patient with severe Covid-19 should receive endotracheal intubation is an essential component of care.
- After intubation, patients should receive lung-protective ventilation with plateau pressure less than or equal to 30 cm of water and with tidal volumes based on the patient's height.
- Prone positioning is a potential treatment strategy for refractory hypoxemia.
- Thrombosis and renal failure are well-recognized complications of severe Covid-19.
- Data are needed from randomized trials to inform the benefits and risks of antiviral or immunomodulatory therapies for severe Covid-19; as of mid-May 2020, no agents had been approved by the Food and Drug Administration for treatment of these patients.
- Preliminary data from a randomized, placebo-controlled trial involving patients with severe Covid-19 suggest that the investigational antiviral remdesivir shortens time to recovery.

or less, a ratio of the partial pressure of arterial oxygen to the fraction of inspired oxygen (Pao_2:Fio_2) of less than 300 mm Hg, or infiltrates in more than 50% of the lung field within 24 to 48 hours from the onset of symptoms.[12] In a large cohort of patients with Covid-19, 81% had mild disease, 14% had severe disease, and 5% became critically ill with organ failure; the mortality in the critically ill group was 49%.[12] The majority of critically ill patients with Covid-19 receive prolonged mechanical ventilation.[8]

People with chronic health conditions such as cardiovascular disease, diabetes mellitus, and obesity are more likely to become critically ill from Covid-19. The incidence of critical illness is also higher among men than among women and higher among persons older than 65 years of age than among younger persons.[13-15] However, healthy persons of any age can become critically ill with Covid-19.[13] A hallmark of the Covid-19 pandemic is the sudden appearance of an unprecedented number of critically ill patients in a small geographic area.[12,14] This can overwhelm local health care resources, resulting in shortages of trained staff, ventilators, renal-replacement therapy, and intensive care unit beds.

STRATEGIES

INITIAL STEPS

Patients with severe Covid-19 should be hospitalized for careful monitoring. Given the high risk of nosocomial spread,[3] strict infection-control procedures are needed at all times. If able, the patient should wear a surgical mask to limit the dispersion of infectious droplets.[16] Clinicians should don appropriate personal protective equipment (PPE) as defined by their local infection-prevention program, using particular caution when performing procedures that may increase the generation of infectious aerosols. These include endotracheal intubation, extubation, bronchoscopy, airway suctioning, nebulization of medication, the use of high-flow nasal cannulae, noninvasive ventilation, and manual ventilation with a bag-mask device.[17] Current guidelines recommend that clinicians wear gowns, gloves, N95 masks, and eye protection at the least and place patients in negative-pressure rooms whenever possible during aerosol-generating procedures.[18]

Patients with severe Covid-19 have a substantial risk of prolonged critical illness and death. Therefore, at the earliest opportunity, clinicians should partner with patients by reviewing advanced directives, identifying surrogate medical decision makers, and establishing appropriate goals of care. Because infection-control measures during the pandemic may prevent families from visiting seriously ill patients, care teams should develop plans to communicate with patients' families and surrogate decision makers.

BASICS OF RESPIRATORY CARE

Patients should be monitored carefully by direct observation and pulse oximetry. Oxygen should be supplemented by the use of a nasal cannula or Venturi mask to keep the oxygen saturation of hemoglobin between 90 and 96%.[18] Deciding whether or not to intubate is a critical aspect of caring for seriously ill patients with Covid-19. Clinicians must weigh the risks of premature intubation against the risk of sudden respiratory

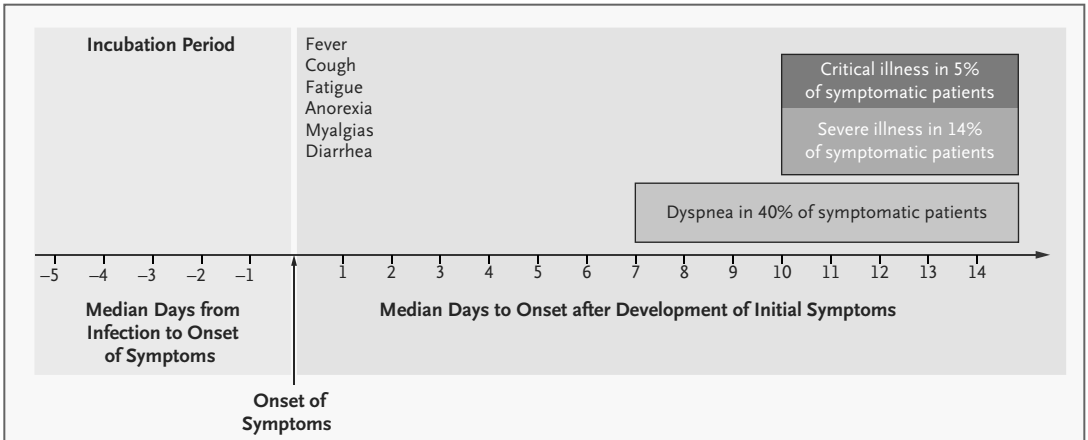

Figure 1. Timeline of Symptoms of Severe Coronavirus Disease 2019 (Covid-19).

The left border of the colored boxes shows the median time to onset of symptoms and complications. There is wide variation in the duration of symptoms and complications. Adapted from Zhou et al.[2] and the Centers for Disease Control and Prevention.[1]

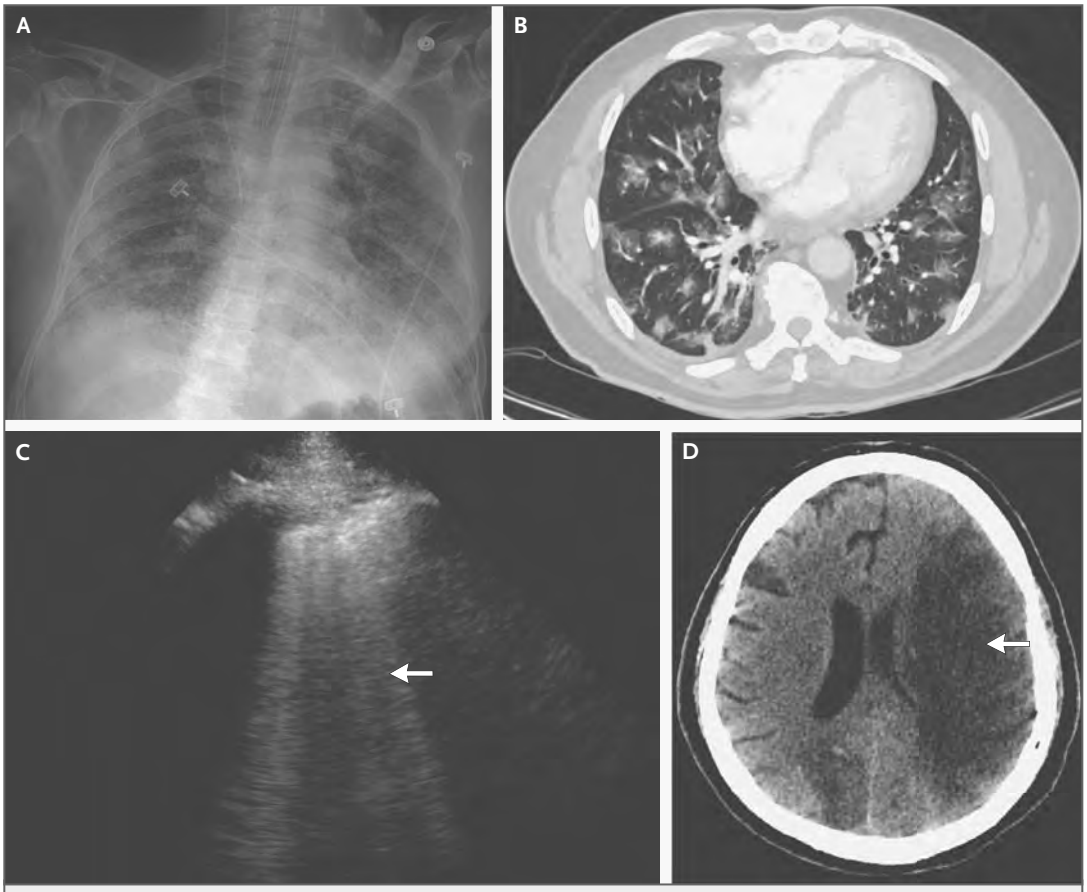

Figure 2. Radiographic and Ultrasonographic Findings of Severe Covid-19.

Chest radiography (Panel A) shows bilateral ground-glass opacities and consolidations. Computed tomography (CT) of the chest (Panel B) shows bilateral ground-glass opacities. Thoracic ultrasonography (Panel C) shows B lines (arrow); this image is courtesy of Dr. Christopher Parkhurst. CT of the head (Panel D) shows left-greater-than-right cerebral infarcts (arrow).

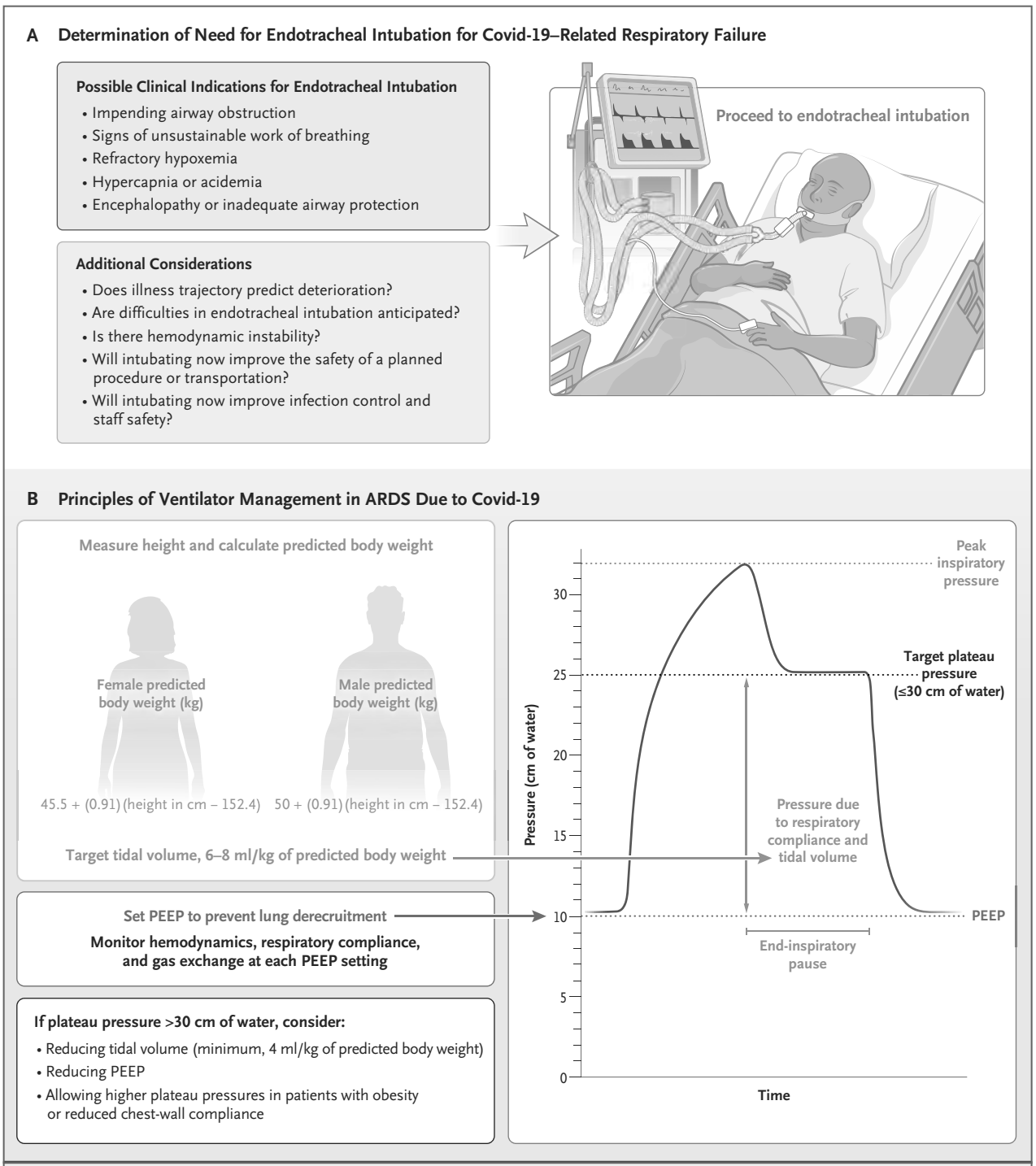

Figure 3. Invasive Mechanical Ventilation for Covid-19–Related Respiratory Failure.

As shown in Panel A, a life-threatening problem in the purple box or a combination of less severe problems in the purple and tan boxes determines the need for endotracheal intubation. In Panel B, "lung derecruitment" refers to the collapse of alveoli. All pressures are measured in the ventilator circuit and referenced to atmospheric pressure. ARDS denotes acute respiratory distress syndrome, and PEEP positive end-expiratory pressure.

arrest with a chaotic emergency intubation, which exposes staff to a greater risk of infection. Signs of excessive effort in breathing, hypoxemia that is refractory to oxygen supplementation, and encephalopathy herald impending respiratory arrest and the need for urgent endotracheal intubation and mechanical ventilation. There is no single number or algorithm that determines the need for intubation, and clinicians must consider a variety of factors (Fig. 3A).

If the patient does not undergo intubation but remains hypoxemic, a high-flow nasal cannula can improve oxygenation and may prevent intubation in selected patients.[18,19] The use of noninvasive positive-pressure ventilation should probably be restricted to patients with Covid-19 who have respiratory insufficiency due to chronic obstructive pulmonary disease, cardiogenic pulmonary edema, or obstructive sleep apnea rather than ARDS. However, some experts discourage the use of high-flow nasal cannulae and noninvasive ventilation because these treatments may inappropriately delay recognition of the need for endotracheal intubation and expose clinicians to infectious aerosols.[20,21]

Having awake patients turn to the prone position while they breathe high concentrations of supplemental oxygen may improve gas exchange in patients with severe Covid-19. This approach is supported by a case series describing its use in nonintubated patients with ARDS unrelated to Covid-19.[22,23] However, whether prone positioning can prevent intubation in patients with severe Covid-19 is unclear. Because it is difficult to provide rescue ventilation to patients who are prone, this position should be avoided in patients whose condition is rapidly deteriorating.

ENDOTRACHEAL INTUBATION

The most skilled available operator should perform endotracheal intubation in patients with Covid-19. The use of unfamiliar PPE, the risk of infection to staff, and the presence of severe hypoxemia in patients all increase the difficulty of intubation. If possible, intubation should be performed after preoxygenation and rapid-sequence induction of sedation and neuromuscular blockade. An antiviral filter should be placed in line with the airway circuit at all times. Video laryngoscopy may allow the operator to have a good view of the airway from a greater distance.[24] However, operators should choose the technique that is most likely to be successful on the first attempt. Continuous-wave capnography is the best method to confirm tracheal intubation.[24] Patients with Covid-19 often become hypotensive soon after intubation owing to positive-pressure ventilation and systemic vasodilation from sedatives.[24] Therefore, intravenous fluids and vasopressors should be immediately available at the time of intubation, and careful hemodynamic monitoring is essential.[24]

VENTILATOR MANAGEMENT

It is unclear whether Covid-19 is associated with a distinct form of ARDS that would benefit from a new strategy of mechanical ventilation.[25] However, available data suggest that respiratory-system compliance in patients with severe Covid-19 is similar to that in populations enrolled in previous therapeutic trials for ARDS.[8,26] Therefore, present guidelines recommend that clinicians follow the treatment paradigm developed during the past two decades for ARDS (Fig. 3B).[18,19] This strategy aims to prevent ventilator-induced lung injury by avoiding alveolar overdistention, hyperoxia, and cyclical alveolar collapse.

To prevent alveolar overdistention, clinicians should limit both the tidal volume delivered by the ventilator and the maximum pressure in the alveoli at the end of inspiration. To do this, clinicians should set the ventilator to deliver a tidal volume of 6 ml per kilogram of predicted body weight; this approach is termed "lung-protective ventilation." A tidal volume up to 8 ml per kilogram of predicted body weight is allowed if the patient becomes distressed and attempts to take larger tidal volumes. A few times each day, clinicians should initiate a half-second end-inspiratory pause, which allows the pressure in the airway circuit to equilibrate between the patient and the ventilator. The pressure in the airway circuit at the end of the pause — "the plateau pressure" — approximates the alveolar pressure (relative to atmospheric pressure). To prevent alveolar overdistention, the plateau pressure should not exceed 30 cm of water.[19,27] A higher plateau pressure without the development of ventilator-induced lung injury may be possible in patients with central obesity or noncompliant chest walls.

For patients with Covid-19–related ARDS, setting sufficient positive end-expiratory pressure (PEEP) on the ventilator may prevent alveolar collapse and facilitate the recruitment of unstable lung regions. As a result, PEEP can improve respiratory-system compliance and allow for a reduction in the F_{IO_2}. However, PEEP can reduce venous return to the heart and cause hemodynamic instability. Moreover, excessive PEEP can lead to alveolar overdistention and reduce respiratory-system compliance. No particular method of determining the appropriate level of PEEP has been shown to be superior to other methods.[18]

Sedatives and analgesics should be targeted to prevent pain, distress, and dyspnea. They can also be used to blunt the patient's respiratory drive, which improves patient synchrony with mechanical ventilation. Sedation is especially important in febrile patients with high metabolic rates who are treated with lung-protective ventilation. Neuromuscular blocking agents can be used in deeply sedated patients who continue to use their accessory muscles of ventilation and have refractory hypoxemia.[18] These agents can reduce the work of breathing, which reduces oxygen consumption and carbon dioxide production.[28] Moreover, sedatives and neuromuscular blocking agents may help reduce the risk of lung injury that may occur when patients generate strong spontaneous respiratory efforts.

REFRACTORY HYPOXEMIA

Clinicians should consider prone positioning during mechanical ventilation in patients with refractory hypoxemia (P_{AO_2}:F_{IO_2} of <150 mm Hg during respiration and F_{IO_2} of 0.6 despite appropriate PEEP). In randomized trials involving intubated patients with ARDS (not associated with Covid-19), placing the patient in the prone position for 16 hours per day has improved oxygenation and reduced mortality.[18,29] However, prone positioning of patients requires a team of at least three trained clinicians, all of whom require full PPE.[18] Inhaled pulmonary vasodilators (e.g., inhaled nitric oxide) can also improve oxygenation in refractory respiratory failure, although they do not improve survival in ARDS not associated with Covid-19.[18] Extracorporeal membrane oxygenation (ECMO) is a potential rescue strategy in patients with refractory respiratory failure. However, ECMO may not be effective owing to the cytokine storm and hypercoagulability of Covid-19, and its use will probably be limited as the pandemic strains resources.[30,31]

SUPPORTIVE CARE

Patients with Covid-19 often present with volume depletion and receive isotonic-fluid resuscitation. Volume repletion helps maintain blood pressure and cardiac output during intubation and positive-pressure ventilation. After the first few days of mechanical ventilation, the goal should be to avoid hypervolemia.[32] Fever and tachypnea in patients with severe Covid-19 often increase insensible water loss, and careful attention must be paid to water balance. If the patient is hypotensive, the dose of vasopressor can be adjusted to maintain a mean arterial pressure of 60 to 65 mm Hg.[18] Norepinephrine is the preferred vasopressor. The presence of unexplained hemodynamic instability should prompt consideration of myocardial ischemia, myocarditis, or pulmonary embolism.

In case series, approximately 5% of patients with severe Covid-19 have received renal-replacement therapy[15,33]; the pathophysiology of the renal failure is currently unclear but is probably multifactorial. Because blood clotting in the circuit is common in patients with severe Covid-19, the efficacy of continuous renal-replacement therapy is uncertain.[34]

Abnormalities of the clotting cascade, such as thrombocytopenia and elevation of D-dimer levels, are common in patients with severe Covid-19 and are associated with increased mortality.[3,35,36] Prophylactic low-dose heparin should be used to reduce the risk of venous thrombosis.[37] However, in one series of critically ill patients with Covid-19, one third had clinically significant venous or arterial thrombosis despite thromboprophylaxis.[38] Life-threatening thrombosis has also occurred despite full-dose anticoagulation with heparins.[34] The benefits and risks of more intense anticoagulation or of using direct thrombin inhibitors in patients with severe Covid-19 are unknown.

Patients hospitalized with severe Covid-19 are often treated empirically with antibiotics.[3,9] However, bacterial coinfection is rare when patients first present to the hospital.[8,39,40] Antibiotics can be discontinued after a short course if signs of bacterial coinfection, such as leukocytosis and focal pulmonary infiltrates, are absent. Although

Covid-19 itself can cause prolonged fever, clinicians should be vigilant for nosocomial infections.[2]

Performing cardiopulmonary resuscitation in patients with Covid-19 may expose health care workers to infectious droplets and aerosols. Therefore, all the members of the resuscitation team should wear appropriate PPE before performing rescue ventilation, chest compressions, or defibrillation.[41]

Patients with Covid-19 who are receiving mechanical ventilation should receive appropriate nutrition and care to prevent constipation and injury to the skin and corneas. If the condition of a patient has stabilized, clinicians should attempt to withhold continuous sedation each day.[42] Daily awakening may be challenging because an increase in the work of breathing and the loss of synchrony with mechanical ventilation may result in distress and hypoxemia.

During the Covid-19 pandemic, an overwhelming surge of patients presenting to a hospital may temporarily require the rationing of health care resources. Local guidelines and medical ethics consultation can help clinicians navigate these difficult decisions with patients and their families.

AREAS OF UNCERTAINTY

Little is known about the pathogenesis and treatment of this new disease. Preliminary data from a randomized, placebo-controlled trial involving more than 1000 patients with severe Covid-19 suggest that the investigational antiviral agent remdesivir reduces time to recovery,[43] and the Food and Drug Administration (FDA) has granted it emergency-use authorization. No agent is currently FDA-approved for the treatment of severe Covid-19. Numerous randomized trials of many other candidate therapies are ongoing (Table 1).

The delayed onset of critical illness in patients with Covid-19 suggests a maladaptive host response to infection.[10] Therefore, there is intense interest in the effects of immunomodulating therapies. Glucocorticoids have been used widely for cytokine storm and respiratory failure in patients with Covid-19; however, there is concern that they may prolong viral shedding and lead to secondary infections.[58-60] Current guidelines offer conflicting advice on the use of glucocorticoids. The Surviving Sepsis Campaign suggests a short course of glucocorticoids for moderate-to-severe ARDS related to Covid-19,[18] whereas the Infectious Diseases Society of America recommends their use only in the context of a clinical trial.[62] For reversal of vasopressor-dependent shock in patients with Covid-19, the Surviving Sepsis Campaign recommends low-dose glucocorticoids (hydrocortisone at a dose of 200 mg daily by means of infusion or with intermittent dosing).[18]

Other immunomodulating agents currently being evaluated for severe Covid-19 include passive immunotherapy with convalescent plasma,[56,57] intravenous immunoglobulin, and interleukin-1 and interleukin-6 pathway inhibition.[63] Pending results of randomized trials, the risks and benefits of these approaches are also unknown. Candidate therapies for Covid-19 warrant evaluation separately in patients with established severe disease and in those with milder illness to determine whether they reduce the risk of progression.[10]

GUIDELINES

The recommendations in the present article are largely concordant with the guidelines for severe Covid-19 from the American Thoracic Society, the Infectious Diseases Society of America, the National Institutes of Health, and the Surviving Sepsis Campaign.[18,62,64,65]

CONCLUSIONS AND RECOMMENDATIONS

For the patient described in the vignette, the most important aspect of care is careful monitoring of his respiratory status to determine whether endotracheal intubation is appropriate. If mechanical ventilation is initiated, the clinician should adhere to a lung-protective ventilation strategy by limiting the plateau pressure and tidal volumes. Deep sedation with neuromuscular blocking agents and prone positioning should be considered if refractory hypoxemia develops. Anticoagulants should be administered to prevent thrombosis. Preliminary data support the use of remdesivir if available. Rigorous adherence to infection-control practices is essential at all times. Given the

Table 1. **Selected Candidate Therapies for Coronavirus Disease 2019 (Covid-19).***

Class	Availability	Rationale	Clinical Data
Antiviral agents			
Chloroquine	FDA-approved for extraintestinal amoebiasis, malaria; FDA emergency-use authorization from Strategic National Stockpile for certain hospitalized patients with Covid-19	In vitro activity against SARS-CoV-2[44]	Limited: small randomized trial showed limited benefit[45]; small trial stopped early because of increased mortality with higher dose[46]; randomized, controlled trials in progress
Hydroxychloroquine	FDA-approved for lupus, malaria, rheumatoid arthritis; FDA emergency-use authorization from Strategic National Stockpile for certain hospitalized patients with Covid-19	In vitro activity against SARS-CoV-2[47]	Limited: small randomized trials and retrospective case series with inconsistent results[48-51]; randomized, controlled trials in progress
Lopinavir–ritonavir	FDA-approved for HIV infection	In vitro activity against SARS-CoV-2[52]	Small randomized clinical trial failed to show clinical benefit[53]; other randomized, controlled trials in progress
Remdesivir	Investigational; FDA emergency-use authorization for hospitalized patients with severe Covid-19; compassionate-use program for pregnant women and children with severe Covid-19; expanded-access program for persons unable to participate in clinical trials (ClinicalTrials.gov number, NCT04323761)	In vitro activity against SARS-CoV-2[44]	Small, single-group, uncontrolled study showed clinical benefit in a majority of patients[54]; underenrolled and underpowered randomized, placebo-controlled trial involving hospitalized patients showed no significant differences in clinical or virologic outcomes[55]; randomized, placebo-controlled trial involving hospitalized patients showed faster time to recovery with remdesivir[43]; additional clinical trials in progress
Immune-based agents			
BTK inhibitors (acalabrutinib, ibrutinib, rilzabrutinib)	FDA-approved for some hematologic cancers	Immunomodulation-targeting cytokines	Clinical trials in progress
Convalescent plasma	Investigational; FDA single-patient emergency IND; expanded-access program for persons ineligible for or unable to participate in clinical trials	Use in other viral illnesses, including H1N1 influenza, SARS, and MERS	Limited: small, uncontrolled cohort studies suggested benefit, but confirmation required[56,57]; randomized, controlled trials in progress
Glucocorticoids	FDA-approved for multiple indications	Broad immunomodulation	Limited: retrospective, nonrandomized cohort study showed association with lower mortality among patients with severe Covid-19 and ARDS,[39] but concern for survivor treatment bias; randomized clinical trials involving patients with influenza, MERS, or SARS did not show benefit and suggested possible harm (increased viral shedding and increased mortality)[58-60]
Interleukin-1 inhibitors (anakinra, canakinumab)	FDA-approved for some autoimmune diseases	Immunomodulation; activity in macrophage activation syndrome	Clinical trials in progress
Interleukin-6 inhibitors (sarilumab, siltuximab, tocilizumab)	FDA-approved for some autoimmune diseases and cytokine release syndrome (tocilizumab)	Immunomodulation; activity in cytokine release syndrome	Limited: in a small cohort study, a majority of patients who received siltuximab had an improved or stabilized condition[61]; randomized, controlled trials in progress
JAK inhibitors (baricitinib, ruxolitinib)	FDA-approved for rheumatoid arthritis (baricitinib) and myelofibrosis and polycythemia vera (ruxolitinib)	Broad immunomodulation	Clinical trials in progress

* Selected references are provided for rationale and clinical data. ARDS denotes acute respiratory distress syndrome, BTK Bruton's tyrosine kinase, FDA Food and Drug Administration, HIV human immunodeficiency virus, IND investigational new drug, JAK Janus kinase, MERS Middle East respiratory syndrome, SARS severe acute respiratory syndrome, and SARS-CoV-2 severe acute respiratory syndrome coronavirus 2.

high risk of complications from severe Covid-19, clinicians should work with patients and families to establish appropriate goals of care at the earliest possible time.

Given the uncertainties regarding effective treatment, clinicians should discuss available clinical trials with patients. In addition, clinicians should discuss the value of autopsies with the families of patients who do not survive.

Disclosure forms provided by the authors are available with the full text of this article at NEJM.org.

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Exhibit 14

JD Healthcare

Effect of the Asset Purchase Agreement between Verity Health System of California, Inc., Verity Holdings, LLC, St. Francis Medical Center and Prime Healthcare Services, Inc. on the Availability and Accessibility of Healthcare Services to the Communities Served by St. Francis Medical Center

Prepared for the Office of the California Attorney General

June 4, 2020

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Introduction & Purpose

JD Healthcare, Inc. was retained by the Office of the California Attorney General to assess the potential impact of the proposed Asset Purchase Agreement by and between the Verity Health System of California, Inc., a California nonprofit public benefit corporation, and Verity Holdings, LLC[1], a California limited liability company (collectively "Verity Health"), St. Francis Medical Center, a California nonprofit public benefit corporation (collectively "Sellers"), and Prime Healthcare Services, Inc., a Delaware for-profit corporation, and one or more of its affiliates (collectively "Prime"), on the availability and accessibility of healthcare services to the communities served by St. Francis Medical Center ("Hospital").

Verity Health is the owner and operator of the Hospital, a general acute care hospital licensed for 384 beds, located in the city of Lynwood, California. The Hospital is a Medicaid disproportionate share hospital and a major recipient of Medi-Cal Hospital Quality Assurance Fee (QAF)[2] funds.

On August 31, 2018, Verity Health and its Affiliated Hospitals[3] filed voluntary petitions for relief under Chapter 11 of Title 11 of the United States Code with the United States Bankruptcy Court for the Central District of California, Los Angeles Division. The Sellers and Prime intend to effectuate the transaction of the Hospital through a sale of the assets approved by the Bankruptcy Court pursuant to Section 363 of Title 11 of the Bankruptcy Code.

The Asset Purchase Agreement, dated April 3, 2020, includes the sale of substantially all assets of the Hospital, hiring substantially all of its employees, and continuing its operations as a healthcare facility to ensure community access to needed healthcare services. Prime has agreed to honor the majority of the conditions issued by the Attorney General's office in September of 2019 as part of its review and approval of the sale of St. Francis Medical Center, St. Vincent Medical Center and Seton Medical Center to Strategic Global Management, Inc. Strategic Global Management, Inc. failed to complete the transaction resulting in Verity Health again soliciting bids for the purchase of its remaining assets.

A detailed summary of the Asset Purchase Agreement can be found in the Appendix of this report.

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[1] Verity Holdings, LLC is a direct subsidiary of its sole member Verity Health. It was created in 2016 to hold and finance Verity Health's interests in six medical office buildings whose tenants are primarily physicians, medical groups, and healthcare providers.

[2] The amount of supplemental Medi-Cal payments received by those hospitals that serve a high percentage of Medi-Cal and other low-income patients, as provided by SB 855 (Statutes of 1991). These payments are funded by intergovernmental transfers from public agencies (counties, districts, and the University of California system) to the State and from federal matching funds. SB 855 Disproportionate Share Payments are received by qualifying hospitals for each Medi-Cal paid inpatient day, up to a certain maximum, and are included in Medi-Cal Net Patient Revenue.

[3] Affiliated Hospitals include the Hospital, St. Vincent Medical Center, Seton Medical Center (and Seton Coastside), O'Connor Hospital, and St. Louise Medical Center.

Prime, founded by Dr. Prem Reddy in 2001, operates 30 acute care hospitals with approximately 6,400 beds, located in California, Florida, Indiana, Kansas, Michigan, Nevada, New Jersey, Pennsylvania, Rhode Island, and Texas. Prime operates nine hospitals in California.

Prime agrees to close the transaction as long as any conditions imposed by the Office of the California Attorney General are not materially more burdensome than the Conditions[4] (as set forth in Exhibit 5.8(c) of the Asset Purchase Agreement). These Conditions are a modification of the existing conditions that resulted from the transaction approved by the Office of the California Attorney General, on September 25, 2019, by and between Verity Health System of California, Inc., Verity Holdings, St. Francis Medical Center, and purchaser Strategic Global Management, Inc.

This report, prepared for the Office of the Attorney General, describes the possible effects that the proposed transaction may have on the delivery, accessibility, and availability of healthcare services in the Hospital's service area.

In its preparation of this report, JD Healthcare, Inc. performed the following:

- A review of the written notice submitted to the Office of the California Attorney General on April 16, 2020 and supplemental information subsequently provided by Verity Health and the Hospital;

- A review of press releases and news articles related to the proposed Asset Purchase Agreement and other hospital transactions;

- Interviews with community representatives, representatives of Verity Health, representatives of the Hospital's board, management, medical staff, and employees, representatives of Prime, and others as listed in the Appendix;

- An analysis of financial, utilization, and service information provided by the management of the Hospital, Verity Health, and the Office of Statewide Health Planning and Development (OSHPD); and

- An analysis of publicly available data and reports regarding the Hospital, Prime, and the service area, including demographic characteristics and trends, payer mix, hospital utilization rates and trends, health status indicators, and hospital market share.

[4] California Attorney General Required Conditions to approval of the Change in Control and Governance of St. Francis Medical Center and Approval of the Asset Purchase Agreement by and among Verity Health System of California, Inc., Verity Holdings, St. Francis Medical Center, and purchaser Strategic Global Management, Inc.

Reasons for the Transaction

Verity Health's Board believes the sale of Verity Health's assets is necessary due to the financial crisis facing Verity Health, including losses that amounted to approximately $175 million annually on a cash flow basis. As of June 30, 2018, Verity Health's consolidated unaudited financial statements reflected total assets of approximately $847 million and total liabilities of approximately $1.278 billion. Verity Health's unaudited Statement of Operations for the ten months ending June 30, 2019 showed losses for the system totaling $167 million. Verity Health's outstanding secured and unsecured debt after the sale of O'Connor Hospital Saint Louise Regional Hospital and St. Vincent Medical Center is approximately $607.5 million with a cash burn rate of approximately $3 million per month. Despite past infusions of capital and new management, Verity Health's Board believes that the problems facing Verity Health are too large to solve without a formal court supervised restructuring. As such, Verity Health and Verity Health Hospitals and affiliated entities each filed voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code.

Verity Health's Board provided the following additional reasons for Verity Health's poor financial condition that led to the formal court supervised restructuring:

- The legacy burden of more than a billion dollars of bond debt and unfunded pension liabilities;

- An inability to renegotiate collective bargaining agreements and payer contracts;

- The continued need for significant capital expenditures for seismic obligations and aging infrastructure, combined with the general financial and operational challenges facing the hospital industry; and

- The desire to protect the original legacy of the Daughters of Charity (Daughters) to the extent possible by retiring debt incurred over the past 18 years and freeing Verity Health hospitals of financial burden so as to continue to operate the hospitals under new ownership and leadership without the accumulated debt.

Timeline of the Transaction

The events leading up to this transaction are chronologically ordered as follows:

- February 2005 – Bonds are issued in the amount of $364 million to refinance existing debt and fund future capital expenditures[5];

[5] This amount is gross of an estimated $26 million in the debt service reserved funds that were used to defease the 2005 Bonds.

- November 2008 –Bonds[6] are issued in the amount of $143.7 million to refinance existing debt;

- February 24, 2012 – Daughters executes a memorandum of understanding with Ascension Health Alliance as a precursor to system integration discussions;

- June 20, 2012 – Daughters and Ascension Health Alliance effect an amendment to the memorandum of understanding;

- December 2012 – Daughters and Ascension Health Alliance execute an affiliation agreement that did not involve a transfer of assets or liabilities or a change of control. Rather, Daughters and its hospital corporations became participants in various purchasing programs of Ascension Health and obtained access to other Ascension Health support services;

- March 15, 2013 – Daughters solicits offers for O'Connor Hospital and Saint Louise Regional Hospital, and sends out a request for proposal and confidential descriptive memorandum to 15 potential partners, of which five submit indications of interest;

- August 5, 2013 – Daughters solicits offers for Seton Medical Center and Seton Medical Center Coastside, and sends out a request for proposal and confidential descriptive memorandum to eight organizations, of which three submit indications of interest;

- October 2013 – The 2008 Bonds are retired[7];

- January 2014 – Daughters indicates that it will remain independent from Ascension Health Alliance and is no longer pursuing a merger;

- January 2014 – Daughters announces the initiation of its process to evaluate strategic alternatives for the entire system;

- February 2014 – Request for Proposal process is initiated by contacting over 133 health systems and other buyers who could have an interest in acquiring the system in its entirety, individual (or groups of) hospitals, or other assets;

[6] The 2008 Bonds are the California Statewide Communities Development Authority Revenue Bonds (Daughters of Charity Health System) Series 2008A Bonds that include a debt service reserve fund of $13.7 million.
[7] In October 2013, Daughters of Charity Foundation, an organization separate and independent from Daughters, made a restricted donation of $130 million for the benefit of Daughters by depositing sufficient funds with the bond trustee to redeem the $143.7 million principal amount of the 2008 Bonds.

- February 2014 – Prime, along with 71 other potential buyers, sign confidentiality agreements and receive a confidential information memorandum summarizing key facts about Daughters and its related entities;

- March 21, 2014 – Daughters receives 29 bids by the first-round deadline;

- May 30, 2014 – Daughters' Board decides to focus efforts on full system bidders, concluding that no combination of proposals to purchase individual facilities would provide an adequate solution to Daughters' pressing financial situation;

- July 30, 2014 – Daughters secures $110 million in short-term "bridge financing" in order to access working capital to continue operations through the sale process (2014 Bonds, Series A & B);

- August 27, 2014 – Daughters secures an additional $15 million under the 2014 Bonds (Series C);

- September 12, 2014 – Daughters receives four final proposals;

- October 3, 2014 – Daughters' Board passes a resolution to authorize the execution of the Definitive Agreement between Daughters, Ministry, and Prime, and recommends the approval of the transaction to Ministry's Board of Directors (Ministry's Board);

- October 9, 2014 – St. Francis Medical Center's Board passes a resolution to authorize any necessary or advisable amendments to the Articles of Incorporation and Bylaws of St. Francis and St. Francis's Foundation, and recommends approval of the transaction to Ministry's Board;

- October 9, 2014 – Ministry's Board passes a resolution to authorize the amendment of Daughters' articles of incorporation and bylaws as necessary to effect the transaction and authorizes the execution of the Definitive Agreement between Daughters, Ministry, and Prime;

- October 10, 2014 – Ministry and Daughters enter into the Definitive Agreement with Prime;

- October 23, 2014 – Ministry and Daughters enter into Amendment No. 1 to Definitive Agreement with Prime;

- October 24, 2014 – "Notice of Submission and Request for Consent" is submitted by Daughters to the California Attorney General;

- January 2015 – The California Attorney General holds six public meetings, two in Southern California and four in Northern California, to receive comments on the proposed change in governance and control of each of the Health Facilities;

- February 20, 2015 – The California Attorney General conditionally consents to the proposed change in governance and control of Daughters;

- March 9, 2015 – Prime terminates its transaction agreement with Daughters;

- March 2015 – Request for Proposal process is initiated by contacting 86 potential buyers who could possibly have an interest in acquiring the system in its entirety, individual (or groups of) hospitals, or other assets;

- March 2015 – BlueMountain Capital, along with 75 other parties, sign confidentiality agreements and receive a confidential information memorandum supplemental update summarizing important information about Daughters and its related entities;

- April 15, 2015 – Daughters receives 14 first round bids, including one from BlueMountain Capital;

- April & May 2015 – Daughters' Board reviews current active bids and determines that full system bids are the most viable option to address Daughters' transaction objectives;

- May 2015 – Houlihan Lokey sends final bid letters to parties still pursuing full system offers;

- May 22, 2015 – BlueMountain Capital submits an amended first round bid to Daughters;

- June 29, 2015 – Daughters receives four final proposals by the deadline, including one from BlueMountain Capital;

- July 14, 2015 –Daughters' Board reviews the final proposals and passes a resolution to authorize the execution of the System Agreement between Daughters, Ministry, BlueMountain Capital, and Integrity Healthcare, LLC (the management company responsible for operations), and recommends the approval of the transaction to Ministry's Board;

- July 15, 2015 – St. Francis Medical Center's Board passes a resolution to authorize the execution of the System Agreement between Ministry, Daughters, BlueMountain Capital, and Integrity Healthcare, LLC;

- July 15, 2015 – Ministry's Board passes a resolution to authorize the amendment of Daughters' articles of incorporation and bylaws as necessary to effect the transaction and authorizes the execution of the System Agreement between Ministry, Daughters, BlueMountain Capital, and Integrity Healthcare, LLC;

- July 17, 2015 – Ministry and Daughters enter into the System Agreement with BlueMountain Capital and Integrity Healthcare, LLC;

- July 31, 2015 – "Notice of Submission and Request for Consent" is submitted by Daughters to the Office of the California Attorney General;

- September 2015 - Ministry and Daughters enter into Amendment No. 1 to System Restructuring and Support Agreement with BlueMountain and Integrity Healthcare, LLC;

- December 3, 2015 – California Attorney General Approves sale of Daughters to BlueMountain Capital;

- December 14, 2015 – Daughters and BlueMountain Capital Management closed the deal and renamed the health system to Verity Health System of California, Inc.;

- July 2017 – NantWorks acquires a controlling stake in Integrity Healthcare, LLC (the management company responsible for operating Verity Health);

- August 31, 2018 – Verity Health and each Verity Health Hospital (along with other Verity Health affiliated entities) each filed voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code;

- December 4, 2018 – Verity Health Board met and discussed choosing the stalking horse[8] bidder and reviewed the resolutions to approve Strategic Global Management as the stalking horse bidder;

- February 7, 2019 – Verity Health Board passed the stalking horse resolution and ratified all actions;

- April 15, 2019 – The Verity Health Board met to review the final bids submitted and apply the requirements of the Bankruptcy Court approved bid procedures;

- April 15, 2019 – Verity Health Board approve Strategic Global Management as the winning bidder;

[8] A stalking horse bidding process is where the debtor enters into the agreement with a bidder in advance of an auction for the sale of the debtor's assets. This bid serves as what is referred to as the "stalking horse", an initial bid which sets a baseline bid for the auction. The stalking horse agreement is then approved by the court and thereby made public together with open auction bidding procedures using the "stalking horse" as the base bid.

- May 7, 2019 – "Notice of Proposed Submission and Request for Consent" is submitted by Verity Health to the Office of the California Attorney General;

- September 25, 2019 - The Office of the California Attorney General conditionally consents to Verity Health's proposed sale of the assets of St. Francis Medical Center, St. Vincent Medical Center, including its St. Vincent Dialysis Center, and Seton Medical Center to Strategic Global Management and/or one or more of its affiliates;

- October 2, 2019 – Verity Health filed a motion in the U.S. Bankruptcy Court for the Central District of California to enforce the sale order related to its four hospitals – St. Francis Medical Center, St. Vincent Medical Center, Seton Medical Center and Seton Coastside – to Strategic Global Management;

- December 9, 2020 - Strategic Global Management misses court- ordered deadline to close on the $600 million purchase of St. Francis Medical Center, St. Vincent Medical Center, Seton Medical Center and Seton Coastside. Verity Health has a pending action against Strategic Global Management for, among other things, breach of contract;

- January 15, 2020 - Marketing process recommences to identify parties potentially interested in acquiring St. Francis Medical Center as a going concern. Letters are sent to all potential interested purchasers, outlining the proposed sale timeline and requesting the submission of all indications of interest by January 31, 2020. Ultimately, 61 parties executed non-disclosure agreements with respect to the renewed marketing process and were granted access to an online data room;

- January 31, 2020 - Seven indications of interest are received for a potential acquisition of St. Francis Medical Center. One potential purchaser that submitted an indication of interest did not continue with the process to submit a bid;

- February 10, 2020 – Verity Health filed a motion with the Bankruptcy Court requesting approval of the bidding procedures to govern the contemplated sale of St. Francis Medical Center and related auction process. The Bankruptcy Court entered an order approving the bidding procedures. The bidding procedures also established a deadline for bidders to submit bids by April 3, 2020;

- April 1-3, 2020 – Presentations of all received bids were presented to the St. Francis Medical Center Board;

- April 3, 2020 - Verity Health Board selects Prime as the stalking horse bidder;

- April 9, 2020 - St. Francis Medical Center Board recommends the transaction with Prime to the Verity Health Board;

- April 9, 2020 – Verity Health Board approves the transaction with Prime;

- April 9, 2020 - Bankruptcy Court approves the proposed sale of St. Francis Medical Center to Prime; and

- April 16, 2020 - A written notice is submitted to the Office of the California Attorney General detailing the proposed transfer of St. Francis Medical Center to Prime and the request for consent.

Summary of the Asset Purchase Agreement

The Asset Purchase Agreement was made and entered into as of the April 3, 2020 by and between the Sellers and Prime.

The major provisions of the Asset Purchase Agreement include the following:

- Purchase price includes the following:

    - At Closing[9], Prime shall pay to Sellers an aggregate amount equal to the purchase price of ($200,000,000);

    - Sellers shall retain QAF V Payments[10] and the QAF VI Seller Net Payments[11] which are currently estimated at ($29,000,000) and ($83,000,000), respectively[12];

    - A cash payment of ($61,000,000) as consideration for the accounts receivable transferred at Closing, subject to adjustment based upon the final amount collected;

    - At Closing, a cash payment for Sellers' payroll liabilities which, as of October 31, 2019, had an aggregate value of approximately ($5,000,000);

[9] Closing shall be deemed to occur and to be effective as of 12:00 a.m. pacific time on the day immediately after the Closing Date (The date of consummation of the transactions contemplated by the Asset Purchase Agreement).
[10] All payments received or to be received by the Hospital with respect to QAF V.
[11] An amount equal to the product of: (A) all payments received or to be received by the Hospital under the QAF Program in respect of QAF VI minus all payments already made, required to be made in the future or to be offset by the government with respect to QAF VI, multiplied by (B) the Closing Date Percentage.
[12] Provided, that in the event at Closing the annualized normalized EBITDA is more than Fifty Million Dollars ($50,000,000) less than the prior period annualized normalized EBITDA, Prime shall offset from the portion of the remaining QAF V net receipts collected after Closing (but not by more than an aggregate of Thirty Million Dollars ($30,000,000)) one dollar for every dollar of difference between prior period annualized normalized EBITDA and annualized normalized EBITDA over Fifty Million Dollars ($50,000,000) up to Eighty Million Dollars ($80,000,000). In the event that the QAF V payments are insufficient to satisfy the amount of offset, then Purchaser shall have offset rights from the Seller's QAF VI Seller Net Payments.

- At Closing, a cash payment for accrued vacation and other paid time-off of Sellers' employees which, as of October 2019, had an aggregate value of approximately ($10,000,000);

- At Closing, an amount equal to the Cure Costs[13] associated with outstanding liabilities of Sellers under any Assigned Leases[14] and/or Assigned Contracts[15]; and

- Prime has deposited an amount equal to $27,725,342.48. The deposit shall be non-refundable, except in the event the Closing does not occur due to Prime's termination of the Asset Purchase Agreement pursuant to Sections 9.1 of the Asset Purchase Agreement. Upon Closing, the Deposit will be credited against the purchase price.

- Separate from, and in addition to, the purchase price, Prime commits to invest ($47,000,000) in capital expenditures for the Hospital including NPC-3[16] seismic compliance responsibilities;

- Prime and Sellers agree that because the change of ownership and regulatory approval process may take an extended period of time, at the Effective Time[17], the agreed upon assets, Medicare/Medi-Cal agreements, managed care agreements, and private payor agreements will be sold to Prime and immediately leased back to Sellers in the form of a Sale Leaseback Agreement. Major provisions of the Sale Leaseback Agreement include:

    - Immediately following the Closing, and until Prime obtains the new licenses (that include licenses necessary to operate the Hospital as an acute care hospital by the California Department of Public Health, and a permit to operate a hospital-based pharmacy by the California Board of Pharmacy) the parties desire to lease back or license all of the then-acquired assets used in the operation of the Hospital. Specifically, the leased or licensed assets shall include; the Hospital, tangible personal property (including, but not limited to, fixtures, furnishings, hard copy medical and financial records and hardware to operate and run the electronic health record systems, hospital operating systems, laboratory information systems, and financial reporting systems), and

[13] Means all amounts that must be paid and all obligations that otherwise must be satisfied, including pursuant to Sections 365(b)(1)(A) and (B) of the Bankruptcy Code in connection with the assumption and/or assignment of the Assigned Contracts and Assigned Leases to Purchaser.
[14] Leases subject to evaluation by Prime for assumption or rejection.
[15] Contracts subject to evaluation by Prime for assumption of rejection.
[16] Non-Structural Performance Category (NPC). The classifications given to the Hospital's structures specify the need for construction in order to comply with the California Office of Statewide Health Planning and Development's seismic safety standards.
[17] Period immediately after Closing.

intangible intellectual property saved or embodied in the electronic health record systems, hospital operating systems, laboratory information systems, and financial reporting systems (which shall be licensed for use by the Hospital);

- This Leaseback Agreement shall automatically terminate upon the termination of the Interim Management Agreement[18];
- The Hospital shall at all times during the term of this Sale Leaseback Agreement be the owner of pharmacy Assets. The parties acknowledge, however, that under the Interim Management Agreement, Prime will be managing the Hospital's pharmacy during the Management Period[19];
- The Hospital shall be responsible for purchasing drugs and dangerous devices identified by Prime as necessary for the operations of the Hospital, and Prime shall reimburse the Hospital for all costs and expenses incurred for such purchases;
- The parties shall pay all utilities and services supplied to the Hospital during the term of the Sale Leaseback Agreement, including but not limited to water, gas, air conditioning, heat, light, power, telephone service, and waste removal services;
- The parties shall pay all taxes, assessments, and levies of any kind or nature whatsoever, including real property taxes, personal property taxes, income taxes, employment taxes, and sales or use taxes, that are taxed, assessed, levied, invoiced or imposed upon the Hospital after the Effective Time;
- The parties shall pay for all insurance coverages, including premiums, deductibles, stop-loss, and any other insurance covering the Hospital; and
- During the term of this Sale Leaseback Agreement, the parties shall pay all costs of repairing and maintaining the leased or licensed assets of the Hospital required by any applicable governmental law, statute, ordinance, rule or regulation, including the California Office of Statewide Health Planning and Development.

- Pursuant to the Asset Purchase Agreement, the Hospital, Verity Health, and the Prime, are entering into an Interim Management Agreement that enables Prime to manage the day-to-day operations of the Hospital following the Closing until Prime is issued the

[18] Enables Prime to manage the day-to-day operations of the Hospital following the Closing until Prime is issued the licenses necessary to operate the Hospital.

[19] Management Period shall commence as of the Effective Time and continue until the earlier of the licensure date or June 30, 2021.

licenses necessary to operate the Hospital. Major provisions of the Interim Management Agreement include:

- The term of the Interim Management Agreement shall commence as of the Effective Time and shall continue until the earlier of the Licensure Date[20] or "June 30, 2021" (Management Period). The Hospital, Verity Health, and Prime acknowledge that, during the management Period, the Hospital shall remain the licensee of the Hospital, and in that capacity, and during such period, shall retain statutory and regulatory authority and responsibility for the Hospital and for oversight of Prime;

- During the Management Period, the Hospital appoints Prime as the sole and exclusive provider of certain services and grants Prime the exclusive right to manage the Hospital under the Hospital's Licenses as a general acute care hospital;

- Management services shall include management and operation of the Hospital's pharmacy on behalf of the Hospital, even though the pharmacy assets will not be transferred until the Licensure Date;

- During the Management Period, the Prime shall submit claims for services rendered by the Hospital to various governmental and non-governmental entities, patients, and other third parties pursuant to the Corporation's provider agreements and payor contracts;

- During the Management Period, Prime shall be subject to all applicable legal and regulatory requirements, and agrees to assume and discharge all responsibilities, duties, liabilities, payments, and obligations in connection with properly maintaining the Hospital in full compliance with all regulations and standards required of a general acute care hospital facility so licensed. In addition, Prime's services shall include, but not be limited to, the following duties, which Prime shall perform at its sole cost and expense:

    - Managing the operations of the Hospital as a general acute care hospital in compliance with all applicable laws, regulations, provider agreements, payor contracts, CDPH requirements for maintenance of the Licenses in good standing, Medicare conditions of participation and requirements for payment with respect to governmental programs, and the requirements for maintenance of the Hospital's accreditations;

[20] Licensure Date is the date certain licenses are issued and obtained. These include a general acute care hospital license from the California Department of Public Health and a hospital pharmacy permit from the California Board of Pharmacy.

- Employing and managing employees and any other non-clinical and clinical personnel deemed necessary for the operation of the Hospital as a general acute care hospital;
- Maintaining and repairing, as needed, the Hospital so as to ensure material compliance with all applicable local, state and federal law, and construction timelines imposed by OSHPD;
- Providing security services reasonably necessary to prevent unlawful entry or damage to the Hospital;
- Maintaining, all licenses, permits consents, approvals, accreditations, and certifications currently held by the Hospital in good standing, in active status, and in compliance with all applicable local, state, and federal laws, including the timely payment of all applicable fees to support or renew these approvals;
- Maintaining and obtaining all insurance coverages, from and after the Effective Time, for the Hospital;
- Coordinating with the governing board and the organized medical staff on the appropriateness and quality of medical care and all medical staff issues requiring governing board oversight; and
- Paying all costs and expenses in connection with and incidental to ownership of the Hospital's assets all Hospital operating costs, employee-related costs, and taxes;

o During the Management Period, Prime may do any of the following, in consultation with the Hospital and subject to the requirements of applicable local, state, and federal law, at Prime's sole cost and expense:

- Make alterations, improvements, and repairs to the interior or exterior of the Hospital, including structural alterations, improvements, and repairs;
- Remove and dispose of furniture, fixtures, equipment (other than equipment owned by equipment lessors), and supplies at the Hospital;
- Move into and install furniture, fixtures, equipment, and supplies at the Hospital;
- Prepare the Hospital for a name change, except that no such name change may take effect, and no signage reflecting such change shall be installed, during the Management Period; and
- Perform, or permit to be performed, any other activities at the Hospital Premises that are not inconsistent with operating the Hospital under the licenses.

o Prime shall not take any action that interferes with the Hospital's transfer of funds to pay itself out of the Hospital revenues or remove, withdraw, or

authorize removal or withdrawal of funds from the Hospital's bank accounts or lockboxes to the extent that the Hospital would be unable to fully pay;

- As full and complete payment for Prime's Services, Prime shall be entitled to receive an amount equal to the Hospital revenues less the following amounts that will be paid to the Hospital by Prime:
  - All costs and expenses incurred by the Hospital's for the Hospital's purchase of drugs and dangerous devices that Prime determines are necessary for the operation of the Hospital;
  - All salaries, stipends, costs and expenses associated with the employment or engagement of the Board of directors of the Hospital and Verity Health, and any other retained employees or contractors of the Hospital primarily or exclusively providing services necessary for the operation of the Hospital and compliance with applicable laws, if any; and;
  - All other costs and expenses associated with keeping the Hospital in good standing, maintaining its hospital licenses and maintaining the necessary contracts, including, but not limited to, filings with the secretary of state, filing tax returns, board of directors expenses, directors and officers insurance, employment practices liability insurance, compensation, benefits, and such other costs and expenses incurred by a hospital corporation in the normal course of business.

- The Hospital shall issue invoices to Prime on a weekly basis with reasonable supporting detail. Prime shall pay such invoices within ten (10) business days of receipt of such invoices; and

- Verity Health shall be responsible for all the Hospital liabilities and losses incurred or accrued during the management period.

- Items to be delivered by Purchaser at Closing. At or before the Closing, Purchaser shall deliver or cause to be delivered to Sellers the following:
  - Payment of the Purchase Price, minus the Deposit;
  - Execution of necessary agreements the due adoption and text of the resolutions of the Board of Directors of Prime authorizing the execution, delivery and performance of the Asset Purchase Agreement and all additional documents contemplated by the Asset Purchase Agreement;
  - Preliminary change of ownership reports with respect to the owned property, duly executed by Prime; and

- Any such instruments, certificates, consents or other documents which Prime and Sellers mutually deem reasonably necessary to carry out the transactions contemplated by the Asset Purchase Agreement.

- On the Closing Date, Sellers shall sell, assign, transfer, convey and deliver to Prime, free and clear of all interests, including but not limited to all liens, privileges, pledges, security interests, rights of first refusal, options, defects in title and encumbrances, and Prime shall acquire, all of Sellers' right, title and interest in and to only the following assets and properties, as such assets shall exist on the Closing Date, to the extent not included among the Excluded Assets, such transfer being deemed to be effective at the Effective Time:

  - All of the tangible personal property owned by Sellers, or to the extent assignable or transferable by Sellers, and used by Sellers in the operation of the Hospital, including equipment, furniture, fixtures, machinery, vehicles, office furnishings and leasehold improvements;

  - All of Sellers' rights, to the extent assignable or transferable, to all licenses, permits, approvals, certificates of exemption, franchises, accreditations and registrations and other governmental licenses, permits or approvals issued to Sellers for use in the operation of the Hospital;

  - All of Sellers' interest in and to the owned real property and all of Sellers' interest, to the extent assignable or transferable and that have been designated by Purchaser;

  - All of Sellers' interest in, and to the extent assignable or transferable, the Hospital's Medicare Provider Agreement (and provider number) and the Hospital's Medi-Cal Provider Agreement;

  - All of Sellers' interest in, and all of Sellers' obligations due under, to the extent assignable or transferable, in and to any of the Hospital's managed care, pre-paid, capitated or other full-risk health plan agreements;

  - All of Sellers' interest in, to the extent assignable or transferable, any of the Hospital's services, participation or provider agreements with private health plans, insurers or other third-party payors;

  - To the extent assignable or transferable, all inventories of supplies, drugs, food, janitorial and office supplies and other disposables and consumables located at the Hospital or used in the operation of the Hospital;

  - To the extent assignable or transferable, all of the following that are not proprietary to Sellers and/or owned by or proprietary to Sellers' affiliates:

operating manuals, files and computer software with respect to the operation of the Hospital, including, without limitation, all patient records, medical records, employee records, billing records, financial records, equipment records, construction plans and specifications, and medical and administrative libraries;

- All right, title and interest in and to the name "St. Francis Medical Center," including any associated Hospital trademarks, service marks, trade names, and logos;

- To the extent assignable or transferable, Sellers' lock box account(s) associated with Medicare or Medi-Cal fee-for-service receivables;

- All accounts and interest, notes and interest and other receivables of Sellers, including, accounts, including or any health care provider or network (such as a health maintenance organization, preferred provider organization or any other managed care program) or any fiscal intermediary of the foregoing, private pay patients, private insurance or by any other source and all claims, rights, interests and proceeds relating to any grant or governmental awards directly or indirectly related to COVID-19, and trauma payments, disproportionate share payments, California Health Foundation & Trust payments, cost report, and Seller Cost Report settlements; and

- All QAF payments, other than QAF payments received prior to Closing or specifically excluded, as due to the Hospital from the State of California or any of its administrative entities or other entitles, including without limitations, Medi-Cal managed care plans.

- Sellers shall retain all interests, rights and other assets owned directly or indirectly by Sellers including:

  - All QAF payments received prior to Closing under any QAF Program;

  - All Disproportionate Share Hospital Payments received on or after the Effective Time but calculated based on data from periods prior to the Effective Time;

  - All contracts that are not assigned contracts and all risk sharing agreements with independent physician associations;

  - Any private payor agreement that is not a transferred private payor agreement and any managed care agreement that is not a transferred managed care agreement;

  - All collective bargaining agreements or other arrangements with unions representing Sellers' employees;

- All leases that have not been designated as assigned leases;
- All of Sellers' organizational or corporate record books, minute books and tax records;
- All deposits made with any entity that provides utilities to the Hospital;
- All unclaimed property of any third party as of the Effective Time, including, without limitation, property which is subject to applicable escheat laws;
- All bank accounts of Sellers;
- All tax refunds and tax assets of Sellers;
- All patient records and medical records which are not part of any electronic medical record software transferred to Purchaser and are not required by law;

- Promptly following the Signing Date, representatives of Sellers who are parties to the Hospital's related collective bargaining agreements and of Prime, respectively, shall meet and confer from time to time as reasonably requested by either to discuss strategic business options including terms contained under all operative collective bargaining agreements. The applicable Sellers and Prime shall each participate in all negotiations related to the potential modification and assignment of specific Seller's collective bargaining agreements to Prime. The applicable Sellers shall use commercially reasonable efforts to initiate discussions with Prime and unions and conduct discussions to renegotiate each collective bargaining agreement currently in effect with each applicable union. The applicable Sellers will not unreasonably withhold, condition or delay Bankruptcy Court approval of any successfully renegotiated collective bargaining agreement. The parties recognize that Seller's failure to conclude a successor collective bargaining agreement shall not be a breach of Sellers' obligation under the Asset Purchase Agreement or otherwise excuse Prime's obligations under the Asset Purchase Agreement;

- On or before the date that is thirty (30) days after the Sale Order Date, the negotiations shall have resulted in each, such labor unions, agreeing to either modification of the Hospital related collective bargaining agreements under terms that are to be substantially consistent with the Purchaser's existing and most current collective bargaining agreements with each such respective labor union, and that settle all liabilities under the existing Seller collective bargaining agreements that shall be assigned to Prime, provided that there are shall be no cure obligations to the Sellers or enter into new collective bargaining agreements that are substantially consistent with Prime's existing collective bargaining agreements with each such respective labor union; provided, that if Prime and each labor union have not entered into such agreements described above, then Sellers shall have the absolute right to file or take any other action to reject and terminate any such collective bargaining agreement and,

in such event, the Bankruptcy Court shall have entered an order granting Sellers' requested rejection of such collective bargaining agreement prior to the Closing Date;

- Prime agrees to make offers of employment, to substantially all persons (whether such persons are full time employees, part-time employees, on short-term or long-term disability or on leave of absence, military leave or workers compensation leave) who, immediately prior to the Effective Time are employees of the Hospital; and

- With respect to any collective bargaining agreements or labor contract with respect to any union employees, Purchaser shall comply with the applicable laws, or to the extent applicable, Bankruptcy Court orders relating to collective bargaining agreements or labor contracts.

A summary of the Conditions set forth in Exhibit 5.8(c) of the Asset Purchase Agreement include:

California Attorney General Conditions from Exhibit 5.8(c) of the Asset Purchase Agreement			
Conditions		**Prime Agrees:**	**Years of Condition**
1.	For ten (10) years, provide written notice to Office of the Attorney General sixty (60) days prior to entering into any sale or transfer agreement;	Yes	10
2.	For at least ten years from closing, the Hospital shall continue to operate as a general acute care hospital;	Yes	10
3.	For at least ten years from closing, the Hospital shall maintain 24-hour emergency and trauma medical services at no less than current licensure and designation with the same types and/or levels of services, including the following:	Yes	10
	a. At a minimum, 46 emergency treatment stations;	Yes	10
	b. Designation as a Level II Trauma Center;	Yes	10
	c. Designation as a 5150 Receiving Facility, as defined by the Welfare and Institutions Code, Section 5150, for behavioral health patients under involuntary evaluation;	Yes	10
	d. Psychiatric evaluation team;	Yes	10
	e. Designation as an Emergency Department Approved for Pediatrics (EDAP);	Yes	10
	f. Designation as a Paramedic Base Station; and	Yes	10
	g. Certification as a Primary Stroke Center.	Yes	10
4.	For at least ten years from the closing date of the Asset Purchase Agreement, St. Francis Medical shall maintain on-call coverage contracts and/or comparable coverage arrangements with physicians that are necessary to retain its qualification as a Level II trauma center. The following on-call coverage contracts and/or comparable coverage arrangements are required to retain St. Francis Medical Center's status as a Level II trauma center: c. Neurology; d. Obstetrical/gynecological; e. Ophthalmology; f. Oral or maxillofacial or head and neck; g. Plastic surgery; h. Reimplantation/microsurgery capability; and i. Urology;	Yes	10
5	For at least ten years from closing, the Hospital shall maintain the following services at current licensure, types, and/or levels of services:		
	a. Cardiac services, including at a minimum, three cardiac catheterization labs and the designation as a STEMI Receiving Center;	Yes	10
	b. Critical care services, including a minimum of 36 intensive care unit beds or 24 intensive care beds and 12 definitive observation beds;	Yes	10
	c. Neonatal intensive care services, including a minimum of 29 neonatal intensive care beds, and at minimum, maintaining a Level II NICU;	Yes	10
	d. Women's health services, including women's imaging services;	Yes	10
	e. Cancer services, including radiation oncology;	No	10
	f. Pediatric services, including a designated area with at least five general acute care beds for pediatric services;	Yes	10
	g. Orthopedic and rehabilitation services;	Yes	10
	h. Wound care services;	Yes	10
	i. Behavioral health services, including a minimum of 40 distinct part inpatient acute psychiatric beds; and	Yes	10
	j. Obstetric services, including a minimum of 50 obstetrics beds.	Yes	10

California Attorney General Conditions from Exhibit 5.8(c) of the Asset Purchase Agreement			
Conditions		**Prime Agrees:**	**Years of Condition**
6.	For at least ten years from the closing date of the Asset Purchase Agreement, St. Francis Medical Center shall maintain the same types and/or levels of women's healthcare services currently provided at the location below or a location within three miles of St. Francis Medical Center:		
	a. Family Life Center at St. Francis Medical Center, located at 3630 E Imperial Highway, Lynwood, California.	Yes	10
7.	For at least five years from the closing date of the Asset Purchase Agreement, Purchaser shall either: (1) operate clinics (listed below) with the same number of physicians and mid-level provider full-time equivalents in the same or similar alignment structures, or (2) sell the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the purchaser(s) to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein, or (3) ensure that a third party is operating the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the third party to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein. For any of these options, each clinic can be moved to a different location within a three-mile radius of each clinic's current location, and St. Francis Medical Center can utilize an alternative structure in providing such services. The following clinics are subject to this condition:		
	a. Pediatric services at Children's Counseling Center, 4390 Tweedy Ave, South Gate, California;	No	5
	b. The multi-specialty services, including wound care at Wound Care Center, 3628 E. Imperial Highway, Suite 103, Lynwood, California; and	No	5
	c. Orthopedic services at 3628 E. Imperial Highway, Suite 300, Lynwood, California.	Yes	5
8.	For ten years from the closing date of the Asset Purchase Agreement, Purchaser shall:		
	a. Be certified to participate in the Medi-Cal program at St. Francis Medical Center;	Yes	10
	b. Maintain and have Medi-Cal Managed Care contracts with the below listed Medi-Cal Managed Care Plans to provide the same types and levels of emergency and non-emergency services at St. Francis Medical Center to Medi-Cal beneficiaries (both Traditional Medi-Cal and Medi-Cal Managed Care)		
	- Local Initiative: L.A. Care Health Plan or its successor; and	Yes	10
	- Commercial Plan: Health Net Community Solutions, Inc. or its successor.	Yes	10
	c. Be certified to participate in the Medicare program by maintaining a Medicare Provider Number to provide the same types and levels of emergency and non-emergency services at St. Francis Medical Center to Medicare beneficiaries (both Traditional Medicare and Medicare Managed Care), on the same terms and conditions as other similarly situated hospitals, as required in these Conditions.	Yes	10
9.	For six fiscal years from the closing date of the Asset Purchase Agreement, Purchaser shall provide an annual amount of Charity Care (as defined below) at St. Francis Medical Center equal to or greater than **$12,793,435** (the Minimum Charity Care Amount). For purposes hereof, the term "charity care" shall mean the amount of charity care costs (not charges) incurred in connection with the operation and provision of services at St. Francis Medical Center. The definition and methodology for calculating "charity care" and the methodology for calculating "costs" shall be the same as that used by Office of Statewide Health Planning Development (OSHPD) for annual hospital reporting purposes;	**Conditionally: P**rovide an annual amount of Charity Care equal to or greater than $8,000,000.	5
10.	For six fiscal years from closing, the Hospital shall continue to expend an average of no less than $1,139,301 annually in community benefit services. This amount should be increased annually based on the Consumer Price Index for Los Angeles-Long Beach-Anaheim, California. The following community benefit programs and services shall continue to be offered:	Yes	5
	a. Southern California Crossroads Program;	Yes	5
	b. Health Benefit Resource Center;	Yes	5
	c. Welcome Baby Program;	Yes	5
	d. Healthy Community Initiatives;	Yes	5
	e. American Career College access for onsite training;	Yes	5
	f. Paramedic Training and Education; and	Yes	5
	g. Patient Transportation support.	Yes	5

California Attorney General Conditions from Exhibit 5.8(c) of the Asset Purchase Agreement			
Conditions		**Prime Agrees:**	**Years of Condition**
11.	For at least ten years from closing, the Hospital shall maintain its current contracts, subject to the request of the County of Los Angeles, for services, including the following:	Yes	10
	a. Participation in the Hospital Preparedness Program between the Hospital and Los Angeles County;	Yes	10
	b. Department of Mental Health Legal Entity Contract between the Hospital and Los Angeles County;	Yes	10
	c. Paramedic Base Hospital Services between the Hospital and Los Angeles County;	Yes	10
	d. Radiation Therapy Services between the Hospital and Los Angeles County;	Yes	10
	e. Designation Agreement between the County of Los Angeles Department of Mental Health (LAC-DMH) and the Hospital and approved as a 72-hour Evaluation and Intensive	Yes	10
	f. Affiliation Agreement for physicians in post graduate training;	No	10
	g. Trauma Center Service Agreement between the Hospital and Los Angeles County; and	Yes	10
	h. Paramedic Training Institute Students between the Hospital and Los Angeles County.	Yes	10
12.	For at least ten years from the closing date of the Asset Purchase Agreement, Purchaser shall provide to the Los Angeles County Department of Health Services and Los Angeles County of Department of Mental Health information and documents related to staffing assessments, clinical guidelines, services provided, and technology needs for St. Francis Medical Center;	Yes	10
13.	For ten years from the closing date of the Asset Purchase Agreement, Purchaser shall have at St. Francis Medical Center a Local Governing Board of Directors. Purchaser shall consult with the Local Governing Board of Directors prior to making changes to medical services, community benefit programs, making capital expenditures, including making changes to the charity care and collection policies, and making changes to charity care services provided at St. Francis Medical Center;	Yes	10
14.	Purchaser shall commit to reserve or expend for St. Francis Medical Center for capital improvements to the hospital over the five-year period from the closing of the Asset Purchase Agreement, the amount of capital that remains unexpended from the $180 million commitment required of Blue Mountain Capital Management, LLC as part of the Attorney General Conditions approved on December 3, 2015 but this amount can be no less than $5.8 million among St. Francis Medical Center, Seton Medical Center and St. Vincent Medical Center;	Purchaser will commit to expend approximately $35 million on the Hospital, over the five-year period, from the closing of the Asset Purchase Agreement.	
15.	Purchaser shall commit the necessary investments required to maintain OSHPD seismic compliance requirements at the Hospital through 2030 under the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983, as amended by the California Hospital Facilities Seismic Safety Act, (Health & Safety. Code, § 129675-130070);	Yes	-
16.	Purchaser shall maintain privileges for current medical staff who are in good standing as of the closing date of the Asset Purchase Agreement. Further, the closing of the Asset Purchase Agreement shall not change the medical staff officers, committee chairs, or independence of the medical staff, and such persons shall remain in good standing for the remainder of their tenure at St. Francis Medical Center;	Yes	-
17.	There shall be no discrimination against lesbian, gay, bisexual, or transgender individuals at St. Francis Medical Center, and no restriction or limitation on providing or making reproductive health services available at St. Francis Medical Center, its medical office buildings, or at any of its facilities. Both of these prohibitions shall be set forth in Purchaser's written policies, adhered to, and strictly enforced; and	Yes	-
18.	For eleven fiscal years from the closing date of the Asset Purchase Agreement Purchaser shall submit to the Attorney General, no later than four months after the conclusion of each fiscal year, a report describing in detail compliance with each Condition set forth herein. The Chairman of the Board of Directors of Purchaser shall certify that the report is true, accurate, and complete and provide documentation of the review and approval of the report by the Local Governing Board.	Yes	11

Use of Net Sale Proceeds

The money received from the sale will be distributed to creditors in conjunction with the Bankruptcy Court and there will be no net proceeds as a result of the transaction.

Profile of Verity Health

Verity Health

Verity Health is a nonprofit healthcare system headquartered in El Segundo, California. The healthcare system was originally established by the Daughters of Charity of St. Vincent de Paul, Province of the West, to support the mission of the Catholic Church through a commitment to the sick and poor.

Daughters of Charity, a group of women dedicated to caring for the needs of the poor, was started in France by St. Vincent de Paul and St. Louise de Marillac in 1633. The Daughters of Charity continued its mission and opened its first hospital in Los Angeles in 1856. Daughters of Charity expanded its hospitals into San Jose in 1889 and San Francisco in 1893. These hospitals were the forerunners of St. Vincent Medical Center, O'Connor Hospital, and Seton Medical Center. During the 1980s, Daughters of Charity expanded to include Seton Medical Center Coastside (1980), St. Francis Medical Center (1981), and Saint Louise Regional Hospital (1987). In 1986, the hospitals joined Daughters of Charity National Health System, based in St. Louis, Missouri. In 1995, the hospitals left Daughters of Charity National Health System and merged with Catholic Healthcare West. The hospitals withdrew from Catholic Healthcare West in 2001 and operated as Daughters of Charity until December 2015 when the transaction with BlueMountain Capital Management, LLC and Integrity Healthcare, LLC resulted in a renaming of the organization as Verity Health System.

Verity Health operated six hospitals until March 1, 2019, when Santa Clara County assumed responsibility for two Verity Health hospitals; O'Connor Hospital, in San José, California, and St. Louise Regional Hospital, in Gilroy, California. Today, the two hospitals are a part of the County of Santa Clara Health System. St. Vincent Medical Center ceased operating in January 2020 and surrendered its hospital license. Verity Health subsequently leased the facility to the California Department of Health Services for operations as a surge facility for COVID-19 patients. It was reopened in March as the Los Angeles Surge Hospital with Dignity Health and Kaiser Permanente, both contracted to oversee the hospital through June 30, 2020. In April 2020, Patrick Soon-Shiong, MD purchased the facility from Verity Health for purposes other than as a general acute care hospital. The remaining three Verity Health hospitals are:

- **St. Francis Medical Center:** The Hospital was established in 1945 and gained sponsorship from Daughters of Charity, Province of the West, in 1981. The Hospital, a 384-bed general acute care facility, provides comprehensive healthcare services and operates one of the busiest emergency trauma centers in Los Angeles County. The Hospital serves the nearly 1.7 million residents of Southeast Los Angeles, located in the communities of Lynwood, South Gate, Downey, Huntington Park, Bell Gardens, Maywood, and Compton;

- **Seton Medical Center:** The hospital was originally founded as Mary's Help Hospital by the Daughters of Charity of St. Vincent de Paul in 1893. The facility was destroyed in the San Francisco Earthquake of 1906, and by 1912, Mary's Help Hospital reopened a new facility in San Francisco. In 1965, the hospital moved to its current location at 1900 Sullivan Avenue in Daly City. The hospital, renamed Seton Medical Center in 1983, is currently licensed for 357 beds and serves residents from the San Francisco and San Mateo areas. After the sale to SGM failed, the San Mateo County Board of Supervisors agreed to provide $20 million to support the struggling hospital in an effort to save hundreds of jobs and expand treatment capacity for COVID-19 patients. The hospital shares a consolidated license with Seton Coastside located at 600 Marine Boulevard in Moss Beach. Verity Health is requesting approval from the California Attorney General for the sale of Seton Medical Center and Seton Coastside to AHMC Healthcare, Inc; and

- **Seton Coastside:** The hospital was founded as Moss Beach Rehabilitation Hospital in 1970. In 1980, the City of Half Moon Bay acquired ownership of the hospital and signed an agreement for Daughters of Charity to head operations of the hospital and rename it St. Catherine's Hospital. In 1993, St. Catherine's Hospital became Seton Coastside as it was integrated into one administrative entity with Seton Medical Center. Today, Seton Coastside is licensed for 116 skilled nursing beds and five general, acute-care beds. Seton Coastside also operates the only 24-hour "standby" emergency department along the 55-mile stretch between Santa Cruz and Daly City. Under a consolidated license, Seton Medical Center and Seton Coastside share the same Board of Directors, executive leadership team, charity care policies, and collective bargaining agreements.

Verity Health's three current hospital locations are shown on the map below:

Verity Health Inpatient Statistics

Between FY 2017 and FY 2018, the number of Verity Health inpatient discharges increased by 3% from approximately 50,300 discharges in FY 2017 to approximately 51,700 discharges in FY 2018. Over this same period, inpatient days increased by 2% resulting in an average daily census of 856 patients per day in FY 2018. The following table provides inpatient volume trends for FY 2017 and FY 2018:

VERITY HEALTH SYSTEM UTILIZATION STATISTICS[2] FY 2017 & FY 2018								
	St. Francis Medical Center		Seton Medical Center*		Seton Medical Center Coastside		Verity Health System Total[1]	
	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018
Total Licensed Beds	384	384	357	357	121	121	1,679	1,679
Total Discharges	21,049	22,687	5,695	5,263	121	76	50,308	51,745
Total Patient Days	103,599	105,438	45,242	44,359	39,889	41,503	306,831	312,583
Average Length of Stay	4.9	4.6	7.9*	8.4*	N/A	N/A	5.3**	5.2**
Average Daily Census	283.8	288.9	124.0	121.5	109.3	113.7	840.6	856.4
Outpatient Surgeries	2,310	2,774	2,721	2,900	-	-	12,849	12,878
Inpatient Surgeries	3,112	3,347	1,267	1,116	-	-	9,611	10,127
Outpatient ED Visits	64,480	61,831	23,478	22,984	2,635	2,631	186,342	182,705
Clinical Visits	-	-	93,720	99,162	3,071	5,394	203,469	170,236
Case Mix Index[3] Total	1.42	1.49	1.81	1.80	1.40	1.41	-	-

Source: Verity Health Audited Financials

Note: FY 2018 Unaudited

* Includes subacute patients.

**Excludes Seton Coastside.

N/A: Patient level detail not avaliabe.

[1] Includes all other entities (St. Vincent Medical Center, System Office, System Elimination Obligated Group, Non-Obligated Group, and System Elimination Non-Obligated Group).

[2] The figures provided by Verity Health differs from information reported to OSHPD and found in subsequent sections of this report.

[3] The Case Mix Index (CMI) is the average relative DRG weight of a hospital's inpatient discharges, calculated by summing the Medicare Severity-Diagnosis Related Group (MS-DRG) weight for each discharge and dividing the total by the number of discharges. The CMI reflects the diversity, clinical complexity, and resource needs of all the patients in the hospital. A higher CMI indicates a more complex and resource-intensive case load.

Internal utilization data for FY 2017 and FY 2018, reported by Verity Health, shows the following:

- Total discharges at St. Francis Medical Center increased 8%;
- Outpatient emergency department visits have decreased slightly across all Verity Health Hospitals; and
- Seton Medical Center's Case Mix Index (CMI) is highest among the four reported hospitals with a CMI of 1.80 in FY 2018. A higher CMI indicates a more complex and resource-intensive cases are performed generally resulting in higher reimbursement.

Statement of Operations

VERITY HEALTH SYSTEM STATEMENT OF OPERATIONS[2] FY 2017 - FY 2019 (thousands)												
	St. Francis Medical Center			Seton Medical Center			Seton Medical Center Coastside			Verity Health System Total[1]		
Unrestricted Revenues and Other Support:	FY 2017	FY 2018	FY 2019*	FY 2017	FY 2018	FY 2019*	FY 2017	FY 2018	FY 2019*	FY 2017	FY 2018	FY 2019*
Net Patient Revenue	$443,825	$496,142	$361,461	$230,312	$238,621	$174,813	$21,866	$22,686	$18,182	$1,269,567	$1,432,013	$888,518
Provision for Doubtful Accounts	($12,742)	($23,483)	($1,870)	($3,212)	($6,512)	($9,096)	($314)	($616)	($612)	($33,318)	($58,702)	($19,298)
Premium Revenue	$80,039	$100,579	$86,395	-	-		-	-		$98,607	$151,915	$109,519
Other Revenue	$1,985	$1,700	$1,640	$3,458	$7,743	$998	$574	$579	$448	$12,647	$45,984	$18,419
Contributions	$2,755	$4,184	$3,214	$223	$352	$73	-	-	-	$4,288	$31,244	$6,413
Total unrestricted revenues and other support	**$515,862**	**$579,122**	**$450,840**	**$230,781**	**$240,204**	**$166,788**	**$22,126**	**$22,649**	**$18,018**	**$1,351,791**	**$1,602,454**	**$1,003,571**
Expenses:												
Salaries and Benefits	$200,689	$214,622	$192,993	$136,212	$144,752	$125,557	$15,951	$17,699	$14,525	$703,146	$804,084	$615,345
Supplies	$147,515	$42,452	$35,498	$82,303	$31,826	$22,724	$4,132	$1,954	$1,604	$424,462	$198,516	$128,414
Purchased Services, Medical Claims and Other	$38,617	$244,547	$175,112	$31,451	$84,758	$57,483	$1,935	$6,453	$3,913	$166,520	$634,499	$362,560
Goodwill and intangible Asset Impairment	$45,508	-	-	-	-	-	-	-	-	$55,534	$7,218	-
Depreciation and amortization	$10,048	$9,201	$6,955	$6,019	$5,525	$4,219	$161	$132	$103	$32,123	$32,624	$22,825
Interest	$4,284	$3,951	$3,155	$3,440	$5,339	$4,505	($5)	($9)	-	$27,641	$36,887	$41,162
Total Expenses	**$446,661**	**$514,773**	**$413,713**	**$259,425**	**$272,200**	**$214,488**	**$22,174**	**$26,229**	**$20,145**	**$1,409,426**	**$1,713,828**	**$1,170,306**
Operating Loss/Gain	**$69,201**	**$64,349**	**$37,127**	**($28,644)**	**($31,996)**	**($47,700)**	**($48)**	**($3,580)**	**($2,127)**	**($57,635)**	**($111,374)**	**($166,735)**
Investment Income	-	-	-	-	-	$247	-	-	-	-	($7,545)	$5,094
Gain (Loss) on Hospital Sales	-	-	-	-	-	-	-	-	-	-	-	$174,598
Reorganization Items	-	-	($16,683)	-	-	($9,418)	-	-	($880)	-	-	($46,274)
Excess (Deficit) of Revenue over Expenses	**$69,201**	**$64,349**	**$20,444**	**($28,644)**	**($31,996)**	**($56,871)**	**($48)**	**($3,580)**	**($3,007)**	**($57,635)**	**($118,919)**	**($33,317)**

Source: Verity Health Audited Financials

Note: FY 2018 and FY 2019 are unaudited.

* Only the first 10 months are provided in the Application to the Attorney General.

[1] Includes all other entities (St. Vincent Medical Center, System Office, System Elimination Obligated Group, Non-Obligated Group, and System Elimination Non-Obligated Group)

[2] The figures provided by Verity Health differs from information reported to OSHPD and found in subsequent sections of this report.

Verity Health's audited FY 2017 and unaudited FY 2018 and unaudited FY 2019 (ten months), statement of operations reports the individual performance of the Verity Health Hospitals in conjunction with Verity Health's system-wide performance[21]. All the hospitals, with the exception of the Hospital, show significant operating losses in FY 2018 and FY 2019. The Hospital made a gain of $64.3 million in FY 2018 and $37.1 million for the ten months of FY 2019. For the twelve months ended June 30, 2018, Verity Health recorded an operating loss of $111.4 million, equating to an operating margin of -7.0%. For the ten months of FY 2019, Verity Health recorded an operating loss of $166.7 million, equating to an operating margin of -11.6%. The operating performance for the twelve months ended June 30, 2018 included $171.8 million of net income generated from the QAF program.

Net Patient Service Revenue

Net patient service revenue, less provision for doubtful accounts, of $1.4 billion for FY 2018 represents a net increase of $106.1 million or 8.4% as compared to FY 2017. The net overall change in net patient service revenue was impacted by an increase of $129.2 million in QAF program revenue.

[21] Verity Health's FY 2017, FY 2018 and FY 2019 audited and unaudited financials include business entities no longer a part of Verity Health today.

Operating Expenses

Total operating expenses of $1.7 billion for FY 2018 include an increase in expenses of $199 million, or 13.1%, as compared to FY 2017. The overall net change in operating expenses is due to an increase in salaries and benefits expense of $73.8 million, an increase in supplies expense of $26.1 million, an increase of $95.6 million in purchased services, medical claims and other expense, and an increase of $8.8 million in interest expense. This was partially offset by a decrease in depreciation expense of $2.3 million and a decrease in goodwill and intangible asset impairment of $3.0 million. The management agreement fee expense for the twelve months ended June 30, 2018 is $60.3 million of which $40.2 million was deferred and $20.1 million was payable in cash.

Financial Position and Debt Obligations

As of June 30, 2018, Verity Health's unrestricted days cash on hand was 15.3 days. The average cash on hand average among hospitals nationally is 204.7 days. Verity Health's declining days cash on hand is one indicator of its liquidity challenges.

In order to address the lack of liquidity and outstanding obligations, Verity Health and its management company Integrity Healthcare, LLC, took out a series of secured notes. On December 14, 2015, the California Public Finance Authority issued $160 million revenue notes for the benefit of Verity Health.

In September 2017, the California Public Finance Authority issued $21 million of tax-exempt notes for the benefit of Verity Health. The notes were purchased by NantWorks, LLC (NantWorks), the former majority stake owner in Verity Health's management company, Integrity Healthcare, LLC. The notes have an interest rate of 7.25% and the principal is due at the maturity date in December 2020.

In October 2017, Verity MOB Financing, LLC, an affiliate of NantWorks, made a loan in the amount of $46.2 million to Verity Holdings, LLC, which is an affiliated entity of Verity Health. The loan is secured by four medical office buildings and matures in October 2020.

In December 2017, the California Public Finance Authority issued $21 million of tax-exempt notes for the benefit of Verity Health. These Notes were purchased by NantWorks. The Notes have a lien on property owned with an interest rate of 7.25% and a maturity date in December 2020.

Credit Rating and Outlook

When Verity Health took control of Daughters of Charity Health System, the health system had a credit rating from Standard & Poor' of "B-." The rating of "B-" represents less-than-investment grade status. Since 2014, Standard & Poor's has downgraded Verity Health's credit rating further and in September 2018, after receiving news of Verity Health's filing for Chapter 11 bankruptcy, downgraded Verity Health from "CCC" to "CC". Standard & Poor's defines "CC" as "highly vulnerable to nonpayment". The '"CC" rating is used when a default has not yet occurred but "expects default to be a virtual certainty, regardless of the anticipated time to default".

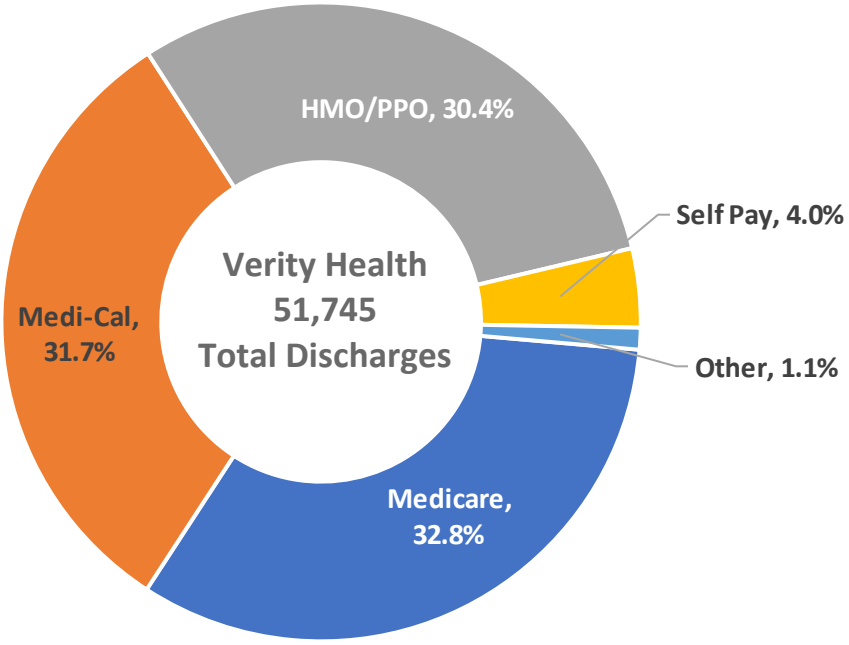
Category	Definition
AAA	An obligor rated 'AAA' has extremely strong capacity to meet its financial commitments.
AA	An obligor rated 'AA' has very strong capacity to meet its financial commitments.
A	An obligor rated 'A' has strong capacity to meet its financial commitments but is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than
BBB	An obligor rated 'BBB' has adequate capacity to meet its financial commitments.
BB	An obligor rated 'BB' is less vulnerable in the near term than other lower-rated obligors.
B	An obligor rated 'B' is more vulnerable than the obligors rated 'BB', but the obligor currently has the capacity to meet its financial commitments.
CCC	An obligor rated 'CCC' is currently vulnerable and is dependent upon favorable business, financial, and economic conditions to meet its financial commitments.
CC	An obligor rated 'CC' is currently highly vulnerable and expects default to be a virtual certainty, regardless of the anticipated time to default.
R	An obligor rated 'R' is under regulatory supervision owing to its financial condition.
D	A 'D' rating is assigned when S&P Global Ratings believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due.

Source: Standard & Poor's

An issuers' credit quality is generally reflective of its financial condition and ability to meet ongoing debt service obligations. A downgrade can pose future challenges for an issuer to raise capital in the debt markets as the cost of debt rises because buyers of lower rated bonds require higher rates of return to justify the greater relative risk incurred.

Verity Health Payer Mix

In FY 2018, approximately 65% of Verity Health's inpatient payer mix consisted of Medicare (33%) and Medi-Cal (32%) patients. Approximately (30%) of Verity Health's inpatient payer mix consisted of Private Pay (HMO/PPO) patients. The remaining (5%) of Verity Health's inpatient discharges consisted of Self Pay (4%), and Other Payers* (1%).



* "Other" includes self-pay, workers' compensation, other government, and other payers
Source: Verity Health Internal Unaudited Financial Statements, FY 2018 (based on inpatient discharges)

Unionized Employees

Verity Health has relationships with various unions across the State of California. In addition, each of the Verity Health Hospitals have collective bargaining agreements (CBAs) with unions, including with Service Employees International Union, National Union of Healthcare Workers, California Nurses Association, United Nurses Association of California, International Union of Operating Engineers, Local 39, and Engineering Scientists of California, Local 20. Approximately 80% of Verity Health's employees are covered under CBAs.

UNION PARTICIPATION AMONG VERITY HEALTH EMPLOYEES					
Union	Seton Medical Center & Seton Medical Center Coastside	St. Francis Medical Center	Verity Business Services	Verity Corporate	Total
National Union of Healthcare Workers	680				680
California Nurses Association	355				355
Local 20, Engineers & Scientists of California	30				30
Local 39, International Union of Operating Engineers	24				24
Service Employees International Union-United Healthcare Workers		944			944
United Nurses Association of California		793			793
Total Represented by Unions	**1,089**	**1,737**			**2,826**
Total Non-Represented Employees	192	279	153	104	728
Total Employees	**1,281**	**2,016**	**153**	**104**	**3,554**
Total Percentage of Employees Represented by Unions	**85%**	**86%**	**0%**	**0%**	**80%**

Source: Verity Health

EXPIRATION DATES		
Union	Seton Medical Center & Seton Medical Center Coastside	St. Francis Medical Center
National Union of Healthcare Workers	10/31/2019	
California Nurses Association	Master 12/21/2020 Local 12/21/2020	
Local 20, Engineers & Scientists of California	4/30/2020	
Local 39, International Union of Operating Engineers	9/30/2020	
Service Employees International Union-United Healthcare Workers	10/31/2021	10/31/2021
United Nurses Association of California		12/29/2021

Source: Verity Health

Profile of Purchaser

Overview

Dr. Prem Reddy is the founder and CEO of both Prime Healthcare Services, Inc. and Prime Healthcare Foundation.

- Prime, a for-profit healthcare system was founded in 2001. The health system operates 30 acute care hospitals with approximately 6,400 beds in California, Florida, Indiana, Kansas, Michigan, Nevada, New Jersey, Pennsylvania, Rhode Island, and Texas. The health system was originally formed for the purpose of reacquiring Desert Valley Medical Group, established in 1985 by Dr. Reddy and Desert Valley Hospital, also established in 1994, also by Dr. Reddy, from PhyCor. Since 2001, Prime has continued to expand its presence by acquiring hospitals across the nation. Prime's nine California hospitals are Alvarado Hospital Medical Center, Centinela Hospital Medical Center, Chino Valley Medical Center, Medical Center, Desert Valley Hospital, Garden Grove Hospital Medical Center, Paradise Valley Hospital, San Dimas Community Hospital, Shasta Regional Medical Center and West Anaheim Medical Center; and

- In 2006, Dr. Reddy founded the Prime Healthcare Foundation for the purpose of providing healthcare services to the communities served by Prime's hospitals and supporting other charitable activities, such as medical education, scholarships, community educational programs, and other community benefit programs including; Make-A-Wish Foundation of America, Unforgettables Foundation, Venice Family Clinic, Westside Children's Center, World Children's Initiative, Project Heart Uganda, ONE Generation, Steven's Hope for Children, and many others. With a commitment of $60 million, the Prime Healthcare Foundation funded a new medical school in California, the "California University of Science and Medicine", located in San Bernardino, California. Prime, or an affiliated entity, donated fifteen hospitals to the Prime Healthcare Foundation; six of which are located in California: Encino Hospital Medical Center, Huntington Beach Hospital, Montclair Hospital Medical Center, Sherman Oaks Hospital, La Palma Intercommunity Hospital, and Glendora Oaks Behavioral Health Hospital.

Prime and Prime Healthcare Foundation's most recent acquisition includes the following:

- February 2016 -Prime acquired Lehigh Regional Medical Center in Florida, Southern Regional Medical Center in Georgia, Suburban Community Hospital (formerly Mercy Suburban Hospital) in Pennsylvania and River Valley Health Partners in Ohio.

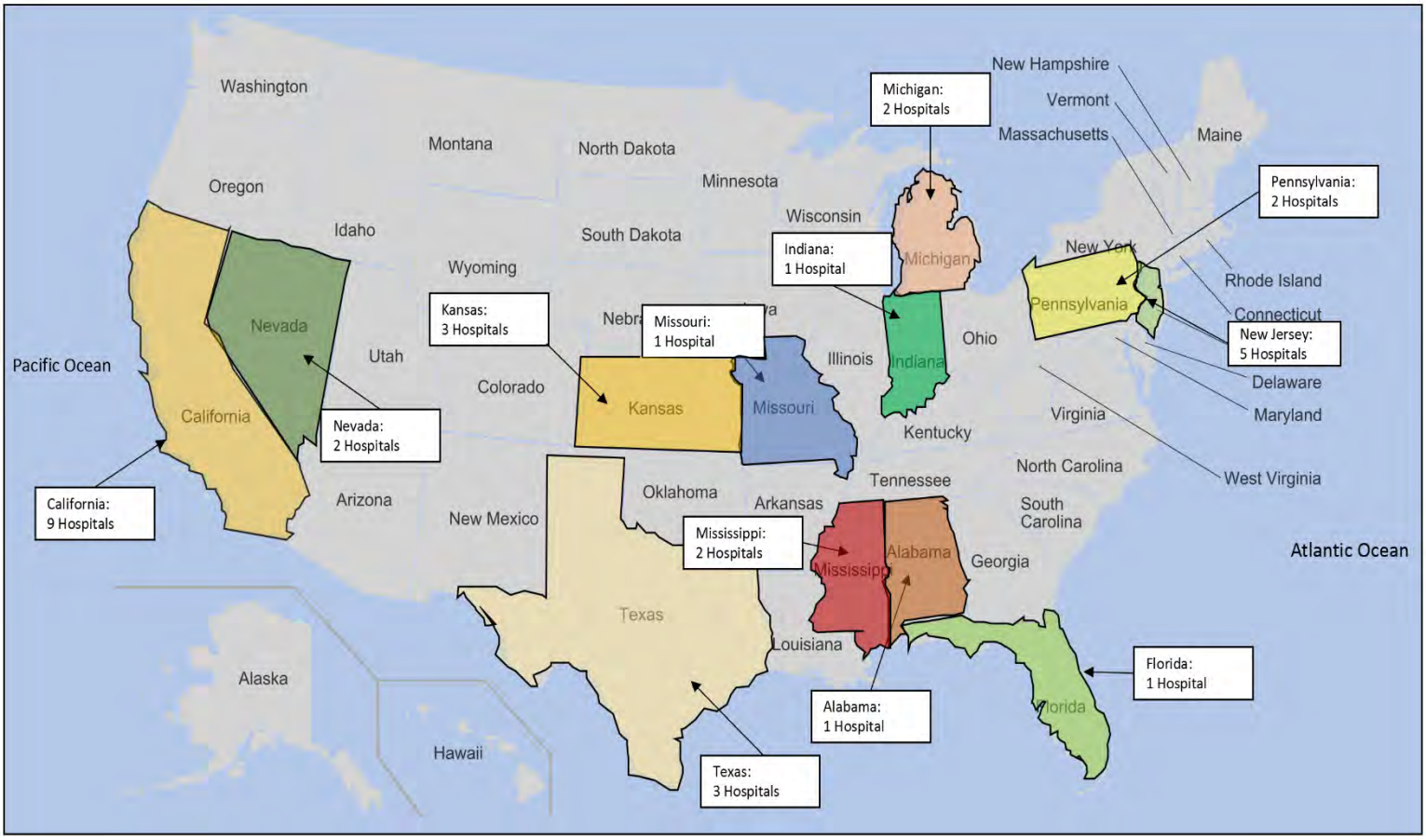
- May 2016 - Prime acquired Saint Michael's Medical Center in New Jersey;

- November – 2016 Prime acquired Coshocton County Memorial Hospital in Coshocton, Ohio; and

- May 2017- Prime Healthcare Foundation acquired Mission Regional Medical Center in Texas.

A map with the locations of hospitals in California that are operated by Prime and Prime Healthcare Foundation is shown below.

A national map of all the locations of hospitals operated by to Prime is shown below.



A detailed profile of hospitals operated by Prime are provided in the following tables.

HOSPITALS RELATED TO PRIME IN CALFORNIA								
	Paradise Valley Hospital		San Dimas Community Hospital		Shasta Regional Medical Center		West Anaheim Medical Center	
	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018
City	National City		San Dimas		Redding		Anaheim	
Licensed Beds	291	291	101	101	226	226	219	219
Patient Days	55,603	54,284	13,681	12,179	32,962	33,245	41,193	39,198
Discharges	10,157	9,292	3,895	3,578	7,688	7,008	6,258	6,551
ALOS	5.5	5.8	3.5	3.4	4.3	4.7	6.6	6.0
Average Daily Census	152	149	37	33	90	91	113	107
Occupancy	52%	51%	37%	33%	40%	40%	52%	49%
ED Visits	33,412	31,151	18,366	17,807	39,999	39,145	31,479	31,030
Inpatient Surgeries	633	612	915	801	1,907	1,756	756	777
Outpatient Surgeries	672	623	814	854	1,334	1,208	108	124
Births	924	843	567	525	-	-	-	-
Payer Mix (Based on Discharges):								
Medicare Traditional	27.1%	23.4%	28.3%	25.2%	62.3%	65.0%	41.0%	29.7%
Medicare Managed Care	8.8%	5.0%	20.8%	23.6%	1.3%	1.8%	14.1%	13.1%
Medi - Cal Traditional	34.6%	50.9%	4.5%	4.3%	2.6%	2.8%	7.5%	6.4%
Medi - Cal Managed Care	13.0%	13.2%	14.9%	14.5%	17.4%	19.7%	24.4%	30.2%
Third - Party Traditional	6.9%	3.5%	5.4%	4.3%	10.6%	5.8%	5.9%	4.5%
Third - Party Managed Care	0.0%	1.8%	20.3%	22.4%	4.5%	4.0%	3.1%	2.5%
Other Payers	9.2%	1.6%	5.6%	5.5%	1.3%	0.8%	4.0%	13.7%
Other Indigent	0.1%	0.6%	0.0%	0.2%	0.0%	0.1%	0.0%	0.0%
County Indigent	0.2%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Income Statement:								
Net Pt. Revenue	$149,161,069	$146,724,221	$60,495,029	$60,003,496	$160,490,335	$157,378,412	$138,621,219	$122,583,080
Other Operating Rev.	$2,371,389	$1,460,051	$380,733	$280,827	$1,254,290	$2,163,639	$925,025	$740,494
Total Operating Rev.	$151,532,458	$148,184,272	$60,875,762	$60,284,323	$161,744,625	$159,542,051	$139,546,244	$123,323,574
Total Operating Exp.	$157,456,181	$144,361,168	$60,678,463	$57,220,160	$148,650,276	$149,470,726	$111,146,355	$109,730,052
Net From Operations	($5,923,723)	$3,823,104	$197,299	$3,064,163	$13,094,349	$10,071,325	$28,399,889	$13,593,522
Non-operating Rev.	$1,912,943	$2,260,671	$712,758	$682,989	$186,216	$108,756	$155,801	$162,086
Non-operating Exp.	$746,275	$624,017	$464,661	$289,728	$411,206	$301,866	$72,292	$76,053
Net Income	**($4,757,055)**	**$5,459,758**	**$445,396**	**$3,457,424**	**$12,869,359**	**$9,878,215**	**$28,483,398**	**$13,679,555**
Other Financial:								
Charity Care Charges	$2,346,640	$5,983,195	$358,094	$659,699	$747,533	$1,293,333	$1,103,972	$661,682
Bad Debt Charges	$14,602,088	$6,130,473	$7,624,549	$5,210,072	$9,913,048	$9,403,305	$10,622,511	$11,510,141
Total Uncompensated Care	**$16,948,728**	**$12,113,668**	**$7,982,643**	**$5,869,771**	**$10,660,581**	**$10,696,638**	**$11,726,483**	**$12,171,823**
Cost to Charge Ratio	32.3%	31.9%	22.6%	22.9%	17.2%	18.2%	21.5%	20.9%
Cost of Charity	$757,844.56	$1,906,724.90	$81,058.18	$150,776.53	$128,258.58	$235,465.88	$237,266.43	$138,490.08
Uncompensated Care as % of Chgs.	3.5%	2.7%	3.0%	2.4%	1.2%	1.3%	2.3%	2.3%
State of Calif. Uncompensated Care	1.40%		1.40%		1.40%		1.40%	
Disproportionate Share Hospital	YES		NO		NO		NO	
Fiscal Year Ending	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018

Source: OSHPD Pivot Profile, FY 2017 & 2018

HOSPITALS OPERATED BY PRIME IN CALFORNIA								
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	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018
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Uncompensated Care as % of Chgs.	3.5%	2.7%	3.0%	2.4%	1.2%	1.3%	2.3%	2.3%
State of Calif. Uncompensated Care	1.40%		1.40%		1.40%		1.40%	
Disproportionate Share Hospital	YES		NO		NO		NO	
Fiscal Year Ending	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018

Source: OSHPD Pivot Profile, FY 2017 & 2018

Hospital Compare

The Centers for Medicare & Medicaid Services' (CMS) Hospital Compare website is a hospital rating system that summarizes 57 quality measures into a single quality Star Rating in order to rank and provide information about the quality of care at over 4,000 Medicare-certified hospitals, including over 130 Veterans Administration (VA) medical centers, across the country. The information assists the public in making decisions about where to get health care services and encourages hospitals to improve the quality of care they provide.

The 57 quality measures are summarized into seven categories. These include:

- **General information:** Name, address, telephone number, type of hospital, and other general information about the hospital;

- **Survey of patients' experiences:** How patients recently discharged from the hospital responded to a survey about their hospital experience. The survey asks questions such as how well a hospital's doctors and nurses communicated with the patient;

- **Timely and effective care:** How often or how quickly hospitals give recommended treatments known to get the best results for people with certain common conditions;

- **Complications and deaths:** How likely it is that patients will have complications while in the hospital or after certain inpatient surgical procedures, and how often patients died within 30 days of being in the hospital for a specific condition;

- **Unplanned hospital visits:** Whether patients return to a hospital after an initial hospital stay or outpatient procedure, and how much time they spend back in the hospital;

- **Use of medical imaging:** How a hospital uses outpatient medical imaging tests (like CT scans and MRIs); and

- **Payment and value of care:** How payments made by patients treated at individual hospitals compare to hospitals nationally.

CMS updated its overall hospital Quality Star Ratings in February 2020, recognizing 407 hospitals country-wide with 5-Star Ratings. Below is a breakdown of the Star Ratings:

- **1-Star:** 228 hospitals
- **2-Stars:** 710 hospitals
- **3-Stars:** 1,450 hospitals
- **4-Stars**: 1,138 hospitals
- **5-Stars:** 407 hospitals

Prime and Verity Health's hospitals Star Ratings are as follows:

Hospital Compare Star Ratings by Hospital		
	Hospital	**Star Rating**
Prime	Alvarado Hospital Medical Center	★★★★★
	Centinela Hospital Medical Center	★★★
	Chino Valley Medical Center	★★★★
	Desert Valley Hospital	★★★
	Garden Grove Hospital Medical Center	★★★
	Paradise Valley Hospital	★★★
	San Dimas Community Hospital	★★
	Shasta Regional Medical Center	★★★
	West Anaheim Medical Center	★★★
Verity Health	St. Francis Medical Center	★★
	Seton Medical Center	★★★

Source: Medicare.gov, May 5, 2020.

- Of Prime's nine general acute care hospitals, eight of the hospitals achieved a 3- star rating or higher with Alvarado Hospital Medical Center receiving a 5-start rating; and

- Of Verity Health's two general acute care hospitals, St. Francis Medical Center achieved a 2-Star Rating and Seton Medical Center achieved a 3-Star Rating.

Leapfrog Hospital Safety Grade

Leapfrog Hospital Safety Grade is a composite score made up of up to 28 national performance measures of patient safety measures that indicate how well hospitals protect patients from preventable errors, injuries and infections. Submission of a Leapfrog Hospital Survey from general acute-care hospital in the U.S. is encouraged though not required for hospitals to receive a grade. The data used for the composite score is compiled from Centers for Medicare & Medicaid Services (CMS), and measures from their own customized survey developed by a panel of patient safety experts. Criteria of patient safety used to determine the score includes:

Outcome measures include, among other measures:

- Infections, including: central line-associated bloodstream infections, catheter-associated urinary tract infections, surgical site infections for colon surgery, MRSA and C. diff;
- Falls and trauma, very severe pressure ulcers; and
- Preventable complications from surgery such as foreign objects retained in the body and accidental punctures or lacerations.

Process/structural measures include, among other measures:

- Strong nursing leadership and engagement;
- Computerized physician order entry systems to prevent medication errors;
- Safe medication administration;
- Hand hygiene policies; and
- The right staffing for the ICU.

The Leapfrog Hospital Safety Grade does not measure:

- Issues commonly considered quality measures, such as death rates for certain procedures;
- Measures of hospital quality, such as ratings by specialty or procedure; and
- Readmission rates.

Hospitals are then assigned a grade twice annually, using a scoring algorithm to determine each hospital's score as an A, B, C, D, or F letter grade.

Leapfrog Hospital Safety Grade by Hospital				
	Hospital	Safety Letter Grade	Hospital	Safety Letter Grade
Prime	Alvarado Hospital Medical Center	A SPRING 2020	Centinela Hospital Medical Center	A SPRING 2020
	Desert Valley Hospital	A SPRING 2020	Garden Grove Hospital Medical Center	A SPRING 2020
	Paradise Valley Hospital	C SPRING 2020	San Dimas Community Hosptial	A SPRING 2020
	Shasta Regional Medical Center	B SPRING 2020	West Anaheim Medical Center	C SPRING 2020
Verity Health	St. Francis Medical Center	C SPRING 2020	Seton Medical Center	A SPRING 2020

Source: Leapfrog Hospital Safety Grade
Note: Chino Valley Medical Center not reported.

Profile of St. Francis Medical Center

Overview of the Hospital

The Hospital, located at 3630 East Imperial Highway in Lynwood, California, is a 384-bed general acute care facility that provides comprehensive healthcare services and operates one of the busiest emergency trauma centers in Los Angeles County. The Hospital is licensed by type of bed as shown below:

BED DISTRIBUTION 2020	
Bed Type	**Number of Beds**
General Acute Care	164
Intensive Care	36
Neonatal Intensive Care	29
Pediatric	14
Perinatal	71
Total General Acute Care Beds	**314**
Acute Psychiatric (D/P)	40
Skilled Nursing (D/P)	30
Total Licensed Beds	**384**

Source: Hospital License 2020

The Hospital is the sole corporate member of St. Francis Medical Center Foundation. St. Francis Medical Center Foundation was incorporated in 1983 as a nonprofit public benefit corporation and is governed by a volunteer Board of Trustees. Charitable donations and endowments help fund the acquisition of new equipment, the expansion of the Hospital's facilities, healthcare services, and community outreach programs. St. Francis Medical Center Foundation raises funds through grants, special events, and individual donors. As of May 31, 2018, St. Francis Medical Center Foundation had a balance of $656,118.24 in temporarily restricted assets for the purpose of funding programs such as the Children's Counseling Center, nurse education, and the annual Women's Luncheon in support of mammography equipment.

The Hospital has a "basic" emergency department[22] with 46 licensed emergency treatment stations and is designated a Level II Trauma Center[23]. It also has nine surgical operating rooms and three cardiac catheterization labs for inpatient and outpatient cardiac catheterization services.

[22] A "basic" emergency department provides emergency medical care in a specifically designated part of a hospital that is staffed and equipped at all times to provide prompt care for any patient presenting urgent medical problems.
[23] A Level II Trauma Center is able to initiate definitive care for all injured patients. Level II Trauma requirements include 24-hour immediate coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology and critical care.

In 2020, as a result of the COVID-19 pandemic, the Hospital played a significant role providing healthcare services to infected patients. Through mid-May, the Hospital had one of the highest census of COVID-19 patients requiring hospitalizations among Los Angeles County hospitals reaching a peak daily census of 71 infected inpatients.

Key Statistics

For FY 2019, the Hospital had a total of 20,115 inpatient discharges, 100,308 patient days, and an average daily census of 275 patients per day (approximately 72% occupancy on 384 total licensed beds).

ST. FRANCIS MEDICAL CENTER KEY STATISTICS FY 2017 FY 2019			
	FY 2017	FY 2018	FY 2019
Inpatient Discharges	21,049	22,687	20,115
Licensed Beds	384	384	384
Patient Days	103,599	105,438	100,308
Average Daily Census	283.8	289.0	274.8
Occupancy	73.9%	75.2%	71.6%
Average Length of Stay	4.9	4.6	5.0
Cardiac Catheterization Procedures	3,803	3,884	3,885
Emergency Service Visits[2]	81,643	76,383*	70,459*
Total Live Births	4,723	4,457	4,054

Sources: OSHPD Disclosure Reports, FY 2017- FY 2019

[2] OSHPD Alirts Annual Utilization Reports

* Disclosure Reports shown, Alirts Annual Utilization Reports unavaliable.

- Since FY 2017, inpatient discharges have decreased by 4%, from 21,049 discharges to 20,115 discharges in FY 2019. Over the same period, patient days have decreased by 3% to 100,308 patient days in FY 2019;
- Between FY 2017 and FY 2019, emergency department visits decreased by 7.8% to 70,459 visits in FY 2019;
- Between FY 2017 and FY 2019, total live births decreased by 14% from 4,723 to 4,054 in FY 2019; and
- Cardiac catheterization procedures increased from FY 2018 by 7% to 3,885 in FY 2019.

Programs and Services

The Hospital offers a comprehensive range of services, including emergency and trauma care, neonatal intensive, cardiovascular, oncology, pediatrics, behavioral health, and maternity and children's services.

- Cardiac services include: Inpatient non-invasive and minimally invasive surgical techniques, diagnostic and interventional catheterizations, angioplasty, open heart surgery, drug-eluting stent implantation, and pacemaker monitoring at the Pacemaker Clinic. The Hospital is also a designated STEMI Receiving Center;

- Behavioral health services include: A licensed 40-bed acute psychiatric unit that provides inpatient stabilization and outpatient treatments. The Hospital has a Psychiatric Evaluation Team that has 5150[24] authority and conducts mobile crisis evaluation services for patients who are experiencing, or are at risk of experiencing, a psychotic episode;

- Cancer services include: Radiation oncology and intensity modulated radiation therapy, a technique to provide cancer treatment for stomach, lung, prostate, and other cancers;

- Imaging services include: Mammography, CT, MRI, ultrasound, X-ray, nuclear medicine, and radiation therapy;

- Emergency and trauma services include: An emergency department with 46 treatment stations, Fast Track services, a Rapid Medical Evaluation area, heliport, and a Level II Trauma Center. The Hospital's emergency department is one of the busiest trauma centers in Los Angeles County and has the following designations:

    - Emergency Department Approved for Pediatrics (EDAP);
    - Certified Primary Stroke Center;
    - Designation as a 5150 Receiving Facility for behavioral health patients under involuntary evaluation; and
    - Designated Paramedic Base Station.

- Designated Level II Trauma Center that meets the essential criteria by providing the necessary resources and scope of specialty physician services in order to provide comprehensive trauma coverage, as verified by the American College of Surgeons;

- Women's health services include: Obstetrics and maternity, Level II neonatal intensive care unit services, imaging, oncology, and cardiovascular services;

[24] Welfare and Institutions Code, Section 5150: When a person, as a result of a mental health disorder, is a danger to oneself or others, a peace officer, professional person, or member of the staff at a designated 5150 Receiving Center may, upon probable cause, hold the person at the 5150 facility for evaluation and treatment over a 72-hour period.

- Intensive care/critical care services include: A 36-bed unit that is a combined intensive medical, surgical, and cardiac care unit;

- Rehabilitation services include: Physical therapy, occupational therapy, and speech therapy provided for inpatient, outpatient, and skilled nursing unit patients;

- Skilled nursing services include: A 30-bed unit that provides skilled nursing care to an adult and geriatric patient population. The skilled nursing unit offers basic nursing care, oxygen administration, medication and fluid administration, tube feedings, physical therapy, social work services, and patient/family education;

- Pediatric services include: A 14-bed unit that provides general acute care pediatric services and the Children's Counseling Center which provides mental health care and care management services;

- Surgical services include: General, trauma, cardiac, thoracic, neurological, orthopedic, ophthalmologic, otolaryngologic, laparoscopic, urological, gastrointestinal, and vascular surgical services; and

- Wound Care services include: Inpatient services and an outpatient clinic that provides treatment for patients with chronic, non-healing wounds.

Accreditation

The Hospital is accredited for three years by The Joint Commission, effective October 2018. Over the years, the Hospital received several awards and accolades including the following:

- Accredited by The Joint Commission as a Primary Stroke Center effective June, 2018 through September, 2020;

- In 2018, the Hospital received Performance Excellence Awards from Collaborative Alliance for Nursing Outcomes (CALNOC); and

- In 2017, the Hospital received the Supply Chain Excellence award from Premier, Inc.

Quality Measures

The Value-Based Purchasing Program, established by the Federal Patient Protection and Affordable Care Act in 2012, encourages hospitals to improve the quality and safety of care. The Centers for Medicare & Medicaid Services rewards and penalizes hospitals through payment increases and reductions by determining hospital performance on four domains that reflect hospital quality: the clinical process of care and outcomes domain, the patient and caregiver centered experience of care/care coordination domain, the safety domain, and the efficiency and cost reduction domain. In FY 2019, the Centers for Medicare & Medicaid Services increased Medicare payments to the Hospital by 0.39%. For FY 2020, the Centers for Medicare & Medicaid Services decreased payments to the Hospital by 0.19%.

The following table reports the Hospital's performance compared to all hospitals across the nation for the seven categories that comprise Hospital Compare's overall quality rating:

QUALITY MEASURES	
Condition/Procedure	**National Average**
Mortality	Same as the national average
Safety of Care	Below the national average
Readmission	Below the national average
Patient Experience	Below the national average
Effectiveness of Care	Same as the national average
Timeliness of Care	Below the national average
Efficient Use of Medical Imaging	Same as the national average

Source: Data.medicare.gov Hospital Compare, May, 2020

The Federal Hospital Readmissions Reduction Program[25], implemented in 2012, penalizes hospitals for excess patient readmissions within 30 days of discharge for the following six applicable conditions: chronic obstructive pulmonary disease, heart attack, heart failure, pneumonia, stroke and hospital wide readmissions. The penalty is administered by reducing all of a hospital's reimbursement payments under the Medicare program by a certain percentage for the entire year.

In FY 2019, the Hospital was penalized with a 0.15% reduction in reimbursement. For FY 2020, the Hospital is penalized with a 0.33% reduction in reimbursement. The following table shows the Hospital's 30-day readmission rates for chronic obstructive pulmonary disease, heart attack, heart failure, pneumonia, and all causes hospital-wide. The Hospital's 30-day readmission rate is higher than the national average for heart attack, heart failure and hospital wide conditions.

30-DAY READMISSION RATES		
Condition/Procedure	**St. Francis Medical Center**	**National Average**
Chronic Obstructive Pulmonary Disease	19.1%	19.5%
Heart Attack	16.1%	15.7%
Heart Failure	24.8%	21.6%
Pneumonia	16.0%	16.6%
Hospital-Wide	15.6%	15.3%

Source: Data.medicare.gov Hospital Compare, May 2020

[25] The formula for determining hospital reimbursement payments under the Hospital Readmissions Reduction Program varies by hospital and geographic location and may not correspond directly to state and national hospital averages.

Seismic Issues

Using the HAZUS seismic criteria[26], the Hospital's structures subject to seismic compliance have been classified according to the California Senate Bill 1953 Seismic Safety Act for the Structural Performance Category (SPC) and the Non-Structural Performance Category (NPC), as shown in the table below.

ST. FRANCIS MEDICAL CENTER SEISMIC OVERVIEW		
Building Name	**SPC Compliance Status**	**NPC Compliance Status**
Family Life Center	5	2
Health Services Pavilion	3	2
Central Plant	4	2
New Hospital Tower	5	2
Psychiatric Care Unit	N/A	-

Source: OSHPD

- The Hospital has two buildings rated as SPC-5. Buildings in this category will have been constructed or reconstructed under a building permit obtained through OSHPD. These buildings may be used without restriction to January 1, 2030, and beyond;

- The Hospital has one buildings rated SPC-4. These buildings are in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act (SBC 1953). Buildings in this category will have been constructed, or reconstructed, under a building permit obtained through OSHPD and may be used for inpatient services through to January 1, 2030, and beyond;

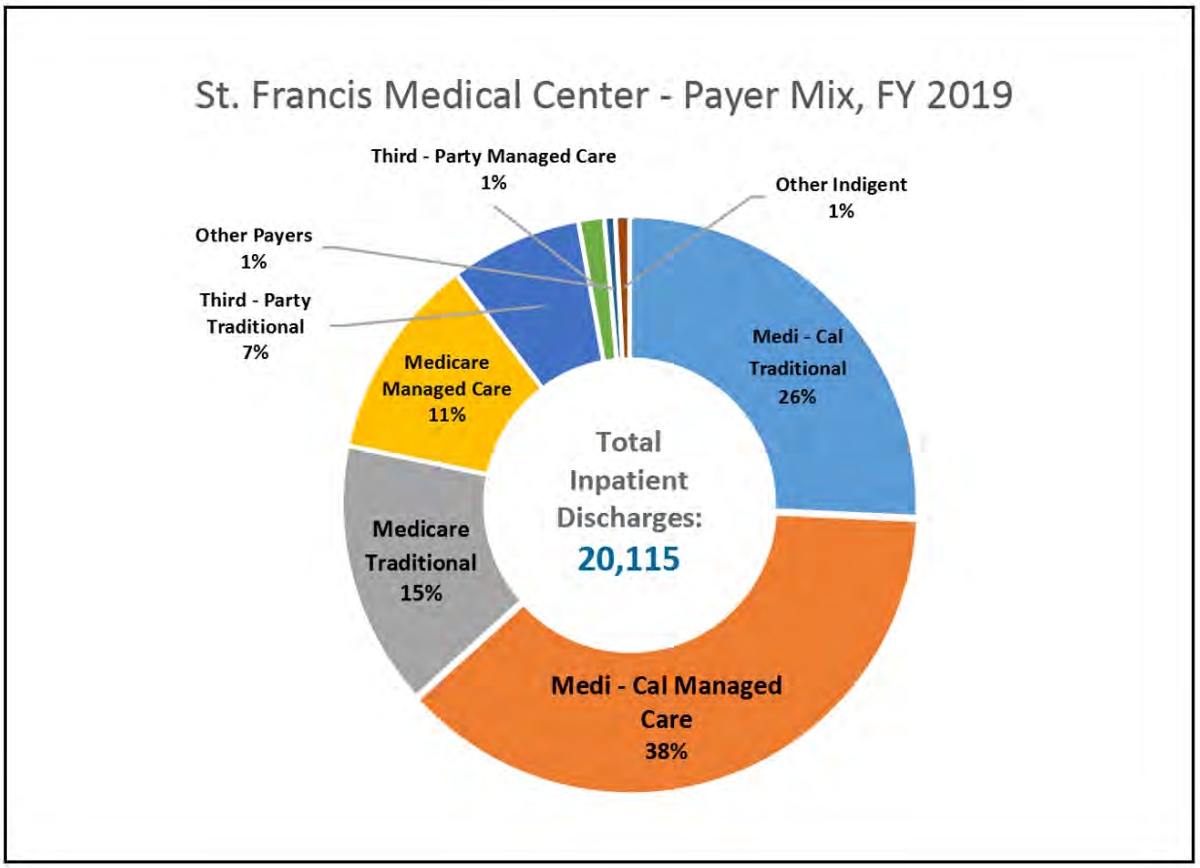
- The Hospital has one building rated as SPC-3. This building may experience structural damage which does not significantly jeopardize life but may not be repairable or functional following strong ground motion. Buildings in this category will have been constructed or reconstructed under a building permit obtained through OSHPD. These buildings may be used to January 1, 2030, and beyond; and

- The Hospital has four buildings rated as NPC-2. The following systems including: communication systems, emergency power supply, bulk medical gas systems, fire alarm systems and emergency lighting equipment for the building are either anchored in accordance with the Part 2, Title 24 of the California Building Code or approved by the Department of General Services, Office of Architecture and Construction, Structural Safety Section.

[26]OSHPD uses HAZARDS U.S. (HAZUS), a methodology used to assess the seismic risk of hospital buildings.

Payer Mix

The Hospital's payer mix for FY 2019 consisted of a large proportion of Medi-Cal patients that accounted for 64% of all inpatient hospital discharges. As a result, the Hospital receives significant disproportionate share hospital funding from the federal government. Medicare patients accounted for (26%) of all inpatient discharges, with Medicare Traditional at (15%) and Medicare Managed Care at (11%). Third-Party Managed Care (1%) and Third-Party Traditional accounted for (7%) of all inpatient hospital discharges.



*"Other" includes self-pay, workers' compensation, other government, and other payers
Source: OSHPD Disclosure Reports

The following table provides the Hospital's FY 2019 inpatient discharge payer mix compared to Los Angeles County and the State of California for CY 2018. The comparison shows that the Hospital has much higher percentages of Medi-Cal Managed Care patients (37.6%) and Medi-Cal Traditional Patients (25.7%) relative to Los Angeles County and California overall. The table also shows that the Hospital has a very low percentage of Third Party Traditional and Managed Care patients (8.9%) relative to Los Angeles County (25.0%) and California overall (27.7%).

PAYER MIX COMPARISON						
	Hospital[1] (2019)		Los Angeles County (2018)		California (2018)	
Payer Type	Discharges	% of Total	Discharges	% of Total	Discharges	% of Total
Medi-Cal Managed Care	5,177	25.7%	189,247	19.4%	673,236	19.0%
Medi-Cal Traditional Coverage	7,556	37.6%	144,413	14.8%	399,695	11.3%
Medi-Cal Total	**12,733**	**63.3%**	**333,660**	**34.3%**	**1,072,931**	**30.3%**
Medicare Traditional Coverage	3,006	14.9%	228,313	23.4%	866,924	24.5%
Medicare Managed Care	2,306	11.5%	125,080	12.8%	445,211	12.6%
Medicare Total	**5,312**	**26.4%**	**353,393**	**36.3%**	**1,312,135**	**37.1%**
Third-Party Managed Care	1,496	7.4%	224,421	23.0%	884,468	25.0%
Third-Party Traditional Coverage	292	1.5%	24,403	2.5%	96,701	2.7%
Third-Party Total	**1,788**	**8.9%**	**248,824**	**25.5%**	**981,169**	**27.7%**
Other Traditional Coverage	123	0.6%	35,847	3.7%	155,937	4.4%
Other Managed Care	159	0.8%	2,265	0.2%	16,709	0.5%
Other Total	**282**	**1.4%**	**38,112**	**3.9%**	**172,646**	**4.9%**
Grand Total	**20,115**	**100%**	**973,989**	**100%**	**3,538,881**	**100%**

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

[1] FY 2019 OSHPD Disclosure Report

Medi-Cal Managed Care

The Medi-Cal Managed Care Program contracts for healthcare services through established networks of organized systems of care. Over 12 million Medi-Cal beneficiaries in all 58 counties in California receive their healthcare through six models of managed care, including: County Organized Health Systems, the Two-Plan Model, Geographic Managed Care, the Regional Model, the Imperial Model, and the San Benito Model.

Los Angeles County has a Two-Plan Model that offers a local initiative plan and a commercial plan. The Two-Plan Model is provided by L.A. Care Health Plan and Health Net Community Solutions, Inc. The local initiative and commercial plans contract with the Medi-Cal Managed Care program. The percentage of Los Angeles County residents with Medi-Cal Managed Care coverage has increased significantly as a result of the Affordable Care Act (ACA) and California initiatives to expand managed care. Since 2014, the Medi-Cal eligibles count in Los Angeles County has increased by 8% from 3,622,367 Medi-Cal eligibles in 2014 to 3,754,607 Medi-Cal eligibles in 2019.

Medical Staff

According to Verity Health, the Hospital has 366 physicians on its active medical staff. The five largest active specialties, comprising nearly 41% of the medical staff, include: internal medicine, emergency medicine, obstetrics/ gynecology, internal medicine-nephrology and pediatrics. The table below lists the active medical at the Hospital.

ACTIVE MEDICAL STAFF PROFILE 2020					
Specialty	**Count**	**% of Total**	**Specialty**	**Count**	**% of Total**
Anesthesiology	21	5.7%	Orthopedic Surgery – Hand Surgery	1	0.3%
Cardiothoracic Vascular Surgery	3	0.8%	Otolaryngology	2	0.5%
Emergency Medicine	23	6.3%	Pain Management	1	0.3%
Family Medicine	7	1.9%	Pathology	4	1.1%
General Practice	4	1.1%	Pediatric Dentistry	2	0.5%
Internal Medicine	57	15.6%	Pediatrics	25	6.8%
Internal Medicine – Cardiovascular Disease	9	2.5%	Pediatrics - Neonatal-Perinatal Medicine	6	1.6%
Internal Medicine – Cardiac Electrophysiology	1	0.3%	Pediatric Cardiology	4	1.1%
Internal Medicine – Critical Care Medicine	4	1.1%	Pediatric Pulmonary Medicine	1	0.3%
Internal Medicine – Endocrinology	1	0.3%	Plastic Surgery	4	1.1%
Internal Medicine – Gastroenterology	5	1.4%	Podiatry	7	1.9%
Internal Medicine – Hematology/Oncology	8	2.2%	Psychiatry	12	3.3%
Internal Medicine – Infectious Disease	3	0.8%	Radiology	11	3.0%
Internal Medicine - Nephrology	22	6.0%	Radiation Oncology	2	0.5%
Internal Medicine – Pulmonary Disease	8	2.2%	Radiology – Vascular and Interventional	1	0.3%
Maternal Fetal Medicine	2	0.5%	Surgical Critical Care	12	3.3%
Neurological Surgery	3	0.8%	Surgery – General	14	3.8%
Obstetrics & Gynecology	22	6.0%	Surgery – Vascular Surgery	3	0.8%
Obstetrics & Gynecology - GYN-Oncology	1	0.3%	Surgery – Surgical Oncology	3	0.8%
Ophthalmology	18	4.9%	Teleradiology	9	2.5%
Oral & Maxillofacial Surgery	3	0.8%	Thoracic Surgery	1	0.3%
Orthopedic Surgery	13	3.6%	Urology	3	0.8%
			Total Active Physicians	**366**	**100%**

Source: Verity Health

Patient Utilization Trends

The table below shows volume trends at the Hospital from FY 2015 through FY 2019:

ST. FRANCIS MEDICAL CENTER SERVICE VOLUMES FY 2015- FY 2019					
PATIENT DAYS	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**
Medical/Surgical[1]	40,492	43,979	52,502	57,220	53,990
Neonatal Intensive Care	7,996	6,793	7,088	6,082	5,319
Intensive Care	8,689	8,569	10,221	10,923	11,043
Obstetrics	12,645	12,182	11,644	10,990	9,512
Pediatrics Acute	1,593	1,190	1,399	1,191	794
Skilled Nursing	6,110	6,910	7,879	5,410	6,686
Psychiatric Acute - Adult	12,102	12,535	12,866	13,622	12,964
Total	**89,627**	**92,158**	**103,599**	**105,438**	**100,308**
DISCHARGES					
Medical/Surgical[1]	9,448	10,619	11,539	13,157	11,698
Neonatal Intensive Care	529	571	546	524	433
Intensive Care	813	842	891	853	778
Obstetrics	5,425	5,282	5,203	5,066	4,421
Pediatrics Acute	1,120	413	474	419	273
Skilled Nursing	295	312	292	264	308
Psychiatric Acute - Adult	2,493	2,024	2,104	2,404	2,204
Total	**20,123**	**20,063**	**21,049**	**22,687**	**20,115**
AVERAGE LENGTH OF STAY					
Medical/Surgical[1]	4.3	4.1	4.5	4.3	4.6
Neonatal Intensive Care	15.1	11.9	13.0	11.6	12.3
Intensive Care	10.7	10.2	11.5	12.8	14.2
Obstetrics	2.3	2.3	2.2	2.2	2.2
Pediatrics Acute	1.4	2.9	3.0	3.3	2.9
Skilled Nursing	20.7	22.1	27.0	20.5	21.7
Psychiatric Acute - Adult	4.9	6.2	6.1	5.7	5.9
Total[3]	**4.2**	**4.3**	**4.6**	**4.5**	**4.7**
AVERAGE DAILY CENSUS					
Medical/Surgical[1]	110.9	120.5	143.8	156.8	147.9
Neonatal Intensive Care	21.9	18.6	19.4	16.7	14.6
Intensive Care	23.8	23.5	28.0	29.9	30.3
Obstetrics	34.6	33.4	31.9	30.1	26.1
Pediatrics Acute	4.4	3.3	3.8	3.8	2.2
Skilled Nursing	16.7	18.9	21.6	14.8	18.3
Psychiatric Acute - Adult	33.2	34.3	35.2	37.3	35.5
Total	**246.0**	**252.0**	**283.8**	**289.0**	**274.8**
OTHER SERVICES					
Inpatient Surgeries	2,766	3,140	3,216	3,356	2,943
Outpatient Surgeries	2,606	2,433	2,157	2,756	N/A
Emergency Service Visits[2]	70,855	67,627	81,643	76,383*	70,459*
Total Live Births	5,120	4,980	4,723	4,457	4,054

Sources: OSHPD Disclosure Reports, FY 2015 - FY 2019

* Disclosure Reports shown, Alirts Annual Utilization Reports unavailable.

[1] Includes Definitive Observation Beds

[2] OSHPD Alirts Annual Utilization Reports

[3] Excludes Skilled Nursing

A review of the Hospital's historical utilization trends, between FY 2015 and FY 2019, supports the following conclusions:

- Total patient days have increased by approximately 12%, while total discharges stayed relatively the same;
- Pediatric acute discharges have decreased by approximately 75%;
- Neonatal intensive care days have decreased 18% resulting in an average daily census of 15 patients in FY 2019;
- Psychiatric acute discharges have decreased by 12%; and
- Total live births have decreased by 21% to 4,054 births in FY 2019.

Financial Profile

Over the last four fiscal years, the Hospital has maintained a positive net income ranging from approximately $70.5 million in FY 2015 to $18.7 million in FY 2019.

A significant portion of the Hospital's revenue is derived from the federal government through the Hospital's designation as a disproportionate share hospital and through Hospital Quality Assurance Fees. Hospitals designated as a disproportionate share hospital are eligible to receive matching qualified Medi-Cal expenditures and additional revenue from the federal government for the unrecovered costs associated with providing care to Medi-Cal and other indigent patients. The Hospital Quality Assurance Fees provide supplemental payments to California hospitals that serve a disproportionately greater percentage of Medi-Cal and uninsured patients. The Hospital is dependent on these two programs to operate with a positive net income. Between FY 2018 and FY 2019, the Hospital received over $47 million disproportionate share payments alone and quality assurance fees. If these funding sources are reduced or eliminated their payments, the Hospital may not remain profitable.

ST. FRANCIS MEDICAL CENTER FINANCIAL AND RATIO ANALYSIS FY 2015 - FY 2019						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	
Patient Days	89,627	92,158	103,599	105,438	100,308	
Discharges	19,563	20,063	21,049	22,687	20,115	
ALOS	4.6	4.6	4.9	4.6	5.0	
Net Patient Revenue	$500,134,977	$451,126,605	$525,691,564	$573,239,344	$527,500,723	
Other Operating Revenue	$5,208,536	$3,828,322	$2,128,596	$1,951,513	$1,720,483	
Total Operating Revenue	$505,343,513	$454,954,927	$527,820,160	$575,190,857	$529,221,206	
Operating Expenses	$441,735,229	$429,594,350	$461,182,231	$514,663,838	$513,416,642	
Net from Operations	$63,608,284	$25,360,577	$66,637,929	$60,527,019	$15,804,564	
Net Non-Operating Revenues/Expenses	$6,852,134	$3,523,883	$2,560,797	$3,820,882	$2,855,040	
Net Income	**$70,460,418**	**$28,884,460**	**$69,198,726**	**$64,347,901**	**$18,659,604**	
						2018 California Data[1]
Current Ratio	2.19	2.45	2.48	3.33	2.58	1.74
Days in A/R	41.5	47.9	60.6	41.7	42.5	56.09
Bad Debt Rate	0.70%	0.60%	0.70%	1.20%	0.30%	0.70%
Operating Margin	12.59%	5.57%	12.63%	10.52%	2.99%	4.45%

Source: OSHPD Disclosure Reports, FY 2014 - FY 2018

[1] FY 2019 California data was not available when the data was collected to prepare this report.

The Hospital's current ratio[27] has increased over the last five years from 2.19 in FY 2015 to in 2.58 FY 2019 (the California average in FY 2018 was 1.74). The Hospital's percentage of bad debt is 0.30% and lower than the statewide average of 0.8%.

Cost of Hospital Services

The Hospital's cost of services includes both inpatient and outpatient care. In FY 2019, 51% of total costs were associated with Medi-Cal, followed by 32% with Medicare, and 11% with Third – Party.

ST. FRANCIS MEDICAL CENTER OPERATING EXPENSES BY PAYER CATEGORY FY 2015 - FY 2019					
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Operating Expenses	**$441,735,228**	**$429,594,350**	**$461,182,231**	**$514,663,838**	**$513,416,612**
Cost of Services By Payer:					
Medicare	$126,286,779	$128,478,055	$126,472,788	$139,612,914	$165,999,279
Medi-Cal	$256,909,202	$244,990,912	$276,005,994	$274,021,008	$259,526,020
County Indigent	$8,231,127	$5,693,386	$3,718,446	$11,199,702	$12,772,211
Third-Party	$30,422,252	$36,650,263	$39,933,966	$67,287,476	$58,873,468
Other Indigent	$12,150,202	$7,342,704	$7,924,607	$8,746,975	$6,772,072
All Other Payers	$7,735,666	$6,439,030	$7,126,430	$13,795,763	$9,473,562

Source: OSHPD Disclosure Reports, FY 2015 - FY 2019

[27] The current ratio compares a company's current assets to its current liabilities to measure its ability to pay short-term and long-term debt obligations. A low current ratio of less than 1.0 could indicate that a company may have difficulty meeting its current obligations. The higher the current ratio, the more capable the company is of paying its obligations as it has a larger proportion of assets relative to its liabilities.

Charity Care

The following table shows a comparison of charity care and bad debt for the Hospital to all general acute care hospitals in the State of California. The five-year (FY 2015 – FY 2019) average of charity care and bad debt, as a percentage of gross patient revenue, was 2.9% and higher than the four-year statewide average of 1.6%. According to OSHPD, "…the determination of what is classified as charity care can be made by establishing whether or not the patient has the ability to pay. The patient's accounts receivable must be written off as bad debt if the patient has the ability but is unwilling to pay off the account."

ST. FRANCIS MEDICAL CENTER CHARITY CARE COMPARISON FY 2015 - FY 2019 (In Thousands)										
	FY 2015		FY 2016		FY 2017		FY 2018		FY 2019	
	Hospital	CA	Hospital	CA	Hospital	CA	Hospital	CA	Hospital	CA [1]
Gross Patient Revenue	$1,501,137	$365,501,463	$1,554,371	$396,427,743	$1,742,574	$408,188,146	$1,923,223	$435,753,169	$1,896,998	
Charity	$46,460	$3,441,227	$39,640	$3,457,868	$42,079	$2,864,615	$32,686	$3,965,418	$25,022	
Bad Debt	$9,903	$3,262,642	$9,210	$3,108,971	$12,742	$2,762,692	$23,483	$3,078,632	$6,089	
Total Charity & Bad Debt	**$56,363**	**$6,703,869**	**$48,850**	**$6,566,839**	**$54,821**	**$5,627,307**	**$56,169**	**$7,044,050**	**$31,111**	
Charity Care as a % of Gross Patient Revenue	3.1%	0.9%	2.6%	0.9%	2.4%	0.7%	1.7%	0.9%	1.3%	
Bad Debt as a % of Gross Patient Revenue	0.7%	0.9%	0.6%	0.8%	0.7%	0.7%	1.2%	0.7%	0.3%	
Total as a % of Gross Patient Revenue	3.8%	1.8%	3.1%	1.7%	3.1%	1.4%	2.9%	1.6%	1.6%	
Uncompensated Care										
Cost to Charge Ratio	29.1%	24.1%	27.4%	23.8%	26.3%	23.0%	26.7%	23.0%	27.0%	
Charity	$13,520	$829,336	$10,861	$822,973	$11,067	$658,861	$8,727	$911,650	$6,749	
Bad Debt	$2,882	$786,297	$2,524	$739,935	$3,351	$635,419	$6,270	$707,777	$1,642	
Total	**$16,402**	**$1,615,632**	**$13,385**	**$1,562,908**	**$14,418**	**$1,294,281**	**$14,997**	**$1,619,427**	**$8,392**	

Source: OSHPD Disclosure Reports FY 2015 - FY 2019

[1] California data unavaliable

The table on the following page shows the Hospital's historical costs for charity care as reported to OSHPD. Charity care costs have decreased from $13,519,902 in FY 2015 to $6,755,886 in FY 2019. The average cost of charity care for the last five-year period was $10,186,173 while the three-year average cost of charity care was $8,851,210.

ST. FRANCIS MEDICAL CENTER COST OF CHARITY CARE FY 2015 FY 2019			
Year	Charity Care Charges	Cost to Charge Ratio	Cost of Charity Care to the Hospital
FY 2019	$25,021,800	27.00%	$6,755,886
FY 2018	$32,686,155	26.66%	$8,714,129
FY 2017	$42,079,027	26.34%	$11,083,616
FY 2016	$39,639,760	27.39%	$10,857,330
FY 2015	$46,460,146	29.10%	$13,519,902
FY 2017 - FY 2019 Average			**$8,851,210**
FY 2015 - FY 2019 Average			**$10,186,173**

Source: OSHPD Disclosure Reports FY 2015 - FY 2019

In the written notice to the California Attorney General, the Hospital reported the following combined distribution of charity care costs by inpatient, outpatient, and emergency room visits. Note that these totals are different than what the Hospital reported to OSHPD. The Hospital's Charity Care and Discount Policy states that persons with family income at or below 200% of the federal policy level, and without other sources to pay for care received, qualify to receive free care. For Self-Pay patients whose family income is between 201% and 350% of the federal policy level, and without other sources to pay for care received, qualify to receive financial assistance using the Discounted Payment Program[28].

ST. FRANCIS MEDICAL CENTER COST OF CHARITY CARE BY SERVICE FY 2015 - FY 2019				
	Inpatient	Emergency	Outpatient	Total Costs
FY 2019:				
Cost of Charity	$2,119,167	$4,283,324	$117,092	$6,519,583
Visits/Discharges	242	3,054	118	3,414
FY 2018:				
Cost of Charity	$1,706,396	$6,805,186	$215,621	$8,727,203
Visits/Discharges	198	5,120	141	5,459
FY 2017:				
Cost of Charity	$2,552,655	$4,815,759	$230,161	$7,598,575
Visits/Discharges	449	5,443	488	6,380
FY 2016:				
Cost of Charity	$1,967,641	$8,294,152	$772,119	$11,033,912
Visits/Discharges	371	8,961	1,244	10,576
FY 2015:				
Cost of Charity	$3,736,941	$9,128,037	$645,514	$13,510,492
Visits/Discharges	320	10,991	1,547	12,858

Source: Verity Health

[28] In the Discounted Payment Program, Self-Pay Patients whose family income is between 201 percent and 350 percent, inclusive, of the Federal Poverty Level, the Hospital shall limit the expected payment for services provided by the Hospital to the lesser of (A) the among generally billed of Medicare Fee for Service, as calculated by the Hospital using the "Look-back Method" as defined in applicable regulations implementing Section 501(r) of the Internal Revenue Code, or (B) the highest amount of payment the Hospital would expect, in good faith, to receive for providing services from Medicare, Medi-Cal, the Healthy Families Program, or another government-sponsored health program of health benefits in which the Hospital participates. For the Hospital, the amount generally billed effective June 30, 2018 for inpatient services is 22% and the amount generally billed for outpatient services is 9%.

Community Benefit Services

In the last five fiscal years, the Hospital has provided several community benefit services. As shown in the table below, the average annual cost of community benefit services over the five years was $2,132,804.

COMMUNITY BENEFIT SERVICES							
Community Benefit Programs	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	5-Year	Total
Benefits for Persons Living in Poverty	$308,184	$296,923	$259,120	$1,421,448	$2,817,941	$1,402,572	**$5,103,616**
Benefits for Broader Community	$368,616	$254,798	$796,376	$1,016,586	$445,393	$730,232	**$2,881,769**

Source: Verity Health, FY 2015-2019

(1) Grant funds and grant supported programs not included

The following table lists the Hospital's community benefit services over the past five fiscal years that cost over $10,000, followed by descriptions of these community benefit services:

COST OF COMMUNITY BENEFIT SERVICES FY 2015- FY 2019					
Services over $10,000 in cost:	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Baby Friendly	$43,673	$0	$0	$0	$0
Bet Tzedek Legal Services	$104,876	$0	$0	$0	$0
Children's Counseling Center	$112,932	$66,275	$93,002	$117,230	$78,769
Community Benefit Planning & Reporting	$12,768	$9,500	$16,958	$5,656	$8,515
South Los Angeles Access to Care - SFMC Compton Clinic	$255,059	$0	$0	$0	$0
COPE Clinical Health Extenders	$93,986	$91,900	$94,400	$42,199	$72,949
Dental Grant	$6,000	$3,500	$2,500	$0	$0
Footprints	$15,906	$0	$0	$0	$0
Health Benefits Resource Center	$1,172,733	$651,094	$340,590	$1,888,468	$2,014,976
Healthy Community Initiatives	$900,511	$813,971	$385,591	$363,483	$366,407
Paramedic Training and Education	$62,065	$98,189	$503,978	$842,192	$935,339
Patient Transportation - Taxi Vouchers	$44,950	$45,826	$48,980	$66,325	$55,868
Senior Wellness and Educational Program	$22,389	$6,025	$323	$650	$0
Southern California Crossroads Program	$95,655	$91,065	$98,325	$83,956	$84,055
GRYD Gang Reduction Youth Development	$0	$0	$0	$0	$10,344
Support Groups	$63,861	$8,535	$4,492	$0	$0
Trauma Injury Prevention Program	$65,000	$65,000	$110,602	$99,744	$868,926
Welcome Baby	$1,404,358	$1,811,567	$1,712,808	$1,692,927	$1,955,563
Senior Dinners	$10,384	$3,756	$4,240	$4,631	$10,742
Vincentian Fund (Rx, med equip, food vouchers, etc)	$114,966	$93,883	$24,813	$371,102	$42,417
Bus Tokens (Homeless Discharge Policy)	$0	$0	$3,520	$10,560	$14,590
Clinical Affiliations - Nursing Schools	$0	$0	$80,599	$52,010	$78,588
Cash Donations to Other Organizations Comm Ben Progs	$4,000	$0	$10,000	$1,850	$0
Senior/Family Health Fair	$0	$0	$0	$0	$45,014
Volunteer Services	$152,372	$108,762	$75,857	$68,210	$48,660
Community Boards to promote wellness	$3,450	$7,100	$11,948	$188	$0
Community Health Needs Assessment	$0	$5,925	$5,925	$0	$17,500

Source: Verity Health

Note: Includes grant dollars

The Hospital's community benefit services have supported many important programs for the community including: Baby Friendly, Healthy Community Initiatives, Vida Sana/Healthy Life Community Wellness Program, Trauma & Injury Prevention Program, Children's Counseling Center, Welcome Baby, and others as described below:

- Baby Friendly Hospital Initiative: The Baby Friendly Hospital Initiative program's purpose is to encourage breastfeeding rates to reduce childhood illness and death. The three-year grant provided by First 5 LA to fund the program and help the Hospital to achieve its Baby Friendly designation ended in FY 2015. Although the program is closed, the Hospital continues to maintain its Baby Friendly Hospital designation;

- Children's Counseling Center: The Children's Counseling Center, located on the Hospital's main campus and in a satellite office in South Gate, provides mental health, case management, and medication services to decrease emotional and behavioral distress. The school-based counselor addresses emotional and behavioral distress and helps reduce barriers to successful learning;

- COPE Clinical Health Extenders: The program provided pre-health clinical interns with the opportunity to act as part of a patient-care team to gain clinical experience. The program closed in FY 2018;

- Health Benefits Resource Center (HBRC): This grant supported program assists individuals and families to enroll in health insurance and social services programs to improve access to ongoing healthcare coverage. The HBRC also educates residents about the Covered California Medi-Cal program;

- Healthy Community Initiatives (HCI): The HCI program brings health screenings, immunizations, and health education directly to area schools, churches, businesses, and community organizations. The HCI program depends in-part on grant funds to support the various health screening initiatives;

- Patient and Family Centered Care (PFCC): This program involves volunteers and hospital directors that organize a model of patient care that develops a collaboration and involvement of patients, their family, physicians and other care givers for better outcomes;

- Paramedic Training and Education: The program provides paramedic training through the Hospital's emergency department;

- Patient Transportation – Taxi Vouchers: The program provides taxi vouchers for individuals without any means for transportation in order to access outpatient care and treatment;

- Senior Wellness and Educational Program: The program provides activities and educational sessions that are tailored for seniors. Monthly dinners on the Hospital's main campus offer nutritious and balanced meals and entertainment. Wellness programs address health concerns specific to seniors and flu immunization are also held. Through these activities, seniors benefit from opportunities for regular socialization and health education;

- Southern California Crossroads Program: The non-profit organization is committed to assisting young people living in at-risk neighborhoods lead healthy, peaceful, productive lives through prevention and intervention. The Hosptial partners with Southern California Crossroads as part of the hospital's trauma and injury prevention efforts;

- St. Francis Career College: The St. Francis Career College prepares students interested in healthcare professions by providing education and career training, including vocational nursing and certified nurse assistant training. In June 2013, the Hospital transferred ownership to American Career College. This past year, the American Career College at St. Francis campus closed, however, the Hospital continues to provide on-site clinical rotations for nursing students of American Career College;

- Trauma and Injury Prevention Program: The program, which is supported through grant funding, works with schools, hospitals, and other organizations to help prevent traumatic injury. The Hospital collaborates with organizations including Violence Prevention Coalition, HAVEN (Hospitals Against Violence-Empowering Neighborhoods, Every 15 Minutes drunk-driving prevention, ICAN (Inter-Agency Council on Child Abuse and Neglect), Walk This Way safe street crossing, Los Angeles Violence Intervention Training Academy, Urban Peace Academy, and local safety fairs; and

- Welcome Baby: The program provides primary care health prevention, parent education, and social services to the Hospital's maternity patients. Services include personalized prenatal care, post-partum care, and hospital visits with a Parent Coach. First 5 LA, a nonprofit child-advocacy organization, fully funds the Hospital's Welcome Baby program.

Analysis of the Hospital's Service Area

Service Area Definition

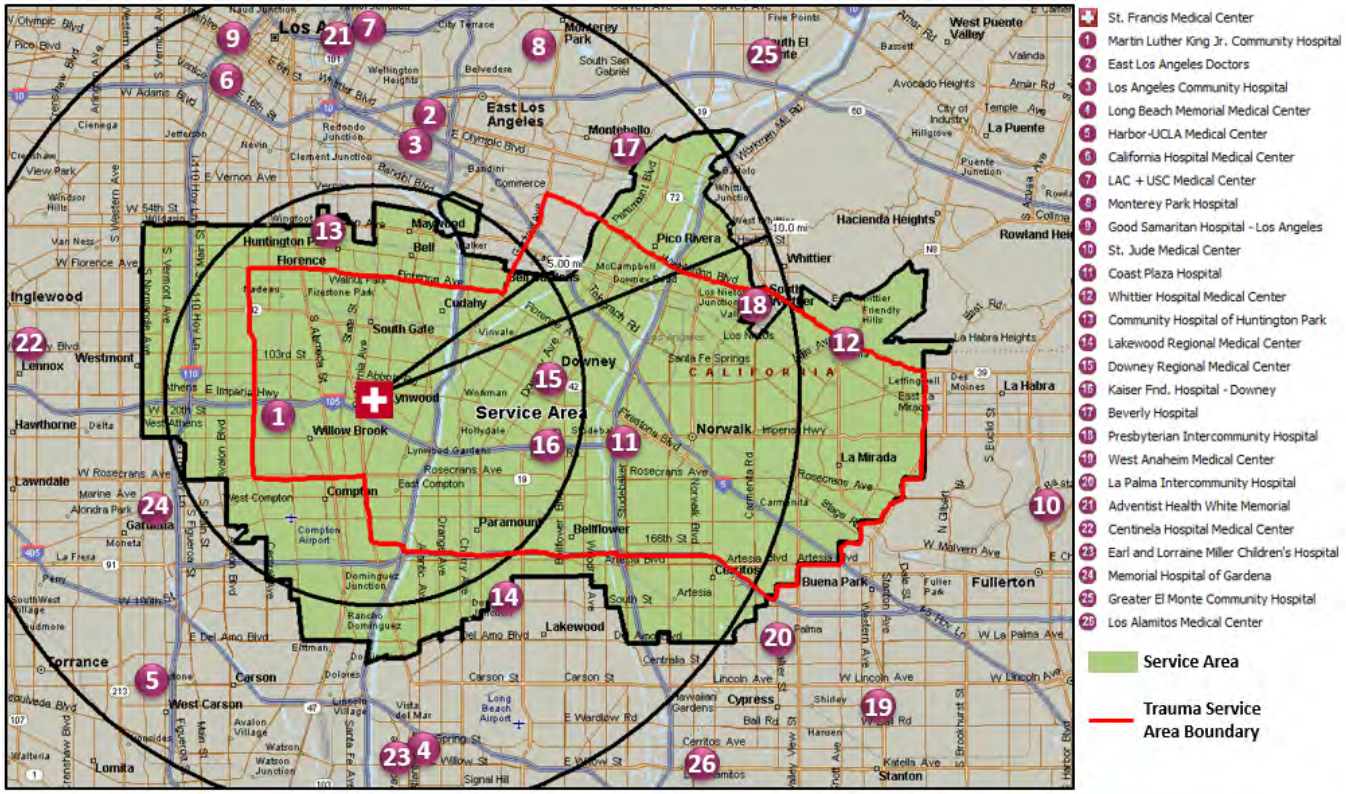
Based on the Hospital's CY 2018 inpatient discharges, the Hospital's service area is comprised of 30 ZIP Codes from which 79% of the Hospital's inpatient discharges emanate. Approximately 54% of the Hospital's discharges originated from the top eight ZIP Codes, located in Lynwood, South Gate, Los Angeles, Bell, Compton, Bell Gardens, and Huntington Park. In CY 2018, the Hospital's market share was approximately 11% based on total area discharges.

Patient Origin, CY2018						
Patient ZIP	Patient City	St. Francis Discharges	Percentage of Discharges	Cumulative Percentage	Market Share	Total Discharges
90262	Lynwood	3,004	13.5%	13.5%	41.9%	7,174
90280	South Gate	2,263	10.2%	23.6%	30.0%	7,543
90221	Compton	1,419	6.4%	30.0%	24.6%	5,766
90201	Bell Gardens	1,386	6.2%	36.2%	16.3%	8,482
90002	Los Angeles	1,095	4.9%	41.1%	18.8%	5,836
90255	Huntington Park	979	4.4%	45.5%	15.8%	6,191
90001	Los Angeles	958	4.3%	49.8%	16.4%	5,829
90059	Los Angeles	890	4.0%	53.8%	13.5%	6,601
90220	Compton	811	3.6%	57.5%	14.1%	5,732
90222	Compton	753	3.4%	60.9%	18.6%	4,052
90003	Los Angeles	595	2.7%	63.5%	7.5%	7,980
90723	Paramount	544	2.4%	66.0%	11.5%	4,728
90044	Los Angeles	509	2.3%	68.2%	4.2%	12,223
90650	Norwalk	380	1.7%	70.0%	3.6%	10,509
90061	Los Angeles	368	1.7%	71.6%	9.8%	3,744
90242	Downey	304	1.4%	73.0%	6.8%	4,499
90270	Maywood	281	1.3%	74.2%	12.7%	2,209
90706	Bellflower	246	1.1%	75.3%	3.3%	7,425
90805	Long Beach	230	1.0%	76.4%	2.4%	9,566
90241	Downey	206	0.9%	77.3%	5.2%	3,950
90240	Downey	78	0.4%	77.6%	3.9%	2,007
90660	Pico Rivera	70	0.3%	78.0%	1.1%	6,647
90605	Whittier	58	0.3%	78.2%	1.2%	4,658
90670	Santa Fe Springs	44	0.2%	78.4%	2.6%	1,712
90703	Cerritos	38	0.2%	78.6%	1.0%	3,962
90638	La Mirada	37	0.2%	78.8%	0.9%	4,203
90701	Artesia	35	0.2%	78.9%	1.9%	1,818
90606	Whittier	35	0.2%	79.1%	1.1%	3,294
90604	Whittier	29	0.1%	79.2%	0.8%	3,833
90603	Whittier	11	0.0%	79.2%	0.5%	2,063
Sub-Total		**17,656**	**79.2%**	**79.2%**	**10.8%**	**164,236**
All Other		4,624	20.8%	100%		
Grand Total		**22,280**	**100.0%**			
Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns						

Service Area Map

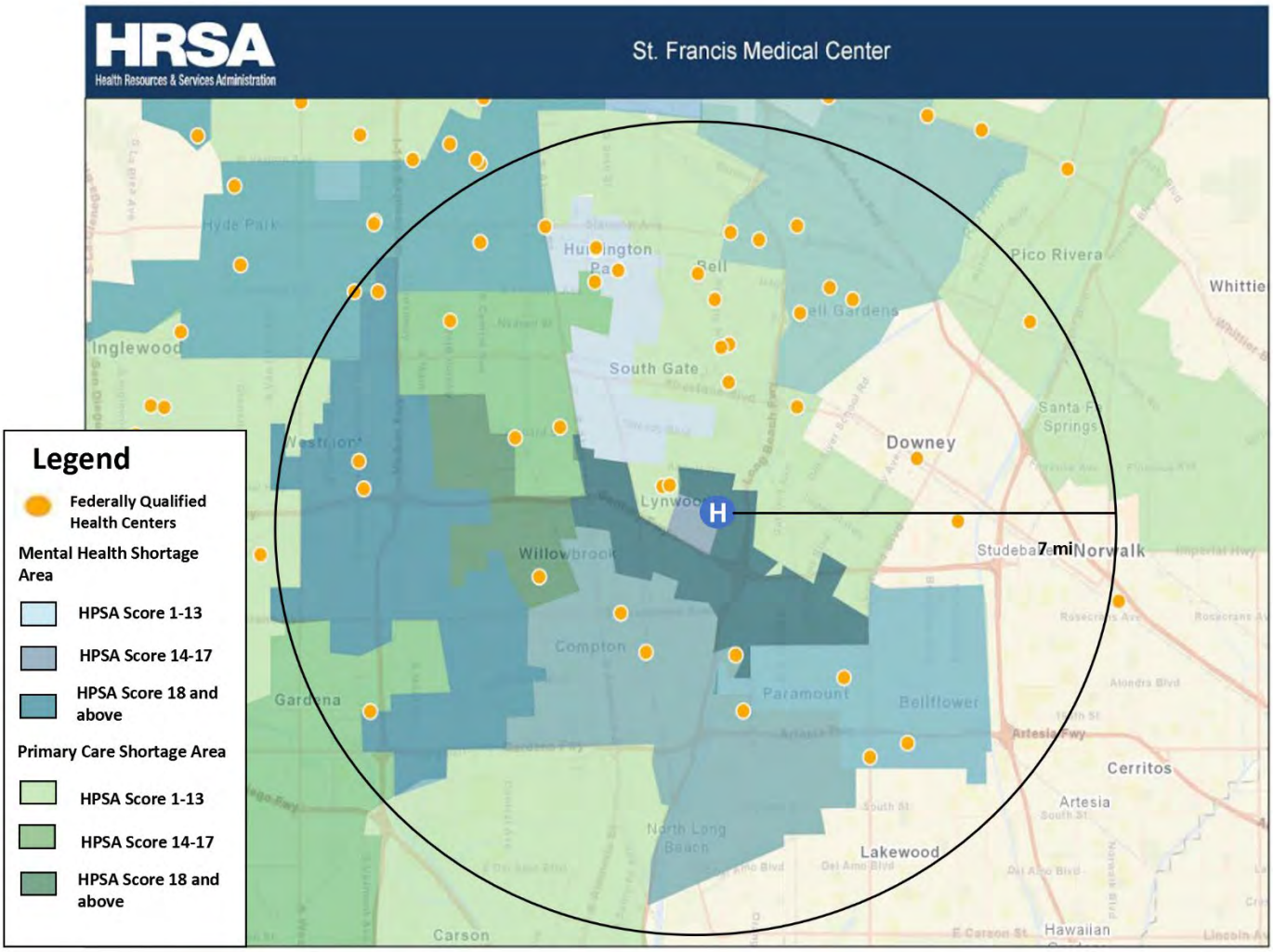
The Hospital's service area, with approximately 1.7 million residents, includes the communities of Lynwood, South Gate, Los Angeles, Compton, Bell Gardens, Huntington Park, Paramount, Maywood, Long Beach, Downey, Bellflower, Whittier, La Mirada, Artesia, Santa Fe Springs, and Pico Rivera.

There are eight other hospitals located within the Hospital's service area, including Downey Regional Medical Center, Community Hospital of Huntington Park, Martin Luther King, Jr. Community Hospital, and Whittier Hospital Medical Center. Lakewood Regional Medical Center, Memorial Hospital of Gardena, Presbyterian Intercommunity Hospital, Los Angeles Community Hospital, and Centinela Hospital Medical Center are located just outside of the service area but provide healthcare services to service area residents. The Hospital is the inpatient market share leader in the service area.



Health Professional Shortage Areas (HPSA)

The Federal Health Resources and Services Administration (HRSA) designates Health Professional Shortage Areas (HPSA) as areas with a shortage of primary medical care, dental care, or mental health providers. They are designated according to geography (i.e., service area), demographics (i.e., low-income population), or institutions (i.e., comprehensive health centers). The Hospital's location, and the majority of its service area, is designated as a Health Professional Shortage Area. The map below depicts primary health shortage and mental health shortage areas relative to the Hospital's location.

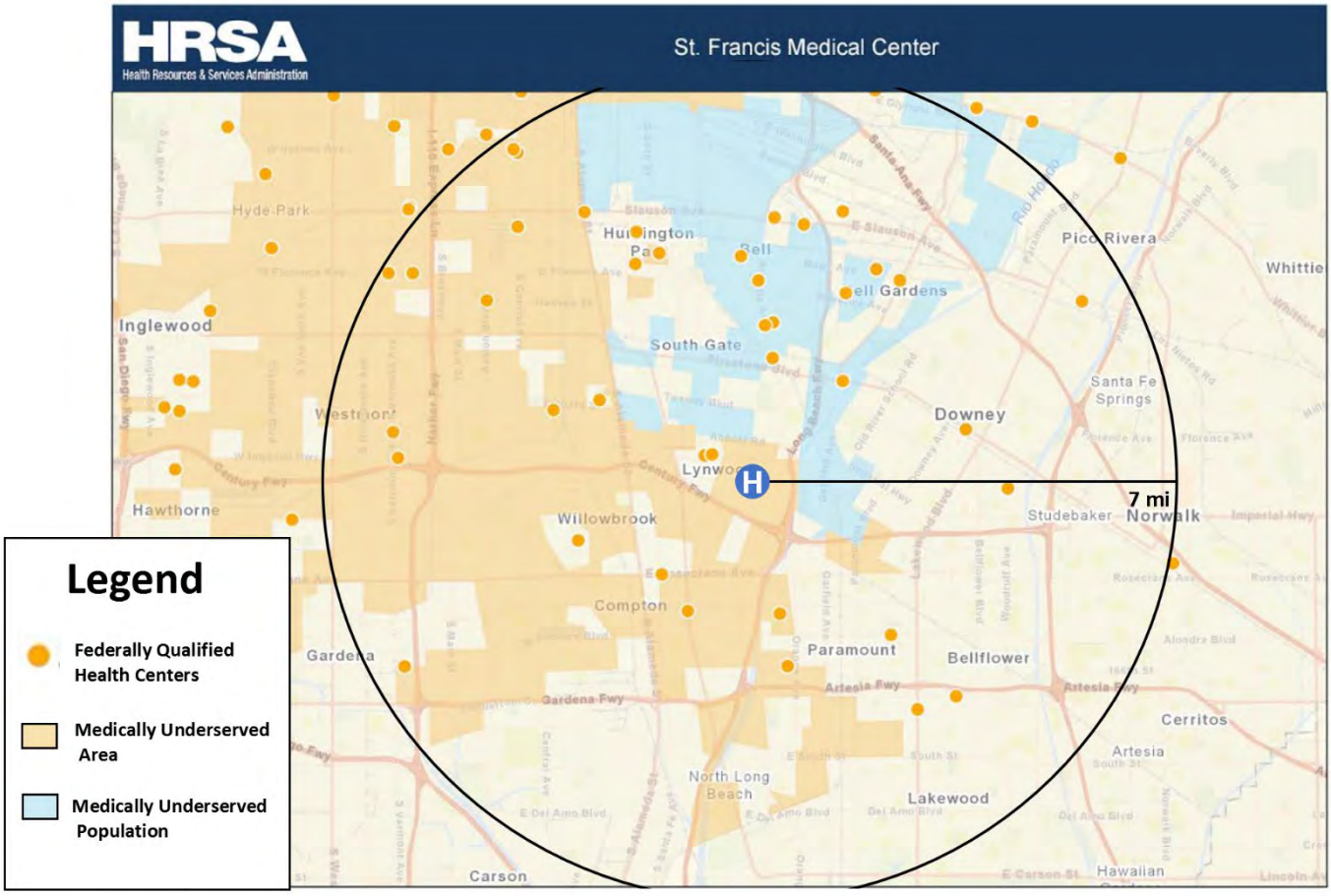


Source: Health Resource & Services Administration & The California Department of Health and Human Services

HPSA scores are calculated based on three scoring criteria including: population to provider ratio, percentage of the population below 100% of the Federal Poverty Level (FPL) and travel time to the nearest source of care (NSC) outside the HPSA designation area. Once designated, HRSA scores HPSAs on a scale of 0-25 for primary care and mental health, with higher scores indicating greater need.

Medically Underserved Areas & Medically Underserved Populations

Medically Underserved Areas and Medically Underserved Populations are defined by the Federal Government to include areas or population groups that demonstrate a shortage of healthcare services. This designation process was originally established to assist the government in allocating community health center grant funds to the areas of greatest need. Medically Underserved Areas are identified by calculating a composite index of need indicators compiled and compared with national averages to determine an area's level of medical "under service." Medically Underserved Populations are identified based on documentation of unusual local conditions that result in access barriers to medical services. Medically Underserved Areas and Medically Underserved Populations are permanently set and no renewal process is necessary. The map below depicts the Medically Underserved Areas /Medically Underserved Populations relative to the Hospital's location.



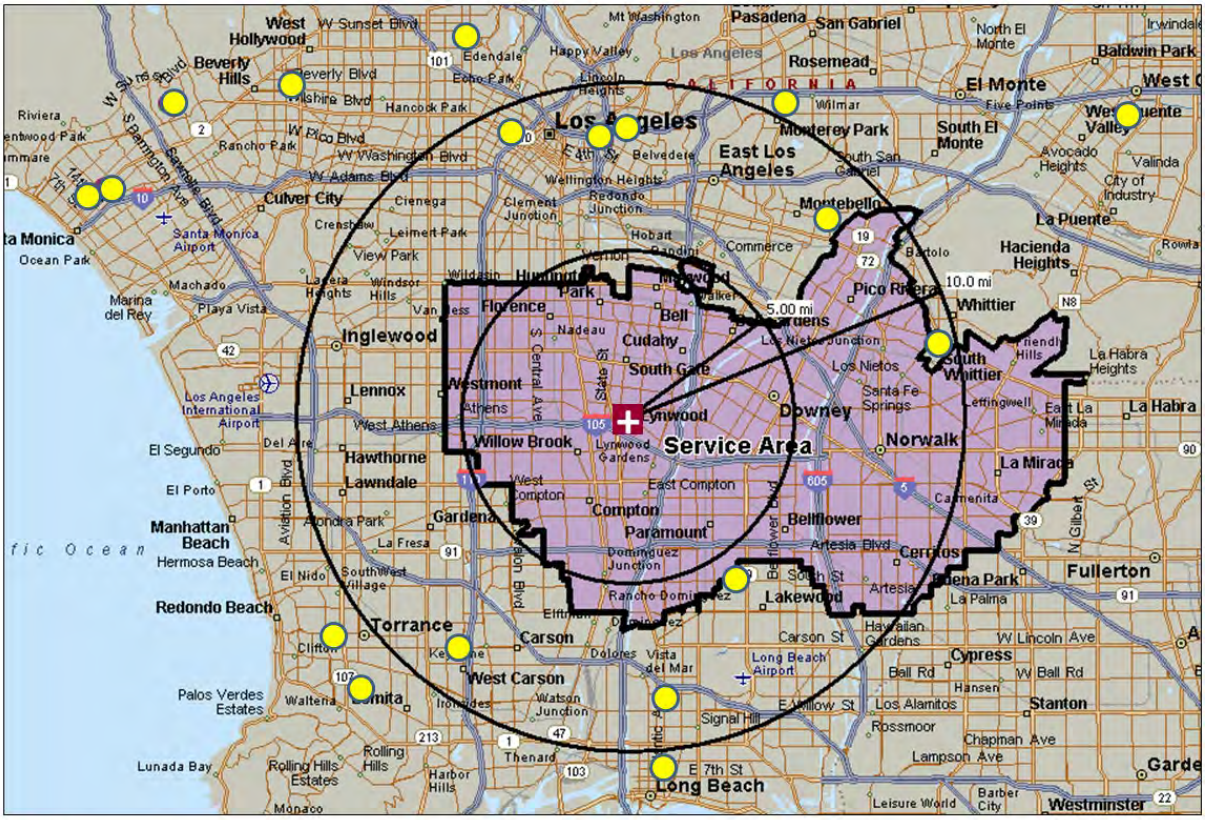
Source: Health Resource & Services Administration & The California Department of Health and Human Services

The census tract in which the Hospital is located is in a designated Medically Underserved Areas/Medically Underserved Populations area.

There are over 35 Federally Qualified Health Centers within a 7-mile radius of the Hospital. They are health clinics that qualify for enhanced reimbursement from Medicare and Medicaid. They must provide primary care services to an underserved area or population, offer a sliding fee scale, have an ongoing quality assurance program, and have a governing board of directors. The ACA included provisions that increased federal funding to Federally Qualified Heath Centers to help meet the anticipated demand for healthcare services by those individuals who gained healthcare coverage through the various health exchanges. Many of the area Federally Qualified Health Centers' patients utilize the services of the Hospital.

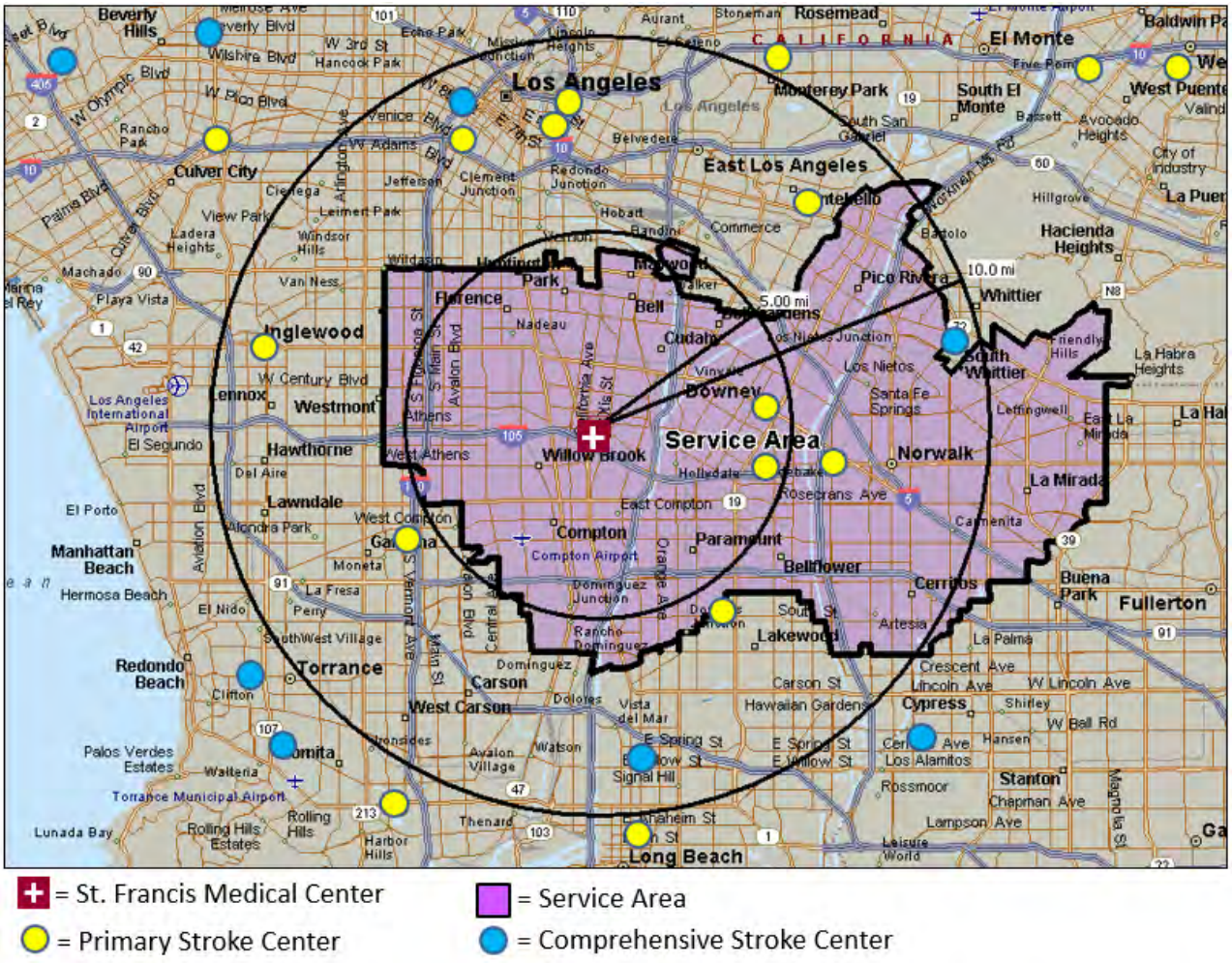
STEMI Receiving Centers in Los Angeles County

Within Los Angeles County, there are 36 STEMI Receiving Centers that administer percutaneous coronary intervention for patients experiencing an acute heart attack. The Hospital is the only STEMI Receiving Center within the Hospital's service area and is an important provider of percutaneous coronary intervention treatment services for service area residents.



Certified Stroke Centers in Los Angeles County

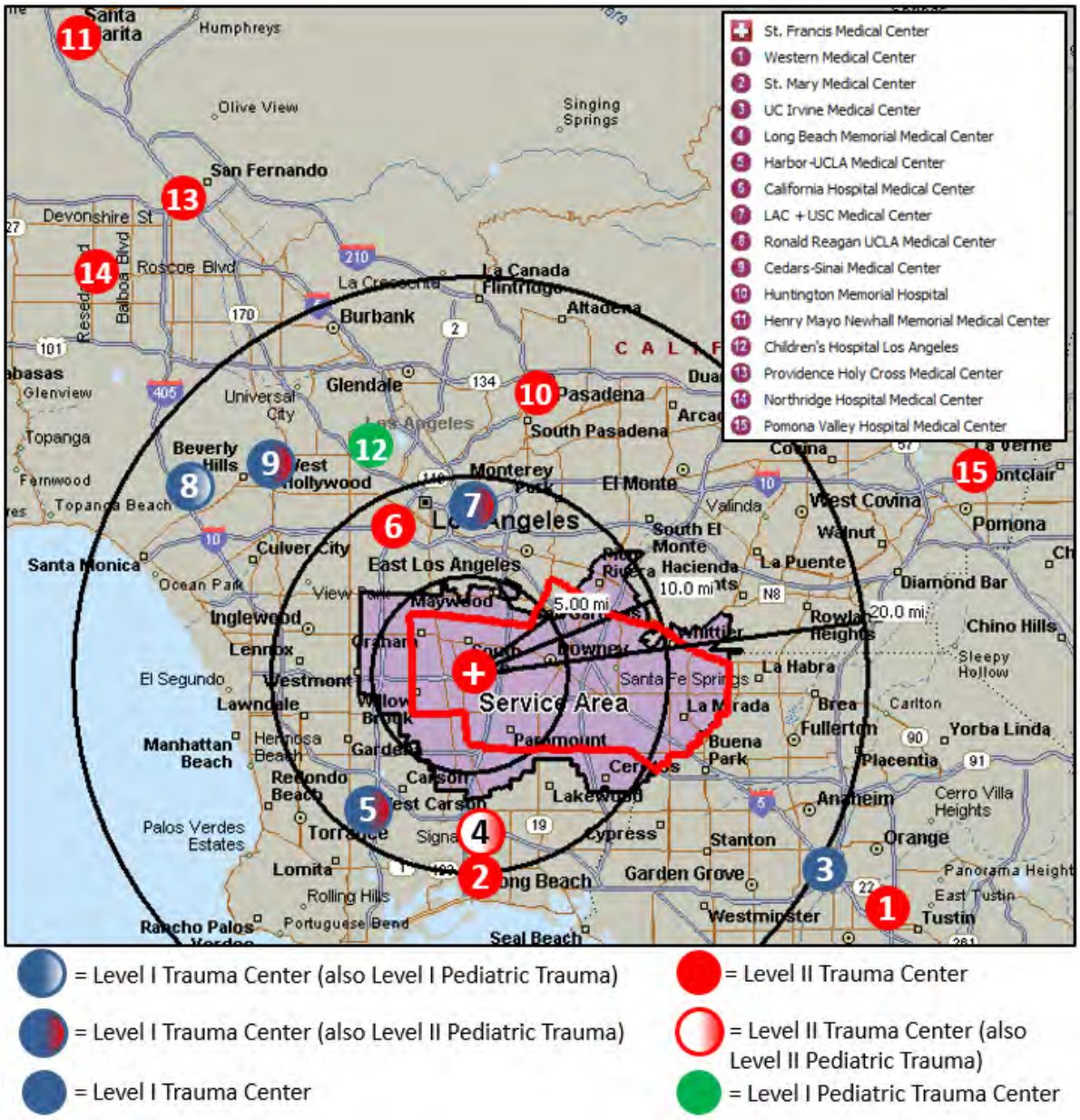
As of May 2019, there were 49 stroke centers certified through the Joint Commission within Los Angeles County. This includes 15 Comprehensive Stroke Centers and 34 Primary Stroke Centers. Downey Regional Medical Center, Coast Plaza Doctors Hospital, and Kaiser Foundation Hospital – Downey are the other certified Primary Stroke Centers within the Hospital's service area.



Service Area Trauma Services

The American College of Surgeons' Committee on Trauma classifies trauma centers as Level I through Level IV. Level I Trauma Centers provide the highest level of trauma care, while those designated as Level IV provide initial trauma care and transfer trauma patients to a higher-level trauma center if necessary.

The map below illustrates the Hospital's trauma service area boundary, as defined by the Emergency Medical Services Agency – Los Angeles County, relative to other area trauma centers within Los Angeles and north Orange County.



The Hospital is a Level II Trauma Center and is thus required to have emergency and surgical services 24-hour immediate coverage by general surgeons, as well as coverage by the specialties of orthopedic surgery, neurosurgery, anesthesiology, emergency medicine, radiology and critical care. A Level II Trauma Center must also have an in-house lab and be able to provide immediate advanced life support for air and ambulance transport, as well as have the necessary equipment and staff available in the intensive care unit, emergency department, and operating rooms.

- The Hospital is the only trauma center in the service area;

- There are four other trauma centers located within 10 miles of the Hospital: Long Beach Memorial Medical Center, Harbor – UCLA Medical Center, California Hospital Medical Center, and LAC+USC Medical Center;

- The Hospital's trauma boundary includes the cities of Bellflower, Bell Gardens, Cerritos, Compton, Downey, La Mirada, Lynwood, Norwalk, Paramount, Pico Rivera, and South Gate; and

- As one of the busiest emergency trauma centers in Los Angeles County, the Hospital provides care to over 2,200 trauma patients per year via a network of air and ground transportation capabilities.

Demographic Profile

The Hospital's service area population is projected to grow 1.2% over the next five years. This is lower than the expected growth rate for Los Angeles County (2.1%) and lower than the State of California (3.4%).

SERVICE AREA POPULATION STATISTICS		
	2019	2024
Population	1,654,734	1,675,871
Households	428,377	431,665
Percentage Female	50.9%	50.8%
Source: Esri Demographics		

The ethnicity with the largest population in the Hospital's service area is White (42%) followed by Some Other Race (35%) and Black (11 %). Approximately 74% of the service area population is of Hispanic origin. This is higher than Los Angeles County (48.9%) and California (39.7%).

SERVICE AREA POPULATION RACE /ETHNICITY		
	2019	2024
White Alone	42%	42%
Black Alone	12%	11%
American Indian Alone	1%	1%
Asian Alone	7%	7%
Pacific Islander Alone	0%	0%
Some Other Race Alone	35%	35%
Two or More Races	4%	4%
Total	**100%**	**100%**
Hispanic Origin (Any Race)	74%	74%
Non Hispanic Origin	27%	26%
Total	**100%**	**100%**

Source: Esri Demographics

The median age of the population in the Hospital's service area is 31.3 years and is younger than the statewide median age of 36.3 years and Los Angeles County's median age of 35.9 years. The percentage of adults over the age of 65 is the fastest growing age cohort, predicted to increase by approximately 16.4% between 2019 and 2024.

SERVICE AREA POPULATION AGE DISTRIBUTION				
	2019		2024	
0-14	381,944	23%	373,817	22%
15-44	751,386	45%	749,278	45%
45-64	352,754	21%	356,462	21%
65+	168,650	10%	196,314	12%
Total	**1,654,734**	**100%**	**1,675,871**	**100%**
Female 15-44	376,573	23%	373,154	22%
Median Age	31.3		33.2	

Source: Esri Demographics

The Hospital's service area households have an average median household income of $54,151. This is 22% lower than the Los Angeles County average of $66,297 and 35% lower than the State of California average of $74,520. The percentage of higher-income households ($150,000+) in the Hospital's service area is projected to grow at a faster rate (10%) than the Los Angeles County rate of (7%) and the State of California rate of approximately (4%).

SERVICE AREA HOUSEHOLD INCOME DISTRIBUTION						
	2019			2024		
	Service Area	LA County	California	Service Area	LA County	California
<$15,000	12%	10%	9%	10%	9%	7%
$15,000 - $24,999	10%	9%	8%	8%	7%	6%
$25,000 - $34,999	10%	8%	7%	8%	7%	6%
$35,000 - $49,999	14%	11%	11%	13%	10%	9%
$50,000 - $74,999	19%	17%	16%	18%	16%	15%
$75,000 - $99,999	13%	12%	12%	14%	13%	13%
$100,000 - $149,999	14%	16%	17%	17%	18%	19%
$150,000 - $199,999	5%	8%	9%	7%	10%	11%
$200,000+	3%	10%	12%	5%	12%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Median Household Income	$54,151	$66,297	$74,520	$62,443	$78,998	$86,333

Source: Esri Demographics

Medi-Cal Eligibility

With the implementation of the ACA and the statewide expansion of Medi-Cal, 13.2 million of the State of California's population are eligible for Medi-Cal (33% of California's population). In Los Angeles County, the California Department of Health Care Services estimated 3,895,310 people were eligible for Medi-Cal in September 2018 (37% of Los Angeles County's population). Out of the total estimated population in Los Angeles County, 29% of the population was enrolled for Medi-Cal Managed Care. Since the population in the Hospital's service area is poorer than Los Angeles County, it is expected that the percent eligible for Medi-Cal would exceed 29%. Medi-Cal eligibility could be significantly affected in the coming years by the potential change or repeal of the ACA.

Selected Health Indicators

A review of health indicators for Los Angeles County (deaths, diseases, and births) is shown below.

NATALITY STATISTICS: 2019			
Health Status Indicator	Los Angeles County	California	National Goal
Low Birth Weight Infants	7.2%	6.8%	7.8%
First Trimester Prenatal Care	84.8%	83.6%	77.9%
Adequate/Adequate Plus Care	80.7%	79.2%	77.6%

Source: California Department of Public Health

Los Angeles County had higher morbidity rates for six of the eight health status indicators than the State of California;

MORBIDITY STATISTICS: 2019 RATE PER 100,000 POPULATION			
Health Status Indicator	Los Angeles County	California	National Goal
HIV/AIDS Incidence (Age 13 and Over)[1]	595.9	397.7	a
Chlamydia Incidence	589.4	514.6	c
Gonorrhea Incidence Female Age 15-44	277.3	252.4	251.9
Gonorrhea Incidence Male Age 15-44	616.7	444.8	194.8
Tuberculosis Incidence	5.8	5.3	1
Congenital Syphilis	29.4	44.4	9.6
Primary Secondary Syphilis Female	2.4	3.5	1.3
Primary Secondary Syphilis Male	33.4	26.2	6.7

Source: California Department of Public Health. Note: Crude death rates, crude case rates, and age-adjusted death rates are per 100,000 population.

[1]California Department of Public Health, Office of AIDS, Surveillance Section reporting periods are: Current Period 2014-2016, Previous Period 2011-2013.

a: Healthy People 2020 (HP 2020) National Objective has not been established.

b: National Objective is based on both underlying and contributing cause of death which requires use of multiple cause of death files. California's data exclude multiple/contributing causes of death.

c: Prevalence data are not available in all California counties to evaluate the Healthy People 2020 National Objective STD-1, as the Healthy People objective is restricted to females who are 15-24 years old and identified at a family planning clinic, and males and females under 24 years old who participate in a national job-training program.

The overall age-adjusted mortality rate for Los Angeles County is lower than that of the State of California. Los Angeles County reported higher age-adjusted mortality rates on six of the 18 causes compared to the state of California's age adjusted rates.

MORTALITY STATISTICS: 2019 RATE PER 100,000 POPULATION				
	Los Angeles County		(Age Adjusted)	
Selected Cause	Crude Death Rate	Age Adjusted Death Rate	California	National Goal
All Causes	615.7	574.1	641.1	N/A
- All Cancers	142.2	132.8	151.0	161.4
- Colorectal Cancer	14.0	13.1	13.9	14.5
- Lung Cancer	26.4	24.8	33.6	45.5
- Female Breast Cancer	21.7	18.5	20.7	20.7
- Prostate Cancer	16.8	19.2	20.2	21.8
- Diabetes	24.6	22.9	20.8	N/A
- Alzheimer's Disease	39.1	35.6	30.8	N/A
- Coronary Heart Disease	110.7	101.7	103.8	103.4
- Cerebrovascular Disease (Stroke)	36.3	34.0	35.9	34.8
- Influenza/Pneumonia	20.1	18.7	16.3	N/A
- Chronic Lower Respiratory Disease	29.9	28.2	35.9	N/A
- Chronic Liver Disease And Cirrhosis	14.4	13.2	11.7	8.2
- Accidents (Unintentional Injuries)	24.7	23.7	27.9	36.4
- Motor Vehicle Traffic Crashes	8.2	7.9	7.6	12.4
- Suicide	8.3	8.0	10.2	10.2
- Homicide	6.1	6.1	5.1	5.5
- Firearm-Related Deaths	7.6	7.4	7.8	9.3
- Drug-Induced Deaths	8.8	8.5	11.1	11.3

Source: California Department of Public Helath

2019 Community Health Needs Assessment

In an effort to understand the communities served by the Hospital, their most critical healthcare needs, and the resources available to meet those needs, the Hospital conducts a Community Health Needs Assessment every three years. The Hospital's most recent 2019 assessment incorporated primary data collected through interviews, focus groups and surveys. Secondary data was gathered from a variety of studies and reports compiled by numerous organizations at the local, state, and national levels.

The Hospital defined its service area for purposes of the assessment to include the communities that correspond to Service Planning Areas 6, 7, and 8.

- The communities of Service Planning Area 6 include: Athens, Compton, Crenshaw, Florence, Hyde Park, Lynwood, Paramount, and Watts;

- The communities of Service Planning Area 7 include: Artesia, Bell, Bellflower, Bell Gardens, Cerritos, City of Commerce, City Terrace, Cudahy, Downey, East Los Angeles, Hawaiian Gardens, Huntington Park, La Habra Heights, Lakewood, La Mirada, Los Nietos, Maywood, Montebello, Norwalk, Pico Rivera, Santa Fe Springs, Signal Hill, South Gate, Vernon, Walnut Park, Whittier, and others; and

- The communities of Service Planning Area 8 include: Athens, Avalon, Carson, Catalina Island, El Segundo, Gardena, Harbor City, Hawthorne, Inglewood, Lawndale, Lennox, Long Beach, Hermosa Beach, Manhattan Beach, Palos Verdes Estates, Rancho Dominguez, Rancho Palos Verdes, Redondo Beach, Rolling Hills, Rolling Hills Estates, San Pedro, and Wilmington.

Based on findings from the 2019 Community Health Needs Assessment, the following priorities were identified as the most important health and socioeconomic needs:

- **Chronic diseases** – Heart disease, cancer, and stroke are the top three causes of death in the service area. Diabetes is the fourth leading cause of death and lung disease is the fifth leading cause of death. In the hospital service area 12.2% of adults have been diagnosed with diabetes, which is higher than the county rate (9.8%);

- **Access to health care** – Among the service area, 96.9% of children 17 and under have insurance and 85.2% of the service area adults have health insurance. 95.8% of children and 72.9% of adults in the service area have a regular source of health care. Stakeholders noted that long wait for appointments and lack of transportation are barriers to receive healthcare services;

- **Mental health** – In the hospital service area, 6% of adults in SPA 6 and 9.1% of adults in SPA 7 have seriously thought about committing suicide and 9.5% of SPA 6 adults and 10.8% of adults in SPA 7 had experienced serious psychological distress in the past year. Stakeholders noted there is a stigma associated with mental health. Many people do not want to talk about their mental health issues, and often, there may be shame associated with seeking mental health services that prevents people from getting these services;

- **Substance use and misuse** – In the Hospital's service area, 12.5% of adults smoke cigarettes. The Healthy People 2020 objective for cigarette smoking among adults is 12%. In SPA 6, 47% of the population had tried marijuana and in SPA 7, 41% of the population had tried marijuana. For those who had misused prescription drugs, sedatives were the most likely drugs to be misused in the communities served by the Hospital;

- **Housing and homelessness** – In the service area, 8.6% of adults reported being homeless or not having their own place to live or sleep. This is higher than the county rate (4.8%). Since 2015 to 2018, there has been an increase in the homeless population with chronic illness in the communities served by the Hospital**;** and

- **Overweight and obesity** – 31.6% of adults in the service area are obese with a Body Mass Index of 30.0 or above. This is higher than the rate of obesity in the county (23.5%). The Healthy People 2020 objective for adult obesity is 30.5%.

Hospital Supply, Demand & Market Share

There are nine other general acute care hospitals within the Hospital's service area that, together with the Hospital, have a combined total of 2,334 licensed beds and an aggregate occupancy rate of approximately 55%. Hospitals in the service area run at occupancy rates that range between 25% at Coast Plaza Hospital and approximately 81%, at College Hospital.

An analysis of the services offered by the Hospital in comparison to services offered by other providers is shown on the following pages. The hospitals listed in the table below were analyzed to determine area hospital available bed capacity by service.

SERVICE AREA HOSPITAL DATA 2019								
Hospital	City	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**Lynwood**	**-**	**X**	**384**	**20,115**	**100,308**	**274.8**	**71.6%**
Martin Luther King Jr. Community Hospital*	Los Angeles	2.9	X	131	9,790	37,532	102.8	78.5%
Kaiser Foundation Hospital - Downey	Downey	4.8	X	352	15,660	63,257	173.3	49.2%
PIH Health Hospital - Downey	Downey	5.0	X	199	9,267	31,708	86.9	43.7%
Community Hospital of Huntington Park*	Huntington Park	5.4	X	81	3,385	13,865	38.0	46.9%
Coast Plaza Hospital*	Norwalk	6.6	X	117	2,401	10,857	29.7	25.4%
College Hospital*	Cerritos	8.0	X	187	5,377	55,209	151.3	80.9%
Lakewood Regional Medical Center	Lakewood	9.1	X	172	8,884	40,369	110.6	64.3%
PIH Health Hospital - Whittier*	Whittier	10.9	X	533	19,148	83,217	228.0	42.8%
Whittier Hospital Medical Center	Whittier	12.8	X	178	7,040	31,602	86.6	48.6%
SUB-TOTAL				**2,334**	**101,067**	**467,924**	**1,282.0**	**54.9%**
Memorial Hospital of Gardena*	Gardena	7.9		172	7,069	47,818	131.0	76.2%
Los Angeles Community Hospital	Los Angeles	9.0		212	9,502	59,799	163.8	77.3%
Centinela Hospital Medical Center	Inglewood	9.0		362	16,135	64,734	177.4	49.0%
Miller Children's & Women's Hospital	Long Beach	9.1		357	15,205	67,517	185.0	51.8%
MemorialCare Long Beach Medical Center	Long Beach	9.2		453	21,808	104,112	285.2	63.0%
Beverly Hospital*	Montebello	9.7		224	9,915	38,893	106.6	47.6%
Monterey Park Hospital	Monterey Park	9.9		101	4,898	18,866	51.7	51.2%
Los Angeles County/Harbor-UCLA Medical Center	Torrance	11.1		453	17,090	101,803	278.9	61.6%
California Hospital Medical Center	Los Angeles	13.2		318	18,530	73,193	200.5	63.1%
Gardens Regional Hospital & Medical Center	Hawaiian Gardens	13.2		137	N/A	N/A	-	-
East Los Angeles Doctor's Hospital*	Los Angeles	13.5		127	2,901	20,982	57.5	45.3%
Good Samaritan Hospital - Los Angeles	Los Angeles	13.9		408	12,998	69,403	190.1	46.6%
Adventist Health White Memorial*	Los Angeles	14.1		345	19,171	85,045	233.0	67.5%
LAC+USC Medical Center	Los Angeles	14.5		670	30,175	195,296	535.1	79.9%
La Palma Intercommunity Hospital*	La Palma	15.3		140	3,056	14,152	38.8	27.7%
Children's Hospital Los Angeles	Los Angeles	18.6		495	17,677	118,243	324.0	65.4%
Cedars - Sinai Medical Center	Los Angeles	21.4		886	50,468	268,011	734.3	82.9%
TOTAL				**8,194**	**357,665**	**1,815,791**	**4,974.8**	**60.7%**

Source: OSHPD Disclosure Reports

* 2018 Data

- The Hospital's 384 licensed beds represent approximately 16% of the area's beds, and inpatient volume accounts for approximately 22% of discharges and 23% of patient days; and

- The Hospital's occupancy rate of 72% is averaged over the entire year and is likely much higher in the winter months when flu season is in effect.

Hospital Market Share

The table below shows inpatient service area market share by hospital from CY 2013 to CY 2018.

SERVICE AREA MARKET SHARE BY HOSPITAL, CY 2013-2018							
Hospital	2013	2014	2015	2016	2017	2018	Trend
St. Francis Medical Center	**9.8%**	**9.8%**	**10.1%**	**10.6%**	**10.9%**	**10.8%**	↗
Kaiser Foundation Hospital - Downey	8.4%	8.4%	8.3%	7.9%	7.7%	7.3%	↘
PIH Hospital - Whittier	6.8%	6.9%	7.0%	6.5%	6.5%	6.9%	→
Miller Childrens Hospital	4.3%	4.3%	4.2%	4.4%	4.4%	4.2%	→
PIH Hospital - Downey	5.2%	5.2%	4.2%	4.2%	4.2%	4.5%	↘
Martin Luther King, Jr. Community Hospital	-	-	0.9%	3.4%	4.2%	4.5%	↗
LAC/Harbor-UCLA Medical Center	4.2%	4.2%	3.6%	3.6%	3.5%	3.2%	↘
Lakewood Regional Medical Center	3.3%	3.3%	3.4%	3.3%	3.5%	3.4%	→
Long Beach Memorial Medical Center	3.3%	3.3%	3.3%	3.3%	3.3%	3.3%	→
California Hospital Medical Center - Los Angeles	2.5%	2.5%	2.6%	2.7%	2.8%	2.7%	↗
LAC+USC Medical Center	3.1%	3.1%	2.8%	2.9%	2.7%	2.7%	↘
Adventist Health White Memorial	2.7%	2.5%	2.6%	2.5%	2.6%	2.6%	→
Centinela Hospital Medical Center	3.0%	3.0%	2.8%	2.4%	2.1%	2.1%	↘
Whittier Hospital Medical Center	2.1%	2.1%	2.3%	2.3%	2.2%	2.2%	→
Beverly Hospital	1.7%	1.7%	1.6%	1.6%	1.7%	2.0%	↗
Community Hospital of Huntington Park	2.0%	2.0%	1.6%	1.6%	1.6%	1.6%	↘
Coast Plaza Hospital	1.7%	1.7%	1.8%	1.8%	1.5%	1.3%	↘
St. Mary Medical Center - Long Beach	1.2%	1.2%	1.3%	1.5%	1.5%	1.6%	↗
Children's Hospital of Los Angeles	1.1%	1.1%	1.3%	1.4%	1.4%	1.4%	↗
Memorial Hospital Of Gardena	1.7%	1.7%	1.8%	1.5%	1.3%	1.4%	↘
Norwalk Community Hospital	1.3%	1.3%	1.2%	1.2%	1.2%	1.5%	↗
Kaiser Foundation Hospital - Los Angeles	1.1%	1.1%	1.1%	1.2%	1.2%	1.3%	↗
Kaiser Foundation Hospital - South Bay	1.2%	1.3%	1.3%	1.2%	1.1%	1.3%	→
Cedars Sinai Medical Center	1.0%	1.0%	1.0%	1.1%	1.1%	1.2%	↗
Los Angeles Community Hospital	1.2%	1.2%	1.1%	1.1%	1.0%	1.1%	→
All Other	26.1%	26.1%	26.8%	25.1%	24.6%	24.1%	↘
Total Percentage	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	
Total Discharges	**160,786**	**160,356**	**161,005**	**163,277**	**163,356**	**164,241**	↗

Source: OSHPD Discharge Database, CY 2013-2018

Note: Excludes normal newborns

- From CY 2013 to CY 2018, the Hospital has ranked first in overall service area market share based on discharges. The Hospital grew market share from 9.8% in CY 2013 to 10.8% in CY 2018 in a relatively stable market, reporting over 164,000 inpatient discharges annually in CY 2018;

- PIH Hospital - Whittier, located 11 miles away, is third in market share with 6.9% market share (Kaiser Foundation Hospital with 7.3% is second);

- Martin Luther King, Jr. Community Hospital has increased service area market share considerably, from 0.9% in CY 2015 to 4.5% in CY 2018 (the hospital reopened in July 2015); and

- Centinela Hospital Medical Center, a Prime hospital, has 2.1% market share in the service area.

Market Share by Payer Type

The following table shows service area inpatient market share by payer type for CY 2018:

SERVICE AREA MARKET SHARE BY PAYOR TYPE, CY 2018

Payer	TOTAL DISCHARGES	ST. FRANCIS MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - DOWNEY	PRESBYTERIAN INTERCOMMUNITY HOSPITAL	MARTIN LUTHER KING, JR. COMMUNITY HOSPITAL	PIH HOSPITAL - DOWNEY	EARL AND LORAINE MILLER CHILDRENS HOSPITAL	LAKEWOOD REGIONAL MEDICAL CENTER	LONG BEACH MEMORIAL MEDICAL CENTER	LAC/HARBOR-UCLA MEDICAL CENTER	CALIFORNIA HOSPITAL MEDICAL CENTER - LA	LAC+USC MEDICAL CENTER	CENTINELA HOSPITAL MEDICAL CENTER	ALL OTHERS	Total
Medi-Cal	**75,295**	14.9%	1.9%	2.7%	6.9%	2.7%	7.0%	1.8%	2.9%	5.6%	4.9%	4.8%	2.4%	41.6%	100%
Medicare	**51,200**	9.3%	7.6%	12.8%	3.6%	7.6%	0.0%	5.5%	4.2%	1.1%	1.1%	0.8%	2.8%	43.6%	100%
Private Coverage	**32,319**	3.7%	20.2%	8.3%	0.6%	4.2%	4.5%	3.9%	3.1%	0.6%	0.5%	0.5%	0.4%	49.5%	100%
All Other	**2,774**	1.5%	0.3%	2.7%	7.1%	0.9%	1.3%	2.5%	1.2%	7.4%	0.9%	7.8%	0.0%	66.4%	100%
Self Pay	**2,653**	18.8%	4.2%	4.1%	2.3%	3.7%	1.4%	1.7%	2.8%	3.8%	1.7%	2.5%	3.2%	49.8%	100%
TOTAL PERCENTAGE		**10.8%**	**7.3%**	**6.9%**	**4.5%**	**4.5%**	**4.2%**	**3.4%**	**3.3%**	**3.2%**	**2.7%**	**2.7%**	**2.1%**	**44.3%**	**100%**
GRAND TOTAL	**164,241**	**17,656**	**11,990**	**11,404**	**7,451**	**7,413**	**6,828**	**5,557**	**5,432**	**5,315**	**4,471**	**4,466**	**3,465**	**72,793**	

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- The largest payer category of service area inpatient discharges is Medi-Cal with 75,295 inpatient discharges (46%), followed by Medicare with 51,200 inpatient discharges (31%), and Private Coverage with 32,319 inpatient discharges (20%);

- The Hospital is the market share leader for Medi-Cal (15%) and Self-Pay (19%);

- Kaiser Foundation Hospital - Downey is the inpatient leader for Private Coverage with over 20% market share; and

- PIH Hospital - Whittier is the inpatient leader for Medicare with 13% market share.

Market Share by Service Line

The following table shows service area inpatient market share by service line for CY 2018.

SERVICE AREA MARKET SHARE BY SERVICE LINE, CY 2018

Service Line	Total Discharges	ST. FRANCIS MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - DOWNEY	PRESBYTERIAN INTERCOMMUNITY HOSPITAL	MARTIN LUTHER KING, JR. COMMUNITY HOSPITAL	PIH HOSPITAL - DOWNEY	EARL AND LORAINE MILLER CHILDRENS HOSPITAL	LAKEWOOD REGIONAL MEDICAL CENTER	LONG BEACH MEMORIAL MEDICAL CENTER	LAC/HARBOR-UCLA MEDICAL CENTER	CALIFORNIA HOSPITAL MEDICAL CENTER - LOS ANGELES	LAC-USC MEDICAL CENTER	ADVENTIST HEALTH WHITE MEMORIAL	CENTINELA HOSPITAL MEDICAL CENTER	All Other	Grand Total
General Medicine	53,515	9.0%	6.3%	7.5%	7.1%	5.7%	3.2%	4.6%	3.4%	2.8%	2.3%	2.7%	1.9%	3.3%	40.4%	100%
Obstetrics	23,211	14.1%	0.5%	0.5%	1.4%	0.4%	0.2%	0.5%	0.3%	1.0%	0.3%	1.1%	1.8%	0.1%	78.0%	100%
Cardiac Services	19,542	11.3%	5.9%	9.0%	5.9%	6.6%	0.2%	5.3%	4.5%	2.7%	2.7%	2.3%	2.3%	3.2%	38.0%	100%
Behavioral Health	12,844	14.1%	0.5%	0.5%	1.4%	0.4%	0.2%	0.5%	0.3%	1.0%	0.3%	1.1%	1.8%	0.1%	78.0%	100%
General Surgery	12,684	7.9%	7.3%	8.6%	4.1%	4.0%	3.0%	3.5%	4.3%	6.3%	2.4%	4.2%	2.2%	1.1%	41.2%	100%
Unknown	9,436	10.5%	5.5%	10.4%	3.3%	4.3%	1.7%	4.1%	5.7%	2.9%	2.0%	2.7%	1.8%	3.3%	41.7%	100%
Neonatology	7,294	10.7%	18.7%	4.5%	1.2%	1.2%	16.2%	0.0%	0.0%	3.4%	5.8%	3.2%	4.0%	0.7%	30.3%	100%
Orthopedics	7,223	7.9%	4.3%	12.2%	2.0%	5.7%	2.0%	5.8%	5.6%	4.8%	2.4%	2.9%	2.7%	1.0%	40.7%	100%
Oncology/Hematology (Medical)	4,920	6.9%	7.6%	6.1%	3.5%	5.1%	4.3%	3.4%	6.9%	6.4%	1.8%	4.8%	1.7%	1.3%	40.3%	100%
Gynecology	2,259	9.4%	6.7%	5.1%	1.8%	4.5%	1.6%	3.3%	6.5%	10.8%	3.2%	5.4%	3.2%	1.0%	37.5%	100%
ENT	1,989	10.2%	2.9%	4.5%	2.5%	4.0%	10.2%	2.4%	7.7%	6.4%	3.4%	6.1%	3.7%	1.0%	35.1%	100%
Neurology	1,963	11.8%	3.2%	4.0%	4.8%	5.2%	5.3%	3.5%	2.9%	3.5%	2.1%	2.0%	2.5%	4.4%	44.7%	100%
Urology	1,820	9.6%	4.7%	5.3%	3.7%	4.7%	2.3%	4.8%	4.4%	4.9%	1.4%	6.6%	1.5%	1.3%	44.6%	100%
Vascular Services	1,787	9.7%	5.1%	10.7%	5.0%	3.6%	0.2%	6.2%	4.3%	5.3%	2.1%	2.9%	2.7%	2.8%	39.2%	100%
Spine	1,622	6.4%	9.2%	9.8%	1.5%	3.0%	1.0%	4.8%	6.5%	3.2%	2.2%	1.9%	5.3%	3.3%	42.0%	100%
Other	1,583	13.9%	5.4%	6.9%	2.9%	2.5%	3.5%	4.5%	6.8%	6.1%	2.8%	6.1%	0.9%	1.1%	36.7%	100%
Ophthalmology	328	8.5%	3.4%	5.2%	0.9%	3.0%	1.8%	1.5%	8.2%	11.9%	4.0%	14.3%	1.2%	3.0%	32.9%	100%
Rehabilitation	118	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	5.1%	0.0%	0.0%	0.0%	0.0%	0.0%	94.9%	100%
Neurosurgery	103	8.7%	1.0%	5.8%	0.0%	0.0%	3.9%	2.9%	2.9%	2.9%	1.0%	7.8%	2.9%	0.0%	60.2%	100%
Total Percentage	**100%**	**11%**	**7%**	**7%**	**5%**	**5%**	**4%**	**3%**	**3%**	**3%**	**3%**	**3%**	**3%**	**2%**	**42%**	**100%**
Total Discharges	**164,241**	**17,656**	**11,990**	**11,404**	**7,451**	**7,413**	**6,828**	**5,557**	**5,432**	**5,315**	**4,471**	**4,466**	**4,299**	**3,465**	**68,494**	**164,241**

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- The Hospital is a service line leader in 8 of 18 service lines including: general medicine (9.0%), obstetrics (14.1%), cardiac services (11.3%), behavioral health (14.1%), neurology (11.8%), urology (9.6%), and neurosurgery (8.7%);

- Kaiser Foundation Hospital – Downey is the service line leader in neonatology (18.7%) and oncology/hematology medical (7.6%); and

- PIH Hospital – Whittier is the service line leader in 4 of 18 service lines including: general surgery (8.6%), orthopedics (12.2%), spine (9.8%), and vascular services (10.7%).

Market Share by ZIP Code

The following table shows service area inpatient market share by ZIP Code for CY 2018.

SERVICE AREA MARKET SHARE BY ZIP CODE, CY 2018																
Pat ZIP	Discharges by ZIP	ST. FRANCIS MEDICAL CENTER	KAISER FOUNDATION HOSPITAL DOWNEY	PRESBYTERIAN INTERCOMMUNITY HOSPITAL	MARTIN LUTHER KING, JR. COMMUNITY HOSPITAL	PIH HOSPITAL DOWNEY	EARL AND LORAINE MILLER CHILDRENS HOSPITAL	LAKEWOOD REGIONAL MEDICAL CENTER	LONG BEACH MEMORIAL MEDICAL CENTER	LAC/HARBOR UCLA MEDICAL CENTER	CALIFORNIA HOSPITAL MEDICAL CENTER LOS ANGELES	LAC+USC MEDICAL CENTER	ADVENTIST HEALTH WHITE MEMORIAL	WHITTIER HOSPITAL MEDICAL CENTER	CENTINELA HOSPITAL MEDICAL CENTER	Grand Total
90044	**12,223**	4.2%	0.9%	0.2%	5.9%	0.2%	1.5%	0.2%	0.6%	6.6%	9.5%	3.7%	1.8%	0.0%	17.8%	100%
90650	**10,509**	3.6%	11.6%	10.2%	0.1%	7.1%	3.2%	4.3%	1.9%	1.5%	0.6%	1.4%	1.1%	2.0%	0.1%	100%
90805	**9,566**	2.4%	5.5%	0.3%	0.5%	0.7%	14.6%	12.2%	23.0%	3.1%	0.4%	0.7%	0.3%	0.1%	0.1%	100%
90201	**8,482**	16.3%	6.9%	2.2%	0.9%	13.4%	2.7%	1.0%	1.1%	1.5%	2.0%	5.5%	6.9%	0.4%	0.1%	100%
90003	**7,980**	7.5%	1.8%	0.1%	9.8%	0.6%	2.0%	0.2%	0.9%	6.8%	12.7%	5.6%	3.9%	0.1%	6.3%	100%
90280	**7,543**	30.0%	10.9%	1.5%	2.0%	10.3%	4.1%	2.0%	1.8%	2.7%	1.5%	3.2%	4.1%	0.5%	0.1%	100%
90706	**7,425**	3.3%	13.8%	1.4%	0.7%	5.1%	7.3%	17.1%	6.1%	2.5%	0.4%	1.1%	0.7%	0.5%	0.2%	100%
90262	**7,174**	41.9%	7.7%	0.5%	3.1%	3.8%	4.9%	1.6%	2.2%	3.2%	1.2%	2.6%	1.4%	0.1%	0.4%	100%
90660	**6,647**	1.1%	7.7%	26.3%	0.0%	2.2%	1.0%	0.7%	0.3%	0.3%	0.4%	2.8%	4.3%	2.1%	0.1%	100%
90059	**6,601**	13.5%	4.2%	0.1%	30.8%	0.7%	3.0%	0.7%	1.3%	4.6%	3.3%	2.5%	1.5%	0.1%	1.3%	100%
90255	**6,191**	15.8%	6.9%	1.2%	1.1%	4.1%	2.1%	1.0%	0.7%	2.1%	3.1%	6.1%	11.1%	0.2%	0.2%	100%
90002	**5,836**	18.8%	4.0%	0.3%	14.6%	1.1%	3.4%	0.6%	1.5%	5.7%	5.8%	3.6%	3.3%	0.1%	2.4%	100%
90001	**5,829**	16.4%	4.5%	0.4%	6.1%	1.7%	2.2%	0.7%	0.5%	3.6%	6.6%	7.6%	6.9%	0.0%	2.0%	100%
90221	**5,766**	24.6%	8.4%	0.3%	4.9%	1.5%	9.6%	5.4%	6.8%	5.1%	1.4%	1.0%	1.2%	0.1%	0.6%	100%
90220	**5,732**	14.1%	5.0%	0.3%	9.0%	0.7%	7.3%	2.7%	5.2%	7.6%	1.4%	1.2%	0.6%	0.1%	1.3%	100%
90723	**4,728**	11.5%	11.7%	1.1%	1.2%	6.2%	9.2%	14.0%	5.9%	3.6%	0.7%	1.2%	1.2%	0.3%	0.1%	100%
90605	**4,658**	1.2%	6.8%	36.9%	0.0%	0.8%	0.8%	0.5%	0.3%	0.4%	0.3%	1.4%	1.1%	24.1%	0.0%	100%
90242	**4,499**	6.8%	15.1%	2.6%	0.3%	19.0%	3.5%	2.6%	2.1%	1.6%	0.7%	1.6%	1.0%	0.5%	0.2%	100%
90638	**4,203**	0.9%	5.8%	26.4%	0.0%	0.8%	1.0%	0.7%	0.9%	0.2%	0.0%	0.3%	0.3%	13.1%	0.0%	100%
90222	**4,052**	18.6%	5.7%	0.3%	17.4%	1.0%	6.8%	1.9%	3.1%	5.6%	1.8%	1.4%	0.8%	0.1%	1.0%	100%
90703	**3,962**	1.0%	11.0%	1.6%	0.1%	1.5%	3.0%	7.2%	5.6%	0.9%	0.1%	0.3%	0.2%	0.4%	0.2%	100%
90241	**3,950**	5.2%	14.8%	4.9%	0.3%	27.5%	3.8%	2.4%	2.2%	1.5%	0.5%	1.7%	1.8%	0.6%	0.1%	100%
90604	**3,833**	0.8%	7.9%	36.0%	0.1%	1.0%	1.0%	0.3%	0.4%	0.5%	0.3%	1.2%	0.8%	15.6%	0.1%	100%
90061	**3,744**	9.8%	1.8%	0.2%	12.5%	0.2%	4.0%	0.3%	0.8%	8.0%	5.2%	2.5%	1.7%	0.0%	4.1%	100%
90606	**3,294**	1.1%	7.6%	46.5%	0.1%	0.8%	1.2%	0.7%	0.3%	0.5%	0.4%	2.5%	3.0%	5.7%	0.1%	100%
90270	**2,209**	12.7%	6.2%	1.9%	0.5%	4.5%	2.1%	0.6%	0.5%	1.4%	2.2%	7.6%	10.4%	0.2%	0.2%	100%
90603	**2,063**	0.5%	6.4%	41.3%	0.0%	0.5%	0.3%	0.1%	0.3%	0.1%	0.0%	0.5%	0.5%	16.9%	0.0%	100%
90240	**2,007**	3.9%	13.9%	7.3%	0.1%	26.8%	2.9%	2.4%	2.8%	1.0%	0.5%	2.8%	2.1%	1.4%	0.1%	100%
90701	**1,818**	1.9%	7.5%	1.7%	0.0%	2.6%	3.1%	9.1%	3.9%	2.0%	0.3%	0.6%	0.5%	0.8%	0.1%	100%
90670	**1,712**	2.6%	10.4%	39.6%	0.0%	3.4%	1.2%	1.7%	0.9%	0.5%	0.3%	1.9%	2.3%	4.0%	0.1%	100%
90639	**5**	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	40.0%	0.0%	100%
Total Percentage		**10.8%**	**7.3%**	**6.9%**	**4.5%**	**4.5%**	**4.2%**	**3.4%**	**3.3%**	**3.2%**	**2.7%**	**2.7%**	**2.6%**	**2.1%**	**2.1%**	**100%**
Total Discharges	**164,241**	**17,656**	**11,990**	**11,404**	**7,451**	**7,413**	**6,828**	**5,557**	**5,432**	**5,315**	**4,471**	**4,466**	**4,299**	**3,526**	**3,465**	

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- The Hospital is the inpatient market share leader in 10 service area ZIP Codes representing the cities of Bell, South Gate, Lynwood, Huntington Park, Los Angeles, Compton, and Maywood; and

- Centinela Hospital Medical Center, owned by Prime is the inpatient market share leader in one ZIP Code.

St. Francis Medical Center Analysis by Bed Type

The tables on the following pages show existing hospital bed capacity, occupancy, and bed availability for medical/surgical, intensive/coronary care, obstetrics, pediatrics, neonatal intensive care, acute psychiatric care, skilled nursing, and emergency services using FY 2019 data.

Medical/Surgical Capacity Analysis

The Hospital has 185 medical/surgical beds. Within the service area, there are 1,081 additional medical/surgical beds that provide care to patients from the service area. Combined, the service area hospitals operated at an occupancy rate of nearly 55%.

SERVICE AREA HOSPITAL DATA : MEDICAL/SURGICAL, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**185**	**11,698**	**53,990**	**147.9**	**80.0%**
Martin Luther King Jr. Community Hospital*	2.9	X	53	4,906	19,090	52.3	98.7%
Kaiser Foundation Hospital - Downey	4.8	X	182	9,546	36,442	99.8	54.9%
PIH Health Hospital - Downey	5	X	154	7,909	25,590	70.1	45.5%
Community Hospital of Huntington Park*	5.4	X	77	3,288	12,043	33.0	42.9%
Coast Plaza Hospital*	6.6	X	110	2,265	9,034	24.8	22.5%
College Hospital*	8	X	-	0	0	0.0	-
Lakewood Regional Medical Center	9.1	X	140	8,225	33,729	92.4	66.0%
PIH Health Hospital - Whittier*	10.9	X	253	12,374	45,445	124.5	49.2%
Whittier Hospital Medical Center	12.8	X	112	4,788	16,683	45.7	40.8%
SUB-TOTAL			**1,266**	**64,999**	**252,046**	**690.5**	**54.5%**
Memorial Hospital of Gardena*	7.9		70	6,067	18,437	50.5	72.2%
Los Angeles Community Hospital	9		122	7,415	34,484	94.5	77.4%
Centinela Hospital Medical Center	9		237	14,679	50,675	138.8	58.6%
Miller Children's & Women's Hospital	9.1		-	-	-	-	-
MemorialCare Long Beach Medical Center	9.2		309	20,695	85,132	233.2	75.5%
Beverly Hospital*	9.7		156	8,235	31,176	85.4	54.8%
Monterey Park Hospital	9.9		85	3,573	14,671	40.2	47.3%
Los Angeles County/Harbor-UCLA Medical Center	11.1		270	12,850	65,760	180.2	66.7%
California Hospital Medical Center	13.2		176	13,201	50,971	139.6	79.3%
Gardens Regional Hospital & Medical Center	13.2		119	N/A	N/A	-	-
East Los Angeles Doctor's Hospital*	13.5		79	2,233	9,426	25.8	32.7%
Good Samaritan Hospital - Los Angeles	13.9		197	8,911	42,009	115.1	58.4%
Adventist Health White Memorial*	14.1		158	11,019	47,136	129.1	81.7%
LAC+USC Medical Center	14.5		329	21,010	109,368	299.6	91.1%
La Palma Intercommunity Hospital*	15.3		105	2,642	9,099	24.9	23.7%
Children's Hospital Los Angeles	18.6		-	-	-	-	-
Cedars - Sinai Medical Center	21.4		598	36,803	202,964	556.1	93.0%
TOTAL			**4,276**	**234,332**	**1,023,354**	**2,803.7**	**65.4%**

Source: OSHPD Disclosure Reports

Note: Includes Definitive Observations

* 2018 Data

- In FY 2019, the Hospital's medical/surgical beds represented nearly 15% of beds in the service area;

- In FY 2019, Martin Luther King, Jr. Community Hospital, the closest general acute care facility to the Hospital, ran at a high occupancy rate of nearly 99% and would not have the capacity to accept additional medical/surgical patients; and

- The Hospital reported 11,698 inpatient hospital discharges for its medical/surgical beds with 53,990 patient days resulting in a high occupancy rate of 80% and an average daily census of 148 patients.

Intensive Care Capacity Analysis

The Hospital has 36 intensive care beds. Within the service area, there are 252 additional intensive care beds that provide care service area residents. Combined they operated at an occupancy rate of about 62%.

SERVICE AREA HOSPITAL DATA : INTENSIVE CARE, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**36**	**778**	**11,043**	**30.3**	**84.0%**
Martin Luther King Jr. Community Hospital*	2.9	X	61	4,086	16,400	44.9	73.7%
Kaiser Foundation Hospital - Downey	4.8	X	30	305	4,525	12.4	41.3%
PIH Health Hospital - Downey	5.0	X	18	266	3,435	9.4	52.3%
Community Hospital of Huntington Park*	5.4	X	4	97	1,822	5.0	124.8%
Coast Plaza Hospital*	6.6	X	7	136	1,823	5.0	71.4%
College Hospital*	8.0	X	-	-	-	-	-
Lakewood Regional Medical Center	9.1	X	32	659	6,640	18.2	56.8%
PIH Health Hospital - Whittier*	10.9	X	84	3,352	16,499	45.2	53.8%
Whittier Hospital Medical Center	12.8	X	16	230	2,736	7.5	46.8%
SUB-TOTAL			**288**	**9,909**	**64,923**	**177.9**	**61.8%**
Memorial Hospital of Gardena*	7.9		10	279	3,019	8.3	82.7%
Los Angeles Community Hospital	9.0		12	199	3,219	8.8	73.5%
Centinela Hospital Medical Center	9.0		19	400	4,604	12.6	66.4%
Miller Children's & Women's Hospital	9.1		-	0	0	0.0	-
MemorialCare Long Beach Medical Center	9.2		60	624	11,857	32.5	54.1%
Beverly Hospital*	9.7		25	501	4,984	13.7	54.6%
Monterey Park Hospital	9.9		4	80	1,116	3.1	76.4%
Los Angeles County/Harbor-UCLA Medical Center	11.1		42	772	12,105	33.2	79.0%
California Hospital Medical Center	13.2		36	457	6,259	17.1	47.6%
Gardens Regional Hospital & Medical Center	13.2		18	N/A	N/A	-	-
East Los Angeles Doctor's Hospital*	13.5		10	110	1,615	4.4	44.2%
Good Samaritan Hospital - Los Angeles	13.9		68	642	10,294	28.2	41.5%
Adventist Health White Memorial*	14.1		34	243	4,455	12.2	35.9%
LAC+USC Medical Center	14.5		120	2,246	31,050	85.1	70.9%
La Palma Intercommunity Hospital*	15.3		8	137	1,570	4.3	53.8%
Children's Hospital Los Angeles	18.6		-	-	-	-	-
Cedars - Sinai Medical Center	21.4		114	1,908	30,014	82.2	72.1%
TOTAL			**868**	**18,507**	**191,084**	**523.5**	**60.1%**

Source: OSHPD Disclosure Reports

* 2018 Data

- In FY 2019, the Hospital's intensive care beds had a high occupancy rate of 84% and an average daily census of 30 patients;

- Martin Luther King, Jr. Community Hospital, located approximately 3 miles from the Hospital, is operating at an occupancy rate of 74% on its intensive care beds; and

- The Hospital's intensive care beds are an important resource for supporting the Hospital's designation as a Level II trauma center and providing surge capacity due to COVID-19.

Obstetrics Capacity Analysis

In FY 2019, there were 247 obstetrics beds located in the service area with an aggregate occupancy rate of 36%. The Hospital reported 50 licensed obstetric beds with an occupancy rate of 52%.

SERVICE AREA HOSPITAL DATA : OBSTETRICS, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**50**	**4,421**	**9,512**	**26.1**	**52.1%**
Martin Luther King Jr. Community Hospital*	2.9	X	17	798	2,042	5.6	32.9%
Kaiser Foundation Hospital - Downey	4.8	X	66	4,597	8,199	22.5	34.0%
PIH Health Hospital - Downey	5.0	X	20	1,006	2,147	5.9	29.4%
Community Hospital of Huntington Park*	5.4	X	-	-	-	-	-
Coast Plaza Hospital*	6.6	X	-	-	-	-	-
College Hospital*	8.0	X	-	-	-	-	-
Lakewood Regional Medical Center	9.1	X	-	-	-	-	-
PIH Health Hospital - Whittier*	10.9	X	66	1,988	5,336	14.6	22.2%
Whittier Hospital Medical Center	12.8	X	28	2,011	4,818	13.2	47.1%
SUB-TOTAL			**247**	**14,821**	**32,054**	**87.8**	**35.6%**
Memorial Hospital of Gardena*	7.9		23	649	2,103	5.8	25.1%
Los Angeles Community Hospital	9.0		-	-	-	-	-
Centinela Hospital Medical Center	9.0		29	442	1,197	3.3	11.3%
Miller Children's & Women's Hospital	9.1		59	6,114	16,923	46.2	78.6%
MemorialCare Long Beach Medical Center	9.2		-	-	-	-	-
Beverly Hospital*	9.7		18	653	1,366	3.7	20.8%
Monterey Park Hospital	9.9		12	1,245	3,079	8.4	70.3%
Los Angeles County/Harbor-UCLA Medical Center	11.1		29	1,083	3,432	9.4	32.4%
California Hospital Medical Center	13.2		37	3,651	8,948	24.5	66.3%
Gardens Regional Hospital & Medical Center	13.2		-	N/A	N/A	-	-
East Los Angeles Doctor's Hospital*	13.5		13	522	1,486	4.1	31.3%
Good Samaritan Hospital - Los Angeles	13.9		69	2,711	7,574	20.8	30.1%
Adventist Health White Memorial*	14.1		24	3,445	7,132	19.5	81.4%
LAC+USC Medical Center	14.5		11	962	3,468	9.5	86.4%
La Palma Intercommunity Hospital*	15.3		11	111	257	0.7	6.4%
Children's Hospital Los Angeles	18.6		-	-	-	-	-
Cedars - Sinai Medical Center	21.4		82	9,456	18,389	50.4	61.4%
TOTAL			**664**	**45,865**	**107,408**	**294.3**	**44.3%**

Source: OSHPD Disclosure Reports

* 2018 Data

- In FY 2019, the Hospital provided 20% of licensed obstetrics beds within its service area and reported approximately 30% of the service area's 14,821 discharges;

- The two closest "non-Kaiser" hospitals offering licensed obstetrics beds, Martin Luther King, Jr. Community Hospital and PIH Health Hospital – Downey, operated at an occupancy rate of 33% and 34%, respectively; and

- Martin Luther King, Jr. Community Hospital provides 17 licensed obstetric beds resulting in 2,042 patient days and an average daily census of 6 patients.

Neonatal Intensive Care Capacity Analysis

As shown below, the occupancy rate for neonatal intensive care services within the service area hospitals is approximately 49% based on 119 licensed beds.

SERVICE AREA HOSPITAL DATA : NEONATAL INTENSIVE CARE, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**29**	**433**	**5,319**	**14.6**	**50.3%**
Martin Luther King Jr. Community Hospital*	2.9	X	-	-	-	-	-
Kaiser Foundation Hospital - Downey	4.8	X	49	528	11,189	30.7	62.6%
PIH Health Hospital - Downey	5.0	X	7	86	536	1.5	21.0%
Community Hospital of Huntington Park*	5.4	X	-	-	-	-	-
Coast Plaza Hospital*	6.6	X	-	-	-	-	-
College Hospital*	8.0	X	-	-	-	-	-
Lakewood Regional Medical Center	9.1	X	-	-	-	-	-
PIH Health Hospital - Whittier*	10.9	X	34	383	4,376	12.0	35.3%
Whittier Hospital Medical Center	12.8	X	-	-	-	-	-
SUB-TOTAL			**119**	**1,430**	**21,420**	**58.7**	**49.3%**
Memorial Hospital of Gardena*	7.9		-	-	-	-	-
Los Angeles Community Hospital	9.0		-	-	-	-	-
Centinela Hospital Medical Center	9.0		9	71	1,514	4.1	46.1%
Miller Children's & Women's Hospital	9.1		95	1,264	20,130	55.2	58.1%
MemorialCare Long Beach Medical Center	9.2		-	-	-	-	-
Beverly Hospital*	9.7		10	40	196	0.5	5.4%
Monterey Park Hospital	9.9		-	-	-	-	-
Los Angeles County/Harbor-UCLA Medical Center	11.1		27	58	2,405	6.6	24.4%
California Hospital Medical Center	13.2		26	486	5,827	16.0	61.4%
Gardens Regional Hospital & Medical Center	13.2		-	N/A	N/A	-	-
East Los Angeles Doctor's Hospital*	13.5		-	-	-	-	-
Good Samaritan Hospital - Los Angeles	13.9		23	394	5,729	15.7	68.2%
Adventist Health White Memorial*	14.1		28	479	6,617	18.1	64.7%
LAC+USC Medical Center	14.5		40	351	5,977	16.4	40.9%
La Palma Intercommunity Hospital*	15.3		-	-	-	-	-
Children's Hospital Los Angeles	18.6		73	708	27,585	75.6	103.5%
Cedars - Sinai Medical Center	21.4		45	662	10,662	29.2	64.9%
TOTAL			**495**	**5,943**	**108,062**	**296.1**	**59.8%**

Source: OSHPD Disclosure Reports

* 2018 Data

- The Hospital has 29 licensed neonatal intensive care beds, making up approximately 41% of the service area's "non-Kaiser" neonatal intensive care beds and recorded an occupancy rate of approximately 50%;

- The Hospital reported 433 inpatient hospital discharges and 5,319 patient days in FY 2019, resulting in an average daily census of approximately 15 patients; and

- The Hospital operates a Level II neonatal intensive care unit that cares for newborn infants with extreme prematurity who are critically ill or require surgical intervention.

Pediatrics Capacity Analysis

In FY 2019, there were 65 pediatric beds located within the service area with an aggregate occupancy rate of approximately 13%. The Hospital reported 14 licensed pediatric beds with an occupancy rate of 16%.

SERVICE AREA HOSPITAL DATA: PEDIATRIC ACUTE, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**14**	**273**	**794**	**2.2**	**15.5%**
Martin Luther King Jr. Community Hospital*	2.9	X	-			-	-
Kaiser Foundation Hospital - Downey	4.8	X	17	549	2,091	5.7	33.6%
PIH Health Hospital - Downey	5.0	X	-	-	-	-	-
Community Hospital of Huntington Park*	5.4	X	-	-	-	-	-
Coast Plaza Hospital*	6.6	X	-	-	-	-	-
College Hospital*	8.0	X	-	-	-	-	-
Lakewood Regional Medical Center	9.1	X	-	-	-	-	-
PIH Health Hospital - Whittier*	10.9	X	34	-	-	-	-
Whittier Hospital Medical Center	12.8	X	-	-	-	-	-
SUB-TOTAL			**65**	**822**	**2,885**	**7.9**	**12.1%**
Memorial Hospital of Gardena*	7.9		-	-	-	-	-
Los Angeles Community Hospital	9.0		-	-	-	-	-
Centinela Hospital Medical Center	9.0		-	-	-	-	-
Miller Children's & Women's Hospital	9.1		173	7,288	25,377	69.3	40.1%
MemorialCare Long Beach Medical Center	9.2		-	-	-	-	-
Beverly Hospital*	9.7		15	486	1,171	3.2	21.3%
Monterey Park Hospital	9.9		-	-	-	-	-
Los Angeles County/Harbor-UCLA Medical Center	11.1		25	1,559	3,486	9.6	38.1%
California Hospital Medical Center	13.2		12	735	1,188	3.3	27.0%
Gardens Regional Hospital & Medical Center	13.2		-	N/A	N/A	-	-
East Los Angeles Doctor's Hospital*	13.5		-	-	-	-	-
Good Samaritan Hospital - Los Angeles	13.9		-	-	-	-	-
Adventist Health White Memorial*	14.1		28	28	1,095	3.0	10.7%
LAC+USC Medical Center	14.5		25	1,057	3,024	8.3	33.0%
La Palma Intercommunity Hospital*	15.3		-	-	-	-	-
Children's Hospital Los Angeles	18.6		324	14,248	72,239	197.9	60.9%
Cedars - Sinai Medical Center	21.4		31	1,193	3,085	8.5	27.2%
TOTAL			**698**	**27,416**	**113,550**	**311.1**	**44.4%**

Source: OSHPD Disclosure Reports

* 2018 Data

- The Hospital is the only "non-Kaiser" provider of pediatric beds in the service area. In 2015, PIH Health Hospital – Whittier suspended pediatric services on its 34-bed unit in 2017; and

- There are two children's hospitals within 19 miles of the Hospital. Miller Children's & Women's Hospital, located approximately 11 miles from the Hospital, is licensed for 173 pediatric beds and has an occupancy rate of approximately 40%. Additionally, Children's Hospital of Los Angeles, located 19 miles from the Hospital, is licensed for 324 pediatric beds and has an occupancy rate of 61%.

Skilled Nursing/Subacute Capacity Analysis

The Hospital is licensed to operate 30 distinct part[29] skilled nursing beds. The Hospital is one of two general acute care hospitals in the service area that are licensed to operate inpatient skilled nursing beds. The Hospital reported an occupancy rate of nearly 61% and an average daily census of 18 patients.

SERVICE AREA HOSPITAL DATA : SKILLED NURSING, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**30**	**308**	**6,686**	**18**	**60.9%**
Martin Luther King Jr. Community Hospital*	2.9	X					
Kaiser Foundation Hospital - Downey*	4.8	X	-	-	-	-	-
PIH Health Hospital - Downey	5.0	X	-	-	-	-	-
Community Hospital of Huntington Park*	5.4	X	-	-	-	-	-
Coast Plaza Hospital*	6.6	X	-	-	-	-	-
College Hospital*	8.0	X	-	-	-	-	-
Lakewood Regional Medical Center	9.1	X	-	-	-	-	-
PIH Health Hospital - Whittier*	10.9	X	35	610	6,627	18	51.7%
Whittier Hospital Medical Center	12.8	X	22	11	7,365	20	91.5%
Distinct Part Sub-Total		**X**	**87**	**929**	**20,678**	**57**	**64.9%**
Stand-Alone Skilled Nursing Beds Sub-Total		**X**	**5,107**	**16,544**	**1,713,090**	**4,693**	**91.9%**
Total			**5,194**	**17,473**	**1,733,768**	**4,750**	**91.5%**

Source: OSHPD Disclosure Reports

* 2018 Data

- The closest general acute care hospital with skilled nursing beds to the Hospital was PIH Health Hospital - Whittier that operated at an occupancy rate of 52% and an average daily census of 18 patients on 35 beds.

[29] Distinct part skilled nursing facilities exist as a part of an acute-care hospital or hospital system. Distinct part skilled nursing facilities, compared to freestanding community-based skilled nursing facilities, care for more medically complex patients, and are often the only option for patients with complex medical needs and behavioral challenges living in rural areas.

Psychiatric Capacity Analysis

There are 186 acute psychiatric beds within the Hospital's service area with an overall occupancy rate of approximately 100%. The Hospital has 40 licensed psychiatric acute beds that were 89% occupied on average in FY 2019 (average daily census of 36 patients).

SERVICE AREA HOSPITAL DATA : PSYCHIATRIC ACUTE, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
St. Francis Medical Center	**-**	**X**	**40**	**2,204**	**12,964**	**35.5**	**88.6%**
Martin Luther King Jr. Community Hospital*	2.9	X	-	-	-	-	-
Kaiser Foundation Hospital - Downey	4.8	X	-	-	-	-	-
PIH Health Hospital - Downey	5.0	X	-	-	-	-	-
Community Hospital of Huntington Park*	5.4	X	-	-	-	-	-
Coast Plaza Hospital*	6.6	X	-	-	-	-	-
College Hospital*	8.0	X	146	4,279	55,209	151.3	103.3%
Lakewood Regional Medical Center	9.1	X	-	-	-	-	-
PIH Health Hospital - Whittier*	10.9	X	-	-	-	-	-
Whittier Hospital Medical Center	12.8	X	-	-	-	-	-
SUB-TOTAL			**186**	**6,483**	**68,173**	**187**	**100.4%**
Memorial Hospital of Gardena*	7.9		-	-	-	-	-
Los Angeles Community Hospital	9.0		32	1,807	10,193	27.9	87.0%
Centinela Hospital Medical Center	9.0		-	-	-	-	-
Miller Children's & Women's Hospital	9.1		-	-	-	-	-
MemorialCare Long Beach Medical Center	9.2		-	-	-	-	-
Beverly Hospital*	9.7		-	-	-	-	-
Monterey Park Hospital	9.9		-	-	-	-	-
Los Angeles County/Harbor-UCLA Medical Center	11.1		38	506	12,853	35.2	92.4%
California Hospital Medical Center	13.2		-	-	-	-	-
Gardens Regional Hospital & Medical Center	13.2		-	-	-	-	-
East Los Angeles Doctor's Hospital*	13.5		-	-	-	-	-
Good Samaritan Hospital - Los Angeles	13.9		-	-	-	-	-
Adventist Health White Memorial*	14.1		33	2,185	9,555	26.2	79.1%
LAC+USC Medical Center	14.5		59	651	17,312	47.4	80.2%
La Palma Intercommunity Hospital*	15.3		16	166	3,226	8.8	55.1%
Children's Hospital Los Angeles	15.3		-	-	-	-	-
Cedars - Sinai Medical Center	18.6		-	-	-	-	-
TOTAL			**364**	**11,798**	**121,312**	**332**	**91.1%**

Source: OSHPD Disclosure Reports

* 2018 Data

There is a shortage of area beds licensed for psychiatric services, making the Hospital's inpatient psychiatric unit essential and of critical importance for the provision of behavioral health services to residents within the Hospital's service area and the rest of Los Angeles County. College Hospital, the only other provider of acute psychiatric services in the service area, operated over capacity with an occupancy rate of 105% in FY 2018 and 103% in FY 2019. Any reduction in the level of psychiatric services provided at the Hospital's inpatient psychiatric unit and emergency department, or any reduction to the number of licensed psychiatric beds at the Hospital, would negatively impact the availability and accessibility of these types of services for service area and Los Angeles County residents.

- The average daily census for all hospitals in the service area was 187 based on 68,173 patient days; and

- The Hospital provided 22% of the service area's acute psychiatric beds in FY 2019 and discharged 34% of the service area's patients.

Emergency Services Analysis

In CY 2017, the Hospital reported 46 emergency treatment stations and nearly 82,000 total emergency department visits. The table below shows the visits by severity category for area emergency departments as reported by OSHPD's Automated Licensing Information and Report Tracking System.

EMERGENCY DEPARTMENT VISITS BY CATEGORY 2017

Hospital	Miles from Hospital	Within Service Area	ER Level	Stations	Total Visits	Minor	Low/ Moderate	Moderate	Severe w/o Threat	Severe w/ Threat	Percentage Admitted	Hours of Diversion
St. Francis Medical Center	**-**	**X**	**Basic**	**46**	**81,643**	**3,293**	**7,373**	**25,462**	**28,151**	**17,364**	**18.1%**	**1,122**
Martin Luther King Jr. Community Hospital	2.9	X	Basic	29	63,329	414	342	21,914	19,389	21,270	**10.7%**	1,051
Kaiser - Downey	4.8	X	Basic	63	105,865	3,878	4,694	73,416	19,405	4,472	**7.7%**	2,094
PIH - Downey	5.0	X	Basic	22	58,342	1,447	6,009	19,350	22,295	9,241	**9.9%**	879
Community Hospital of Huntington Park	5.4	X	Basic	14	38,237	661	8,667	11,002	12,588	5,319	**7.1%**	262
Coast Plaza Hospital	6.6	X	Basic	16	14,508	170	4,076	3,410	4,153	2,699	**14.9%**	1
College Hospital	8	X	-	-	-	-	-	-	-	-	**-**	-
Lakewood Regional Medical Center	9.1	X	Basic	14	47,407	1,134	2,875	13,607	15,723	14,068	**14.1%**	1,382
PIH - Whittier	10.9	X	Basic	56	77,672	1,338	9,607	24,048	29,213	13,466	**11.2%**	302
Whittier Hospital Medical Center	12.8	X	Basic	11	33,611	800	5,206	13,268	8,295	6,042	**16.6%**	145
SUBTOTAL				**271**	**520,614**	**13,135**	**48,849**	**205,477**	**159,212**	**93,941**	**11.8%**	**7,238**
Memorial Hospital of Gardena	7.9		Basic	10	33,366	574	11,219	8,243	9,834	3,496	**8.8%**	737
Los Angeles Community Hospital	9		Standby	3	8,355	583	2,762	1,893	724	2,393	**24.3%**	0
Centinela Hospital Medical Center	9.0		Basic	44	53,043	1,325	1,685	10,328	12,350	27,355	**19.8%**	14
Earl and Lorraine Miller Childrens Hospital	9.1		-	-	-	-	-	-	-	-	**-**	-
Long Beach Memorial Medical Center	9.2		Basic	64	106,365	5,978	26,814	40,410	21,186	11,977	**13.9%**	2,143
Beverly Hospital	9.7		Basic	17	35,687	3,287	783	8,605	14,881	8,131	**19.7%**	499
Monterey Park Hospital	9.9		Basic	6	25,829	108	5,547	8,828	7,809	3,537	**10.6%**	136
LAC/Harbor-UCLA Medical Center	11.1		Basic	75	84,430	2,629	22,509	41,774	16,615	903	**13.3%**	1,195
California Hospital Medical Center	13.2		Basic	35	91,590	7,230	11,194	30,523	20,812	21,831	**12.5%**	876
Tri City Regional Medical Center	13.2		Basic	-	-	-	-	-	-	-	**-**	-
East Los Angeles Doctors Hospital	13.5		Basic	8	11,618	79	2,001	3,497	4,113	1,928	**14.2%**	1
Good Samaritan Hospital-Los Angeles	13.9		Basic	12	35,271	312	2,251	8,245	11,679	12,784	**14.5%**	1,475
White Memorial Medical Center	14.1		Basic	28	63,210	885	10,647	19,007	18,760	13,911	**15.7%**	28
LAC+USC Medical Center	14.5		Comprehensive	106	150,991	6,660	32,854	82,485	26,897	2,095	**13.9%**	-
La Palma Intercommunity Hospital	15.3		Basic	10	18,150	813	287	3,058	5,709	8,283	**16.2%**	80
Pacific Alliance Medical Center, Inc	15.3		-	-	-	-	-	-	-	-	**-**	-
Children's Hospital Los Angeles	18.6		Basic	39	90,666	25,281	27,859	25,563	11,586	377	**8.4%**	30
Cedars Sinai Medical Center	21.4		Basic	51	86,639	3,280	6,929	22,522	22,462	31,446	**26.8%**	2,531
TOTAL				**779**	**1,415,824**	**72,159**	**214,190**	**520,458**	**364,629**	**244,388**	**13.8%**	**16,983**

Source: OSHPD Alirts Annual Utilization Reports, 2017

- The Hospital admitted 18% of the patients seen at the emergency room. This is higher than the service area average of 12% of emergency department visits that resulted in an admission;

- Service area hospitals experienced a high number of hours on diversion (collectively, over 7,200 hours of diversion in CY 2017). When a hospital goes on diversion, incoming ambulances are diverted to other hospital emergency department departments as a response to high emergency department congestion; and

- The Hospital provides a greater proportion of emergency department visits classified as "severe with/without threat" when compared to all hospitals in the service area (56% versus 49%).

Emergency Services Capacity

Industry sources, including the American College of Emergency Physicians, have used a benchmark of 2,000 visits per emergency station/bed to estimate the capacity of an emergency department. Based upon this benchmark, in CY 2017, the Hospital's emergency department was operating at 89% of its 46–bed capacity.

EMERGENCY DEPARTMENT CAPACITY 2017							
Hospital	Miles from Hospital	Within Service Area	ER Level	Stations	Total Visits	Capacity	Remaining Capacity
St. Francis Medical Center	**-**	**X**	**Basic**	**46**	**81,643**	**92,000**	**10,357**
Martin Luther King Jr. Community Hospital	**2.9**	**X**	**Basic**	**29**	**63,329**	**58,000**	(5,329)
Kaiser - Downey	4.8	X	Basic	63	105,865	126,000	20,135
PIH - Downey	5.0	X	Basic	22	58,342	44,000	(14,342)
Community Hospital of Huntington Park	5.4	X	Basic	14	38,237	28,000	(10,237)
Coast Plaza Hospital	6.6	X	Basic	16	14,508	32,000	17,492
College Hospital	8	X	-	-	-	-	-
Lakewood Regional Medical Center	9.1	X	Basic	14	47,407	28,000	(19,407)
PIH - Whittier	10.9	X	Basic	56	77,672	112,000	34,328
Whittier Hospital Medical Center	12.8	X	Basic	11	33,611	22,000	(11,611)
SUBTOTAL				**271**	**520,614**	**542,000**	**21,386**
Memorial Hospital of Gardena	7.9		Basic	10	33,366	20,000	(13,366)
Los Angeles Community Hospital	9		Standby	3	8,355	6,000	(2,355)
Centinela Hospital Medical Center	9.0		Basic	44	53,043	88,000	34,957
Earl and Lorraine Miller Childrens Hospital	9.1		-	-	-	-	-
Long Beach Memorial Medical Center	9.2		Basic	64	106,365	128,000	21,635
Beverly Hospital	9.7		Basic	17	35,687	34,000	(1,687)
Monterey Park Hospital	9.9		Basic	6	25,829	12,000	(13,829)
LAC/Harbor-UCLA Medical Center	11.1		Basic	75	84,430	150,000	65,570
California Hospital Medical Center	13.2		Basic	35	91,590	70,000	(21,590)
Tri City Regional Medical Center	13.2		Basic	-	-	-	-
East Los Angeles Doctors Hospital	13.5		Basic	8	11,618	16,000	4,382
Good Samaritan Hospital-Los Angeles	13.9		Basic	12	35,271	24,000	(11,271)
White Memorial Medical Center	14.1		Basic	28	63,210	56,000	(7,210)
LAC+USC Medical Center	14.5		Comprehensive	106	150,991	212,000	61,009
La Palma Intercommunity Hospital	15.3		Basic	10	18,150	20,000	1,850
Pacific Alliance Medical Center, Inc.	15.3		-	-	-	-	-
Children's Hospital Los Angeles	18.6		Basic	39	90,666	78,000	(12,666)
Cedars Sinai Medical Center	21.4		Basic	51	86,639	102,000	15,361
TOTAL				**779**	**1,415,824**	**1,558,000**	**142,176**

Source: OSHPD Alirts Annual Utilization Reports, 2017

- Emergency departments in the Hospital's service area operated at over 96% capacity; and
- Martin Luther King, Jr. Community Hospital, the closest hospital to St. Francis Medical Center, operated at nearly 110% of capacity. Half of the hospitals in the service area operated over capacity including PIH – Downey (132% of capacity), Community Hospital of Huntington Park (137% of capacity), Lakewood Regional Medical Center (169% of capacity), and Whittier Hospital Medical Center (153% of capacity).

Summary of Interviews

In April and May of 2020, telephone and video interviews were conducted with representatives of the Hospital, Verity Health, Prime, as well as physicians, representatives of Los Angeles County, the Hospital's employees and union representatives, and other community members. The purpose of the interviews was to gather information from area healthcare professionals and community members regarding potential impacts on healthcare availability and accessibility as a result of the proposed transaction. The list of individuals interviewed is located in the Appendix of this report. The major findings of the interviews are summarized below.

Reasons for the Proposed Transaction

Members of Verity Health and the Hospital's management team, medical staff, and Board cited a number of reasons for why the transaction is necessary, including the following:

- Verity Health does not have the financial resources required to repay outstanding debt. Additionally, Verity Health is unable to provide financial support for the underfunded pension plans, seismic related requirements, plant and equipment maintenance, and operational deficits. As such, Verity Health filed for relief under Chapter 11 of Title 11 of the United States Code. As a result of a facilitated process to find a buyer, through a sale of the assets approved by the United States Bankruptcy Court for the Central District of California, SGM was initially selected as the successful bidder. However, after the sale was approved by the California Attorney General and the bankruptcy court, SGM failed to complete the sale. Subsequently, Verity initiated another process to find interested and qualified buyers and Prime's bid was selected for the Hospital. Almost all interviewees believe that the transaction with Prime is necessary to continue to operate the Hospital and preserve its services;

- Without the transaction, Verity Health would not be able to meet its financial obligations and continue the operation of the Hospital. It would be likely that Verity Health would still need to sell the Hospital and the affected communities' access to services could be severely impacted making it operationally challenging for other area hospitals to meet the demand for inpatient services;

- Given the Hospital's important role in providing healthcare for the poor and indigent, without the transaction the community could be at risk of losing key services that are essential for the uninsured and under-insured patient populations;

- Almost all of those interviewed believe that the sale to Prime is necessary to keep the Hospital from eliminating essential services or selling to another buyer that would not provide the same levels of commitment; and

- Many interviewed believe that the Hospital provided significant financial support to Verity Health and could be sustainable on its own if it were independent of other Verity Health hospitals.

Importance of the Hospital to the Community

According to all who were interviewed, the Hospital is a critically important provider of healthcare services to the local community and known for providing essential services to the uninsured and under-served populations. The Hospital holds the largest market share of inpatient discharges in its service area. Some of the programs and services that were mentioned in the interviews as especially important include the following:

- Emergency services and designation as a Level II Trauma Center and Emergency Department Approved for Pediatrics (EDAP);
- Behavioral health and psychiatric services;
- Obstetrics and the Level II NICU;
- Cardiac services, including designation as a STEMI Receiving Center;
- Stroke services, including certification as a Primary Stroke Center;
- Health Benefits Resource Center;
- Cancer services including radiation oncology;
- Women and children's services, including the Welcome Baby Program and women's diagnostic services;
- Orthopedic services;
- Pediatric services including the Children's Counseling Center;
- Wound care services; and
- Various community benefits services,

Representatives Los Angeles County and other community representatives all believed that it was essential for the Hospital to retain all or most of the services that it currently offers, especially obstetrics, emergency services, behavioral health, cardiology, stroke services, and designation as a Level II Trauma Center.

If the Hospital does not maintain its current level of healthcare services, severe accessibility and availability issues would be created for residents of the communities served by the Hospital.

Selection of Prime for the Proposed Transaction

While other organizations submitted alternative proposals to Verity Health for consideration, representatives of Verity Health explained that a number of factors were involved in finalizing the selection of Prime including the following:

- Prime provided the largest bid, considering all components, and a commitment to continue the operation of the hospitals and accept the majority of conditions required by the Office of the California Attorney General from the prior transaction between Verity Health, the Hospital, and SGM that was approved on September 25, 2019;
- Access to Prime's advanced electronic health record system (Epic);
- Enhanced financial support and access to capital;
- Plans to expand some services;
- Experience with safety net hospitals and distressed hospital turnarounds;
- Awards for patient care and safety at many hospitals operated by Prime; and
- Experience operating community hospitals efficiently and profitably.

Almost all of those interviewed from Verity Health, the Hospital's management and medical staff, and the community were supportive of the proposed transaction and the selection of Prime and expressed a strong desire for the transaction to be finalized. Additionally, most people also conveyed an overall understanding and knowledge of the pressing financial issues of the Hospital and the necessity for the Hospital to become financially and operationally sustainable;

Some interviewed were very concerned that if the Office of the California Attorney General required conditions for approval of the transaction that were overly burdensome to Prime, then they would withdraw from the transaction and, without a viable alternative immediately available, the Hospital would have to downsize and eliminate services. Some of those interviewed believed that the conditions required by the California Attorney General limit the ability to change the way in which the Hospital operates and therefore inhibit the ability to successfully improve the Hospital's financial performance. Some believed that it would be necessary for Prime to change or eliminate services in order to make the Hospital financially viable.

While the majority of those interviewed expressed support for the transaction with Prime, some individuals also expressed concerns regarding the potential negative effects that the proposed transaction could have on the Hospital if the transaction were approved. Some of the concerns with the selection of Prime included the following:

- The motivations of Prime to make a profit are different than nonprofit operators and may be in conflict with the interests of the community to operate the Hospital and continue all of its services;

- The lack of history and experience of Prime in operating a general acute care facility with a Level II Trauma Center;

- Prime may reduce or eliminate unprofitable services, and in doing so, negatively impact the accessibility and availability of healthcare services for the communities served by the Hospital;

- Prime may reduce staffing and other types of infrastructure, which in turn, could have a negative impact on the quality and delivery of patient care;

- Prime will not accept the underfunded pension liability;

- Prime may not provide all current services including oncology;

- Prime may not negotiate market rate union collective bargaining agreements; and

- Prime may not fairly negotiate or may cancel certain health insurance contracts, making access to hospital services for some patients difficult.

Most of the Hospital employees interviewed, some of whom were also members of unions, understood the reasons for the transaction and felt it was most important to secure a buyer and establish operational stability. Some interviewed believed that if the sale to Prime were not approved, a more suitable buyer/operator could be found that would complete a purchase of the hospital. A small number of those interviewed preferred that the California Attorney General not approve the transaction and Verity Health should select a different buyer. Some expressed cautious optimism towards Prime as a buyer as long as employees are treated well, union contracts are fairly negotiated and honored, and the surrounding communities continue to be served by the Hospital.

Impact on the Availability and Accessibility of Healthcare Services

Almost all interviewed believed that the proposed transaction would lead to some level of change in regard to access and/or the availability of certain services. While many believed that the transaction was necessary, they also believed there could be further reductions and elimination

of some unprofitable services, resulting in a negative impact on the availability or accessibility of some healthcare services to lower-income and underserved populations historically served by the Hospital. However, many also believed that Prime could develop new service lines based on community needs and/or grow profitable services as part of its turnaround strategy.

Alternatives

Almost all of those interviewed believed that the transaction with Prime was necessary in order to avoid insolvency and the closure of services. However, many also expressed that if this transaction was not finalized, the Hospital would likely be acquired by another organization due to its history of positive financial performance.

While many interviewed were not familiar with Prime, most were cautiously optimistic that Prime's ownership would ensure the future financial sustainability and operation of the Hospital. Many individuals mentioned their belief that Prime's operational experience and ownership of other distressed hospitals in Southern California could be valuable for preserving the Hospital's services for the future.

Assessment of Potential Issues Associated with the Availability or Accessibility of Healthcare Services

Importance of the Hospital to the Community

The Hospital is a critically important safety-net provider of healthcare services to the residents of the surrounding communities. The Hospital is essential for its provision of emergency, trauma, obstetrics, and mental health services to residents within the service area, as well as for the broader community. Other key services offered at the Hospital include cardiac care, cancer services, imaging services, women's health services, the Level II neonatal intensive care unit, designation as a STEMI Center, certification as a Primary Stroke Receiving Center, rehabilitation services, surgical services, wound care services, as well as other programs and services. In addition to the provision of key medical services, the Hospital has also provided a significant level of charity care and community benefit services for low-income, uninsured, and under-insured populations residing in the surrounding communities.

Continuation as a General Acute Care Hospital

Prime has agreed to complete the transaction so long as any conditions imposed by the California Attorney General are substantially consistent with the conditions set forth in Exhibit 5.8(c) of the Asset Purchase Agreement. Acceptance of these conditions includes operation of the Hospital for at least ten years as a general acute care hospital. In Exhibit 5.8(c), Prime indicated that it was unwilling to support cancer services, the Children's Counseling Center and the Wound Care Center, in the interviews with JD Healthcare, and in subsequent correspondence Prime stated that they would accept conditions to provide those services.

Emergency Services

The Hospital is an important provider of emergency services to the residents of its surrounding communities. In FY 2017, the Hospital's 46 emergency treatment stations reported 81,643 emergency service visits, operating at 89% of capacity. Additionally, the Level II Trauma Center is one of the busiest trauma centers in Los Angeles County with over 2,000 trauma cases per year.

Almost all Emergency Departments within the service area are operating over or close to 100% capacity. Area emergency departments are overburdened and functioning beyond desirable capacity, including Martin Luther King, Jr. Community Hospital (109%), PIH-Downey (132%), Community Hospital of Huntington Park (137%), Lakewood Regional Medical Center (169%), and Whittier Hospital Medical Center (153%). Collectively, service area emergency departments are operating at over 96% of capacity. In addition, the Hospital's emergency department sees a greater percentage of high severity patients (56% of all emergency department visits are classified "Severe with/without Threat") when compared to service area hospitals overall (49% of all emergency department visits are classified "Severe with/without Threat"). A higher

percentage of patients are admitted through the Hospital's emergency department (18%) when compared to the service area hospitals overall (12%).

As a result of the uncertainties of the future of the ACA and healthcare reform, aging demographics, and with the entire service area designated as having a shortage of primary care physicians, utilization of the emergency department may be expected to increase.

Keeping the Hospital's Emergency Department open, and maintaining its Level II Trauma Center, is critical to providing emergency services within the Hospital's service area. Additionally, Prime has expressed interest in evaluating an upgrade to a Level I Trauma Center.

Medical/Surgical Services

The Hospital reported an occupancy rate of 80%, on its 185 licensed medical/surgical beds in FY 2019. The next closest hospital, Martin Luther King, Jr. Community Hospital, is three miles away and is operating at 98.7% capacity. Within the service area, the Hospital is the second largest provider of medical/surgical services. Keeping the Hospital's medical/surgical beds available is important to meeting the needs in the Hospital's service area.

Intensive Care Services

The Hospital's intensive care beds had an occupancy rate of about 84% in FY 2019. Intensive care services are important for supporting the emergency department, trauma center, and other surgical and medical services at the Hospital. Area hospitals are running at a combined occupancy rate of nearly 62% on 288 total intensive care beds. In FY 2019, Community Hospital of Huntington Park had an occupancy rate of approximately 125% on its 4-bed intensive care unit. Maintaining intensive care services at the Hospital is important to ensure the accessibility and availability of ICU/CCU beds in the service area. The importance of having ICU bed availability at the Hospital was highlighted by the needs in the community that were created by the COVID-19 Pandemic.

Obstetrics/Perinatal Services

The Hospital has an occupancy rate of 52% on its 50[30] beds used for obstetrics services based on an average daily census of approximately 26 patients. With 4,054 reported deliveries in FY 2019, the Hospital is an important provider of obstetrics services, holding the largest market share in CY 2018, with approximately 14% of inpatient obstetrics discharges within its service area. The Hospital is a very important provider of obstetrics services to low-income patients, as a high percentage of obstetrics patients are Medi-Cal beneficiaries.

[30] A request for a change in licensure from 71 to 52 perinatal beds was submitted to the California Department of Public Health on December 28, 2018.

Neonatal Intensive Care Services

In FY 2019, the Hospital operated 29 neonatal intensive care beds, had 433 discharges, and an average daily census of 15 patients. The Hospital maintains a Level II NICU with an occupancy rate of nearly 50%. Excluding Kaiser, the Hospital operates the only Level II NICU in the service area (PIH – Whittier's NICU is designated as Level III). Because the Hospital has nearly 4,100 deliveries with a high percentage of births considered high-risk, it is important to continue operating the NICU.

Pediatric Care Services

In FY 2019, the Hospital reported 14 pediatric beds with 273 discharges and an average daily census of only 2 patients resulting in an occupancy rate of 16%. The Hospital is the only non-Kaiser hospital in the service area operating inpatient pediatric beds. In the last several years, PIH-Whittier and Community Hospital of Huntington Park both closed their inpatient pediatric units because of low volumes and the availability of high quality inpatient pediatric care at area children's hospitals. There are two children's hospitals within 19 miles of the Hospital, including Earl and Lorraine Miller Children's Hospital and Children's Hospital of Los Angeles. Although the Hospital's average daily census of two pediatric patients per day is low and does not require all 14 licensed pediatric beds, in FY 2018, nearly 18,000 emergency department visits (or 23%) were pediatric patients, making the Hospital's ability to provide pediatric services important to the residents of the service area.

Skilled Nursing/Sub-acute Care Services

In FY 2019, the Hospital reported 30 distinct part licensed skilled nursing beds. Although the hospital is one of two general acute care hospitals in the service area that are licensed to operate inpatient skilled nursing beds, a reduction or elimination in the number of skilled nursing beds would have little impact on the availability and accessibility of skilled nursing services in the service area. This is because there are numerous other stand-alone skilled nursing facilities in the Hospital's service area that also provide skilled nursing services to area residents. Any reduction or elimination in the number of skilled nursing beds operated by the Hospital would therefore have little impact on the availability and accessibility of skilled nursing services in the service area and could adequately be accommodated elsewhere. Additionally, Prime has indicated they would consider repurposing these beds for rehabilitation services which could be beneficial to the Hospital's trauma center.

Psychiatric Services

In FY 2019, the Hospital operated 40 distinct part inpatient psychiatric beds with a high occupancy rate of 89%. There is a shortage of beds in the area designated for psychiatric and behavioral health services, making the Hospital an essential provider of these types of services for the community. The Hospital is only one of two area hospitals offering inpatient behavioral health psychiatric services. College Hospital is the other provider of these services in the Hospital's service area with 146 licensed acute psychiatric beds and a high occupancy rate over 103%.

Due to the severe shortage of available psychiatric beds in the service area and in Los Angeles County overall, maintaining the current number of psychiatric beds at the Hospital at current licensure with the same type and/or level of services is critical to ensuring continued access for community residents.

Oncology/Cancer Services

The Hospital serves about 360 inpatient oncology patients and provides about 3,500 outpatient visits annually and, as such, is an important provider of oncology services to community residents. While between FY 2017 and FY 2019, the Hospital's radiation oncology patient volume decreased by approximately 9% from 15,216 visits to 13,970 visits, excluding Kaiser, the Hospital has the second largest market share for cancer services in the service area. It is especially important for the local community that the Hospital offer these services as there are few other options close by and transportation can be a hindrance when traveling to other centers. Prime did not agree to maintain or expand cancer care in Exhibit 5.8(c) to the Asset Purchase Agreement. However, in the interview with JD Healthcare, Inc. and in subsequent correspondence, Prime indicated that they would agree to continue the cancer services. Cancer is the leading cause of death in Los Angeles County and therefore providing oncology services at the Hospital is important to meeting the needs of community residents.

ST. FRANCIS MEDICAL CENTER CANCER SERVICES VOLUME			
	FY 2017	FY 2018	FY 2019
Radiation Oncology Patients	3,804	3,889	3,492
Radiation Oncology Patients Visits	15,216	15,556	13,970

Source: Verity Health

Reproductive Health Services

The Hospital is an important provider of a range of healthcare services for women. Neither the Hospital nor Prime have restrictions on the provision of any reproductive healthcare services. No changes on the availability or accessibility of these services is expected as a result of the transaction. It is therefore expected that the Hospital will continue to provide elective reproductive services including tubal ligations and sterilizations.

The Hospital provides reproductive services to a large underserved population that has low rates of prenatal care resulting in an increased number of high-risk births. This can increase instances of stillborn delivery, miscarriage, and fetal abnormalities. The table below shows instances where the Hospital recorded reproductive-related procedures in CY 2018.

ST. FRANCIS MEDICAL CENTER CY 2017 REPRODUCTIVE SERVICE BY DIAGNOSTIC RELATED GROUP	
	CY 2018
776-Postpartum & Post Abortion Diagnoses without O.R. Procedure	49
778-Threatened Abortion	39
767-Vaginal Delivery with Sterilization &/or D&C[1]	36
770-Abortion with D&C, Aspiration Curettage or Hysterotomy[1]	34
777-Ectopic Pregnancy	31
779-Abortion without D&C[1]	19
769-Postpartum & Post Abortion Diagnoses with O.R. Procedure	8
768-Vaginal Delivery with O.R. Proc Except Sterilization &/Or D&C[1]	6
Total Discharges	**222**

Source: OSHPD Inpatient Discharge Database, CY 2018

[1]D&C is an abbreviation for Dilation and Curettage

Out of the eight diagnostic related groups, 776-Postpartum & Post Abortion Diagnoses without O.R. Procedure has the highest number of inpatient reproductive health discharges at the Hospital.

Effects on Services to Medi-Cal & Other Classes of Patients

Approximately 89% of the Hospital's inpatients are reimbursed through Medicare (24.9%) and Medi-Cal (64.9%). The Hospital currently participates in the Medicare and Medi-Cal program, and contracts with both of the County's Medi-Cal managed care plans (L.A. Care Health Plan and Health Net Community Solutions, Inc.). Prime has committed to maintaining the Hospital's Medicare and Medi-Cal managed care contracts for ten years from the closing date of the Asset Purchase Agreement. If the Hospital did not participate in the Medicare and Medi-Cal programs, eligible patients could be denied access to certain non-emergency healthcare services, thus creating a negative impact on the availability or accessibility for these patient populations

Effects on the Level & Type of Charity Care Historically Provided

Many uninsured and under-insured individuals in the community rely on the Hospital for healthcare services. Between FY 2015 and FY 2019, the Hospital provided an average of $10,186,173 in charity care costs per year over the five-year period. Medicaid expansion and the ACA[31] increased access to healthcare insurance coverage and therefore decreased the amount of charity care provided to uninsured patients at the Hospital. The amount of charity care costs at the Hospital has decreased from $13.5 million in FY 2015 to $6.8 million in FY 2019. In its Application to the Office of the California Attorney General, Prime has agreed to provide an annual amount of charity care amount of equal to or greater than $8.0 million, adjusted each year for inflation, for the next six fiscal years.

Effects on Community Benefit

The Hospital has historically provided a significant amount of community benefit services, averaging approximately $2,132,804 per year over the last five years. Furthermore, in its Application to the Office of the California Attorney General, Prime committed to providing an annual amount of community benefit services equal to or greater than $1,139,301, adjusted each year for inflation, and exclusive of any fund grants. The most recent five-year community benefit average increased due to a greater level of community benefit expenditures in FY 2019. Prime also committed to providing continued support for specified community benefit programs, including the Health Benefit Resource Center, Welcome Baby Program, Healthy Community Initiatives, St. Francis Career College's access to onsite training, Paramedic Training and Education, and Patient Transportation Support.

[31] The Affordable Care Act (ACA) is comprehensive health care reform law enacted in March 2010. Its goals is to make affordable health insurance available to more people, provide consumers with subsidies ("premium tax credits") that lower costs for households with incomes between 100% and 400% of the federal poverty level and expand to cover all adults with income below 138% of the federal poverty level.

Effects on Staffing & Employee Rights

Prime agrees to make offers of employment to substantially all persons who, immediately prior to the Effective Time, are employees of the Hospital. All employees who are hired shall cease to be employees of the Hospital and become employees of Prime.

Before Closing Date, Prime will participate with Sellers in union negotiations aimed at modifying the collective bargaining agreements to further the strategic business operations of Prime. It is likely that Prime will try to reduce the cost of labor at the Hospital which may over time, eliminate some positions and personnel.

Effects on Medical Staff

Under the Asset Purchase Agreement, Prime has committed to retaining all current members of the Hospital's medical staff in good standing as of the Effective Time. As a result, no immediate changes are expected. Prime is likely to renegotiate physician on-call and other physician coverage agreements which may affect the retention of some physicians due to decreased payments.

Alternatives

If the proposed Asset Purchase Agreement is not approved, it is expected that Verity Health would evaluate alternative proposals for a sales transaction.

Conclusions

Based on Prime's commitments outlined in the Asset Purchase Agreement and subsequent correspondence regarding the Hospital, the proposed transaction is likely to continue the availability and accessibility of most healthcare services in the communities served. It is anticipated that access for Medi-Cal, Medicare, uninsured and other classes of patients for most services will remain unchanged.

Potential Conditions for Transaction Approval by the California Attorney General

If the California Attorney General approves the proposed transaction, JD Healthcare, Inc. recommends that the following conditions be required in order to minimize any potential negative healthcare impact that might result from the transaction:

1. For at least ten years from the Closing Date, the Hospital shall continue to operate as a general acute care hospital;

2. For at least ten years from the Closing Date, the Hospital shall maintain 24-hour emergency and trauma medical services at no less than current licensure and designation with the same types and/or levels of services, including the following:

    a. At a minimum, 46 emergency treatment stations;
    b. Designation as a Level II Trauma Center;
    c. Designation as a 5150 Receiving Facility, as defined by the Welfare and Institutions Code, Section 5150, for behavioral health patients under involuntary evaluation;
    d. Psychiatric evaluation team;
    e. Designation as an Emergency Department Approved for Pediatrics (EDAP);
    f. Designation as a Paramedic Base Station; and
    g. Certification as a Primary Stroke Center.

3. For at least ten years from the Closing Date, the Hospital shall maintain on-call coverage contracts and/or comparable coverage arrangements that are necessary to retain its qualification as a Level II trauma center. The following on-call coverage contracts and/or comparable coverage arrangements are required to retain the Hospital's status as a Level II trauma center include:

    a. Neurology;
    b. Obstetrics/gynecology;
    c. Ophthalmology;
    d. Oral or maxillofacial or head and neck;
    e. Orthopedics;

f. Plastic surgery;
g. Reimplantation/microsurgery capability (this surgical service may be provided through a written transfer agreement); and
h. Urology.

4. For at least ten years from the Closing Date, the Hospital shall maintain the following services at current licensure, types, and/or levels of services:

    a. Cardiac services, including three cardiac catheterization labs and the designation as a STEMI Receiving Center;
    b. Critical care services, including a minimum of 36 intensive care unit beds;
    c. Neonatal intensive care services, including a minimum of 29 neonatal intensive care beds, and at minimum, maintaining a Level II NICU;
    d. Women's health services, including women's imaging services;
    e. Cancer services, including radiation oncology;
    f. Pediatric services, including a designated area with at least five general acute care beds for pediatric services;
    g. Orthopedic and rehabilitation services;
    h. Wound care services;
    i. Behavioral health services, including a minimum of 40 distinct part inpatient acute psychiatric beds; and
    j. Perinatal services, including a minimum of 50 perinatal beds.

5. For at least ten years from the Closing Date, the Hospital shall maintain the same types and/or levels of women's healthcare services and mammography services, currently provided at the location below or an equivalent location:

    a. Family Life Center at St. Francis Medical Center, located at 3630 E Imperial Highway, Lynwood, California.

6. For at least five years from the Closing Date, the Hospital shall maintain the outpatient healthcare services provided at the locations below or a similar location with equivalent services:

    a. Pediatric services at the Hospital and at Children's Counseling Center, 4390 Tweedy Ave, South Gate, California; (maybe add another location)
    b. Wound care services at Wound Care Center, 3628 E. Imperial Highway, Suite 103, Lynwood, California; and
    c. Orthopedic services at 3628 E. Imperial Highway, Suite 300, Lynwood, California.

7. For at least five years from the Closing Date, the Hospital shall maintain a charity care policy that is no less favorable than its current charity care policy and in compliance with California and Federal law and shall provide an annual amount of charity care equal to or greater than $10,186,173 (the "Minimum Charity Care Amount"). Alternatively, because of the impact of Medi-Cal expansion and the ACA, the California Attorney General could consider adjusting the required commitment to charity care based on available data from time periods after implementation of the ACA. An example would be to require a commitment based on a three-year rolling average of the most recent available data. For FY 2020, the Hospital's required Minimum Charity Care amount using the three-year rolling average from FY 2017 to FY 2019 would be $8,851,210. For purposes herein, the term "Charity Care" shall mean the amount of charity care costs (not charges) incurred by the Hospital in connection with the operations and provision of services at the Hospital. The definition and methodology for calculating "Charity Care" and the methodology for calculating "cost" shall be the same as that used by OSHPD for annual hospital reporting purposes. The Minimum Charity Care Amount will be increased on an annual basis by the rate of inflation as measured by the Consumer Price Index for Los Angeles-Long Beach-Anaheim Average Base Period: 1982-84=100 (as published by the U.S. Bureau of Labor Statistics) The Attorney General may consider imposing other charity care protections such as improving the charity care policy and disclosure requirements as he did in the Dignity Health (now Common Spirit Health) transaction issued on November 21, 2018;

8. For at least five years from the Closing Date, the Hospital shall continue to expend no less than $2,132,804 annually in community benefit services (Minimum Community Benefits Amount). If the Hospital receives any grant funds for community benefit services, those grant funds may not be applied to the Minimum Community Benefits Amount. The Minimum Community Benefits Amount will be increased on an annual basis by the rate of inflation as measured by the Consumer Price Index for Los Angeles-Long Beach-Anaheim Average Base Period: 1982-84=100 (as published by the U.S. Bureau of Labor Statistics). In addition, the following community benefit programs shall continue to be offered and/or supported for at least five years from the Closing Date:

    a. Southern California Crossroads Program;
    b. Patient and Family Centered Care (PFCC);
    c. Health Benefit Resource Center;
    d. Welcome Baby Program;
    e. Healthy Community Initiatives;
    f. St. Francis Career College's access for onsite training;
    g. Paramedic Training and Education; and
    h. Patient Transportation support.

9. For at least ten years from the Closing Date, the Hospital shall maintain its participation in the Medicare program, providing the same types and/or levels of emergency and non-emergency services to Medicare beneficiaries, on the same terms and conditions as other similarly situated hospitals, by maintaining a Medicare Provider Number;

10. For at least ten years from the Closing Date, the Hospital shall be certified to participate in the Medi-Cal program, providing the same type, and/or levels of emergency and non-emergency services to Medi-Cal beneficiaries;

11. For at least ten years from the Closing Date, the Hospital shall maintain its participation in the Medi-Cal Managed Care program, providing the same types and/or levels of emergency and non-emergency services to Medi-Cal beneficiaries, on the same terms and conditions as other similarly situated hospitals offering substantially the same services, without any loss, interruption of service, or decrease of quality, or gap in contracted hospital coverage, including continuation of the following contracts:

    a. Local Initiative Plan: L.A. Care Health Plan; and
    b. Commercial Plan: Health Net Community Solutions, Inc., or its successor.

12. For at least ten years from the Closing Date, the Hospital shall maintain its current city/county contracts for the programs listed below subject to the request and agreement of the appropriate city/county:

    a. Designation Agreement between the County of Los Angeles Department of Mental Health (LAC-DMH) and the Hospital and approved as a 72-hour Evaluation and Intensive Treatment facility;
    b. Affiliation Agreement for physicians in post graduate training, or an agreeable substitute;
    c. Participation in the Hospital Preparedness Program between the Hospital and Los Angeles County;
    d. Mental Health Service Entity Contract between Los Angeles County and the Hospital;
    e. Mental Health Service - Children 's Counseling between Los Angeles County and the Hospital;
    f. Memorandum of Understanding for Mental Health Hospital Portal between the Superior Court of California, County of Los Angeles and the Hospital;
    g. Paramedic Base Hospital Services between the Hospital and Los Angeles County;
    h. Master Agreement between Los Angeles County and the Hospital for Radiation Therapy Services;
    i. Trauma Center Service Agreement between the Hospital and Los Angeles County; and
    j. Paramedic Training Institute Students between the Hospital and State of California- El Camino College District.

13. The Hospital Center shall maintain written policies that prohibit discrimination against lesbian, gay, bisexual, or transgender individuals;

14. Prime and the Hospital shall commit the necessary investments required to maintain OSHPD seismic compliance requirements at the Hospital through 2030 under the Alfred Alquist Hospital Facilities Seismic Safety Act of 1983, as amended by the California Hospital Facilities Seismic Safety Act, (Health & Safety. Code, § 129675-130070); and

15. Prime shall expend at least $35 million for capital improvements, excluding seismic retrofit costs, at the Hospital over the five-year period from the Closing Date.

Appendix

List of Interviewees

Last Name	First Name	Position	Affiliation
Adcock	Rich	Chief Executive Officer	Verity Health
Anderson, MD	Maxine	Trauma Surgeon & Chief of Staff	St. Francis Medical Center
Baackes	John	Chief Executive Officer	L.A. Care Health Plan
Bergeron	Ana	Registered Nurse & Vice President	United Nurses Association of California, Union of Health Care Professionals
Bhatia, MD	Kavitha	Foundation Chair and Prime CMO, Strategy	Prime Healthcare
Bhatia, MD	Sunny	Chief Medical Officer	Prime Healthcare
Bookatz, MD	Allen	Emergency Department	St. Francis Medical Center
Bouzaglou, MD	Armand	Radiation Oncologist	St Francis Medical Center
Bowens, MD	Karol	Obstetrics & Gynecology	St. Francis Medical Center
Cervantes	Rosemarie	Director of Labor & Delivery	St. Francis Medical Center
Chidester	Cathy	Director	Los Angeles County Emergency Medical Services Agency
Cruickshank	Deborah	Manager of Orthopedics & Multispecialty Clinics	St. Francis Medical Center
DeBeche	Jackie	Director of Emergency Department	St. Francis Medical Center
Drake	Derek	Chief Nursing Officer	St. Francis Medical Center
Druten	Chad	Board Chair	St. Francis Medical Center
Farah, MD	Amin	Cardiologist	St. Francis Medical Center
Calles	Edward	Senior Director of Networt Development	L.A. Care Health Plan
Friedberg, MD	David	Orthopedic Surgeon	St. Francis Medical Center
Gunderson	Alice	Member of the Patient Family Advisory Committee	St. Francis Medical Center
Guzman	Noe	Union Steward & Representative	Service Employees International Union
Hyman	Ursula	Board Member	St. Francis Medical Center
Knighten	Mary Lynne	Member of the Patient Family Advisory Committee	St. Francis Medical Center
Moosa, MD	Andy	Newborn Intensive Care Unit	St. Francis Medical Center
Nguyen-Clark, MD	Hanh	Chief of Staff-Elect	St. Francis Medical Center
Nunez	Maria	Nurse Representative	United Nurses Associations of California
Pasion	Terri	Chief Financial Officer	St. Francis Medical Center
Pratap	Rowena	Director of Maternity Center & Post Partum	St. Francis Medical Center
Ramirez	Eleanor	Interim President & CEO	St. Francis Medical Center
Reddy, MD	Prem	Chairman, President and CEO	Prime Healthcare
Richards	Suzanne	Transaction Lead	Prime Healthcare
Richlin	Joel	Deputy General Counsel	Prime Healthcare
Shepherd, MD	Tchaka	Trauma Surgeon	St. Francis Medical Center
Tadeo	Richard	Assistant Director	Los Angeles County Emergency Medical Services Agency
Woo	Linda	Director of Marketing & Communications	St. Francis Medical Center
Ynzunza	Samuel	Board Member	St. Francis Medical Center

Purchaser Provisions' of the Asset Purchase Agreement

APA Provision	Summary Description
Closing Date **APA § 1.3**	The "Closing Date" shall occur within three (3) business days following the satisfaction or waiver of the conditions precedent to Closing set forth in Articles 7 and 8 of the APA.
Consideration **APA § 1.1**	(a) Purchaser commits to pay a purchase price (the "Purchase Price"), as follows: (i) Cash base purchase price (the "Base Price") of Two Hundred Million Dollars ($200,000,000); provided, that in the event at Closing the Annualized Normalized EBITDA (as defined in Schedule 1.1(a)(i)) is more than Fifty Million Dollars ($50,000,000) less than the Prior Period Annualized Normalized EBITDA (as defined in Schedule 1.1(a)(i)), the Purchaser shall offset from the portion of the remaining QAF V[4] net receipts collected after Closing (but not by more than an aggregate of Thirty Million Dollars ($30,000,000)) one dollar for every dollar of difference between Prior Period Annualized Normalized EBITDA and Annualized Normalized EBITDA over Fifty Million Dollars ($50,000,000) up to Eighty Million Dollars ($80,000,000). In the event that the QAF V payments are insufficient to satisfy the amount of offset, then Purchaser shall have offset rights from the Seller's QAF VI Seller Net Payments; (ii) Cash payment of Sixty-One Million Dollars ($61,000,000) (the "A/R Target Amount") as consideration for the Accounts Receivable transferred at Closing (subject to adjustment in Section 1.12, as set forth below); (iii) Cash payment for Sellers' payroll liabilities at Closing (the "Payroll Amount") (which as of October 31, 2019, had an aggregate value of approximately Five Million Dollars ($5,000,000)); (iv) Cash payment for accrued vacation and other paid time-off of Sellers' employees at Closing (the "PTO Amount") (which as of October 31, 2019, had an aggregate value of approximately Ten Million Dollars ($10,000,000)); and (v) An amount equal to the Cure Costs associated with outstanding liabilities of Sellers under any Assigned Leases and/or Assigned Contracts. (b) Purchaser shall also pay certain prorated items of income and expense as set forth in Section 1.6. (c) Sellers shall retain, as an Excluded Asset, the QAF V Payments and the QAF VI Seller Net Payments as described in Section 1.8(b), which are currently estimated at Twenty-Nine Million Dollars ($29,000,000) in connection with the QAF V Payments and Eighty-Three Million Dollars ($83,000,000) in connection with the QAF VI Seller Net Payments. (d) Purchaser commits to invest Forty-Seven Million Dollars ($47,000,000) in capital expenditures for St. Francis (including NPC-3 seismic compliance responsibilities).
Good Faith Deposit **APA § 1.2**	Purchaser has deposited an amount equal to $27,725,342.48 (the "Deposit") by wire transfer to Chicago Title Insurance Company ("Escrow Agent"). All fees of the Escrow Agent shall be paid by Purchaser. The Deposit shall be non-refundable in all events, except in the event the Closing does not occur due to Purchaser's termination of the APA pursuant to Sections 9.1 (a), (c), (d), (f), (g), (h) or (i) of the APA. Upon Closing, the Deposit will be credited against the Purchase Price.

[4] For purposes of the APA, the "QAF Program" means the California Department of Healthcare Services ("DHCS") Hospital Quality Assurance Fee Programs V ("QAF V") and VI ("QAF VI").

APA Provision	Summary Description
Accounts Receivable Reconciliation **APA § 1.12**	During the 135-day period immediately following the Closing Date, Purchaser shall (using good faith, commercially reasonable best efforts) collect the Accounts Receivable (collectively, the "Final A/R Collected"). Within thirty (30) days of the end of that period, Purchaser shall provide Sellers an accounting of the Final A/R Collected (the "A/R Accounting Schedule"), together with reasonably detailed support. In the interim, Purchaser shall provide Sellers with weekly written updates on its collection of the Accounts Receivable. Sellers and their advisors shall have sixty (60) days to review the proposed Final A/R Collected, the A/R Accounting Schedule, and the work papers used in the preparation thereof. They shall also be given reasonable access to Purchaser's personnel, books, records and other materials to assist in this review. If Sellers disagree with the A/R Accounting Schedule and/or proposed Final A/R Collected, they shall notify Purchaser in writing of their disagreements (the "Statement of Objections"), which Purchaser and Sellers shall reasonably cooperate to resolve. If Purchaser and Seller are unable to resolve all such disagreements within thirty (30) days following notification, such disagreements shall be submitted to the Bankruptcy Court for resolution. The A/R Accounting Schedule and Final A/R Collected shall become final on the earlier of (i) failure by Sellers to deliver a Statement of Objections within the time period required by this section; (ii) mutual written agreement by Sellers and Purchaser; or (iii) a determination by the Bankruptcy Court. Once the A/R Accounting Schedule and Final A/R Collected become final, the following shall occur within ten (10) business days of Purchaser's delivery of the accounting of the Final A/R Collected to Sellers: (i) if the Final A/R Collected (excluding any governmental grants or awards directly or indirectly related to COVID-19) is more than the A/R Target Amount, then such excess amount shall be paid by Purchaser to Sellers; (ii) if the Final A/R Collected (including any governmental grants or awards directly or indirectly related to COVID-19) is less than the A/R Target Amount, then such deficit amount shall be paid by Sellers to Purchaser or offset by Purchaser against Seller's QAF VI Seller Net Payments; or (iii) if the Final A/R Collected (including any governmental grants or awards directly or indirectly related to COVID-19) is equal to the A/R Target Amount, then no adjusting payments in respect of the Accounts Receivable shall be required.

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Accounts Receivable Reconciliation **APA § 1.12**	During the 135-day period immediately following the Closing Date, Purchaser shall (using good faith, commercially reasonable best efforts) collect the Accounts Receivable (collectively, the "Final A/R Collected"). Within thirty (30) days of the end of that period, Purchaser shall provide Sellers an accounting of the Final A/R Collected (the "A/R Accounting Schedule"), together with reasonably detailed support. In the interim, Purchaser shall provide Sellers with weekly written updates on its collection of the Accounts Receivable. Sellers and their advisors shall have sixty (60) days to review the proposed Final A/R Collected, the A/R Accounting Schedule, and the work papers used in the preparation thereof. They shall also be given reasonable access to Purchaser's personnel, books, records and other materials to assist in this review. If Sellers disagree with the A/R Accounting Schedule and/or proposed Final A/R Collected, they shall notify Purchaser in writing of their disagreements (the "Statement of Objections"), which Purchaser and Sellers shall reasonably cooperate to resolve. If Purchaser and Seller are unable to resolve all such disagreements within thirty (30) days following notification, such disagreements shall be submitted to the Bankruptcy Court for resolution. The A/R Accounting Schedule and Final A/R Collected shall become final on the earlier of (i) failure by Sellers to deliver a Statement of Objections within the time period required by this section; (ii) mutual written agreement by Sellers and Purchaser; or (iii) a determination by the Bankruptcy Court. Once the A/R Accounting Schedule and Final A/R Collected become final, the following shall occur within ten (10) business days of Purchaser's delivery of the accounting of the Final A/R Collected to Sellers: (i) if the Final A/R Collected (excluding any governmental grants or awards directly or indirectly related to COVID-19) is more than the A/R Target Amount, then such excess amount shall be paid by Purchaser to Sellers; (ii) if the Final A/R Collected (including any governmental grants or awards directly or indirectly related to COVID-19) is less than the A/R Target Amount, then such deficit amount shall be paid by Sellers to Purchaser or offset by Purchaser against Seller's QAF VI Seller Net Payments; or (iii) if the Final A/R Collected (including any governmental grants or awards directly or indirectly related to COVID-19) is equal to the A/R Target Amount, then no adjusting payments in respect of the Accounts Receivable shall be required.

APA Provision	Summary Description
Transfer of Assets **APA § 1.7**	On the Closing Date, subject to the APA, free and clear of Encumbrances (defined in the APA) other than Permitted Exceptions (defined below), and excluding Excluded Assets (defined below), Sellers shall transfer to Purchaser the following property, rights, and interests, as they exist on the Closing Date, *to the extent assignable or transferable*, and that have been designated or elected by Purchaser (the "Assets"), as defined and more specifically described in Section 1.7 of the APA: Personal Property and related manufacturer/vendor warranties; Licenses; Assigned Leases (including Leased Real Property and Tenant Leases); Assigned Contracts; Medicare/Medi-Cal Agreements; Transferred Managed Care Agreements; Transferred Private Payor Agreements (excluding risk-sharing agreements with independent physician associations); Inventory (subject to exclusions); Prepaids (excluding Utility Deposits); non-proprietary operating manuals, files, and computer software; the name "St. Francis Medical Center" (including associated trademarks, service marks, trade names, logos and domain names but excluding the domain https://stfrancis.verity.org and content therein); goodwill; operation telephone/facsimile numbers; Lockboxes (related to Medicare/Medi-Cal fee-for-service receivables); Receivables (including Accounts Receivable and Other Receivables) and related documents and records; QAF payments due to the Hospital (other than already received prior to Closing or specifically excluded as QAF V Payments or QAF VI Seller Net Payments); claims, causes of action, and rights (except as excluded); and other assets owned and used primarily in the operation of the Hospital. "Permitted Exceptions" means (i) the Transferred Obligations; (ii) liens for taxes not yet due and payable; (iii) easements, rights of way, zoning ordinances and other similar encumbrances affecting real property; (iv) imperfections of title or encumbrances identified in the Title Commitments other than those specifically identified in Schedule 1.7(I); and (iv) other imperfections of title or encumbrances, if any, which are not monetary in nature and that are not, individually or in the aggregate, material to the business of the Hospital.

APA Provision	Summary Description
Excluded Assets (including Causes of Action) **APA § 1.8**	"Excluded Assets" include, as defined and more specifically described in Section 1.8 of the APA: cash and equivalents; QAF V Payments and QAF VI Seller Net Payments; Disproportionate Share Hospital Payments; Sellers Plans and their reversionary assets; non-assigned contracts and risk sharing agreements with independent physician associations; non-transferred Private Payor Agreements and Managed Care Agreements; collective bargaining agreements or other arrangements with unions representing Sellers' employees; non-assigned Leases, non-assigned Contracts, and related rents, deposits, prepayments, and similar amounts; disposed, expended, or canceled Inventory and Prepaids; vendor-owned assets; organizational or corporate books, minute books and tax records; except as included in Sections 1.7(k) or 1.7(s), claims, counterclaims and causes of action of Sellers or their chapter 11 estates, including Avoidance Claims (except as related to the Assigned Contracts and Assigned Leases, which Purchaser will acquire and be deemed to release and waive against counterparties), non-bankruptcy claims, counterclaims and causes of action, rights to challenge liens, and the proceeds from any of the foregoing; insurance policies, contracts, and coverages (subject to exclusions); Utility Deposits; unclaimed third-party property; non-Lockbox bank accounts; material protected by the attorney-client privilege, the attorney work product doctrine or any other cognizable privilege or protection; the rights of Sellers to receive mail and other communications with respect to Excluded Assets or Excluded Liabilities; tax refunds and tax assets; materials the Parties agree that Sellers are required by law to retain or prohibited by third-party contract to transfer; patient and medical records that cannot be electronically transferred to Purchaser and are not required by law (including § 351) to be maintained by Purchaser as of the Effective Time; deposits or other prepaid charges and expenses paid, and other rights or documents relating to any Excluded Liability or other Excluded Asset; rights or remedies provided to Sellers under the APA; rights or remedies relating to the SGM APA; personnel files for employees of Sellers who are not hired by Purchaser; documents primarily related to any Excluded Assets; documents necessary to prepare tax returns; and any assets identified in Schedule 1.8(bb). Excluded Assets also includes rights and entitlements in respect of that certain Settlement Agreement, executed as of April 29, 2019, by and between, on the one hand, Premier, Inc., Premier Services, LLC ("Premier GP"), Premier Healthcare Alliance, L.P. ("Premier LP"), Premier Healthcare Solutions, Inc. ("PHSI") and each of Premier, Inc.'s other subsidiaries (collectively and including Premier GP, Premier LP and PHSI, "Premier"), and on the other hand, VHS, as approved by the Bankruptcy Court by order entered on May 29, 2019 [Docket No. 2461], including but not limited to the right to convert and exchange partnership interests arising under that certain Amended and Restated Limited Partnership Agreement, effective as of October 1, 2013, as amended, by and among Premier LP, Premier GP and the limited partners of Premier LP party thereto (including VHS). For the avoidance of doubt, Purchaser is not acquiring any asset owned by any affiliate of Sellers.

APA Provision	Summary Description
Transferred Obligations **APA § 1.9**	"Transferred Obligations" include (a) the Assigned Contracts, after Sellers pay the Cure Costs from the proceeds of the Purchase Price; (b) the Assigned Leases, after Sellers pay the Cure Costs from the proceeds of the Purchase Price; (c) all liabilities and obligations arising out of or relating to any act, omission, event or occurrence connected with the use, ownership or operation by Purchaser of the Hospital or any of the Assets on or after the Effective Time; (d) all liabilities and obligations related to the Hired Employees arising on or following the Effective Time (which for avoidance of doubt, does not include any duties, obligations or liabilities arising from or related to employment-related documentation required to be maintained by such Seller prior to the Effective Time, including but not limited to, documentation of I-9 compliance for Sellers' employees and any alternative work schedule compliance duties, obligations or liabilities that relate to Sellers' employees); (e) all unpaid real and personal property taxes, if any, that are attributable to the Assets after the Effective Time, subject to the prorations provided in Section 1.6; (f) all liabilities and obligations relating to utilities being furnished to the Assets, subject to the prorations provided in Section 1.6; (g) any documentary, sales and transfer tax liabilities of Sellers incurred as a result of the consummation of the transaction contemplated by the APA; (h) all liabilities or obligations provided for in Section 5.3; and (i) any other obligations and liabilities identified in Schedule 1.9(i).
Excluded Liabilities **APA § 1.10**	Purchaser shall have those duties, obligations and liabilities set forth in the APA, the IMA, the Leaseback Agreement, the Transition Services Agreement, the Bill of Sale, the Transfer Agreement and the Real Estate Assignment(s) and shall be responsible for the Transferred Obligations. However, except as expressly set forth in the APA, Purchaser is not assuming any liabilities of Sellers related to the Assets, Sellers' employees or the Hospitals, is purchasing the Assets free and clear of the Encumbrances except the Permitted Exceptions and shall not be deemed a successor to Sellers or their estates by reason of any theory of law or equity with respect to any claims or liens against Sellers or the Assets (the "Excluded Liabilities").
Assumption of Transferred Contracts and Assignment **APA § 1.11**	Each Seller will assign to Purchaser the Assigned Leases and such other contracts and leases as are subject to evaluation by Purchaser for assumption or rejection (collectively "Evaluated Contracts"). Along with its Bid submission, Purchaser notified each Seller in writing of which Evaluated Contracts are to be assigned (the "Assigned Contracts") or rejected (the "Rejected Contracts"); provided, that Purchaser may designate any contracts on the Assigned Contract list as a Rejected Contract by 5:00 p.m. pacific time on the day that is thirty (30) days prior to Closing Date, and Sellers shall have the absolute right to remove any Evaluated Contract from the list of Assigned Contracts in order to preserve avoidance claims; provided, however, that notwithstanding anything to the contrary, and to enable Sellers to comply with the terms of the Bidding Procedures Order with respect to UnitedHealthcare Insurance Company ("UnitedHealthcare"), Purchaser shall irrevocably designate all UnitedHealthcare agreements as Assigned Contracts or Rejected Contracts by the date that is two (2) calendars days after the Bankruptcy Court enters the Sale Order. The final list of Assigned Contracts at Closing will appear on Schedule 1.7(d).

APA Provision	Summary Description
Employment Provisions **APA § 5.3**	Purchaser agrees to make offers of employment, effective as of the Effective Time, to substantially all persons (whether such persons are full time employees, part-time employees, on short-term or long-term disability or on leave of absence, military leave or workers compensation leave) who, immediately prior to the Effective Time are: (i) employees of St. Francis; or (ii) employed by another Seller or affiliate and are listed on Schedule 5.3 (collectively, the "Hospital Employees"). For the avoidance of doubt, the Hospital Employees shall not include any employees of VHS or any other affiliate of Sellers unless such individual is listed on Schedule 5.3. Any of the Hospital Employees who accept an offer of employment with Purchaser as of or after the Effective Time shall be referred to in the APA as the "Hired Employees." All employees who are Hired Employees shall cease to be employees of Sellers or its affiliates as of the Closing Date.
Sale Order's Acceptability **APA § 6.1(c)**	Sellers agree, subject to the reasonable exercise of their fiduciary duties, to expeditiously obtain a "Sale Order" approving the APA. For purposes of the APA, the Sale Order must be in form and substance reasonably acceptable to Purchaser.
Requested Findings as to Good Faith **APA § 6.1(d)**	Sellers agree, subject to the reasonable exercise of their fiduciary duties, to expeditiously seek a Bankruptcy Court determination that Purchaser is a good faith purchaser within the meaning of Section 363(m) of the Bankruptcy Code and in good faith to file such declarations and other evidence as may be required to support a determination.
Buyer's Termination Rights **APA § 9.1**	The APA may be terminated by Purchaser if (a) Purchaser has complied with Section 3.8 and a material breach of the APA has been committed by Sellers, which material breach has resulted, or would more likely than not result, in a Material Adverse Effect on the Assets taken as a whole, and such breach has not been (i) waived in writing by Purchaser or (ii) cured by Sellers to the reasonable satisfaction of Purchaser within fifteen (15) business days after Purchaser provides Sellers of a written notice which describes the nature of such breach and acceptable cure actions; *provided, however*, Purchaser shall not be permitted to terminate the APA pursuant to Section 9.1(c) if Purchaser is also in material breach of the APA; (b) satisfaction of any condition in Article 8 is or becomes impossible and Purchaser has not waived such condition in writing (provided that the failure to satisfy the applicable condition or conditions has occurred by reason other than (i) through the failure of Purchaser to comply with its obligations under the APA or (ii) Sellers' failure to provide their closing deliveries on the Closing Date as a result of Purchaser not being ready, willing and able to close the transaction on the Closing Date); (c) the Bankruptcy Court enters an order dismissing the Bankruptcy Case prior to the sale closing or fails to approve the sale of the Assets to Purchaser; and (d) the Closing has not occurred (other than through the failure of any Party seeking to terminate the APA to comply fully with its obligations under the APA) on or before **September 1, 2020** (the "Termination Date"); provided, that the Termination Date shall be extended in the event the conditions set forth in Section 7.4 and Section 8.3 have not been satisfied (but the conditions to Closing in Article 7 and Article 8 have otherwise been satisfied other than such conditions that are to be satisfied by payments and deliveries to be made at the Closing) to the earlier of (A) ten (10) business days after the satisfaction of the conditions set forth in Section 7.4 and Section 8.3 or (B) **December 31, 2020**.

APA Provision	Summary Description
Record Retention **APA § 10.2**	From the Licensure Date until **seven (7) years** thereafter or such longer period as required by law (the "Document Retention Period"), Purchaser shall keep and preserve all medical records, patient records, medical staff records and other books and records which are among the Assets as of the Effective Time, but excluding any records which are among the Excluded Assets. Purchaser will afford the Sellers and other parties designated in the APA as "Seller Parties" full and complete access to, and copies of, such records with respect to time periods prior to the Licensure Date (including, without limitation, access to records of patients treated at the Hospital prior to the Licensure Date) to the extent reasonably needed by any Seller Party for any lawful purpose. Purchaser shall abide by rules and regulations relating to the confidential information it acquires. Purchaser shall maintain the patient and medical staff records at the Hospital in accordance with applicable law and the requirements of relevant insurance carriers. After the expiration of the Document Retention Period, if Purchaser intends to destroy or otherwise dispose of any of the documents described in this section, Purchaser shall provide written notice to Sellers of Purchaser's intention no later than forty-five (45) calendar days prior to the date of such intended destruction or disposal, at which point (and during such period) any of the Seller Parties shall have the right, at its sole cost, to take possession of such documents.

St. Francis Medical Center License

License: 930000157
Effective: 04/14/2020
Expires: 12/31/2020
Licensed Capacity: 384

State of California
Department of Public Health

In accordance with applicable provisions of the Health and Safety Code of California and its rules and regulations, the Department of Public Health hereby issues

this **License** *to*

St. Francis Medical Center

to operate and maintain the following **General Acute Care Hospital**

SAINT FRANCIS MEDICAL CENTER
3630 E Imperial Hwy
Lynwood, CA 90262-2636

Bed Classifications/Services
314 General Acute Care
71 Perinatal
36 Intensive Care
29 Intensive Care Newborn Nursery
14 Pediatric
164 Unspecified General Acute Care
40 Acute Psychiatric (D/P)
30 Skilled Nursing (D/P)

Other Approved Services
Basic Emergency Medical
Cardiovascular Surgery
Nuclear Medicine
Occupational Therapy
Outpatient Services - Orthopedic Clinic at Orthopedic Clinic, 3628 E. Imperial Highway, Suite 300, Lynwood
Outpatient Services - Pediatrics at Children's Counseling Center, 4390 Tweedy Ave., South Gate
Outpatient Services - Wound Care at Wound Care Center, 3628 E. Imperial Hwy., Ste. 103, Lynwood
Physical Therapy
Radiation Therapy
Respiratory Care Services
Social Services
Speech Pathology

This **LICENSE** is not transferable and is granted solely upon the following conditions, limitations and comments:
15 Perinatal beds being utilized as LDRP rooms.
Pursuant to the Proclamation Of A State Of Emergency, issued March 4, 2020 – 19 Perinatal beds converted to General Acute Care (Unspecified) beds and an additional 6 General Acute Care (Unspecified) beds is approved effective from April 14, 2020 to June 30, 2020.

Sonia Y. Angell, MD, MPH
State Public Health Officer & Director

Rose McDowall
Rose McDowall, Staff Service Manager I

Refer Complaints regarding these facilities to: The California Department of Public Health, Licensing and Certification, L.A. Acute/Ancillary Unit, 3400 Aerojet Ave., Suite 323, El Monte, CA 91731, (626)312-1104

POST IN A PROMINENT PLACE

Exhibit 15

JD Healthcare

Effect of the Asset Purchase Agreement between Verity Health and AHMC Healthcare, Inc. on the Availability and Accessibility of Healthcare Services to the Communities Served by Seton Medical Center and Seton Coastside

Prepared for the Office of the California Attorney General

June 18, 2020

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Introduction & Purpose

JD Healthcare, Inc. was retained by the Office of the California Attorney General to assess the potential impact of the proposed Asset Purchase Agreement ("APA") by and between the Verity Health System of California, Inc., a California nonprofit public benefit corporation, and Verity Holdings, LLC[1], a California limited liability company (collectively "Verity Health"), Seton Medical Center, a California nonprofit public benefit corporation (collectively "Sellers"), and AHMC Healthcare, Inc., a California corporation, and one or more of its affiliates or assignees (collectively "AHMC"), on the availability and accessibility of healthcare services to the communities served by Seton Medical Center and Seton Coastside (collectively "Hospital")[2].

Verity Health is the owner and operator of the Hospital, a general acute care hospital licensed for 478 beds, located in Daly City, California. The Hospital is a recipient of Hospital Quality Assurance Fee (QAF)[3] funds.

On August 31, 2018, Verity Health and its Affiliated Hospitals[4] filed voluntary petitions for relief under Chapter 11 of Title 11 of the United States Code with the United States Bankruptcy Court for the Central District of California, Los Angeles Division. The Sellers and AHMC intend to effectuate the transaction of the Hospital through a sale of the assets approved by the Bankruptcy Court pursuant to Section 363 of Title 11 of the Bankruptcy Code.

The Asset Purchase Agreement, dated March 30, 2020 includes the sale of substantially all assets of the Hospital, hiring substantially all of its employees, and continuing its operations as a healthcare facility to ensure community access to needed healthcare services. AHMC has agreed to honor the majority of the conditions issued by the Attorney General's office in September of 2019 as part of its review and approval of the sale of St. Francis Medical Center, St. Vincent Medical Center and Seton Medical Center to Strategic Global Management, Inc. Strategic Global Management, Inc. failed to complete the transaction resulting in Verity Health again soliciting bids for the purchase of its remaining assets.

[1] Verity Holdings, LLC is a direct subsidiary of its sole member Verity Health. It was created in 2016 to hold and finance Verity Health's interests in six medical office buildings whose tenants are primarily physicians, medical groups, and healthcare providers.

[2] For the purposes of this report, the term "the Hospital" refers to both Seton Medical Center and Seton Coastside as both facilities operate under one consolidated license.

[3] The amount of supplemental Medi-Cal payments received by those hospitals that serve a high percentage of Medi-Cal and other low-income patients, as provided by SB 855 (Statutes of 1991). These payments are funded by intergovernmental transfers from public agencies (counties, districts, and the University of California system) to the State and from federal matching funds.

[4] Affiliated Hospitals include the Hospital (Seton Medical Center and Seton Coastside), St. Francis Medical Center, St. Vincent Medical Center, O'Connor Hospital, and St. Louise Medical Center.

AHMC, founded by Dr. Jonathan Wu, operates eight acute care hospitals with over 1,200 beds serving communities in Los Angeles County, Orange County, Riverside County, and San Bernardino County.

AHMC agrees to complete the transaction as long as any conditions imposed by the Office of the California Attorney General are not materially more burdensome than the Conditions[5] as set forth in Schedule 8.5 of the Asset Purchase Agreement. These Conditions are a modification of the existing conditions that resulted from the transaction approved by the Office of the California Attorney General, on September 25, 2019, by and between Verity Health System of California, Inc., Verity Holdings, Seton Medical Center, and purchaser Strategic Global Management, Inc.

This report, prepared for the California Attorney General, describes the possible effects that the proposed transaction may have on the delivery, accessibility, and availability of healthcare services in the Hospital's service area.

In its preparation of this report, JD Healthcare, Inc. performed the following:

- A review of the written notice submitted to the Office of the California Attorney General on April 27, 2020 and supplemental information subsequently provided by Verity Health and the Hospital;
- A review of press releases and news articles related to the proposed Asset Purchase Agreement and other hospital transactions;
- Interviews with community representatives, representatives of Verity Health, representatives of the Hospital's board, management, medical staff, and employees, representatives of AHMC, and others as listed in the Appendix;
- An analysis of financial, utilization, and service information provided by the management of the Hospital, Verity Health, and the Office of Statewide Health Planning and Development (OSHPD); and
- An analysis of publicly available data and reports regarding the Hospital, AHMC, and the service area, including demographic characteristics and trends, payer mix, hospital utilization rates and trends, health status indicators, and hospital market share.

Reasons for the Transaction

Verity Health's Board believes the sale of Verity Health's assets is necessary due to the financial crisis facing Verity Health, including losses that amounted to approximately $175 million annually

[5] California Attorney General Required Conditions to approval of the Change in Control and Governance of Seton Medical Center and Approval of the Asset Purchase Agreement by and among Verity Health System of California, Inc., Verity Holdings, Seton Medical Center, and purchaser Strategic Global Management, Inc.

on a cash flow basis. As of June 30, 2018, Verity Health's consolidated unaudited financial statements reflected total assets of approximately $847 million and total liabilities of approximately $1.278 billion. Verity Health's unaudited Statement of Operations for the ten months ending June 30, 2019 showed losses for the system totaling $167 million. Verity Health's outstanding secured and unsecured debt after the sale of O'Connor Hospital, Saint Louise Regional Hospital, and St. Vincent Medical Center is approximately $607.5 million with a cash burn rate of approximately $3 million per month. Despite past infusions of capital and new management, Verity Health's Board believes that the problems facing Verity Health are too significant to solve without a formal court supervised restructuring. As such, Verity Health and its Affiliated Hospitals each filed voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code.

Verity Health's Board provided the following additional reasons for Verity Health's poor financial condition that led to the formal court supervised restructuring:

- The legacy burden of more than a billion dollars of bond debt and unfunded pension liabilities;

- An inability to renegotiate collective bargaining agreements and payer contracts;

- The continued need for significant capital expenditures for seismic obligations and aging infrastructure, combined with the general financial and operational challenges facing the hospital industry; and

- The desire to protect the original legacy of the Daughters of Charity (Daughters) to the extent possible by retiring debt incurred over the past 18 years and freeing Verity Health hospitals of financial burden so as to continue to operate the hospitals under new ownership and leadership without the accumulated debt.

Timeline of the Transaction

The events leading up to this transaction are chronologically ordered as follows:

- February 2005 – Bonds are issued in the amount of $364 million to refinance existing debt and fund future capital expenditures[6];

- November 2008 –Bonds[7] are issued in the amount of $143.7 million to refinance existing debt;

[6] This amount is gross of an estimated $26 million in the debt service reserved funds that were used to defease the 2005 Bonds.

[7] The 2008 Bonds are the California Statewide Communities Development Authority Revenue Bonds (Daughters of Charity Health System) Series 2008A Bonds that include a debt service reserve fund of $13.7 million.

- February 24, 2012 – Daughters executes a memorandum of understanding with Ascension Health Alliance as a precursor to system integration discussions;

- June 20, 2012 – Daughters and Ascension Health Alliance effect an amendment to the memorandum of understanding;

- December 2012 – Daughters and Ascension Health Alliance execute an affiliation agreement that did not involve a transfer of assets or liabilities or a change of control. Rather, Daughters and its hospital corporations became participants in various purchasing programs of Ascension Health and obtained access to other Ascension Health support services;

- March 15, 2013 – Daughters solicits offers for O'Connor Hospital and Saint Louise Regional Hospital, and sends out a request for proposal and confidential descriptive memorandum to 15 potential partners, of which five submit indications of interest;

- August 5, 2013 – Daughters solicits offers for Seton Medical Center and Seton Medical Center Coastside, and sends out a request for proposal and confidential descriptive memorandum to eight organizations, of which three submit indications of interest;

- October 2013 – The 2008 Bonds are retired[8];

- January 2014 – Daughters indicates that it will remain independent from Ascension Health Alliance and is no longer pursuing a merger;

- January 2014 – Daughters announces the initiation of its process to evaluate strategic alternatives for the entire system;

- February 2014 – Request for Proposal process is initiated by contacting over 133 health systems and other buyers who could have an interest in acquiring the system in its entirety, individual (or groups of) hospitals, or other assets;

- February 2014 – Prime Healthcare, along with 71 other potential buyers, sign confidentiality agreements and receive a confidential information memorandum summarizing key facts about Daughters and its related entities;

- March 21, 2014 – Daughters receives 29 bids by the first-round deadline;

[8] In October 2013, Daughters of Charity Foundation, an organization separate and independent from Daughters, made a restricted donation of $130 million for the benefit of Daughters by depositing sufficient funds with the bond trustee to redeem the $143.7 million principal amount of the 2008 Bonds.

- May 30, 2014 – Daughters' Board decides to focus efforts on full system bidders, concluding that no combination of proposals to purchase individual facilities would provide an adequate solution to Daughters' pressing financial situation;

- July 30, 2014 – Daughters secures $110 million in short-term "bridge financing" in order to access working capital to continue operations through the sale process (2014 Bonds, Series A & B);

- August 27, 2014 – Daughters secures an additional $15 million under the 2014 Bonds (Series C);

- September 12, 2014 – Daughters receives four final proposals;

- October 3, 2014 – Daughters' Board passes a resolution to authorize the execution of the Definitive Agreement between Daughters, Ministry, and Prime Healthcare, and recommends the approval of the transaction to Ministry's Board of Directors (Ministry's Board);

- October 9, 2014 – St. Francis's Board passes a resolution to authorize any necessary or advisable amendments to the Articles of Incorporation and Bylaws of St. Francis and St. Francis's Foundation, and recommends approval of the transaction to Ministry's Board;

- October 9, 2014 – Ministry's Board passes a resolution to authorize the amendment of Daughters' articles of incorporation and bylaws as necessary to effect the transaction and authorizes the execution of the Definitive Agreement between Daughters, Ministry, and Prime Healthcare;

- October 10, 2014 – Ministry and Daughters enter into the Definitive Agreement with Prime Healthcare;

- October 23, 2014 – Ministry and Daughters enter into Amendment No. 1 to Definitive Agreement with Prime Healthcare;

- October 24, 2014 – "Notice of Submission and Request for Consent" is submitted by Daughters to the California Attorney General;

- January 2015 – The California Attorney General holds six public meetings, two in Southern California and four in Northern California, to receive comments on the proposed change in governance and control of each of the Health Facilities;

- February 20, 2015 – The California Attorney General conditionally consents to the proposed change in governance and control of Daughters;

- March 9, 2015 – Prime Healthcare terminates its transaction agreement with Daughters;

- March 2015 – Request for Proposal process is initiated by contacting 86 potential buyers who could possibly have an interest in acquiring the system in its entirety, individual (or groups of) hospitals, or other assets;

- March 2015 – BlueMountain Capital Management, LLC, along with 75 other parties, sign confidentiality agreements and receive a confidential information memorandum supplemental update summarizing important information about Daughters and its related entities;

- April 15, 2015 – Daughters receives 14 first round bids, including one from BlueMountain Capital Management, LLC;

- April & May 2015 – Daughters' Board reviews current active bids and determines that full system bids are the most viable option to address Daughters' transaction objectives;

- May 2015 – Houlihan Lokey sends final bid letters to parties still pursuing full system offers;

- May 22, 2015 – BlueMountain Capital Management, LLC submits an amended first round bid to Daughters;

- June 29, 2015 – Daughters receives four final proposals by the deadline, including one from BlueMountain Capital Management, LLC;

  July 14, 2015 –Daughters' Board reviews the final proposals and passes a resolution to authorize the execution of the System Agreement between Daughters, Ministry, BlueMountain Capital Management, LLC, and Integrity Healthcare, LLC (the management company responsible for operations), and recommends the approval of the transaction to Ministry's Board;

- July 15, 2015 – St. Francis's Board passes a resolution to authorize the execution of the System Agreement between Ministry, Daughters, BlueMountain Capital Management, LLC, and Integrity Healthcare, LLC;

- July 15, 2015 – Ministry's Board passes a resolution to authorize the amendment of Daughters' articles of incorporation and bylaws as necessary to effect the transaction and authorizes the execution of the System Agreement between Ministry, Daughters, BlueMountain Capital Management, LLC, and Integrity Healthcare, LLC;

- July 17, 2015 – Ministry and Daughters enter into the System Agreement with BlueMountain Capital Management, LLC and Integrity Healthcare, LLC;

- July 31, 2015 – "Notice of Submission and Request for Consent" is submitted by Daughters to the Office of the California Attorney General;

- September 2015 - Ministry and Daughters enter into Amendment No. 1 to System Restructuring and Support Agreement with BlueMountain Management, LLC and Integrity Healthcare, LLC;

- December 3, 2015 – California Attorney General conditionally approves the sale of Daughters to BlueMountain Capital Management, LLC;

- December 14, 2015 – Daughters and BlueMountain Capital Management, LLC closed the deal and renamed the health system to Verity Health System of California, Inc.;

- July 2017 – NantWorks acquires a controlling stake in Integrity Healthcare, LLC (the management company responsible for operating Verity Health);

- August 31, 2018 – Verity Health and each Verity Health Hospital (along with other Verity Health affiliated entities) each filed voluntary petitions for relief under Chapter 11 of the United States Bankruptcy Code;

- December 4, 2018 – Verity Health Board met and discussed choosing the stalking horse[9] bidder and reviewed the resolutions to approve Strategic Global Management as the stalking horse bidder;

- February 7, 2019 – Verity Health Board passed the stalking horse resolution and ratified all actions;

- April 15, 2019 – The Verity Health Board met to review the final bids submitted and apply the requirements of the Bankruptcy Court approved bid procedures;

- April 15, 2019 – Verity Health Board approve Strategic Global Management as the winning bidder;

- May 7, 2019 – "Notice of Proposed Submission and Request for Consent" is submitted by Verity Health to the Office of the California Attorney General.

[9] A stalking horse bidding process is where the debtor enters into the agreement with a bidder in advance of an auction for the sale of the debtor's assets. This bid serves as what is referred to as the "stalking horse", an initial bid which sets a baseline bid for the auction. The stalking horse agreement is then approved by the court and thereby made public together with open auction bidding procedures using the "stalking horse" as the base bid.

- September 25, 2019 - The Office of the California Attorney General conditionally consents to Verity Health's proposed sale of the assets of St. Francis Medical Center, St. Vincent Medical Center, including its St. Vincent Dialysis Center, and Seton Medical Center to Strategic Global Management and/or one or more of its affiliates;

- October 2, 2019 – Verity Health filed a motion in the U.S. Bankruptcy Court for the Central District of California to enforce the sale order related to its four hospitals – St. Francis Medical Center, St. Vincent Medical Center, Seton Medical Center and Seton Coastside – to Strategic Global Management;

- December 9, 2020 - Strategic Global Management misses court- ordered deadline to close on the $600 million purchase of St. Francis Medical Center, St. Vincent Medical Center, Seton Medical Center and Seton Coastside. Verity Health has a pending action against Strategic Global Management for, among other things, breach of contract;

- Early January 2020 - Marketing process recommences to identify parties potentially interested in acquiring Seton Medical Center as a going concern;

- January 10, 2020 – Two bidders submit non-binding indications of interest. One bidder opted not to move forward, leaving AHMC as the sole remaining bidder;

- February 13, 2020 – Strategic Global Management submitted an unsolicited “Offer to Purchase” the Hospital;

- February 25, 2020 – Strategic Global Management submitted an unsolicited offer to purchase the “four properties subject to the Verity- Strategic Global Management Asset Purchase Agreement”;

- March 20, 2020 – Global Medical Center San Mateo County, wholly owned by Dr. Kali P. Chaudhuri, submitted an unsolicited offer to purchase Seton Medical Center assets;

- March 27, 2020 – The Hospital Board recommends approval of the APA with AHMC to the Verity Health Board;

- March 27, 2020 – The Verity Health Board approves the transaction with AHMC;

- April 22, 2020 – The Bankruptcy Court approves the proposed sale of Seton Medical Center to AHMC; and

- April 27, 2020 - A written notice is submitted to the Office of the California Attorney General detailing the proposed transfer of Seton Medical Center to AHMC and the request for consent.

Summary of the Asset Purchase Agreement

The Asset Purchase Agreement was entered into on March 30, 2020 by and between the Sellers and AHMC.

The major provisions of the Asset Purchase Agreement include the following:

- Purchase price includes the following:
    - At Closing[10], AHMC shall pay to Sellers an aggregate amount equal to the purchase price of forty million dollars ($40,000,000) plus an amount equal to the Cure Costs[11] associated with outstanding liabilities of Sellers under any Assigned Leases[12] and/or Assigned Contracts[13]; minus the Deposit[14] and the amount of PTO to be credited to hired employees;
- AHMC is not assuming any liabilities of Sellers and is only agreeing to be responsible for Transferred Obligations[15] on and after the Effective Time[16];
- Assets Transferred to Purchaser include the following:
    - All tangible personal property owned by the Hospital, or to the extent assignable or transferable, by Hospital, leased, subleased, or licensed by Hospital and used in the operation of the Hospital, including equipment, furniture, fixtures, machinery, vehicles office furnishings and leasehold improvements;
    - All owned real property, and to the extent assignable, leased property;
    - All inventories of supplies and drugs;
    - All Measure B trauma funding received by Seller after the Closing Date;
    - All funds received by Seller under the QAF Program. To the extent Hospital seller has paid QAF fees for QAF funds that are not received until after the

[10] Closing shall be deemed to occur and to be effective as of 11:59 p.m. Pacific Time on the Closing Date (the date of consummation of the transactions contemplated by the Asset Purchase Agreement).
[11] Means all amounts that must be paid and all obligations that otherwise must be satisfied, including pursuant to Sections 365(b)(1)(A) and (B) of the Bankruptcy Code in connection with the assumption and/or assignment of the Assigned Contracts and Assigned Leases to Purchaser.
[12] Leases subject to evaluation by AHMC for assumption or rejection.
[13] Contracts subject to evaluation by AHMC for assumption of rejection.
[14] Deposit of 20% of the purchase price made after the APA signing date.
[15] Liabilities and obligations related to the ownership or operation of the Hospital by Purchaser on or after the Effective Time.
[16] Period immediately after Closing.

Closing Date, Purchaser will reimburse the Hospital for any such fees that have been paid; and
- All disproportionate share funds received by Hospital after the Closing Date.

- Excluded Assets retained by Seller include:

  - Cash, cash equivalents, short term investments, and accounts and notes receivable;
  - All QAF IV and QAF payments received prior to the Closing Date; and
  - Any COVID-19 related grants or payments received on account of delivery of individual patient care services performed prior to the Effective Time.

- AHMC and Sellers agree that because the change of ownership and regulatory approval process may take an extended period of time, at the Effective Time, the agreed upon assets, Medicare/Medi-Cal agreements, managed care agreements, and private payor agreements will be sold to AHMC and immediately leased back to Sellers in the form of a Sale Leaseback Agreement. Major provisions of the Sale Leaseback Agreement include:

  - Immediately following the Closing, and until AHMC obtains the new licenses (that include licenses necessary to operate the Hospital as an acute care hospital by the California Department of Public Health, and a permit to operate a hospital-based pharmacy by the California Board of Pharmacy) the parties desire to lease back or license all of the then-acquired assets used in the operation of the Hospital. Specifically, the leased or licensed assets shall include; the Hospital, tangible personal property (including, but not limited to, fixtures, furnishings, hard copy medical and financial records and hardware to operate and run the electronic health record systems, hospital operating systems, laboratory information systems, and financial reporting systems), and intangible intellectual property saved or embodied in the electronic health record systems, hospital operating systems, laboratory information systems, and financial reporting systems (which shall be licensed for use by the Hospital);

  - This Leaseback Agreement shall automatically terminate upon the termination of the Interim Management Agreement[17];

  - The Hospital shall at all times during the term of this Sale Leaseback Agreement be the owner of pharmacy Assets. The parties acknowledge that, under the Interim Management Agreement, AHMC will be managing the Hospital's pharmacy during the Management Period[18];

[17] Enables AHMC to manage the day-to-day operations of the Hospital following the Closing until AHMC is issued the licenses necessary to operate the Hospital.
[18] Management Period shall commence as of the Effective Time and continue until the licensure date.

- The Hospital shall be responsible for purchasing drugs and dangerous devices identified by AHMC as necessary for the operations of the Hospital, and AHMC shall reimburse the Hospital for all costs and expenses incurred for such purchases;

- AHMC shall pay all utilities and services supplied to the Hospital during the term of the Sale Leaseback Agreement, including but not limited to water, gas, air conditioning, heat, light, power, telephone service, and waste removal services;

- AHMC shall pay all taxes, assessments, and levies of any kind or nature whatsoever, including real property taxes, personal property taxes, income taxes, employment taxes, and sales or use taxes, that are taxed, assessed, levied, invoiced or imposed upon the Hospital after the Effective Time;

- AHMC shall pay for all insurance coverages, including premiums, deductibles, stop-loss, and any other insurance covering the Hospital; and

- During the term of this Sale Leaseback Agreement, AHMC shall pay all costs of repairing and maintaining the leased or licensed assets of the Hospital required by any applicable governmental law, statute, ordinance, rule or regulation, including the California Office of Statewide Health Planning and Development.

- Pursuant to the Asset Purchase Agreement, the Hospital, Verity Health, and the AHMC, are entering into an Interim Management Agreement that enables AHMC to manage the day-to-day operations of the Hospital following the Closing until AHMC is issued the licenses necessary to operate the Hospital. Major provisions of the Interim Management Agreement include:

    - The term of the Interim Management Agreement shall commence as of the Effective Time and shall continue until the Licensure Date[19]. The Hospital, Verity Health, and AHMC acknowledge that, during the Management Period, the Hospital shall remain the licensee of the Hospital, and in that capacity, and during such period, shall retain statutory and regulatory authority and responsibility for the Hospital and for oversight of AHMC;

    - During the Management Period, the Hospital appoints AHMC as the sole and exclusive provider of certain services and grants. AHMC has the exclusive right to manage the Hospital under the Hospital's Licenses as a general acute care hospital;

[19] Licensure Date is the date certain licenses are issued and obtained. These include a general acute care hospital license from the California Department of Public Health and a hospital pharmacy permit from the California Board of Pharmacy.

- Management services shall include management and operation of the Hospital's pharmacy on behalf of the Hospital, even though the pharmacy assets will not be transferred until the Licensure Date;

- During the Management Period, AHMC shall submit claims for services rendered by the Hospital to various governmental and non-governmental entities, patients, and other third parties pursuant to the Hospital's provider agreements and payor contracts;

- During the Management Period, AHMC shall be subject to all applicable legal and regulatory requirements, and agrees to assume and discharge all responsibilities, duties, liabilities, payments, and obligations in connection with properly maintaining the Hospital in full compliance with all regulations and standards required of a general acute care hospital facility so licensed. In addition, AHMC's services shall include, but not be limited to, the following duties, which AHMC shall perform at its sole cost and expense:

    - Managing the operations of the Hospital as a general acute care hospital in compliance with all applicable laws, regulations, provider agreements, payor contracts, CDPH requirements for maintenance of the Licenses in good standing, Medicare conditions of participation and requirements for payment with respect to governmental programs, and the requirements for maintenance of the Hospital's accreditations;
    - Employing and managing employees and any other non-clinical and clinical personnel deemed necessary for the operation of the Hospital as a general acute care hospital;
    - Maintaining and repairing, as needed, the Hospital so as to ensure material compliance with all applicable local, state and federal law, and construction timelines imposed by OSHPD;
    - Providing security services reasonably necessary to prevent unlawful entry or damage to the Hospital;
    - Maintaining, all licenses, permits consents, approvals, accreditations, and certifications currently held by the Hospital in good standing, in active status, and in compliance with all applicable local, state, and federal laws, including the timely payment of all applicable fees to support or renew these approvals;
    - Maintaining and obtaining all insurance coverages, from and after the Effective Time, for the Hospital;
    - Coordinating with the governing board and the organized medical staff on the appropriateness and quality of medical care and all medical staff issues requiring governing board oversight; and

- Paying all costs and expenses in connection with and incidental to ownership of the Hospital's assets all Hospital operating costs, employee-related costs, and taxes;

- During the Management Period, AHMC may do any of the following, in consultation with the Hospital and subject to the requirements of applicable local, state, and federal law, at AHMC's sole cost and expense:

  - Make alterations, improvements, and repairs to the interior or exterior of the Hospital, including structural alterations, improvements, and repairs;
  - Remove and dispose of furniture, fixtures, equipment (other than equipment owned by equipment lessors), and supplies at the Hospital;
  - Move into and install furniture, fixtures, equipment, and supplies at the Hospital;
  - Prepare the Hospital for a name change, except that no such name change may take effect, and no signage reflecting such change shall be installed, during the Management Period; and
  - Perform, or permit to be performed, any other activities at the Hospital Premises that are not inconsistent with operating the Hospital under the licenses.

- AHMC shall not take any action that interferes with the Hospital's transfer of funds to pay itself out of the Hospital revenues or remove, withdraw, or authorize removal or withdrawal of funds from the Hospital's bank accounts or lockboxes to the extent that the Hospital would be unable to fully pay;

- As full and complete payment for AHMC's services, AHMC shall be entitled to receive an amount equal to the Hospital revenues less the following amounts that will be paid to the Hospital by AHMC:

  - All costs and expenses incurred by the Hospital for the purchase of drugs and dangerous devices that AHMC determines are necessary for the operation of the Hospital;
  - All other costs and expenses associated with the Hospital maintaining licenses and necessary contracts,

- The Hospital shall issue invoices to AHMC on a weekly basis with reasonable supporting detail. AHMC shall pay such invoices within five (5) business days of receipt of such invoices; and

- AHMC shall be responsible for all the Hospital liabilities and losses incurred or accrued during the management period.

- On the Closing Date, Sellers shall sell, assign, transfer, convey and deliver to AHMC, free and clear of all liens, claims, interests, and encumbrances and AHMC shall acquire, all of Sellers' right, title and interest in and to the following assets and properties, as such assets shall exist on the Closing Date, to the extent not included among the Excluded Assets, such transfer being deemed to be effective at the Effective Time:

    - All of the tangible personal property owned by Sellers, or to the extent assignable or transferable by Sellers, and used by Sellers in the operation of the Hospital, including equipment, furniture, fixtures, machinery, vehicles, office furnishings and leasehold improvements;

    - All of Sellers' rights, to the extent assignable or transferable, to all licenses, permits, approvals, certificates of exemption, franchises, accreditations and registrations and other governmental licenses, permits or approvals issued to Sellers for use in the operation of the Hospital;

    - All of Sellers' interest in and to the owned real property and all of Sellers' interest, to the extent assignable or transferable and that have been designated by Purchaser;

    - All of Sellers' interest in, and to the extent assignable or transferable, the Hospital's Medicare and Medi-Cal provider agreements;

    - To the extent assignable or transferable, all inventories of supplies, drugs, food, janitorial and office supplies and other disposables and consumables located at the Hospital or used in the operation of the Hospital;

    - To the extent assignable or transferable, all of the following that are not proprietary to Sellers and/or owned by or proprietary to Sellers' affiliates: operating manuals, files and computer software with respect to the operation of the Hospital, including, without limitation, all patient records, medical records, employee records, billing records, financial records, equipment records, construction plans and specifications, and medical and administrative libraries;

    - All rights, title and interest in and to the name "Seton Medical Center," and "Seton Medical Center Coastside", including any associated Hospital trademarks, service marks, trade names, and logos;

    - All QAF payments received after the Closing Date;

    - All Measure B trauma funding received after the Closing Date;

- All disproportionate care funding received after the Closing Date;

- To the extent assignable, provider agreements with health plans, insurers or third-party payers;

- Sellers shall retain all interests, rights and other assets owned directly or indirectly by Sellers including:

  - Cash, cash equivalents, and short-term investments;

  - All accounts and notes receivable;

  - All QAF IV and V payments received prior to the Closing Date;

  - All contracts that are not assigned contracts and all private payor contracts that are not assigned;

  - All leases that have not been designated as assigned leases;

  - All of Sellers' organizational or corporate record books, minute books and tax records;

  - All bank accounts of Sellers;

  - All tax refunds and tax assets of Sellers;

- Promptly following the Signing Date, representatives of Sellers who are parties to the Hospital's related collective bargaining agreements and of AHMC, respectively, shall meet and confer from time to time as reasonably requested by either to discuss strategic business options including terms contained under all operative collective bargaining agreements. The applicable Sellers and AHMC shall participate in all negotiations related to the potential modification and assignment of specific Seller's collective bargaining agreements. The applicable Sellers shall use commercially reasonable efforts to initiate discussions with AHMC and unions and conduct discussions to renegotiate each collective bargaining agreement currently in effect with each applicable union. The applicable Sellers will not unreasonably withhold, condition or delay Bankruptcy Court approval of any successfully renegotiated collective bargaining agreement. The parties recognize that Seller's failure to conclude a successor collective bargaining agreement shall not be a breach of Sellers' obligation under the Asset Purchase Agreement. In addition, Sellers may, in their discretion, seek to reject any or all of the collective bargaining agreements

- AHMC agrees to make offers of employment, to substantially all persons (whether such persons are full time employees, part-time employees, on short-term or long-term

disability or on leave of absence, military leave or workers compensation leave) who, immediately prior to the Effective Time are employees of the Hospital; and

- With respect to any collective bargaining agreements or labor contract with respect to any union employees, Purchaser shall comply with the applicable laws, or to the extent applicable, Bankruptcy Court orders relating to collective bargaining agreements or labor contracts .

California Attorney General Conditions from Exhibit 8.5 of the Asset Purchase Agreement			
	Conditions	**AHMC Agrees:**	**Years of Condition/ Expiration Date**
1.	For six (6) years, provide written notice to Office of the Attorney General sixty (60) days prior to entering into any sale or transfer agreement;	Yes	6
2.	For the remainder of the term*, Seton Medical Center (including Seton Coastside because both facilities are on the same license) shall be operated and maintained as a licensed general acute care hospital;	Yes	12/13/2025
3.	For the remainder of the term, the Seton Medical Center shall maintain 24-hour emergency medical services at a minimum of 18 treatment stations with the same types and/or levels of services, including:	Yes	12/13/2025
	a. Designation as a STEMI Receiving Center; and	Yes	12/13/2025
	b. Advanced certification as a Primary Stroke Center.	Yes	12/13/2025
4.	For the remainder of the term, Seton Medical Center shall maintain the following services at current licensure, types, and/or levels of services, including:		
	A. Cardiac services, including the 2 cardiac catheterization labs;	Yes	12/13/2025
	b. Critical care services, including a minimum of 20 intensive care/coronary care beds;	Yes	12/13/2025
	c. Psychiatric services, including a minimum of 22 distinct part beds with at least 20 beds available for the geriatric psychiatric unit;	Yes	12/13/2025
	d. Women's health services, including the Seton Breast Health Center and women's imaging and mammography services; and	Yes	12/13/2025
	e. Sub-acute services, including a minimum of 44 sub-acute beds and Medi-Cal Certification as a sub-acute unit.	Yes	12/13/2025
5	For at least five years from the closing date of the Asset Purchase Agreement, Seton Medical Center shall maintain the following services at current licensure, types, and/or levels of services:		
	a. Gastroenterology services, including enteroscopy, endoscopy, and colonoscopy services;	Yes	5
	b. Cancer services, including inpatient oncology services, interventional radiology, radiation therapy, and for those patients that my be in need of infusion therapy treatment, a referral process to other nearby hospitals or clinics, including Stanford Cancer Center, UCSF Helen Diller Comprehensive Care Cancer Clinic, St. Mary's Cancer Center, or other health facility that provides infusion therapy services. The referral process shall be memorialized in the policies and procedures at Seton Medical Center and should include procedures on how to assist patients with accessing infusion therapy at the nearby hospitals or clinics, and the transferring of patient medical records;	Yes	5
	c. Orthopedics and rehabilitation services, including spine care services;	Yes	5
	d. Diabetes services, including Northern California Diabetes Institute;	Yes	5
	e. Wound care services, including Seton Center for Advanced Wound Care; and	Yes	5
	f. Nephrology services.	Yes	5
6.	For the remainder of the term (until December 13, 2025), Seton Medical Center shall maintain the following services at current licensure, types, and/or levels of services at Seton Coastside including:		
	a. 24-hour "standby" Emergency Department, with a minimum of 7 treatment stations; and	Yes	12/13/2025
	b. Skilled nursing services, including a minimum of 116 licensed skilled nursing beds.	Yes	12/13/2025
7.	For at least five years from the closing date of the Asset Purchase Agreement, Purchaser shall either: (1) operate clinics (listed below) with the same number of physicians and mid-level provider full-time equivalents in the same or similar alignment structures, or (2) sell the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the purchaser(s) to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein, or (3) ensure that a third party is operating the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the third party to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein. For any of these options, each clinic can be moved to a different location within a three-mile radius of each clinic's current location, and Seton Medical and Seton Coastside can utilize an alternative structure in providing such services. The following clinics are subject to this condition:		
	a. Women's Health Services, located at 1850 Sullivan Avenue, Suite 190, Daly City California;	Yes	5
	b. Imaging Services located at 1850 Sullivan Avenue, Suite 100, Daly City California; and	Yes	5
	c. Wound Care Services, located at 1850 Sullivan Avenue, Suite 115, Daly City California.	Yes	5

California Attorney General Conditions from Exhibit 8.5 of the Asset Purchase Agreement		
Conditions	**AHMC Agrees:**	**Years of Condition/ Expiration Date**
8. For the remainder of the term, Purchaser shall:		
a. Be certified to participate in the Medi-Cal program at Seton Medical Center and Seton Coastside;	Yes	12/13/2025
b. Maintain and have a Medi-Cal Managed Care contract with San Mateo Health Commission dba Health Plan of San Mateo or its successor to provide the same types and levels of emergency and non-emergency services at Seton Medical Center and Seton Coastside to Medi-Cal beneficiaries (both Traditional Medi-Cal and Medi-Cal Managed Care) as required in these Conditions, on the same terms and conditions as other similarly situated hospitals offering substantially the same services, without any loss, interruption of service or diminution in quality, or gap in contracted hospital coverage, unless the contract is terminated for cause or not extended or renewed by the Medi-Cal Managed Care Plan; and	Yes	12/13/2025
c. Be certified to participate in the Medicare program by maintaining a Medicare Provider Number to provide the same types and levels of emergency and non-emergency services at Seton Medical Center and Seton Coastside to Medicare beneficiaries (both Traditional Medicare and Medicare Managed Care) as required in these Conditions.	Yes	12/13/2025
9. For six fiscal years from the closing date of the Asset Purchase Agreement, Purchaser shall provide an annual amount of Charity Care (as defined below) at Seton Medical Center and Seton Coastside equal to or greater than **$1,055,863** (the Minimum Charity Care Amount). For purposes hereof, the term "charity care" shall mean the amount of charity care costs (not charges) incurred by Purchaser in connection with the operation and provision of services at Seton Medical Center and Seton Coastside. The definition and methodology for calculating "charity care" and the methodology for calculating "costs" shall be the same as that used by Office of Statewide Health Planning Development (OSHPD) for annual hospital reporting purposes;	Yes	6
10. For six fiscal years from closing, the Hospital shall continue to expend an average of no less than **$685,870** annually in community benefit services. This amount should be increased annually based on the Consumer Price Index for San Francisco-Oakland-San Jose, California . The following community benefit programs and services shall continue to be offered:	Yes	6
a. Health Benefits Resource Center; and	Yes	6
b. RotaCare Clinic.	Yes	6
11. For at least five years from the closing date of the Asset Purchase Agreement unless otherwise indicated, Purchaser shall maintain its contracts and any amendments and exhibits thereto with the County of San Mateo, unless otherwise terminated by the County of San Mateo, for services, including the following:	Yes	5
a. Participation in the Hospital Preparedness Program between the Hospital (jointly with Seton Coastside) and San Mateo County;	Yes	5
b. STEMI Receiving Center Designation between the Hospital and San Mateo County;	Yes	5
c. Financial Support for Seismic Upgrades between the Hospital and San Mateo County;	Yes	5
d. Information Sharing and Data Use Agreement between the Hospital and the County of San Mateo Health System;	Yes	5
e. Fee for Service Hospital Services Agreement between the Hospital (jointly with Seton Coastside) and San Francisco Health Plan;	Yes	5
f. Memorandum of Understanding between the Hospital and San Mateo County Behavioral Health and Recovery Services Division;	Yes	5
g. Affiliation Agreement for the Radiology Technology Program between the Hospital and San Mateo College District;	Yes	5
h. Affiliation Agreement for the Registered Nursing Program between the Hospital (jointly with Seton Coastside) and San Mateo College District;	Yes	5
i. Patient Transfer Agreement between the Hospital and San Mateo County Medical Center;	Yes	5
j. Rail Shuttle Bus Service Administration for Seton Shuttle Agreement between the Hospital and San Mateo County Transit District;	Yes	5
k. Medical Services Agreement between the Hospital and San Mateo Health Community Health Authority- Access and Care for Everyone (ACE) Program;	Yes	5
l. Hospital Medi-Cal Hospital Agreement between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo;	Yes	5
m. Memorandum of Understanding for Long Term Care Partnership Program between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo; and	Yes	5
n. Care Advantage Hospital Service Agreement between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo.	Yes	5

California Attorney General Conditions from Exhibit 8.5 of the Asset Purchase Agreement			
Conditions		AHMC Agrees:	Years of Condition/ Expiration Date
12.	For the remainder of the term (until December 13, 2025), Purchaser shall have at Seton Medical Center and Seton Coastside Local Governing Board(s) of Directors. Purchaser shall consult with the Local Governing Board(s) of Directors prior to making changes to medical services, community benefit programs, making capital expenditures, making changes to the charity care and collection policies, and making changes to charity care services provided at Seton Medical Center and Seton Coastside;	Yes	12/13/2025
13.	Purchaser shall commit to reserve or expend capital for St. Francis Medical Center, St. Vincent Medical Center, and Seton Medical Center for capital improvements to the hospitals over the five-year period from the closing of the Asset Purchase Agreement of the amount that remains unexpended from the $180 million commitment required of BlueMountain Capital Management, LLC as part of the Attorney General Conditions approved on December 3, 2015 but this amount can be no less than $5.8 million among St. Francis Medical Center, Seton Medical Center and St. Vincent Medical Center;	No	5
14.	Purchaser shall commit the necessary investments required to meet and maintain OSHPD seismic compliance requirements at Seton Medical Center and Seton Coastside through 2030 under the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983, as amended by the California Hospital Facilities Seismic Safety Act, (Health & Saf. Code, § 129675-130070). Purchaser shall meet construction benchmarks which include the starting of construction on the 1963 Tower;	Yes	-
15.	Purchaser shall maintain privileges for current medical staff who are in good standing as of the closing date of the Asset Purchase Agreement. Further, the closing of the Asset Purchase Agreement shall not change the medical staff officers, committee chairs, or independence of the medical staff, and such persons shall remain in good standing for the remainder of their tenure at Seton Medical Center and Seton Coastside;	Yes	-
16.	There shall be no discrimination against lesbian, gay, bisexual, or transgender individuals at Seton Medical Center and Seton Coastside, and no restriction or limitation on providing or making reproductive health services available at Seton Medical Center and Seton Coastside, its medical office buildings, or at any of its facilities. Both of these prohibitions shall be set forth in Purchaser's written policies, adhered to, and strictly enforced; and	Yes	-
17.	For six fiscal years from the closing date of the Asset Purchase Agreement Purchaser shall submit to the Attorney General, no later than four months after the conclusion of each fiscal year, a report describing in detail compliance with each Condition set forth herein. The Chairman of the Board of Directors of Purchaser shall certify that the report is true, accurate, and complete and provide documentation of the review and approval of the report by the Local Governing Board.	Yes	6

*The term "For the remainder of the term" refers to the Conditions to Change in Control and Governance of Seton Medical Center and Seton Coastside and Approval of the System Restructuring and Support Agreement by and among Daughters of Charity Ministry Services Corporation, Daughters of Charity Health System, Certain Funds Managed by BlueMountain Capital Management, LLC, and Integrity Healthcare, LLC., dated December 3, 2015. The System Restructuring and Support Agreement closed on December 14, 2015.

Use of Net Sale Proceeds

The money received from the sale will be distributed to creditors in conjunction with the Bankruptcy Court and there will be no net proceeds as a result of the transaction.

Profile of Verity Health

Verity Health

Verity Health is a nonprofit healthcare system headquartered in El Segundo, California. The healthcare system was originally established by the Daughters of Charity of St. Vincent de Paul, Province of the West, to support the mission of the Catholic Church through a commitment to the sick and poor.

Daughters of Charity, a group of women dedicated to caring for the needs of the poor, was started in France by St. Vincent de Paul and St. Louise de Marillac in 1633. The Daughters of Charity continued its mission and opened its first hospital in Los Angeles in 1856. Daughters of Charity expanded its hospitals into San Jose in 1889 and San Francisco in 1893. These hospitals were the forerunners of St. Vincent Medical Center, O'Connor Hospital, and Seton Medical Center. During the 1980s, Daughters of Charity expanded to include Seton Medical Center Coastside (1980), St. Francis Medical Center (1981), and Saint Louise Regional Hospital (1987). In 1986, the hospitals joined Daughters of Charity National Health System, based in St. Louis, Missouri. In 1995, the hospitals left Daughters of Charity National Health System and merged with Catholic Healthcare West. The hospitals withdrew from Catholic Healthcare West in 2001 and operated as Daughters of Charity until December 2015 when the transaction with BlueMountain Capital Management, LLC and Integrity Healthcare, LLC resulted in a renaming of the organization as Verity Health System.

Verity Health operated six hospitals until March 1, 2019, when Santa Clara County assumed responsibility for two Verity Health hospitals; O'Connor Hospital, in San José, California, and St. Louise Regional Hospital, in Gilroy, California. Today, the two hospitals are a part of the County of Santa Clara Health System. St. Vincent Medical Center ceased operating in January 2020 and surrendered its hospital license. Verity Health subsequently leased the facility to the California Department of Health Services for operations as a surge facility for COVID-19 patients. It was reopened in March as the Los Angeles Surge Hospital with Dignity Health and Kaiser Permanente, both contracted to oversee the hospital through June 30, 2020. In April 2020, Patrick Soon-Shiong, MD purchased the facility from Verity Health for purposes other than as a general acute care hospital. The remaining three Verity Health hospitals are:

- **St. Francis Medical Center:** The Hospital was established in 1945 and gained sponsorship from Daughters of Charity, Province of the West, in 1981. The Hospital, a 384-bed general acute care facility, provides comprehensive healthcare services and operates one of the busiest emergency trauma centers in Los Angeles County. The Hospital serves the nearly 1.7 million residents of Southeast Los Angeles, located in the communities of Lynwood, South Gate, Downey, Huntington Park, Bell Gardens, Maywood, and Compton;

- **Seton Medical Center:** The hospital was originally founded as Mary's Help Hospital by the Daughters of Charity of St. Vincent de Paul in 1893. The facility was destroyed in the San Francisco Earthquake of 1906, and by 1912, Mary's Help Hospital reopened a new facility in San Francisco. In 1965, the hospital moved to its current location at 1900 Sullivan Avenue in Daly City. The hospital, renamed Seton Medical Center in 1983, is currently licensed for 357 beds and serves residents from the San Francisco and San Mateo areas. After the sale to SGM failed, the San Mateo County Board of Supervisors agreed to provide $20 million to support the struggling hospital in an effort to save hundreds of jobs and expand treatment capacity for COVID-19 patients. Additionally, the State of California established a short term agreement providing financial support for the Hospital to expand its capacity to accept COVID-19 patients. The Hospital shares a consolidated license with Seton Coastside located at 600 Marine Boulevard in Moss Beach; and

- **Seton Coastside:** The hospital was founded as Moss Beach Rehabilitation Hospital in 1970. In 1980, the City of Half Moon Bay acquired ownership of the hospital and signed an agreement for Daughters of Charity to head operations of the hospital and rename it St. Catherine's Hospital. In 1993, St. Catherine's Hospital became Seton Coastside as it was integrated into one administrative entity with Seton Medical Center. Today, Seton Coastside is licensed for 116 skilled nursing beds and five general, acute-care beds. Seton Coastside also operates the only 24-hour "standby" emergency department along the 55-mile stretch between Santa Cruz and Daly City. Under a consolidated license, Seton Medical Center and Seton Coastside share the same Board of Directors, executive leadership team, charity care policies, and collective bargaining agreements.

Verity Health's three current hospital locations are shown on the map below:

Verity Health Inpatient Statistics

Between FY 2017 and FY 2018, the number of Verity Health inpatient discharges increased by 3% from approximately 50,300 discharges in FY 2017 to approximately 51,700 discharges in FY 2018. Over this same period, inpatient days increased by 2% resulting in an average daily census of 856 patients per day in FY 2018. The following table provides inpatient volume trends for FY 2017 and FY 2018:

VERITY HEALTH SYSTEM UTILIZATION STATISTICS[2] FY 2017 & FY 2018								
	St. Francis Medical Center		Seton Medical Center*		Seton Medical Center - Coastside		Verity Health System Total[1]	
	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018	FY 2017	FY 2018
Total Licensed Beds	384	384	357	357	121	121	1,679	1,679
Total Discharges	21,049	22,687	5,695	5,263	121	76	50,308	51,745
Total Patient Days	103,599	105,438	45,242	44,359	39,889	41,503	306,831	312,583
Average Length of Stay	4.9	4.6	7.9*	8.4*	N/A	N/A	5.3**	5.2**
Average Daily Census	283.8	288.9	124.0	121.5	109.3	113.7	840.6	856.4
Outpatient Surgeries	2,310	2,774	2,721	2,900	-	-	12,849	12,878
Inpatient Surgeries	3,112	3,347	1,267	1,116	-	-	9,611	10,127
Outpatient ED Visits	64,480	61,831	23,478	22,984	2,635	2,631	186,342	182,705
Clinical Visits	-	-	93,720	99,162	3,071	5,394	203,469	170,236
Case Mix Index[3] Total	1.42	1.49	1.81	1.80	1.40	1.41	-	-

Source: Verity Health Audited Financials

Note: FY 2018 Unaudited

* Includes subacute patients.

**Excludes Seton Coastside.

N/A: Patient level detail not avaliabe.

[1] Includes all other entities (St. Vincent Medical Center, System Office, System Elimination Obligated Group, Non-Obligated Group, and System Elimination Non-Obligated Group).

[2] The figures provided by Verity Health differs from information reported to OSHPD and found in subsequent sections of this report.

[3] The Case Mix Index (CMI) is the average relative DRG weight of a hospital's inpatient discharges, calculated by summing the Medicare Severity-Diagnosis Related Group (MS-DRG) weight for each discharge and dividing the total by the number of discharges. The CMI reflects the diversity, clinical complexity, and resource needs of all the patients in the hospital. A higher CMI indicates a more complex and resource-intensive case load.

Internal utilization data for FY 2017 and FY 2018, reported by Verity Health, shows the following:

- Total discharges at St. Francis Medical Center increased 8%;
- Outpatient emergency department visits have decreased slightly across all Verity Health Hospitals; and
- Seton Medical Center's Case Mix Index (CMI) is highest among the four reported hospitals with a CMI of 1.80 in FY 2018. A higher CMI indicates a more complex and resource-intensive cases are performed generally resulting in higher reimbursement.

Statement of Operations

VERITY HEALTH SYSTEM STATEMENT OF OPERATIONS[2] FY 2017 - FY 2019 (thousands)												
	St. Francis Medical Center			Seton Medical Center			Seton Medical Center - Coastside			Verity Health System Total[1]		
Unrestricted Revenues and Other Support:	**FY 2017**	**FY 2018**	**FY 2019***	**FY 2017**	**FY 2018**	**FY 2019***	**FY 2017**	**FY 2018**	**FY 2019***	**FY 2017**	**FY 2018**	**FY 2019***
Net Patient Revenue	$443,825	$496,142	$361,461	$230,312	$238,621	$174,813	$21,866	$22,686	$18,182	$1,269,567	$1,432,013	$888,518
Provision for Doubtful Accounts	($12,742)	($23,483)	($1,870)	($3,212)	($6,512)	($9,096)	($314)	($616)	($612)	($33,318)	($58,702)	($19,298)
Premium Revenue	$80,039	$100,579	$86,395	-	-		-	-		$98,607	$151,915	$109,519
Other Revenue	$1,985	$1,700	$1,640	$3,458	$7,743	$998	$574	$579	$448	$12,647	$45,984	$18,419
Contributions	$2,755	$4,184	$3,214	$223	$352	$73	-	-	-	$4,288	$31,244	$6,413
Total unrestricted revenues and other support	**$515,862**	**$579,122**	**$450,840**	**$230,781**	**$240,204**	**$166,788**	**$22,126**	**$22,649**	**$18,018**	**$1,351,791**	**$1,602,454**	**$1,003,571**
Expenses:												
Salaries and Benefits	$200,689	$214,622	$192,993	$136,212	$144,752	$125,557	$15,951	$17,699	$14,525	$703,146	$804,084	$615,345
Supplies	$147,515	$42,452	$35,498	$82,303	$31,826	$22,724	$4,132	$1,954	$1,604	$424,462	$198,516	$128,414
Purchased Services, Medical Claims and Other	$38,617	$244,547	$175,112	$31,451	$84,758	$57,483	$1,935	$6,453	$3,913	$166,520	$634,499	$362,560
Goodwill and intangible Asset Impairment	$45,508	-	-	-	-	-	-	-	-	$55,534	$7,218	-
Depreciation and amortization	$10,048	$9,201	$6,955	$6,019	$5,525	$4,219	$161	$132	$103	$32,123	$32,624	$22,825
Interest	$4,284	$3,951	$3,155	$3,440	$5,339	$4,505	($5)	($9)	-	$27,641	$36,887	$41,162
Total Expenses	**$446,661**	**$514,773**	**$413,713**	**$259,425**	**$272,200**	**$214,488**	**$22,174**	**$26,229**	**$20,145**	**$1,409,426**	**$1,713,828**	**$1,170,306**
Operating Loss/Gain	**$69,201**	**$64,349**	**$37,127**	**($28,644)**	**($31,996)**	**($47,700)**	**($48)**	**($3,580)**	**($2,127)**	**($57,635)**	**($111,374)**	**($166,735)**
Investment Income	-	-	-	-	-	$247	-	-	-	-	($7,545)	$5,094
Gain (Loss) on Hospital Sales	-	-	-	-	-	-	-	-	-	-	-	$174,598
Reorganization Items	-	-	($16,683)	-	-	($9,418)	-	-	($880)	-	-	($46,274)
Excess (Deficit) of Revenue over Expenses	**$69,201**	**$64,349**	**$20,444**	**($28,644)**	**($31,996)**	**($56,871)**	**($48)**	**($3,580)**	**($3,007)**	**($57,635)**	**($118,919)**	**($33,317)**

Source: Verity Health Audited Financials

Note: FY 2018 and FY 2019 are unaudited.

* Only the first 10 months are provided in the Application to the Attorney General.

[1] Includes all other entities (St. Vincent Medical Center, System Office, System Elimination Obligated Group, Non-Obligated Group, and System Elimination Non-Obligated Group)

[2] The figures provided by Verity Health differs from information reported to OSHPD and found in subsequent sections of this report.

Verity Health's audited FY 2017 and unaudited FY 2018 and unaudited FY 2019 (ten months), statements of operations report the individual performance of the Verity Health Hospitals in conjunction with Verity Health's system-wide performance[20]. All the hospitals, with the exception of St. Francis Medical Center, show significant operating losses in FY 2017, FY 2018 and FY 2019. For the twelve months ended June 30, 2018, Verity Health recorded an operating loss of $111.4 million, equating to an operating margin of -7.0%. For the ten months of FY 2019, Verity Health recorded an operating loss of $166.7 million, equating to an operating margin of -11.6%. The operating performance for the twelve months ended June 30, 2018 included $171.8 million of net income generated from the QAF program.

Net Patient Service Revenue

Net patient service revenue, less provision for doubtful accounts, of $1.4 billion for FY 2018 represents a net increase of $106.1 million or 8.4% as compared to FY 2017. The net overall change in net patient service revenue was impacted by an increase of $129.2 million in QAF program revenue.

[20] Verity Health's FY 2017, FY 2018 and FY 2019 audited and unaudited financials include business entities no longer a part of Verity Health today.

Operating Expenses

Total operating expenses of $1.7 billion for FY 2018 include an increase in expenses of $199 million, or 13.1%, as compared to FY 2017. The overall net change in operating expenses is due to an increase in salaries and benefits expense of $73.8 million, an increase in supplies expense of $26.1 million, an increase of $95.6 million in purchased services, medical claims and other expenses, and an increase of $8.8 million in interest expense. This was partially offset by a decrease in depreciation expense of $2.3 million and a decrease in goodwill and intangible asset impairment of $3.0 million. The management agreement fee expense for the twelve months ended June 30, 2018 is $60.3 million of which $40.2 million was deferred and $20.1 million was payable in cash.

Financial Position and Debt Obligations

As of June 30, 2018, Verity Health's unrestricted days cash on hand was 15.3 days. The average cash on hand average among hospitals nationally is 204.7 days. Verity Health's declining days cash on hand is one indicator of its liquidity challenges.

In order to address the lack of liquidity and outstanding obligations, Verity Health and its management company Integrity Healthcare, LLC, took out a series of secured notes. On December 14, 2015, the California Public Finance Authority issued $160 million revenue notes for the benefit of Verity Health.

In September 2017, the California Public Finance Authority issued $21 million of tax-exempt notes for the benefit of Verity Health. The notes were purchased by NantWorks, LLC (NantWorks), the former majority stake owner in Verity Health's management company, Integrity Healthcare, LLC. The notes have an interest rate of 7.25% and the principal is due at the maturity date in December 2020.

In October 2017, Verity MOB Financing, LLC, an affiliate of NantWorks, made a loan in the amount of $46.2 million to Verity Holdings, LLC, which is an affiliated entity of Verity Health. The loan is secured by four medical office buildings and matures in October 2020.

In December 2017, the California Public Finance Authority issued $21 million of tax-exempt notes for the benefit of Verity Health. These Notes were purchased by NantWorks. The Notes have a lien on property owned with an interest rate of 7.25% and a maturity date in December 2020.

Credit Rating and Outlook

When Verity Health took control of Daughters of Charity Health System, the health system had a credit rating from Standard & Poor' of "B-." The rating of "B-" represents less-than-investment grade status. Since 2014, Standard & Poor's has downgraded Verity Health's credit rating further and in September 2018, after receiving news of Verity Health's filing for Chapter 11 bankruptcy, downgraded Verity Health from "CCC" to "CC". Standard & Poor's defines "CC" as "highly vulnerable to nonpayment". The '"CC" rating is used when a default has not yet occurred but "expects default to be a virtual certainty, regardless of the anticipated time to default".

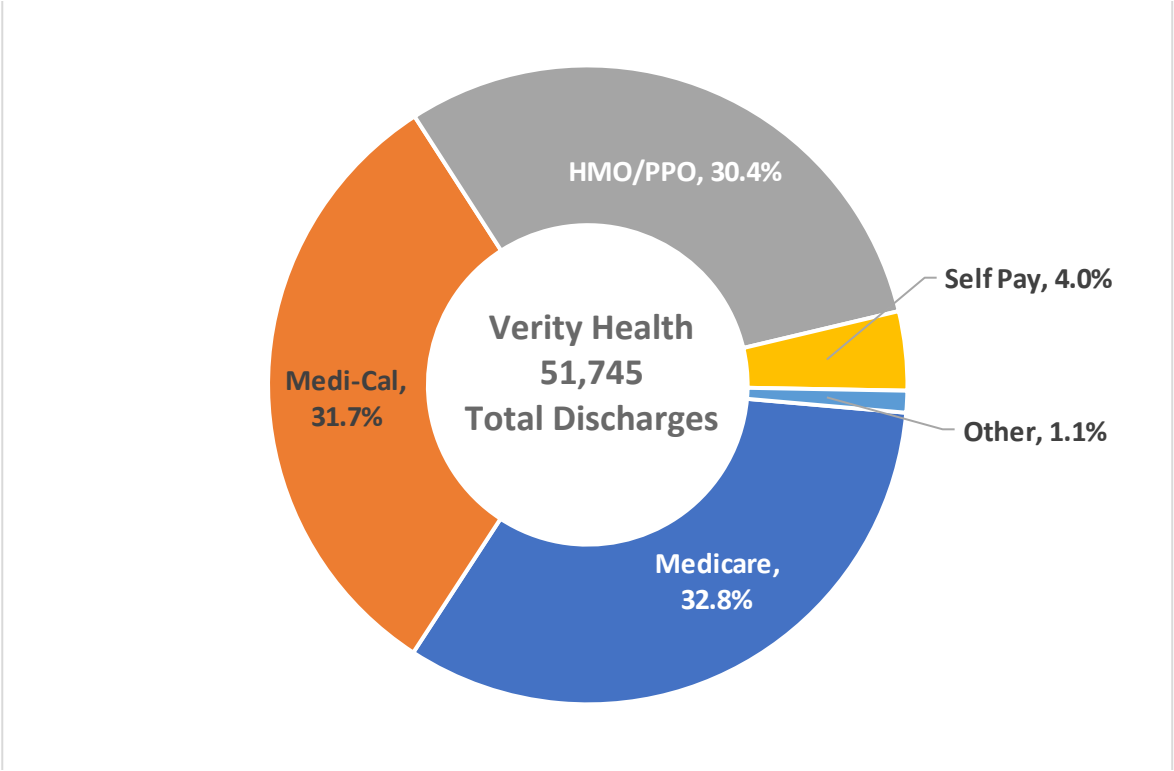
Category	Definition
AAA	An obligor rated 'AAA' has extremely strong capacity to meet its financial commitments.
AA	An obligor rated 'AA' has very strong capacity to meet its financial commitments.
A	An obligor rated 'A' has strong capacity to meet its financial commitments but is somewhat more susceptible to the adverse effects of changes in circumstances and economic conditions than
BBB	An obligor rated 'BBB' has adequate capacity to meet its financial commitments.
BB	An obligor rated 'BB' is less vulnerable in the near term than other lower-rated obligors.
B	An obligor rated 'B' is more vulnerable than the obligors rated 'BB', but the obligor currently has the capacity to meet its financial commitments.
CCC	An obligor rated 'CCC' is currently vulnerable and is dependent upon favorable business, financial, and economic conditions to meet its financial commitments.
CC	An obligor rated 'CC' is currently highly vulnerable and expects default to be a virtual certainty, regardless of the anticipated time to default.
R	An obligor rated 'R' is under regulatory supervision owing to its financial condition.
D	A 'D' rating is assigned when S&P Global Ratings believes that the default will be a general default and that the obligor will fail to pay all or substantially all of its obligations as they come due.

Source: Standard & Poor's

An issuers' credit quality is generally reflective of its financial condition and ability to meet ongoing debt service obligations. A downgrade can pose future challenges for an issuer to raise capital in the debt markets as the cost of debt rises because buyers of lower rated bonds require higher rates of return to justify the greater relative risk incurred.

Verity Health Payer Mix

In FY 2018, approximately 65% of Verity Health's inpatient payer mix consisted of Medicare (33%) and Medi-Cal (32%) patients. Approximately (30%) of Verity Health's inpatient payer mix consisted of Private Pay (HMO/PPO) patients. The remaining (5%) of Verity Health's inpatient discharges consisted of Self Pay (4%), and Other Payers* (1%).



* "Other" includes self-pay, workers' compensation, other government, and other payers
Source: Verity Health Internal Unaudited Financial Statements, FY 2018 (based on inpatient discharges)

Unionized Employees

Verity Health Hospitals have collective bargaining agreements (CBAs) with unions that includes Service Employees International Union, National Union of Healthcare Workers, California Nurses Association, United Nurses Association of California, International Union of Operating Engineers, Local 39, and Engineering Scientists of California, Local 20. Approximately 80% of Verity Health's employees are covered under CBAs.

UNION PARTICIPATION AMONG VERITY HEALTH EMPLOYEES					
Union	Seton Medical Center & Seton Medical Center Coastside	St. Francis Medical Center	Verity Business Services	Verity Corporate	Total
National Union of Healthcare Workers	680				680
California Nurses Association	355				355
Local 20, Engineers & Scientists of California	30				30
Local 39, International Union of Operating Engineers	24				24
Service Employees International Union-United Healthcare Workers		944			944
United Nurses Association of California		793			793
Total Represented by Unions	**1,089**	**1,737**			**2,826**
Total Non-Represented Employees	192	279	153	104	728
Total Employees	**1,281**	**2,016**	**153**	**104**	**3,554**
Total Percentage of Employees Represented by Unions	**85%**	**86%**	**0%**	**0%**	**80%**

Source: Verity Health

EXPIRATION DATES		
Union	Seton Medical Center & Seton Medical Center Coastside	St. Francis Medical Center
National Union of Healthcare Workers	10/31/2019	
California Nurses Association	Master 12/21/2020 Local 12/21/2020	
Local 20, Engineers & Scientists of California	4/30/2020	
Local 39, International Union of Operating Engineers	9/30/2020	
Service Employees International Union-United Healthcare Workers	10/31/2021	10/31/2021
United Nurses Association of California		12/29/2021

Source: Verity Health

Profile of Purchaser

Overview

AHMC operates eight general acute care hospitals, two post-acute facilities and a Knox Keene Health Care Service Plan[21]. AHMC is affiliated and aligned with several independent practice associations, an accountable care organization, an affiliated medical school and an accredited educational institution providing medical, post graduate and ancillary practitioner training. Dr. Jonathan Wu is the CEO of AHMC, and through various family trusts, controls AHMC. He purchased Alhambra Hospital Medical Center in 1998 and purchased four general acute care hospitals from Tenet Healthcare Corporation (Garfield Medical Center, Greater El Monte Community Hospital, Monterey Park Hospital, and Whittier Hospital Medical Center) in 2004. Three years later in 2007, Dr. Wu purchased San Gabriel Valley Medical Center from Catholic Healthcare West (later reorganized as Dignity Health). Dr. Wu's most recent hospital purchases were Anaheim Regional Memorial Medical Center from Memorial Care in 2009 and Parkview Community Hospital Medical Center in 2018.

A map of the eight AHMC hospital locations is shown below.

[21] The Knox-Keene Health Care Service Plan Act of 1975, as amended, is the set of laws or statutes passed by the State Legislature to regulate health care service plans, including health maintenance organizations (HMOs) within the State.

AHMC hospitals have over 2,500 physicians on their medical staffs and employ over 5,000 employees. In addition, AHMC is affiliated with several entities including AHMC International Cancer Center, located in the City of Monterey Park, Alhambra Medical University located in the City of Alhambra and Allied Pacific of California IPA.

AHMC also has a nonprofit health foundation, the AHMC Health Foundation, formed in 2009 that uses its funds to support projects and programs located within the service area of AHMC's hospitals.

There are numerous corporate entities that either own or operate AHMC's general acute care hospitals; however, they are all controlled by Dr. Wu. One such entity, Doctors Hospital of Riverside, LLC was created in 2018 to facilitate the acquisition of Parkview Community Hospital Medical Center.

A detailed profile of hospitals operated by AHMC is provided in the following tables.

HOSPITALS OPERATED BY AHMC								
	Alhambra Hosptial Medical Center		Anaheim Regional Medical Center		Garfield Medical Center		Greater El Monte Community Hospital	
City	Alhambra		Anaheim		Monterey Park		El Monte	
Licensed Beds	144	144	223	223	210	210	117	117
Patient Days	33,393	34,553	47,738	44,666	56,859	53,532	18,722	19,324
Discharges	5,564	5,720	10,698	10,699	12,136	10,392	3,474	3,475
ALOS	6.0	6.0	4.5	4.2	4.7	5.2	5.4	5.6
Average Daily Census	91	95	131	122	156	147	51	53
Occupancy	64%	66%	59%	55%	74%	70%	44%	45%
ED Visits	19,133	20,465	41,623	41,431	28,459	28,329	22,425	22,751
Inpatient Surgeries	687	758	2,280	2,068	2,142	2,788	360	378
Outpatient Surgeries	914	1,083	2,541	2,500	2,417	2,259	516	473
Births	-	-	1,239	1,178	4,213	3,069	303	154
Payer Mix (Based on Discharges):								
Medicare Traditional	28.9%	28.4%	23.3%	23.1%	22.1%	24.7%	16.5%	17.6%
Medicare Managed Care	20.1%	21.3%	18.1%	17.6%	16.2%	17.1%	7.9%	8.1%
Medi - Cal Traditional	4.3%	2.6%	10.3%	11.2%	11.7%	10.3%	26.3%	23.8%
Medi - Cal Managed Care	37.9%	37.1%	28.9%	25.6%	25.0%	28.5%	41.1%	42.8%
Third - Party Traditional	0.4%	0.3%	1.1%	2.1%	1.1%	0.9%	0.1%	0.4%
Third - Party Managed Care	7.8%	7.0%	16.4%	19.0%	9.4%	9.6%	5.0%	5.9%
Other Payers	0.4%	2.2%	1.7%	1.0%	14.2%	8.5%	2.6%	1.0%
Other Indigent	0.3%	1.1%	0.2%	0.4%	0.5%	0.4%	0.5%	0.3%
County Indigent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Income Statement:								
Net Pt. Revenue	$187,723,502	$208,705,411	$232,984,538	$247,885,035	$281,411,151	$304,800,656	$69,913,645	$83,094,989
Other Operating Rev.	$592,763	$563,175	$1,194,440	$1,147,950	$1,395,883	$1,188,696	$260,651	$48,211
Total Operating Rev.	$188,316,265	$209,268,586	$234,178,978	$249,032,985	$282,807,034	$305,989,352	$70,174,296	$83,143,200
Total Operating Exp.	$177,613,320	$201,707,860	$220,129,756	$227,013,686	$278,964,456	$295,200,821	$65,763,193	$68,899,505
Net From Operations	$10,702,945	$7,560,726	$14,049,222	$22,019,299	$3,842,578	$10,788,531	$4,411,103	$14,243,695
Non-operating Rev.	$909,021	$780,789	$523,862	$374,808	$2,255,072	$1,394,424	$213,214	$278,929
Non-operating Exp.	$2,722	$0	$0	$0	$0	$0	$0	$0
Net Income	**$11,609,244**	**$8,341,515**	**$14,572,284**	**$22,393,307**	**$6,096,805**	**$12,182,155**	**$4,623,517**	**$14,521,824**
Other Financial:								
Charity Care Charges	$4,526,478	$6,161,580	$2,637,283	$8,602,134	$3,614,577	$4,041,469	$1,096,304	$8,379,655
Bad Debt Charges	$2,891,420	$4,085,779	$13,405,694	$12,285,126	$8,360,837	$9,022,139	$5,471,992	$4,323,038
Total Uncompensated Care	**$7,417,898**	**$10,247,359**	**$16,042,977**	**$20,887,260**	**$11,975,414**	**$13,063,608**	**$6,568,296**	**$12,702,693**
Cost to Charge Ratio	34.1%	36.3%	16.2%	16.6%	16.3%	18.4%	20.7%	20.4%
Cost of Charity	$1,541,807	$2,239,715	$427,109	$1,431,273	$590,287	$743,501	$227,401	$1,713,468
Uncompensated Care as % of Chgs.	1.4%	1.9%	1.2%	1.5%	0.7%	0.8%	2.1%	3.8%
Disproportionate Share Hospital	NON-DSH		DSH		DSH		DSH	
Fiscal Year Ending	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018

Source: OSHPD Pivot Profile, FY 2017 & 2018

HOSPITALS OPERATED BY AHMC								
	Monterey Park Hosptial		Parkview Community Hosptial Medical Center		San Gabriel Valley Medical Center		Whittier Hospital Medical Center	
City	Monterey Park		Riverside		San Gabriel		Whittier	
Licensed Beds	101	101	193	191	273	273	178	178
Patient Days	19,963	19,407	34,337	29,010	59,345	62,363	38,144	34,282
Discharges	5,798	5,286	8,149	7,406	9,577	9,708	8,915	7,629
ALOS	3.4	3.7	4.2	3.9	6.2	6.4	4.3	4.5
Average Daily Census	55	53	94	79	163	171	105	94
Occupancy	54%	53%	49%	42%	60%	63%	59%	53%
ED Visits	24,478	26,360	47,183	41,133	27,812	27,629	32,652	32,294
Inpatient Surgeries	1,724	1,095	1,943	3,531	4,263	1,650	2,539	2,037
Outpatient Surgeries	1,619	1,410	1,475	1,565	2,878	2,688	1,405	1,113
Births	1,876	1,785	2,068	1,814	2,466	2,852	3,356	2,255
Payer Mix (Based on Discharges):								
Medicare Traditional	12.5%	13.6%	16.5%	17.2%	28.3%	29.1%	14.0%	16.1%
Medicare Managed Care	12.7%	14.2%	16.3%	18.0%	14.2%	15.4%	11.7%	14.1%
Medi - Cal Traditional	14.0%	13.7%	12.6%	13.1%	8.9%	8.4%	13.8%	11.3%
Medi - Cal Managed Care	40.7%	43.2%	34.0%	33.3%	28.3%	28.2%	28.1%	32.4%
Third - Party Traditional	0.2%	0.2%	1.9%	1.2%	2.0%	1.0%	0.8%	0.9%
Third - Party Managed Care	6.5%	7.1%	17.0%	13.6%	13.7%	10.8%	15.9%	18.5%
Other Payers	13.3%	7.1%	1.8%	3.3%	4.5%	7.0%	15.3%	6.2%
Other Indigent	0.2%	0.9%	0.0%	0.3%	0.1%	0.1%	0.4%	0.4%
County Indigent	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Income Statement:								
Net Pt. Revenue	$105,250,731	$116,684,007	$151,914,314	$162,737,126	$153,107,622	$187,002,817	$132,716,540	$150,514,951
Other Operating Rev.	$503,092	$301,798	$1,085,164	$2,055,728	$579,494	$497,324	$306,776	$260,362
Total Operating Rev.	$105,753,823	$116,985,805	$152,999,478	$164,792,854	$153,687,116	$187,500,141	$133,023,316	$150,775,313
Total Operating Exp.	$89,403,941	$97,901,476	$152,672,667	$154,147,492	$174,944,261	$182,414,112	$117,618,463	$121,591,500
Net From Operations	$16,349,882	$19,084,329	$326,811	$10,645,362	($21,257,145)	$5,086,029	$15,404,853	$29,183,813
Non-operating Rev.	$840,634	$578,243	$390,625	$5,716,371	$710,783	$309,057	$555,350	$318,089
Non-operating Exp.	$0	$0	$138,710	$2	$0	$0	$0	$0
Net Income	**$17,189,716**	**$19,661,772**	**$578,726**	**$16,361,731**	**($20,547,162)**	**$5,394,286**	**$15,959,403**	**$29,501,102**
Other Financial:								
Charity Care Charges	$1,668,109	$1,340,977	$2,631,196	$3,688,312	$682,885	$10,845,633	$1,787,626	$7,364,820
Bad Debt Charges	$8,263,349	$7,419,945	$23,430,831	$21,806,942	$5,337,016	$2,811,374	$9,880,356	$8,949,596
Total Uncompensated Care	**$9,931,458**	**$8,760,922**	**$26,062,027**	**$25,495,254**	**$6,019,901**	**$13,657,007**	**$11,667,982**	**$16,314,416**
Cost to Charge Ratio	13.4%	14.3%	19.8%	22.0%	17.0%	16.7%	14.1%	15.6%
Cost of Charity	$223,687	$191,825	$520,754	$810,540	$116,138	$1,806,007	$252,775.26	$1,145,397.34
Uncompensated Care as % of Chgs.	1.5%	1.3%	3.4%	3.7%	0.6%	1.3%	1.4%	2.1%
Disproportionate Share Hospital	DSH		DSH		NON-DSH		DSH	
Fiscal Year Ending	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018	12/31/2017	12/31/2018

Source: OSHPD Pivot Profile, FY 2017 & 2018

Hospital Compare

The Centers for Medicare & Medicaid Services' (CMS) Hospital Compare website is a hospital rating system that summarizes 57 quality measures into a single quality Star Rating in order to rank and provide information about the quality of care at over 4,000 Medicare-certified hospitals, including over 130 Veterans Administration (VA) medical centers, across the country. The information assists the public in making decisions about where to get health care services and encourages hospitals to improve the quality of care they provide.

The 57 quality measures are summarized into seven categories. These include:

- **General information:** Name, address, telephone number, type of hospital, and other general information about the hospital;

- **Survey of patients' experiences:** How patients recently discharged from the hospital responded to a survey about their hospital experience. The survey asks questions such as how well a hospital's doctors and nurses communicated with the patient;

- **Timely and effective care:** How often or how quickly hospitals give recommended treatments known to get the best results for people with certain common conditions;

- **Complications and deaths:** How likely it is that patients will have complications while in the hospital or after certain inpatient surgical procedures, and how often patients died within 30 days of being in the hospital for a specific condition;

- **Unplanned hospital visits:** Whether patients return to a hospital after an initial hospital stay or outpatient procedure, and how much time they spend back in the hospital;

- **Use of medical imaging:** How a hospital uses outpatient medical imaging tests (like CT scans and MRIs); and

- **Payment and value of care:** How payments made by patients treated at individual hospitals compare to hospitals nationally.

CMS updated its overall hospital Quality Star Ratings in February 2020, recognizing 407 hospitals country-wide with 5-Star Ratings. Below is a breakdown of the Star Ratings:

- **1-Star:** 228 hospitals
- **2-Stars:** 710 hospitals
- **3-Stars:** 1,450 hospitals
- **4-Stars**: 1,138 hospitals
- **5-Stars:** 407 hospitals

AHMC and Verity Health's hospitals Star Ratings are as follows:

Hospital Compare Star Ratings by Hospital		
	Hospital	**Star Rating**
AHMC	Alhambra Hosptial Medical Center	★★★★
	Anaheim Regional Medical Center	★★
	Garfield Medical Center	★★★★
	Greater El Monte Community Hospital	★★
	Monterey Park Hospital	★★
	Parkview Community Hospital Medical Center	★
	San Gabriel Valley Medical Center	★★★★
	Whittier Hosptial Medical Center	★★★
Verity Health	St. Francis Medical Center	★★
	Seton Medical Center	★★★

Source: Medicare.gov, June 2020.

- Of AHMC's eight general acute care hospitals, four of the hospitals achieved a 3 - star rating or higher; and

- Of Verity Health's two general acute care hospitals, Seton Medical Center achieved a 3 - Star Rating and St. Francis Medical Center achieved a 2-Star Rating.

Leapfrog Hospital Safety Grade

Leapfrog Hospital Safety Grade is a composite score made up of up to 28 national performance measures of patient safety measures that indicate how well hospitals protect patients from preventable errors, injuries and infections. Submission of a Leapfrog Hospital Survey from general acute-care hospitals in the U.S. is encouraged though not required for hospitals to receive a grade. The data used for the composite score is compiled from Centers for Medicare & Medicaid Services (CMS), and measures from their own customized survey developed by a panel of patient safety experts. Criteria of patient safety used to determine the score includes:

Outcome measures include, among other measures:

- Infections, including: central line-associated bloodstream infections, catheter-associated urinary tract infections, surgical site infections for colon surgery, MRSA and C. diff;
- Falls and trauma, very severe pressure ulcers; and
- Preventable complications from surgery such as foreign objects retained in the body and accidental punctures or lacerations.

Process/structural measures include, among other measures:

- Strong nursing leadership and engagement;
- Computerized physician order entry systems to prevent medication errors;
- Safe medication administration;
- Hand hygiene policies; and
- The right staffing for the ICU.

The Leapfrog Hospital Safety Grade does not measure:

- Issues commonly considered quality measures, such as death rates for certain procedures;
- Measures of hospital quality, such as ratings by specialty or procedure; and
- Readmission rates.

Hospitals are then assigned a grade twice annually, using a scoring algorithm to determine each hospital's score as an A, B, C, D, or F letter grade.

Leapfrog Hospital Safety Grade by Hospital				
	Hospital	Safety Letter Grade	Hospital	Safety Letter Grade
AHMC	Alhambra Hospital Medical Center	A SPRING 2020	Anaheim Regional Medical Center	B SPRING 2020
	Garfield Medical Center	B SPRING 2020	Greater El Monte Community Hospital	C SPRING 2020
	Monterey Park Hospital	C SPRING 2020	Parkview Community Hospital Medical Center	D SPRING 2020
	San Gabriel Valley Medical Center	B SPRING 2020	Whittier Hospital Medical Center	A SPRING 2020
Verity Health	St. Francis Medical Center	C SPRING 2020	Seton Medical Center	A SPRING 2020

Source: Leapfrog Hospital Safety Grade

Profile of Seton Medical Center

Seton Medical Center

Seton Medical Center was originally founded as Mary's Help Hospital by the Daughters of Charity of St. Vincent De Paul in 1893. The original facility was destroyed in the San Francisco Earthquake of 1906, and in 1912, Mary's Help Hospital reopened a new facility in San Francisco. In 1965, the hospital was moved to its current location at 1900 Sullivan Avenue in Daly City and in 1983. The hospital was renamed Seton Medical Center. The hospital is currently licensed for 357 beds, and serves residents from the South San Francisco and San Mateo areas. Seton Medical Center has an emergency department with 19 licensed treatment stations. It also has 13 surgical operating rooms and three cardiac catheterization labs. The hospital provides a broad range of medical services, including cancer, cardiac, emergency, surgical, rehabilitation, respiratory, orthopedic, skilled nursing, and sub-acute care. Seton Medical Center is accredited by The Joint Commission.

Seton Coastside

Seton Coastside was founded as Moss Beach Rehabilitation Hospital in 1970. In 1980, the City of Half Moon Bay acquired ownership of the hospital and signed an agreement for Daughters of Charity to manage operations of the hospital and rename it St. Catherine's Hospital. In 1993, St. Catherine's Hospital became Seton Coastside when it integrated with Seton Medical Center. Today, Seton Coastside is licensed for 116 skilled nursing beds and five general acute care beds. Seton Coastside also operates the only 24-hour "standby" emergency department along the 55-mile stretch between Santa Cruz and Daly City.

Under a consolidated license, Seton Medical Center and Seton Coastside share the same Board of Directors, executive leadership team, charity care policies, and union collective bargaining agreements.

Seton Foundation

Seton Foundation, governed by a Board of Trustees, raises funds through grants, special events, and individual donors. Charitable donations and endowments raised by the Seton Foundation help fund the acquisition of new equipment and the expansion of the facilities at Seton Medical Center and Seton Coastside. Seton Medical Center is the sole corporate member of Seton Foundation.

As of May 31, 2018, Seton Foundation had a balance of $2,693,778.66 in temporary restricted assets and a balance of $ 2,717,591 million in permanently restricted assets. These assets are used for the purpose of funding programs such as oncology, the San Francisco Heart & Vascular Institute, and women's services.

Overview of the Hospital

Seton Medical Center, a general acute care facility, and Seton Coastside, a skilled nursing facility with licensed general acute care beds have the following bed counts:

BED DISTRIBUTION 2020 SETON MEDICAL CENTER	
Bed Type	**Number of Beds**
General Acute Care	201
Intensive Care	14
Neonatal Intensive Care	3
Coronary Care	14
Perinatal	18
Total General Acute Care Beds	**250**
Acute Psychiatric (D/P)*	24
Skilled Nursing (D/P)	83
Total Beds	**357**

Source: Hospital License 2020
*These beds are suspended from 05/13/2019 to 05/12/2020.

BED DISTRIBUTION 2020 SETON COASTSIDE	
Bed Type	**Number of Beds**
General Acute Care	5
Skilled Nursing (D/P)	116
Total Beds	**121**

Source: Hospital License 2020

Seton Medical Center has a "basic" emergency department[22] with 19 licensed treatment stations. It also has 13 surgical operating rooms and three cardiac catheterization labs.

Seton Coastside has a "standby" emergency department with seven treatment stations, and has ambulance receiving capabilities, and a heliport. The five general, acute-care beds are rarely used for inpatients.

[22] A "basic" emergency department provides emergency medical care in a specifically designated part of a hospital that is staffed and equipped at all times to provide prompt care for any patient presenting urgent medical problems.

Key Statistics

For FY 2019, Seton Medical Center and Seton Coastside had a total of 5,301 inpatient discharges, 85,712 patient days, and an average daily census of 235 patients (approximately 49% occupancy on 478 total licensed beds).

SETON MEDICAL CENTER AND SETON COASTSIDE KEY STATISTICS FY 2017- FY 2019[1]			
	FY 2017	FY 2018	FY 2019
Inpatient Discharges	5,816	5,359	5,301
Licensed Beds	478	478	478
Patient Days	85,132	85,862	85,712
Average Daily Census	233.2	235.2	234.8
Occupancy Rate	48.8%	49.2%	49.1%
Average Length of Stay[2]	14.6	16.0	16.2
Cardiac Catheterization Procedures	4,012	3,735	4,003
Coronary Artery Bypass Graft (CABG)- Seton Medical Center*	55	n/a	60
Emergency Service Visits- Seton Medical Center*	27,489	20,022	19,160
Emergency Service Visits- Seton - Coastside*	2,644	2,473	2,222

Sources: OSHPD Disclosure Reports, FY 2017 - FY 2019 and Verity Health

*OSPHD Utilization Reports

[1] FY 2017 and FY 2018 data is from audited OSHPD Disclosure Reports whereas FY 2019 data is unaudited.

[2]Includes subacute and skilled nursing volume.

- Inpatient discharges and patient days have declined 9% and patient days have increased by 1% since FY 2017;
- In FY 2019, Seton Medical Center and Seton Coastside had a combined 21,382 emergency department visits;
- In FY 2019, Seton Medical Center reported 4,003 diagnostic cardiac catheterization procedures; and
- Seton Medical Center performed 55 Coronary Artery Bypass Graft (CABG) surgeries in FY 2017 and 60 CABG surgeries in FY 2019. However, this is significantly down from the 200+ CABG surgeries the Hospital was performing in the early 2000s.

Programs and Services

Seton Medical Center offers a broad range of medical services, including oncology, cardiac, emergency, surgical, geropsychiatric, rehabilitation, respiratory, orthopedic, skilled nursing and sub-acute care.

- Cancer care services include: inpatient oncology unit and outpatient services that provide chemotherapy, radiation, support groups, nutrition counseling, and pain management;

- Cardiac services include: Echocardiography studies, pacemaker implantation, cardiac catheterization procedures, and complex heart surgeries including coronary artery bypass. The Hospital is a designated STEMI Receiving Center;

- Emergency services include: An emergency department with 19 treatment stations that has ambulance receiving capabilities and is certified by the Joint Commission as a Primary Stroke Center;

- Diabetes services include: pre-diabetes screening, gestational diabetes, heart failure, kidney disease, hyperlipidemia (high blood cholesterol) cancer care support, and wound healing;

- Gastroenterology services include: Inpatient and outpatient diagnostic and therapeutic services, including enteroscopy, endoscopy, and colonoscopy;

- Geriatric behavioral health includes: A 20-bed licensed geriatric psychiatry unit that serves the needs of older individuals with acute psychiatric illnesses providing multi-disciplinary services for voluntary and involuntary patients;

- Imaging and lab services include: X-ray, interventional radiology, nuclear medicine, PET/CT scans, ultrasound, MRI, mammography, hematology, coagulation, chemistry, microbiology, and histology services;

- Orthopedic services include: Joint replacement, spine care, minimally invasive surgery, and physical therapy at the Seton Orthopedic Institute;

- Stroke care services include: diagnosis and treatment of stroke patients including stroke prevention, and stroke rehabilitation services (physical therapy, speech therapy, occupational therapy);

- Sub-acute services include: A 44-bed Medi-Cal certified unit that provides long-term care for patients 18 years and older who require the use of a tracheotomy, gastronomy tube, or ventilator;

- Skilled nursing services include: A 39 bed skilled nursing unit for patients who require less intensive care than sub-acute care patients that opened in June 2018;

- Wound care services include: Inpatient and outpatient treatment for chronic non-healing wounds:
    - Seton Center for Advanced Wound Care offers: Skin substitutes, skin grafting, debridement, revascularization, and compression therapy treatments for difficult-to-heal wounds.

- Ophthalmology services include: Treatment for cataracts and diabetic retinopathy.

Seton Coastside provides emergency services, skilled nursing care, and outpatient ancillary services:

- Emergency services include: 24-hour "standby" emergency department with seven treatment stations. Seton Coastside is the only provider of emergency services along the Pacific Coastline from Santa Cruz to Daly City. Critically ill patients in the area are taken or are transferred to full-service hospitals.

- Skilled nursing services include: 116 licensed-bed unit that provides skilled nursing and specialty care in post-acute and geriatric services; and

- Outpatient ancillary services include: Physical, occupational, and speech therapies, radiology and mammography, and clinical laboratory services.

Accreditation

The Hospital is accredited by The Joint Commission for three years, effective August 2017. Over the years, the Hospital has received awards and accolades as a provider of quality care, some of which include the following:

- Primary Stroke Center certification by the Joint Commission, effective September 2019 through September 2021. The Joint Commission last conducted a survey at the Hospital on September 3, 2019;

- Designated STEMI Receiving Center by San Mateo County;

- The Stroke Gold Plus Quality Achievement Award in 2018 which recognizes the Hospital's commitment to ensuring stroke patients receive the most appropriate treatment according to nationally recognized, research-based guidelines based on the latest scientific evidence; and

- The Patient Safety First Award for Achievements in Reducing Deaths from Sepsis in 2013 by the Hospital Council of Northern and Central California.

Quality Measures

The Value-Based Purchasing Program, established by the Federal Patient Protection and Affordable Care Act in 2012, encourages hospitals to improve the quality and safety of care. The Centers for Medicare & Medicaid Services rewards and penalizes hospitals through payments and payment reductions by determining hospital performance on four domains that reflect hospital quality: the clinical process of care and outcomes domain, the patient and caregiver centered experience of care/care coordination domain, the safety domain, and the efficiency and cost

reduction domain. In FY 2019, the Centers for Medicare & Medicaid Services increased Medicare payments to the Hospital by 0.35%. For FY 2020, the Centers for Medicare & Medicaid Services is increasing payments to the Hospital by 0.29%.

The following table reports the Hospital's performance compared to all hospitals across the nation for the seven categories that comprise Hospital Compare's overall quality rating:

QUALITY MEASURES	
Category	**Seton Medical Center**
Mortality	Above the national average
Safety of Care	Above the national average
Readmission	Same as the national average
Patient Experience	Below the national average
Effectiveness of Care	Same as the national average
Timeliness of Care	Below the national average
Efficient Use of Medical Imaging	Below the national average

Source: Data.medicare.gov Hospital Compare, May 2020

The Federal Hospital Readmissions Reduction Program[23], implemented in 2012, penalizes hospitals for excess patient readmissions within 30 days of discharge for the following three applicable conditions: heart attack, heart failure, and pneumonia. The penalty is administered by reducing all of a hospital's reimbursement payments under the Medicare program by a certain percentage for the entire year.

In FY 2019, the Hospital was penalized with a 0.32% reduction in reimbursement. For FY 2020, the Hospital will be penalized with a 0.19% reduction in reimbursement. The following table shows the Hospital's 30-day readmission rates for chronic obstructive pulmonary disease, heart attack, heart failure, pneumonia, and all causes hospital-wide. The Hospital's 30-day readmission rates for heart attack and heart failure are lower than the national average.

30-DAY READMISSION RATES		
Condition/Procedure	**Seton Medical Center**	**National Average**
Chronic Obstructive Pulmonary Disease	19.9%	19.5%
Heart Attack	14.7%	15.7%
Heart Failure	20.6%	21.6%
Pneumonia	17.4%	16.6%
Hospital Wide	15.3%	15.3%

Source: Medicare.gov Hospital Compare, May 2020

[23] The formula for determining hospital reimbursement payments under the Hospital Readmissions Reduction Program varies by hospital and geographic location and may not correspond directly to state and national hospital averages.

Seismic Issues

Using the HAZUS seismic criteria[24], Seton Medical Center's structures subject to seismic compliance have been classified according to the California Senate Bill 1953 Seismic Safety Act for the Structural Performance Category (SPC) and the Non-Structural Performance Category (NPC), as seen in the table below. These classifications require that the hospital structures undergo construction to comply with the California Office of Statewide Health Planning and Development's seismic safety standards.

SETON MEDICAL CENTER SEISMIC OVERVIEW		
Building Name	SPC Compliance Status	NPC Compliance Status
1963 Tower	1	2
Front Wing	1	3
Area A & B	3	3
Area C	3	3
Area D	3	3
Center Pod	3	3
South Pod	3	3
Utilities Service Building	4	3

Source: OSHPD

- Two of the hospital's buildings, the Front Wing and the 1963 Main Tower, both reported a compliance status SPC -1. These structures pose a risk of collapse and danger to the public. In order for these buildings to be seismically compliant, the structures require seismically compliant upgrades. The hospital has developed a master plan to meet seismic compliance by building a new hospital tower to house all acute-care services. The hospital has previously explored the possibility of retrofitting the existing facilities in order to comply with the necessary seismic safety standards through 2030 and beyond;

- The hospital has five buildings rated as SPC -3. These buildings may experience structural damage which does not significantly jeopardize life but may not be repairable or functional following strong ground motion. Buildings in this category will have been constructed or reconstructed under a building permit obtained through OSHPD. These buildings may be used to January 1, 2030, and beyond;

- The hospital has one building rated as SPC-4. This building is in compliance with the structural provisions of the Alquist Hospital Facilities Seismic Safety Act (SBC 1953). Buildings in this category will have been constructed, or reconstructed, under a building permit obtained through OSHPD and may be used for inpatient services through and beyond January 1, 2030;

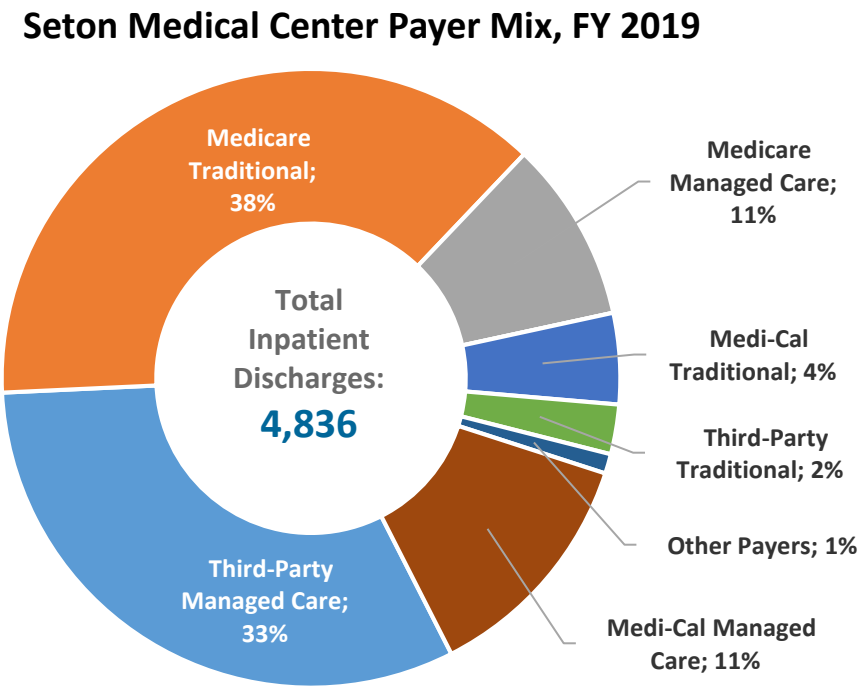
[24] OSHPD uses HAZARDS U.S. (HAZUS), a state-of-the-art methodology, to assess the seismic risk of hospital buildings.

- The hospital has one building rated as NPC-2. The following systems including: communication systems, emergency power supply, bulk medical gas systems, fire alarm systems and emergency lighting equipment for the building are either anchored in accordance with the Part 2, Title 24 of the California Building Code or approved by the Department of General Services, Office of Architecture and Construction, Structural Safety Section; and

- The hospital has seven buildings rated as NPC-3. The buildings meet the criteria for NPC "2" and in critical care areas, clinical laboratory services spaces, pharmaceutical service spaces, radiological service spaces, and central and sterile supply areas, the following components meet the bracing and anchorage requirements of Part 2, Title 24.

Payer Mix

Seton Medical Center's payer mix for FY 2019 consisted of a large proportion of Medicare patients that accounted for nearly 49% of all inpatient hospital discharges with Medicare Traditional at 38% and Medicare Managed Care at 11%. Medi-Cal patients accounted for 15% of all inpatient discharges. Third-Party Managed Care (33%) and Third-Party Traditional (2%) accounted for 35% of all inpatient hospital discharges.



*"Other" includes self-pay, workers' compensation, other government, and other payers

Source: OSHPD Financial Disclosure Report (unaudited), FY 2019 (based on inpatient discharges)
Note: Excludes Skilled Nursing and Subacute Care

The following table illustrates the Seton Medical Center's FY 2019 inpatient discharge payer mix compared to San Mateo County and California for FY 2018. The comparison shows that the Hospital and Seton Coastside have higher percentages of Medicare Traditional and lower percentages of Medi-Cal Traditional and Medicare Managed Care relative to other hospitals in San Mateo County and statewide. The payer mix of the sub-acute care unit and Seton Coastside consists of mostly Medi-Cal patients.

PAYER MIX COMPARISON						
	Seton Medical Center* (FY 2019)		San Mateo County (FY 2018)		California (FY 2018)	
	Discharges**	% of Total	Discharges	% of Total	Discharges	% of Total
Medi-Cal Managed Care	543	11.2%	6,293	11.5%	673,236	19.0%
Medi-Cal Traditional Coverage	211	4.4%	3,304	6.0%	399,695	11.3%
Medi-Cal Total	**754**	**15.6%**	**9,597**	**17.5%**	**1,072,931**	**30.3%**
Medicare Traditional Coverage	1,816	37.6%	10,355	18.8%	866,924	24.5%
Medicare Managed Care	513	10.6%	11,073	20.2%	445,211	12.6%
Medicare Total	**2,329**	**48.2%**	**21,428**	**39.0%**	**1,312,135**	**37.1%**
Third-Party Managed Care	1,587	32.8%	193	0.4%	884,468	25.0%
Third-Party Traditional Coverage	96	2.0%	2,266	4.1%	96,701	2.7%
Third-Party Total	**1,683**	**34.8%**	**2,459**	**4.5%**	**981,169**	**27.7%**
Other Traditional Coverage	70	1.4%	20,625	37.5%	155,937	4.4%
Other Managed Care	-	-	843	1.5%	16,709	0.5%
Other Total	**70**	**1.4%**	**21,468**	**39.1%**	**172,646**	**4.9%**
Grand Total	**4,836**	**100%**	**54,952**	**100%**	**3,538,881**	**100%**

Source: OSHPD Discharge Database, CY 2018, OSHPD Disclosure Reports, Excludes Normal Newborns

* OSHPD Disclosure Reports

** Excludes Subacute Care and Skilled Nursing

Managed Medi-Cal Managed Care

The Medi-Cal Managed Care Program contracts for healthcare services through established networks of organized systems of care. Over 12 million Medi-Cal beneficiaries in all 58 counties in California receive their healthcare through six models of managed care, including: County Organized Health Systems, the Two-Plan Model, Geographic Managed Care, the Regional Model, the Imperial Model, and the San Benito Model.

San Mateo County has a County Organized Health Systems model that offers one managed care plan. The San Mateo County Organized Health System model is provided by Health Plan of San Mateo. In the County Organized Health Systems model, the Department of Health Care Services contracts with a health plan created by the County Board of Supervisors. The percentage of San Mateo County residents with Medi-Cal Managed Care coverage has increased significantly as a result of the ACA and California initiatives to expand managed care. Currently, the Hospital is contracted with Health Plan of San Mateo to provide healthcare services for Medi-Cal Managed Care patients. The percentage of San Mateo County residents with Medi-Cal Managed Care coverage has increased significantly as a result of the Affordable Care Act (ACA) and California

initiatives to expand managed care. There were approximately 136,000 Medi-Cal eligible in San Mateo County as of December 2019.

Medical Staff

The Hospital has a combined 355 physicians on the medical staff with various specialties represented. Internal medicine, emergency medicine, teleradiology, radiology and anesthesiology are the top five specialty comprising of 43% of the medical staff.

The Hospital has relationships with various medical groups, including Brown and Toland and Hill Physicians.

MEDICAL STAFF PROFILE					
Specialty	Count	% of Total	Specialty	Count	% of Total
Allergy & Immunology	3	0.8%	Orthopedic Surgery Spine	5	1.4%
Anesthesiology	16	4.5%	Orthopedic Surgery Sports Medicine	1	0.3%
Cardiac Electrophysiology	2	0.6%	Otolaryngology	3	0.8%
Cardiothoracic Vascular Surgery	4	1.1%	Pathology	6	1.7%
Cardiovascular Disease	11	3.1%	Pediatrics	1	0.3%
Critical Care Medicine	10	2.8%	Physical Medicine & Rehabilitation	4	1.1%
Dentistry	2	0.6%	Plastic & Reconstructive Surgery	1	0.3%
Dermatology	2	0.6%	Plastic Surgery	9	2.5%
Emergency Medicine	27	7.6%	Podiatry	4	1.1%
Family Medicine	12	3.4%	Podiatry Foot & Ankle Surgery	4	1.1%
Gastroenterology	4	1.1%	Psychiatry	15	4.2%
Geriatric Medicine	3	0.8%	Psychiatry / Neurology	14	3.9%
Infectious Disease	2	0.6%	Psychiatry / Neurology – Child & Adolescent	1	0.3%
Internal Medicine	65	18.3%	Pulmonary Disease	2	0.6%
Interventional Cardiology	1	0.3%	Radiology	17	4.8%
Nephrology	6	1.7%	Radiology Radiation Oncology	3	0.8%
Neurological Surgery	3	0.8%	Radiology/Vascular & Interventional	1	0.3%
Nuclear Medicine	2	0.6%	Surgery	11	3.1%
Obstetrics & Gynecology	9	2.5%	Teleradiology	27	7.6%
Ophthalmology	12	3.4%	Urology	3	0.8%
Oral & Maxillofacial Surgery	8	2.3%	Vascular Surgery	4	1.1%
Orthopedic Surgery	15	4.2%	**Total**	**355**	**100%**

Source: Verity Health

Patient Utilization Trends

The table below shows volume trends at Seton Medical Center and Seton Coastside for FY 2015 through FY 2019:

SETON MEDICAL CENTER AND SETON COASTSIDE SERVICE VOLUMES FY 2015 - FY 2019*					
PATIENT DAYS	**FY 2015**	**FY 2016**	**FY 2017**	**FY 2018**	**FY 2019**
Medical/Surgical[2]	25,953	25,264	26,918	24,132	16,495
Neonatal Intensive Care	238	-	-	-	-
Intensive Care	3,785	3,234	3,352	2,822	2,895
Obstetrics	1,507	-	-	-	-
Skilled Nursing - Seton Medical Center	-	-	-	-	7,371**
Skilled Nursing - Seton Coastside	36,511	36,680	40,088	41,758	41,758
Sub-Acute Care	14,851	15,191	14,832	12,973	10,856
Psychiatric	-	-	-	1,748	6,337
Total	**82,845**	**80,369**	**85,190**	**83,433**	**85,712**
DISCHARGES					
Medical/Surgical[2]	5,093	4,716	5,040	4,645	3,809
Neonatal Intensive Care	47	-	-	-	-
Intensive Care	742	604	628	506	668
Obstetrics	526	-	-	-	-
Skilled Nursing - Seton Medical Center	-	-	-	-	355
Skilled Nursing - Seton Coastside	74	104	121	78	78
Sub-Acute Care	48	25	28	26	32
Psychiatric	-	-	-	110	359
Total	**6,530**	**5,449**	**5,817**	**5,365**	**5,301**
AVERAGE LENGTH OF STAY					
Medical/Surgical[2]	5.1	5.4	5.3	5.2	4.3
Neonatal Intensive Care	5.1	-	-	-	-
Intensive Care	5.1	5.4	5.3	5.6	4.3
Obstetrics	2.9	-	-	-	-
Skilled Nursing - Seton Medical Center	-	-	-	-	20.8
Skilled Nursing - Seton Coastside	493.4	352.7	331.3	535.4	535.4
Sub-Acute Care	309.4	607.6	529.7	499.0	339.3
Psychiatric	-	-	-	15.9	17.7
Total[1]	**4.9**	**5.4**	**5.3**	**5.5**	**5.3**
AVERAGE DAILY CENSUS					
Medical/Surgical[2]	71.1	69.2	73.7	66.1	45.2
Neonatal Intensive Care	0.7	-	-	-	-
Intensive Care	10.4	8.9	9.2	7.7	7.9
Obstetrics	4.1	-	-	-	-
Skilled Nursing - Seton Medical Center	-	-	-	-	20.2
Skilled Nursing - Seton Coastside	100.0	100.5	109.8	114.4	114.4
Sub-Acute Care	40.7	41.6	41.0	42.9	29.7
Psychiatric	-	-	-	4.8	17.4
Total	**227.0**	**220.2**	**233.4**	**228.6**	**214.6**
OTHER SERVICES					
Inpatient Surgeries	1,651	1,100	1,267	1,116	916
Outpatient Surgeries	2,360	1,002	960	956	805
Emergency Service Visits- Seton Medical Center	28,994	25,881	27,489	20,022	19,160
Emergency Service Visits- Seton Coastside	3,270	2,712	2,644	2,473	2,222
Total Live Births	512	-	-	-	-

Sources: OSHPD Disclosure Reports, FY 2015 - FY 2019 and Verity Health

Note: Skilled nursing and subacute patients are often long term for over one or many years.

* FY 2015 to FY 2018 data is from audited OSHPD Disclosure Reports whereas FY 2019 is from unaudited.

** 39 Beds opened for skilled nursing services in FY 2019.

[1] Excludes Skilled Nursing and Subacute Care Services

[2] Includes Definitive Observation Beds

A review of Seton Medical Center and Seton Coastside's historical utilization trends, between FY 2015 and FY 2019, supports the following conclusions:

- Total patient days have increased by approximately 3% from 82,845 in FY 2015 to 85,712 in FY 2019. This slight growth can be attributed to increases in skilled nursing and sub-acute patient days over the five-year period. Over the same period, medical/surgical and intensive care patient days have decreased 36% and 24%, respectively;

- Seton Medical Center reopened its psychiatric services in FY 2018 for geropsychiatric patients;

- Seton Medical Center closed its obstetrics unit and NICU in FY 2015, hence no volume is reported for subsequent years;

- Both inpatient and outpatient surgeries have decreased significantly over the 5-year period (inpatient surgeries have decreased 45% while outpatient surgeries have decreased 66%); and

- Inpatient discharges have decreased 19% from 6,530 in FY 2015 to 5,301 in FY 2019.

Financial Profile

The Hospital reported net losses ranging between $22.3 million in FY 2015 and over $75.1 million in FY 2019. In total, the Hospital reported net losses of over $224.8 million over the 5-year period. Much of the reported losses can be attributed to gradually increasing operating expenses and stagnant or declining operating revenue. A review of historical financial reports shows that the last time the Hospital was profitable was in FY 2008.

The current assets-to-liabilities ratio has decreased over the last five years from 0.86 in FY 2015 to 0.26 in FY 2019 (the California average in FY 2018 was 1.74). The Hospital's FY 2019 bad debt rate of 0.79% is higher than the statewide average of 0.70%.

FINANCIAL AND RATIO ANALYSIS FY 2015 - FY 2019[1]						
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	
Patient Days[3]	82,845	80,369	85,132	85,862	85,712	
Discharges	6,530	5,449	5,816	5,359	5,301	
ALOS	12.7	14.7	14.6	16.0	16.2	
Net Patient Revenue	$246,549,014	$213,371,794	$248,651,732	$254,179,453	$217,497,128	
Other Operating Revenue	$3,325,342	$1,437,348	$4,026,522	$8,265,149	$1,952,085	
Total Operating Revenue	$249,874,356	$214,809,142	$252,678,254	$262,444,602	$219,449,213	
Operating Expenses	$286,362,023	$277,839,919	$280,575,067	$296,633,104	$293,317,736	
Net from Operations	($36,487,667)	($63,030,777)	($27,896,813)	($34,188,502)	($73,868,523)	
Net Non-Operating Revenues and Expenses	$14,213,464	($97,188)	($795,061)	($1,388,513)	($1,229,954)	
Net Income	**($22,274,203)**	**($63,127,965)**	**($28,691,874)**	**($35,577,015)**	**($75,098,477)**	
						2018 California Data[2]
Current Ratio	0.86	0.48	0.42	0.37	0.26	1.74
Days in A/R	46.8	52	64.4	79.3	71.1	56.09
Bad Debt Rate	0.50%	0.40%	0.20%	0.50%	0.79%	0.70%
Operating Margin	-14.60%	-29.34%	-11.04%	-13.03%	-33.66%	4.45%

Source: OSHPD Disclosure Reports, FY 2015 - FY 2019

Note: Includes Seton Medical Center and Seton Coastside

[1] FY 2015 to FY 2018 data is from audited OSHPD Disclosure Reports whereas FY 2019 is from unaudited.

[2] FY 2019 California data was not available when the data was collected to prepare this report.

[3] Includes acute psychiatric, skilled nursing, and subacute patient days.

Cost of Hospital Services

The Hospital and Seton Coastside's combined operating cost of services includes both inpatient and outpatient care. In FY 2019, approximately 37% of the total costs were associated with Medicare, 30% with Medi-Cal, and 32% with Third Party payers. The remaining 1% is attributed to Other Payers.

OPERATING EXPENSES BY PAYER CATEGORY FY 2015 - FY 2019[1]					
	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Operating Expenses	**$286,362,023**	**$277,839,919**	**$280,575,067**	**$296,633,104**	**$293,317,736**
Cost of Services By Payer:					
Medicare	$117,061,410	$104,968,223	$115,101,486	$120,670,641	$108,378,845
Medi-Cal	$83,136,292	$79,990,971	$72,969,522	$81,044,346	$87,407,502
County Indigent	$0	$0	$0	$0	$0
Third-Party	$83,673,422	$90,676,146	$90,310,554	$91,665,480	$93,380,357
Other Indigent	$0	$0	$0	$0	$0
All Other Payers	$2,490,899	$2,204,579	$2,193,505	$3,252,637	$4,151,032

Source: OSHPD Disclosure Reports, FY 2015 - FY 2019

Note: Includes Seton Medical Center and Seton Coastside

[1] FY 2015 to FY 2018 data is from audited OSHPD Disclosure Reports whereas FY 2019 is from unaudited.

Charity Care

The following table shows a comparison of charity care and bad debt for the Hospital and all general acute care hospitals in the state. According to OSHPD, "the determination of what is classified as…charity care can be made by establishing whether or not the patient has the ability to pay. The patient's accounts receivable must be written off as bad debt if the patient has the ability but is unwilling to pay off the account."

CHARITY CARE COMPARISON FY 2015 - FY 2019[1] (In Thousands)										
	FY 2015		FY 2016		FY 2017		FY 2018		FY 2019	
	Hospital	CA	Hospital	CA	Hospital	CA	Hospital	CA	Hospital	CA[2]
Gross Patient Revenue	$1,480,665	$365,501,463	$1,322,179	$396,427,743	$1,499,079	$408,188,146	$1,496,855	$435,753,169	$1,466,907	-
Charity	$4,465	$3,441,227	$4,022	$3,457,868	$3,266	$2,864,615	$4,822	$3,965,418	$4,941	-
Bad Debt	$6,844	$3,262,642	$4,923	$3,108,971	$3,526	$2,762,692	$7,128	$3,078,632	$11,606	-
Total Charity & Bad Debt	**$11,309**	**$6,703,869**	**$8,945**	**$6,566,839**	**$6,792**	**$5,627**	**$11,950**	**$7,044,050**	**$16,548**	**-**
Charity Care as a % of Gross Patient Revenue	0.30%	0.94%	0.30%	0.87%	0.22%	0.70%	0.32%	0.91%	0.34%	-
Bad Debt as a % of Gross Patient Revenue	0.46%	0.89%	0.37%	0.78%	0.24%	0.68%	0.48%	0.71%	0.79%	-
Total as a % of Gross Patient Revenue	**0.76%**	**1.83%**	**0.68%**	**1.66%**	**0.45%**	**1.38%**	**0.80%**	**1.62%**	**1.13%**	**-**
Uncompensated Care										
Cost to Charge Ratio	19.12%	24.10%	20.91%	23.80%	18.45%	23.00%	19.26%	22.99%	19.86%	-
Charity	$854	$828,647	$841	$822,627	$603	$658,891	$929	$911,650	$981	-
Bad Debt	$1,308	$785,644	$1,029	$739,624	$650	$635,448	$1,373	$707,777	$2,305	-
Total	**$2,162**	**$1,614,292**	**$1,870**	**$1,562,251**	**$1,253**	**$1,294,339**	**$2,304**	**$1,619,427**	**$3,287**	**-**

Source: OSHPD Disclosure Reports FY 2015 - FY 2019

Note: Includes Seton Medical Center and Seton Coastside

[1] FY 2015 to FY 2018 data is from audited OSHPD Disclosure Reports whereas FY 2019 is from unaudited.

[2] 2019 California data unavaliable

The table below shows the Hospital's historical costs for charity care as reported to OSHPD. Charity care costs have increased from $853,474 in FY 2015 to $981,367 in FY 2019. The average cost of charity care for the last five-year period was $841,475 while the three-year average cost of charity care was $837,549.

COST OF CHARITY CARE FY 2015 - FY 2019[1]			
Year	Charity Care Charges	Cost to Charge Ratio	Cost of Charity Care to the Hospital
FY 2019	$4,941,427	19.86%	$981,367
FY 2018	$4,821,676	19.26%	$928,655
FY 2017	$3,266,254	18.45%	$602,624
FY 2016	$4,022,268	20.91%	$841,056
FY 2015	$4,464,824	19.12%	$853,674
FY 2017- FY 2019 Average			**$837,549**
FY 2015 - FY 2019 Average			**$841,475**

Source: OSHPD Disclosure Reports FY 2015 - FY 2019

Note: Includes Seton Medical and Seton Coastside

[1] FY 2015 to FY 2018 data is from audited OSHPD Disclosure Reports whereas FY 2019 is from unaudited.

In the written notice to the California Attorney General, the Hospital reported the following combined distribution of charity care costs by inpatient, outpatient, and emergency room visits. Note that these totals are slightly different than what the Hospital reported to OSHPD. The Hospital's Charity Care and Discount Policy states that persons with family income at or below 200% of the federal policy level, and without other sources to pay for care received, qualify to

receive free care. For Self-Pay patients whose family income between 201% and 350% of the federal policy level, and without other sources to pay for care received, qualify to receive financial assistance using the Discounted Payment Program[25].

The Hospital reported the following combined distribution of charity care by inpatient, outpatient, and emergency room charges:

COST OF CHARITY CARE BY SERVICE FY 2015 - FY 2019				
	Inpatient	Emergency	Outpatient	Total Costs
FY 2019:				
Cost of Charity	$470,020	$440,302	$44,484	$954,806
Visits/Discharges	41	604	145	790
FY 2018:				
Cost of Charity	$549,222	$346,075	$40,108	$935,405
Visits/Discharges	42	584	162	788
FY 2017:				
Cost of Charity	$121,362	$449,912	$46,048	$617,322
Visits/Discharges	27	723	105	855
FY 2016:				
Cost of Charity	$324,901	$475,286	$36,445	$836,632
Visits/Discharges	25	747	34	806
FY 2015:				
Cost of Charity	$294,549	$504,866	$54,060	$853,475
Visits/Discharges	34	819	109	962

Source: Verity

Note: Includes Seton Medical Center and Seton Coastside

[25] In the Discounted Payment Program, Self-Pay Patients whose family income is between 201 percent and 350 percent, inclusive, of the Federal Poverty Level, Seton Medical Center shall limit the expected payment for services provided by Seton Medical Center to the lesser of (A) the among generally billed of Medicare Fee for Service, as calculated by Seton Medical Center using the "Look-back Method" as defined in applicable regulations implementing Section 501(r) of the Internal Revenue Code, or (B) the highest amount of payment Seton Medical Center would expect, in good faith, to receive for providing services from Medicare, Medi-Cal, the Healthy Families Program, or another government-sponsored health program of health benefits in which the Hospital participates. For Seton Medical Center, the amount generally billed effective June 30, 2018 for inpatient services is 12% and the amount generally billed for outpatient services is 11% of the Medicare fee for service amount. For Seton Coastside, the amount generally billed for outpatient is 9% of the Medicare fee for service amount.

Community Benefit Services

The Hospital has consistently provided community benefit services. As shown in the table below, the average annual cost of community benefit services over the five years has been approximately $705,000 per year:

COMMUNITY BENEFIT SERVICES FY 2015-2019							
Community Benefit Programs	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019	Total	5-Year Average
Benefits for Persons Living in Poverty	$347,098	$520	$11,850	$267,799	$404,622	**$1,031,889**	$206,378
Benefits for the Broader Community	$22,211	$392,967	$1,150,892	$558,945	$367,417	**$2,492,432**	$498,486
Total	**$369,309**	**$393,487**	**$1,162,742**	**$826,744**	**$772,039**	**$3,524,321**	**$704,864**

Source: Verity Health

(1) Includes Seton Medical Center and Seton Coastside

- The Hospital's five-year average cost of community benefit services for persons living in poverty is $206,378 per year. The services for persons living in poverty include community health improvement services, financial and in-kind contributions, and subsidized health services;

- The Hospital's five-year average cost of community benefit services to the broader community is $498,486 per year. These services include community health improvement services, health professional education, subsidized health services, financial and in-kind contributions, community building activities, and community benefit operations; and

- Over the 5-year period, The Hospital's combined total community benefits have increased from approximately $369,000 in FY 2015 to over $772,000 in FY 2019.

The Hospital's cost of community benefit services over the past five fiscal years included the following program expenditures over $10,000:

COST OF COMMUNITY BENEFIT SERVICES FY 2015-2019					
Services over $10,000 in cost:	FY 2015	FY 2016	FY 2017	FY 2018	FY 2019
Pulmonary Exercise Maintenance	$11,070	-	-	-	-
Saint Elizabeth Ann Seton New Life Center	$1,189,434	-	-	-	-
Rotacare Clinic - Seton	$8,716	In-Kind	$21,250	$56,682	In-Kind
Rotacare Clinic - Seton Coastside	In-Kind	In-Kind	In-Kind	In-Kind	In-Kind
Community Benefit Program Management	$20,445	$16,286	$16,000	$11,398	$51,167
Health Benefits Resource Center	-	$145,351	$32,136	$180,415	$385,972
Diabetes Support Group	-	$102,566	-	-	$4,180
Shuttle / Courier Services	-	$69,879	$122,914	$110,506	-
Pastoral / Spiritual Care	-	-	$51,257	$80,776	$20,068
RN Grad Program	-	-	$691,252	-	-

Source: Verity Health

(1) Includes the Hospital and Seton Coastside

The Hospital provides community benefit services that support many programs for the community including, but not limited to, the following:

- Health Benefits Resource Center: The program provides free assessments, referrals to community resources, and assistance completing applications for free and low-cost health insurance;

- Community Benefits Program Management: The program assists in organizing events and collaborating with other healthcare providers;

- RotaCare Clinic: Provides urgent care health services to uninsured patients. Services include diagnostic testing including CT, MRI, doppler vascular studies, ultrasound, clinical lab tests and radiology. The Hospital provides services to patients who would not otherwise have access to these diagnostic tests;

- Diabetes Support Group: Community event provided subsidized cholesterol and glucose screenings. Hospital clinical lab staff attended the event and provided glucose and cholesterol screenings; and

- Pastoral/Spiritual Care: Provides support to patients who request such services.

Analysis of the Hospital's Service Area

Service Area Definition

The Hospital's service area is comprised of 14 ZIP Codes, from which approximately 78% of its discharges originated in CY 2018. Approximately 53% of the Hospital's discharges came from the top three ZIP Codes, located in Daly City, and South San Francisco. In CY 2018, the Hospital's market share in the service area was 12.6% based on inpatient discharges.

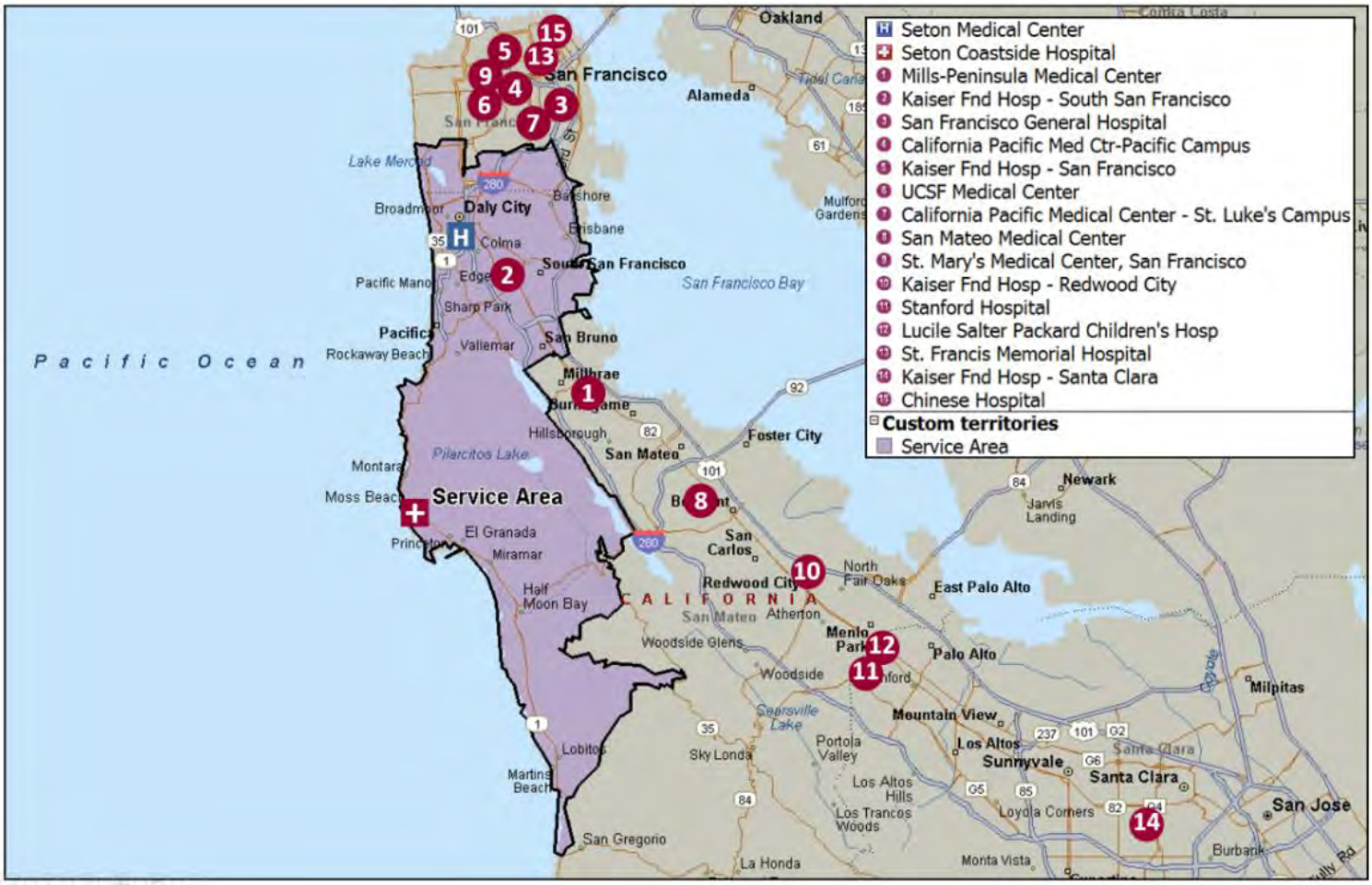
Patient Origin, CY2018						
Pat ZIP	Community	The Hosptial	Percentage of Discharges	Cumulative Percentage	Market Share	Total Discharges
94015	Daly City	1,396	26.0%	26.0%	29.0%	4,818
94014	Daly City	796	14.8%	40.8%	24.4%	3,260
94080	South San Francisco	629	11.7%	52.5%	12.9%	4,872
94044	Pacifica	493	9.2%	61.7%	17.2%	2,863
94112	San Francisco	262	4.9%	66.6%	4.1%	6,426
94066	San Bruno	220	4.1%	70.7%	6.6%	3,313
94134	San Francisco	115	2.1%	72.8%	3.2%	3,574
94132	San Francisco	98	1.8%	74.6%	5.0%	1,947
94019	Half Moon Bay	64	1.2%	75.8%	5.6%	1,140
94038	Moss Beach	29	0.5%	76.4%	13.6%	213
94005	Brisbane	24	0.4%	76.8%	7.2%	333
94037	Montara	18	0.3%	77.2%	11.6%	155
94018	El Granada	18	0.3%	77.5%	8.4%	215
94017	Daly City	6	0.1%	77.6%	20.0%	30
Sub-Total		**4,168**	**77.6%**		**12.6%**	**33,159**
All Other		1,203	22.4%	22.4%		
Grand Total		**5,371**	**100.0%**			

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

Service Area Map

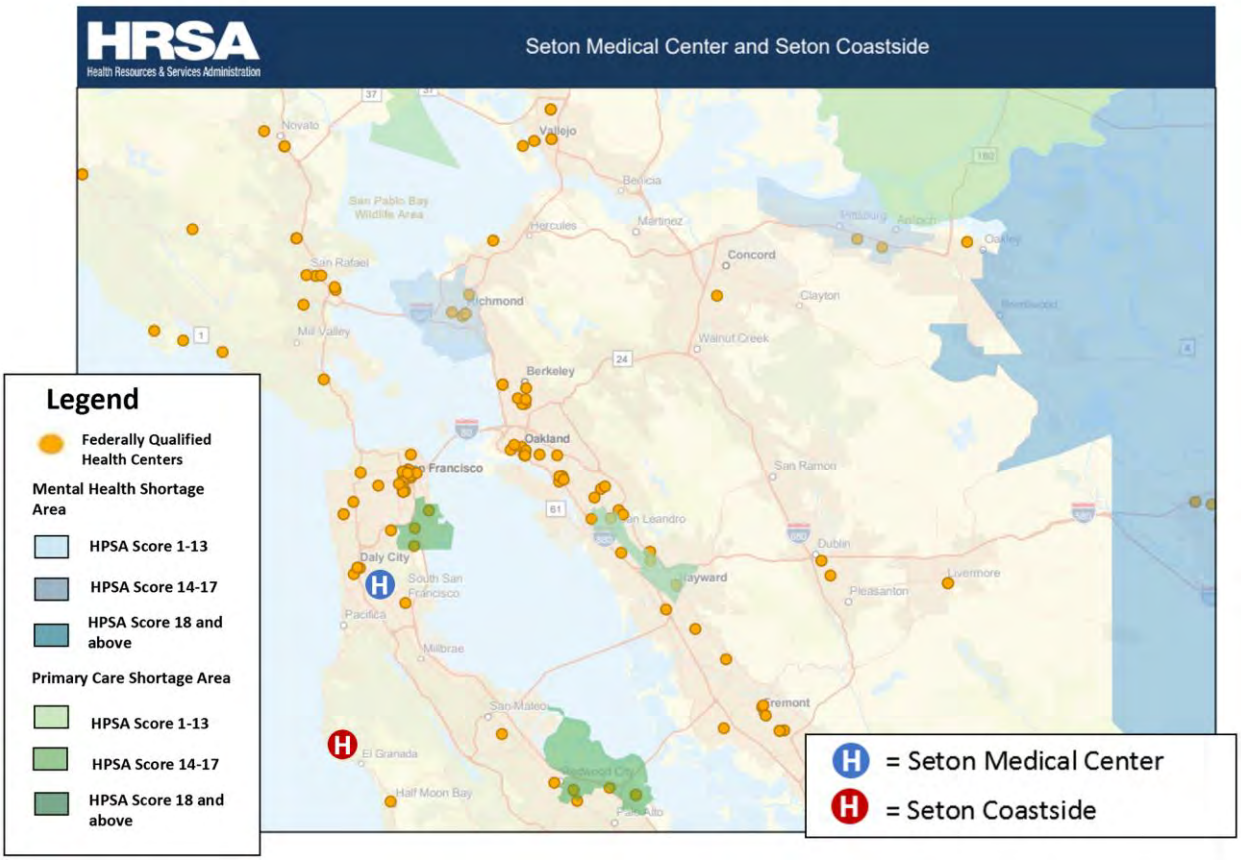
The Hospital's service area, with approximately 448,500 residents, includes the communities of Daly City, South San Francisco, San Francisco, Pacifica, San Bruno, Half Moon Bay, Moss Beach, Brisbane, El Granada, and Montara.

In addition to Seton Medical Center and Seton Coastside, Kaiser Foundation Hospital – South San Francisco is the only other general acute care hospital located within the service area. The Hospital ranks second in inpatient market share with 12.6% market share.



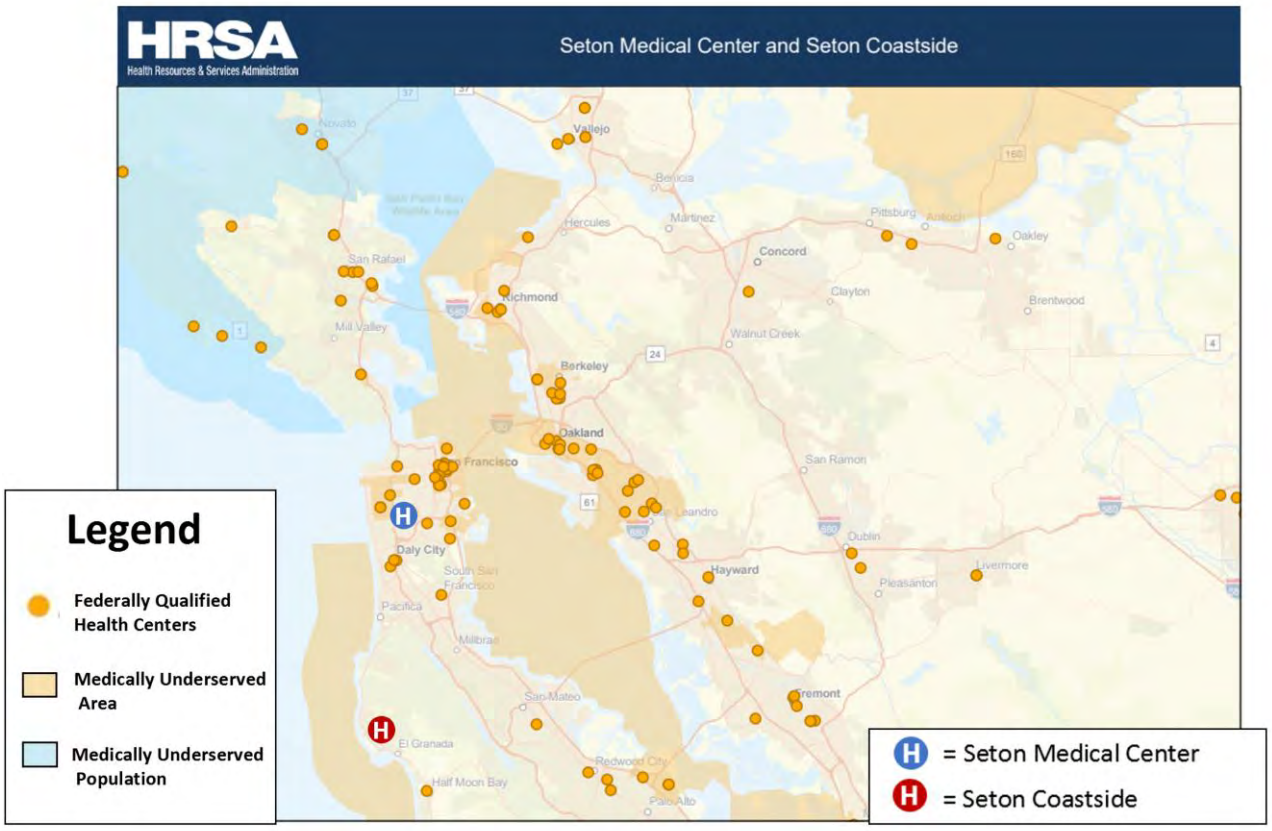
Health Professional Shortage Areas, Medically Underserved Areas, & Medically Underserved Populations

The Federal Health Resources and Services Administration designates Health Professional Shortage Areas as areas with a shortage of primary medical care, dental care, or mental health providers. They are designated according to geography (i.e., service area), demographics (i.e., low-income population), or institutions (i.e., comprehensive health centers). Neither the Hospital, nor any part of its service area, is designated as a Health Professional Shortage Area. The map below shows the closest shortage areas relative to Seton Medical Center and Seton Coastside's location.



HPSA scores are calculated based on three scoring criteria including: population to provider ratio, percentage of the population below 100% of the Federal Poverty Level (FPL) and travel time to the nearest source of care (NSC) outside the HPSA designation area. Once designated, HRSA scores HPSAs on a scale of 0-25 for primary care and mental health, with higher scores indicating greater need.

Medically Underserved Areas and Medically Underserved Populations are defined by the Federal Government to include areas or population groups that demonstrate a shortage of healthcare services. This designation process was originally established to assist the government in allocating community health center grant funds to the areas of greatest need. Medically Underserved Areas are identified by calculating a composite index of need indicators compiled and compared with national averages to determine an area's level of medical "under service." Medically Underserved Populations are identified based on documentation of unusual local conditions that result in access barriers to medical services. Medically Underserved Areas and Medically Underserved Populations are permanently set and no renewal process is necessary. The map below depicts the Medically Underserved Areas and Medically Underserved Populations relative to Seton Medical Center and Seton Coastside's location.



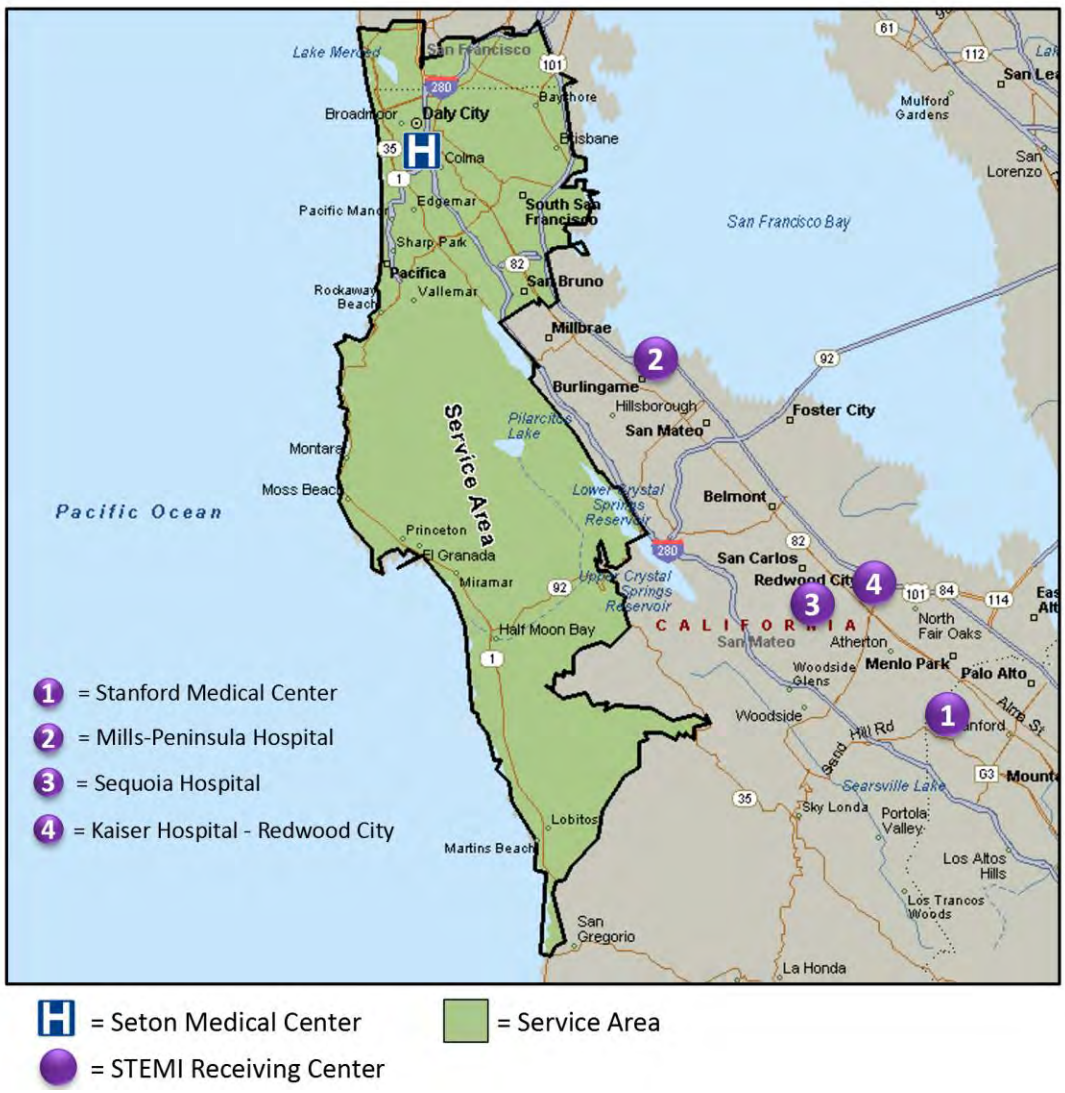
There are over 15 Federally Qualified Health Centers in the service area. The service area, is not designated as a Medically Underserved Area/Medically Underserved Population, suggesting there is sufficient access to healthcare services in the area.

Federally Qualified Health Centers are health clinics that qualify for enhanced reimbursement from Medicare and Medicaid. Federally Qualified Health Centers must serve an underserved area or population, offer a sliding fee scale, provide comprehensive services, have an ongoing quality assurance program, and have a governing board of directors. The ACA included provisions that increased federal funding to Federally Qualified Health Centers to help meet the anticipated

demand for healthcare services by those individuals who gained healthcare coverage through the various health exchanges.

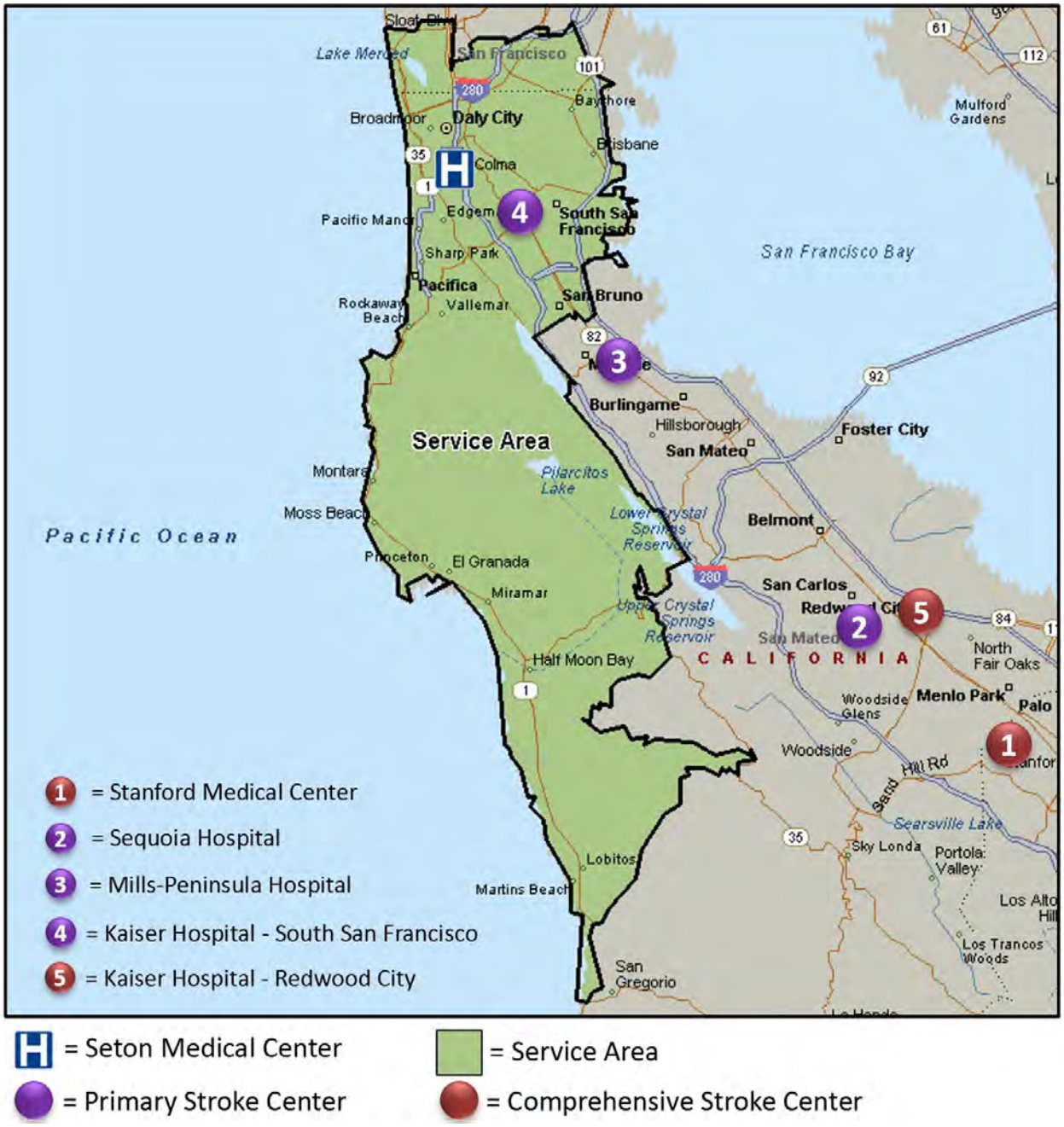
STEMI Receiving Centers in San Mateo County

There are four STEMI Receiving Centers in San Mateo County that provide percutaneous coronary intervention for patients experiencing an acute heart attack. In addition to Seton Medical Center, Mills-Peninsula Hospital, Kaiser Foundation Hospital – Redwood City, and Sequoia Hospital are also designated STEMI Receiving Centers. Furthermore, the Hospital is the only STEMI Receiving Center within its service area. Stanford Hospital, a designated STEMI Receiving Center in Santa Clara County, also has an agreement with San Mateo County to provide percutaneous coronary intervention services.



Certified Stroke Centers in San Mateo County

Seton Medical Center is a Certified Primary Stroke Center. In addition to Seton Medical Center, there are four other Certified Stroke Centers in San Mateo County, including three Primary Stroke Centers (Kaiser Foundation Hospital – South San Francisco, Sequoia Hospital, and Mills-Peninsula Medical Center), and one Comprehensive Stroke Center (Kaiser Foundation Hospital – Redwood City). Stanford Hospital, a Comprehensive Stroke Center located in San Jose County, also has an agreement with San Mateo County to provide stroke care services.



Demographic Profile

The Hospital's service area population is projected to grow 2.0% over the next five years. This is similar to the expected growth rate for San Mateo County but lower than the expected growth rate statewide (3.4%).

SERVICE AREA POPULATION STATISTICS		
	2019 Estimate	2024 Projection
Population	448,472	457,573
Households	142,844	145,558
Percentage Female	50.9%	50.8%

Source: Esri Demographics

The median age of the population in the Hospital's service area is 40.6 years. This is the same as San Mateo County's median age and is older than the California statewide median age of 36.3 years. The percentage of adults over the age of 65 is the fastest growing age cohort, increasing by approximately 14% between 2019 and 2024. The number of women of child-bearing age is expected to increase slightly over the next five years but decrease as a percentage of the population.

SERVICE AREA POPULATION AGE DISTRIBUTION				
	2019 Estimate		2024 Projection	
0-14	69,619	16%	68,598	15%
15-44	179,679	40%	180,449	39%
45-64	119,927	27%	118,001	26%
65+	79,247	18%	90,525	20%
Total	**448,472**	**100%**	**457,573**	**100%**
Female 15-44	88,434	20%	88,700	19%
Median Age	40.6		41.9	

Source: Esri Demographics

The largest population cohorts in the Hospital's service area are Asian (46%) and White (33%). Approximately 76% of the service area population is of non-Hispanic origin. This is similar to San Mateo County (76%), but considerably higher than the California statewide non-Hispanic population of 60%.

SERVICE AREA POPULATION RACE /ETHNICITY		
	2019 Estimate	2024 Projection
White Alone	33%	31%
Black Alone	3%	3%
American Indian Alone	1%	0%
Asian Alone	46%	49%
Pacific Islander Alone	1%	1%
Some Other Race Alone	11%	11%
Two or More Races	6%	6%
Total	**100%**	**100%**
Hispanic Origin (Any Race)	24%	23%
Non Hispanic Origin	76%	77%
Total	**100%**	**100%**

Source: Esri Demographics

The Hospital's service area households have a median income of $100,055. This is nearly 18% lower than the county average of $118,355 and 25% higher than the state average of $74,520. Projections anticipate that the number of higher income households ($150,000+) in the Hospital's service area will represent a higher percentage of households than anticipated in the State of California, but a lower percentage of households than anticipated in San Mateo County.

SERVICE AREA HOUSEHOLD INCOME DISTRIBUTION						
	2019 Estimate			2024 Projection		
	Service Area	San Mateo	California	Service Area	San Mateo	California
<$15,000	6%	5%	9%	5%	4%	7%
$15,000 - $24,999	5%	4%	8%	4%	3%	6%
$25,000 - $34,999	5%	4%	7%	4%	3%	6%
$35,000 - $49,999	8%	7%	11%	6%	5%	9%
$50,000 - $74,999	13%	11%	16%	12%	10%	15%
$75,000 - $99,999	13%	12%	12%	12%	11%	13%
$100,000 - $149,999	20%	18%	17%	21%	18%	19%
$150,000 - $199,999	13%	13%	9%	15%	15%	11%
$200,000+	17%	28%	12%	22%	31%	14%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**
Median Household Income	$100,055	$118,355	$74,520	$114,246	$137,484	$86,333

Source: Esri Demographics

Medi-Cal Eligibility

With the implementation of the ACA and the statewide expansion of Medi-Cal, 12.6 million of the State of California's population are eligible for Medi-Cal (33% of California's population). In San Mateo County, the California Department of Health Care Services estimated 135,820 people were eligible for Medi-Cal in December 2019 (30% of San Mateo County's population). Out of the total estimated population in San Mateo County, 13% of the population was enrolled for Medi-Cal

Managed Care. Since the population in the Hospital's service area is similar in income distribution to San Mateo County, it is expected that the percent eligible for Medi-Cal would be approximately 30%. Medi-Cal eligibility could be significantly affected in the coming years by the potential change or repeal of the ACA.

Selected Health Indicators

A review of health indicators for San Mateo County (deaths, diseases, and births) supports the following conclusions:

San Mateo County has lower morbidity rates for five indicators compared to California. The rate of incidence of tuberculosis is higher than both the statewide rate and national goal.

SAN MATEO COUNTY'S MORBIDITY STATISTICS: RATE PER 100,000 POPULATION HEALTH STATUS PROFILE FOR 2019

Health Status Indicator	San Mateo County	California	National Objective
HIV/AIDS Incidence (Age 13 and Over)[1]	233.1	397.7	a
Chlamydia Incidence	339.7	514.6	c
Gonorrhea Incidence Female Age 15-44	99.4	252.4	251.9
Gonorrhea Incidence Male Age 15-44	288.3	444.8	194.8
Tuberculosis Incidence	7.1	5.3	1.0
Congenital Syphilis	M*	44.4	9.6
Primary Secondary Syphilis Female	M*	3.5	1.3
Primary Secondary Syphilis Male	14.9	26.2	6.7

Source: California Department of Public Health

* Rates are deemed unreliable based on fewer than 20 data elements.

[1] California Department of Public Health, Office of AIDS, Surveillance Section reporting periods are: Current Period 2014-2016, Previous Period 2011-2013.

a: Healthy People 2020 (HP 2020) National Objective has not been established.

c: Prevalence data are not available in all California counties to evaluate the Healthy People 2020 National Objective STD-1, as the Healthy People objective is restricted to females who are 15-24 years old and identified at a family planning clinic, and males and females under 24 years old who participate in a national job-training program.

The overall age-adjusted mortality rate for San Mateo County is lower than that of the State of California. San Mateo County's age adjusted death rates for all 18 causes are lower than the statewide rates.

SAN MATEO COUNTY'S MORTALITY HEALTH STATUS PROFILE FOR 2019 RATE PER 100,000 POPULATION				
	San Mateo County		(Age Adjusted)	
Selected Cause	Crude Death Rate	Age Adjusted Death Rate	California	National Goal
All Causes	620.5	477.9	610.3	a
- All Cancers	147.8	115.9	137.4	161.4
- Colorectal Cancer	13.1	10.3	12.5	14.5
- Lung Cancer	28.2	22.3	27.5	45.5
- Female Breast Cancer	20.7	15.0	18.9	20.7
- Prostate Cancer	17.0	15.7	19.4	21.8
- Diabetes	15.4	12.0	21.2	b
- Alzheimer's Disease	39.1	27.9	35.7	a
- Coronary Heart Disease	71.7	54.1	87.4	103.4
- Cerebrovascular Disease (Stroke)	38.9	28.9	36.3	34.8
- Influenza/Pneumonia	13.9	10.3	14.2	a
- Chronic Lower Respiratory Disease	26.5	20.2	32.0	a
- Chronic Liver Disease And Cirrhosis	9.5	7.6	12.2	8.2
- Accidents (Unintentional Injuries)	25.6	22.5	32.2	36.4
- Motor Vehicle Traffic Crashes	5.8	5.6	9.5	12.4
- Suicide	7.8	7.4	10.4	10.2
- Homicide	2.1*	2.3*	5.2	5.5
- Firearm-Related Deaths	4.4	4.4	7.9	9.3
- Drug-Induced Deaths	9.0	8.2	12.7	11.3

Source: California Department of Public Health

*Rates are deemed unreliable when based on 20 or fewer elements

a: Healthy People 2020 (HP 2020) National Objective has not been established.

b: National Objective is based on both underlying and contributing cause of death which requires use of multiple cause of death files. California's data exclude multiple/contributing causes of death.

Health indicators in San Mateo County are superior to health indicators statewide and nationally for low birth weight infants, first trimester prenatal care, and adequate/adequate plus care.

SAN MATEO COUNTY'S NATALITY HEALTH STATUS PROFILE FOR 2019			
Health Status Indicator	San Mateo County	California	National Goal
Low Birth Weight Infants	7.0%	6.9%	7.8%
First Trimester Prenatal Care	90.8%	83.5%	77.9%
Adequate/Adequate Plus Care	80.5%	77.9%	77.6%

Source: California Department of Public Health

2019 Community Health Needs Assessment

In an effort to identify the most critical healthcare needs in the Hospital's service area, a Community Health Needs Assessment (CHNA) is conducted every three years. The process is designed to identify the health needs and resources in the Hospital service area and inform the Hospital's community benefit investments. The Hospital conducted this CHNA in partnership with the Healthy Community Collaborative of San Mateo County (HCC), which consists of representatives from nonprofit hospitals, the County Health Department and Human Services, public agencies, and community-based organizations.

The Hospital's defined service area for purpose of the assessment (CHNA Service Area) includes but is not limited to, the cities of South San Francisco, Daly City, Brisbane, San Bruno, Pacifica, Montara, Moss Beach, and Half Moon Bay.

Based upon the CHNA Service Area, the study included a summary of population and household demographics measures related to access to healthcare, mortality, and findings from community interviews as provided. The top five needs that were identified and prioritized through the CHNA process include:

1. **Mental Health and Well-Being:** The community prioritized mental health, wellbeing, and substance use in almost all focus groups and key informant interviews. Depression, poor mental health, binge drinking, deaths from drug poisoning, and the adult substance-related emergency department visit rate have all increased in the county;

2. **Housing and Homelessness:** Housing is one of the main concerns of the community and was prioritized by almost all focus groups and key informants. The median rent in the county is significantly higher than the state average and has been increasing. The proportion of county residents who have experienced housing instability recently has risen. Affordable housing (assisted housing units) is relatively scarce in the county compared to the state overall. The community described experiencing stress related to the high cost of housing;

3. **Health Care Access and Delivery:** Community input suggests that health care is often unaffordable. There are downward trends in the proportion of children who have a usual place for medical check-ups, the proportion of employed county residents whose jobs offer health benefits, and residents' perceptions of the ease of access to specialty care. Low socioeconomic status residents are more likely than higher-status groups to have health care access issues;

4. **Healthy Lifestyles:** The community prioritized (voted as a top health need) healthy lifestyles. This need includes concerns about diabetes, obesity, and fitness, diet, and nutrition. Diabetes ranks among the leading causes of death in the county. The prevalence of diabetes and obesity are both on the rise in the county. Statistics for adult diabetes

prevalence and youth fruit/vegetable consumption are significantly worse than state averages. Adults of low socioeconomic status fail benchmarks for obesity and overweight; and

5. **Oral/Dental Health:** The community prioritized oral health in the county. Participants provided feedback on lack of access to high-quality dental services and/or dental insurance. The proportion of residents who have no insurance that pays for some or all routine dental care has been rising. Low reimbursement rates and complicated billing procedures may have driven many providers away from accepting Denti-Cal, which seems to have contributed to significant income disparities in oral health.

Hospital Market Share

The table below shows inpatient service area market share by hospital from CY 2013 to CY 2018.

SERVICE AREA MARKET SHARE BY HOSPITAL, CY 2013-2018							
Facility Name	2013	2014	2015	2016	2017	2018	TREND
MILLS-PENINSULA MEDICAL CENTER	12.4%	12.6%	13.0%	12.6%	12.7%	13.6%	↗
SETON MEDICAL CENTER	**17.1%**	**16.3%**	**14.6%**	**13.6%**	**12.9%**	**12.7%**	↘
KAISER FOUNDATION HOSPITAL - SOUTH SAN FRANCISCO	10.8%	11.0%	11.6%	11.7%	12.5%	12.2%	↗
PRISCILLA CHAN & MARK ZUCKERBERG SAN FRANCISCO GENERAL HOSPITAL	9.4%	9.8%	9.4%	9.3%	9.2%	10.3%	↗
UCSF MEDICAL CENTER	7.8%	7.8%	8.5%	9.2%	9.6%	9.5%	↗
KAISER FOUNDATION HOSPITAL - SAN FRANCISCO	7.8%	8.6%	7.8%	8.2%	7.8%	8.1%	↗
CALIFORNIA PACIFIC MED CTR-PACIFIC CAMPUS	9.0%	9.2%	8.8%	8.6%	8.1%	7.9%	↘
KAISER FOUNDATION HOSPITAL - REDWOOD CITY	2.3%	2.6%	3.0%	3.1%	3.2%	3.5%	↗
STANFORD HEALTH CARE	1.9%	1.8%	2.3%	2.5%	2.8%	2.5%	↗
CALIFORNIA PACIFIC MEDICAL CENTER - ST. LUKE'S CAMPUS	4.2%	4.1%	4.4%	4.5%	4.1%	2.5%	↘
LUCILE SALTER PACKARD CHILDREN'S HOSP. AT STANFORD	1.6%	1.8%	1.9%	2.0%	2.4%	2.4%	↗
ST. MARY'S MEDICAL CENTER, SAN FRANCISCO	2.5%	2.0%	1.9%	2.1%	2.0%	2.1%	↘
SAN MATEO MEDICAL CENTER	2.8%	2.6%	2.2%	2.2%	1.9%	1.7%	↘
CALIFORNIA PACIFIC MED CTR-DAVIES CAMPUS	1.1%	1.1%	1.3%	1.4%	1.3%	1.4%	↗
JEWISH HOME	0.6%	0.7%	0.8%	1.0%	1.1%	1.2%	↗
ST. FRANCIS MEMORIAL HOSPITAL	1.1%	1.1%	1.1%	1.2%	1.0%	1.0%	→
KAISER FOUNDATION HOSPITAL - SANTA CLARA	0.8%	0.7%	0.6%	0.6%	0.7%	0.9%	→
CHINESE HOSPITAL	1.2%	1.2%	1.0%	0.8%	0.7%	0.7%	↘
SEQUOIA HOSPITAL	0.6%	0.6%	0.6%	0.6%	0.7%	0.7%	→
ALL OTHER	5.1%	4.6%	5.2%	5.0%	5.3%	5.2%	→
TOTAL PERCENTAGE	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	
GRAND TOTAL	**34,258**	**33,829**	**34,238**	**34,676**	**34,677**	**33,159**	↘

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- The number of discharges in the Hospital's service area has decreased slightly and averaged 34,140 per year between CY 2013 and CY 2018;

- From CY 2013 to CY 2018, the Hospital's service area inpatient market share has dropped from 17.1% in CY 2013 to 12.7% in CY 2018. Some of this decline in market share can be attributed to the Hospital closing its obstetrics unit in CY 2015; and

- Mills-Peninsula Medical Center became the market share leader with 13.6% in CY 2018.

Hospital Supply, Demand & Market Share

Kaiser Foundation Hospital- South San Francisco is the only other general acute care hospital in the Hospital's service area. The Hospital[26] has an occupancy rate of approximately 49%. Kaiser Foundation Hospital – South San Francisco has 120 licensed beds and has an occupancy rate of 45%.

AREA HOSPITAL DATA								
Hospital	City	Within Service Area	Licensed Beds	Discharges	Patient Days	Occupied Beds	Percent Occupied	Miles from Hospital
Seton Medical Center[1]	**Daly City**	**X**	**478**	**5,301**	**85,712**	**235**	**49.1%**	**-**
Kaiser - South San Francisco*	South San Francisco	X	120	5,432	19,655	54	44.9%	2.7
SUB-TOTAL			**598**	**10,733**	**105,367**	**289**	**48.3%**	
California Pacific Medical Center - St. Luke's*	San Francisco		149	2,078	13,002	36	23.9%	6.2
UCSF Medical Center	San Francisco		785	35,079	237,336	650	82.8%	6.4
San Francisco General Hospital	San Francisco		397	16,805	111,233	305	76.8%	7.8
St. Mary's Medical Center - San Francisco	San Francisco		275	5,553	28,504	78	28.4%	7.8
Mills-Peninsula Medical Center*	Burlingame		301	13,423	59,429	163	54.1%	10.7
California Pacific Medical Center - Pacific	San Francisco		643	3,249	21,546	59	9.2%	11.3
Saint Francis Memorial Hospital	San Francisco		294	4,916	29,902	82	27.9%	11.5
Chinese Hospital*	San Francisco		61	1,188	5,357	15	24.1%	11.6
Kaiser - San Francisco*	San Francisco		239	11,627	52,539	144	60.2%	11.6
San Mateo Medical Center	San Mateo		551	3,040	125,907	345	62.6%	17.9
Stanford Medical Center	Palo Alto		613	27,187	155,947	427	69.7%	27.9
Lucile Salter Packard Children's Hospital	Palo Alto		396	13,857	91,240	250	63.1%	28.2
Kaiser- Santa Clara*	Santa Clara		327	17,928	74,035	203	62.0%	41.7
TOTAL			**5,629**	**166,663**	**1,111,344**	**3,045**	**54.1%**	

Source: OSHPD Disclosure Reports

* FY 2018 data used, FY 2019 data unavaliable

[1] Includes Seton Coastside

An analysis of the services offered by the Hospital in comparison to services offered by other providers is shown on the following pages. The hospitals shown in the table below were analyzed to determine area hospital available bed capacity by service.

- The aggregate occupancy rate for all area hospitals is 54%. Only San Francisco General Hospital and UCSF Medical Center had an occupancy rate above 75%; and

- The four largest providers of inpatient services to service area residents, by market share, include Mills Peninsula Medical Center, the Hospital, Kaiser Foundation Hospital-South San Francisco and Priscilla Chan & Mark Zuckerberg San Francisco General Hospital, all of which operate at a combined average occupancy rate of 58%.

[26] Seton Medical Center and Seton Coastside operate under a consolidated license and therefore data on the two locations is aggregated.

Market Share by Payer Type

The following table illustrates hospital market share by payer type as reported by OSHPD for CY 2018:

SERVICE AREA MARKET SHARE BY PAYER TYPE, CY 2018												
Payer	TOTAL DISCHARGES	MILLS-PENINSULA MEDICAL CENTER	SETON MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - SOUTH SAN FRANCISCO	SAN FRANCISCO GENERAL HOSPITAL & TRAUMA CENTER	UCSF MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - SAN FRANCISCO	CALIFORNIA PACIFIC MED CTR-PACIFIC CAMPUS	KAISER FOUNDATION HOSPITAL - REDWOOD CITY	CALIFORNIA PACIFIC MEDICAL CENTER - ST. LUKE'S CAMPUS	Other	Grand Total
Medicare	**13,522**	14.2%	21.6%	19.4%	6.8%	7.6%	5.3%	5.1%	1.7%	1.8%	16.5%	100%
Private Coverage	**11,274**	15.6%	4.0%	10.7%	3.1%	12.3%	15.9%	10.2%	7.5%	1.4%	19.4%	100%
Medi-Cal	**7,113**	9.9%	8.7%	1.9%	28.0%	10.2%	2.1%	9.3%	1.0%	5.7%	23.3%	100%
All Other	**1,250**	11.4%	18.0%	6.1%	13.0%	1.9%	2.2%	9.1%	1.5%	1.4%	35.4%	100%
TOTAL PERCENTAGE		**13.6%**	**12.7%**	**12.2%**	**10.3%**	**9.5%**	**8.1%**	**7.9%**	**3.5%**	**2.5%**	**19.6%**	**100%**
GRAND TOTAL	**33,159**	**4,520**	**4,208**	**4,045**	**3,422**	**3,165**	**2,688**	**2,606**	**1,168**	**826**	**6,511**	

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- For 2018, the largest payer types, in the service area based on inpatient discharges, are Medicare at 41% and Private Coverage at 34%;
- The Hospital is the market share leader for Medicare at 22%;
- Although Mills-Peninsula Medical Center is the market share leader for overall inpatient discharges, the hospital is not a leader for any individual payer type; and
- San Francisco General Hospital ranks first in Medi-Cal market share (28%).

Market Share by Service Line

The following table shows service area inpatient market share by service line for CY 2018.

SERVICE AREA MARKET SHARE BY SERVICE LINE, CY 2018												
Service Line	Total Discharges	MILLS-PENINSULA MEDICAL CENTER	SETON MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - SOUTH SAN FRANCISCO	SAN FRANCISCO GENERAL HOSPITAL & TRAUMA CENTER	UCSF MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - SAN FRANCISCO	CALIFORNIA PACIFIC MED CTR-PACIFIC CAMPUS	KAISER FOUNDATION HOSPITAL - REDWOOD CITY	CALIFORNIA PACIFIC MEDICAL CENTER - ST. LUKE'S CAMPUS	Other	Grand Total
General Medicine	10,305	11.5%	19.4%	20.1%	10.3%	9.3%	4.4%	5.6%	0.9%	2.4%	16.2%	100.0%
Obstetrics	4,533	15.8%	0.1%	0.1%	8.5%	9.9%	21.1%	16.5%	11.6%	5.6%	10.7%	100.0%
Cardiac Services	3,882	12.1%	22.8%	17.1%	9.3%	7.6%	7.8%	6.5%	0.9%	1.4%	14.5%	100.0%
General Surgery	2,384	14.4%	12.8%	16.0%	12.6%	10.2%	6.4%	7.7%	1.0%	1.6%	17.4%	100.0%
Orthopedics	2,301	11.9%	12.3%	13.8%	9.7%	7.6%	3.6%	6.8%	2.4%	1.2%	30.8%	100.0%
Neonatology	2,181	15.1%	0.0%	0.0%	9.2%	12.0%	22.4%	13.3%	10.3%	5.3%	12.3%	100.0%
Behavioral Health	1,856	36.7%	3.2%	1.9%	9.2%	1.7%	0.5%	2.5%	0.2%	0.3%	43.8%	100.0%
Oncology/Hematology (Medical)	1,053	8.0%	11.3%	10.7%	9.4%	23.7%	2.7%	8.0%	0.5%	1.2%	24.6%	100.0%
Urology	383	12.5%	10.2%	10.7%	7.3%	13.3%	8.4%	8.9%	2.4%	2.1%	24.3%	100.0%
Spine	382	7.6%	11.3%	3.9%	12.3%	14.7%	0.5%	7.3%	1.6%	2.1%	38.7%	100.0%
ENT	360	5.6%	7.8%	12.5%	15.6%	18.3%	3.1%	8.1%	0.8%	2.5%	25.8%	100.0%
Vascular Services	291	14.4%	15.8%	8.3%	9.3%	7.6%	14.4%	5.2%	2.4%	4.8%	17.9%	100.0%
Gynecology	259	15.4%	7.0%	3.9%	13.1%	5.4%	15.1%	17.8%	0.8%	4.3%	17.4%	100.0%
Neurology	228	9.7%	15.4%	5.7%	11.4%	20.6%	1.8%	7.5%	5.3%	0.9%	21.9%	100.0%
Neurosurgery	39	5.1%	0.0%	0.0%	20.5%	20.5%	12.8%	5.1%	15.4%	0.0%	20.5%	100.0%
Ophthalmology	33	6.1%	9.1%	9.1%	21.2%	9.1%	6.1%	15.2%	0.0%	0.0%	24.2%	100.0%
Rehabilitation	18	0.0%	0.0%	0.0%	27.8%	0.0%	0.0%	0.0%	0.0%	0.0%	72.2%	100.0%
Other	2,671	8.6%	12.7%	11.5%	14.5%	8.8%	2.9%	3.2%	6.1%	0.9%	30.8%	100.0%
Total Percentage	**100%**	**13.6%**	**12.7%**	**12.2%**	**10.3%**	**9.5%**	**8.1%**	**7.9%**	**3.5%**	**2.5%**	**19.6%**	**100%**
Total Discharges	**33,159**	**4,520**	**4,208**	**4,045**	**3,422**	**3,165**	**2,688**	**2,606**	**1,168**	**826**	**6,511**	**33,159**

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- The Hospital is the service line leader in two out of 17 services lines: cardiac services (23%) and vascular services (16%);
- The Hospital also has a notable market share in general medicine (19%), and neurology (15%);
- Mills-Peninsula Medical Center holds 37% market share for behavioral health services and approximately 16% of market share for obstetrics services;
- Kaiser Foundation Hospital – South San Francisco is the market share leader for general medicine (20%), orthopedics (14%), and general surgery (16%); and
- UCSF Medical Center is the market share leader for oncology (24%), urology (13%), spine (15%), ENT (18%), neurology (21%) and neurosurgery (21%).

Market Share by ZIP Code

The following table shows service area inpatient market share by ZIP Code for CY 2018.

SERVICE AREA MARKET SHARE BY SERVICE LINE, CY 2018												
Pat ZIP	Discharges by ZIP	MILLS-PENINSULA MEDICAL CENTER	SETON MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - SOUTH SAN FRANCISCO	SAN FRANCISCO GENERAL HOSPITAL & TRAUMA CENTER	UCSF MEDICAL CENTER	KAISER FOUNDATION HOSPITAL - SAN FRANCISCO	CALIFORNIA PACIFIC MED CTR-PACIFIC CAMPUS	KAISER FOUNDATION HOSPITAL - REDWOOD CITY	CALIFORNIA PACIFIC MEDICAL CENTER - ST. LUKE'S CAMPUS	Other	Grand Total
94112	**6,426**	1.0%	4.1%	5.7%	25.6%	15.5%	11.9%	12.6%	0.9%	5.1%	17.5%	100.0%
94080	**4,872**	24.1%	13.0%	20.0%	2.1%	5.0%	6.4%	3.8%	5.5%	1.4%	18.9%	100.0%
94015	**4,818**	11.5%	29.1%	14.4%	2.1%	6.7%	7.3%	6.2%	3.0%	2.0%	17.7%	100.0%
94134	**3,574**	1.5%	3.2%	5.1%	30.5%	13.4%	10.5%	14.4%	0.7%	4.1%	16.7%	100.0%
94066	**3,313**	38.4%	6.6%	15.3%	1.5%	4.7%	4.7%	2.7%	5.3%	0.8%	20.0%	100.0%
94014	**3,260**	10.4%	24.5%	17.9%	3.1%	6.2%	8.7%	6.4%	2.6%	3.2%	16.9%	100.0%
94044	**2,863**	20.1%	17.4%	17.9%	2.0%	7.4%	6.0%	5.3%	5.1%	0.7%	18.1%	100.0%
94132	**1,947**	1.2%	5.2%	4.5%	13.6%	23.5%	11.7%	15.2%	1.0%	1.5%	22.7%	100.0%
94019	**1,140**	23.1%	5.9%	2.7%	0.3%	2.4%	0.5%	1.2%	14.8%	0.1%	49.0%	100.0%
94005	**333**	20.7%	7.2%	15.6%	2.1%	11.1%	7.8%	3.9%	5.7%	1.5%	24.3%	100.0%
94018	**215**	20.9%	8.8%	7.0%	0.0%	6.1%	2.3%	1.9%	13.0%	0.9%	39.1%	100.0%
94038	**213**	24.4%	18.8%	6.1%	0.5%	6.1%	1.4%	3.3%	5.6%	0.0%	33.8%	100.0%
94037	**155**	21.9%	11.6%	17.4%	1.3%	3.2%	3.9%	9.0%	6.5%	0.0%	25.2%	100.0%
94017	**30**	3.3%	20.0%	6.7%	0.0%	13.3%	6.7%	3.3%	16.7%	3.3%	26.7%	100.0%
Total Percentage		**13.6%**	**12.7%**	**12.2%**	**10.3%**	**9.5%**	**8.1%**	**7.9%**	**3.5%**	**2.5%**	**19.6%**	**100%**
Total Discharges	**33,159**	**4,520**	**4,208**	**4,045**	**3,422**	**3,165**	**2,688**	**2,606**	**1,168**	**826**	**6,511**	

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

- The Hospital is the market share leader in three of the ZIP Codes within its service area;
- Mills-Peninsula Medical Center is the market share leader in eight service area ZIP Codes;
- San Francisco General Hospital & Trauma Center is the market share leader in two service area ZIP Codes.

Hospital Analysis by Bed Type

The tables on the following pages illustrate existing hospital bed capacity, occupancy, and bed availability for medical/surgical, critical care, psychiatric acute, sub-acute and skilled nursing using FY 2018 and FY 2019 data.

Medical/Surgical Capacity Analysis

There are 306 licensed medical/surgical beds within Seton Medical Center's service area that have an overall occupancy rate of approximately 30%.

MEDICAL/SURGICAL BEDS, FY 2019							
Hospital	Miles from Hospital	With Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
Seton Medical Center	**-**	**X**	**201**	**3,809**	**16,495**	**45.2**	**22.5%**
Kaiser - South San Francisco*	2.7	X	105	5,234	17,450	47.8	45.5%
SUB-TOTAL			**306**	**9,043**	**33,945**	**93.0**	**30.4%**
California Pacific Medical Center - St. Luke's*	6.2		51	645	4,186	11.5	22.5%
UCSF Medical Center	6.4		450	24,794	141,792	388.5	86.3%
San Francisco General Hospital	7.8		184	12,682	66,693	182.7	99.3%
St. Mary's Medical Center - San Francisco	7.8		167	4,012	17,459	47.8	28.6%
Mills-Peninsula Medical Center*	10.7		144	6,681	26,782	73.4	51.0%
California Pacific Medical Center - Pacific	11.3		357	1,834	12,042	33.0	9.2%
Saint Francis Memorial Hospital	11.5		205	3,288	11,917	32.6	15.9%
Chinese Hospital*	11.6		55	1,043	4,854	13.3	24.2%
Kaiser - San Francisco*	11.6		150	7,428	33,709	92.4	61.6%
San Mateo Medical Center	17.9		62	2,101	12,956	35.5	57.3%
Stanford Medical Center	27.9		491	25,598	127,493	349.3	71.1%
Lucile Salter Packard Children's Hospital	28.2		-	-	-	-	-
Kaiser- Santa Clara*	41.7		185	11,089	46,851	128.4	69.4%
TOTAL			**2,807**	**110,238**	**540,679**	**1,481.3**	**52.8%**

Source: OSHPD Disclosure Reports

* FY 2018 data used, FY 2019 data unavaliable

- Seton Medical Center reported 3,809 inpatient hospital discharges and 16,495 patient days resulting in an occupancy rate of 23% and an average daily census of 45.2 patients for FY 2019;

- Seton Medical Center's 201 licensed medical/surgical beds represented approximately 66% of the beds in this category for the service area;

- UCSF Medical Center, located six miles from Seton Medical Center, and San Francisco General Hospital, located eight miles from the Hospital, both reported high occupancy rates of 86% and 99%, respectively; and

- Despite the low occupancy rate, Seton Medical Center is an important provider of inpatient medical/surgical beds as the only non-Kaiser provider in the service area.

Intensive Care Capacity Analysis

There are 43 intensive care and coronary care beds within the service area, with an overall occupancy rate of nearly 33%. Seton Medical Center has 28 licensed intensive care/coronary care beds with a combined 28% average occupancy rate in FY 2019 (average daily census of approximately 7.9 patients).

INTENSIVE CARE/CORONARY CARE BEDS, FY 2019							
Hospital	Miles from Hospital	Within Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
Seton Medical Center	**-**	**X**	**28**	**668**	**2,895**	**7.9**	**28.3%**
Kaiser - South San Francisco*	2.7	X	15	198	2,205	6.0	40.3%
SUB-TOTAL			**43**	**866**	**5,100**	**14.0**	**32.5%**
California Pacific Medical Center - St. Luke's*	6.2		22	926	4,214	11.5	52.5%
UCSF Medical Center	6.4		92	396	21,314	58.4	63.5%
San Francisco General Hospital	7.8		58	824	10,655	29.2	50.3%
St. Mary's Medical Center - San Francisco	7.8		37	171	2,125	5.8	15.7%
Mills-Peninsula Medical Center*	10.7		54	2,223	14,193	38.9	72.0%
California Pacific Medical Center - Pacific	11.3		50	439	2,075	5.7	11.4%
Saint Francis Memorial Hospital	11.5		18	155	1,848	5.1	28.1%
Chinese Hospital*	11.6		6	145	503	1.4	23.0%
Kaiser - San Francisco*	11.6		32	509	6,790	18.6	58.1%
San Mateo Medical Center	17.9		7	120	1,325	3.6	51.9%
Stanford Medical Center	27.9		75	773	19,879	54.5	72.6%
Lucile Salter Packard Children's Hospital	28.2		-	-	-	-	-
Kaiser- Santa Clara*	41.7		30	402	6,701	18.4	61.2%
TOTAL			**524**	**7,949**	**96,722**	**265.0**	**50.6%**

Source: OSHPD Disclosure Reports

* FY 2018 data used, FY 2019 data unavaliable

- The average daily census for hospitals within the service area was 14 patients based on 5,100 patient days;
- The closest non-Kaiser facility, California Pacific Medical Center – St. Luke's, is located six miles away and has an occupancy rate of approximately 53%;
- Seton Medical Center provided 65% of the service area's intensive care/coronary care beds in FY 2018; and
- Overall, the area hospitals reported an occupancy rate of 51% on 524 intensive care/coronary care beds.

Psychiatric Care Capacity Analysis

Seton Medical Center is licensed for 24 psychiatric care beds and is the sole provider of acute psychiatric care services in the service area. Of the beds, 20 of the 24 beds are used for its geriatric patients. These services were in suspense for many years and reopened in FY 2018 with an inpatient geriatric program.

GENERAL ACUTE CARE HOSTPITALS WITH ACUTE PSYCHIATRIC CARE BEDS, FY 2019							
Hospital	Miles from Hospital	Wihtin Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
Seton Medical Center	**-**	**X**	**24**	**359**	**6,337**	**17.4**	**72.3%**
Kaiser - South San Francisco*	2.7	X	-	-	-	-	-
SUB-TOTAL			**24**	**359**	**6,337**	**17.4**	**72.3%**
California Pacific Medical Center - St. Luke's*	6.2		-	-	-	-	-
UCSF Medical Center	6.4		-	-	-	-	-
San Francisco General Hospital	7.8		83	1,252	4,166	11.4	13.8%
St. Mary's Medical Center - San Francisco	7.8		-	-	-	-	-
Mills-Peninsula Medical Center*	10.7		50	1,466	8,738	23.9	47.9%
California Pacific Medical Center - Pacific	11.3		16	88	859	2.4	14.7%
Saint Francis Memorial Hospital	11.5		35	1,016	8,045	22.0	63.0%
Chinese Hospital*	11.6		-	-	-	-	-
Kaiser - San Francisco*	11.6		-	-	-	-	-
San Mateo Medical Center	17.9		34	309	10,572	29.0	85.2%
Stanford Medical Center	27.9		30	816	8,575	23.5	78.3%
Lucile Salter Packard Children's Hospital	28.2		-	-	-	-	-
Kaiser- Santa Clara*	41.7		-	-	-	-	-
TOTAL			**242**	**4,490**	**38,717**	**106.1**	**43.8%**

Source: OSHPD Disclosure Reports
* FY 2018 data used, FY 2019 data unavaliable

- Seton Medical Center's inpatient unit provided 359 discharges and 6,337 patient days. This is an average occupancy rate of 72% and an average daily census of 17.4 patients; and

- The closest alternatives for geropsychiatric units in the San Francisco bay area are at the San Francisco Campus for Jewish Living, about 6 miles away, that operates a 12-bed licensed acute geriatric psychiatry program, or Fremont Hospital (a psychiatric hospital) located 41 miles from the Hospital which operates 20 geriatric psychiatry beds with an overall average daily census of about 15 patients.

Subacute Care Capacity Analysis

Seton Medical Center operates 44 of its 83 total distinct part skilled nursing beds for sub-acute services. These beds provide care for patients who require special services such as inhalation therapy, tracheotomy care, intravenous tube feeding, and complex wound management. Seton Medical Center is the only provider of sub-acute care services in the service area and had an occupancy rate of over 67%.

SUB-ACUTE CARE BEDS, FY 2019							
Hospital	Miles from Hospital	Wihtin Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
Seton Medical Center	**-**	**X**	**44**	**32**	**10,856**	**29.7**	**67.6%**
Kaiser - South San Francisco*	2.7	X	-	-	-	-	-
SUB-TOTAL			**44**	**32**	**10,856**	**29.7**	**67.6%**
California Pacific Medical Center - St. Luke's*	6.2		40	20	3,513	9.6	24.1%
UCSF Medical Center	6.4		-	-	-	-	-
San Francisco General Hospital	7.8		-	-	-	-	-
St. Mary's Medical Center - San Francisco	7.8		-	-	-	-	-
Mills-Peninsula Medical Center*	10.7		-	-	-	-	-
California Pacific Medical Center - Pacific	11.3		2	1	649	1.8	88.9%
Saint Francis Memorial Hospital	11.5		-	-	-	-	-
Chinese Hospital*	11.6		-	-	-	-	-
Kaiser - San Francisco*	11.6		-	-	-	-	-
San Mateo Medical Center	17.9		-	-	-	-	-
Stanford Medical Center	27.9		-	-	-	-	-
Lucile Salter Packard Children's Hospital	28.2		-	-	-	-	-
Kaiser- Santa Clara*	41.7		-	-	-	-	-
TOTAL			**86**	**53**	**15,018**	**41.1**	**47.8%**

Source: OSHPD Disclosure Reports

* FY 2018 data used, FY 2019 data unavaliable

- In FY 2019, Seton Medical Center had 10,856 patient days and 32 discharges for an average daily census of 29.7 and an occupancy rate of 68%; and

- California Pacific Medical Center, located six miles from Seton Medical Center, is the only other general acute care hospital provider of inpatient sub-acute services in the San Francisco Bay area.

Skilled Nursing Capacity Analysis

Seton Medical Center operates 39 licensed skilled nursing beds (the remaining of the total 83 licensed skilled nursing beds) and Seton Coastside operates 116 skilled nursing beds. These beds provide care for patients who require less intensive care than subacute care patients.

SKILLED NURSING CARE BEDS, FY 2019							
Hospital	Miles from Hospital	Wihtin Service Area	Licensed Beds	Discharges	Patient Days	Average Daily Census	Percent Occupied
Seton Medical Center[1]	**-**	**X**	**39**	**355**	**7,371**	**20.2**	**51.8%**
Kaiser - South San Francisco*	2.7	X	-	-	-	-	-
Seton Coastside[2]	13.5	X	116	78	41,758	114.4	98.6%
SUB-TOTAL			**155**	**433**	**49,129**	**134.6**	**86.8%**
California Pacific Medical Center - St. Luke's*	6.2		-	-	-	-	-
UCSF Medical Center	6.4		-	-	-	-	-
San Francisco General Hospital	7.8		30	309	10,427	28.6	95.2%
St. Mary's Medical Center - San Francisco	7.8		-	-	-	-	-
Mills-Peninsula Medical Center*	10.7		-	-	-	-	-
California Pacific Medical Center - Pacific*	11.3		38	48	1,053	2.9	7.6%
Saint Francis Memorial Hospital	11.5		-	-	-	-	-
Chinese Hospital*	11.6		-	-	-	-	-
Kaiser - San Francisco*	11.6		-	-	-	-	-
San Mateo Medical Center[1]	17.9		345	530	102,596	281.1	81.5%
Stanford Medical Center	27.9		-	-	-	-	-
Lucile Salter Packard Children's Hospital	28.2		-	-	-	-	-
Kaiser- Santa Clara*	41.7		-	-	-	-	-
TOTAL			**568**	**1,320**	**163,205**	**447.1**	**78.7%**

Source: OSHPD Disclosure Reports and Verity Health
* FY 2018 data used, FY 2019 data unavaliable

- In FY 2019, the Hospital reported 7,371 patient days and 355 discharges resulting in average daily census of 20 patients and an occupancy rate of 52%; and
- Seton Coastside reported 41,758 patient days and 78 discharges resulting in an occupancy rate of nearly 100%.

Emergency Services Analysis

Seton Medical Center has 19 emergency treatment stations and Seton Coastside has seven emergency treatment stations. Kaiser Foundation Hospital – South San Francisco has 19 emergency stations, bringing the total number of service area treatment stations to 45. As shown below, Seton Medical Center and Seton Coastside reported 23,687 and 2,222 emergency department visits, respectively.

The table below shows the visits by category for area emergency departments:

EMERGENCY DEPARTMENT VISITS BY CATEGORY CY 2019												
Hospital	Miles from Hospital	Within Service Area	ER Level	Stations	Total Visits	Minor	Low/ Moderate	Moderate	Severe w/o Threat	Severe w/ Threat	Percentage Admitted	Hours of Diversion
Seton Medical Center	-	X	Basic	19	23,687	145	1,435	7,695	7,178	7,234	19.1%	11
Kaiser - South San Francisco	2.7	X	Basic	19	44,743	2,599	7,937	9,682	21,068	3,457	9.4%	1,463
Seton Medical Center - Coastside	13.3	X	Standby	7	2,222	42	466	1,390	255	69	-	0
SUB-TOTAL				**45**	**70,652**	**2,786**	**9,838**	**18,767**	**28,501**	**10,760**	**12.3%**	**1,474**
California Pacific Medical Center - St. Luke's	6.2		Basic	12	23,811	181	1,505	7,528	8,429	6,168	12.9%	820
UCSF Medical Center	6.4		Basic	33	42,659	73	1,018	9,379	9,007	23,182	23.6%	1,278
San Francisco General Hospital	7.8		Comprehensive	59	75,298	1853	18,853	34,788	15,400	4,404	16.6%	4,338
St. Mary's Medical Center - San Francisco	7.8		Basic	17	16,860	340	1,714	4,859	5,583	4,364	15.6%	225
Mills-Peninsula Medical Center	10.7		Basic	23	49,212	357	6,479	15,721	14,100	12,555	15.1%	0
California Pacific Medical Center - Pacific*	11.3		Basic	19	25,301	97	1,010	5,049	7,610	11,535	28.5%	1,228
Saint Francis Memorial Hospital	11.5		Basic	20	31,142	725	2,969	11,258	11,476	4,714	9.8%	170
Chinese Hospital	11.6		Standby	7	6,721	7	383	1,660	1,967	2,704	18.4%	0
Kaiser - San Francisco	11.6		Basic	24	41,071	735	6,401	13,624	15,611	4,700	11.8%	157
San Mateo Medical Center	17.9		Basic	15	38,471	5,239	10,480	9,708	10,222	2,822	5.8%	0
Stanford Medical Center	27.9		Basic	46	65,868	63	5,639	19,797	27,576	12,793	14.7%	10
Lucile Salter Packard Children's Hospital*	28.2		-	-	-	-	-	-	-	-	-	-
Kaiser- Santa Clara*	41.7		Basic	32	80,840	2936	12,822	15,966	41,847	7,269	10.4%	104
TOTAL				**274**	**421,198**	**12,393**	**60,650**	**132,341**	**127,906**	**87,908**	**2.3%**	**9,804**

Source: OSHPD Annual Utilization Reports
*2018 Data

- Approximately 19% of Seton Medical Center's emergency department visits resulted in admission. This is higher than the area hospital average of 12% admitted;

- Seton Medical Center and Seton Coastside are the only "non-Kaiser" providers of emergency services in the service area; and

- As the only 24-hour standby emergency department along the 55-mile stretch between Santa Cruz and Daly City, Seton Coastside is an important provider of emergency services to residents of Moss Beach and its surrounding communities. In CY 2019, Seton Coastside did not admit any inpatients to the hospital's 5-general acute care unit as patients requiring hospitalization are transferred via air or ground to area hospitals as necessary.

Emergency Services Capacity

Industry sources, including the American College of Emergency Physicians, have used a benchmark of 2,000 visits per emergency station/bed to estimate the capacity of an emergency department. Based upon this benchmark, in 2019, the Hospital's emergency department was operating at 62% of its 19-bed capacity. Emergency department occupancy at Kaiser Foundation Hospital – South San Francisco is higher, operating over capacity (117%). Seton Coastside, despite operating at a low volume of 16% capacity, it is an important provider of emergency services as the only provider of these types of services for residents of Moss Beach and surrounding communities.

EMERGENCY DEPARTMENT CAPACITY CY 2019						
Hospital	Miles from Hospital	ER Level	Stations	Total Visits	Capacity	Remaining Capacity
Seton Medical Center	**-**	**Basic**	**19**	**23,687**	**38,000**	**14,313**
Kaiser - South San Francisco	2.7	Basic	19	44,743	38,000	(6,743)
Seton Medical Center - Coastside	**13.3**	**Standby**	**7**	**2,222**	**14,000**	**11,778**
SUB-TOTAL			**45**	**70,652**	**90,000**	**19,348**
California Pacific Medical Center - St. Luke's	6.2	Basic	12	23,811	24,000	189
UCSF Medical Center	6.4	Basic	33	42,659	66,000	23,341
San Francisco General Hospital	7.8	Comprehensive	59	75,298	118,000	42,702
St. Mary's Medical Center - San Francisco	7.8	Basic	17	16,860	34,000	17,140
Mills-Peninsula Medical Center	10.7	Basic	23	49,212	46,000	(3,212)
California Pacific Medical Center - Pacific*	11.3	Basic	19	25,301	38,000	12,699
Saint Francis Memorial Hospital	11.5	Basic	20	31,142	40,000	8,858
Chinese Hospital	11.6	Standby	7	6,721	14,000	7,279
Kaiser - San Francisco	11.6	Basic	24	41,071	48,000	6,929
San Mateo Medical Center	17.9	Basic	15	38,471	30,000	(8,471)
Stanford Medical Center	27.9	Basic	46	65,868	92,000	26,132
Lucile Salter Packard Children's Hospital	28.2	-	-	-	-	-
Kaiser- Santa Clara*	41.7	Basic	32	80,840	64,000	(16,840)
TOTAL			**274**	**421,198**	**548,000**	**126,802**

Source: OSHPD Annual Utilization Reports

*2018 Data

- Service area hospital emergency departments are operating at approximately 79% of capacity; and

- Overall, the hospitals' emergency departments are at approximately 77% of their capacity.

Summary of Interviews

In April and May of 2020, both video and telephone interviews were conducted with representatives of the Hospital, Verity, and AHMC, as well as physicians, San Mateo County representatives, the Hospital's employees, union representatives, and other community representatives. The purpose of the interviews was to gather information from area healthcare professionals and community members regarding potential impacts on healthcare availability and accessibility as a result of the proposed transaction. The list of individuals who were interviewed is located in the Appendix of this report. The major findings of these interviews are summarized below.

Reasons for the Proposed Transaction

Members of Verity Health and the Hospital's management team, medical staff, and Board cited a number of reasons why a transaction was necessary, including the following:

- Verity Health does not have the financial resources required to repay outstanding debt. Additionally, Verity Health is unable to provide financial support for the underfunded pension plans, seismic related requirements, plant and equipment maintenance, and operational deficits. As such, Verity Health filed for relief under Chapter 11 of Title 11 of the United States Code. As a result of a facilitated process to find a buyer, through a sale of the assets approved by the United States Bankruptcy Court for the Central District of California, SGM was initially selected as the successful bidder. However, after the sale was approved by the California Attorney General and the bankruptcy court, SGM failed to complete the sale. Subsequently, Verity Health initiated another process to find interested and qualified buyers and AHMC's bid was selected for the Hospital. All interviewees believe that the transaction with AHMC is necessary to continue the operate the Hospital and preserve its services;

- Without the transaction, Verity Health would not be able to meet its financial obligations and continue the operation of the Hospital. It would be likely that the Hospital would close and be converted to other uses. Without the transaction, the affected communities' access to services could be severely impacted and closure of the Hospital and its healthcare services would cause operational challenges for other area hospitals to meet the increased demand for inpatient services;

- Given the Hospital's important role in providing healthcare for the poor, without the transaction, the community could be at risk of losing key services that are essential for the uninsured and under-insured patient population;

- Almost all of those interviewed believed that the transaction is necessary to keep the Hospital from closing;

Importance of the Hospital to the Community

According to all those who were interviewed, the Hospital is an important safety-net provider to the local community and known for providing essential services to the uninsured, under-insured, and under-served populations of San Mateo County. The Hospital is also an important provider of services for Daly City's senior and large Filipino American population that has high rates of kidney disease, hypertension, diabetes, and stroke. The Hospital is also important for access due to difficulties for local community members to use alternative healthcare services because of distances and traffic congestion in San Francisco and the Bay area. Some of the programs and services at the Hospital that were mentioned in the interviews as especially important include the following:

- Emergency services;
- Sub-acute care services;
- General surgical services;
- Gastroenterology services;
- Geriatric psychiatry services;
- Cancer services, including interventional radiology, infusion and chemotherapy services;
- Nephrology services, including inpatient dialysis services;
- Stroke services, including certification as a Primary Stroke Center;
- Cardiac services, including cardiac catheterization services and designation as a STEMI Receiving Center;
- While some felt that the surgical volumes for a comprehensive cardiac program were too low to be sustained, others stated that the cardiac surgery program should be a required program because of the STEMI Receiving Center designation and the large number of cardiac catheterization procedures, further citing that many of the patients have comorbidities that further complicate cardiac procedures; and
- Many interviewed stated that the Hospital's STEMI Receiving Center is one of the busiest in San Mateo County and is especially important because Kaiser Foundation Hospital – South San Francisco does not have STEMI Receiving Center designation.

Some of those interviewed also mentioned the following services as important services provided by the Seton Medical Center:

- Wound care services, including the Seton Center for Advanced Wound Care; and

- Orthopedic services, including joint replacement and spine care services.

According to all who were interviewed, Seton Coastside is an important provider to the local community and is known for providing skilled nursing and emergency services to the uninsured and under-served populations in San Mateo County. Some of the programs and services at Seton Coastside that were mentioned in the interviews as especially important include the following:

- Emergency services;

- Skilled nursing services; and

- Physical therapy and speech therapy services.

If the Seton Medical Center and Seton Coastside do not maintain their current level of healthcare services, accessibility and availability issues could be created for residents of the local community, especially for Medi-Cal patients.

Selection of AHMC for the Proposed Transaction

Representatives of Verity Health explained that a number of factors were involved in finalizing the selection of AHMC including the following:

- AHMC provided a bid of $40 million and a commitment to continue the operation of the hospital and accept the conditions required by the California Attorney General from the prior transaction between Verity Health, the Hospital, and SGM that was approved on September 25, 2019;

- AHMC is a physician owned organization and has positive relationships with IPAs, medical groups and independent physicians;

- Enhanced financial support and access to capital;

- Plans to expand some services;

- A very favorable report from a group of physicians on the medical staff that toured AHMC hospitals in Southern California and garnered the overall support of the Hospital's medical staff;
- Experience with safety net hospitals and distressed hospital turnarounds; and

- Experience operating community hospitals efficiently and profitably.

Almost all of those interviewed from Verity Health, the Hospital's management, medical staff, and Board, and the community were supportive of the proposed transaction and the selection of AHMC and expressed a strong desire for the transaction to be finalized. Additionally, most people also conveyed an overall understanding and knowledge of the pressing financial issues and the necessity for a transaction to occur in order to ensure continued operation of the Hospital.

The majority of those interviewed expressed support for the transaction with AHMC. Most of the Hospital employees interviewed, some of whom were also members of unions, understood the reasons for the transaction, expressed optimism towards AHMC as a buyer as long as employees are treated well, union contracts are fairly negotiated and honored, and the surrounding communities continue to be served by the Hospital.

Views of the Health Plan of San Mateo and San Mateo County Health

San Mateo Health Plan and San Mateo County Health representatives emphasized their strong relationship to the Hospital and Seton Coastside, as providers of services to many low-income patients and Medi-Cal beneficiaries. Despite some unfamiliarity with AHMC, they believed they would be able to establish reasonable contractual relationships for services in future.

The San Mateo County representatives stressed the importance of the Hospital's outpatient primary and specialty services and the Hospital's emergency department in providing access for members of the population who have high rates of chronic disease. Also mentioned as especially important were Seton Medical Center's subacute beds and Seton Coastside's skilled nursing services due to a shortage of such services in San Mateo County.

The representatives of San Mateo Health Plan and San Mateo County Health are supportive of AHMC's purchase of the Hospital.

Impact on the Availability and Accessibility of Healthcare Services

While many interviewed were not familiar with AHMC, most were cautiously optimistic that AHMC's ownership would ensure the future financial sustainability and operation of the Hospital. Many individuals interviewed mentioned their belief that AHMC's operational experience and ownership of other hospitals in Southern California would be valuable for a turnaround of the Hospital. Almost all interviewed believe that the commitments AHMC made would ensure the continued operation of the hospital and likely improve the accessibility and availability of healthcare services.

Alternatives

All of those interviewed believed that a transaction was necessary soon in order to avoid the closure of the Hospital.

A minority of those interviewed believed that if the Hospital closed, the other area acute-care hospitals could absorb much of the Hospital's general acute care inpatient volume without serious negative impacts to patient access. However, it was felt that if the Hospital closed, there would be a serious access issues for emergency, sub-acute care and geropsychiatric services in the area. In addition, it was felt that closure of Seton Coastside would have a severe negative impact on access to skilled nursing and primary care services for the local community.

Assessment of Potential Issues Associated with the Availability or Accessibility of Healthcare Services

Importance of Seton Medical Center and Seton Coastside to the Surrounding Communities

As the only hospital other than Kaiser Permanente, providing inpatient general acute, sub-acute, psychiatric and skilled nursing, and emergency services in the service area, Seton Medical Center is a very important provider of inpatient and outpatient services to Medi-Cal and Medicare beneficiaries in San Mateo County. Seton Medical Center's STEMI and stroke receiving capabilities, cardiac services, vascular services, and nephrology services are viewed as very important for the community. The stroke care services were cited as especially important to the disproportionately high Filipino population that have high rates of diabetes, kidney disease, and stroke.

Seton Coastside is a very important provider of both long-term and skilled nursing services. Seton Coastside also operates the only "standby" emergency department along the 55-mile stretch between Santa Cruz and Daly City.

Continuation as a General Acute Care Hospital

AHMC has agreed to complete the transaction agreement so long as any conditions imposed by the California Attorney General are substantially consistent with the conditions set forth in Asset Purchase Agreement. Acceptance of these conditions includes operation of the Hospital as a general acute care hospital until December 13, 2025.

Emergency Services

In FY 2019, Seton Medical Center and Seton Coastside reported approximately 26,000 visits to its combined 26 emergency treatment stations, operating at about 50% capacity (based on a standard of 2,000 visits per station, per year). As Seton Coastside is the only provider of 24-hour "standby" emergency services along the 55-mile stretch between Santa Cruz and Daly City, continuing the operation of Seton Coastside's emergency department open is important for the availability and accessibility of emergency services to residents within the area. Seton Coastside does not usually receive critically ill patients and will transfer them to a general acute care hospital. Seton Medical Center is are an important ambulance receiving facility that also gets a high volume of emergency transports from the San Francisco area when hospitals in San Francisco go on diversion[27]. Kaiser Foundation Hospital – South San Francisco, located three miles away from Seton Medical Center also operates at high capacity of over 100%.

[27] A hospital goes on diversion when there are not enough beds or staff available in the emergency room or the hospital itself to adequately care for patients. When a hospital goes on diversion, it notifies area Emergency Medical Services units so that they can consider transporting patients to other hospitals that are not on diversion.

As a result of the ACA and California's participation in Medicaid expansion, more individuals are now eligible for healthcare coverage. Because of this and the continuing shortage of primary care physicians, emergency department utilization may be expected to increase within the service area. Keeping the Hospital's emergency departments open is critical to providing emergency services within the Hospital's service area.

Medical/Surgical Services

Despite a low occupancy rate of approximately 22% on 201 licensed medical/surgical beds, and being the only "non-Kaiser" facility in the service area, Seton Medical Center is an important provider of these services for the local community.

Intensive Care/Coronary Care Services

Seton Medical Center operated 28 intensive care/coronary beds in FY 2019. These services are an important resource for supporting the emergency department and other surgical and medical services. Kaiser – South San Francisco is the only other service area hospital, located nearly approximately three miles away that has intensive care and coronary care beds and an occupancy rate of approximately 40%.

Subacute Care Services

Seton Medical Center operates 44 licensed subacute care beds for medically fragile patients who require special services such as inhalation therapy, tracheotomy care, intravenous tube feeding, and complex wound management. In the service area, Seton Medical Center is the only provider of ventilated dialysis services in San Mateo County and has an occupancy rate of approximately 68%.

Skilled Nursing Care Services

Seton Medical Center operates 39 distinct part licensed skilled nursing care beds for patients who require less intensive care than subacute care patients in the South San Francisco area. Seton Coastside is licensed for 116 skilled nursing beds and is an important provider of these services for its mostly Medi-Cal patient population. Seton Coastside is the only provider of skilled nursing services in the greater Half Moon Bay area. Both Seton Medical Center and Seton Coastside are important providers of these services for their local community, since they are the only non-Kaiser facility that provide these services.

Psychiatric Care Beds

In FY 2018, when Seton Medical Center reopened its 24 psychiatric unit for geriatric patients, In FY 2019, Hospital's psychiatric unit has operated at approximately 72% capacity. Seton Medical Center is the sole provider of geriatric psychiatric services in the service area and therefore an important provider of these services for the local community and greater San Francisco Bay area.

Oncology/Cancer Services

Seton Medical Center serves over 120 inpatient oncology patients and over 2,000 outpatient oncology patients annually. Outpatient visits include approximately 5,000 radiation oncology visits and 3,000 – 4,000 medical oncology visits; making it an important provider of oncology services to community residents. Medical oncology services were temporarily halted in mid FY 2020 because of the departure of nursing staff due to the pending transaction with SGM. AHMC said that it would maintain or expand cancer care services for at least five years from the Closing Date of the Asset Purchase Agreement.

SETON MEDICAL CENTER CANCER SERVICES VOLUME			
	FY 2017	FY 2018	FY 2019
Radiation Oncology Patients	1,796	1,360	1,246
Radiation Oncology Patients Visits	7,185	5,443	4,986

Source: Verity Health

Reproductive Health Services

Although Seton Medical Center and Seton Coastside do not provide obstetric services. The table below shows that Seton Medical Center and Seton Coastside rarely performs reproductive related services.

SETON MEDICAL CENTER CY 2018 REPRODUCTIVE SERVICE BY DIAGNOSTIC RELATED GROUP		
MS DRG	MS-DRG Title	CY 2018
776	POSTPARTUM & POST ABORTION DIAGNOSES W/O O.R. PROCEDURE	2
778	THREATENED ABORTION	1
767	VAGINAL DELIVERY W STERILIZATION AND/OR D&C	0
770	ABORTION W D&C, ASPIRATION CURETTAGE OR HYSTEROTOMY	0
777	ECTOPIC PREGNANCY	0
779	ABORTION W/O D&C	0
769	POSTPARTUM & POST ABORTION DIAGNOSES W O.R. PROCEDURE	0
768	VAGINAL DELIVERY W O.R. PROC EXCEPT STERIL &/OR D&C	0
Total Discharges		**3**

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns
D&C is an abbreviation for Dilation and Currettage

Effects on Services to Medi-Cal & Other Classes of Patients

Approximately 64% of the Hospital's inpatients are reimbursed through Medicare (48%) and Medi-Cal (16%). San Mateo County has a County Organized Health Systems (COHS) that offers one managed care plan. In the County Organized Health Systems model, the Department of Health Care Services contracts with a health plan created by the County Board of Supervisors. The percentage of San Mateo County residents with Medi-Cal Managed Care coverage has increased significantly as a result of the ACA and California initiatives to expand managed care. In San Mateo County, the County Organized Health Systems is provided by Health Plan of San Mateo. AHMC has committed to maintaining the Hospital's Medicare and Medi-Cal managed care contracts through December 13, 2025. If the Hospital did not participate in the Medicare and Medi-Cal programs, eligible patients could be denied access to certain non-emergency healthcare services, thus creating a negative impact on the availability or accessibility for these patient populations.

Effects on the Level & Type of Charity Care Historically Provided

Many uninsured and under-insured individuals in the community rely on the Hospital for healthcare services. Between FY 2015 and FY 2019, the Hospital provided an average of approximately $841,500 in charity care costs per year over the five-year period. Although Medicaid expansion and the ACA increased access to healthcare insurance coverage, the amount of charity care costs at the Hospital have risen in recent years. In the Asset Purchase Agreement, AHMC has agreed to provide an annual amount of charity care of equal to or greater than $1,055,863 adjusting for inflation and utilizing AHMC's charity care policy.

Effects on Community Benefit Programs

The Hospital has historically provided a significant amount of community benefit services, averaging $704,900 per year over the last five years (on a cost basis). Furthermore, in its Application to the California Attorney General, AHMC committed to providing an annual amount of community benefit services equal to or greater than $685,870, adjusting for inflation, and committed to providing continued support for a number of community benefit programs, including the Health Benefits Resource Center and RotaCare Clinic, for at least six fiscal years.

Effects on Staffing & Employee Rights

AHMC agrees to make offers of employment, effective as of the Effective Time, to substantially all persons who, immediately prior to the Effective Time are employees of the Hospital. All employees who are hired shall cease to be employees of the Hospital as of the Effective Time and become employees of AHMC. Before the Closing Date, AHMC will participate with Sellers in union negotiations aimed at modifying or assigning collective bargaining agreements. Some hospitals operated by AHMC have collective bargaining agreements with unions including SEIU-UHW, SEIU, CAN and UNAC.

Effects on Medical Staff

The Asset Purchase Agreement states AHMC has committed to retaining all current members of the Hospital's medical staff in good standing as of the Effective Date. As a result, no changes are expected.

Alternatives

If the proposed Asset Purchase Agreement is not approved, it is expected that Verity Health would evaluate alternative proposals for a transaction, however, no other offers were reviewed by the Bankruptcy Court to purchase and operate the Hospital. It is likely that absent this transaction, Seton Medical Center would be closed and sold for other purposes. In this circumstance, Seton Coastside may be sold and continue operations under other ownership, however, this is uncertain.

Conclusions

Based on AHMC's commitments outlined in the Asset Purchase Agreement regarding the Hospital, the proposed transaction is likely to continue the availability and accessibility of most healthcare services in the communities served until at least December 13, 2025. It is anticipated that access for Medi-Cal, Medicare, uninsured and other classes of patients for most services will remain unchanged.

Potential Conditions for Transaction Approval by the California Attorney General

If the California Attorney General approves the proposed transaction, JD Healthcare, Inc. recommends that the following conditions be required in order to minimize any potential negative healthcare impact that might result from the transaction:

1. For at least the remainder of the term (until at least December 13, 2025) stated in the approved Conditions[28], the Hospital shall continue to operate as a general acute care hospital;

2. For at least the remainder of the term (until at least December 13, 2025) stated in the approved Conditions, the Hospital shall maintain 24-hour emergency medical services with a minimum of 19 treatment stations with the same types and/or levels of services until the Conditions expires including the following:

    a. Designation as a STEMI Receiving Center; and
    b. Designation as a Primary Stroke Center.

3. For at least the remainder of the term (until at least December 13, 2025) stated in the approved Conditions, the Hospital shall maintain the following services at current licensure, types, and/or levels of services including the following:

    a. Cardiac services, including the three cardiac catheterization labs and the
    b. Critical care services, including a minimum of 20 intensive care/coronary care beds;
    c. Psychiatric services, including a minimum of 24 distinct part beds with at least 20 beds available for the geriatric psychiatric unit;
    d. Women's health services, including the Seton Breast Health Center and women's imaging and mammography services; and

[28] Conditions to Change in Control and Governance of Seton Medical Center and Seton Coastside and Approval of the System Restructuring and Support Agreement by and among Daughters of Charity Ministry Services Corporation, Daughters of Charity Health System, Certain Funds Managed by BlueMountain Capital Management, LLC, and Integrity Healthcare, LLC" dated December 3, 2015.

e. Sub-acute services, including a minimum of 44 sub-acute beds and Medi-Cal Certification as a sub-acute unit.

4. For at least five years from the Closing Date, the Hospital shall maintain the following services at current licensure, types, and/or levels of services including the following:

    a. Gastroenterology services, including enteroscopy, endoscopy, and colonoscopy services;
    b. Cancer services, including inpatient oncology services, interventional radiology, radiation therapy, and infusion services;
    c. Orthopedics and rehabilitation services, including joint replacement and spine care services;
    d. Diabetes services, including Northern California Diabetes Institute;
    e. Wound care services, including Seton Center for Advanced Wound Care; and
    f. Nephrology services.

5. For at least the remainder of the term (until December 13, 2025) stated in the approved Conditions, the Hospital shall maintain the following services at current licensure, types, and/or levels of services at Seton Coastside including the following:

    a. 24-hour “standby” Emergency Department, with a minimum of 7 treatment stations; and
    b. Skilled nursing services, including a minimum of 116 licensed skilled nursing beds.

6. For at least five years from the Closing Date of the Asset Purchase Agreement, the Hospital shall maintain the same types and/or levels of women’s healthcare services and mammography services, currently provided at the location below or an equivalent location:

    a. Women’s Health Services, located at 1850 Sullivan Avenue, Suite 190, Daly City California.

7. For at least five years from the Closing Date, the Hospital shall maintain the same types and/or levels of outpatient services and mammography services, currently provided at the location below or an equivalent location:

    a. Imaging Services located at 1850 Sullivan Avenue, Suite 100, Daly City California;
    b. Joint Replacement Program, located at 1850 Sullivan Avenue, Suite 150, Daly City California; and
    c. Wound Care Services, located at 1850 Sullivan Avenue, Suite 115, Daly City California.

8. For at least five years from the Closing Date, the Hospital shall maintain a charity care policy that is no less favorable than its current charity care policy and in compliance with California and Federal law and shall provide an annual amount of charity care equal to or greater than $841,475 (the "Minimum Charity Care Amount"). Alternatively, because of the impact of Medi-Cal expansion and the ACA, the California Attorney General could consider adjusting the required commitment to charity care based on available data from time periods after implementation of the ACA. An example would be to require a commitment based on a three-year rolling average of the most recent available data. For FY 2020, the Hospital's required Minimum Charity Care amount using the three-year rolling average from FY 2017 to FY 2019 would be $837,549. For purposes herein, the term "Charity Care" shall mean the amount of charity care costs (not charges) incurred by the Hospital in connection with the operations and provision of services at the Hospital. The definition and methodology for calculating "Charity Care" and the methodology for calculating "cost" shall be the same as that used by OSHPD for annual hospital reporting purposes. The Minimum Charity Care Amount will be increased on an annual basis by the rate of inflation as measured by the Consumer Price Index for San Francisco-Oakland-San Jose, California Average Base Period: 1982-84=100 (as published by the U.S. Bureau of Labor Statistics). The Attorney General may consider imposing other charity care protections such as improving the charity care policy and disclosure requirements as he did in the Dignity transaction issued on November 21, 2018[29];

9. For at least five years from the Closing Date, the Hospital shall continue to expend an average of no less than $704,864 annually in community benefit services (Minimum Community Benefits Amount). If the Hospital receives any grant funds for community benefit services, those grant funds may not be applied to the Minimum Community Benefits Amount. The Minimum Community Benefits Amount will be increased on an annual basis by the rate of inflation as measured by the Consumer Price Index for San Francisco-Oakland-San Jose, California Average Base Period: 1982-84=100 (as published by the U.S. Bureau of Labor Statistics). In addition, the following community benefit programs shall continue to be offered and/or supported for at least five years from the Closing Date:

    a. Health Benefits Resource Center; and
    b. RotaCare Clinic.

10. For at least the remainder of the term (until December 13, 2025) stated in the approved Conditions, the Hospital shall maintain its participation in the Medi-Cal managed care program, providing the same types and/or levels of emergency and non-emergency services to Medi-Cal beneficiaries, on the same terms and conditions as other similarly

[29] In the Asset Purchase Agreement, AHMC has agreed to provide an annual amount equal to or greater than $1,055,863 (the Minimum Charity Care Amount), adjusting for inflation at Seton Medical Center and Seton Coastside set forth in the Attorney General's Decision regarding: Verity Health System of California, Inc. Notice of Proposed Transfer St. Francis Medical Center , St. Vincent Medical Center, and Seton Medical Center, dated September 29, 2019.

situated hospitals offering substantially the same services, without any loss, interruption of service, or decrease of quality, or gap in contracted hospital coverage, including continuation of the Health Plan of San Mateo contract or its successor;

11. For at least the remainder of the term (until December 13, 2025) stated in the approved Conditions, the Hospital shall maintain its participation in the Medicare program, providing the same types and/or levels of emergency and non-emergency services to Medicare beneficiaries, on the same terms and conditions as other similarly situated hospitals, by maintaining a Medicare Provider Number until the term expires;

12. For at least five years from Closing Date, the Hospital shall maintain its current contracts, subject to the request of the County of San Mateo, for services, including the following:

    a. Participation in the Hospital Preparedness Program between the Hospital (jointly with Seton Coastside) and San Mateo County;
    b. STEMI Receiving Center Designation between the Hospital and San Mateo County;
    c. Financial Support for Seismic Upgrades between the Hospital and San Mateo County;
    d. Biosense Program Information Sharing and Data Use Agreement between the Hospital and the County of San Mateo Health System;
    e. Designation as a Primary Stroke Center between the Hospital and San Mateo County;
    f. Fee for Service Hospital Services Agreement between the Hospital (jointly with Seton Coastside) and San Francisco Health Plan;
    g. Medical Service Agreement: Access and Care for Everyone Program between the Hospital and San Mateo Community Health Authority;
    h. Hospital Medi-Cal Hospital Agreement between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo;
    i. Care Advantage Hospital Service Agreement between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo;
    j. Memorandum of Understanding between the Hospital and San Mateo County Behavioral Health and Recovery Services Division;
    k. Affiliation Agreement for the Radiology Technology Program between the Hospital and San Mateo College District;
    l. Affiliation Agreement for the Registered Nursing Program between the Hospital (jointly with Seton Coastside) and San Mateo College District; and
    m. Rail Shuttle Bus Service Administration for Seton Shuttle Agreement between the Hospital and San Mateo County Transit District.

13. The Hospital shall maintain written policies that prohibit discrimination against lesbian, gay, bisexual, or transgender individuals; and

14. AHMC and the Hospital shall commit the necessary investments required to maintain OSHPD seismic compliance requirements at the Hospital through 2030 under the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983, as amended by the California Hospital Facilities Seismic Safety Act, (Health & Safety. Code, § 129675-130070).

Appendix

List of Interviewees

Last Name	First Name	Position	Affiliation
Abedon, MD	Stephen	Radiologist	Seton Medical Center
Adcock	Rich	Chief Executive Officer	Verity Health
Ahn	Tina	Director, Business Development	Seton Medical Center & Seton Coastside
Altman	Maya	Chief Executive Officer	Health Plan of San Mateo
Armada	Tony	President and Chief Executive Officer	Seton Medical Center
Ashford	Troy	Administrative Director, Imaging and Diagnostics	Seton Medical Center
Birk	Jerry	Executive Director, Post-Acute Services	Seton Medical Center
Caligiere	Kerianne	Chief Nursing Officer	Seton Medical Center
Chauser, MD	Barry	Medical Director, Radiation Oncology	Seton Medical Center
Child, MD	Josiah	Medical Director, Emergency Services	Seton Medical Center
Doody	Deann	Union Steward	National Union of Healthcare Workers
Egan	Shannon	Union Representative	California Nurses Association
Hazlehurst, MD	Thomas	Medical Director, Skilled Nursing Services	Seton Medical Center
Krisharao	Priya	Medical Director Imaging	Seton Medical Center
LaPolla	Nancy	Director, Emergency Medical Services	San Mateo County Health
Licavoli	Cara	Stroke and STEMI Coordinator	Seton Medical Center
Millhouse, MD	Felix	Medical Director, Cardiac Services	Seton Medical Center
Morrow	Scott	Health Officer	San Mateo County
Nuris	Tom	Board Chair	Seton Medical Center & Seton Coastside
Perez, MD	Robert	Chief of Medical Staff	Seton Medical Center
Rivera	Fred	Steward	Engineers and Scientists of California Local 20
Rogers	Louise	Chief Executive Officer	San Mateo County Health
Schaaphok	Pete	Steward	International Union of Operating Engineers Local 39
Shapiro, MD	Robert	Obstetrician	Seton Medical Center
So	Ivy	Interim Director, Perioperative Services	Seton Medical Center
Stavosky, MD	James	Medical Director of Emergency Services	Seton Medical Center
Thomas	Michael	Registered Nurse & Director, Emergency and Specialty S	Seton Medical Center
Thomas	William	Executive Vice President & General Counsel	SGM
Thomas	Michael	Director of Emergency and Specialty Services	Seton Medical Center
Tran	Julie	Union Representative	California Nurses Association
Tuckman	Eric	Senior Advisor to Chairman	AHMC
Ward	Shane	Union Representative	California Nurses Association
Weber, MD	Robert	Radiation Oncologist	Seton Medical Center
Wu	Jonathan	President and Chairman	AHMC

Seton Medical Center and Seton Coastside License

License: 220000026
Effective: 01/01/2020
Expires: 12/31/2020
Licensed Capacity: 478

State of California
Department of Public Health

In accordance with applicable provisions of the Health and Safety Code of California and its rules and regulations, the Department of Public Health hereby issues

this **License** *to*

Seton Medical Center

to operate and maintain the following **General Acute Care Hospital**

Seton Medical Center

Seton Coastside

Seton Medical Center
1900 Sullivan Ave
Daly City, CA 94015-2200

Bed Classifications/Services

250 General Acute Care
18 Perinatal
14 Coronary Care
14 Intensive Care
3 Intensive Care Newborn Nursery
201 Unspecified General Acute Care
24 Acute Psychiatric (D/P)
83 Skilled Nursing (D/P)

Other Approved Services

Basic Emergency Medical
Cardiovascular Surgery
Mobile Unit - Other - CT/PET - Steriotactic Biopsy
Nuclear Medicine
Occupational Therapy
Outpatient Services - Ambulatory Surgery at Ambulatory Surgery Center, 1850 Sullivan Avenue, Suite 400, Daly City
Outpatient Services - Imaging Services at NSI Imaging Svcs & Block Suite, 1850 Sullivan Avenue, Suite 100, Daly City
Outpatient Services - Joint Replacement Program at Seton Orthopedic Institute Outpatient Center, 1850 Sullivan Avenue, Suite 150, Daly City
Outpatient Services - Women's Health Services at Breast Health Center, 1850 Sullivan Avenue, Suite 190, Daly City
Outpatient Services - Wound Care Center at Wound Care Center, 1500 South Gate Avenue, Suite 115, Daly City
Physical Therapy
Podiatry Service

(Additional Information Listed on License Addendum)

Refer Complaints regarding these facilities to: The California Department of Public Health, Licensing and Certification, San Francisco District Office, 150 North Hill Drive, Suite 22, Brisbane, CA 94005, (415)330-6353

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State of California
Department of Public Health
License Addendum

License: 220000026
Effective: 01/01/2020
Expires: 12/31/2020
Licensed Capacity: 478

Seton Medical Center (Continued)
1900 Sullivan Ave
Daly City, CA 94015-2200

Other Approved Services (cont'd)
Radiation Therapy
Respiratory Care Services
Social Services

Seton Coastside
600 Marine Blvd
Moss Beach, CA 94038-9641

Bed Classifications/Services
5 General Acute Care
116 Skilled Nursing (D/P)

Other Approved Services
Dental Services
Occupational Therapy
Outpatient Services
Physical Therapy
Podiatry Service
Respiratory Care Services
Social Services
Speech Pathology
Standby Emergency Medical Services

This **LICENSE** is not transferable and is granted solely upon the following conditions, limitations and comments:
2 Acute Psychiatric Care beds suspended from 05/13/2019 to 05/12/2020 at 1900 Sullivan Ave.
Rooms 809, 811
CONSOLIDATED

Sonia Y. Angell, MD, MPH
State Public Health Officer & Director

[redacted]
Steven Lee, Staff Services Manager I

Refer Complaints regarding these facilities to: The California Department of Public Health, Licensing and Certification, San Francisco District Office, 150 North Hill Drive, Suite 22, Brisbane, CA 94005, (415)330-6353

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Exhibit 16

Centers for Disease Control and Prevention
MMWR
Morbidity and Mortality Weekly Report
Early Release / Vol. 69
July 24, 2020

Symptom Duration and Risk Factors for Delayed Return to Usual Health Among Outpatients with COVID-19 in a Multistate Health Care Systems Network — United States, March–June 2020

Mark W. Tenforde, MD, PhD[1]; Sara S. Kim, MPH[1,2]; Christopher J. Lindsell, PhD[3]; Erica Billig Rose, PhD[1]; Nathan I. Shapiro, MD[4]; D. Clark Files, MD[5]; Kevin W. Gibbs, MD[5]; Heidi L. Erickson, MD[6]; Jay S. Steingrub, MD[7]; Howard A. Smithline, MD[7]; Michelle N. Gong, MD[8]; Michael S. Aboodi, MD[8]; Matthew C. Exline, MD[9]; Daniel J. Henning, MD[10]; Jennifer G. Wilson, MD[11]; Akram Khan, MD[12]; Nida Qadir, MD[13]; Samuel M. Brown, MD[14]; Ithan D. Peltan, MD[14]; Todd W. Rice, MD[3]; David N. Hager, MD, PhD[15]; Adit A. Ginde, MD[16]; William B. Stubblefield, MD[3]; Manish M. Patel, MD[1]; Wesley H. Self, MD[3]; Leora R. Feldstein, PhD[1]; IVY Network Investigators; CDC COVID-19 Response Team

Prolonged symptom duration and disability are common in adults hospitalized with severe coronavirus disease 2019 (COVID-19). Characterizing return to baseline health among outpatients with milder COVID-19 illness is important for understanding the full spectrum of COVID-19–associated illness and tailoring public health messaging, interventions, and policy. During April 15–June 25, 2020, telephone interviews were conducted with a random sample of adults aged ≥18 years who had a first positive reverse transcription–polymerase chain reaction (RT-PCR) test for SARS-CoV-2, the virus that causes COVID-19, at an outpatient visit at one of 14 U.S. academic health care systems in 13 states. Interviews were conducted 14–21 days after the test date. Respondents were asked about demographic characteristics, baseline chronic medical conditions, symptoms present at the time of testing, whether those symptoms had resolved by the interview date, and whether they had returned to their usual state of health at the time of interview. Among 292 respondents, 94% (274) reported experiencing one or more symptoms at the time of testing; 35% of these symptomatic respondents reported not having returned to their usual state of health by the date of the interview (median = 16 days from testing date), including 26% among those aged 18–34 years, 32% among those aged 35–49 years, and 47% among those aged ≥50 years. Among respondents reporting cough, fatigue, or shortness of breath at the time of testing, 43%, 35%, and 29%, respectively, continued to experience these symptoms at the time of the interview. These findings indicate that COVID-19 can result in prolonged illness even among persons with milder outpatient illness, including young adults. Effective public health messaging targeting these groups is warranted. Preventative measures, including social distancing, frequent handwashing, and the consistent and correct use of face coverings in public, should be strongly encouraged to slow the spread of SARS-CoV-2.

Prolonged illness is well described in adults with severe COVID-19 requiring hospitalization, especially among older adults (*1*,*2*). Recently, the number of SARS-CoV-2 infections in persons first evaluated as outpatients have increased, including cases among younger adults (*3*). A better understanding of convalescence and symptom duration among outpatients with COVID-19 can help direct care, inform interventions to reduce transmission, and tailor public health messaging.

The Influenza Vaccine Effectiveness in the Critically Ill (IVY) Network, a collaboration of U.S. health care systems, is conducting epidemiologic studies on COVID-19 in both inpatient and outpatient settings (*4*,*5*). Fourteen predominantly urban academic health systems in 13 states each submitted a list of adults with positive SARS-CoV-2 RT-PCR test results obtained during March 31–June 4, 2020, to Vanderbilt University Medical Center. Site-specific random sampling was then performed on a subset of these patients who were tested as outpatients and included patients tested in the emergency department (ED) who were not admitted to the hospital at the testing encounter and those tested in other outpatient clinics. At 14–21 days from the test date, CDC personnel interviewed the randomly sampled patients or their proxies by telephone to obtain self-reported baseline demographic, socioeconomic, and underlying health information, including

U.S. Department of Health and Human Services
Centers for Disease Control and Prevention

Summary

What is already known about this topic?

Relatively little is known about the clinical course of COVID-19 and return to baseline health for persons with milder, outpatient illness.

What is added by this report?

In a multistate telephone survey of symptomatic adults who had a positive outpatient test result for SARS-CoV-2 infection, 35% had not returned to their usual state of health when interviewed 2–3 weeks after testing. Among persons aged 18–34 years with no chronic medical conditions, one in five had not returned to their usual state of health.

What are the implications for public health practice?

COVID-19 can result in prolonged illness, even among young adults without underlying chronic medical conditions. Effective public health messaging targeting these groups is warranted.

the presence of chronic medical conditions. Call attempts were made for up to seven consecutive days, and interviews were conducted in several languages (*4*). Respondents were asked to report the number of days they felt unwell before the test date, COVID-19–related symptoms experienced at the time of testing (*6*), whether symptoms had resolved by the date of the interview, and whether the patient had returned to their usual state of health. For this data analysis, respondents were excluded if they did not complete the interview, if a proxy (e.g., family member) completed the interview (because of their incomplete knowledge of symptoms), if they reported a previous positive SARS-CoV-2 test (because the reference date for symptoms questions was unclear), or (because this analysis focused on symptomatic persons) if they did not answer symptoms questions or denied all symptoms at testing.

Descriptive statistics were used to compare characteristics among respondents who reported returning and not returning to their usual state of health by the date of the interview. Generalized estimating equation regression models with exchangeable correlation structure accounting for clustering by site were fitted to evaluate the association between baseline characteristics and return to usual health, adjusting for potential a priori-selected confounders. Resolution and duration of individual symptoms were also assessed. Statistical analyses were conducted using Stata software (version 16; StataCorp).

At least one telephone call was attempted for 582 patients (including 175 [30%] who were tested in an ED and 407 [70%] in non-ED settings), with 325 (56%) interviews completed (89 [27%] ED and 236 [73%] non-ED). Among 257 nonrespondents, 178 could not be reached, 37 requested a callback but could not be reached on further call attempts, 28 refused the interview, and 14 had a language barrier. Among the 325 completed interviews, 31 were excluded: nine (3%) because a proxy was interviewed, 17 (5%) because a previous positive SARS-CoV-2 test was reported, and five (2%) who did not answer the symptoms questions. Two additional respondents were called prematurely at 7 days and were also excluded.* Among the 292 remaining patient respondents, 274 (94%) reported one or more symptoms at testing and were included in this data analysis. Following outpatient testing, 7% (19 of 262 with available data) reported later being hospitalized, a median of 3.5 days after the test date. The median age of symptomatic respondents was 42.5 years (interquartile range [IQR] = 31–54 years), 142 (52%) were female, 98 (36%) were Hispanic, 96 (35%) were non-Hispanic white, 48 (18%) were non-Hispanic black, and 32 (12%) were other non-Hispanic race. Overall, 141 of 264 (53%) with available data reported one or more chronic medical conditions. The median interval from test to interview date was 16 days (IQR = 14–19 days); the median number of days respondents reported feeling unwell before being tested for SARS-CoV-2 was 3 (IQR = 2–7 days).

Return to Usual State of Health

Among the 270 of 274 interviewees with available data on return to usual health,† 175 (65%) reported that they had returned to their usual state of health a median of 7 days (IQR = 5–12 days) from the date of testing (Table 1). Ninety-five (35%) reported that they had not returned to their usual state of health at the time of interview. The proportion who had not returned to their usual state of health differed across age groups: 26% of interviewees aged 18–34 years, 32% aged 35–49 years, and 47% aged ≥50 years reported not having returned to their usual state of health (p = 0.010) within 14–21 days after receiving a positive test result. Presence of chronic conditions also affected return to health rates; among 180 persons with no or one chronic medical condition, 39 with two chronic medical conditions, and 44 with three or more chronic medical conditions, 28%, 46%, and 57%, respectively, reported not having returned to their usual state of health (p = 0.003) within 14–21 days after having a positive test result. Among respondents aged 18–34 years with no chronic medical condition, 19% (nine of 48) reported not having returned to their usual state of health. Adjusting for other factors, age ≥50 versus 18–34 years (adjusted odds ratio [aOR] = 2.29; 95% confidence interval [CI] = 1.14–4.58) and reporting three or more versus no chronic medical conditions (aOR = 2.29; 95% CI = 1.07–4.90) were associated with not having returned to usual health

* Two patients interviewed early at 12 days and three interviewed at 13 days after testing were included. Two patients who requested interview after 21 days because they were unavailable at 14–21 days were included (interviews were conducted at 25 and 26 days). All other included respondents were interviewed 14–21 days after testing.

† Patients were asked the question "Would you say that you are feeling back to your usual health?"

TABLE 1. Characteristics of symptomatic outpatients with SARS-CoV-2 real-time reverse transcription–polymerase chain reaction (RT-PCR)—positive test results (N = 270)* who reported returning to usual state of health or not returning to usual state of health at an interview conducted 14–21 days after testing — 14 academic health care systems,† United States, March–June 2020

Characteristic	Total	Returned to usual health, no. (row %)		P-value§
		Yes (n = 175)	No (n = 95)	
Sex				0.14
Women	**140**	85 (61)	55 (39)	
Men	**130**	90 (69)	40 (31)	
Age group (yrs)				0.010
18–34	**85**	63 (74)	22 (26)	
35–49	**96**	65 (68)	31 (32)	
≥50	**89**	47 (53)	42 (47)	
Race/Ethnicity				0.29
White, non-Hispanic	**94**	58 (62)	36 (38)	
Black, non-Hispanic	**46**	26 (57)	20 (43)	
Other race, non-Hispanic	**32**	24 (75)	8 (25)	
Hispanic	**98**	67 (68)	31 (32)	
Insurance (14 missing)				0.69
No	**46**	31 (67)	15 (33)	
Yes	**210**	135 (64)	75 (36)	
No. of medical conditions (7 missing)				0.003
0	**123**	87 (71)	36 (29)	
1	**57**	41 (72)	16 (28)	
2	**39**	21 (54)	18 (46)	
≥3	**44**	19 (43)	25 (57)	
Individual medical conditions (7 missing all)¶				
Hypertension	**64**	33 (52)	31 (48)	0.018
Obesity (body mass index >30 kg/m^2)	**51**	23 (45)	28 (55)	0.002
Psychiatric condition	**49**	23 (47)	26 (53)	0.007
Asthma	**36**	23 (64)	13 (36)	0.99
Diabetes	**28**	16 (57)	12 (43)	0.43
Immunosuppressive condition	**15**	6 (40)	9 (60)	0.047
Autoimmune condition	**13**	7 (54)	6 (46)	0.44
Blood disorder	**8**	4 (50)	4 (50)	0.47
Chronic kidney disease	**7**	3 (43)	4 (57)	0.26
Chronic obstructive pulmonary disease	**7**	4 (57)	3 (43)	0.71
Liver disease	**6**	4 (67)	2 (33)	1.00
Neurologic condition	**6**	3 (50)	3 (50)	0.48
Coronary artery disease	**4**	3 (75)	1 (25)	1.00
Congestive heart failure	**2**	2 (100)	0 (0)	0.54

* 294 patients responded to an interview 2–3 weeks after testing, did not report a previous positive SARS-CoV-2 test before the reference test, and answered questions about symptoms. Of these, 276 (94%) reported one or more symptoms at the time of SARS-CoV-2 RT-PCR testing, with 272 (99%) reporting whether they had returned to their usual state of health by the time of the interview. Two additional patients excluded who were called at 7 days, with 270 included here.

† Patients were randomly sampled from fourteen academic healthcare systems in 13 states (University of Washington [Washington], Oregon Health and Sciences University [Oregon], University of California Los Angeles and Stanford University [California], Hennepin County Medical Center [Minnesota], Vanderbilt University [Tennessee], Ohio State University [Ohio], Wake Forest University [North Carolina], Montefiore Medical Center [New York], Beth Israel Deaconess Medical Center and Baystate Medical Center [Massachusetts], Intermountain Healthcare [Utah/Idaho], University of Colorado Hospital [Colorado], and Johns Hopkins University [Maryland]).

§ Respondents who reported returning to usual health and respondents who reported not returning to usual health were compared using the chi-square test or Fisher's exact test.

¶ Excluding seven (3%) patients who did not answer questions about chronic underlying medical conditions; for those who answered questions about underlying conditions, some respondents were missing data on obesity (two), neurologic conditions (one), and psychiatric conditions (one).

(Table 2). Obesity (body mass index ≥30 kg per m^2) (aOR 2.31; 95% CI = 1.21–4.42) and reporting a psychiatric condition§ (aOR 2.32; 95% CI = 1.17–4.58) also were associated with more than twofold odds of not returning to the patient's usual health after adjusting for age, sex, and race/ethnicity.

§ Psychiatric conditions included anxiety disorder (38), depression (21), posttraumatic stress disorder (two), paranoia (two), obsessive-compulsive disorder (one), schizophrenia (one); some patients reported more than one condition.

Resolution of Symptoms and Duration

Among the 274 symptomatic outpatients, the median number of symptoms was seven of 17 listed in the interview tool (IQR = 5–10), with fatigue (71%), cough (61%), and headache (61%) those most commonly reported (Figure). Among respondents who reported fever and chills on the day of testing, these resolved in 97% and 96% of respondents, respectively. Symptoms least likely to have resolved included cough (not resolved in 43% [71 of 166]) and fatigue (not resolved in 35%

TABLE 2. Characteristics associated with not returning to usual health among symptomatic outpatients with SARS-CoV-2 real-time reverse transcription–polymerase chain reaction (RT-PCR)–positive test results (N = 270)* reported at an interview conducted 14–21 days after testing — 14 academic health care systems,† United States, March–June 2020

Characteristic	Odds of not returning to "usual health" at 14–21 days after testing	
	Unadjusted odds ratio (95% CI)§	Adjusted odds ratio (95% CI)§,¶
Age group (yrs)		
18–34	Referent	Referent
35–49	1.40 (0.73–2.67)	1.38 (0.71–2.69)
≥50	2.64 (1.39–5.00)	2.29 (1.14–4.58)
Sex		
Women	Referent	Referent
Men	0.68 (0.41–1.13)	0.80 (0.46–1.38)
Race/Ethnicity		
White, non-Hispanic	Referent	Referent
Black, non-Hispanic	1.23 (0.60–2.53)	1.13 (0.53–2.45)
Other, non-Hispanic	0.53 (0.21–1.31)	0.63 (0.24–1.61)
Hispanic	0.74 (0.40–1.34)	0.83 (0.44–1.58)
No. of medical conditions		
0	Referent	Referent
1	0.94 (0.47–1.89)	0.74 (0.35–1.55)
2	2.09 (1.00–4.38)	1.50 (0.68–3.33)
≥3	3.19 (1.56–6.50)	2.29 (1.07–4.90)
Individual medical conditions**		
Hypertension	1.98 (1.12–3.52)	1.30 (0.67–2.51)
Obesity (BMI >30 kg/m^2)	2.65 (1.42–4.95)	2.31 (1.21–4.42)
Psychiatric condition	2.42 (1.29–4.56)	2.32 (1.17–4.58)
Asthma	1.00 (0.48–2.08)	1.02 (0.47–2.20)
Diabetes	1.38 (0.62–3.05)	1.06 (0.46–2.44)
Immunosuppressive condition	2.84 (0.98–8.26)	2.33 (0.77–7.04)
Autoimmune condition	1.55 (0.51–4.76)	1.05 (0.32–3.46)
Blood disorder	1.82 (0.45–7.45)	1.43 (0.33–6.24)
Chronic kidney disease	2.42 (0.53–11.05)	2.36 (0.48–11.51)
Chronic obstructive pulmonary disease	1.34 (0.29–6.12)	0.70 (0.14–3.48)
Liver disease	0.88 (0.16–4.90)	0.72 (0.12–4.25)
Neurologic condition	1.78 (0.35–9.01)	1.23 (0.23–6.62)
Coronary artery disease	0.58 (0.06–5.70)	0.48 (0.05–4.92)
Congestive heart failure	—	—

Abbreviations: BMI = body mass index; CI = confidence interval.

* 294 patients responded to 14–21-day interview, did not report a previous positive SARS-CoV-2 test before the reference test, and answered questions about symptoms; 276 (94%) of these reported one or more symptoms at the time of SARS-CoV-2 RT-PCR testing, with 272 (99%) reporting whether they had returned to their usual state of health by the time of the interview. Two additional patients who were called at 7 days were excluded, with 270 included here.

† Patients were randomly sampled from academic healthcare systems in 13 states (University of Washington [Washington], Oregon Health and Sciences University [Oregon], University of California Los Angeles and Stanford University [California], Hennepin County Medical Center [Minnesota], Vanderbilt University [Tennessee], Ohio State University [Ohio], Wake Forest University [North Carolina], Montefiore Medical Center [New York], Beth Israel Deaconess Medical Center and Baystate Medical Center [Massachusetts], Intermountain Healthcare [Utah/Idaho], University of Colorado Hospital [Colorado], and Johns Hopkins University [Maryland]).

§ For this analysis, generalized estimation equation (GEE) models with exchangeable correlation structure were used to estimate the association between characteristics and the odds of not returning to usual health by the date of the 14–21-day interview. GEE models were used to account for clustering of cases by site. 95% CIs including 1.00 are not considered statistically significant.

¶ In adjusted GEE models for age, sex, race/ethnicity, and number of chronic medical conditions, the other variables were used to adjust for potential confounders. Models for individual conditions (e.g., hypertension) were adjusted for age, sex, and race/ethnicity.

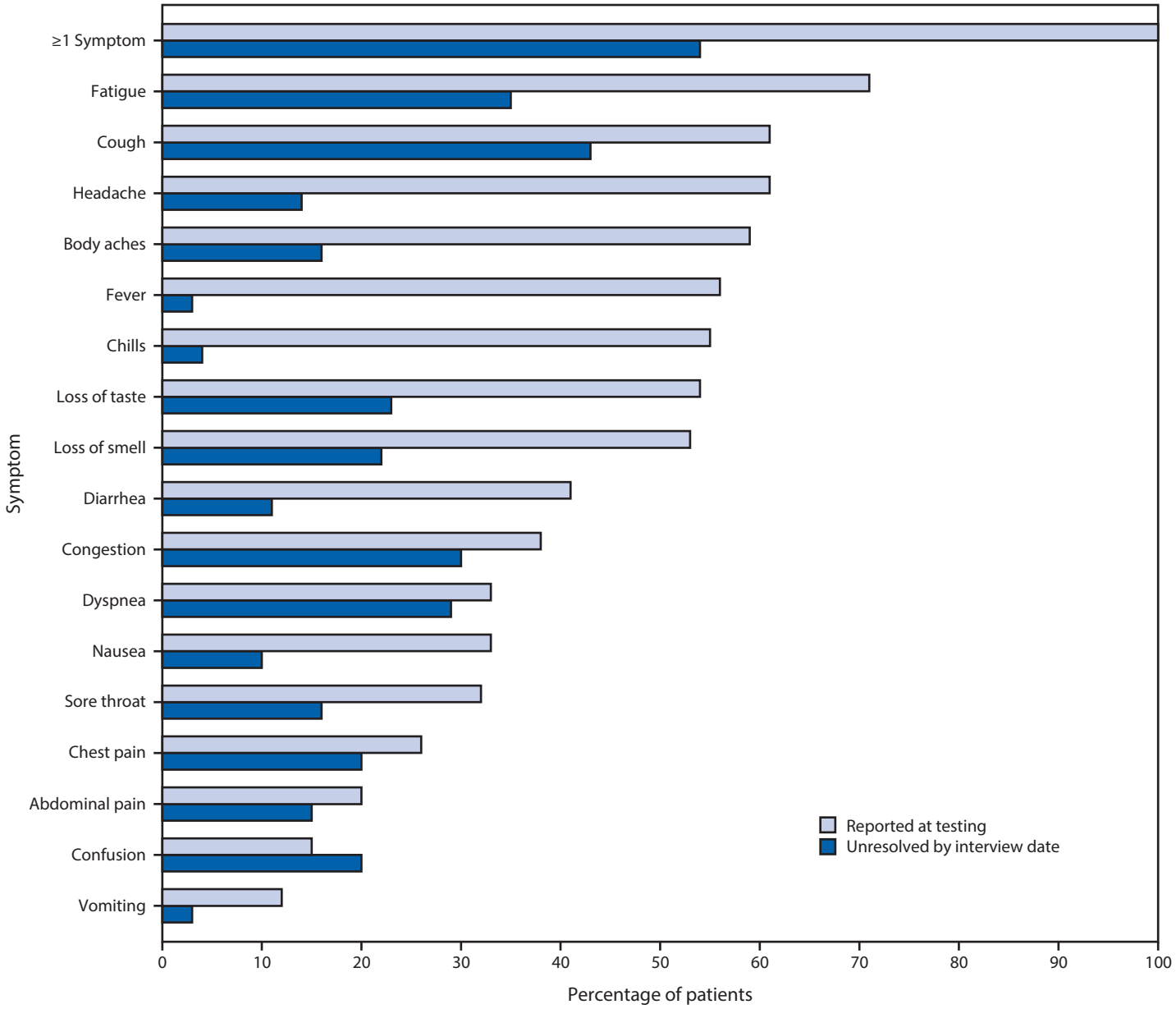
** Medical conditions are not exclusive and individual patients could have more than one chronic medical condition.

[68 of 192]); among 90 who reported shortness of breath at the time of testing, this symptom had not resolved in 26 (29%). The median interval to symptom resolution among those who reported individual symptoms at the time of testing but not at the time of the interview ranged from 4 to 8 days from the test date, with the longest intervals reported for loss of smell (median = 8 days; IQR = 5–10.5 days) and loss of taste (median = 8 days; IQR = 4–10 days). Among respondents who reported returning to their usual state of health, 34% (59 of 175) still reported one or more of the 17 queried COVID-related symptoms at the time of the interview.

Discussion

Most studies to date have focused on symptoms duration and clinical outcomes in adults hospitalized with severe COVID-19 (*1*,*2*). This report indicates that even among symptomatic adults tested in outpatient settings, it might take weeks for resolution of symptoms and return to usual health. Not returning to usual health within 2–3 weeks of testing was reported by approximately one third of respondents. Even among young adults aged 18–34 years with no chronic medical conditions, nearly one in five reported that they had

FIGURE. Self-reported symptoms at the time of positive SARS-CoV-2 reverse transcription–polymerase chain reaction (RT-PCR) testing results and unresolved symptoms 14–21 days later among outpatients (N = 274)* — 14 academic health care systems,† United States, March–June 2020



* 294 patients responded to 14–21-day interview, did not report a previous positive SARS-CoV-2 test before the reference test, and answered questions about symptoms; 276 (94%) of these reported one or more symptoms at the time of SARS-CoV-2 RT-PCR testing; those who were interviewed at 7 days were excluded, with 274 included here.

† Patients were randomly sampled from 14 academic health care systems in 13 states (University of Washington [Washington], Oregon Health and Sciences University [Oregon], University of California Los Angeles and Stanford University [California], Hennepin County Medical Center [Minnesota], Vanderbilt University [Tennessee], Ohio State University [Ohio], Wake Forest University [North Carolina], Montefiore Medical Center [New York], Beth Israel Deaconess Medical Center and Baystate Medical Center [Massachusetts], Intermountain Healthcare [Utah/Idaho], University of Colorado Hospital [Colorado], and Johns Hopkins University [Maryland]).

not returned to their usual state of health 14–21 days after testing. In contrast, over 90% of outpatients with influenza recover within approximately 2 weeks of having a positive test result (*7*). Older age and presence of multiple chronic medical conditions have previously been associated with illness severity among adults hospitalized with COVID-19 (*8*,*9*); in this study, both were also associated with prolonged illness in an outpatient population. Whereas previous studies have found race/ethnicity to be a risk factor for severe COVID-19 illness (*10*), this study of patients whose illness was diagnosed in an outpatient setting did not find an association between race/ethnicity and return to usual health although the modest number of respondents might have limited our ability to detect associations. The finding of an association between chronic psychiatric

conditions and delayed return to usual health requires further evaluation. These findings have important implications for understanding the full effects of COVID-19, even in persons with milder outpatient illness. Notably, convalescence can be prolonged even in young adults without chronic medical conditions, potentially leading to prolonged absence from work, studies, or other activities.

The findings in this report are subject to at least three limitations. First, nonrespondents might have differed from survey respondents; for example, those with more severe illness might have been less likely to respond to telephone calls if they were subsequently hospitalized and unable to answer the telephone. Second, symptoms that resolved before the test date or that commenced after the date of testing were not recorded in this survey. Finally, as a telephone survey, this study relied on patient self-report and might have been subject to incomplete recall or recall bias.

Nonhospitalized COVID-19 illness can result in prolonged illness and persistent symptoms, even in young adults and persons with no or few chronic underlying medical conditions. Public health messaging should target populations that might not perceive COVID-19 illness as being severe or prolonged, including young adults and those without chronic underlying medical conditions. Preventative measures, including social distancing, frequent handwashing, and the consistent and correct use of face coverings in public, should be strongly encouraged to slow the spread of SARS-CoV-2.

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Exhibit 17

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Perspective

Perspective

Telehealth transformation: COVID-19 and the rise of virtual care

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ABSTRACT

The novel coronavirus disease-19 (COVID-19) pandemic has altered our economy, society, and healthcare system. While this crisis has presented the U.S. healthcare delivery system with unprecedented challenges, the pandemic has catalyzed rapid adoption of telehealth, or the entire spectrum of activities used to deliver care at a distance. Using examples reported by U.S. healthcare organizations, including ours, we describe the role that telehealth has played in transforming healthcare delivery during the 3 phases of the U.S. COVID-19 pandemic: (1) stay-at-home outpatient care, (2) initial COVID-19 hospital surge, and (3) postpandemic recovery. Within each of these 3 phases, we examine how people, process, and technology work together to support a successful telehealth transformation. Whether healthcare enterprises are ready or not, the new reality is that virtual care has arrived.

Key words: telemedicine, telehealth, COVID, pandemic

The novel coronavirus disease 2019 (COVID-19) pandemic has altered our economy, society, and healthcare system. While this crisis has presented the U.S. healthcare delivery system unprecedented challenges, it has catalyzed rapid adoption of telehealth and transformed healthcare delivery at a breathtaking pace.[1,2] The term *telehealth* refers to the entire spectrum of activities used to deliver care at a distance—without direct physical contact with the patient. Telehealth encompasses both provider-to-patient and provider-to-provider communications, and can take place synchronously (telephone and video), asynchronously (patient portal messages, e-consults), and through virtual agents (chatbots) and wearable devices. A brief summary of the opportunities and limitations of each type of telehealth encounter is offered (Table 1).

Telehealth programs overcome physical barriers to provide patients and caregivers access to convenient medical care. Healthcare systems with telehealth sustain the continuity of outpatient patient care during this pandemic—in the midst of "stay-at-home" orders and physical distancing measures, while reducing community and nosocomial spread. Telehealth also proves useful for inpatient care, in particular to help balance the supply of clinical services with surge in demand across physical or geographical boundaries, conserve personal protective equipment, and provide isolated patients connection to family and friends.[3,4]

Table 1. Classification of telehealth encounters

Platform	Use Case(s)	Opportunities	Limitations
E-consult: Asynchronous clinician-to-clinician communication based on record review (inpatient and outpatient)	During and after initial surge: Assist frontline clinicians with triage of urgent patient referrals Assist frontline clinicians with management of low complexity patients where there is limited capacity among specialists	Time efficient for specialists, consolidates care for patients New inpatient clinician-to-clinician billing codes available Patient-initiated second opinion requests are possible	Potentially shifts work to frontline clinicians Lack of physical exam or direct communication with patients
Remote patient monitoring:Gather patient outside traditional healthcare setting via connected device or patient reported outcomes (synchronous or asynchronous)	All phases: efficient method of patient care, especially those with chronic conditions	Respond to clinical data outside of regular clinic visits Recordings can be automatically sent to clinicians Payers support remote patient monitoring activities	Requires staffing infrastructure Data ideally is integrated into EHR for sustainable workflow
Patient-initiated messaging: Synchronous chats with automated or live agents Asynchronous patient portal messaging	All phases: time-efficient handling of straightforward issues.	Patient initiates communication when convenient Able to get FAQs and use self-service tools Live or autonomous text-based options	Requires technology infrastructure and staffing Potential lack of context, requires tight integration with the EHR to be optimally useful
Telephone visit: Synchronous patient-clinician communication by phone	During and after initial surge: replace some face-to-face visits	Universally accessible, even in the most ill/low socioeconomic status patients	Currently devalued by most payers, inability to conduct a physical exam, loss of nonverbal cues
Video visit: Synchronous patient-clinician communication with both audio and video, with possible ancillary and telemetry equipment	During COVID-19 surge: replaces face-to-face visit After initial surge: expansion of virtual interactions across all sectors of the healthcare system; unbundling of services through technology	Slight improvement in clinical care (nonverbal communication, physical exam depending on bedside facilitator and peripherals) More favorable reimbursement by payers	Technology requirements: Outpatient requires broadband Internet, computer/smart device; may need digital peripherals (eg, stethoscope, otoscope) Most complex/sickest patients may be least able to participate/access care Inpatient requires mobile/zoomable camera with microphone and speaker Need infection prevention/sanitization protocol for devices

COVID-19: coronavirus disease 2019; EHR: electronic health record.

Using examples reported by U.S. healthcare organizations, including ours, we describe the role telehealth has played in transforming healthcare delivery during the 3 phases of the U.S. COVID-19 pandemic: (1) stay-at-home outpatient care, (2) initial COVID-19 hospital surge, and (3) postpandemic recovery (Figure 1). Within each of these 3 phases, we examine how people, process, and technology work together to support this telehealth conversion.[5] This framework offers health systems integral components for a successful transformation.

PHASE 1: OUTPATIENT CARE DURING "STAY-AT-HOME" ORDERS

Social distancing and "stay-at-home" orders began in earnest in the United States in March 2020 and will likely remain for an extended period after the peak surge period. Telehealth services provide the opportunity to maintain access and continuity of medical care while reducing the potential for community and nosocomial spread of the virus. Adoption of telehealth requires changes in both patient-related and clinical care processes. The target is to dramatically decrease the proportion of in-person care, offering in-person clinic visits only for patients who cannot access telehealth technology or who have urgent (but not emergency-level) clinical concerns that require detailed physical examination.

Before the outbreak, many health systems had low rates of telehealth utilization for routine care.[6] Even health systems with relatively high telehealth adoption performed fewer than 100 video visits per day.[7] Now, many are seeing >600 patients per day via video, with many in-person clinic replaced with video or telephone visits. At our institution, the share of telehealth visits has increased within a 4-week period from <1% of total visits to 70% of total visits, reaching more than 1000 video visits per day (Figure 2).

By May 1, 2020, our institution will have fully provisioned and trained all clinicians to provide both inpatient and outpatient telehealth services. To manage this shift, a centralized telehealth call center was created, staffed by newly hired and repurposed existing

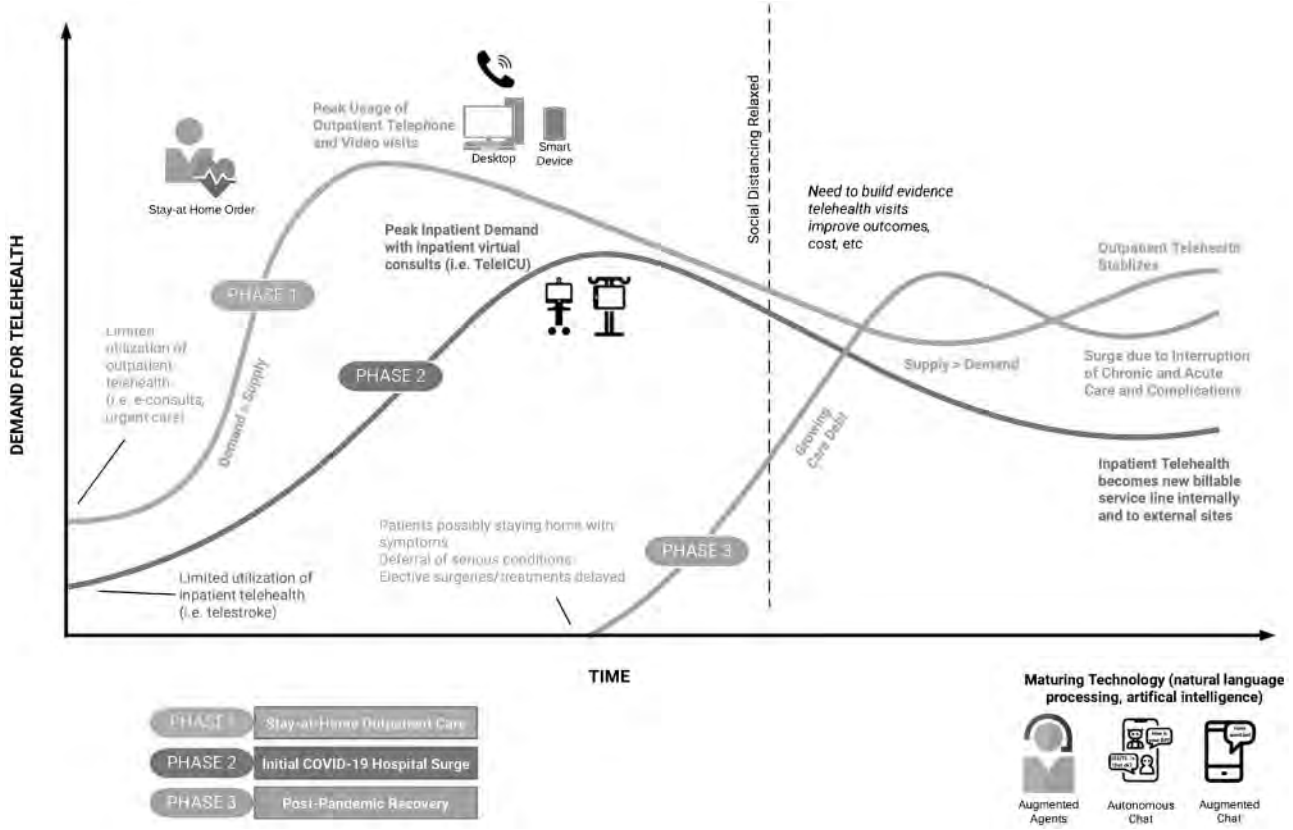

Figure 1. Three phases of coronavirus disease 2019 (COVID-19) pandemic and demand for telehealth services.

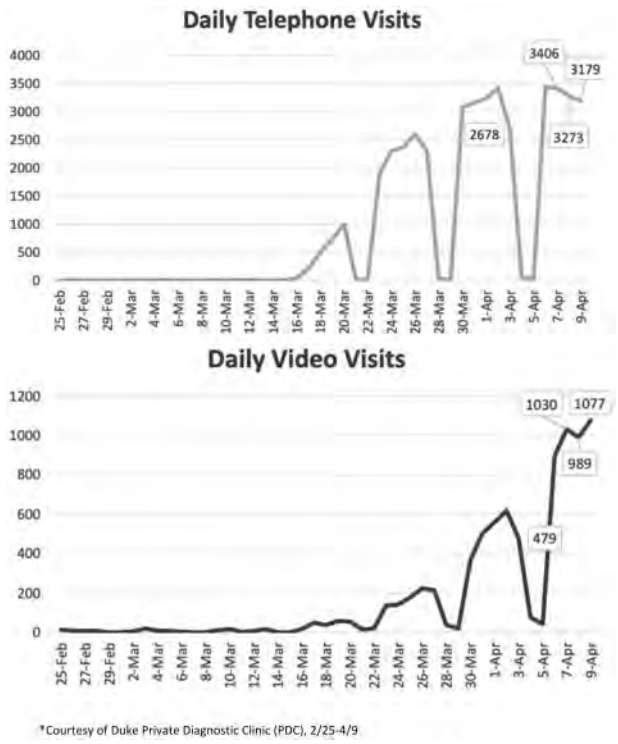

Figure 2. Duke institutional operations data of telehealth visits: telephone and video.

staff, medical students, and "superusers" to train providers and patients to use telehealth systems. A "train the trainer" model allowed rapid staff development in order to onboard over 1300 providers in 3 weeks, while providing technical online support during live patient visits. Using ExtendedCare (STA Group, Chicago, IL), we offered scheduled outpatient video visits integrated into the patient portal of our electronic health record (EHR) (Epic, Verona, WI) so that patients could interact with their clinicians from either their personal computers or smartphones. Virtual patient waiting rooms, privacy and security, and easy scheduling were important when evaluating a platform. Home peripheral devices were used with certain patients to facilitate remote visits. For example, blood pressure machines and cuffs were sent to high-risk obstetrics patients.

PHASE 2: INITIAL INPATIENT COVID-19–RELATED SURGE

As demand for COVID-19–related hospital care increases, medical personnel may be reassigned to cover inpatient clinical services. These personnel changes reflect the changes in healthcare delivery processes during the COVID-19 surge, which are similar to those in other disasters: providing screening and forward triaging to manage response, distinguishing the critically ill from those less ill, and maximizing efficient use of system capacity.[8] Where COVID-19 differs from standard disaster management is the pathogenicity and virulence of the virus. As such, telehealth is ideally suited to meet the demands of inpatient care while at the same time reducing virus

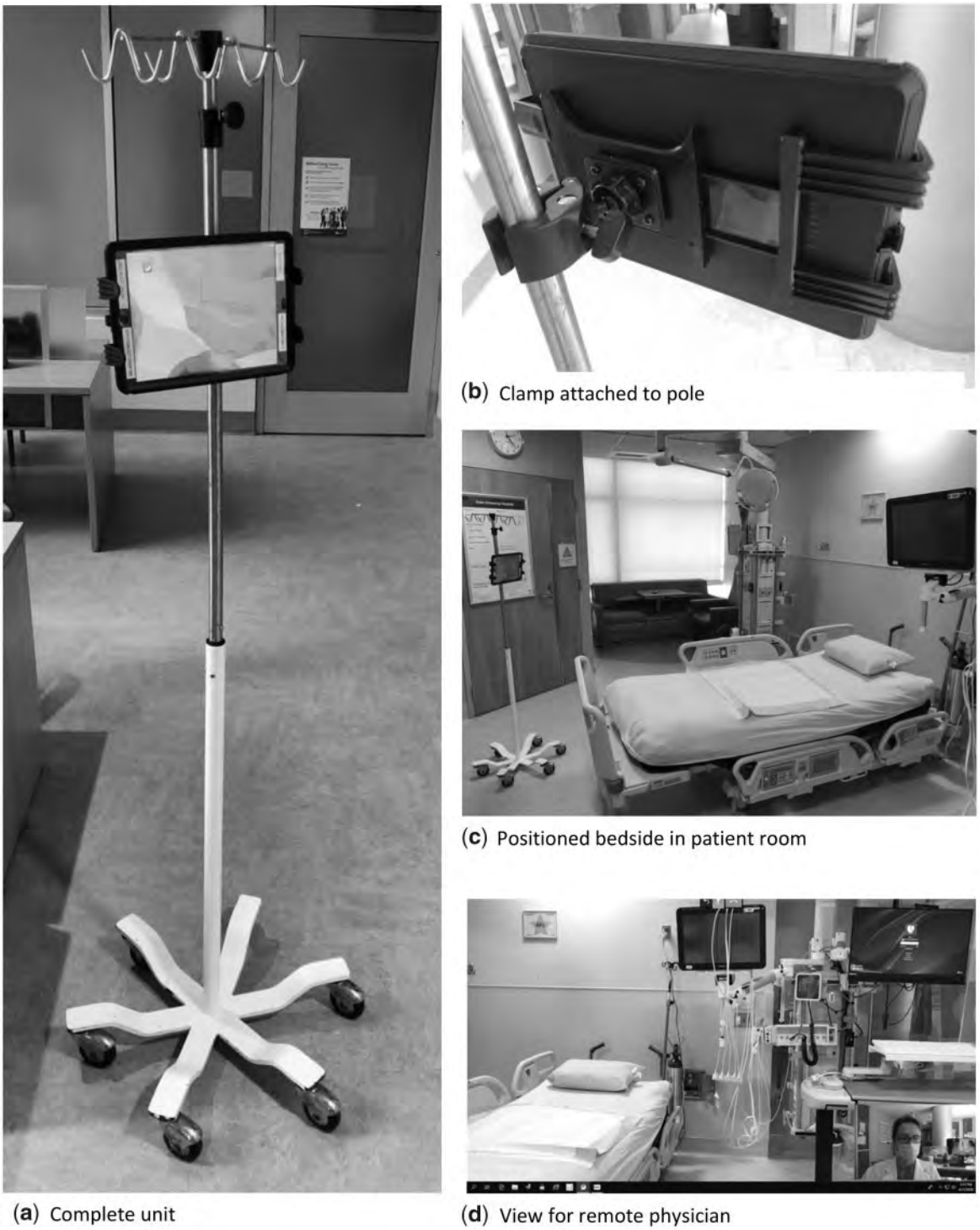

Figure 3. Tele-ICU (iPad on a stick): rapidly deployed mobile virtual consult service. (A) The complete unit; (B) clamp attached to pole; (C) positioned bedside in patient room; (D) view for remote physician.

transmission, stretching human and technical resources, and protecting patients and healthcare workers in the inpatient care setting.

Initial reports suggest that 5% of COVID-19–infected patients require intensive care unit (ICU) services.[9,10] Demands on clinicians (pulmonologists, intensivists, respiratory therapists, and nursing and other staff) may outstrip their ability to evaluate and monitor patients. Physical contact with COVID-19–infected patients significantly increases the chance of illness transmission and the need to quarantine exposed healthcare workers.[11–13] Telehealth approaches allow staff—including those in quarantine, those in high-risk groups (older, immunosuppressed), and those with childcare responsibilities—to work remotely, supplementing in-person clinical services during the surge.

Table 2. Rapidly Developing and Deploying a Tele-ICU Service During a Crisis

People affected by the new approach	Physicians—pulmonary/intensivist
	Advance practice providers—ICUs
	Respiratory therapists, bedside nurses
	Leadership (command center, ICU medical directors, nurse/respiratory therapists managers, project managers)
	Information technology department (hardware, software, security)
	Potential vendors
	Telehealth support individuals
	Medical students / trainees
Processes/policieschanged to accomplish the new approach	Clinician and/or staff in other part of hospital or at home can assess patient virtually and assist in clinical care with bedside facilitator
	Pulmonary/intensivist ventilator consults responded in person or virtually as appropriate
	Cleaned after each use (Tru-D, Sani-Cloth wipes)
	In-service trainings, multiple educational/training sessions
Technologies implemented for the new approach	Video camera (1080p) with microphone and speaker (loud enough to hear at 10 feet)
	HIPAA-compliant, secure, and easy to use video platform on desktop and mobile device (tablet, smartphone)
	Mounts, poles to allow to modify camera angle (toward patient, ventilator, vitals, family, etc.)
	Easily cleaned with protective/durable cases
	Specific hospital computers for consultants with cameras/mics and video platform installed
	Entire system available within 5- to 7-d delivery

HIPAA: Health Insurance Portability and Accountability Act; ICU: intensive care unit.

Healthcare enterprises may already have in place technologies that can be employed to accomplish telehealth. For example, telehealth carts used for telestroke programs can be redeployed for use in COVID-19 surge care. Alternatively, new devices, such as tablets, can be secured with an adjustable clamp on mobile structures such as intravenous medication poles and moved to locations as needed; these are a relatively inexpensive and quick alternatives to traditional telehealth carts. As an example, at Duke, we created a virtual pulmonologist or intensivist service (Tele-ICU) that allows specialists to remotely manage intubated patients. Physicians are able to see the ventilator settings, patients' work of breathing, and remotely consult with the bedside team, while decreasing exposure risk and preserving personal protective equipment (Figure 3).

Table 2 describes the considerations necessary for executing a Tele-ICU service, including key stakeholders, changes to process, and the technologies we employed. Additional considerations (eg, equipment durability, infection prevention, data security, clinical usability) are also illustrated. The Tele-ICU approach is easily extended to the non-ICU setting, particularly for clinician-clinician communication and care of patients on isolation. As an added feature, our Tele-ICU approach allows medical trainees, who have been largely removed from clinical encounters because of COVID-19, to participate and support clinical staff, including inpatient rounds or outpatient experiences.

Strict visitor restrictions implemented by most hospitals can also cause patients to feel socially isolated. Mobile technologies, such as tablets or even personal smartphones, can allow patients to communicate with their families and friends using video or voice platforms. We have supplied isolation patients a dedicated portable device with video conferencing software for both their loved ones and our clinical staff to improve communication and support.

As these devices are adopted, hospitals must also consider how to disinfect them; protective cases should allow for easy cleaning. Key considerations for the adoption of these new devices include coordinated purchasing and registration through hospital information technology departments, ensuring data security of these devices and patient privacy. Although the surge crisis has meant that some individual institutions are temporarily allowing the use of popular video conferencing software, decisions about long-term adoption must include analysis of not only security vulnerabilities, but also current or future EHR integration. Further, hospital and patient broadband Internet must be evaluated, in particular given that many Americans still lack high-speed broadband.[14,15]

PHASE 3: POSTPANDEMIC RECOVERY

As of this writing, this phase is still unknown. Longer-term preparation for additional surge(s) of patients may materialize. There may also be a re-emergence of COVID-19 cases after movement restrictions are lifted. A growing "care debt" or deferred medical or surgical treatment may lead to increasing demand on a constrained healthcare system. This may include COVID-19 patients as well as those with other forms of acute and chronic diseases. For example, during the COVID-19 pandemic, emergency departments are reporting a decrease in visits, and unpublished reports describe a dramatic decrease of 40% to 70% in acute ST-segment elevation myocardial elevation cases.[16] Deferral of care for serious conditions can cause downstream consequences, such as complications of unmanaged conditions including acute coronary syndromes, causing a surge in demand for care unrelated to COVID-19 infections. Cancelled elective surgical cases and treatments during the pandemic can add to this "care debt" that both patients and health systems may face. Along with the economic uncertainty of many healthcare organizations, further constraints to care capacity may be present during the postpandemic recovery phase.

Proactive patient engagement through telehealth may help a healthcare system to effectively manage these contingencies. Specifically, health systems should work to create a strong, sustainable telehealth infrastructure now that will allow for more efficient use of hospital space and staff. Telehealth service lines can be strengthened and even grow at affiliate and referring hospitals, including rural and critical access hospitals, linked into existing health systems' telehealth networks.

With the transition to a postpandemic phase, the key transformation of telehealth systems is to shift from crisis mode (where the use of stopgap or unproven technologies has been permitted) to sustainable, secure systems that properly preserve data security and patient privacy and that offer sustained technical support for postcrisis care. The most

straightforward approach is to extend and operationalize the changes to people, processes, and technologies explored in the first 2 phases, anticipating a sustained higher level of telehealth services. Of note, this will require the re-evaluation of regulation and policies and reimbursement models across multiple stakeholders including local healthcare organizations, state medical board, federal government, and payers. Both payers and healthcare professionals will need to re-examine their historical insistence on face-to-face patient-provider interactions where laying of hands is considered a sacrosanct component of care. While geographic and site restrictions for Medicare reimbursement have largely been waived with the Coronavirus Preparedness and Response Supplemental Appropriations Act of 2020,[17] compensation models for different telehealth services will need to be actively updated by payers, including the federal government. In addition, the clinical outcomes of different types of visits (in-person, video, and telephone) must be examined to prevent potential perverse incentives leading to unnecessary increased video over potentially also effective telephone encounter caused by differential visit reimbursement. Planning for outcomes research is also needed to evaluate how COVID-19 changed our healthcare system, for better and worse. Given recent Federal Bureau of Investigation warnings about the vulnerability of some teleconferencing and televideo platforms,[18] telehealth must not sacrifice privacy safeguards and digital security measures. The EHR can play a role here; most already allow patients to privately and securely obtain laboratory and imaging results, and recent reports of EHR-based clinical decision support and reporting tools are encouraging.[19] Of note, a full assessment of the strengths and weaknesses of each type of encounter requires further study of clinical outcomes, financial return on investment for payers and society, improvement in patient experience, and provider wellbeing when the immediate crisis ends.

CONCLUSION

The COVID-19 pandemic has forced all healthcare systems, hospitals, and clinics to rapidly implement telehealth services, and delivery of patient care by the American health system will be forever changed. We are "going virtual" in the middle of a crisis, but we must still keep in mind the most essential phases of transformation and how best to deploy telehealth effectively. Whether or not healthcare enterprises are ready, the new reality is that virtual care has arrived.

AUTHOR CONTRIBUTIONS

All authors contributed sufficiently and meaningfully to the conception, design, drafting, editing, and revising the manuscript. All authors approved the final version for submission and agree to be accountable for all aspects of the work.

CONFLICTS OF INTEREST STATEMENT

JW reports working as a consultant with Access Physicians, a telemedicine company, outside the submitted work. All authors report no conflicts of interest related to the topic of the article.

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Exhibit 18

Morbidity and Mortality Weekly Report

Universal and Serial Laboratory Testing for SARS-CoV-2 at a Long-Term Care Skilled Nursing Facility for Veterans — Los Angeles, California, 2020

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On May 22, 2020, this report was posted as an MMWR *Early Release on the* MMWR *website (https://www.cdc.gov/mmwr).*

On March 28, 2020, two residents of a long-term care skilled nursing facility (SNF) at the Veterans Affairs Greater Los Angeles Healthcare System (VAGLAHS) had positive test results for SARS-CoV-2, the cause of coronavirus disease 2019 (COVID-19), by reverse transcription–polymerase chain reaction (RT-PCR) testing of nasopharyngeal specimens collected on March 26 and March 27. During March 29–April 23, all SNF residents, regardless of symptoms, underwent serial (approximately weekly) nasopharyngeal SARS-CoV-2 RT-PCR testing, and positive results were communicated to the county health department. All SNF clinical and nonclinical staff members were also screened for SARS-CoV-2 by RT-PCR during March 29–April 10. Nineteen of 99 (19%) residents and eight of 136 (6%) staff members had positive test results for SARS-CoV-2 during March 28–April 10; no further resident cases were identified on subsequent testing on April 13, April 22, and April 23. Fourteen of the 19 residents with COVID-19 were asymptomatic at the time of testing. Among these residents, eight developed symptoms 1–5 days after specimen collection and were later classified as presymptomatic; one of these patients died. This report describes an outbreak of COVID-19 in an SNF, with case identification accomplished by implementing several rounds of RT-PCR testing, permitting rapid isolation of both symptomatic and asymptomatic residents with COVID-19. The outbreak was successfully contained following implementation of this strategy.

VAGLAHS includes 150 long-term care beds in three SNF patient care areas, or wards; SNF wards A and B are in building 1, and ward C is in building 2. Buildings 1 and 2 do not share common areas, but residents might have indirect contact with outside persons while receiving medical services such as dialysis. These wards admit residents who require intravenous antibiotics, complex wound care, other rehabilitation needs, routine dialysis, chemotherapy, or radiation therapy; underlying conditions, including chronic obstructive pulmonary disease, hypertension, cardiovascular disease, and chronic kidney disease, are common. At the time of the outbreak, 99 (66%) beds were occupied; >95% of residents were men aged 50–100 years. All data were abstracted from the VAGLAHS electronic health record system on which all records are maintained on inpatients, SNF residents, and outpatients.

To reduce the risk for introduction of SARS-CoV-2, on March 6, all VAGLAHS staff members and visitors were screened for symptoms of COVID-19 (i.e., fever, cough, or shortness of breath), travel to countries that had CDC travel warnings for COVID-19, and any close contact with persons with known COVID-19; those with relevant symptoms or exposures were not allowed entry to any area of the facility. On March 11, all SNF admissions were suspended, and daily temperature and symptom screening began for all residents. Residents with fever or lower respiratory tract signs or symptoms were placed on droplet and contact precautions in single-person rooms. On March 17, visitors were prohibited from entering any SNF building.

On March 26, the index patient (patient A0.1[†]) in ward A developed fever. A second ward A patient (patient A0.2) developed fever and cough on March 27. Nasopharyngeal swabs collected the day of fever onset were reported as positive for SARS-CoV-2 for both patients A0.1 and A0.2 on March 28. In response, during March 29–31, VAGLAHS staff members screened all building 1 (wards A and B) residents, regardless of symptoms, by SARS-CoV-2 RT-PCR testing of nasopharyngeal swabs. On March 29, a resident from ward C (C0.1) in building 2 became symptomatic; SARS-CoV-2 RT-PCR nasopharyngeal testing was positive on March 30, prompting testing of all building 2 residents on March 31. All three residents with a diagnosis of COVID-19 (patients A0.1, A0.2, and C0.1) were transferred to the affiliated acute care hospital for isolation and clinical management.

Implementation of infection control procedures (i.e., hand hygiene, droplet and contact precautions for persons with fever or lower respiratory tract signs or symptoms), and strategies for case identification and containment were reviewed with SNF staff members. Although staff members could previously be assigned to daily shifts on different wards, beginning on March 28, each staff member was assigned to a single ward.

[*] These authors contributed equally to this report.

[†] Residents in this report are labeled as follows: the first character (A, B, C) represents the originating ward of the patient with a diagnosis of COVID-19; the numeric character preceding the decimal point represents whether they were identified as an index patient (0) or in a round of surveillance testing (1, 2); the numeric character following the decimal point (1–10) represents the individual patient ordered chronologically by receipt of positive test result.

During the outbreak, an infection control nurse regularly reviewed and monitored the use of recommended personal protective equipment (PPE) with all SNF staff members. Protocols for use of PPE, based on CDC guidance,[§] did not change during the outbreak. All staff members were screened by RT-PCR at least once during March 29–April 10.

RT-PCR Testing of Residents

RT-PCR testing of all residents, conducted during March 29–March 31 in wards A, B, and C, identified SARS-CoV-2 in four (13%) of 30 residents on ward A, none of 30 residents on ward B, and 10 (28%) of 36 residents on ward C. All infected residents were transferred to the affiliated hospital for isolation and clinical management, and the wards were closed to new admissions. Following the initial testing, some residents moved between the SNF and the affiliated hospital for treatment of medical conditions unrelated to COVID-19.

Considering the number of cases identified through initial testing, the Infection Control team, in coordination with the SNF nursing staff members, implemented serial (approximately weekly) RT-PCR testing among residents of wards A and C until no additional residents received a positive test result. On April 3, all 22 remaining ward A residents received negative test results and were subsequently transferred to wards B and C. Ward A was converted into a COVID-19 recovery unit to cohort patients without acute hospital needs with continued RT-PCR–positive test results during convalescence. On April 6, the 28 residents on ward C were retested; two had positive test results and were transferred to the COVID-19 recovery unit (Box). A third round of testing was performed on ward C on April 13; all 27 residents had negative test results. During April 22–23, a final round of testing conducted on wards B and C identified no positive test results among the remaining 83 residents.

In total, three residents were identified with COVID-19 based on testing conducted because of symptoms, and 16 additional residents were identified with COVID-19 because of RT-PCR testing, two of whom reported or were identified with symptoms at the time of RT-PCR testing (Table). Fourteen of the 19 (74%) residents with COVID-19 reported no symptoms at the time of testing; among these residents, eight were presymptomatic, developing symptoms 1–5 days after the date of specimen collection. One of the three initially identified patients, C0.1, a man aged >90 years, died.

[§] https://www.cdc.gov/coronavirus/2019-ncov/hcp/infection-control.html.

BOX. Discharge criteria for Veterans Affairs Greater Los Angeles Healthcare System (VAGLAHS) facility patients with positive test results for SARS-CoV-2 and criteria for transfer back to acute care hospital — Los Angeles, California, 2020

Required criteria for discharge from acute care to COVID-19 recovery unit*

- Confirmed COVID-19 diagnosis
- During the preceding 2 days
  - Temperature <100°F (<37.8°C)
  - Respiratory rate <24 per minute
- The day before discharge
  - Room air pulse oximetry >93% or no change from established baseline for residents with chronic oxygen requirement for 24 hours before transfer
  - D-dimer <2 μg/mL FEU (per VAGLAHS test readout) within 24 hours before transfer
  - White blood cells <11,000/μL
- Resident satisfies all other eligibility criteria for admission to VA SNF

Required criteria for discharge from COVID-19 recovery unit to VA SNF†

- 14 days have passed since admission to hospital and no fever for ≥72 hours without the use of fever-reducing medications and
- Negative results of a Food and Drug Administration Emergency Use Authorized COVID-19 molecular assay for detection of SARS-CoV-2 RNA from at least two consecutive nasopharyngeal swab specimens collected ≥24 hours apart (total of two negative specimens)

Required criteria for transfer back to acute care hospital

- Room air pulse oximetry <94% or change from established baseline for residents with chronic oxygen requirement
- Signs or symptoms as per the judgment of the COVID-19 recovery unit staff members
- Within a 24-hour period, both of the following:
  - Temperature >99.9°F (>37.7°C)
  - Respiratory rate ≥24 per minute

Abbreviations: COVID-19 = coronavirus disease 2019; FEU = fibrinogen equivalent units; SNF = long-term care skilled nursing facility; VA = Veterans Affairs.

* Laboratory tests are not required for asymptomatic comfort care residents who are otherwise candidates for transfer to the COVID-19 recovery unit.

† A test-based strategy is preferred for discontinuation of transmission-based precautions for residents who are being transferred to a long-term care or assisted living facility. All testing must be complete before transfer.

TABLE. Characteristics of long-term care skilled nursing facility residents with positive test results for SARS-CoV-2 (N = 19) — Veterans Affairs Greater Los Angeles Healthcare System, Los Angeles, California, 2020

Characteristic	No. (%)			
	Asymptomatic* (n = 6)	Presymptomatic* (n = 8)	Symptomatic* (n = 5)	All (N = 19)
Demographic				
Age, yrs, median (IQR)	75 (72–75)	67 (66–84.5)	84 (70–85)	75 (66–85)
Male sex	6 (100)	8 (100)	5 (100)	19 (100)
Race/Ethnicity†				
Asian	—	—	—	—
Black or African American	2 (33)	4 (50)	2 (40)	8 (42)
Native Hawaiian or Pacific Islander	—	1 (13)	—	1 (5)
White	3 (50)	3 (38)	2 (40)	8 (42)
Unknown	1 (17)	—	1 (20)	2 (11)
Hispanic	—	—	—	—
Underlying medical condition§				
Hypertension	5 (83)	5 (63)	3 (60)	13 (68)
Cardiovascular disease	3 (50)	4 (50)	5 (100)	12 (63)
Diabetes	4 (67)	5 (63)	2 (40)	11 (58)
Body mass index >30 kg/m^2	3 (50)	2 (25)	2 (40)	7 (37)
Chronic kidney disease (stage 4 or above)	—	2 (25)	1 (20)	3 (16)
Chronic obstructive pulmonary disease	1 (17)	1 (13)	2 (40)	4 (21)
Symptoms at time of or after testing¶				
Constitutional symptom	—	6 (75)	5 (100)	11 (58)
Fever	—	6 (75)	5 (100)	11 (58)
Myalgia	—	—	1 (20)	1 (5)
Headache	—	1 (13)	1 (20)	2 (11)
Respiratory symptom	—	4 (38)	5 (100)	9 (47)
Cough	—	2 (25)	5 (100)	7 (37)
Dyspnea	—	2 (25)	1 (20)	3 (16)
Gastrointestinal symptom	—	5 (63)	1 (20)	6 (32)
Nausea	—	1 (13)	—	1 (5)
Emesis	—	1 (13)	—	1 (5)
Diarrhea	—	2 (25)	—	2 (11)
Poor appetite	—	3 (38)	1 (20)	4 (21)
Laboratory findings on admission,,†† median (IQR) [No.]**				
WBC (x 1,000/μL)	4.32 (3.67–5.91) [5]	4.35 (3.93–6.10) [8]	6.24 (6.09–7.08) [5]	5.32 (3.94–6.20) [18]
Lymphocytes (%)	31.5 (26.4–32.7) [5]	22.0 (17.5–25.9) [8]	16.7 (11.4–16.9) [5]	22.0 (17.0–30.3) [18]
Lymphocytes (x 1,000/μL)	1,200 (1,140–1,200) [5]	960 (775–1,105) [8]	880 (770–1,200) [5]	1,025 (835–1,200) [18]
Creatinine (mg/dL)	1.00 (0.89–1.05) [4]	1.01 (0.82–1.07) [8]	2.84 (1.99–3.23) [5]	1.04 (0.88–1.41) [17]
AST (U/L)	19 (17–21) [3]	24 (20–29) [5]	31 (NA) [1]	22 (19–29) [9]
ALT (U/L)	16 (13–21) [4]	17 (14–44) [6]	28 (21–28) [3]	16 (14–28) [13]
D–Dimer (μg/mL FEU)	0.54 (0.42–0.83) [4]	0.66 (0.55–1.42) [7]	0.94 (0.59–1.17) [3]	0.63 (0.50–1.29) [14]
Ferritin (ng/mL)	60.8 (51.2–99.7) [5]	343.0 (162.5–540.6) [8]	184.6 (NA) [2]	179.1 (59.0–354.2) [15]
CRP (mg/dL)	0.605 (0.420–1.190) [4]	1.070 (0.900–2.565) [7]	6.765 (NA) [2]	1.03 (0.71–2.63) [13]
Outcomes				
Supplemental oxygen required	—	4 (50)	4 (80)	8 (42)
Death	—	—	1 (20)	1 (5)
Length of hospital stay, days, median (IQR)	6 (1–6)	9 (7–10)	10 (5–13)	6 (5–10)

Abbreviations: ALT = alanine aminotransferase; AST = aspartate aminotransferase; CRP = C-reactive protein; FEU = fibrinogen equivalent units; IQR = interquartile range (1st–3rd); NA = not applicable; WBC = white blood cell.

* Patients were classified as symptomatic if they had at least one listed symptom at the time of first positive specimen collection, presymptomatic if they did not exhibit symptoms at the time of specimen collection but later developed at least one listed symptom, and asymptomatic if they did not exhibit symptoms at any time between specimen collection and the last date of data collection.

† Asian, black, Native Hawaiian or Pacific Islander, and white residents in this cohort were non-Hispanic; Hispanic persons could be of any race.

§ Comorbidities were determined based on documented SNOMED CT and *International Classification of Diseases, Ninth Revision* codes and review of patient's vital signs, laboratory values, imaging findings, and provider notes. Chronic kidney disease stage was calculated using the Cockcroft-Gault equation to determine creatinine clearance; patients with estimated glomerular filtration rates <30 mL per minute were considered stage 4 and above. One symptomatic patient was dialysis-dependent. Cardiovascular disease includes coronary artery disease, peripheral artery disease, and previous cerebrovascular accident.

¶ Symptoms were collected through review of all provider notes from March 26 through April 20. Constitutional, respiratory, and digestive symptoms were counted if any one of the symptoms at the time of or after testing was present as a change from baseline. Fever includes measured temperature >100.4°F (>38°C) or fever reported by provider.

** These values include the first available laboratory results within 48 hours of admission for each patient.

†† Reference values are as follows: WBC = 4.5–11.0 x 1,000 per μL; lymphocytes = 600–4,800 x 1,000 per μL; % lymphocytes = 20%–40%; creatinine = 0.66–1.28 mg per dL; AST = 13–35 U per liter; ALT = 7–45 U per liter; d-Dimer = 0.00–0.42 μg per mL FEU; ferritin = 22–322 ng per mL; CRP = 0–0.744 mg per dL.

RT-PCR Testing of Staff Members

During March 29–April 10, universal RT-PCR testing of all 136 staff members identified eight (6%) infections: three in registered nurses and five in licensed vocational nurses, all of whom worked in wards A or C. Four of the eight infected staff members were symptomatic and were tested within 2 days after symptom onset; one developed fever at work and was immediately tested and sent home. None of the others worked during or after symptom onset. Although serial RT-PCR testing of staff members was not feasible because of limited testing supplies, testing remained available for symptomatic staff members. No cases among staff members were identified after the initial round of testing.

Discussion

During March 26–April 23, a total of 19 cases of COVID-19 were diagnosed among 99 SNF residents (19.2%). At the time of diagnosis, 14 of 19 residents were asymptomatic, eight of whom were presymptomatic; one patient died. One half of the eight staff members with a diagnosis of COVID-19 were initially asymptomatic. This report demonstrates the high prevalence of asymptomatic SARS-CoV-2 infection that can occur in SNFs, highlighting the potential for widespread transmission among residents and staff members before illness is recognized and demonstrating the utility of universal RT-PCR testing for COVID-19 after case identification in this setting.

SNFs and other long-term care facilities where residents have high rates of underlying medical conditions are particularly susceptible to COVID-19 outbreaks (*1*–*3*). Limited testing and delayed recognition of symptomatic cases in congregate living settings can result in large and protracted outbreaks (*3*). In a recently described outbreak within homeless shelters, RT-PCR testing of all residents, coupled with rapid isolation and cohorting procedures, limited transmission (*4*).

Multiple studies have demonstrated efficient transmission of SARS-CoV-2 from infected persons who are not yet symptomatic (*1*,*5*,*6*). One study in Italy showed through community surveillance testing that 43% of persons with confirmed SARS-CoV-2 infection were asymptomatic and that transmission from asymptomatic and presymptomatic persons also occurred within households.¶ In this cohort, transmission from asymptomatic persons was likely, because a large proportion of residents and staff members did not have symptoms at the time of diagnosis.

RT-PCR testing among SNF residents was repeated approximately weekly until all residents had negative test results. Serial testing aided the identification of subsequent cases. Testing of staff members might be especially important because they can acquire SARS-CoV-2 in the community and reintroduce it into the SNF. Although serial laboratory testing of staff members was considered after the initial round of testing, insufficient supplies limited the ability to fully carry this out.

Swift isolation and cohorting of residents with COVID-19 reduced further transmission within the SNF; residents who had positive test results were quickly transferred out of the SNF, either to the acute care hospital or directly to a separate COVID-19 recovery unit. The conversion of ward A into a COVID-19 recovery unit allowed cohorting of clinically stable residents within the SNF without requiring transfer to the affiliated hospital. This measure decreased burden on the hospital and allowed residents to remain in a familiar setting. Restricting staff movement between SNF wards reduced potential for transmission between wards. With these measures, the outbreak in ward A was suppressed within 1 week, the outbreak in ward C was suppressed within 2 weeks, and no cases occurred in ward B.

The Centers for Medicare & Medicaid Services currently recommends symptom screening of all SNF patients and cohorting of staffing teams for infected and uninfected patients (*7*). Medicare has expanded coverage for SARS-CoV-2 tests (*7*), and, as of April 30, Los Angeles County Department of Public Health had endorsed mass testing if a COVID-19 case is identified in a long-term care facility (*8*). At the time of the VAGLAHS SNF outbreak, the Los Angeles County Department of Public Health criteria for testing did not include RT-PCR testing of asymptomatic persons (*9*).

The findings in this report are subject to at least three limitations. First, because residents' recall might be limited by cognitive disorders or recall bias, over- or underreporting of symptoms was possible and could have affected classification of patients as symptomatic or asymptomatic. Second, symptom data obtained from medical records might have been incomplete, because the daily symptom screening only included fever and respiratory symptoms and did not include symptoms more recently recognized as being associated with COVID-19, such as loss of sense of smell or taste,** which could have led to an overestimation of the asymptomatic population. Finally, because the all-male cohort of patients with laboratory-confirmed COVID-19 might have comorbidity profiles that differ from other groups, these findings might not be generalizable to other SNFs.

This investigation demonstrates the benefit of RT-PCR testing of SNF residents and staff members for SARS-CoV-2 after an initial case of COVID-19 is diagnosed. Identification of asymptomatic COVID-19 cases after initial RT-PCR testing supports implementation of serial laboratory testing in SNFs

¶ https://www.medrxiv.org/content/10.1101/2020.04.17.20053157v1.

** https://www.cdc.gov/coronavirus/2019-ncov/hcp/clinical-criteria.html.

Summary

What is already known about this topic?

Long-term care skilled nursing facilities (SNFs) are at high risk for COVID-19 outbreaks. Many SNF residents and staff members identified with COVID-19 are asymptomatic and presymptomatic.

What is added by this report?

After identification of two cases of COVID-19 in an SNF in Los Angeles, universal, serial reverse transcription–polymerase chain reaction (RT-PCR) testing of residents and staff members aided in rapid identification of additional cases and isolation and cohorting of these residents and interruption of transmission in the facility.

What are the implications for public health practice?

Universal and serial RT-PCR testing in SNFs can identify cases during an outbreak, and rapid isolation and cohorting can help interrupt transmission.

where COVID-19 cases have been identified. Identification of asymptomatic and presymptomatic residents with positive laboratory results for SARS-CoV-2 facilitated rapid transfer of these residents out of the SNF until a dedicated ward to cohort those with COVID-19 was created within the SNF, thereby reducing transmission. In congregate living settings that include persons with conditions that might place them at high risk for severe COVID-19, universal and serial laboratory-based testing for SARS-CoV-2 is an effective strategy that can be implemented for rapid identification of infection to minimize transmission.

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Heather D'Adamo; John Vallone; Feliza Calub; skilled nursing facility staff members and residents of the Veterans Affairs Greater Los Angeles Healthcare System.

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All authors have completed and submitted the International Committee of Medical Journal Editors form for disclosure of potential conflicts of interest. No potential conflicts of interest were disclosed.

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Exhibit 19

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July 27, 2020

VIA EMAIL AND US MAIL
Davis Wright Tremaine LLP
Hope R. Levy-Biehl
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865 South Figueroa Street
Los Angeles, CA 90017-2566

HopeLevyBiehl@dwt.com

RE: Verity Sale of Seton Medical Center and Seton Coastside to AHMC Healthcare Inc.

Dear Ms. Levy-Biehl:

Under Corporations Code section 5914 et seq., and California Code of Regulations, title 11, section 999.5, the Attorney General has considered the proposed transaction submitted by Verity Health System of California, Inc. In coming to the decisions, described below, we have carefully considered the factors set forth in Corporations Code section 5917 and the applicable regulations, including whether the transaction is in the public interest and whether the transaction affects the availability or accessibility of health care services to the affected community. Our decision is based on the material contained in the notice, the information and documents subsequently submitted by the applicants, comments made by members of the public, discussions with the applicants, and the results of our investigation.

The Attorney General hereby conditionally consents to Verity Health System of California, Inc.'s proposed sale of the assets of Seton Medical Center and Seton Coastside to AHMC Healthcare Inc. and/or one or more of its affiliates. The Attorney General's conditional approval of the sale is subject to the attached conditions that are incorporated by reference herein.

Sincerely,

[Original signed]
SCOTT CHAN
Deputy Attorney General

For XAVIER BECERRA
Attorney General

Conditions to the Sale of Seton Medical Center[1] and Seton Coastside[2] and Approval of the Asset Purchase Agreement by and among Verity Health System of California, Inc., Verity Holdings, LLC, Seton Medical Center, and AHMC Healthcare, Inc.

I.

These Conditions shall be legally binding on Verity Health System of California, Inc., a California nonprofit public benefit corporation, Verity Holdings, LLC, a California limited liability company, Seton Medical Center, a California nonprofit public benefit corporation, Seton Medical Center Foundation, a California nonprofit corporation, Verity Business Services, a California nonprofit public benefit corporation, Verity Medical Foundation, a California nonprofit public benefit corporation, and AHMC Healthcare, Inc., a California corporation, any other subsidiary, parent, general partner, manager, affiliate, successor, successor in interest, assignee, or person or entity serving in a similar capacity of any of the above-listed entities including, but not limited to, any entity succeeding thereto as a result of consolidation, affiliation, merger, or acquisition of all or substantially all of the real property or operating assets of Seton Medical Center and Seton Coastside, or the real property on which Seton and Seton Coastside are located, any and all current and future owners, lessees, licensees, or operators of Seton Medical Center and Seton Coastside, and any and all current and future lessees and owners of the real property on which Seton Medical Center and Seton Coastside are located.

II.

The transaction conditionally approved by the Attorney General consists of the Asset Purchase Agreement dated March 30, 2020, by and among, Verity Health System of California, Inc., a California nonprofit public benefit corporation, Verity Holdings, LLC, a California limited liability company, Seton Medical Center, a California nonprofit public benefit corporation, and AHMC Healthcare, Inc., a California corporation, or AHMC Healthcare, Inc.'s designated affiliates or assignees[3], and any agreements or documents referenced in or attached to as an exhibit or schedule and any other documents referenced in the Asset Purchase Agreement,

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[1] Throughout this document, the term "Seton Medical Center" shall mean the general acute care hospital located at 1900 Sullivan Ave., Daly City, CA 94015, and any other clinics, laboratories, units, services, or beds included on the license issued to Seton Medical Center by the California Department of Public Health, effective January 1, 2020, unless otherwise indicated.

[2] Throughout this document, the term "Seton Coastside" shall mean the skilled nursing facility with 5 general acute care beds located at 600 Marine Boulevard, Moss Beach, CA 94038-9641, and any other clinics, laboratories, units, services, or beds included on the license issued to Seton Medical Center by the California Department of Public Health, effective January 1, 2020, unless otherwise indicated.

[3] Unless otherwise noted, all references to AHMC Healthcare Inc. shall include any AHMC Healthcare Inc.'s designated affiliates and assignees, including AHMC Seton Medical Center LLC and entity forms designated in Condition I.

including, but not limited to the Sale Leaseback Agreement and Interim Management Agreement.

All the entities listed in Condition I, and any other parties referenced in the above agreements shall fulfill the terms of these agreements or documents and shall notify and obtain the Attorney General's approval in writing of any proposed modification or rescission of any of the terms of these agreements or documents. Such notifications shall be provided at least sixty days prior to their effective date in order to allow the Attorney General to consider whether they affect the factors set forth in Corporations Code section 5917 and obtain the Attorney General's approval.

III.

For approximately 5.5 years (until December 13, 2025) from the closing date of the Asset Purchase Agreement, Verity Health System of California, Inc., Verity Holdings, LLC, AHMC Healthcare Inc., and all future owners, managers, lessees, licensees, or operators of Seton Medical Center and Seton Coastside shall be required to provide written notice to the Attorney General sixty days prior to entering into any agreement or transaction to do any of the following:

(a) Sell, transfer, lease, exchange, option, convey, manage, or otherwise dispose of Seton Medical Center or Seton Coastside;

(b) Transfer control, responsibility, management, or governance of Seton Medical Center or Seton Coastside. The substitution, merger or addition of a new member or members of the governing body of AHMC Healthcare Inc. that transfers the control of, responsibility for or governance of Seton Medical Center or Seton Coastside, shall be deemed a transfer for purposes of this Condition. The substitution or addition of one or more members of the governing body of AHMC Healthcare Inc., or any arrangement, written or oral, that would transfer voting control of the members of the governing body of AHMC Healthcare Inc. shall also be deemed a transfer for purposes of this Condition.

IV.

For the remainder of the term[4] (until December 13, 2025), Seton Medical Center and Seton Coastside shall be operated and maintained as a licensed general acute care hospital (as defined in California Health and Safety Code Section 1250).

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[4] The term "For the remainder of the term" refers to the Conditions to Change in Control and Governance of Seton Medical Center and Seton Coastside and Approval of the System Restructuring and Support Agreement by and among Daughters of Charity Ministry Services Corporation, Daughters of Charity Health System, Certain Funds Managed by BlueMountain Capital Management, LLC, and Integrity Healthcare, LLC., dated December 3, 2015. The System Restructuring and Support Agreement closed on December 14, 2015.

V.

For the remainder of the term (until December 13, 2025), the Seton Medical Center shall maintain 24-hour emergency medical services at a minimum of 18 treatment stations with the same types and/or levels of services, including:

a. Designation as a STEMI Receiving Center; and
b. Advanced certification as a Primary Stroke Center;

VI.

For the remainder of the term (until December 13, 2025), Seton Medical Center shall maintain the following services at current[5] licensure, types, and/or levels of services, including:

a. Cardiac services, including the 2 cardiac catheterization labs;
b. Critical care services, including a minimum of 20 intensive care/coronary care beds;
c. Psychiatric services, including a minimum of 24 distinct part beds with at least 20 beds available for the geriatric psychiatric unit;
d. Women's health services, including the Seton Breast Health Center and women's imaging and mammography services; and
e. Sub-acute services, including a minimum of 44 sub-acute beds and Medi-Cal Certification as a sub-acute unit.

For the remainder of the term (until December 13, 2025) AHMC Healthcare Inc. shall not place all or any portion of its above-listed licensed-bed capacity or services in voluntary suspension or surrender its license for any of these beds or services.

VII.

For at least five years from the closing date of the Asset Purchase Agreement, Seton Medical Center shall maintain the following services at current licensure, types, and/or levels of services:

a. Gastroenterology services, including enteroscopy, endoscopy, and colonoscopy services;
b. Cancer services, including inpatient oncology services, interventional radiology, radiation therapy, and for those patients that may be in need of infusion therapy treatment, a referral process to other nearby hospitals or clinics, including Stanford Cancer Center, UCSF Helen Diller Comprehensive Care Cancer Clinic, St. Mary's Cancer Center, or other health facility that provides infusion therapy services. The referral process shall be memorialized in the policies and procedures at Seton Medical Center and should include procedures on how to assist patients with accessing infusion therapy at the nearby hospitals or clinics, and the transferring of patient medical records;
c. Orthopedics and rehabilitation services, including spine care services;
d. Diabetes services, including Northern California Diabetes Institute;

[5] The term "current" or "currently" throughout this document means as of January 1, 2020.

e. Wound care services, including Seton Center for Advanced Wound Care; and
f. Nephrology services.

For at least five years from the closing date of the Asset Purchase Agreement, AHMC Healthcare Inc. shall not place all or any portion of its above-listed licensed-bed capacity or services in voluntary suspension or surrender its license for any of these beds or services.

VIII.

For the remainder of the term (until December 13, 2025), AHMC Healthcare Inc. shall maintain the following services at current licensure, types, and/or levels of services at Seton Coastside including:

a. 24-hour "standby" Emergency Department, with a minimum of 7 treatment stations; and
b. Skilled nursing services, including a minimum of 116 licensed skilled nursing beds.

IX.

For at least five years from the closing date of the Asset Purchase Agreement, AHMC Healthcare Inc. shall either: (1) operate clinics (listed below) with the same number of physicians and mid-level provider full-time equivalents in the same or similar alignment structures, or (2) sell the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the purchaser(s) to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein, or (3) ensure that a third party is operating the clinics (listed below) with the same number of physician and mid-level provider full-time equivalents and require the third party to maintain such services for 5 years from the closing date of the Asset Purchase Agreement and to participate in the Medi-Cal and Medicare programs as required in the conditions herein. For any of these options, each clinic can be moved to a different location within a three-mile radius of each clinic's current location, and Seton Medical and Seton Coastside can utilize an alternative structure in providing such services.

The following clinics and services are subject to this condition and shall maintain the same types and/or levels of services provided, including women's healthcare services, and mammography services:

a. Women's Health Services, located at 1850 Sullivan Avenue, Suite 190, Daly City California.
b. Imaging Services located at 1850 Sullivan Avenue, Suite 100, Daly City California; and
c. Wound Care Services, located at 1850 Sullivan Avenue, Suite 115, Daly City California.

X.

For six fiscal years from the closing date of the Asset Purchase Agreement, AHMC Healthcare Inc. shall provide an annual amount of Charity Care (as defined below) at Seton Medical Center

and Seton Coastside equal to or greater than $1,055,863 (the Minimum Charity Care Amount). For purposes hereof, the term "charity care" shall mean the amount of charity care costs (not charges) incurred by AHMC Healthcare Inc. in connection with the operation and provision of services at Seton Medical Center and Seton Coastside. The definition and methodology for calculating "charity care" and the methodology for calculating "costs" shall be the same as that used by Office of Statewide Health Planning Development (OSHPD) for annual hospital reporting purposes.[6]

AHMC Healthcare Inc.'s obligation under this Condition shall be prorated on a daily basis if the closing date of the Asset Purchase Agreement is a date other than the first day of AHMC Healthcare Inc.'s fiscal year.

For the second fiscal year and each subsequent fiscal year, the Minimum Charity Care Amount shall be increased (but not decreased) by an amount equal to the Annual Percent increase, if any, in the 12 Months Percent Change: All Items Consumer Price Index for All Urban Consumers in the San Francisco-Oakland-San Jose, California Average Base Period: 1982-84=100 (as published by the U.S. Bureau of Labor Statistics). If the actual amount of charity care provided at Seton Medical Center and Seton Coastside for any fiscal year is less than the Minimum Charity Care Amount (as adjusted pursuant to the above-referenced Consumer Price Index) required for such fiscal year, AHMC Healthcare Inc. shall pay an amount equal to the deficiency to one or more tax-exempt entities that provide direct healthcare services to residents in the Seton Medical Center service area (14 ZIP codes), as described on page 57 in the Healthcare Impact Report authored by JD Healthcare dated June 18, 2020. (Exhibit 1.) Such payment(s) shall be made within six months following the end of such fiscal year.

XI.

Charity care which entails free medical care services shall be provided by AHMC Healthcare Inc. at Seton Medical Center and Seton Coastside to patients who are uninsured, underinsured, ineligible for governmental or other insurance coverage and who have family incomes not in excess of 250 percent of the Federal Poverty level. Partial Charity Care shall be provided to patients who have family incomes in excess of 250 percent but not to exceed 350 percent of the Federal Poverty Level. AHMC Healthcare Inc. will provide a sliding scale discount, on a discretionary and case by case basis, to financially qualified patients at Seton Medical Center who have family incomes in excess of 351 percent but not to exceed 500 percent of the Federal Poverty Level. AHMC Healthcare Inc. will memorialize these charity care and discount payment policies within 90 days from the closing of the Asset Purchase Agreement.

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[6] OSHPD defines charity care by contrasting charity care and bad debt. According to OSHPD, "the determination of what is classified as . . . charity care can be made by establishing whether or not the patient has the ability to pay. The patient's accounts receivable must be written off as bad debt if the patient has the ability but is unwilling to pay off the account."

AHMC Healthcare Inc. shall take the following steps to ensure that patients at Seton Medical Center and Seton Coastside are informed about the hospitals' Charity Care and Partial Charity Care Discount Policy:

a. A copy of the Charity Care and Partial Charity Care Discount Policy and the plain language summary of the Charity Care and Partial Charity Care Discount Policy must be posted at Seton Medical Center and Seton Coastside in a prominent location in the emergency room, admissions area, and any other location in the hospital where there is a high volume of patient traffic, including waiting rooms, billing offices, and hospital outpatient service settings.
b. A copy of the Charity Care and Partial Charity Care Discount Policy, the application for financial assistance under its Charity Care and Partial Charity Care Discount Policy, and the plain language summary of the Charity Care and Partial Charity Care Discount Policy must be posted in a prominent place on each Seton Medical Center's and Seton Coastside's website(s).
c. If requested by a patient, a copy of the Charity Care and Partial Charity Care Discount Policy, the application for financial assistance under its Charity Care and Partial Charity Care Discount Policy, and the plain language summary must be sent by mail at no cost to the patient.
d. As necessary, and at least on an annual basis, AHMC Healthcare Inc. will place an advertisement regarding the availability of financial assistance at Seton Medical Center and Seton Coastside in a newspaper of general circulation in the communities served by the hospitals, or issue a Press Release to widely publicize the availability of the Charity Care and Partial Charity Care Discount Policy to the communities served by the hospitals.
e. AHMC Healthcare Inc. will work with affiliated organizations, physicians, community clinics, other health care providers, houses of worship, and other community-based organizations to notify members of the community (especially those who are most likely to require financial assistance) about the availability of financial assistance at Seton Medical Center and Seton Coastside.
f. By December 1, 2020, all staff that interacts with patients and their families concerning payment of services shall be given training to make patients and their families aware of and informed of AHMC Inc.'s Financial Assistance Policy at Seton Medical Center and Seton Coastside.

Any planning of, and any subsequent changes to, the charity care and collection policies, and charity care services provided at Seton Medical Center and Seton Coastside shall be decided after consultation with the Local Governing Board of Directors.

XI.

For six fiscal years from the closing date of the Asset Purchase Agreement AHMC Healthcare Inc. shall provide an annual amount of Community Benefit Services at Seton Medical Center and Seton Coastside equal to or greater than $704,864 (the "Minimum Community Benefit Services Amount") exclusive of any funds from grants. For six fiscal years, the following community benefit programs and services shall continue to be offered at its current or equivalent location:

a. Health Benefits Resource Center; and
b. RotaCare Clinic.

The planning of, and any subsequent changes to, the community benefit services provided at Seton Medical Center shall be decided after consultation with the Local Governing Board of Directors.

AHMC Healthcare Inc.'s obligation under this Condition shall be prorated on a daily basis if the effective date of the Asset Purchase Agreement is a date other than the first day of Verity Holding's fiscal year.

For the second fiscal year and each subsequent fiscal year, the Minimum Community Benefit Services Amount shall be increased (but not decreased) by an amount equal to the Annual Percent increase, if any, in the 12 Months Percent Change: All Items Consumer Price Index for All Urban Consumers in the San Francisco-Oakland-San Jose, California Average Base Period: 1982-84=100 (as published by the U.S. Bureau of Labor Statistics). If the actual amount of community benefit services provided at Seton Medical Center and Seton Coastside for any fiscal year is less than the Minimum Community Benefit Services Amount (as adjusted pursuant to the above-referenced Consumer Price Index) required for such fiscal year, AHMC Healthcare Inc. shall pay an amount equal to the deficiency to one or more tax-exempt entities that provide community benefit services for residents in Seton Medical Center's service area (14 ZIP codes), as defined on as described on page 57 in the Healthcare Impact Report authored by JD Healthcare dated June 18, 2020. (Exhibit 1.) Such payment(s) shall be made within six months following the end of such fiscal year.

XII.

For the remainder of the term (until December 13, 2025), AHMC Healthcare Inc. shall:

a) Be certified to participate in the Medi-Cal program at Seton Medical Center and Seton Coastside;

b) Maintain and have a Medi-Cal Managed Care contract with San Mateo Health Commission dba Health Plan of San Mateo or its successor to provide the same types and levels of emergency and non-emergency services at Seton Medical Center and Seton Coastside to Medi-Cal beneficiaries (both Traditional Medi-Cal and Medi-Cal Managed Care) as required in these Conditions, on the same terms and conditions as other similarly situated hospitals offering substantially the same services, without any loss, interruption of service or diminution in quality, or gap in contracted hospital coverage, unless the contract is terminated for cause or not extended or renewed by the Medi-Cal Managed Care Plan.

If AHMC Healthcare Inc. questions whether it is being reimbursed on the same terms and conditions as other similarly situated hospitals offering substantially the same services, it shall notify the Attorney General's Office with at least 120 days' notice prior to taking any action that

would effectuate any loss, interruption of service or diminution in quality, or gap in contracted hospital coverage or prior to giving any required notice of taking such action.

c) Be certified to participate in the Medicare program by maintaining a Medicare Provider Number to provide the same types and levels of emergency and non-emergency services at Seton Medical Center and Seton Coastside to Medicare beneficiaries (both Traditional Medicare and Medicare Managed Care) as required in these Conditions.

XIII.

For at least five years from the closing date of the Asset Purchase Agreement unless otherwise indicated, AHMC Healthcare Inc. shall maintain its contracts and any amendments and exhibits thereto with the County of San Mateo, unless otherwise terminated by the County of San Mateo, for services, including the following:

a. Participation in the Hospital Preparedness Program between the Hospital (jointly with Seton Coastside) and San Mateo County;
b. STEMI Receiving Center Designation between the Hospital and San Mateo County;
c. Financial Support for Seismic Upgrades between the Hospital and San Mateo County;
d. Information Sharing and Data Use Agreement between the Hospital and the County of San Mateo Health System;
e. Fee for Service Hospital Services Agreement between the Hospital (jointly with Seton Coastside) and San Francisco Health Plan;
f. Memorandum of Understanding between the Hospital and San Mateo County Behavioral Health and Recovery Services Division;
g. Affiliation Agreement for the Radiology Technology Program between the Hospital and San Mateo College District;
h. Affiliation Agreement for the Registered Nursing Program between the Hospital (jointly with Seton Coastside) and San Mateo College District;
i. Patient Transfer Agreement between the Hospital and San Mateo County Medical Center;
j. Rail Shuttle Bus Service Administration for Seton Shuttle Agreement between the Hospital and San Mateo County Transit District;
k. Medical Services Agreement between the Hospital and San Mateo Health Community Health Authority- Access and Care for Everyone (ACE) Program;
l. Hospital Medi-Cal Hospital Agreement between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo;
m. Memorandum of Understanding for Long Term Care Partnership Program between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo;
n. Care Advantage Hospital Service Agreement between the Hospital and San Mateo Health Commission dba Health Plan of San Mateo; and
o. Designation as a Primary Stroke Center between the Hospital and San Mateo County.

XIV.

For the remainder of the term (until December 13, 2025), AHMC Healthcare Inc. shall have at Seton Medical Center and Seton Coastside Local Governing Board(s) of Directors. AHMC

Healthcare Inc. shall consult with the Local Governing Board(s) of Directors prior to making changes to medical services, community benefit programs, making capital expenditures, making changes to the charity care and collection policies, and making changes to charity care services provided at Seton Medical Center and Seton Coastside. The members of the Local Governing Board(s) shall include physicians from Seton Medical Center's and Seton Coastside's medical staff, Seton Medical Center's and Seton Coastside's Chief(s) of Staff, one member designated by the San Mateo County Board of Supervisors, and community representatives from Seton Medical Center's and Seton Coastside's service area (14 ZIP codes), as described on page 57 in the Healthcare Impact Report authored by JD Healthcare dated June 18, 2020, attached hereto as Exhibit 1, including at least one member from a local healthcare advocacy group. Such consultation shall occur at least sixty days prior to the effective date of such changes or actions unless done so on an emergency basis.

XV.

AHMC Healthcare Inc. shall maintain privileges for current medical staff who are in good standing as of the closing date of the Asset Purchase Agreement. Further, the closing of the Asset Purchase Agreement shall not change the medical staff officers, committee chairs, or independence of the medical staff, and such persons shall remain in good standing for the remainder of their tenure at Seton Medical Center and Seton Coastside.

XVI.

AHMC Healthcare Inc. shall commit the necessary investments required to meet and maintain OSHPD seismic compliance requirements at Seton Medical Center and Seton Coastside through 2030 under the Alfred E. Alquist Hospital Facilities Seismic Safety Act of 1983, as amended by the California Hospital Facilities Seismic Safety Act, (Health & Saf. Code, § 129675-130070). AHMC Healthcare Inc. shall meet construction benchmarks which include the starting of construction on the 1963 Tower, and as detailed on the attached Exhibit 2.

XVII.

There shall be no discrimination against lesbian, gay, bisexual, or transgender individuals at Seton Medical Center and Seton Coastside, and no restriction or limitation on providing or making reproductive health services available at Seton Medical Center and Seton Coastside, its medical office buildings, or at any of its facilities. Both of these prohibitions shall be set forth in AHMC Healthcare Inc.'s written policies, adhered to, and strictly enforced.

XVIII.

For six fiscal years from the closing date of the Asset Purchase Agreement AHMC Healthcare Inc. shall submit to the Attorney General, no later than four months after the conclusion of each fiscal year, a report describing in detail compliance with each Condition set forth herein. The Chairman of the Board of Directors of AHMC Healthcare Inc. shall certify that the report is true, accurate, and complete and provide documentation of the review and approval of the report by

the Local Governing Board. If the Local Governing Board is unable to approve the report, the board shall include comments to the report highlighting its concerns with the report.

AHMC Healthcare Inc. will include in its annual reports a copy of the Office of Statewide Health Planning and Development's Summary Individual Disclosure Report that OSPHD produces using data audited by OSHPD. If OSHPD's Summary Individual Disclosure Report is not available then Prime Healthcare Services, Inc. must provide the full Hospital Disclosure Report.

XIX.

At the request of the Attorney General, all parties listed in Condition I, Verity Health System of California, Inc., Verity Holdings, LLC, AHMC Healthcare Inc., and any other parties referenced in the agreements listed in Condition II shall provide such information as is reasonably necessary for the Attorney General to monitor compliance with these Conditions and the terms of the transaction as set forth herein. The Attorney General shall, at the request of a party and to the extent provided by law, keep confidential any information so produced to the extent that such information is a trade secret or is privileged under state or federal law, or if the private interest in maintaining confidentiality clearly outweighs the public interest in disclosure.

XX.

Once the Asset Purchase Agreement is closed, all parties listed in Condition I, and any other parties referenced in the agreements listed in Condition II are deemed to have explicitly and implicitly consented to the applicability and compliance with each and every Condition and to have waived any right to seek judicial relief with respect to each and every Condition.

The Attorney General reserves the right to enforce each and every Condition set forth herein to the fullest extent provided by law. In addition to any legal remedies the Attorney General may have, the Attorney General shall be entitled to specific performance, injunctive relief, and such other equitable remedies as a court may deem appropriate for breach of any of these Conditions. Pursuant to Government Code section 12598, the Attorney General's office shall also be entitled to recover its attorney fees and costs incurred in remedying each and every violation.

Analysis of the Hospital's Service Area

Service Area Definition

The Hospital's service area is comprised of 14 ZIP Codes, from which approximately 78% of its discharges originated in CY 2018. Approximately 53% of the Hospital's discharges came from the top three ZIP Codes, located in Daly City, and South San Francisco. In CY 2018, the Hospital's market share in the service area was 12.6% based on inpatient discharges.

Patient Origin, CY2018						
Pat ZIP	Community	The Hosptial	Percentage of Discharges	Cumulative Percentage	Market Share	Total Discharges
94015	Daly City	1,396	26.0%	26.0%	29.0%	4,818
94014	Daly City	796	14.8%	40.8%	24.4%	3,260
94080	South San Francisco	629	11.7%	52.5%	12.9%	4,872
94044	Pacifica	493	9.2%	61.7%	17.2%	2,863
94112	San Francisco	262	4.9%	66.6%	4.1%	6,426
94066	San Bruno	220	4.1%	70.7%	6.6%	3,313
94134	San Francisco	115	2.1%	72.8%	3.2%	3,574
94132	San Francisco	98	1.8%	74.6%	5.0%	1,947
94019	Half Moon Bay	64	1.2%	75.8%	5.6%	1,140
94038	Moss Beach	29	0.5%	76.4%	13.6%	213
94005	Brisbane	24	0.4%	76.8%	7.2%	333
94037	Montara	18	0.3%	77.2%	11.6%	155
94018	El Granada	18	0.3%	77.5%	8.4%	215
94017	Daly City	6	0.1%	77.6%	20.0%	30
Sub-Total		**4,168**	**77.6%**		**12.6%**	**33,159**
All Other		1,203	22.4%	22.4%		
Grand Total		**5,371**	**100.0%**			

Source: OSHPD Discharge Database, CY 2018, Excludes Normal Newborns

Exhibit 1

Exhibit 2

AB 2190 Quarterly Reports for 10801 Seton Medical Center

OSHPD Buildin..	Bldg Name	Report Year and Quarter	Construction Project Nbr	Milestone Date	Milestone Description	Milestone Comments	Milestone Quarterly Update
BLD-00846	1963 Tower	2020 - Q2	I160019-41-00; I160019-41-01; I160019-41-02; I160019-41-03; H170372-41-00	4/1/2020	Start Construction		Waiver to be resolved pending conclusion of property sale which is ongoing
				7/1/2022	Complete Construction		On schedule pending actual start date of construction
BLD-00847	Front Wing	2020 - Q2	I160020-41-00; I160020-41-01	4/1/2020	Start Construction		Waiver to be resolved pending conclusion of property sale process which is ongoing
				7/1/2022	Complete Construction		On schedule pending actual start date of construction

PROOF OF SERVICE OF DOCUMENT

I am over the age of 18 and not a party to this bankruptcy case or adversary proceeding. My business address is:

10250 Constellation Blvd., Suite 1700, Los Angeles, CA 90067

A true and correct copy of the foregoing document entitled (*specify*) **APPENDIX OF LITERATURE AND ARTICLES IN SUPPORT OF ELEVENTH REPORT BY PATIENT CARE OMBUDSMAN, JACOB NATHAN RUBIN, MD, FACC, PURSUANT TO 11 U.S.C. § 333(b)(2)** be served or was served **(a)** on the judge in chambers in the form and manner required by LBR 5005-2(d); and **(b)** in the manner stated below:

1. TO BE SERVED BY THE COURT VIA NOTICE OF ELECTRONIC FILING (NEF): Pursuant to controlling General Orders and LBR, the foregoing document will be served by the court via NEF and hyperlink to the document. On (*date*) July 29, 2020, I checked the CM/ECF docket for this bankruptcy case or adversary proceeding and determined that the following persons are on the Electronic Mail Notice List to receive NEF transmission at the email addresses stated below:

☒ Service information continued on attached page

2. SERVED BY UNITED STATES MAIL:
On July 29, 2020, I served the following persons and/or entities at the last known addresses in this bankruptcy case or adversary proceeding by placing a true and correct copy thereof in a sealed envelope in the United States mail, first class, postage prepaid, and addressed as follows. Listing the judge here constitutes a declaration that mailing to the judge will be completed no later than 24 hours after the document is filed.

The Honorable Ernest M. Robles
United States Bankruptcy Court,
255 E. Temple Street, Suite 1560 /
Courtroom 1568
Los Angeles, CA 90012

☐ Service information continued on attached page

3. SERVED BY PERSONAL DELIVERY, OVERNIGHT MAIL, FACSIMILE TRANSMISSION OR EMAIL (state method for each person or entity served): Pursuant to F.R.Civ.P. 5 and/or controlling LBR, on July 29, 2020, I served the following persons and/or entities by personal delivery, overnight mail service, or (for those who consented in writing to such service method), by facsimile transmission and/or email as follows. Listing the judge here constitutes a declaration that personal delivery on, or overnight mail to, the judge will be completed no later than 24 hours after the document is filed.

☐ Service information continued on attached page

I declare under penalty of perjury under the laws of the United States that the foregoing is true and correct.

July 29, 2020,	Jason Klassi	/s/ Jason Klassi
Date	*Printed Name*	*Signature*

2:18-bk-20151-ER Notice will be electronically mailed to:

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