



The Financial Impact of COVID-19 on California Hospitals

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About the Authors

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Overview

In mid-March 2020, the world changed for Californians and their health care system. Responding to a Centers for Disease Control and Prevention projection of as many as 21 million COVID-19 infections across the US requiring hospitalization, California Governor Gavin Newsom announced a statewide “shelter-in-place” order¹ and requested that the state’s hospitals increase their inpatient bed supply from approximately 80,000 to 130,000 — a 62% increase.² Health care leaders and the state moved quickly to enhance capacity.³ These developments had significant and immediate impacts on hospital patient volume and expenses. This issue brief provides initial estimates of some of the immediate financial and longer-term impacts of the COVID-19 pandemic on California’s hospitals and health care system.

Before the pandemic, the state’s hospitals collectively averaged nearly 257,000 inpatient and four million outpatient visits each month.⁴ As COVID-19 containment efforts took hold, patient volume fell precipitously as hospitals discontinued elective and nonurgent care at the urging of the US Surgeon General, professional organizations, and state officials.⁵ Research conducted for this brief shows that outpatient services — which represent about 40% of total California hospital volume — decreased by more than 50% in the 60-day period after the statewide shelter-in-place order went into effect. Emergency department (ED) visits, which generate approximately 60% of all inpatient admissions in California,⁶ dropped by 40% to 60%⁷ in the same two-month period.

Outpatient services — which represent about 40% of total California hospital volume — decreased by more than 50% in the 60-day period after the statewide shelter-in-place order went into effect.

Meanwhile, hospital executives report that operating expenses increased with COVID-19 surge preparations, including implementation of new care protocols, procurement of suddenly expensive and hard-to-find personal protective equipment (PPE), and acquisition of ventilators and other intensive care unit (ICU) equipment. Salary and benefits for physicians and other workers, which typically compose 50% of a hospital’s operating expenses, grew with a rise in overtime and needs for temporary staffing.

With a decline in operating revenue and added COVID-19-related expenses, profitability at acute care hospitals in California has likely decreased substantially. Before the pandemic, California hospitals averaged \$8.7 billion in monthly total net patient revenue for all inpatient and outpatient services. Based on interviews, news reports, and our analysis of hospital financial information, the authors estimate that total net patient revenue in California hospitals is falling by \$3.2 billion per month in the first four months of the pandemic — March, April, May, and June 2020. This is a reduction of 37% from pre-COVID-19 levels.

Some of this reduction was partially offset by the federal Coronavirus Aid, Relief, and Economic Security (CARES) Act and the Paycheck Protection Program and Health Care Enhancement Act, which together provide \$175 billion in emergency funding for US hospitals and other health care organizations. As of early May, California hospitals had secured a bit less than \$3.5 billion of CARES funding, and providers collectively had received \$5.3 billion.⁸

In the medium and longer term, the authors project that hospitals in the state will experience significant downward pressure on revenue as more Californians shift from employer-based to public health insurance coverage. Meanwhile, absent additional public sources of funding, preparation for future pandemic and public health emergencies could add to underlying cost structures. These forces, along with ongoing pressure to reduce health system spending, will require hospitals to find new operational efficiencies to survive in a post-COVID-19 environment.

Historical Volume and Impact of the COVID-19 Crisis

Historical data on patient volume in general acute care hospitals in California is available from the Office of Statewide Health Planning and Development (Exhibit 1). In 2018, total outpatient visits in acute care hospitals averaged four million per month. Slightly more than one-third (37%) of these were clinic visits. Total inpatient admissions at acute care hospitals exceeded three million, or an average of just under 257,000 per month.

Emergency Departments

California hospitals usually see more than 1.1 million patients in their EDs each month and, on average, admit about 13% of these patients, generating more than 100,000 inpatient admissions per month (Exhibit 2). These ED admissions represent about 60% of total admissions to California hospitals.⁹ Usually, over half of ED visits (52%) are for minor-, low-, or moderate-severity issues but result in very few inpatient admissions. In contrast, over 40% of “severity w/ threat” ED patients are admitted as inpatients.

Exhibit 1. General Acute Care Hospital Utilization in California, 2018

	ANNUAL	%	MONTHLY
Outpatients			
ED Visits	13,337,424	28%	1,111,452
Clinic Visits	17,937,533	37%	1,494,794
Home Health Visits	1,489,555	3%	124,130
Referred Outpatient Visits	14,134,262	29%	1,177,855
Outpatient Surgeries	1,056,050	2%	88,004
Totals	47,954,824	100%	3,996,235
Inpatient Admissions			
► From Hospital ED	1,850,152	60%	154,179
► Direct, Not from ED (excluding births)	1,197,659	39%	99,805
► Births	35,776	1%	2,981
Totals	3,083,587	100%	256,966

There has been an unexpectedly large drop in ED visits, which is the most important source of patients and revenue for many hospitals.

Exhibit 2. Hospital Emergency Department Visits and Admissions Through Emergency Departments in California, 2018

ED VISIT TYPE	TOTAL ED VISITS		INPATIENT ADMISSIONS		
	Monthly	% of Total	% of ED Visits Admitted	Through ED	% Total (ED + Non-ED)
Minor (CPT 99281)	52,563	4%	0.6%	305	0.1%
Low/Moderate (CPT 99282)	155,941	13%	0.5%	852	0.3%
Moderate (CPT 99283)	409,113	35%	2.7%	11,189	4.4%
Severe w/o threat (CPT 99284)	310,759	26%	8.5%	26,411	10.3%
Severe w/ threat (CPT 99285)	249,998	21%	43.4%	108,545	42.2%
Acuity Level Unknown (no CPT Codes)	7,753	1%	0.0%	7,753	3.0%
Totals	1,186,127	100%	13.1%	155,054	60.3%

EXHIBITS 1 AND 2:

Note: Data include all general acute care hospitals and exclude specialty and Kaiser hospitals.

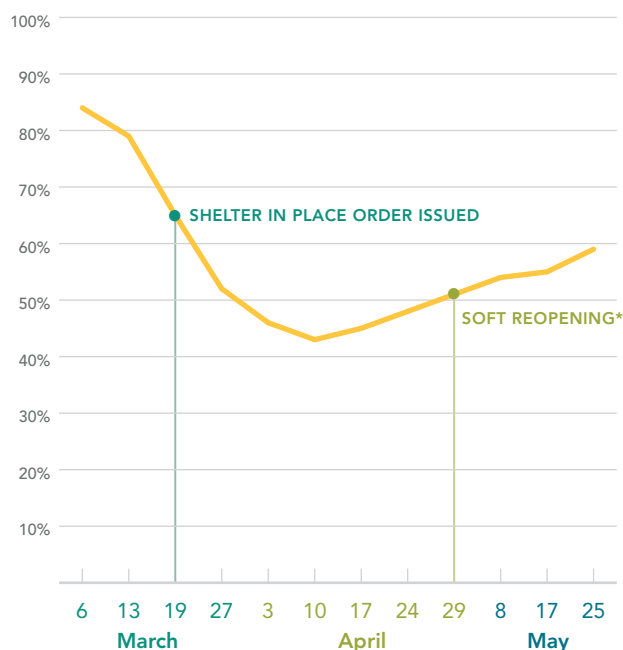
Source: *2018 Calendar Year Hospital Utilization Pivot Table*, Office of Statewide Health Planning and Development, last updated January 7, 2020.

While volume reductions were expected in hospital ambulatory and outpatient settings, there has been an unexpectedly large drop in ED visits. Interviews conducted for this brief and public reports suggest that California hospitals have experienced declines of 40% to 60% in ED visits.¹⁰

Real-time hospital registration data from a large sample of California hospitals (representing over 40% of the total statewide ED visit volume) confirm these findings.¹¹ Exhibit 3 shows small decreases in ED visits as early as February, and reductions of 35% as of March 19, 2020, the day the governor issued the shelter-in-place order. Throughout April, ED visits among this group were 54% lower than the prior year, with only slight increases in May. In mid-May, visits were still down about 45%.

Assuming ED visit volume continues to slowly rebound from its April low, the authors still project an average reduction of 39% in the first two months of the “soft reopen” period of May and June 2020 (Exhibit 4). These declines in ED visits could lead to an 11% decline in monthly inpatient admissions through the ED.

Exhibit 3. California Hospital Emergency Department 2020 Volume, (as a percentage of 2019)



*Order issued April 22; approximate one-week delay is assumed.
 Note: Point estimates based on comparison of seven-day rolling average.
 Source: Authors’ analysis of [Collective Medical Technology data](#) from California hospitals representing over 40% of ED visits.

Exhibit 4. Projected Reductions in Hospital Volume (%), First Four Months Post-COVID-19 Shutdown
 Emergency Department Visits and Inpatient Admissions from Hospital Emergency Departments

ED VISIT TYPE	% of Total — Pre-COVID	TOTAL ED VISITS			INPATIENT ADMISSIONS		
		SIP Month 1	SIP Month 2	Soft Reopen Months 3–4	SIP Month 1	SIP Month 2	Soft Reopen Months 3–4
Minor (CPT 99281)	4%	-85%	-85%	-75%	-85%	-85%	-75%
Low/Moderate (CPT 99282)	13%	-85%	-85%	-75%	-85%	-85%	-75%
Moderate (CPT 99283)	35%	-65%	-65%	-50%	-65%	-65%	-50%
Severe w/o threat (CPT 99284)	26%	-35%	-35%	-25%	-35%	-35%	-25%
Severe w/ threat (CPT 99285)	21%	-15%	-15%	-10%	-15%	-15%	-10%
Acuity Level Unknown (no CPT Codes)	1%	-50%	-50%	-50%	-50%	-50%	-50%
% Reduction — Monthly Totals		-50%	-50%	-39%	-15%	-15%	-11%

Source: Authors’ estimate based on [2018–2019 FY Hospital Annual Selected File \(April 2020 Extract\)](#), Office of Statewide Health Planning and Development, May 22, 2020.

All Hospital Services

Published reports and interviews with hospital CEOs and CFOs conducted for this issue brief reveal substantial declines in all hospital services, with outpatient clinic visits and outpatient surgeries experiencing the largest declines.¹² The authors estimate that total outpatient visits fell nearly 75% during the first month of shelter-in-place, while total inpatient admissions among California acute care hospitals fell 40% (Exhibit 5).

Outpatient visits are expected to increase in the first two months following the beginning of the relaxation of the shelter-in-place (SIP) order in mid-May. This increase will be driven mainly by hospitals performing elective outpatient surgery on patients that had been scheduled before the shutdown. However, overall, total outpatient visits are estimated to remain down nearly 25% from pre-COVID-19 benchmarks even after two months following relaxation of SIP. Similarly, the authors project inpatient discharges will also remain well below pre-COVID-19 baselines as SIP is loosened.

Sharp reductions in both inpatient and outpatient volume after the SIP order have not been offset by increased volume from COVID-19 patients in California. Despite “hot spots” in Los Angeles and Santa Clara Counties, the number of cases and hospital admissions have been far below early worst-case projections. From April 1 to May 15, 2020, an average of 4,938 patients per day were hospitalized for confirmed or suspected COVID-19 statewide. This represents only approximately 5% of the statewide bed capacity (including added surge capacity) and well below the original projections that required hospitals to free up capacity for the expected surge. For point of comparison, under normal conditions, total monthly hospital admissions in California average 250,000+ per month.

Exhibit 5. Projected Reductions in Hospital Volume (%), First Four Months Post-COVID-19 Shutdown
All Hospital Services

	SIP Month 1	SIP Month 2	Soft Reopen Months 3–4
Outpatients			
ED Visits	-50%	-50%	-39%
Clinic Visits	-80%	-70%	-50%
Home Health Visits	-70%	-60%	-40%
Referred Outpatient Visits	-90%	-70%	-50%
Outpatient Surgeries	-90%	-70%	-40%
Totals (Weighted)	-74%	-63%	-24%
Inpatient Discharges			
▶ Through ED (60%)	-15%	-15%	-11%
▶ Direct, Nonmaternity	-80%	-65%	-50%
▶ Maternity	-15%	-15%	-15%
Totals	-40%	-35%	-26%

Source: Authors' estimate based on *2018–2019 FY Hospital Annual Selected File (April 2020 Extract)*, Office of Statewide Health Planning and Development, May 22, 2020.

Hospital Expenses Related to COVID-19

An early survey of 800 US hospitals, cited in a Kaufmann Hall *National Hospital Flash Report*,¹³ showed double-digit increases in actual expenses relative to budget across all expense categories. When calculated as adjusted expenses per discharge, which takes into account the lower utilization, March 2020 expenses rose approximately 18% compared to budget or to March 2019. Smaller hospitals and those in West Region, which includes California, reported higher year-over-year increases.¹⁴

Equipment, Supplies, and Construction

Interviews conducted for this brief suggest that COVID-19 surge preparations generated substantial new expenses for the following:

- ▶ Converting general medical beds to ICU capability with the associated equipment and monitoring, which can cost \$45,000 for heart monitors, oxygen monitors, and ventilators¹⁵
- ▶ Reengineering heating, ventilating, and air-conditioning (HVAC) systems to add negative-pressure patient rooms to isolate COVID-19 patients
- ▶ Constructing temporary structures such as tents in parking lots or converting cafeteria and other nonclinical space to clinical use
- ▶ Leasing property such as closed hospitals, convention centers, and sports arenas to set up temporary hospital operations
- ▶ Purchasing medical supplies and equipment, including testing supplies and PPE¹⁶
- ▶ Creating emergency operation centers
- ▶ Expanding laboratory testing capabilities
- ▶ Organizing computer, phone, and operation systems to support employees now working remotely

Human Resources Expenses and Expense Management

Hospital executives also report additional expenses related to evaluating, redeploying, and training their workforces for COVID-19, including:

- ▶ Updating and training staff, and implementing pandemic preparedness plans such as protocols for separating staff who come in contact with presumed or diagnosed COVID-19 patients from staff who are in contact with other patients
- ▶ Increasing staff for security and monitoring
- ▶ Ramping up infection control and triage training for health care professionals and support staff, especially in light of supply chain deficits and a predicted shortage of respiratory therapists trained to operate ventilators
- ▶ Increasing staff overtime and hazard pay for some facilities, and paying for transportation and hotel accommodations to minimize employee potential contagion and contact with family members¹⁷

Hospital systems, in addition, redirected staff to “hot spots” within and across hospitals and developed care teams that could be deployed to the ICU and oversee care.

At the same time, because of reduced demand for both emergency and scheduled hospital services, hospitals have been looking for ways to reduce their costs unrelated to COVID-19. Staffing has been the primary lever to reduce operating costs, since salary and employee benefits account for more than 50% of general acute care hospital budgets in California. As of early May 2020, at least 11 California hospitals and health systems have announced decisions for staff to take accrued vacation, salary reductions, reduced hours, furloughs, and layoffs.¹⁸

COVID-19 Impact on Hospital Revenue

Data from the Office of Statewide Health Planning and Development shows that California’s acute care hospitals collected an average of \$8.7 billion net revenue per month in 2018 (Exhibit 6). Significant declines in inpatient and outpatient visit volume have decreased net revenue substantially. The authors estimate an immediate 50% reduction in hospital net revenue, followed by gradual improvements as shelter-in-place

orders begin to loosen. However, the authors estimate that total net patient revenue in California hospitals will have fallen by an average \$3.2 billion per month in each of the first four months of the pandemic — March through June 2020. This is a reduction of 37% from the revenue they would have collected in the same four-month period, pre-COVID-19.

Exhibit 6. Estimated Change in California Hospital Gross and Net Revenue, Pre- vs. Post-COVID-19

REVENUE CATEGORY	PRE-COVID-19	POST-COVID-19 REDUCTIONS				
	Monthly Revenue	SIP Month 1	SIP Month 2	Soft Reopen Months 3–4	Months 1–4	Compared to Pre-COVID-19 Months 1–4
Gross — Inpatient	\$22,497,109,469	–39%	–34%	–28%	–\$29,021,271,215	–32%
Gross — Outpatient	\$13,710,959,030	–71%	–61%	–25%	–\$24,953,945,435	–46%
Gross — Total	\$36,208,068,499	–51%	–44%	–27%	–\$53,975,216,650	–37%
Paid to Charge %	24%					
Net Total	\$8,689,936,440	–51%	–44%	–27%	–\$12,954,051,996	–37%

Notes: *Gross revenue* is hospital charges. *Net revenue* is payments to hospitals, after adjustments for contractual allowances, discounts, and bad debt. Hospital Paid to Charge ratios (net revenue / gross revenue) vary significantly based on the payer mix of commercial insurance, Medicare, Medi-Cal, and other because of differences in payment rates by payer. This analysis makes the simplifying assumption that volume reductions occur across the board. It does not attempt to capture any changes that result from differences by payer mix.

Source: Authors’ estimate based on *2018–2019 FY Hospital Annual Selected File (April 2020 Extract)*, Office of Statewide Health Planning and Development, May 22, 2020.

Projecting the Medium-Term Impact of COVID-19 on California's Hospitals

As shelter-in-place restrictions ease and patient volume eventually returns to pre-pandemic levels, the authors project that a longer-term impact of COVID-19 on hospital finances in California will emerge driven by the significant shifts in insurance coverage status typically attendant to economic recession.

These dynamics are analyzed in Exhibit 7. Roughly in line with estimates from the California Legislative Analyst's Office, the authors assume a loss of five million California jobs, with nearly three million individuals

losing employer-sponsored health coverage in the coming months.¹⁹ In this scenario, there will be a change in the payer mix: The authors estimate that the share of all Californians with commercial health insurance coverage will drop from 55% pre-COVID-19 to 47% post-COVID-19, along with offsetting increases in Medi-Cal coverage, the Covered California health exchange, and the uninsured.

It is important to note that populations with different types of health coverage use hospital services at different rates, and that prices paid to hospitals for those same services vary depending on the type of coverage (Exhibit 8). As noted above, before the shutdown, 55% of all Californians had commercial insurance. While they accounted for 27% of all hospital utilization, they generated 40% of total net revenue for California's hospitals.

Exhibit 7. Projected Changes in Health Insurance Coverage in California Assuming Five Million Jobs Loss

	COMMERCIAL*	MEDI-CAL	MEDICARE	UNINSURED	TOTALS
Health Insurance Coverage					
Pre-COVID-19 (2018)	21,148,800	10,194,300	4,240,200	2,774,100	38,357,400
Change	-2,250,000	1,480,000	0	770,000	0
Post-COVID-19	18,898,800	11,674,300	4,240,200	3,544,100	38,357,400
Percentage Distribution					
Pre-COVID-19	55%	27%	11%	7%	100%
Post-COVID-19	49%	30%	11%	9%	100%

*Includes Exchange/ACA.

Notes: Although there are workers over 65 who continue to receive health coverage through an employer, the numbers are assumed to be small and do not significantly impact the number and proportion of people with Medicare coverage. Data do not include those eligible for both Medi-Cal and Medicare (dual eligibles) and excludes Military.

Source: Authors' estimate based on "Health Insurance Coverage of the Total Population" (2018), KFF, n.d.

Exhibit 8. Link Between Source of Health Insurance Coverage and California Hospital Charges and Net Revenues

	COMMERCIAL*	MEDI-CAL	MEDICARE	UNINSURED
California Health Insurance Coverage — by Source	55%	27%	11%	7%
% of California Total Hospital Charges	27%	30%	40%	3%
% of California Total Hospital Net Revenue	40%	31%	27%	2%

*Includes Exchange/ACA.

Note: Data include all general acute care hospitals and exclude specialty and Kaiser hospitals.

Source: 2018 Calendar Year Hospital Utilization Pivot Table, Office of Statewide Health Planning and Development, last updated January 7, 2020.

Exhibit 9 projects the potential effects if payer-mix changes persist for a 12-month period. It compares hospital gross (billed) charges and net revenue to pre-COVID-19 levels of utilization, charges, and payment rates.

This assumed scenario projects a \$16.4 billion drop in total hospital billed charges and a decline in net revenue of \$5.85 billion from commercially insured

patients. These reductions would be partially offset by increased charges and payments from Medi-Cal and the uninsured population.^{20,21} The net effect of the change in payer mix would be a net reduction of total net revenues across all payers for all California hospitals of \$2 billion, or -2%, compared to pre-COVID-19 levels.

Exhibit 9. Estimated Changes in California Hospital Payer Mix, and Impact on Hospital Charges and Net Revenue
Pre- vs. Post-COVID-19

	COMMERCIAL*	MEDI-CAL	MEDICARE	UNINSURED	TOTALS
Health Insurance Coverage					
Pre-COVID-19	21,148,800	10,194,300	4,240,200	2,774,100	38,357,400
Post-COVID-19	18,898,800	11,674,300	4,240,200	3,544,100	38,357,400
Change Amount	-2,250,000	1,480,000	0	770,000	0
Change %	-11%	15%	0%	28%	
Pre-COVID-19					
Total Billed Charges	\$118,299,874,463	\$130,513,814,870	\$176,344,506,115	\$8,897,030,468	\$434,055,225,916
Total Net Revenue	\$42,245,308,633	\$32,326,983,867	\$28,693,175,571	\$1,452,300,577	\$104,717,768,648
Charge per Covered Life	\$5,594	\$12,803	\$41,589	\$3,207	
Net Revenue per Covered Life	\$1,998	\$3,171	\$6,767	\$524	
<i>Paid as % of Charges</i>	35.7%	24.8%	16.3%	16.3%	24.1%
Post-COVID-19					
Change in Charges	-\$12,585,807,116	\$8,278,664,237	\$0	\$2,469,526,499	-\$1,837,616,381
Change in Net Revenue	-\$4,494,436,773	\$2,050,543,427	\$0	\$403,111,439	-\$2,040,781,906
Total Billed Charges	\$105,714,067,347	\$138,792,479,107	\$176,344,506,115	\$11,366,556,967	\$432,217,609,535
Change in Total Billed Charges	-11%	6%	0%	28%	0%
<i>Paid as % of Charges</i>	35.7%	24.8%	16.3%	16.3%	23.8%
Total Net Revenue	\$37,750,871,860	\$34,377,527,294	\$28,693,175,571	\$1,855,412,016	\$102,676,986,742
Change in Net Revenue	-\$4,494,436,773	\$2,050,543,427	\$0	\$403,111,439	-\$2,040,781,906
Change in Total Net Revenue	-11%	6%	0%	28%	-2%

*Includes employer, self insured, Exchange/ACA.

Note: This analysis makes the simplifying assumption that hospital utilization is at pre-COVID-19 levels and that patients do not change utilization patterns when there is a change in the payer source for health insurance coverage.

Source: Authors' estimate based on *2018–2019 FY Hospital Annual Selected File (April 2020 Extract)*, Office of Statewide Health Planning and Development, May 22, 2020.

Potential Longer-Term Impacts of COVID-19 on California Hospitals

While longer-term impacts of the COVID-19 pandemic and accompanying recession are difficult to predict, these potential developments are among the most likely:

► **Danger of hospital price inflation.** Accrued losses from the COVID-19 shutdown and slowdown along with the expected shift from higher-paying patients with commercial coverage to patients covered by Medi-Cal or with no insurance will create substantial pressure on hospital finances. This could ignite a surge in hospital price inflation in the commercial insurance market.

In turn, this would exacerbate an already very difficult public policy issue — the growing unaffordability of health insurance and health care in the commercial market. The average cost of family health insurance policies in California’s employer market already exceeds \$20,000 per year and has been increasing at more than twice the rate of inflation for the past five years.²²

A related development is the deteriorating financial status of smaller hospitals and physician practices, which could accelerate the trend in consolidation and reduced competition within the health care delivery system. A robust body of academic research has found that increasing horizontal, vertical, and cross-market consolidation leads to higher prices for medical services and more expensive health insurance premiums for consumers.²³

► **Expanded telehealth.** The rapid, significant expansion and acceptance of phone and video visits — known as telehealth — as an alternative to face-to-face doctor consultations during the shutdown suggests that telehealth might play a much larger role in hospitals going forward. Temporary COVID-19 approvals to reimburse providers the same as in-person visits for Medicare and Medicaid members has encouraged adoption.

In 2018, California’s acute care hospitals recorded roughly 18 million outpatient clinic visits, more than one-third of their total outpatient volume. Extension of payment parity and demand from patients may facilitate a larger, more permanent role for telehealth throughout California’s health care delivery system.

► **Provider-to-provider and hospital connectivity.** Pre-COVID-19 efforts for interoperable medical records and post-COVID-19 demands for pandemic preparedness and public health surveillance may lead to better clinical data exchange capabilities across California’s acute care hospitals. Already, improved technology and electronic medical record interfaces have permitted more provider-to-provider communication behind the scenes to expedite laboratory and radiology results interpretation, specialist consultation, and sharing of resources.²⁴ Hospitals in a number of cities communicated their daily COVID-19 ED visits, inpatient admissions, and ICU admissions. In some cases, this led to transfers of both COVID-19 and non-COVID-19 patients to better balance demand and resources in the community.

► **Operational efficiencies.** All health care providers, including hospitals, have been forced to adjust their cost structures as a result of substantial reductions in operating revenue. Although post-COVID-19 operations will continue to have higher supply costs and less efficient use of space in the near term as they maintain levels of surge capacity, recent experience with staff working remotely, and requirements to maintain social distancing, may encourage more efficient operations concerning patient support and supply management. It may also encourage additional staff training that will allow hospitals to deploy skilled workers more effectively.

Such efficiencies could provide needed relief from the long-term trends of continually rising health care costs that threaten affordability and access to care in California.

Conclusions

This early assessment reveals a substantial and unexpected immediate financial shock to California's hospitals, both in unplanned new COVID-19-related surge preparation costs and in the striking decline in utilization and revenue as patients avoided hospital emergency rooms and hospitals canceled or delayed elective services and procedures.

In the medium term, the COVID-19 epidemic is generating significant economic costs, particularly in job loss and the associated loss of employer-based commercial insurance coverage. These losses will likely translate into shifts in hospital payer mix across commercial, Medi-Cal, and the uninsured over the longer term. The authors estimate, at an aggregate level, that the shift in hospital payer mix could translate to a 2% decrease in California hospitals' net patient revenue compared to the base period. This payer-mix shift would hit some hospitals more than others depending on their pre-COVID-19 share of patients covered by commercial health plans.

Finally, while the long-term impact of COVID-19 on California's hospitals isn't yet clear, the pandemic and accompanying recession is likely to accelerate several pre-COVID-19 trends in the delivery system. These include increased consolidation and pressure to increase service prices, potentially wider adoption of telehealth and clinical data exchange, and continued pressure to reduce underlying cost structures. Acute care hospitals will be forced to meet and adapt to all of these developments in a starkly different post-COVID-19 landscape in California.

Endnotes

1. "Stay Home Q&A," State of California, last updated May 27, 2020, [covid19.ca.gov](https://www.cdph.ca.gov/Programs/CID/DCDC/Pages/Immunization/COVID-19/Pages/Stay-Home-FAQ.aspx).
2. At least 60% of those additional beds, or 30,000, were expected to come within existing hospitals, and the state made plans to secure the remaining beds, up to 20,000. In a request for federal assistance, Newsom predicted that "roughly 56 percent of our population — 25.5 million people — will be infected with the virus over an eight-week period."
3. Personal communication, Ryan Witz, California Hospital Assn. For example, the state/county arranged a lease of Seton Hospital (Daly City / San Mateo County) that was slated to close, and re-opened both Long Beach Community Hospital (Los Angeles County), and St. Vincent (Los Angeles). The US Navy ship Mercy was moved to the Port of Los Angeles and Los Angeles County rented a convention center for medical use. Sacramento County reopened the former ARCO Arena (now Natomas) with the assistance of local health care providers to prepare for the surge..
4. *2018–2019 FY Hospital Annual Selected File (April 2020 Extract)*, Office of Statewide Health Planning and Development (OSHPD), May 22, 2020. These data exclude Kaiser and specialty hospitals.
5. In San Francisco, Mayor London Breed required hospitals to cancel such visits and procedures.
6. Glenn Melnick, Katya Fonkych, and Luis Abrishamian, "Emergency Departments: The Economic Engine of Hospitals - Evidence from California," *The American Journal of Emergency Medicine* (December 2019), [doi.org](https://doi.org/10.1016/j.ajem.2019.12.001).
7. Emily Deruy, "Coronavirus: Bay Area Hospitals Are Eerily Empty and Worried You Are Too Afraid to Visit," *San Jose Mercury News*, April 22, 2020, [www.mercurynews.com](https://www.mercurynews.com/2020/04/22/coronavirus-bay-area-hospitals/); and Joe Nelson, "Coronavirus Sparks Dramatic Decline in Overall ER Visits, Job Losses for Hospital Workers," *San Bernardino Sun*, April 14, 2020, [www.sbsun.com](https://www.sbsun.com/2020/04/14/coronavirus-er-visits/).
8. Personal communication, Ryan Witz, California Hospital Assn., May 19, 2020.
9. For many hospitals, the ED is the most important source of patients and revenue to support their operations. About 25% of California hospitals have 75% or more of their admissions through their EDs, while 25% have less than 35% of their admissions through the ED. About 20% of California hospitals — many in rural areas — do not have a licensed ED. Hospitals that serve a higher share of emergency patients are likely to retain a higher percentage of their pre-COVID-19 volume and revenue.
10. Deruy, "Coronavirus: Bay Area Hospitals," and Nelson, "Coronavirus Sparks Dramatic Decline."
11. Personal communication and custom data request, Collective Medical, May 18, 2020. Collective Medical currently has California hospitals representing more than 40% of statewide ED visits on its platform, a number of health plan clients, and a range of outpatient providers and agencies. The platform is widely diffused across the state in a range of urban and rural settings.
12. Jack O'Brien, "Excluding NYC and SF, Hospitals Losing \$1.4B in Revenue per Day Due to COVID-19 Pandemic," *HealthLeaders*, May 1, 2020, [www.healthleadersmedia.com](https://www.healthleadersmedia.com/2020/05/01/excluding-nyc-and-sf-hospitals-losing-1-4b-in-revenue-per-day-due-to-covid-19-pandemic/); and Jacqueline LaPointe, "Hospital, Outpatient Visits Fell up to 60% During COVID-19 Crisis," *RevCycleIntelligence*, April 30, 2020, [revcycleintelligence.com](https://www.revcycleintelligence.com/2020/04/30/hospital-outpatient-visits-fell-up-to-60-during-covid-19-crisis/).
13. *National Hospital Flash Report*, Kaufman Hall, April 2020, [flashreports.kaufmanhall.com](https://www.flashreports.kaufmanhall.com/).
14. The West Region comprises the 13 states west of Montana, Wyoming, Colorado, and New Mexico and includes Alaska and Hawaii.
15. Patti Neighmond, "Growing Costs and Shrinking Revenues Squeeze Hospitals as They Brace for Coronavirus," *NPR*, April 6, 2020, [www.npr.org](https://www.npr.org/2020/04/06/826844161/coronavirus-hospitals-revenue).
16. Anecdotally, hospitals may be using twice the amount of PPE supplies because they have adopted similar protection protocols for both confirmed and presumed COVID-19 cases, as well as for high-risk populations such as people who are homeless and those with psychiatric conditions. In addition, PPE shortages have led to prices that may be two to four times higher than before preparations.
17. Newspaper reports indicate Kaiser also negotiated childcare and other benefits for workers.
18. Alla Paavola, "261 Hospitals Furloughing Workers in Response to COVID-19," *Becker's Hospital Review*, April 7, 2020, [www.beckershospitalreview.com](https://www.beckershospitalreview.com/2020/04/07/261-hospitals-furloughing-workers-in-response-to-covid-19/).
19. *Revised Budget Summary: Economic Outlook*, State of California, last updated May 14, 2020, www.ebudget.ca.gov.
20. It is worth noting that California hospitals' financial reports filed with OSHPD show that, on average, California hospitals collect about the same percentage of billed charges from the uninsured (16.3%) as they do from Medicare. Also, Covered California and individual insurance charges and payments are not reported separately from commercial coverage in the OSHPD data. The on-exchange products generally have much higher deductibles and are assumed to pay reimbursement rates lower than employer-based commercial insurance, which implies lower paid-to-charge ratios for hospitals that see patients covered under those products.

21. The Medi-Cal revenue impact is likely a high estimate. Hospital Medi-Cal revenues are a combination of payments for services rendered to Medi-Cal beneficiaries. These payments are based on the Medi-Cal and Medi-Cal managed care plan payment rates and supplemental payments funded through a variety of sources, including a hospital tax and negotiated terms of the Federal Medi-Cal 2020 waiver. While Medi-Cal payments for services will increase with increased enrollment, the supplemental payments are based on formulas using historical data that will not increase at the same time. The Medi-Cal hospital supplemental payments are estimated to be over \$12 billion a year annually.
22. Heidi Whitmore, *2019 Edition — California Employer Health Benefits*, California Health Care Foundation, August 2019, www.chcf.org.
23. Samuel M. Chang et al., *Examining the Authority of California's Attorney General in Health Care Mergers*, California Health Care Foundation, April 2020, www.chcf.org.
24. Katie Adams, Jackie Drees, and Laura Dyrda, "Most Promising Healthcare Tech in 2020: 15 Execs from CommonSpirit, Kaiser Permanente, UPMC & More," *Becker's Hospital Review*, May 18, 2020, www.beckershospitalreview.com.