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Hospital Financial Preparedness and COVID-19

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Abstract

It is highly likely that COVID-19 will result in a drain on hospitals financial resources, not the least of which being cash. Not all hospitals are financially prepared for any enduring loss of cash, with hospitals in few states being well prepared. Those states that have experienced early cases of COVID-19 are less well prepared financially. Several policy options merit consideration.

Keywords: COVID-19, hospital, finance, preparedness

Introduction

As the novel coronavirus (COVID-19) pandemic has taken hold and deepened in the United States, hospitals have become the epicenter of the response (Ramachandran, et al., 2020). Hospitals have already begun to report that they may run out of basic supplies within weeks (CNN Politics, 2020). Hospitals responding to the crisis will face financial pressure in the form of both increased costs and decreased revenue. Operating costs will increase as hospitals procure personal protective equipment, ventilators, and essential medicines, which are all in short supply. Labor costs will increase as hospitals address an increased number of patients and must temporarily replace personnel who become sick and require quarantine. Patient revenue will decline as hospitals cancel and delay more profitable, elective procedures in order to redirect resources toward treating COVID-19 patients.

The extent to which hospitals can adjust to these new trends will depend, in part, on hospital financial preparedness. Being financially prepared is a combination of liquidity and short-term borrowing capacity. Hospitals with insufficient resources may be required limit services at a time when they are needed most. Days Cash on Hand (DCOH) is a financial measure that expresses the number of days that the hospital's cash and temporary investments could cover operating costs. It is a measure of liquidity and an indicator of borrowing capacity. Prudent hospital financial preparedness suggests having six months cash on hand.

We examined hospitals financial preparedness, measured by DCOH, and assessed whether hospitals facing the largest burden of coronavirus cases are likely to have the financial capacity to do so. We also examined the relationship between hospital disproportionate share patient percentage (DPP) and COVID-19 patients. Hospitals challenged by high DPP are similarly not well positioned for mounting losses due to COVID-19.

Data and Methods

Our data come from the Centers for Medicare and Medicaid Services (CMS) Healthcare Cost Report Information System (HCRIS) for fiscal year 2018. CMS uses these data to determine Medicare payments to hospitals and are the only source of publicly available hospital financial data for all hospitals in the United States. From these data, we report on average DCOH among hospitals by state. Days Cash on Hand is empirically defined as the sum of cash (WKSHT G, line 1, col 1) and temporary investments (WKSHT G, line 2, col 1), divided by the average daily cost of hospital operations. The daily cost of operations is defined as total cost of operations (WKSHT G-3, line 4, col 1), less depreciation and amortization expense (WKSHT A7-Part 3, line 3, col 11), divided by 365 days.

We also report on DPP from the same system. The disproportionate patient percentage is the sum of the percentage of Medicare inpatient days for patients receiving Supplemental Security Income and the percentage of Medicaid inpatient for patients not receiving Medicare.

To provide an insight, albeit limited, into hospital financial preparedness, we examine the relationship between state-level median DCOH and confirmed coronavirus cases per 100,000 state population as of March 22, 2020 (Smith et al. 2020) We secondarily examine the relationship between state-level median DPP percentage and confirmed coronavirus cases per 100,000 state population.

An important limitation of our analysis is that HCRIS financial data do not conform to Generally Accepted Accounting Principles, and so may differ from audited financial statements (Kane & Magnus, 2001). They also exclude data from off-campus facilities, and therefore provide an under-estimate of total system-wide DCOH (Magnus & Smith, 2000; S&P Global, 2020).

Limiting our analysis to hospitals with non-missing information on DCOH, our final sample included 973 general acute care and critical access hospitals in the 50 United States and the District of Columbia, or 24% of all Medicare certified hospitals. As a result, hospitals in our sample tended to be larger and less likely to be in a non-metropolitan area as compared to US hospitals overall.

Results

Across all hospitals in this national dataset, median DCOH was 64.3 days (interquartile range (IQR): 22.2, 142.5). This suggests that if median hospitals were to receive no payments whatsoever, they could continue to pay all operating expenses for approximately two months. As presented in Table 1, there was substantial variation in liquidity across states. The IQR of state-

level DCOH ranged from 48.4 days in Tennessee to 87.4 days in Nevada. Alaska is a bit of an outlier with an average DCOH that is nearly double the next highest values in Florida and South Dakota.

Table 1: Days Cash on Hand and Coronavirus Cases by State.

			Days Cash on Hand			
State	**Total Hospitals**	**Share with non-Missing DCOH**	Median	25th Percentile	75th Percentile	**COVID-19 Cases Per 100,000 Pop**
US	4029	24%	64.3	22.2	142.5	
AK	18	11%	331.3	322.9	339.6	0.197
AL	79	19%	71.9	29.1	108.9	0.223
AR	64	9%	45.1	8.4	97.6	0.342
AZ	63	24%	27.2	7.9	162.1	0.100
CA	224	19%	25.7	1.7	74.2	0.325
CO	74	46%	30.6	1.6	115.8	0.655
CT	29	45%	53.8	42.6	78.7	0.560
DC	7	14%	33.1	33.1	33.1	1.153
DE	6	17%	62.0	62.0	62.0	0.416
FL	167	19%	173.1	43.7	298.6	0.272
GA	110	22%	31.0	14.8	67.8	0.475
HI	12	42%	121.1	95.4	226.3	0.273
IA	113	43%	82.0	23.0	153.5	0.147
ID	37	24%	72.5	23.7	81.0	0.180
IL	153	34%	122.2	25.4	261.1	0.470
IN	114	18%	82.4	30.2	158.3	0.194
KS	127	21%	57.2	14.9	125.6	0.178
KY	78	18%	151.9	46.0	271.8	0.146
LA	106	20%	63.0	36.2	137.2	1.294
MA	59	49%	45.9	20.4	102.4	0.620
MD	44	32%	47.5	25.6	98.0	0.327
ME	27	41%	21.2	11.9	158.3	0.439
MI	119	20%	81.9	40.3	155.5	0.561
MN	111	31%	84.2	28.9	149.0	0.210
MO	99	28%	38.1	24.4	54.1	0.123
MS	91	11%	78.3	17.0	113.5	0.278
MT	41	46%	56.1	25.5	145.2	0.193
NC	98	16%	67.9	25.7	172.6	0.143
ND	23	13%	123.1	77.9	129.2	0.370
NE	84	40%	107.0	79.8	148.9	0.284
NH	25	36%	62.3	7.2	73.3	0.420

Table 1: Days Cash on Hand and Coronavirus Cases by State (continued).

State	Total Hospitals	Share with non-Missing DCOH	Days Cash on Hand			COVID-19 Cases Per 100,000 Pop
			Median	25th Percentile	75th Percentile	
NJ	60	28%	43.2	20.3	91.5	1.024
NM	38	18%	79.6	62.1	145.5	0.210
NV	22	9%	100.2	2.8	197.6	0.553
NY	164	45%	78.9	35.3	132.6	0.772
OH	159	25%	49.4	13.5	138.6	0.149
OK	112	16%	72.0	31.7	131.5	0.128
OR	44	9%	76.3	27.3	105.1	0.277
PA	146	18%	39.5	18.4	83.0	0.217
RI	10	20%	80.7	78.0	83.5	0.434
SC	56	14%	108.2	73.1	200.0	0.256
SD	34	12%	170.6	158.0	259.3	0.165
TN	88	14%	48.4	20.1	78.4	0.346
TX	327	20%	70.9	8.6	201.1	0.136
UT	37	11%	2.8	2.0	149.5	0.361
VA	70	13%	87.4	16.4	168.7	0.141
VT	14	36%	51.2	45.9	54.8	0.483
WA	71	28%	19.2	1.7	79.0	1.903
WI	116	24%	73.3	33.9	110.3	0.381
WV	47	15%	48.2	37.5	79.2	0.046
WY	12	33%	111.6	103.6	152.2	0.393

Source: Data Centers for Medicare and Medicaid Services (CMS) Healthcare Cost Report Information System, Fiscal Year 2018

In addition to having potentially low levels of cash, there is an inverse relationship between DCOH and confirmed cases of the virus (as of March 20, 2020), as presented in Figure 1. For example, the median DCOH was 19.2 in Washington State, which has the highest number of cases at 1.9 per 100,000 state population. In Florida, where there were only 0.272 cases per 100,000 population, median DCOH was 173. There is modest statistical significance of this relationship. The simple correlation coefficient is -0.26. A simple linear regression, omitting the outlier of Alaska yields an intercept of 82.9 DCOH ($t = 10.6$, $p < 0.001$) and a coefficient of -31.2 ($t=2.1$, $p = 0.044$).

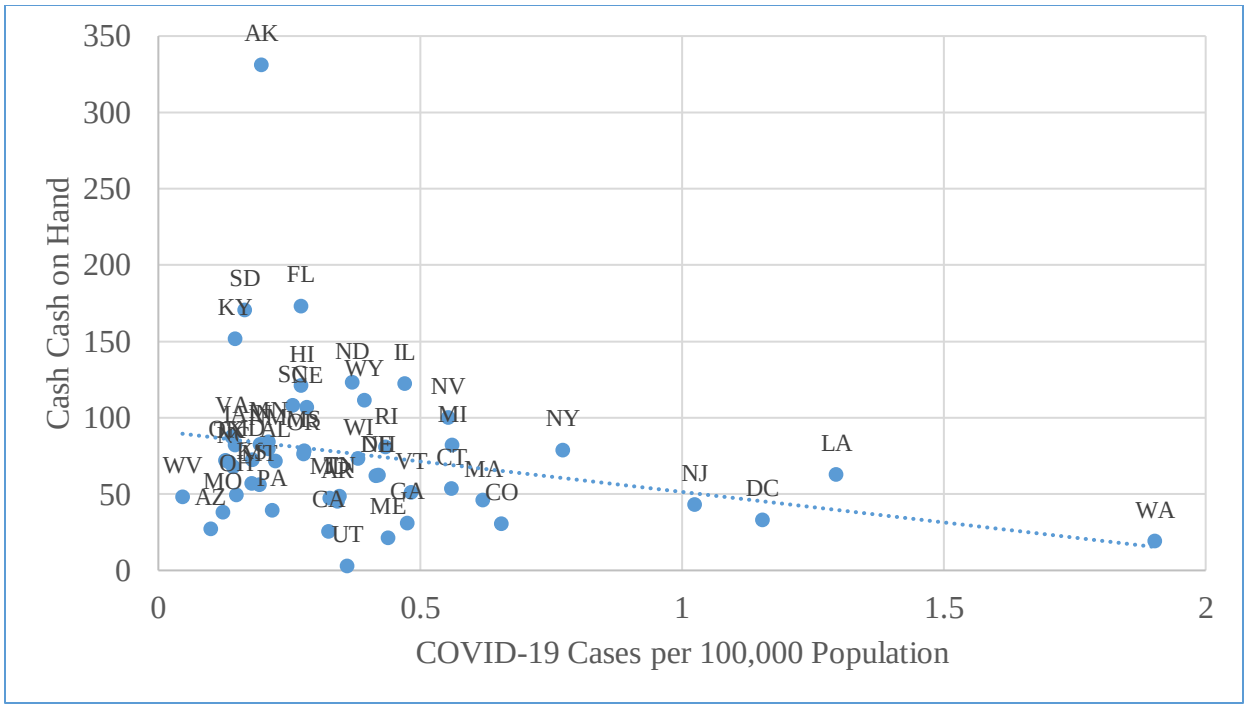

Figure 1. Relationship between State-Level Median Days Cash on Hand and Confirmed Coronavirus Cases per 100,000 State Population.

Across all hospitals in the nation, mean and median DPP was 28.7% (IQR: 25.8%, 31.3%). This suggests that hospitals between one-quarter and one-third of hospital patients are low-income Medicare or Medicaid patients. Of course, the distribution of DPP is not uniform among hospitals. It tends to be more highly concentrated in urban settings. The analysis of the relationship between hospital DPP and COVID-19 patients is presented in Figure 2. The slightly positive relationship. The simple correlation coefficient is +0.22. A simple linear regression yields an intercept of 28.0% DPP ($t = 21.6$, $p < 0.001$) and a coefficient of +3.4% ($t=1.5$, $p = 0.129$).

Our results suggest that there is wide variation in the financial preparedness of hospitals across states, but most hospitals are poorly financially prepared for the Coronavirus. Furthermore, hospitals in states that have the highest number of cases per population appear to be less prepared than states in which there are relatively fewer cases. Although our measures of both DCOH and coronavirus cases are imperfect and possibly suffer biases, they should signal to providers, policymakers, and the public that rapid Federal and state actions are needed to meet the demands of the mounting coronavirus pandemic. Similarly, hospitals in states that are challenged by high DPP are not well positioned for mounting losses due to COVID-19.

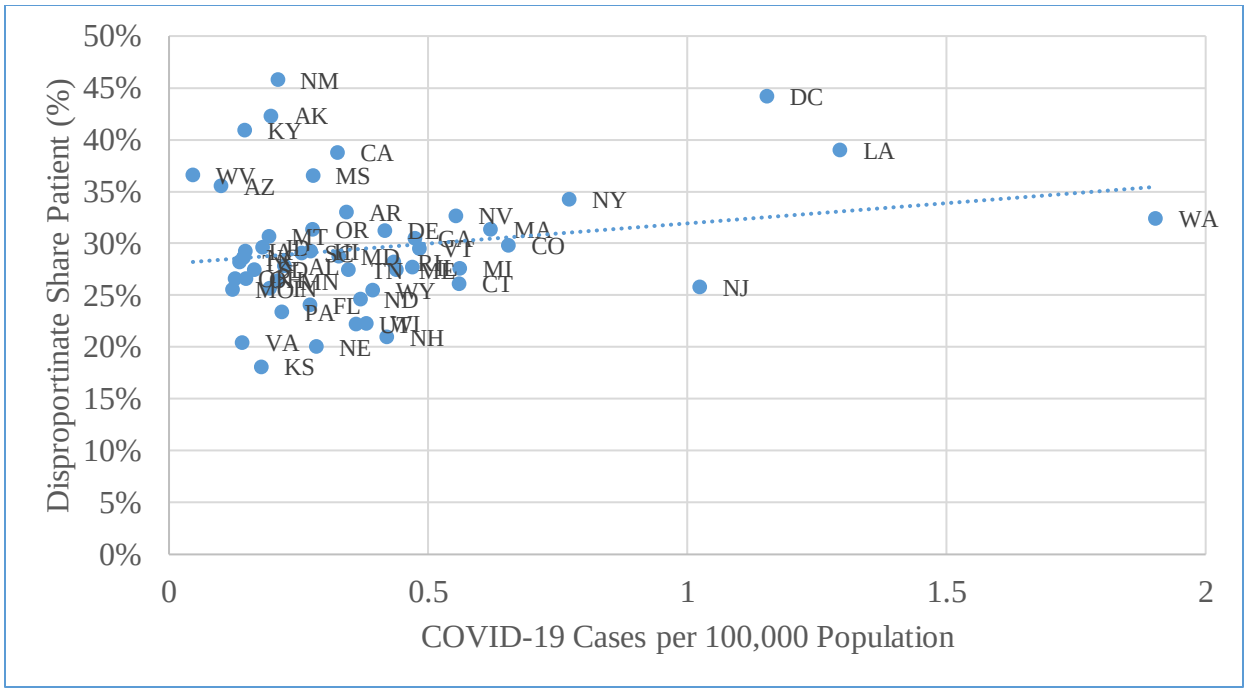

Figure 2. Relationship between State-Level Disproportionate Share Patient Percentage and Confirmed Coronavirus Cases per 100,000 State Population.

Policy Options

Federal and state policymakers have several options, including some that are currently being considered and others with prior precedent. First, the Federal government could increase reimbursement rates for hospitals through the Medicare and Medicaid programs during the pandemic. The Senate is currently considering a proposed stimulus bill that would include increase Medicare reimbursements by 15% for cases in which the principal or secondary diagnosis is COVID-19 (McConnell, 2020). However, Congress took more sweeping action during the 2008 financial crisis: the American Reinvestment and Recovery Act increased the share the Federal government pays for Medicaid patients by 15 percentage points (Centers for Medicare and Medicaid Services, 2020). Congress should consider increasing Medicare and Medicaid reimbursements across the board for a limited period of time.

A second option is to grant states emergency Disproportionate Share Hospital funds above each state's current limit (Artiga, Rudowitz & Musumeci, 2020). This would allow states to target resources more precisely, as the response to COVID-19 has played out largely at the state-level with little Federal guidance. A third option is to create a hospital loan program, similar to the currently existing Small Business Administration loan program that the current stimulus bill extends to firms affected by COVID-19 (McConnell, 2020). This program could provide interest-free loans to hospitals in order to keep their doors open when available financial resources dwindle. Finally, the Federal government could use the Defense Production Act to compel manufactures of PPE, ventilators, medicines, and other supplies to increase the supply of these goods (Phillips,

2020). Then the Federal government could act as General Purchasing Organization, paying manufacturers for goods and selling them to hospitals at a deeply subsidized price.

Although Congress is currently considering several economic stimulus policies, few of them can help hospitals with few available resources. For example, the payroll tax cut for firms in the current Stimulus bill would only limit the amount hospitals would pay on their tax bill, which is assessed quarterly(McConnell, 2020). Therefore, it has neither the size nor speed necessary to address gaps in hospital financial resources. Similarly, checks for consumers could, in theory, stimulate demand for other hospital services. However, hospitals are already redirecting resources away from elective procedures towards the virus.

When policymakers pull these policy levers, relief should be given generously and widely. Reflecting on the lessons of the 2008 financial crisis, Neel Kashkari, the president of the Minneapolis Federal Reserve Bank and head of the Troubled Asset Relief Program emphasized that policymakers act quickly and not worry about trying to figure out which recipients of government help are deserving and which are not (Goldstein, 2020). Preventing hospital closures should be a top priority for policymakers.

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