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FINANCIAL CONSEQUENCES OF COVID-19 FOR U.S. HOSPITALS

ABSTRACT

Introduction: The coronavirus pandemic has caused many financial issues for many businesses including putting a substantial strain on hospitals in the U.S. The impact of COVID-19 on the financial well-being of hospitals has been evaluated and the severity is still being measured as the pandemic is ongoing. The purpose of this research was to assess the financial consequences of the COVID-19 pandemic for hospitals in the United States.

Methodology: A literature review with a semi-structured interview with an expert from a local hospital was used for the methodology of this qualitative study. Five government websites and five databases were used for this study. There was a total of twenty-six sources referenced in this literature review.

Results: This literature review examined several studies as well as a semi-structured interview that supported the literature's findings. The review also addressed the financial impact of COVID-19 on hospitals, financial impact of COVID-19 on specialties within the hospital, financial impact of COVID-19 on physicians within the hospital network, and resources to help with the financial impact of COVID-19.

Discussion/Conclusion: The COVID-19 pandemic's crippling aspects are further discussed which explains how it has debilitated many US hospitals. The negative financial impact on hospitals is discussed in further detail.

Key Words: COVID-19, Cost, Financial consequences, Hospitals, United States, Revenue

INTRODUCTION

The novel Coronavirus is a disease that has ravaged many countries across the world as it was first identified in Wuhan, China at the end of December 2019, and the first case that was confirmed outside of China occurred in Thailand in mid-January of 2020 (WHO, 2020a). The coronavirus, also known as COVID-19, can be fatal especially for the elderly and individuals who have underlying health conditions such as cancer, diabetes, chronic respiratory disease, and cardiovascular disease (WHO, 2020b). The first confirmed case in the United States occurred at the end of January 2020 (CDC, 2020a). It was declared a global pandemic on March 11, 2020 by the World Health Organization (Cucinotta & Vanelli, 2020). At the time of writing this paper, there have been over 8,000,000 cases confirmed in the United States and over 200,000 deaths since the outbreak occurred (CDC, 2020b). Globally there have been more than 40,000,000 cases confirmed with over 1,000,000 deaths, and the United States was the leader among other countries in both categories (Johns Hopkins, 2020).

COVID-19 has been an expensive illness to treat. Estimated costs for treating an individual requiring inpatient services could be more than \$20,000 (Rae, Claxton, Kurani, McDermott & Cox, 2020). Another estimate was the price of an individual who required the support of a ventilator for more than 96 hours, which was nearly \$90,000, and is a substantial difference than if the ventilator support is needed for less than 96 hours where estimated costs total just over \$30,000 (Rae, et al. 2020). One study conducted estimated costs of Patient Per Day (PPD) for hospitals for a patient who has been insured through commercial coverage to be nearly \$40,000 for an inpatient stay due to COVID-19 (FAIR, 2020). In terms of Personal Protective Equipment (PPE) needed to fight the pandemic, a study estimated a nearly 700%

increase in PPD for PPE such as gowns, hand sanitizer, masks and gloves deemed appropriate for the upcoming fight against the virus (Zimmet, Silverberg, Stawis & Greenfield, 2020).

Another obstacle that hospitals faced was the amount of people who either lost their insurance or began to be covered by Medicaid. Millions of Americans became uninsured due to loss of employment and it was estimated that the number of people without insurance could increase to over 40 million (Niegel, Scharf Ehrenfeld, & Spieth, 2020). Among 25 states, total Medicaid enrollment had risen by 1.7 million by June 1, 2020 and this figure increased to 2.3 million people when the March 1- May 1 enrollment changes were added for 7 additional states (Frenier et al, 2020). Kentucky saw the largest increase per capita in Medicaid enrollment adding 348.9 new people per 10,000 nonelderly residents with Indiana and Florida coming in second and third, with 204.4 and 175 new enrollees per 10,000 nonelderly resident respectively (Frenier et al, 2020).

The profit margins were worrisome for rural hospitals even before COVID-19, as one study found that between 2011 and 2017, both the number of profitable rural hospitals and the median of profit margins have overall declined while urban hospitals saw an overall improvement in their financial status (Bai & Anderson, 2020). Compared to urban hospitals, rural hospitals have had a smaller percentage of profitable hospitals at just over 60% and urban hospitals at over 70%, as well as a smaller profitable margin at under 3% while urban hospitals were at well over 5% between 2011-2017 (Bai & Anderson, 2020). The COVID-19 pandemic has pushed for a decrease in the number of patients seeking care for reasons other than COVID-19 (AHA, 2020a). Higher profit margins for hospitals have been important because they have allowed hospitals to invest in better technology or build-on to their facility.

The purpose of this research was to assess the financial consequences of the COVID-19 pandemic for hospitals in the United States.

METHODOLOGY

The hypothesis of this research study was: COVID-19 negatively impacted the financials of hospitals in the United States through loss of revenue from the decrease in procedures, testing, and research, having to purchase supplies at a higher cost, and having an increase in uncompensated care costs due to an increase in uninsured. The methodology of this study was a qualitative literature review of various academic sources. The conceptual framework that was chosen for this research paper displays how COVID-19 has negatively impacted the financial state of hospitals in the U.S. (See Figure 3). The flow chart displays a flow of events and illustrates how the COVID-19 pandemic has substantially affected U.S. hospitals. For this study, research articles and peer-reviewed literature were found using many databases of Marshall University. The ones used for this research were ProQuest, Statista, PubMed, Elsevier ScienceDirect, and Sage Journals. After a thorough and complete search of the databases was conducted, any additional information was found using private and government websites as well as Google Scholar. The literature was reviewed carefully and chosen based on relevancy to the topic of financial consequences of COVID-19 in hospitals located in the United States. All twenty-five websites, articles, and an interview with a local expert reviewed were published from the year(s) 2009-2020 limited to the English language. The key search terms used in the databases included “COVID-19” OR “coronavirus” AND “financial consequences” OR “financial implications” AND “personal protective equipment” OR “PPE” AND “United States” AND “revenue” AND “cost” AND “hospitals” AND “procedures” OR “testing” AND “supplies” AND “uncompensated care”. The research gained from government websites, peer-reviewed

journal articles, one personal interview, and private websites. The following subheadings were included within the study: *Financial Impact of COVID-19 on Hospitals*, *Financial Impact of COVID-19 on Specialties Within the Hospital*, *Financial Impact of COVID-19 on Physicians Within the Hospital Network*, and *Resources to Help with Financial Impact of COVID-19*.

A total of 72 sources were reviewed using PRISMA (Moher et al., 2009), articles that were not used did not align reasoning of this review (N=47). The standard of consideration for information included the consequences, implications, and effects of COVID-19 on hospitals within the US published within the past year and written in the English Language. Publications were chosen after review of webpages that were relevant (N=17). These twenty-six references within the analysis and data abstraction and were subject to review the full text. Once reviewed, twenty-six publications were chosen, eleven were included within the results section (See Figure 1). This literature search was conducted by TM and LP and validated by AC who reviewed and determined whether the references met the inclusion criteria for recency and relevancy.

Interview Procedure

The interviewee was asked to answer a series of 11 interview questions (see Figure 2) regarding the financial consequences of COVID-19 for their hospital. The interviewee was given the choice to conduct the interview in-person or on an online platform at the time and place of their choosing. They were asked for the consent to be referred to as the “expert” in the study as well as consent for the interview to be recorded to be able to go back and review later. The recording was deleted upon the completion of the study.

RESULTS

Financial Impact of COVID-19 on Hospitals

Hospitals faced many challenges throughout the COVID-19 pandemic causing an estimated loss of \$202.6 billion or an average of \$50.7 billion per month from March 1, 2020 to June 30, 2020 (AHA, 2020b). The areas that have caused loss were broken down into categories: the costs of COVID-19 hospitalizations, the cost of cancelled and forgone hospital services, the additional costs that came with the need to purchase more PPE, constructing temporary structures such as tents in parking lots or converting nonclinical areas for clinical use, leasing property to set up temporary hospital operations, creating emergency operation centers, expanding laboratory testing capabilities, and organizing computer, phone, and operation system support for employees to work remotely (Melnick & Maerki, 2020), and the cost of providing extra support to hospital workers such as childcare, housing, transportation, and COVID-19 screening and testing (AHA, 2020b). In an interview with a local financial expert, it was reported that, from March 2020 to September 2020, a local hospital recorded over \$800,000 (\$100 per test) spent in COVID-19 tests due to sending it to a third-party lab but the facility eventually purchased their own lab equipment for \$100,000 to run the test in house which allowed them to run a test for \$35 per test and pay off the equipment in three months (Expert, 2020). Of the \$202.6 billion loss, an estimated \$36.6 billion came from treating COVID-19 patients alone and \$161.4 billion of the \$202.6 billion came from cancelled and forgone hospital services which included various non-elective surgeries, outpatient treatments, and reduced use in emergency department services (AHA, 2020b). The non-treatment costs for items such as PPE are estimated to have been \$2.4 billion of the \$202.6 billion which was roughly \$600 million per month and the cost of additional support for front-line hospital workers came out to be about \$2.2 billion or \$550 million per month (AHA, 2020b). The financial expert from the local hospital reported

costs of over \$800,000 in supplies for items such as masks, sanitizer, gloves, scrubs, caps, gowns, and cleaning from March 2020 through September 2020 (Expert, 2020).

Another issue came in the form of ICU beds. While the U.S. was considered to have a decent supply of ICU beds, with more beds per capita (about 25 beds per 100,000 people) than every country minus Germany, there were a six-fold difference in ICU beds per capita between hospitals regions between the highest and lowest bed density in the U.S. (Gaffney, Himmelstein, & Woolhandler, 2020). The geographic variation of ICU bed density meant that the pandemic could quickly exceed the number of beds in some areas while other areas would have too many open beds (Gaffney et al, 2020). For those areas that did need to increase their ICU bed capacity, the cost was as high as \$45,000 to convert a general medical bed to ICU capability with the equipment needed such as heart monitors, oxygen monitors, and ventilators (Melnick & Maerki, 2020). The rooms in which the beds were held needed to be converted as well by reengineering the heating, ventilating, and air-conditioning systems to add negative-pressure in order to isolate COVID-19 patients (Melnick & Maerki, 2020). Other equipment costs that were reported were \$11,000 to rent 20 ventilators, portable x-ray machines for \$7,500, and \$16,000 for infrastructure on hospital routers (Expert, 2020). The financial expert also reported new costs that the hospital had recently paid to be proactive for the next stage of the COVID-19 pandemic. The hospital recently bought two freezers for the potential vaccines: one for \$6,000 and the other for \$12,000 (Expert, 2020).

Another area that contributed to financial losses for hospitals was the increase in numbers of people who lost their commercial insurance and either became eligible for Medicaid or uninsured. Not only did the coverage loss put families at financial risk, but it increased the amount of uncompensated care that a hospital provided (Blake, 2020). By the end of April 2020,

hospitals had already seen an average increase of 13% of bad debt and charity care compared to the last year (Blake, 2020).

Financial Impact of COVID-19 on Specialties Within the Hospital

A main source of revenue for hospitals was surgical procedures. When the CDC called for a pause on all elective and nonessential services, surgical specialties were hit the hardest with a 60% decline in visits causing hospitals in some cases to have to reduce pay for surgeons by 50%, withhold bonuses for work that had been already performed, and require the use of paid time off for surgeons to receive their monthly salary (Satiani & Davis, 2020). In Colorado, it was estimated that there was a total loss in revenue from cancelled elective and non-emergency procedures upwards of \$1.2 billion with an additional projected revenue drop of \$500 million due to the surge of new Medicaid enrollees (Colorado Health Institute, 2020). Oncology were another source of revenue that was hit. Scheduled appointments, operations, and some types of cancer treatments were cancelled or postponed prioritizing beds and care for those were seriously sick with COVID-19 (Lancet Oncology, 2020). While it was recommended that cancer treatments continue as planned, oncologists reported a reduction of cases by 30-60% (Pawlik, Tyler, Sumer, Meric-Bertram, & Okereke, 2020). For many hospitals, this loss of cases led to an immediate loss in hundreds of millions of dollars (Pawlik et al, 2020). Many surgical oncologists were asked to adapt their practices to include coverage of acute care surgery services depending on the number of COVID-19 patients in the hospital (Pawlik et al, 2020). The Mayo Clinic implemented a 10% pay cut for oncologists and put a hiring freeze in place (Pawlik et al, 2020). Other parts of oncology that not only had an effect on the oncology community but also on hospitals' revenue through the use of grants was the halt of research, education, and collaboration for cancer (Lancet Oncology, 2020).

Financial Impact of COVID-19 on Physicians Within the Hospital Network

Many hospitals own physicians' offices and outpatient services making them an integral part of a hospital's incoming revenue. One study showed that out of 50 million visits representing over 50,000 providers from February 1, 2020 to April 16, 2020, the volume of outpatient visits went down by close to 60% (Satiani & Davis, 2020). A second study also showed that the number of office-based practices had a 60% reduction in visits during the first few months of the pandemic (Blumenthal, Fowler, Abrams, & Collins, 2020). Another study showed that out of 724 physician respondents in the first week of April 2020, 97% had been negatively affected by COVID-19 with a 33% decrease in office visits with 20% of the 33% being from hospital-employed private practices (Satiani, Zigrang, & Bailey-Wheaton, 2020).

Resources to Help with the Financial Impact of COVID-19

The nation's most wealthy and prestigious health care institutions are expected to be able to absorb most of these financial losses that have been discussed, but that is the exception and not the majority with most hospitals taking serious financial losses (Blumenthal, Fowler, Abrams, & Collins, 2020). The government began to provide federal money to hospitals to help deal with the financial losses. On March 27, 2020, President Trump signed a \$2 trillion package called the Coronavirus Aid, Relief, and Economic Security (CARES) Act which provided direct funding to hospitals and physician practices (U.S. Department of Treasury, 2020). One hundred billion dollars of the Act went to the Department of Health and Human Services' (HHS) Public Health and Social Services Fund to be used to reimburse eligible health care providers for lost revenue or expenses directly related to COVID-19 (U.S. Department of Treasury, 2020).

DISCUSSION

The purpose of this research was to assess the financial consequences of the COVID-19 pandemic for hospitals in the United States. The hypothesis of this research study was: COVID-19 negatively impacted the financials of hospitals in the United States through loss of revenue from the decrease in procedures, testing, and research, having to purchase supplies at a higher cost, and having an increase in uncompensated care costs due to an increase in uninsured. The hypothesis has been supported through the findings of this research which covered the financial impact of COVID-19 on hospitals, financial impact of COVID-19 on specialties within the hospital, financial impact of COVID-19 on physicians within the hospital network, and resources to help with the financial impact of COVID-19.

Findings

Hospitals incurred loss in revenue through the costs of COVID-19 hospitalizations, the cost of cancelled and forgone hospital services, the additional costs that came with the need to purchase more clinical and nonclinical items such as PPE and COVID-19 tests, the cost of providing extra support to hospital workers, and the increase in cost that came from in numbers of people who lost their commercial insurance and either became eligible for Medicaid or uninsured. Hospitals specifically saw a decrease in surgical specialties and oncology along with a decrease in visits to physicians within the hospital network. All the losses in revenue and increases in expenses led to an estimated loss of \$202.6 billion for hospitals in the U.S. Since hospitals were negatively impacted by the pandemic, the government offered financial help through the implementation of the CARES Act.

The financial expert interviewed stated that they believed that the way hospitals plan for pandemics and epidemics will change considerably. They discussed how the local hospital had learned, and was still learning, so much about how to handle this kind of crisis. It was an

unprecedented incident that pointed out many flaws in the system. The expert stated that they believed that while hospitals have been greatly hurt financially by this pandemic, federal money will help hospitals get back to where they were before COVID-19. However, it will take a lot of time and the financial expert was uncertain as to how long that would be. They mentioned that there are still several variables to consider such as how much longer until the end of the pandemic, the vaccine distribution process, etc.

Limitations

Several limitations were noted throughout this study. The study design was a literature review with a semi-structured interview which limited the type of data collected. The number of research articles, the search strategy, and databases used may have also limited this study. Researcher, interviewer, and publication may have occurred. Another limitation came from the recency of the issue. There were not many peer-reviewed journal articles on the long-term financial implications of the pandemic for hospitals which limited the amount of data available.

Practical Implications

This research would benefit from being revisited in a year or two to investigate any new findings and articles that may be published. Also, this information would be useful for hospitals to review to help them better plan for any future outbreaks that may happen in the future. This could help in emergency preparedness for those situations.

CONCLUSION

The COVID-19 pandemic impacted hospitals financially. There is enough evidence to conclude that this was due to the loss of services provided and patient visits, increase in costs of supplies,

and increase of the uninsured. These factors caused a negative impact on hospitals' overall financials.