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Khaja Umair Shariff

Anna Noel Franklin

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IMPACT ON HOSPITAL PROFITABILITY DUE TO COVID SAFETY GUIDELINES

ABSTRACT

Introduction: The pandemic of COVID 19 presented a unique challenge to hospitals and healthcare systems that they have been struggling to function in. Operating costs had increased with new protocols, planning, operating space, supplies, and staffing. This coupled with the loss of revenue has led to approximately 10% - 20% salary reductions, furloughs, and loss of benefits such as PTO and vacation days to employees. Hospital's cash reserves are being depleted due to increased operations costs and reduced revenue. Government funding, such as the CARES Act provided by the sanction of the Department of Health and Human Services Office, will only help keep the doors open and not create profitability for the hospitals. Efficiency and cost restructuring have been deemed necessary during the financial crisis brought upon by the COVID 19 pandemic.

Purpose: The purpose of this research was to identify the financial components impacting the hospital system's profitability with new protocols that have been implemented since combating issues related to COVID 19.

Methodology: The intended methodology for this qualitative study is a semi-structured interview with managerial employees of healthcare organizations and a literature review guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) diagram.

Results: The economic impact on hospitals has led to drastic reductions in the profitability of hospitals by eliminating elective surgeries for months, changing the traditional workforce models, and disrupting the supply chain of essential medical equipment and medication.

Discussion/Conclusion: The research demonstrated that suspension of elective surgeries, dramatic modifications to the workforce, and disruption to the supply chain have immensely impacted hospitals and their ability to generate profitability.

Keywords: COVID 19, disruption, hospital, impact, interview, profitability

INTRODUCTION

The pandemic of COVID 19 presented a unique challenge to hospitals and healthcare systems that they have been struggling to function in (Klompas, 2020). Operating costs have been increasing with new protocols, planning, operating space, supplies, and staffing (Bartsch et al., 2020). Hospital's cash reserves are being depleted due to increased operations costs and reduced revenue. Government funding, such as the CARES Act provided by the sanction of the Department of Health and Human Services Office, will only help keep the doors open and not create profitability for the hospitals (Satiani, Zigrang, & Bailey–Wheaton, 2020). Efficiency and cost restructuring have been deemed necessary during the financial crisis brought upon by the COVID 19 pandemic (Khullar, Bond, & Schpero, 2020).

Hospitals have been challenged financially throughout 2020. Systems that have had pre-existing financial challenges before the pandemic was struggling even more. In 2019, over 22 hospitals had filed for bankruptcy (Anoushiravani, O'Connor, DiCaprio, & Iorio, 2020). It has been predicted that approximately 20% more will need to be filed by the end of 2020 (Lexa & Lexa, 2020). Hospitals that rely heavily on outpatients and elective services will be affected the most. A study in 2014 revealed that over 30% of total inpatient hospital revenue was generated from elective service admissions (Khullar et al., 2020). Furthermore, one estimate in the aforementioned study stated that admission through elective services qualified for over \$700 more in reimbursements than those admitted through emergency services. Since COVID 19 crisis, the healthcare system has realized that the payment system needed realignment. Insurers have been rewarding high-cost services while neglecting to pay for necessary low-cost procedures (Himmelstein & Woolhandler, 2020). The reduction in hospital payments and reduced salaries has caused a 10% - 25% economic contraction leading to the COVID 19

recession (Cutler, 2020). Furthermore, on reviewing hospital revenues from the previous years, the recession was notable for hospitals since hospital admission across the US has been reduced by 48% when compared to the rates in 2019 (Huynh, 2020). Several healthcare organizations lack the liquid assets to cushion the financial blows that have resulted from preparing and mobilizing resources due to the pandemic. Hospitals in good financial standing were reported in 2018 to have less than two months' worth of liquid assets to support their systems (Shadmi et al., 2020).

Direct medical costs for COVID 19 patients have also caused an alarming financial need within the health care systems. The study conducted by Bartsch et al. (2020) estimated that the City University in New York was subject to median costs of over \$3,000 per symptomatic COVID 19 case. This estimation reveals that if the expected 20% of the US population would get infected, after implementing social distancing, the resulting cost of the pandemic on the healthcare system could exceed \$160 billion. On the other hand, if 80% of the US population were to get infected, the direct costs would increase to over \$850 billion, not accounting for the projected \$1 million in post-discharge expenses that would most likely occur.

Government aid funding has played a huge part in hospital systems being able to remain financially solvent throughout the pandemic. The CARES Act, Relief Aid for health care systems, had been passed by congress to alleviate some financial strains on the health network (Bhutta, Blair, Dettling, & Moore, 2020). Both For-Profit and Non-Profit organizations have been provided aid during this time (Jeurissen et al., 2020).

The purpose of this research was to identify the financial components impacting the hospital system's profitability with new protocols that have been implemented since combating issues related to COVID 19.

METHODOLOGY

The research hypothesized that the hospital systems have been financially impacted due to implementing safety protocols in the form of restricting elective care, limiting occupancy, advance scheduling, increased staffing, increased use of PPE, and an overall reduction of volume, which may have reduced profitability for the organization.

The intended methodology for this qualitative study is a semi-structured interview with managerial employees of healthcare organizations and a literature review guided by the Preferred Reporting Items for Systematic Reviews and Meta-Analysis (PRISMA) diagram (Figure 1) (Moher, Liberati, Tetzlaff, Altman, & Group, 2009). The participants for the research were selected from a pool of CFOs and CEOs. The pool of participants was gathered from professional references and email correspondence. The research prioritized professionals from Cabell Hunting Hospital, St. Mary's Medical Center, King's Daughters Hospital, Veteran's Association Hospital, and Appalachian Regional Hospital. The researchers interviewed Mr. Wes Dangerfield from Summers County Appalachian Regional Hospital on November 8th, 2020, and Mr. Dennis Lee from Cabell Huntington Hospital on November 20th, 2020. Due to the ongoing pandemic, all interviews were conducted over a digital platform of the participants' choice. The participant's consent was acquired verbally. During the interview, the researchers took notes which were either shredded or deleted after the objectives of the research were completed. The data collected from the interviews were used to understand the various financial components of a healthcare organization and how they have been affected due to the COVID 19 pandemic.

The literature review was performed in four stages: 1) Identification and collection of literature; 2) Establish inclusion and exclusion criteria; 3) Literature analysis; and 4) Conceptual framework. The search results output generated several results which were then systematically processed through the PRISMA checklist (N=202). Once the researchers screened the literature

through these criteria, the resulting pool was further evaluated (N=52). The review identified some publications that addressed healthcare organization profitability issues through anecdotal evidence and were excluded (N=40). Additionally, some of the literature described the problem and offered little to no solutions to the problem and were excluded (N=33).

Step 1: Identification and Collection of Literature

This study utilized search results derived from PubMed, EBSCOhost, ProQuest, Web of Science, and Google Scholar. These databases were used with standard Boolean operators to combine search terms. The search utilized terms like ‘COVID 19’ AND ‘hospital’ AND ‘profitability’ OR ‘COVID 19’ AND ‘finance’ OR ‘COVID 19’ AND ‘health practice’ OR ‘COVID 19’ AND ‘managing patients’.

Step 2: Establish Inclusion and Exclusion Criteria

Once the publications relevant to the keywords involved in the study were collected from the search engine, the researchers established criteria that would screen the citations to further define the studies that would be involved in the study. Literature that addressed clinical aspects of managing patients during COVID 19 were excluded. Literature available in languages other than English were excluded. Literature that exclusively discussed the financial aspect of healthcare organizations during the pandemic of COVID 19 was included. The literature was also trimmed to only include publications between the years 2010 and 2020 except for the citations used for PRISMA and conceptual framework.

Step 3: Literature Analysis

Once the researchers had a manageable quantity of literature that they could analyze, a thorough review of the literature was performed.

Step 4: Conceptual Framework

This literature review followed the path of the research framework adapted by Niemeijer and De Groot (2008) (Figure 2). This framework outlines a series of interrelations between the various factors that influence the profitability of a healthcare organization and the influence of COVID 19 on them.

RESULTS

Several factors were associated with the pandemic of COVID 19 that adversely influenced the profitability of healthcare organizations. However, the research indicated that three factors have been the foundation of several issues faced by hospitals. These were the suspension of elective surgeries, modification of workforce, and disruption of the supply chain.

Suspension of Elective Surgeries:

Although the dramatic surge of patients due to an increased number of infectious individuals may seem profitable for a healthcare organization, the reality was far from it (Verelst, Kuylen, & Beutels, 2020). Due to the infectious nature of the SARS CoV 2 virus, almost all elective surgeries were postponed indefinitely, nationwide (Diaz, Sarac, Schoenbrunner, Janis, & Pawlik, 2020). This restriction negatively impacted the function of several hospital systems, since many healthcare organizations rely on a fee-for-service (FFS) model to generate a profit and several hospitals suffered losses with an average loss of FFS services estimated at \$26,601 (Basu, Phillips, Phillips, Peterson, & Landon, 2020). Furthermore, the guidelines established by the Centers for Medicare and Medicaid have been insufficient to support the vast operation costs associated with operating a healthcare organization, even with the extensive furloughs and pay cuts (Howe et al., 2020). The reduction of pay and workforce was further precipitated by the significant reduction in Medicaid funding which was expected in Democratic and Republican

states as a result of social isolation reducing the revenue collected through sales and income tax (Roehr, 2020).

Modification of the Workforce

As an effect of the dramatically decreasing patient volume and steady operating costs, hospital staff has been one of the hardest hit due to the financial strains caused by the pandemic of COVID 19. This has led to approximately 10% - 20% salary reductions, furloughs, and loss of benefits such as PTO and vacation days to employees (Lexa & Lexa, 2020). A report by Paavola (2020) outlined the timeline by which over 250 hospitals across the nation have either suspended or terminated various employees on a variety of levels, to mobilize billions of dollars that would be spent on either operations costs or further sustainability of the organization. This would also be highlighted by the 14.4% increase in people that have been seeking unemployment benefits (Woolhandler & Himmelstein, 2020). This drastic reduction of the workforce was also associated with the suspension of all elective procedures and emergency-only visitation (Zimmermann & Nkenke, 2020). However, certain private clinics had risen to the challenge of the pandemic and built stress-test scenarios that would assist with prediction and preparation for alterations in their financial state either due to a reduction in elective case, an increase in the lower margin of emergency or intensive care unit cases, a shift in payer mix, increased operating costs, and delayed payments (Allen et al., 2020).

Disruption of Supplies and Equipment

The pandemic of COVID 19 had caused a dramatic shortage of medical supplies required for both prevention and treatment of various illnesses, since almost half of the global market for medical supplies had been dominated by a few countries: Germany, the United States, Switzerland, China, and Ireland (Gereffi, 2020). This shortage further exacerbated the financial status of several healthcare organizations as many hospitals were forced to conserve PPE by

extending their use or reuse (Nguyen et al., 2020). The healthcare industry relied on an established and consistent supply chain of therapeutic, non-therapeutic, and protective equipment resources (Govindan, Mina, & Alavi, 2020). Although manufacturing processes have the ability and means to produce several thousand PPEs in a day (Chellamani, Veerasubramanian, & Balaji, 2013), the demand for PPEs far surpassed the amount produced by manufacturing plants (Ranney, Griffeth, & Jha, 2020). To mitigate the effects of these issues and protect supply chain operations, recommendations proposed by Zhu, Chou, and Tsai (2020) may be effective such as, nationalizing medical supply chains, adopting a diversified approach, and hospitals increasing their safety stock.

DISCUSSION

The purpose of this research was to identify the financial components impacting the hospital system's profitability with new protocols that have been implemented since combating issues related to COVID 19. The body of evidence presented here demonstrated that suspension of elective surgeries, dramatic modifications to the workforce, and disruption to the supply chain have immensely impacted hospitals and their ability to generate profitability.

Firstly, the infectious nature of the SARS CoV 2 virus compelled surgical units to shut down which resulted in a significant loss of profits from FFS services. Healthcare organizations have typically been founded on generating revenue through FFS services and this disruption caused the hospitals to suffer an unprecedented financial impact (Moghtaderi, Pines, Zocchi, & Black, 2020). Interviews with expert 1 and expert 2 indicated that the cancellation of elective surgeries has impacted them significantly and led to a significant reduction in revenue.

Furthermore, both the hospitals highlighted that a majority of COVID infected patients were through the Emergency Room (ER) and most of the functions of the ER would not be profitable. However, both the hospitals sustain that since the restriction of elective procedures has been

lifted, elective surgeries have been resumed to nearly the same levels but, the hospitals have been struggling to cover the expenses incurred during the lockdown.

Secondly, hospitals were faced with the challenge of managing the workforce even though the patient volume was dwindling. Several hospitals accomplished this by furloughing a significant portion of their workforce. With low reimbursements and ceased elective care physicians across the US, hospital systems have suffered an approximately 20% in salary to accommodate for hospital losses (Himmelstein & Woolhandler, 2020). Furthermore, an interview with expert 1 indicated that one of the strategies the hospital would use to save costs related to the workforce was by relying on a consistent flow of volunteer activities. Due to the infectious nature of the pandemic, the hospital now is reluctant to employ free volunteers and would instead be compelled to pay for not only their employee's time but also to equip them with the necessary PPEs required. Contrary to the former approach, expert 2 redesigned their infrastructure and operations protocols to require less workforce for a specific task to minimize associated expenditure.

Lastly, the acute shortage of medical equipment and an immediate spike in demand led to an overinflation of prices for essential equipment required for the efficient functioning of an emergency unit. Although several hospitals were struggling to maintain the minimum required inventory of disposables and drugs, both expert 1 and expert 2 stated that they did not face much difficulty concerning supplies and equipment due to the efficiency of their suppliers. However, they do indicate that the drastic increase in the cost of PPE compelled each of these hospitals to re-evaluate the number of supplies used in each situation and attempted to minimize wastage.

Limitations:

During the development of this research, there were several limitations faced by the researchers. These were presented in the form of lack of updated financial information,

unavailability of participants for the interview, limitations to the scope of the paper, and the possibility of researcher bias.

Firstly, the information available to the researchers is limited due to the active nature of the pandemic. Furthermore, financial reports have usually been published at the end of July, every year, because of which the information available to the researchers was limited and did not reflect the effects of the pandemic on the financial state of the hospital.

Secondly, since several of the potential participants were high-level managers of the hospital, their availability was out of bounds for the researchers.

Lastly, the scope of this paper was limited to exploring the various means by which the COVID 19 pandemic has impacted the profitability of hospitals. This review was limited to the scope of the topic and the strategy to find sources for the same. Furthermore, the study may have been subject to researcher bias,

Practical Implications:

Following the results and the discussion presented, the researchers speculate that the pandemic of COVID 19 has significantly impacted the current profitability of hospitals and will continue to do so until hospitals can resume operations similar to those before the onset of the pandemic. However, the impact of the pandemic has provided insight for the hospital to cut unnecessary costs in the form of reducing wastage and improving efficiency. Additionally, further efficiency improvements may be possible by developing a work-from-home policy for most of the non-clinical staff. This would provide more floor space for establishing services that would be focused on generating revenue for the hospital. Not only would future studies on hospital profitability during the COVID 19 pandemic explore the aforementioned possibilities but they would also be required to explore novel means that would allow a hospital to function at a high capacity even when a future pandemic would happen again (van de Haar et al., 2020).

CONCLUSION

In conclusion, the pandemic of COVID 19 has led to a severe financial deficiency of the American healthcare system and has identified several improvements that need to be prioritized. The economic impact on hospitals has led to drastic reductions in the profitability of hospitals by eliminating elective surgeries for months, changing the traditional workforce models, and disrupting the supply chain of essential medical equipment and medication.

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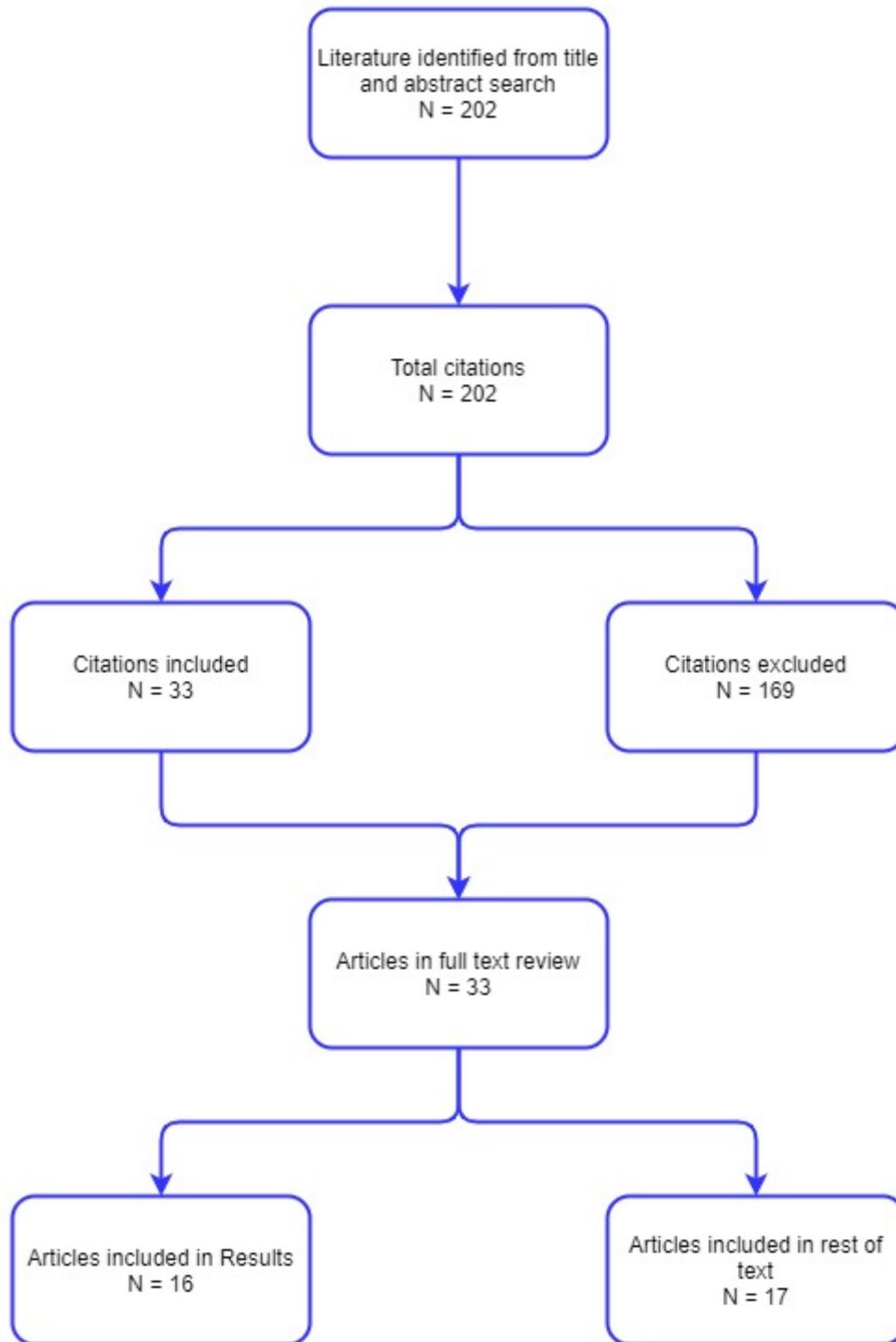
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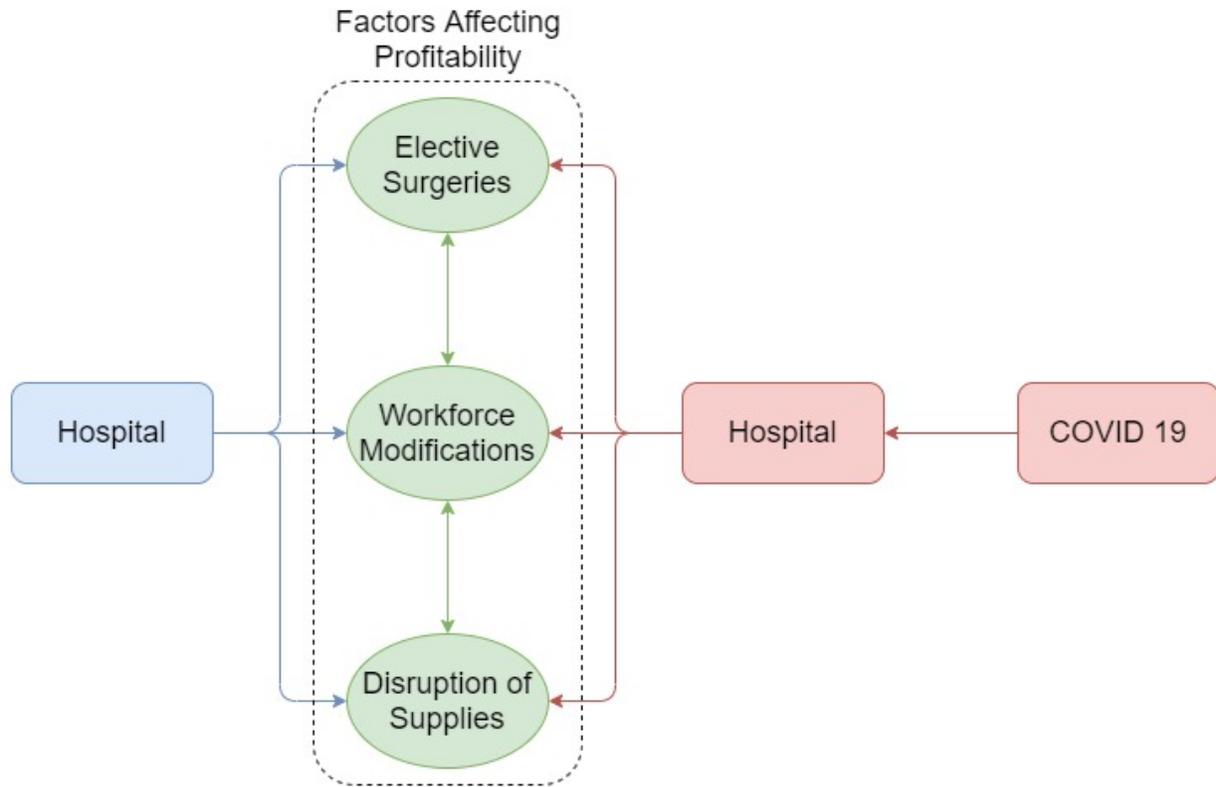
APPENDIX

Figure 1: Overview of literature evaluation as per PRISMA approach



Source: Moher et al. (2009)

Figure 2: Conceptual framework demonstrating the relationship between the workforce, revenue, and infrastructure, and how the pandemic of COVID 19 effects a hospital system.



Source: Niemeijer and De Groot (2008)