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Implications and future strategies on cost management for hospitals during and after COVID-19

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ABSTRACT

The coronavirus disease (COVID-19) pandemic is throwing a new factor into hospitals calculations about how to proceed with current and future healthcare strategy implementations. As entire nations encourage their populations to remain stay home, quarantine, avoid coming out and wear masks till lockdown open, while healthcare providers doctors, nurses, technicians and other administrative staffs are more active than ever in response to the outbreak of the novel coronavirus. We expect a significant increase in costs after the pandemic due to change in services and infrastructure, use of personal protective equipment and extra sanitization used by medical staff. To identify ways to improve liquidity, cash flow and cost management due to damage done by COVID-19, we systematically reviewed journals on cost management in hospitals, reports from healthcare finance management agencies, conducted focus groups webinar and websites that includes health policies, healthcare management costs, finance and factors such as departmental cost management in hospitals. The results were clubbed into two parts i.e. one was healthcare revenue challenge and second was strategies for regenerate revenue during and after COVID-19. COVID-19 has shown a significant impact on the healthcare revenue cycle, financial operations, supply chain management, hospital operations and even for those who provide finances. Hospitals and healthcare systems needs to do the work on war footing in supply chain, clinical services, diagnostics services and operations management by ensuring that the management drives the strategies, transform process, create cost-reduction goals and identify possible sources of savings based on the organizations capital and liquid shortfall, using internal and external benchmarking.

Keywords: COVID-19, Hospital administration, Healthcare costs, Hospital cost, Healthcare strategy, Hospital cost management challenges

INTRODUCTION

The coronavirus disease (COVID-19) pandemic continues to be a key concern for healthcare Industries and healthcare workers. Healthcare organizations are working tirelessly to ensure their employees have the necessary support and equipment to provide proper patient care, testing and treatment. While plans and communication change almost hourly, it is easy to understand the heightened concerns

around managing the revenue cycle and financial operations in hospitals, despite dire equipment and staffing shortage. The share of gross domestic product (GDP) spend on healthcare is increasing in all member countries of the Organization for Economic Cooperation and Development (OECD), from 4.6% of GDP in 1970 to 9.0% of GDP in 2016. Growth is driven by a combination of factors: ageing populations and workforce, technological advances, changing preferences due to

higher incomes, higher wage growth due to lagging productivity growth and increased coverage.² Survival of all organizations during and after COVID-19 will be dependent on their ability to maintain cash flow and liquidity. Significant volume declines, diminishing reimbursement, deteriorating payer mix and increase other factors costs like disinfection, sterilizations, infection control, setting up isolation wards, staff rotation and quarantines, responsible waste disposal are expected and deferring for elective surgeries, physician office visits, ambulatory care centers and referred ancillary services.³ Because to these pressures, reducing costs is at the forefront of healthcare finance leader's minds whether they are corporate, not-profit, rural, urban organization. In present scenario, two most important steps healthcare leaders can take are to conserve cash and conduct cash flow analyses and emergency planning for funds at multiple scenarios.

The source of income in a typical hospital would be from direct medical services and from medical support services such as from laboratory department, radiology, pharmacy department, etc. Each of the above source is further classified as from outpatient channel or serving inpatient channel. Whatever be the source, each source is influenced by a variety of complex qualitative and quantitative factors as follows (Table 1).⁴

Table 1: Factors influence revenue in hospital sector.

Qualitative factors	Quantitative factors
Usage of advanced medial equipment's	Number of patients
Complexities of critical cases	Number of beds
Types of services hospital offers	Capacity occupancy level
Frequency of services	Infra structure availability
Quality of employee's (such as doctors, nurses)	Number of back up facilities
Management policies on patient handling	

Objective

Objectives of the study were to evaluate the fiscal impact of COVID-19 and lockdown on the hospitals. And also, to evaluate and suggest future strategies for hospitals.

METHODS

We performed a systematic review to identify evidence on the effectiveness to control hospital expenses. Our approach follows the reviews and dissemination guidance protocols for undertaking reviews in healthcare.⁵ Standard rapid review procedures were followed with respect to hand searching journals, articles, guidelines, expert opinions, and consultations. Due to non-availability of much researches on relationship with COVID-19 and

health systems cost management, we conducted online qualitative research reviewed (three-four pages (n=46) executive summaries and (n=16) reports more than 300 pages from different healthcare finance agencies). Four webinars were conducted through microsoft team. Total 42 hospital professional participated (16 hospital CEO's, COO's and facility directors, 26 hospital administrators and finance heads) formal discussion and expert advised were debated on Implications, challenges and future strategies on cost management for hospitals. We reviewed websites (n=96) of a purposive sample of healthcare research funders, producers/purveyors of research and journals that includes hospital cost and its impacts due to COVID-19, impact of COVID-19 on healthcare costs, hospital departmental saving. We had excluded all those websites, reports, researches and policies shows clinical findings on COVID-19.

RESULTS

This systematic review identified factors such as estimating the impact of COVID-19 on healthcare costs, revenue loss and less liquidity and further strategies required to increase and regenerate the health systems. These strategies would benefit from having information that is relevant for decisions highlighted for healthcare professionals, managers. In hospital these are few medical services which generate revenue (Figure 1).

The analysis of websites found that contextual factors were rarely highlighted, recommendations were often provided on cost saving in different department of the hospitals. There suggestions were clubbed and divided into two major categories i.e. healthcare revenue challenges and Strategies for rejuvenate revenue during and after COVID-19. After analysis of all these following results were emerged.

Healthcare revenue challenges during and after COVID-19

OPD and diagnostic services like imaging, echocardiogram, ultrasound has been the most precipitous decreases. Stock prices for major for-profit hospital have corrected by 23-42 percent from March 2020. Additionally, not-profit hospital systems, academic medical center's and physician practices are also facing challenges streaming from COVID-19.6 Hospitals and pharmaceutical industries have never experienced an economic shock that is simultaneously exacerbated by the need to restrict its supply of certain services. Lack of active pharmaceutical ingredients and low on key medical supplies like personal protective equipments (PPEs) like coverall, goggles, masks, hand-gloves and equipment's like ventilators. In present scenario majority of hospitals are aggressively expanding their Critical Care beds and facility and important resources such as PPE and emergency drugs are sourced and preserved, often at extraordinary expenses.

Revenue Generation Stream Chart

OUTPATIENT REVENUE

A) Medical Services -

Consultation Fee, Injection & Immunization Charges,
Casualty, Day Care, Health
Check-up, Ambulatory Care,
Dialysis, Endoscopy, Etc.

B) Medical Support Services -

OP Registration Charges, Laboratory Services, Radiology Services, Blood Bank services, Diet Counseling, Physiotherapy, Ambulance Services

IN-PATIENT REVENUE

A) Medical Services -

Doctor's Fee, Surgeon Fee's, Operation Theatre Charges, Anesthesia Charges, Baby Cradle Charges, Implants Charges, ICU Charges, Room rent charges, Nursing Charges.

B) Medical Support Services -

Admission & Documentation, Lab Services, Radiology Services, Medical legal Charges, Blood Bank Charge, Oxygen Charges, Surgery / Procedure Charges, Medical & Surgical Consumables, etc.

PHARMACY INCOME

Out-Patient (O.P.)
Pharmacy, In-Patient (I.P)
Pharmacy, Trauma Center
Pharmacy, Rehabilitation
Center Pharmacy,
Outsourced Pharmacy

Other Operational Income

- Admission charges, Outsourced Lab, Infrastructure (IFS) Charges, Telemedicine Consultancy, R&D income on assignment basis

Figure 1: Revenue generation stream chart.4

Source: Guidance note on cost management in healthcare sector, ICMAI, Kolkata.

Table 2: Share of hospital admission spending, by type of admission in large employer plans.

S. no.	Department	% of share
1.	Psych/substance	3
2.	Medical, non-emergency	15
3.	Maternity/newborn	20
4.	Emergency admission	25
5.	Surgical, non-emergency	37

Table 3: Division operating during COVID-19.

S. no.	Division	% operating
1.	OPD (outpatient department)	20
2.	Imaging services	30
3.	Diagnostic services	15
4.	In-patient emergency admission	15
5.	Elective surgeries	0
6.	Emergency surgeries	15

Cost of treatment will increase due to extra diagnostic tests, PPE and payment for when a patient needs to be isolated or quarantined in a room. Patients being left with thousands in medical bills after seeking care for potential coronavirus symptoms. The post-pandemic patient behaviour changes that may come. Elective procedures represent a substantial share of spending on hospitals (Table 2).⁷

Elective procedures, surgeries and visits hospitals appears mass cancelations and even basic wellness checks in order to deal with the more immediate need of treating COVID-19 patients. Elective surgeries are often more profitable cases for hospitals and health systems, this will impact their bottom line. Elective surgery volumes will return to normal levels, especially for high risk populations will take very long time. Hospital divisions operating during COVID-19 (Table 3).

Outpatient heavy practices will feel the biggest impact of these changes, but all imaging volumes will decrease. Narrative experiences suggest that Imaging practices should anticipate 50-70% decreases in volume that will last a minimum of 3-4 months, depending on the location of practice and the severity of the COVID-19 pandemic in each region.⁹

Medical tourism which constitute 10-12 percent of revenue is nil. Hospital doctors, nurses and other technicians and administrative staff those who are dealing with an onslaught of coronavirus patients and shortages of protective equipment are also now finding out that their compensation is getting cut. Most essential service providers work for staffing companies that have contracts with hospitals. Those staffing companies are losing revenue as hospitals postpone payments, elective procedures and non-coronavirus patients. Health insurance

companies are processing claims slowly as they have to adapt a remote workforce. ¹⁰

In general, percentage of patient visit hospital are 40% of cash, 35% of private insurance and 25% government insurance. If there will be COVID-19 positive cases growth then for below poverty line covered under schemes like Ayushman Bharat scheme, central government scheme, funding support for hospital to carry on their treatment in compare to cash patients will result in increases debtor ad debtor days ranging for private insurance 30-60 days and government schemes ranging 90-180 days. How to tackle that revenue gap in the long-term plan or rolling forecast. Diagnostic centers and small clinics with less capital may find it more difficult to aggressively market during an economic recession.

Strategies for rejuvenate revenue during and after COVID-19

Cost saving can be achieved through selective centralization or regionalization of administrative and/or overhead services and functions. These include human resources (HR), accounting, billing and finance, information technology, marketing and material management, among others. Consolidation at the appropriate level can improve operations and yield large savings.

Develop a prevention plan

If you have not already, document a prevention plan that protects employees and guests while on property to put potential guests at ease and to help ensure a positive, safe experience at your hospital.¹¹ All employees should be aware of all policies and protocols for corona virus/COVID-19.

Billing and coding

Ensure you know what is covered by health plans for both inpatient and outpatient services. With the rules rapidly changing, providers and support staff need to be properly apprised and trained. Several large health plans have made changes to policies on patient out-of-pocket responsibility.¹² Ensure registration and billing staff are aware of these changes so that invoicing and collection can continue apace and further hospital will not create losses.

Resource optimization

COVID-19 has placed significant demand on an already overwhelmed healthcare system. Provider organizations should make sure their limited resources are appropriately allocated to meet patient needs. Allocating resources appropriately when demand starts to exceed those resources is critical to keeping operations running for patients who need care.

Financial model

The suspension period of two to three months will provide the much-needed liquidity, the expected operations to normalize not before 3rd Quarter of financial year 2021. One-way hospitals may do by moving to 24/7 surgeries to make up revenue that has been lost. With millions of people now unemployed, less pay or self-pay have gone up fivefold, so patient may be willing to undergo surgery even late nights, if it come with a percentage of discount.

Manpower resources

Staffing is the single greatest expense for hospitals which contribute 50-60% to the overall costs for a hospital and innovation can lead to changing staffing needs. Poor alignment of staffing with patient volume, coupled with poor execution of existing staffing plans, can be among the more common contributions to high labor costs.

A close review of census based staffing grids for inpatient units can reveal a less-than- ideal correlation between staffing and volume. Holding recruitment, working with limited staff, managing work scheduling, contract labor and overtimes, eliminate redundant positions, reassign highly qualified staff to fill gaps may improve financial performance.

Re-engineering department functions

Re-checking each department processes and remove unessential steps. Re-engineering processes like removing extra diets from dietary departments, scheduling running of air handling units (AHU's) and chilled water systems in non-critical areas, replace or repair inefficient sinks, toilets and urinals for consumption of water are rarely thought of as an area of cost savings, Use timers to heat water geysers, coffeepot, rescheduling OPD timing during peak hours only, expense optimization by focusing on growth opportunities in patient care and also ensure expenses grow at a slower pace. Asset Utilization can be defined as the percent of time a specific asset is "active" divided by the combined time the asset is "idle" and "active". The most highly correlated variables of asset utilization are demand for the use of the asset and operational processes supporting the use of the asset, cost saving at facility can be created by reducing number of services, manpower.¹³ Hospital sanitization and hygiene practices will be one of the brand images factors for hospitals.

Assessing departmental consumption periodically

Reviewing departmental consumption with managers keep them update whether their department are hitting or targeting budget. Managers should receive departmental reports based on volume, their evaluation include quality and service components but they also have a financial component showing how well managers meet their targets, as well as their overall budget performance, these will ensure managers have timely information to make any necessary cost-cutting decisions.

Focus marketing efforts on core products and customers

During times of economic uncertainty, entrepreneurs could be forgiven for completely re-focusing their marketing strategy, product lines, or even customer base, in an effort to make much-needed but nevertheless short-term gains. Deploy a care management strategy, will focuses on quality and outcomes like with an aging population and an increasing number of people with chronic medical conditions, it is imperative now more than ever that a collaborative on safety, timeliness and cost effectiveness.

Reassess your digital strategy

Healthcare is challenged by large amounts of data that is diverse, unstructured and growing exponentially. Data constantly streams in real time, through interconnected sensors, monitors and instruments. The amount of data is expected to rise by a factor of 50 from 2014 to 2020. Combined with a growing need for providers and payers to retrieve, analyse and share data, it is clear why healthcare organizations must consider migrating from their traditionally fragmented technology infrastructure to cloud-based solutions.14 Today's IT systems and their concepts are often too rigid, operate as standalone solutions and are not interconnected. "The structure of the system makes it difficult, if not impossible, to establish binding communication processes solely between protagonists that are directly involved," in many countries, a major hurdle lies in the narrow legal restraints for collection, storing and disseminating data.¹⁵ Looking ahead, some providers also may see future implementation efforts delayed because organizations lack the bandwidth now to support the often long and arduous process of making future purchases. Comprehensive and flexible digitalization of hospital processes is essential in order to enhance efficiency, counteract the overhead cost inducted by complexity and improve transparency. However, some forms of technology particularly those that support telehealth services are in hot demand as they prove their worth during the national pandemic, so another big shift will be in the area of telehealth.

Re-evaluate supply costs for hidden savings

Negotiate with the supplier to lower the price of surgical implants, a single hip joint can be in the tens of thousands so savings in this area can be significant. For offices with additional capacity can do vendor analysis for reviewing vendor contracts, re-concile accounts currently with vendors and access the quality of work from the vendor and their partners.

DISCUSSION

COVID-19 outbreak has badly impacted the revenue generation of hospitals, the OPD and diagnostic services

are operating at 20%, while in-patient services has been impacted by the government notification to postpone nonessential and elective surgeries and only 15% primarily on the emergency cases, majority general public avoid going to hospitals as a precautionary measure. The lower-thanexpected finance deficit, along with non-deferrable fixed costs will result in the hospitals depending highly on refinancing and financial support. Hospitals required cost management approach for significantly reshape and reduce cost by improving planning and execution of current operations and attacking overhead and non-value-added functions, overhead costs and costs "flying below the radar". Hospitals have high capex and marketing requirements, the majority of the capex will be on maintenance and marketing expenses could be deferred by a year, based on liquidity and priority. These cost management opportunities can best be achieved in the organization through understanding organization's readiness for cost saving, understanding and focusing on the key drivers of staffing and productivity problems and streamlining overhead functions also ensuring that costreduction targets are integrated with organizational plans and budgets.

CONCLUSION

The pandemic will likely result in long-term or even permanent alterations to few services. Haphazard and disjoined public directives may lead to a longer or multiphase crisis response. Market condition could trend as combination of distressed practices, historically low income. Hospitals and health system leaders have an opportunity to make a significant contribution to health care delivery in their communities by moving their organizations to a value-based business model, using the strategies of strategic cost transformation outlined. On micro level all services should be permanently redesigned. On macro level, stimulus funding, government help in taxes will help some outpatient-focused business avoid bankruptcy. Practices that do not survive may more seriously consider true affiliation or merger agreement with large healthcare systems to sustain in industry. Forward-thinking organizations, whether freestanding hospitals, multihospital systems and other provider entities should evaluate all aspects of their business considering changing environment and market conditions for future success. The time to move is now.

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