



A Review Paper on Healthcare Management System during and Post COVID-19

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Abstract

The year 2020 has coped with the corona crisis, the pandemic presented a challenge for healthcare management policies, that could not handle the current emergencies. May it be the no.2 Italy, which comes at second position among the top healthcare systems of the world. In this research work we talk about the various consequences of COVID-19, the various methods of healthcare management and the current situation and various models used to reduce the effects of COVID-19. COVID-19 has outcome in quick body part failure and can be as deadly as SARS. Performance Intelligence is one of the methods used for controlling the situations in this current situation of the pandemic. Worldwide, hospitals were modernizing their management to split COVID-19 affected patients from non-COVID-19 affected patients. The Performance Intelligence framework is a structured framework which can be implied on health policies, systems, using the information and data generated by the use of scientific methods and to measure the indicator of performances of healthcare systems.

Keywords: ICU capacity management during COVID-19, ICC, crisis, Performance Intelligence

INTRODUCTION

The first case of COVID-19 was identified in Wuhan, China, in December 2019; hence it has spread worldwide resulting in a pandemic. Till now, India has recorded around 107 million cases, out of which, 104 million recovered and unfortunately around 1.5 lakh people died. The pandemic has not only affected the health but also the societies, economies, health care management system, sports, education sector, etc. In India, first primary case of the disease was registered on 30 January 2020. So, to control the ongoing pandemic, the government of India announced nationwide lockdown first for 21 days. All unnecessary services and businesses, including retail establishments, schools, colleges, temples, etc. across the country stayed closed during this period and all means of travel were stopped.

So, there were many aspects during this time which we are discussing in our study.

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Standardized Protection during COVID-19

Level First: Regular facial mask, white coat, medical rubber gloves, and antiseptic liquid or solution.

Level Second: one-time usable cap, surgical mask, protecting spectacles, PPE kits, rubber gloves, and antiseptic liquid or solution.

Level Third: one-time usable cap, face shield or positive pressure headgear, goggles, a special mask made for COVID-19 type disease, disposable coverall protective clothing, rubber gloves, and disposable shoe covers [1, 2].

ICU Size Managing during COVID-19

Worldwide, hospitals were modernizing their management to split COVID-19 affected patients from non-COVID-19 affected patients. ICU capacity for COVID-19 affected patients were extended via changing post-anesthesia care units (PACUs) into ICU, remedial camps, and numerous other steps across various geographies were also taken [3].

Introduction of ICC TOOL for ICU Capacity Management

The ICU-COVID-SIM TOOL (ICC TOOL) was introduced to stimulate the flow of COVID-19 patients [4]. This tool defines the extreme rate of patients which can be handled for a given number of ICU beds dedicated for COVID-19 patients and their length of stay (LOS) distribution, Figure 1. At hospital level, this means could inform about how many COVID-19 patients could be handled [5, 6].

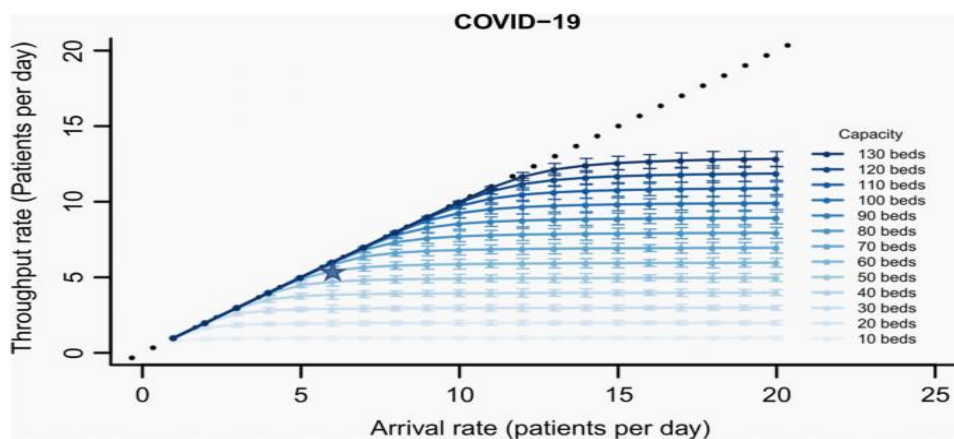


Figure 1. Defines the Extreme Rate of Patients.

This is describing about the coming percentage and bed capacity of COVID-19 patients per day. Here, throughput rates equal to the patient coming rates (diagonally represented spotted outlines). Here, star indicates the availability of beds, i.e., almost 5.244 COVID-19 affected patients can be admitted if 6.0 patients per day reach. Here, the bars represent stochastic difference over a 3-month interval of a disease [7].

THE CRISIS

So, as the virus got spread, Italy also faced a massive burden from the disease. It was in February 2020 when the first case of COVID-19 was recorded. There national health care services are counted among best in the world. They have recorded 2.5 million cases till now (January 2021) with 87000 deaths and 1.5 million recovered. In the peak time, their services in the most affected regions were almost collapsed, leaving the Italian government in weak position; and in weak leadership, they were unable to do anything except for convincing people to be at home and imposed a lockdown for almost 2 months. In the period of 2019-2021, the national health care suffered around 37 billion or more than that; of financial cuts, public health expenditure as a proportion of GDP was 6.6% for the years 2018–20 and is expected to fall to 6.4% in 2022. According to reports, Lombardy was the region which was heavily affected; till now, Lombardy has recorded 533000 cases with around 26000 deaths and 456000 recovered; many people now also require advance respiratory system. Lombardy has a capacity of around 730 beds; to tackle the situation like medical equipment shortage, Italian civil protection immediately arranged 3800 ventilators for needy patients and additional 30 million masks specially made for COVID-19, and around 68000 “Acute respiratory Syndrome” test kits which is also known as SARS COV-2 to avert the shortage of equipment when needed. Italian government also hired 20000 health workers and allocated 660 million dollars for this purpose [8, 9].

Why Italy?

Italy is among the best health care services in the world along with Canada. They were massively hurt by this disease, causing about 800 people dying in 1-day in the peak time.

COORDINATING A GLOBAL RESPONSE WITH THE HELP OF PERFORMANCE INTELLIGENCE

Performance intelligence is a structured framework which can be implied on health policies and systems, using the information and data generated by the use of scientific methods and to measure the indicator of performances of healthcare systems [10].

The response to COVID-19 can be balanced by measurement, monitoring and reporting of performance data.

In Performance Intelligence, the major stress is on the need of various research perspectives to support, healthcare management systems in determining policies based on well informed choices. Performance Intelligence helps improve, pandemic preparation in many ways, also in ways indirectly related to the disease [11].

The Working of Performance Intelligence

Performance Intelligence could be used to respond to COVID-19 in one of the following ways:

1. Consider the effects of substitution ranging from hospital to primary care/long-term care, referring to categories of patients.
2. Swapping the tasks between specialist and the informal working class.
3. To undertake the various innovative models through the use of technology.
4. Linking different data structures to improve and optimize the structure of the information.
5. To analyze the different models of the behaviour of population and to analyse the behaviour of the health professionals and the after impacts of the applied strategies.
6. To avoid the disruptions caused in delivery of continuum care.

Performance Intelligence Framework

The governments affected by the pandemic did not prioritize the need to work on creating a common performance intelligence framework as the basis for common evidence [12].

The task of developing the understanding about 'what makes an indicator actionable', for the makers of decision, is of real importance to ensure that we leverage our data in everyday operations and in the times of emergencies like this one [13].

The diagram represents gradable structure, including, health care data and indicator on bottom of performance measurement. These are the most elements that are found to be weak in the times of COVID-19, notwithstanding the current growth of electronic information system that had contributed to the acceleration of speed, to increase the volume and extend the range of types of data available [14, 15].

During the pandemic we have seen the importance of the right information at the right place at the right time. Hence the importance of performance intelligence arises amidst [16, 17].

CONCLUSION

The current COVID-19 is equal for everybody. Country like Italy having such a tremendous health care services suffered and lost many lives:

- Decentralization and fragmentation of health services seems to have lacked of timely interventions and effectiveness and coordination; and it should be properly coordinated,
- Secondly, the finance should be properly managed according to the need and it should be flexible for the respective system,
- Third, in response to these kinds of emergencies, coordination between private and public sector should be institutionalized, as people should not die starving; recruitment of resources which are used in daily life must be planned and financed with a long-term vision; the system should be consistent in their management choices with strong political control on the parties and should be run sustainably.

COVID-19 has outcome in quick body part failure and can be as deadly as SARS. Scientifically, isolation has proven to be an operative way to blowout of COVID-19 after observing the pandemic as

well as through mathematical model. Patients were also guided to be present at suggested checkups on scheduled time and affected patients were provided with a harmless atmosphere by keeping regular, high risk, suspected and analyzed patients separated in a well-defined working system. The governments affected by the pandemic did not prioritize the need to work on creating a common performance intelligence framework as a basis for common evidence. The task of developing the understanding about 'what makes an indicator actionable', for the makers of decision, is of real importance to ensure that we leverage our data in everyday operations and in the times of emergencies like this one.

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