

# **Hospital and Community Preparedness Planning to Overcome COVID like Pandemic**

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# INTRODUCTION

- The range of threats to public health faced by countries worldwide is broad and highly diverse. Countries are encouraged to strengthen their capacities for health emergency and disaster risk management incorporating measures for prevention, mitigation, preparedness, response and recovery. The spread of the SARS-CoV-2, was officially defined as a pandemic by WHO on March 11, 2020 due to its sudden emergence and expansion around the world.
- **Transmission:** The virus spread mainly from person to person, respiratory droplets produced when an infected person coughs or sneezes. Transmission of SARS-CoV-2 from asymptomatic individuals (or individuals within the incubation period) has also been described. Recently, this virus has been declared **airborne** in specific conditions, closed, crowded, poor ventilated settings by WHO.
- Science and technology (**AI and IoT**) have contributed significantly to the implementations of these policies during this chaotic time. The COVID-19 outbreak will test the resilience of our health care system. Planning for managing patients and our workforce must begin in full force. The outbreak will test the resilience of our health care system. Planning for managing patients and our workforce must begin in full force.

# OBJECTIVES

- To prepare the hospitals against COVID like pandemic.
- To prepare and lessen the impact of the pandemic on our community and around the world

# METHODOLOGY

- Study type - Descriptive study
- Data collection method - Review of published articles
- Data source - Secondary data is collected from Google Scholar and Pubmed to perform this research.

# FINDINGS

## • TO PREPARE THE HOSPITALS AGAINST A PANDEMIC

### ☐ **Emergency Risk Management**

- To prepare a permanent Hospital Emergency Committee responsible for developing Hospital Emergency Risk Management Programme to covers issues such as:
- the roles and responsibilities of each hospital department
- SOP applicable to emergency situations

### ☐ **Infection prevention and control**

- Ensure that infection prevention and control staff receive training to enhance their skills.
- Define infection control precautions for triage, flow and placement of patients, use of PPE, hand hygiene and early reporting and treatment.
- Establish environmental and engineering controls, such as ensuring effective environmental ventilation and cleaning.
- Ensure adequate protection of the hospital staff against infection and monitor staff health status, IPC practices continuously and modify policies as necessary

## ❑ Communication

- Inform about an epidemic and its likely impact that is factually correct to the public through a single source (including media).
- Give the hospital staff essential information they require about personal and family health and welfare.

## ❑ Human Resources

- Ensure that HRM staff is trained in regular exercises
- Social mobilization and community participation
- Anxiety among staff confronted with a crisis involving a highly contagious infectious disease is to be expected. Therefore, develop a plan for providing staff with social and psychological support.
- To decrease the overload of healthcare professionals, Healthcare delivery requires the support of new technologies like **Artificial Intelligence (AI), Internet of Things (IoT)** to fight and look ahead against the new diseases.

## □ Patient management and surge capacity

- Standardized measures for preventing transmission of infection to hospital patients, staff and visitors.
- **Surge capacity**—the ability of a hospital to meet an increased demand for health. Increase the number of staffed hospital beds and other in-patient resources.
- Reorganize and adapt triage criteria for patients not requiring hospital admission, develop or review mechanisms like **telemedicine**, for referring epidemic patients to other healthcare levels, alternative care sites or home care(**hospital at home**) for patients not requiring in-patient services

# TO PREPARE AND LESSEN THE IMPACT OF COVID PANDEMIC ON OUR COMMUNITY AND AROUND THE WORLD

- Conduct risk assessment specific to the setting: to determine who in the community is most vulnerable based on demographics and co-morbidities.
- Communication: Accurate and timely information at all levels is critical in order to minimize unwanted and unforeseen social disruption and economic consequences and to maximize the effective outcome of the response.
- Surveillance: It consists of ongoing collection, interpretation and dissemination of data to enable the development of evidence-based interventions.
- Case investigation and treatment: Ensure access to basic diagnostic capacity implementation of general bio-safety protocols and assess need assess need to refine these protocol.
- Laboratory facilities will need to be in place for monitoring antiviral drug resistance
- Increasing testing capacity.

- Preventing spread of the disease in the community: by avoid crowding, maintaining hand and personal hygiene, cleanliness and disinfection, social distancing , quarantine, adequate use of PPE, closure of schools and workplaces
- Research and evaluation:
  - Develop a defined strategy for monitoring antiviral drug resistance. Research may include: — assessment of the impact of a pandemic.
  - Evaluation should focus on the response at all levels and should lead to recommendations for improvement.
- Implementation, testing and revision of the national plan
  - Set targets, define indicators or develop a benchmark system that can be used to assess progress in implementation
  - Revise the plan based on experience with new outbreaks, for example after SARS, Nipah, swine flu etc.

# CONCLUSION

Thus, hospitals can control the COVID pandemic by:

- providing triage care
- maintaining a communication plan
- collaborating with local and regional hospitals
- Surge capacity

At the community level, the most important measures for reducing infection spread rely on case detection, isolation, and contact tracing of positive cases, followed by quarantine for those exposed. Other strategies include:

- Practicing hand hygiene and respiratory hygiene
- Proper use of PPE
- Implementing methods like quarantine, social distancing, cleaning and disinfection,
- Increasing testing capacity

# RECOMMENDATIONS

- ✓ To prevent the hospital from becoming an epicenter in this epidemic, proper protocols of hygiene, cleanliness and disinfection should be followed.
- ✓ Innovations like telemedicine and hospital at home are highly recommended. Also, they can help in increasing bed capacity for critically ill patients.
- ✓ AI and IoT have the potential to improve the planning, treatment and reported outcomes of the COVID-19 patient, being an evidence-based medical tool. Only recommendation for a hospital is to have uninterrupted high speed data connectivity.
- ✓ Community Awareness towards Hygiene will have positive impact in the long-term. Frequent hand washing with an alcohol-based hand rub or soap and water, avoiding touching eyes, nose, and mouth, use of face masks and hygiene practices.

