
Pandemic Influenza Management and Control Policies: Hospital Coordination During an Influenza Pandemic

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Keywords

Pandemic influenza • Management • Hospital control

39.1 Introduction

Since its initial outbreak in April 2009, the pandemic H1N1 virus has posed a challenge to health systems around the world, compelling them to make available the benefits of scientific and medical progress to the entire population. Some of the most significant demands were access to early diagnostics, vaccines, and antiviral treatments as well as the responsiveness of hospital care, particularly in seriously ill patients who required attention in intensive care units (ICUs). The increased demand of medical care during an influenza pandemic is a heavy burden for any health system as it is added to the regular demand for health care, which should not become paralyzed [1].

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39.2 Importance of Intensive Care Units

During the pandemic of influenza A(H1N1), as happened during the severe acute respiratory syndrome (SARS) outbreaks, ICU availability was necessary to save lives. The ICU should have the following staff and equipment available [2].

- Medical staff trained in intensive care 24 h a day, 7 days a week
- Inhalation therapy staff
- Biomedical engineering personnel
- Highly trained nursing staff for critically ill patients
- Sufficient, adequate modern technical equipment

Pandemic influenza is an infectious disease, so it is important to develop strategies to reduce the risk of infection within hospitals. The institutional response should focus on the following areas.

- Institutional Influenza Committee
- Supplies
- Capability of providing sufficient medical care
- Available care in ICUs
- Clinical care available for health care workers (HCWs)
- Prevention of nosocomial infections and their transmission to others
- Motivation of HCWs

Standardized protocols for managing the critically ill patient alone are not enough to provide quality care. It is the combination of all the aforementioned factors that would provide an environment for quality care.

39.3 Committees

The Institutional Influenza Committee (IIC) should coordinate efforts from all hospital departments involved in the clinical care of influenza patients. The IIC is composed of representatives from all of the departments involved: medical, nursing, administration, clinical laboratories, support services, teaching, physical security, and social communication.

The IIC can take the steps necessary to ensure quality of care in the ICU and other wards and departments using the most up-to-date practices. It evaluates the local experiences but also reaches out to other institutions at national and international levels. The flow of information during the twenty-first century is a tool that the IIC should understand and avail.

The IIC should also strengthen the implementation of standard precautions for prevention of nosocomial infections. Under the standard practices model, everyone in the hospital setting should be considered both potentially infectious and susceptible to infection. For example, during procedures that form aerosols (endotracheal intubation, fibrobronchoscopy, aspiration, noninvasive mechanical ventilation) HCWs should have sufficient protocols, training, and materials to protect themselves and protect patients and others while providing quality care. The IIC should be directly involved in creating such an environment and should develop the tools to evaluate compliance to protocols and performance of these operations.

The IIC should also consider psychological counseling for health personnel involved in the operation along with regular communications with all the institutional personnel in the form of posters, memoranda, and short briefings. The Communication Department can help with this task.

During committee meetings, the IIC must analyze the current information and arrive at clear resolutions while avoiding cathartic discussions. The latter, if deemed necessary, should take place only under strict psychological supervision.

39.4 Hospital Organization

To protect patients, personnel, and visitors, it is necessary to strengthen surveillance and restrict access and patient flow in the hospital. At the entrance of consultation services, monitoring stations consisting of medical or paramedical personnel with gel sanitizer and respiratory masks must be in place to question arriving patients or visitors about the presence of fever and/or respiratory symptoms.

In the emergency room, it is necessary to have a separate access point and waiting room for patients with respiratory symptoms. There should also be a dedicated triage area for filling out a questionnaire, assessing vital signs, and pulse oximetry.

Influenza patient should be hospitalized in an area separated from the rest of the patient population. Health personnel should not rotate to other services because this practice provides better care to the patients and reduces the risk of other workers being exposed to the virus.

When the demand for care and hospitalization increases, rational use of hospital resources must be ensured. As half of the patients are young with little serious coexisting disease, elective surgery and nonurgent procedures should be postponed. Also, supplies of key items for treating influenza patients (e.g., drugs, medical devices, supplies for prevention, clinical laboratory tests, radioimaging) should take priority.

Avoid overcrowding and reduce contact between staff members. It is not advisable for health personnel to concentrate in poorly ventilated areas or in crowds. Information sessions can be conducted in classrooms or large rooms for necessary briefings.

39.5 Personnel Management

Overall, the workload for the average employee serving hospital patients increases during an epidemic. There are increased numbers of patients on mechanical ventilation and seriously ill patients who require more care and generate more tension as they offer contagion risk. At the same time, there is a rise in emergency room patients along with a lower number of workers due to illness or disability or to decreased attendance associated with an individual's decision to avoid exposure.

A key part of a hospital's response is the provision of information to all staff on all shifts. Such information should be given with common sense and making the HCWs feel that they are important to the institution and are part of the responsibility and commitment of the authorities. It is also important to ensure break shifts where

the worker can leave the hospital, with no liability related to the management of the epidemic. Such measures can help avoid the “burn-out” syndrome [3].

39.6 Patient Discharge

Patients are discharged after improvement, transfer, or death. For each of these situations, it is indispensable to prepare all of medical and paramedical logistics to facilitate the situation. For example, many patients require supplemental oxygen, which should be provided and connected to the patient before discharge. Pulmonary rehabilitation programs also should be scheduled before discharge.

A critical care ambulance with trained staff is required for most patient transfers. The institution should verify that the ambulance has all the human and material resources. In case of death, the Pathology Department staff must be notified so they can take appropriate actions regarding safe management of the body and use personal protective equipment themselves.

39.7 Handling of Protocols

At the start of an epidemic, standardized care protocols for handling cases should be published by the Ministry of Health (in countries that have one) and hospital authorities. Other organizations, such as professional associations, may also publish their own recommendations. It is important to reach a consensus practice as it is desirable that health personnel in charge adhere as much as possible to what their health system agreed were the optimum conditions for their system.

During a pandemic, recommendations may change, and doses, procedures, and therapeutic indications may be constantly revised. One example was the use of non-invasive ventilation (NIV) during a human pandemic, which initially was contraindicated because of the risk of contagion, aerosolization, and the risk to health care personnel [4]. In retrospect, NIV benefited patients who were subjected to it in the form of noninvasive mechanical ventilation or intubation not authorized by the patient [5]. A similar experience was reported in the SARS epidemic [6].

Key Major Recommendations

- A triage system is mandatory in pandemic influenza.
- Non invasive ventilation is a major resource in the pandemic.
- Psychological counseling.
- Influenza committee in necessary.
- Supplies.

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