Contents

Executive Overview ................................................................. 1
  Definitions: .................................................................................. 5
  Preparedness ............................................................................... 5
  Response ..................................................................................... 6

Introduction .................................................................................. 9
  Economic and demographic profile of Jordan .................................. 9
  What is influenza? ......................................................................... 10
  Season influenza ........................................................................... 11
  Characteristics of pandemics ....................................................... 11

Basic Plan ...................................................................................... 16
  1.0 Purpose .................................................................................. 17
  2.0 Goals and Objectives .............................................................. 17

Figure 1: Goals and Objectives of Jordan Pandemic Influenza Preparedness and Response Plan ......................................................... 18

  3.0 Plan Organization .................................................................... 18
  4.0 Applicability ........................................................................... 19

  5.0 Policies .................................................................................. 19

  6.0 Key Concepts .......................................................................... 24

  7.0 Administrative structure .......................................................... 24

  8.0 Roles and Responsibilities ...................................................... 26

  9.0 Emergency Operations Centre (EOC) MANAGEMENT AND OPERATIONS .............. 31

Concept of Operations .................................................................... 32

  1.0 Concept of Operations ........................................................... 33
  2.0 Preparedness ........................................................................... 35

Composition of the ICS: ................................................................. 36

  Permanent functional roles within ICS: ......................................... 36

  Ad hoc members and experts of the expanded ICS ......................... 36

The MOH Emergency Operation Centre (EOC) .................................. 38

Activation of the national CPEPR .................................................... 38

The activation of the CPEPR ............................................................. 38

  10.0 Elements of the educational and media plan: .......................... 49

Plan Development and Maintenance ................................................ 51

  Concept of Operations .................................................................. 52
  1.0 Concept of Operations .......................................................... 53
  2.0 Preparedness ........................................................................... 55
3.0 Response ................................................................. 57

Phase 1: Interpandemic phase ............................................. 57

Phase 4: ............................................................................. 65

Phase 3: Pandemic phase ................................................... 71

4.0 Transition phase .......................................................... 77

Support Annexes ............................................................... 79

1.0 Planning and Coordination ............................................ 79

2.0 Surveillance & Detection and Lab Testing ......................... 81

3.0 Antiviral and Vaccine Purchase and Distribution ............... 87

4.0 Restriction of Movement or Activities to Control Disease Spread ................. 96

5.0 Emergency and Risk Communication ................................ 100

6.0 Fatality Management ..................................................... 105

7.0 Training and Exercise Schedule and Plan .................................. 109

8.0 Public Health and Medical Surge .................................... 112

9.0 Infection Control and Personal Protective Equipment (PPE) .................... 118

Appendices ....................................................................... 124

1.0 Abbreviations and Acronyms .......................................... 125

2.0 References ..................................................................... 127
Executive Overview

PANDEMIC INFLUENZA
Influenza is a contagious viral disease of the respiratory tract. It is a major threat to public health worldwide because of its ability to spread rapidly through populations and cause high mortality and morbidity among the affected populations. Relatively minor epidemics occur regularly in Jordan during winter seasons more affecting the vulnerable groups such as elderly, children, and those having chest complications.

An influenza pandemic is the most likely event to cause large scale health emergency in the country. Three major influenza epidemics have occurred in the past in the 20th century in 1918, 1957, and 1968, affecting nearly all countries in the world.

An influenza pandemic can occur when a non-human (novel) influenza virus gains the ability for efficient and sustained human-to-human transmission and then spreads globally. Pandemics are different from seasonal outbreaks or “epidemics” of influenza. Seasonal outbreaks are caused by subtypes of influenza viruses already in existence among people. Past influenza pandemics have led to high levels of illness, death, social disruption and economic loss.

Influenza viruses that have the potential to cause a pandemic are referred to as “influenza viruses with pandemic potential.” Examples of influenza viruses with pandemic potential include influenza A, H5N1 and influenza A, H7N9. These are two different types of avian (bird) influenza viruses. These non-human viruses are novel among humans and circulate in birds in parts of the world. There is little to no immunity against these viruses among people. Human infections with these viruses have occurred rarely. If either virus changes in such a way to allow for efficient infections in humans and sustained person-to-person transmission of the virus, an influenza pandemic could result.

Jordan is an upper middle income country with a population of 7.595 million (2015). The country experienced outbreak of Influenza A (H1N1) pdm09 and MERS-CoV in the recent past. In 2006, there were three H5N1 related events reported in Jordan in areas of Karak, Ajloon and Jordan valley.

The country has an avian and pandemic influenza plans which covers both Severe Acute Respiratory Infection and Influenza like Illness surveillance. There is a sentinel surveillance system in place from 2008. It has 04 sentinel sites for SARI and 03 sites for ILI surveillance. They are geographically placed in South, North and
centre to represent the whole country. A central Public Health laboratory in Amman has the facility of virus isolation, PCR and serology but is dependent on WHO labs for gene sequencing.

The country has a well-developed healthcare system with well trained staff and access to healthcare is good and distances are short allowing for rapid deployment of PPE, staff and equipment in case of an epidemic.

The commercial poultry sector is a very sophisticated one and employs up to date bio-security practices. Backyard flocks make up only about 2% of the poultry sector and are currently being vaccinated.¹

Geographically Jordan is placed in a lower risk for introduction of influenza viruses due to relatively little surface water and migratory bird habitats that are generally located away from areas of intense poultry production. But because of its close proximity to multiple countries that have been infected with avian influenza (Egypt, Israel, West Bank, Iraq, Saudi Arabia) it is prone to get infections.

Influenza pandemics are different from many of the threats for which public health and the health care system are currently planning:

• The pandemic will last much longer than most other emergency events and may include “waves” of influenza activity separated by months (in 20th century pandemics, a second wave of influenza activity occurred 3-to 12-months after the first wave).
• The number of health care workers and first responders available to work is expected to be reduced, as many will be at high risk of illness through exposure in the community and in health care settings, and others may have to miss work to care for ill family members.
• Resources in many locations could be limited due to the impact of the widespread nature of influenza pandemic.

The severity of the next pandemic cannot be predicted, but it is expected that susceptibility to the pandemic influenza virus will be universal. Approximately half of those who become ill will seek outpatient care.

**Jordan Pandemic Influenza Preparedness and Response Plan**
The purpose of the *Jordan Pandemic Preparedness and Response Plan* is to provide a framework for National and Governorate public health and medical officials in collaboration with their colleagues from other sectors to work together to reduce morbidity, mortality and social disruption that would result from a pandemic influenza outbreak.

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¹ National Assessment of Avian and Pandemic influenza preparedness Kingdom of Jordan. RAISE SPS Country diagnostic report # 27 USAID January 2007
The *Jordan Pandemic Preparedness and Response Plan* was developed through a collaborative process involving officials and departments within the Ministry of Health (MoH) and partner agencies that have a response role during a pandemic.

The *Jordan Pandemic Preparedness and Response Plan* applies to all Government departments under the authority of the MoH which in turn is under the authority of NCSCM that will conduct operations in actual or potential incidents. This response requires a coordinated action by an appropriate combination of all National Ministries and non-governmental entities.

The *Jordan Pandemic Preparedness and Response Plan*, operates within the framework of the *Jordan Emergency Operations Plan*. Moreover this plan is intended to work in concert with several other plans that will be implemented during a pandemic to guide various aspects of the response.

The overall direction and control authority reside with the Office of the Board of Directors who heads the National Commission for Security and Crisis Management (NCSCM). Under his command a Board of Directors work in NCSCM. This Board in coordination with MoH will supervise the management and control of health emergencies in Jordan including pandemic influenza. MoH will respond to health emergencies through Emergency Operations Center (EOC) placed in the Ministry of Health and will provide the technical expertise and statutory authority over all of the health and medical issues that may arise during the management of the influenza pandemic.

The *Jordan Pandemic Preparedness and Response Plan* is to be implemented within the context of a unified command emergency operating structure involving representation from Municipality, Governorate and National government. National government’s role in the event is to closely track the spread of the outbreak and to rapidly mobilize and deploy resources to assist governorates in their efforts to mitigate morbidity and mortality and the demand on most essential government services.

The *Jordan Pandemic Preparedness and Response Plan* provides a set of preparedness activities and response functions to be carried out by MOH and, where appropriate, provide governorate health departments, health care provider and first responder organizations with preparedness and response expectations.

These preparedness and response activities are organized according to the four pandemic phases identified by the World Health Organization (WHO).
<table>
<thead>
<tr>
<th>Phase</th>
<th>Definition</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpandemic phase</td>
<td>No new influenza virus subtypes have been detected in humans.</td>
<td>Preparedness</td>
</tr>
<tr>
<td>Alert phase</td>
<td>A new subtype has been identified in humans.</td>
<td>Response</td>
</tr>
<tr>
<td>Pandemic phase</td>
<td>Global spread of human influenza caused by a new subtype</td>
<td>International Response</td>
</tr>
<tr>
<td>Transition phase</td>
<td>Risk of Global spread reduces, de-escalation of global actions, reduction in response activities and move towards recovery actions</td>
<td>Recovery</td>
</tr>
</tbody>
</table>

**Structure of this plan**

The *Jordan Pandemic Preparedness and Response Plan* is organized into three parts: Basic Plan, Concept of Operations and Support Annexes.

1. The **Basic Plan** describes the overall *Pandemic Preparedness and Response Plan* organization, defines a **phase**, **trigger**, **objectives** of a response, establishes the planning assumptions for a pandemic response, and defines the roles and responsibilities of local, and Governorate agencies.

2. The **Concept of Operations** summarises the phases of a pandemic and provides guidance on the potential actions relevant to each phase. It provides guidance on conducting activities that help in all entities being prepared to respond to and to mitigate a pandemic influenza outbreak. It also details the overall direction and control of the response and further outlines the roles and responsibilities of all involved agencies. Concept of Operations guidance is broken down into what individual agencies should be doing prior to the outbreak - preparedness, how agencies should coordinate to mitigate the outbreak - response, and finally how individual agencies collaborate to help the public recover after the outbreak - recovery.

3. The **Support Annexes** describes detailed activities about specific measures identified in concept of Operations.
Definitions:

**Preparedness** is defined as continuous cycle of planning, organizing, training, equipping, exercising, evaluation and taking corrective action in an effort to ensure effective coordination during an incident response. Preparedness activities associated with the plan are:

- **Training**—Training will be delivered primarily through and presentations. The targeted audiences include decision makers and other key elected and appointed officials, first responders, local health department personnel and health care system personnel. Some of the more important topics to be covered: plans and procedures familiarization, media relations, and pandemic influenza characteristics and history.

- **Exercises**—Table top exercises must be conducted for various audiences, including those who will implement the National response plans, response partners and other stakeholders, and senior officials from concerned Government departments which constitute part of the EOC. Once roles and main operational concepts have been established and tested via table top exercises, functional and/or full-scale exercises may be needed to test the emergency response organizational structure in “real time” and include the efficacy of the process and communication flow within and outside of this structure.

- **Conduct risk assessment**—it is essential for the country to conduct assessment to ascertain risk of mortality and morbidity associated with a pandemic influenza in the country. Such an exercise gives an idea on the scale of damage to expect and helps in planning for response and mitigation interventions. The available tools are modelling studies to predict an impact of influenza pandemic including number of people to be affected, vaccine and antiviral requirements. Part of this risk assessment is conducting an economic impact assessment since an influenza epidemic will affect major agriculture and food industries (poultry) and will deprive the population from major source of protein intake.

- **Risk communication**—Timely, accurate, consistent and useful information must be regularly provided to the public, health care providers, local officials and the news media. Misinformation trends must be identified quickly and rectified. Jordan has to develop a risk communication strategy for disaster management.

- **Resource stockpiling and the identification of priority groups for receipt of these resources**—A vaccine against the pandemic flu most likely will not be available or in sufficient quantities **within the first six months** of the outbreak, so Governorate and National stockpiles of antiviral
medications will be necessary to support response activities. The Jordan MoH will establish priority groups for vaccination and for antiviral treatment and prophylaxis.

**Response** includes immediate actions to save lives, to protect property and to meet basic human needs. Response also includes the execution of emergency operations plans and of mitigation activities designed to limit the loss of life, personal injury, property damage and other unfavourable outcomes. Under this plan response guidance includes:

- **Emergency Operations-coordination and management**—The main thrust is to keep National partners in the response effort informed through briefings, conference calls, and other updating and shared decision making mechanisms. The frequency and extent of these communications will increase as the pandemic phases escalate.

- **Epidemiological surveillance and laboratory testing**—Jordan has a well-functioning Disease Surveillance system that is monitoring 44 infections on regular basis out of which 15 are priority infections. In parallel to this there is a sentinel SARI/ILI influenza surveillance system in the country supported by a central Public Health Laboratory based in Amman.

- **Seasonal influenza vaccination dispensing and distribution**--Increasing adherence to recommendations for seasonal influenza vaccination and pneumococcal vaccination may lessen the adverse effects of an influenza pandemic. Once vaccine becomes available, major activities will consist of distributing vaccine to public and/or private sector vaccinators, appropriate storage, handling and vaccination, dose tracking, safety monitoring and also using, to the extent possible, available National assets.

- **Medical dispensing and distribution of antivirals**--This is primarily a logistical operation. Security may become an issue and needs to be available. Coordination will be needed with agencies and Governorate. Inventories, delivery schedules and usage must be tracked.

- **Public Information and warning-risk communications**--A sufficient quantity of spokespersons should receive media training, instruction in crisis and risk communications, and guidance on public health measures and messages prior to the onset of a pandemic. Technology, including Internet websites, faxes, and electronic mass mailing systems, satellite uplinks and telephone hotlines will play key roles in keeping the public and the health care community informed.

- **Emergency Operations-Plans and procedures based on legal authority**-- Plans and procedures must be adjusted to reflect emergency legislation or administrative rule in Jordan. It is essential to examine and modify the legal
authority of this legislation because an influenza epidemic will require use of forced quarantines, forced closure of schools and other institutions, and compulsory vaccinations. The country has a Public Health Law approved by the parliament to declare an emergency and implement a response. An ethical framework needs to be developed under this legislation describing issues related to vaccination of priority groups such as elderly and children against influenza, compulsory vaccination of heath care workers and how and when to implement quarantine and isolation.

It is essential that The Jordan Pandemic Preparedness and Response Plan should be read and understood prior to an influenza pandemic. It is a dynamic document that will be updated to reflect new developments in the understanding of the influenza virus, its spread, treatment and prevention. The Plan will incorporate changes in response roles and improvements in response capability development through on-going planning efforts.

Table 1: Jordan Pandemic Influenza Preparedness and Response Plan Support Annexes

<table>
<thead>
<tr>
<th>Annex Name</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.0 Planning and Coordination</td>
<td>Describes how to provide leadership and coordination across sectors</td>
</tr>
<tr>
<td>2.0 Surveillance &amp; Detection and Laboratory Testing</td>
<td>Describes how health data will be collected and used to understand the characteristics and spread of a pandemic and support decisions about interventions (which ones? how?). Also describes the laboratory capacity for testing of influenza viruses</td>
</tr>
<tr>
<td>3.0 Antiviral and Vaccine Purchase and Distribution</td>
<td>Describes how these key interventions will be distributed and dispensed under various availability scenarios (limited? adequate?)</td>
</tr>
<tr>
<td>4.0 Restriction of Movement or Activities to Control Disease Spread</td>
<td>Describes the array of legal authorities available to restrict people’s movements and/or activities at the individual, group/facility, or communitywide levels</td>
</tr>
<tr>
<td>5.0 Emergency and Risk Communication</td>
<td>Describes the communication of essential information to the public and key partners</td>
</tr>
<tr>
<td>6.0 Fatality Management</td>
<td>Describes National government’s role in the collection, handling, storage and disposition of human remains</td>
</tr>
</tbody>
</table>
7.0 Training and Exercise Schedule and Plan  Test the effectiveness and operational efficiency of plans, procedures, training and facilities through exercises.

8.0 Public Health and Medical Surge  Describes strategies for providing patient care and laboratory services when demand is higher than normal.

9.0 PPE and Infection Control  Ensures essential measures are taken to protect front line medical workers, other at-risk response personnel and the general public.

**Audience for this document**

*Jordan Governorate Pandemic Influenza Preparedness and Response plan* is intended for anyone involved in planning, preparation or response to influenza pandemic.

**APPENDICES**

Appendices provide reference information for users of the *Jordan Pandemic Influenza Preparedness and Response Plan*. They are:

- A list of abbreviations and acronyms
- Pertinent Internet links & List of references
Introduction

Pandemic: An epidemic that becomes very widespread and affects whole region, a continent or the world

Economic and demographic profile of Jordan

<table>
<thead>
<tr>
<th>Statistics</th>
<th>Number</th>
<th>Year</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>7.595 million</td>
<td>2015</td>
<td>World Bank</td>
</tr>
<tr>
<td>GDP</td>
<td>$37.52</td>
<td>2015</td>
<td>World Bank</td>
</tr>
<tr>
<td>GDP Growth</td>
<td>2.4%</td>
<td>2015</td>
<td>World Bank</td>
</tr>
<tr>
<td>Inflation</td>
<td>-0.9%</td>
<td>2015</td>
<td>World Bank</td>
</tr>
</tbody>
</table>

Jordan’s economic growth has been slowed down recently due to the regional instability mainly from spill over from the Syrian crisis including closure of trade routes with Iraq and Syria and hosting more than 656000 registered refugees with UNHCR while an estimated 1.3 million Syrians in Jordan are residing.
What is influenza?

Influenza is a contagious viral disease of the respiratory tract. It is a major public health disease worldwide occurring widely in winter season. In Jordan Acute Respiratory Tract infections are the most commonly reported medical condition under Disease Surveillance system in winter seasons with high mortality and morbidity in children.

In 2006, there were three H5N1 related events reported in Jordan. One was imported human case from Egypt which was diagnosed and successfully treated in Karak and the other was an outbreak in backyard turkey flock in Ajloon which was
stamped out with 20,000 birds culled and third was 30,000 birds culled in Jordan valley adjacent to an area of Israel where an outbreak had occurred.

Influenza is characterized by rapid onset of respiratory and generalized signs and symptoms, including fever, chills, sore throat, headache, dry cough, and fatigue and aching. It is easily spread from person to person through droplets being inhaled or through contact with contaminated objects. The incubation period can range from one to seven days but is commonly one to three days.

An influenza pandemic is a global outbreak of disease that occurs when a novel influenza A virus appears or “emerges” in the human population, causes serious illness, and then spreads easily from person-to-person worldwide because most people are immunologically naïve to this virus and therefore susceptible to infection.

**Season influenza**

Pandemics are different from seasonal outbreaks or “epidemics” of influenza. Season influenza viruses circulate and cause disease in humans every year. In temperate climates disease tends to occur seasonally in the winter months spreading from person to person through sneezing, coughing or touching contaminated surfaces. Persons on increased risk for seasonal influenza are pregnant women, the very young and very old, immune compromised people, and people with chronic underlying medical conditions. There are three large groupings or types of influenza viruses labelled as A, B and C. Currently influenza A (H1N1 and H3N2) are circulating seasonal influenza A viruses.

Seasonal outbreaks are caused by subtypes of influenza viruses already in existence among people, whereas pandemic outbreaks are caused by new subtypes or by subtypes that have never circulated among people or that have not circulated among people for a long time. Past influenza pandemics have led to high levels of illness, death, social disruption and economic loss.

Humans can also be infected with influenza viruses that are routinely circulating in animals such as avian influenza virus subtypes A (H5N1 and H9N2) and swine flu virus (H1N1 and H3N2). Usually these human infections of zoonotic influenza are acquired through direct contact with infected animals. If such a virus acquired the capacity to spread easily among people either through adaptation or acquisition of certain genes from human viruses it could start an epidemic or a pandemic.

**Characteristics of pandemics**

Influenza pandemics are characterised by the global spread of a novel type of virus that may cause unusually high morbidity and mortality for an extended period. Most people are immunologically naïve to the novel virus, are therefore susceptible to
infection. A severe pandemic can overwhelm the resources of a society due to the exceptional number of people affected with this infection.

During the 20th and 21st centuries several new influenza A virus subtypes have caused at least four major pandemics:
- The 1918 pandemic influenza A (H1N1)
- The 1957 pandemic influenza A (H2N2)
- The 1968 pandemic influenza A (H3N2)
- The 2009 pandemic influenza A (H1N1)

Vaccines to Protect Against Pandemic Influenza Viruses

A vaccine may not be available in the early stages of a pandemic. When a new vaccine against an influenza virus is being developed, scientists around the world work together to select the virus strain that will offer the best protection against that Virus and then manufacturers use the selected strain to develop a vaccine. Once a potential pandemic strain of influenza virus is identified, it takes 6-to-8-months before a vaccine is widely available. The Ministry of Health (MoH) of Jordan will remain in touch with WHO and other inter Governorate partners and once the vaccine is available for the new strain its judicious use will be implemented throughout the country.

Veterinary Health and biosecurity measures in Jordan

On March 23, 2006, Jordan reported an outbreak of highly pathogenic avian influenza (HPAI) virus, type H5N1, in poultry. This was the first confirmed occurrence of HPAI in Jordan. Several of Jordan’s neighbouring countries also announced outbreaks of H5N1 virus in poultry. Iraq and Egypt both reported outbreaks in February 2006 and Israel reported an outbreak on March 18 2006. Jordan began intensified monitoring and inspections after Israel’s reported outbreak.

The outbreak was located in Kofranja, Ajloun governorate, in the northwest region of Jordan and occurred in backyard turkeys and chickens. Clinical cases were present and 8,000 birds were considered susceptible. Stamping out, quarantine, movement controls, screening, zoning and disinfection were undertaken. A survey was planned for a 10 km radius and vaccination and dipping and spraying were also conducted.

The Government of Jordan has prepared a contingency plan to deal with any outbreak of Avian Influenza. The plan defines the role of each ministry or other related public or private bodies in the case of any outbreak.

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2 Poultry sector country review a FAO animal production division
The plan includes establishing a ministerial committee headed by the Minister of Health and including the Minister of Agriculture. The committee will be able to mobilise sufficient resources and initiate the required instructions to control the situation in the sector and minimise the expected impact of any outbreak.

Moreover in Jordan there are comprehensive laws and regulations for poultry industry that are helpful in regulating this industry in case of spread of Avian Influenza. These regulations cover production, epidemiology, trade and other topics. Whilst the major authority responsible for these laws and regulations is the Ministry of Agriculture, there are a number of overlaps with the duties and responsibilities of other Ministries such as the Ministry of Health and the Ministry of the Environment.

Risk of spread of Highly pathogenic avian influenza (H5N1, HPAI) in the Middle East including Jordan

The preliminary assessment conducted by FAO based on the available information and uncertainties associated indicate that the risk of introduction of H5N1 HPAI for each of the nine regional and neighbouring countries or territories of Middle East varies and is as follows:

- High: Iran (Islamic Republic of), Israel, Jordan, the Syrian Arab Republic and Turkey
- Medium: Gaza Strip, Kuwait, Saudi Arabia and the West Bank

Given the presence of civil unrest and active civil war in some countries of the region, investment in agriculture and livestock is reduced, including limitations to public veterinary services. Underreporting of animal disease events is a significant challenge given the lack of reporting systems in those areas with ongoing conflict. It is therefore possible that, in addition to Iraq and Lebanon, the disease is already present in the Syrian Arab Republic. Poultry and poultry-related trade and movements play an important role in national and cross-border spread. It is therefore perceived that there is a considerable risk of transmission of H5N1 from neighbouring countries to Jordan through following means:

- Imports of live poultry (both legal and illegal, associated with movement of refugees);
- Imports of poultry-related products, including transport (contaminated fomites/vehicles across borders);
- Wild bird migration;
- Hunting of wild birds and illegal trade.

Jordan shares borders with the Syrian Arab Republic and Iraq, and the movement of livestock, including live poultry across borders from the Syrian Arab Republic, is ongoing and is associated with refugee movements.

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Iraq and Lebanon are a concentration point for migratory birds of the Western Siberian-Mediterranean-East Africa flyway. Lebanon hosts important bird areas for breeding, wintering and passage birds, and is considered a major stopover point along the flyway route. Wild birds also stop in river systems of Jordan thus providing a site to infect local backyard poultry.

Antiviral Medications to Prevent and Treat Pandemic Influenza

Two different influenza antiviral medications (oseltamivir and zanamivir) are approved for the treatment and/or prevention of influenza. Both work against influenza A viruses. However, sometimes influenza virus strains can become resistant to one or more of these drugs, and thus the drugs may not always work. The WHO recommendations will be implemented to ensure medications provided will adequately treat the circulating influenza strain.

Preparing for the Next Pandemic

Many scientists believe it is only a matter of time until the next influenza pandemic occurs. The severity of the next pandemic cannot be predicted, but modelling studies suggest its effects could be severe. Following tables (2&3) show the estimated projections in Jordan by age and risk groups.

Table 2: Estimated projections for Jordan using CDC flu Aid software

<table>
<thead>
<tr>
<th>Risk Group</th>
<th>High Risk</th>
<th>Non-High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Groups (yrs)</td>
<td>0-18</td>
<td>19-64</td>
</tr>
<tr>
<td>Set Death Rate/1000 Population</td>
<td>7.65</td>
<td>5.72</td>
</tr>
<tr>
<td>Set Hospitalization Rate/1000 Population</td>
<td>9</td>
<td>5.14</td>
</tr>
<tr>
<td>Set Outpatient Visits/1000 Population</td>
<td>403</td>
<td>149</td>
</tr>
</tbody>
</table>

Table 3: Percentage of total population of Jordan that will have clinical cases of influenza using CDC Flu Aid software

<table>
<thead>
<tr>
<th>Lowest</th>
<th>Middle</th>
<th>Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>25%</td>
<td>35%</td>
</tr>
</tbody>
</table>

Influenza pandemics are different from many of the threats for which public health and the health care system are currently planning:

- The pandemic will last much longer than most other emergency events and may include “waves” of influenza activity separated by months (in 20th century pandemics, a second wave of influenza activity occurred 3- to 12-months after the first wave).
• The numbers of health care workers and first responders available to work can be expected to be reduced; they will be at high risk of illness through exposure in the community and in health care settings, and some may have to miss work to care for ill family members.

• Resources in many locations could be limited depending on how widespread the influenza pandemic would be.

The *Jordan Pandemic Preparedness and Response Plan* should be read and understood prior to an influenza pandemic. It is a dynamic document that will be updated to reflect new developments in the understanding of the influenza virus, its spread, treatment and prevention. It is recommended that this plan should be reviewed each year by an expert group during a consultation and revised based on newly available information.
Basic Plan
1.0 Purpose

The purpose of the *Jordan Pandemic Influenza Preparedness and Response Plan* is to provide a framework for National Government, Governorates, local, private sector and nongovernmental entities to work together to reduce the influenza morbidity, mortality, and social disruption that would result from a pandemic influenza outbreak. It describes the incident management activities, concepts and structure under which Jordan will operate during a pandemic influenza outbreak and the roles and responsibilities and activities that apply to command and control staff.

2.0 Goals and Objectives

The primary goal of the *Jordan Pandemic Influenza Preparedness and Response Plan* is to limit morbidity and mortality of influenza and its complications during a pandemic and to decrease social disruption and economic loss.

- Establish a leadership and coordination mechanism across all sectors
- Establish an effective and efficient influenza surveillance system to span between Governorate, and local levels, to collect interpret and disseminate information on the risk of a pandemic before it occurs and once underway to monitor pandemic activity and characteristics
- Conduct mass vaccinations and distribute pharmaceutical interventions. Implement a vaccination program that rapidly administers vaccine to priority groups and monitors vaccine effectiveness and safety.
- Stockpile antivirals and redistribute to Governorate for therapy and prophylaxis and avoid inappropriate use of these agents, which may result in antiviral resistance.
- Stockpiling and redistribution of Personal Protective Equipment (PPE), antibiotics, antivirals and other medical supplies
- Ensure the maintenance of treatment capacity throughout the country. Provide optimal medical care and maintain essential community services.
- Establish a public information management system. Communicate effectively with the public, health care providers, community leaders and the media.
- Coordinate a health sector response to tackle pandemic influenza heavy influx of patients by developing surge capacity and use of non-formal health sector.
Goals

- Decrease Mortality and Morbidity
- Decrease social disruption
- Reduce Economic loss

Objectives

- Establish Leadership
- Establish influenza surveillance
- Establish Laboratories
- Stockpile vaccine and antivirals
- Stockpile PPE
- Ensure treatment capacity
- Establish public information system
- Coordinate Health Sector

Figure 1: Goals and Objectives of Jordan Pandemic Influenza Preparedness and Response Plan

3.0 Plan Organization

The Pandemic Influenza Preparedness and Response Plan include an Introduction, Basic Plan, Concept of Operations, Support Annexes and Appendices. The core plan describes coordination and decision making at the National level; provides an overview of key issues for preparedness and response; and outlines action steps to be taken at the Governorate level before, during and after a pandemic.

Basic Plan
- Describes actions with roles and responsibilities of organisations

Operations
- Describes interventions in a tabular form based on different phases of pandemic influenza

Annexes
- Detailed activities under each intervention
Figure 2: Layout of Jordan Pandemic Influenza Preparedness and Response Plan
The Support Annexes describe activities of the primary and support elements needed for effective response. The annexes provide guidance for government agencies and departments to conduct emergency preparedness, response and recovery.

The Appendices provide clarification or additional information to support the Basic Plan, Concept of Operations and Support Annexes.

4.0 Applicability

The Jordan Pandemic Influenza Preparedness and Response Plan applies to all National Organisations, departments and commissions under the authority of NCSCM. These incidents require a coordinated response by an appropriate combination of National, Governorate, local and nongovernmental entities.

5.0 Policies

Capabilities

Jordan will establish and maintain an effective preparedness, response and recovery capability for any level of emergency requiring National assistance. The Jordan National Centre for Security and Crisis Management (NCSCM) is responsible for management and coordination of the National’s disaster response and recovery efforts. Each National agency will maintain its own internal control structure and organization during disasters.

Jordan National Centre for Security and Crisis Management (NCSMC)

In Jordan there exists a National Centre for Security and Crisis Management that is headed by a board of directors. The Centre was established in 2013 while its bylaws were approved through a Royal Decree in 2015. The main objective of this Centre is to efficiently and effectively manage all national disasters and emergencies in a coordinated manner involving all Government sectors and resources. All Government Ministries are represented in this NCSMC. Ministry of Health (MoH) is part of this Committee.
Emergency Operations Centre in MoH

Under the authority of Minister of Health an Emergency Operations Centre (EOC) has been established in the basement of MoH in Amman. This centre is fully equipped with all emergency operation equipment with protocols developed for its operations.

Jordan Ministry of Health (MoH) is the apex body chaired by Minister of Health. The Minister is responsible for all emergency operations under his Ministry. Under his authority there are various directorates that deal with various health issues. To tackle health emergencies there is Emergency Operations Centre (EoC) located in the basement of MoH. This centre is fully equipped with all essential communication and command requirements and is connected with NCSM on the one hand and with all Governorates on the other.

In the EoC the operations would be led by an Incident Commander with all dept heads assisting him. The incident commander will depend on the type of health disaster or emergency that would strike the country. Strong liaison will be established with other ministries through liaison officers, while other focal points will be directing and implanting the interventions as given in the organogram.

The (EOC) will receive all information regarding the spread of Influenza and actions will be taken according to the phase of the epidemic. This centre will have close liaison with Royal Medical Services of Jordan and private sector.

At the Governorate level there are trained focal points who will be coordinating with EOC operations in case of health emergencies and will act as the counterpart to EoC and is headed by Governor supported by concerned departmental heads. Under the leadership of the Governor there is a local council of Civil Defence where all health directorates are represented by their respective directors.
National Centre for Security and Crisis Management (NCSCM)

Emergency Operations Centre

Incident commander

Deputy Incident Commander

Liaison officer for other ministries

Planning focal point
- Advanced planning unit
- Documentation unit
- Situation analysis unit

Operations focal point
- Technical speciality unit
- Hospital Coordination unit
- Governorate coordination unit
- Focal points in 14 Directorates in 12 Governorates
**Incident commanders**

<table>
<thead>
<tr>
<th>Type of incident</th>
<th>Dept to take charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disease outbreak</td>
<td>Communicable Disease Directorate</td>
</tr>
<tr>
<td>Environmental hazard</td>
<td>Environment health directorate</td>
</tr>
<tr>
<td>Chemical incident</td>
<td>Occupational/environmental health directorate</td>
</tr>
<tr>
<td>Earthquake, floods</td>
<td>Health minister</td>
</tr>
<tr>
<td>War or terrorist attack</td>
<td>Health minister</td>
</tr>
</tbody>
</table>

### 3: Infrastructure of Jordan Health Department Relevant to Influenza Control

Because of the nature of this disease the virus will first appear in poultry sector which is under the control of Ministry of Agriculture and livestock. Therefore a close collaboration between the two sectors is essential for early detection and control of influenza viruses on both sides. Under MoA there is an Emergency Operations Center which is based in the building of MoA in Amman where all surveillance information from the field and the central veterinary lab comes and data is collated and analysed. A focal point in MoA has been designated to be collaborating with liaison officer in EoC of MoH for detection and control of avian influenza in veterinary sector.

![Diagram of infrastrucure](image)

WHO and its partners has embarked upon an One Health project in Jordan under which a joint electronic based integrated disease surveillance reporting system is being introduced both in Health and Agriculture sectors. For this purpose a set of 15 animal diseases of zoonotic origin have been identified on which regular reporting will be done by MoA through the joint electronic based integrated disease surveillance system.
Health System of Jordan
Jordan has a health system consisting of public and private sectors. It has very sophisticated 02 university based hospitals both of which collaborate closely with the ministry of Health while some other government hospitals are old and need overhauling.

Currently Jordan has 102 hospitals out of which 29 are under MoH, 12 under Royal Medical Services (RMS), 02 university hospitals, and 59 private. Similarly under MoH there are 623 health centres spread across the country. The country has 300 ICU beds in the country in public sector hospitals.

The private sector and NGOs working in the country are governed by a public health law that is binding for them to work with the MoH under IHR 2005 to which Jordan is a signatory. The Royal Medical Services is also part of the Health System of country which takes care of civilian patients and run their own hospitals and public health programs for the armed forces of the country.

Jordan also has a strong private and NGO sector with 59 private hospitals running in the country most of them are in Amman. Some of these private hospital provide state of the art health facilities and are a source of attraction for patients coming from outside as part of medical tourism. Similarly there are NGOs working in the country of which Red Crescent society is of mention.

Jordan health surveillance system
In the Ministry of Health there is a focal point for Pandemic Influenza in Communicable Disease Control Directorate. He is constantly receiving information from 04 SARI and 03 ILI sites that are strategically placed in the country to get regular information on the circulating influenza viruses and disease trends. Regular samples are collected from these sites and transported to Central Public Health Laboratory placed in Amman where these samples are analysed to detect influenza viruses. For un-listed viruses the samples are sent to NAMRU 3 lab in Cairo Egypt. Once a novel virus is detected an alert is generate by the Ministry of Health to EoC that will generate sequence of events resulting in activation of EoC and its functions.
The EOC is also connected to Directorates of Health in all Governorates where a focal point exists for surveillance and response to infections including pandemic influenza. All Governorates are collecting and reporting surveillance information on priority infections to Communicable Disease Control Dept. of MoH. There is an electronic indicator and event based surveillance system to detect new infections such as MERS-CoV and influenza.

6.0 Key Concepts

This section summarizes key concepts that are reflected throughout the *Jordan Pandemic Influenza Preparedness and Response Plan*.

- Systematic and coordinated incident management, including development of protocols for incident reporting; coordinated action, alert and notification, mobilization of National resources to augment existing local capabilities, operations under differing threats or threat levels, and integration of crisis and consequence management functions.
- Notification and deployment of National resources in anticipation of or in response to catastrophic events in coordination and collaboration with local governments and private entities, when possible.
- Coordination of incident communication, worker safety and health, private sector involvement and other activities those are common to the majority of incidents.
- Organization of Support Annexes to facilitate the delivery of critical National resources, assets and assistance. National departments and agencies agree to assist with activities listed in the Support Annexes based on authorities, resources and capabilities.
- Provision of mechanisms for vertical and horizontal coordination, communications and information sharing in response to threats or incidents. These mechanisms facilitate coordination among National and local entities and the National government, as well as between the public and private sectors.
- Facilitation of National support to departments and agencies acting under the requesting departments or agency’s own authorities.
- Provision of the basis for coordination of interagency and intergovernmental planning, training, exercising, assessment, coordination and information exchange.

7.0 Administrative structure

*Command and Control in National Disaster Management Plan*

- Influenza Pandemic outbreak management activities will be initiated and conducted using the principles contained in the Jordan National Pandemic Influenza Plan as part of National Disaster Management Plan.
• The combined expertise and capabilities of government at all levels, the private sector and nongovernmental organizations will be required to prevent, to prepare for, to respond to and to recover from the incident.

• The unified command structure consists of National Centre for Security and Crisis Management run by a board of Directors where all Ministries are represented.

• MoH under the leadership of NCSCM will run its operations in case of spread of infections such as pandemic influenza through its Emergency Operation Centre.

• Local governments have the primary responsibility to provide public health and emergency medical services within their jurisdictions.

• National government will provide all out support to Governorates and Municipality (Baldia) administrations to augment public health and emergency medical services that exceed the capabilities of the local and governorate governments.

Governorate Government

• The Governorate government has assumed primary responsibility for a number of key elements of the Governorate plan, including:
  o Coordination of Governorate and inter Governorate surveillance.
  o Assessment and potential enhancement of the coordination of vaccine and antiviral capacity and coordination of public-sector procurement.
  o Development of a Governorate “coordinator” for vaccine availability information, vaccine distribution and redistribution.

Governorate and Municipality (Baldia) Governments and Health Care System

• Influenza pandemic will place a substantial burden on inpatient and outpatient health care services. Because of the increased risk of exposure to pandemic virus in health care settings, illness and absenteeism among health care workers in the context of increased demand will further strain the ability to provide quality care.

• In addition to a limited number of hospital beds and staff shortages, equipment and supplies may be in short supply. The disruptions in the health care system that result from a pandemic also may have an impact on blood donation and supply.

• Planning by National and Governorate health departments and the health care system is important to address potential shortages. Strategies to increase hospital bed availability include deferring elective procedures, more stringent triage for admission and earlier discharge with follow-up by home health care personnel. Local coordination can help direct patients to hospitals with available beds and distribute resources to sites where they are needed.
• Health care facilities may need to be established in non-traditional sites to help address temporary surge needs. Specific challenges in these settings such as infection control, staffing and command and control, must be addressed.
• Not all ill persons will require hospital care but many may need other support services. These include home health care, delivery of prescription drugs, and meals. Local planning is needed to address the delivery of these and essential community functions such as police, fire and utility service, including drinking water, waste water and power services.

8.0 Roles and Responsibilities

National Government
Board of Directors in National Centre for Security and Crisis Management (NCSCM) is responsible for the public safety and welfare of the people of Jordan. The board will responsible to:
• Coordinate National resources to address the full spectrum of actions to prevent, to prepare for, to respond to and to recover from incidents in an all-hazards context, including terrorism, natural disasters, accidents and other contingencies.
• Use police power, under certain emergency conditions, to make, to amend and to rescind orders and regulations.
• Provide leadership and play a key role in communicating to the public and in helping people, businesses and organizations cope with the consequences of any type of declared emergency within Governorate jurisdiction.

In support of the National’s preparedness, response and recovery from a pandemic influenza, NCSCM will have membership from other key departments and ministries to coordinate and implement disaster management interventions in Jordan. Under NCSCM the following agencies and departments have been assigned primary and support roles and responsibilities.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health (MOH)</td>
<td>• Coordinate health and medical activities in preparedness, response and recovery from pandemic influenza.</td>
</tr>
<tr>
<td></td>
<td>• Identify public and private sector partners needed for public health and medical effective planning and response.</td>
</tr>
<tr>
<td></td>
<td>• Provide personnel and equipment for triage and emergency medical evacuations to medical aid stations.</td>
</tr>
<tr>
<td></td>
<td>• Develop key components of pandemic influenza preparedness plan: Surveillance, distribution of vaccine and antivirals, disease containment, and training and education preparedness</td>
</tr>
</tbody>
</table>
- cooperative agreements with Governorate.
- Coordinate with local areas to ensure development of local plans as called for by the National plan and provide resources, such as templates to assist in planning process.
- Coordinate health care surge capacity planning.
- Develop data management systems needed to implement components of the plan.
- Coordinate and make recommendations for disease containment.
- Coordinate public health, medical emergency and risk communication messages.
- Develop infection control guidelines for fatality management activities.
- Coordinate the request, receipt, breakdown, and distribution of the Strategic Governorate Stockpile for Jordan.
- Obtain information from hospitals, public/private entities, about categories and numbers of employees considered essential and therefore eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment; it will be necessary to include employees needed to provide essential services, to include, but not limited to fire, police, drinking water, waste water, power and natural gas.
- When destruction of livestock or domesticated or exotic animals becomes necessary, provide technical assistance to Veterinary to ensure that disposal is safe to human health.
- Implement disease control measures necessary to protect the public’s health, including, but not limited to, the issuance of orders for isolation, quarantine, closure, the administrations of vaccines and/or medications, medical evaluations and specimen collection.
- Coordinate the provision of mental health services to disaster victims (living in shelters or at other disaster relief centres).
- Provide medical support personnel to assist with health and medical operations.
- Manage psychosocial issues related to a pandemic, including the needs of first responders and families of fatalities.
- Determine essential employees eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment.
<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
</table>
| **National Centre for Security and Crisis Management (NCSCM)** |  - Manage and coordinate the National’s disaster response and recovery efforts.  
  - Activate the Disaster Management Plan, when required.  
  - Coordinate requests for National assistance to Governorate and districts.  
  - Coordinate the disaster communications system.  
  - Maintain a 24-hour communications centre for communicating with emergency response personnel from all agencies and organizations.  
  - Coordinate, integrate and manage overall National efforts involving the collection, analysis, planning, reporting and displaying of information.  
  - Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies. Allocate National response resources effectively and according to need; monitor their location when in use.  
  - Develop scripted emergency public information messages for broadcast  
  - Coordinate National monitoring and enforcement of community-based isolation and quarantine orders.  
  - Coordinate high volume public information hotlines and a mechanism for tracking call types for rumour control purposes.  
  - Relay key communications to and from the private sector (e.g., private schools, businesses, and public and private utilities) via local emergency management agencies |
| **Ministry of Transport** |  - Request activation of support fire brigade services, and related missions of local fire service agencies.  
  - Collect information from National and local emergency management agencies’ officers about categories and numbers of employees considered essential and therefore eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment.  
  - Provide personnel and equipment for the transportation or relocation of resources, which includes supplies and equipment, including essential equipment and supplies for drinking water and waste water utilities, e.g., replacement pumps and water treatment chemicals, such as disinfectants and coagulants.  
  - Provide space, as available to serve as transportation resource staging areas.  
  - Make road repairs and maintain alternate routes in case of road blockage due to any reason  
  - Determine essential employees eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment; provide this information to MoH |
| Ministry of Labour and Social Welfare | - Provide trucks (with drivers) to haul supplies.
- Provide buses (with drivers) to aid in moving civilian population. Assist with the preparation of meals to support disaster relief activities.
- Provide inmate labour to load and unload trucks.
- Motivate for induction of volunteers to help in relief work
- Determine essential employees eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment; provide this information to MoH
- Motivate NGOs and private philanthropic support
- Identify families adversely affected by the pandemic, such as loss of work or the ability to work, or death of a wage-earner; provide social services as needed until self-sufficiency is regained. |
| Ministry of Interior | - Provide security to National institution and curb chaos
- Assist in security evacuations, quarantines and hospital safeties |
| Ministry of Defence | - Provide vehicles, aircraft and operators to move personnel, equipment and supplies, including essential equipment and supplies for drinking water and waste water utilities, as requested.
- Provide logistical support and air/ground transportation of disaster relief supplies, personnel and equipment.
- Provide space, as available, at its facilities, to serve as resource staging areas.
- Determine essential employees eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment |
| Ministry of Information and Technology | - Establish phone banks for disaster hotlines.
- Enable critical communication links within Governorate and districts
- Coordinate/support the establishment of Web pages to communicate disaster information.
- Telecast special programs for information education and awareness of masses regarding epidemic
- Provide technical assistance in the recruitment and deployment of National employees for temporary assignment as disaster relief workers. Coordinate the use of National facilities and property for use as staging |
| Jordan Red Crescent Society | Identify shelter and mass care locations that have been established and determine the capacity of such shelters to shelter and care for displaced residents.  
| | Assist with the identification of facilities for use by the medical community to provide care for ill patients.  
| | Provide basic needs supplies (food), bulk distribution of emergency relief items, Disaster Welfare Inquiry services and disaster mental health services to the disaster affected population in coordination with local emergency plans.  
| | Support the management and coordination of sheltering, feeding, bulk distribution of emergency relief items, and Disaster Welfare Inquiry services to the disaster affected population. |
| Ministry of Agriculture and Livestock and OIE | Develop plans for surveillance, laboratory testing and response regarding influenza illness in poultry and other potentially at-risk livestock, domesticated or exotic animals that may represent a threat to human health and to the animal population.  
| | Develop a communication protocol for early notification to MoH of any unusual zoonosis that may represent a threat to humans or wildlife.  
| | Oversee and/or implement needed depopulation (culling) and safe disposal of livestock, domesticated or exotic animals that may be required to protect human health and the animal population.  
| | Determine essential employees eligible for preferential treatment with respect to certain medical interventions, such as prophylaxis and treatment; provide this information to MoH |
| General Directorate of Environment | Provide toxicological expertise and risk communication expertise in support of health risk communication about chemicals or other health risks.  
| | Provide technical assistance to waste water and drinking water utilities for emergency operations.  
| | Construction of embankments, arrangement of boats and pumps |
| Ministry of Education | Provide for the welfare of student populations during a pandemic. Help Governorate and laboratory personnel and/or services.  
| | Obtain the services of research, veterinary, epidemiological and other specially trained personnel to assist with disease surveillance, prevention, and control activities, if requested by MOH  
| | Disseminate informational and action-required messages to public and private institutions and independent colleges/ universities |
9.0 Emergency Operations Centre (EOC) MANAGEMENT AND OPERATIONS

**Objective:** The objective of the Jordan Ministry of Health (MOH) Emergency Operations Centre (EOC) is to be always vigilant for events/incidents of potential national, regional or international concern like influenza, and to rapidly transition from one mode of operation to another. Similar to the EOC at the U.S. Centres for Disease Control and Prevention (CDC), the MOH/EOC operates in one of three emergency operations modes: Monitor, Alert, and Response (Figure 4). Or, if multiple events/incidents indicate, the EOC operates simultaneously in more than one mode of operation.

**Figure 4:** Emergency operations fundamentals in section management and response actions.

**Function:** The fundamentals of EOC management and operations both during normal routine monitoring and during response to an event/incident, require planning and coordination of many activities. Figure 4 identifies that during each mode of operation, the EOC Director and core staff are responsible for a number of activities that may occur in each section of the EOC, and as required by the EOC Operations Handbook (OHB), standard operating procedures (SOPs) and Forms, and by Jordan policies.

**Activation:** The only mode that requires official EOC Activation is the Response mode. Activation and notification procedures of an EOC can be established by a request, written or verbal from the Communicable Disease Control unit of MoH. Following a decision to Activate, a determination must be made regarding the level of staffing required to satisfy the anticipated amount of event/incident-related activity. Level of
staffing, that is, the number of required personnel, is independent of EOC modes and is determined by the amount of assistance needed to sustain the MOH response through the duration of the event.

By directive from the Secretary General of MOH, during an emergency response, staff at MOH are expected to be on duty or available 24 hours/7 days per week, the hours of operation extended, and the staff expanded. The EOC is under the management and operational control of CDC of MoH. MoH provides core staffing and monitors potential public health events that might require a MOH response.

Before EOC Activation the health directorates in the governorates may manage small-scale responses using their program resources and structure until the response exceeds their capacity.

Critical Information Requirements (CIR):

CIRs are often used to make activation decisions, or decisions to adjust the nature of an on-going EOC response. CIR are criteria used to determine what information needs to be communicated to the MOH and/or EOC management to assist in making critical decisions related to activating or adjusting an EOC response system or structure. CIR usually becomes more focused to a specific response as the public health event/incident is occurring and the CIR can change often during a public health emergency response. The following may be considered as standard CIR within the MOH/EOC.

1. Any report(s) of disease outbreaks or deaths above the normal (average) or expected base line for the season or geographic region.
2. Any event or incident that presents a public health threat and requires additional MOH resources above health directorates in the governorates capabilities.
3. Reports or physician inquiries related to H5N1, H7N9, EV71, or other infectious/zoonotic disease threats with epidemic/pandemic potential.
4. Reports of a public health event or incident that exceeds regional or geographic management or staffing capability.
5. Reports of major industrial accidents.
6. Significant increases in media interest in any public health event or incident.
7. Events with predictable public health impact (such as seasonal weather events).
8. Any activation inquiry, request, or decision originating from a Ministry/Department Director or a policy oversight authority.
9. National event with potential public health impact, such as sporting events, parades, festivals, etc.
10. Any event that meets at least one of the following four criteria of the International Health Regulations (IHR, 2005) that defines a potential Public Health Emergency of International Concern (PHEIC).
   I. The public health impact of the event is serious as defined by potentially high morbidity and/or mortality, geographic scope, high
population density, or an agent that is highly transmissible and/or pathogenic.

II. The event is unusual or unexpected as defined by disease-causing agent that is yet unknown or a new (emergent) pathogen; is highly susceptible; is unusual for the season, locality or host; or there is a suspicion that this may have been an intentional act.

III. There is a significant risk of negative impacts to international travel or trade restrictions caused by a zoonotic disease or the potential for an epizootic event, or exported/imported food/water-related event.

IV. There is a significant risk of international spread.

When the events/incidents associated with a CIR are identified, the EOC management team will send a Preliminary Assessment Team (PAT) to conduct an initial assessment of the situation in order to recommend (if necessary) activation of the EOC to support response activities on the basis of the potential public health threat’s scope, impact, and/or need for a centrally managed response. The PAT process includes involvement and input from subject matter experts (SME) from the scientific community and the EOC functional staff.

**EOC Modes of Operation:**

Figure 5 identifies the three operational modes of the EOC, and indicating the need for increased awareness and staffing as significance of the event/incident increases and more emergency operations activities are required.

*Figure 5: Emergency Operations Modes*
The MOH Emergency Operation Centre (EOC) policy

The role of the emergency operations Centre:-

* Coordination and leadership of the event/ incident using Incident Command System (ICS)

* Management of health crises, actively and effectively and high quality according to the standards of the World Health Organization (WHO).

* Highly complementary work with the bodies concerned in respond to any health event/ incident

  • Facilitate cooperation and solve the health problems to reduce the negative effects of health crises and disasters.

* Provide a comprehensive necessary data base needed for the incidents response and health crises through the collection, analysis, monitoring and delivery to the parties concerned.

* The provision of the necessary advanced infrastructure for the early warning and effective response and at the appropriate time.

* Technical Support for response teams at the time of the health crisis and disasters.

* The development of policies and procedures guidelines and training programs.

The role of directorates and departments of the Ministry of Health:

* Its commitment to provide emergency operations center with information, data base and the relevant reports and exchange and participation and to facilitate access to it.

* The participation of the subject matters in there different expertise to support the emergency operations center activities when its needed.

* Participation in the different training activities, exercises for preparedness and response for health crises and testing the contingency plans

Monitoring and Evaluation:-

The formation of a committee of specialists to support the activities of the Emergency Operations Centre activities and operations

Incident command and coordination mechanisms at national level

The response plan is adopting the concept of the Incident Command System (ICS). The EOD will be managing all health emergencies including pandemic influenza. The Incident Command System (ICS) is a management system designed to enable effective and efficient domestic incident management by integrating a combination of facilities, equipment, personnel, procedures, and communications operating within a common organizational structure. It facilitates resource mobilization and activities monitoring.
Further, it helps in strengthening coordination through unifying and standardizing communication channels.

ICS should be replicated at lower levels facilitating decentralization of response. This includes the necessary provision resources and funds to the Governorates/Municipalities upon request according to their Contingency Plan for Epidemic and Pandemic Response (CPEPR). In case of absence of adequate sub-national and institutional response plans that can be activated, the Governorate Coordination Unit will work with Governorate Health Directors to develop the necessary plan to ensure the overall management of the epidemic/pandemic response and the request and receipt of resources.

**Incident Command System Roles:**

The **Incident Command System** is the authorized command structure of the Ministry of Health for decision-making of all critical issues in connection with the response and for the management of operations during the pandemic/epidemic as long as the CPEPR is activated.

ICS is used to manage a public health emergency and is typically conducted in an Emergency Operations Centre (EOC). The EOC sits within the Crisis Management Unit (CMU) and is permanently under the overall authority of the Minister of Health (Figure 4). In order to enhance the effective management of the response the Incident Commander has the authority to decide and to engage the resources of the MoH. The Incident Commander is responsible for defining the overall response strategy.

**The main roles of the Incident Command System (ICS):**

- to ensure strategic and operational command of all operations under the direct responsibility/authority of the MoH (national level and sub-national levels, such as national Rapid Response Team [RRT], coordination of NGOs);
- to activate management structures and mobilize resources at national and sub-national levels;
- to coordinate the overall health response when several Governorates and Municipalities are impacted or when assistance is requested from outside the impacted areas;
- to provide support to the Health Authorities in the Governorates as requested;
- to coordinate with all concerned Ministries, stakeholders, international organizations (WHO), private sector, non-governmental organizations, and health authorities of neighboring countries;
- to develop the necessary Incident Action Plan(s) for the national response, including for mobilization and allocation of national resources (e.g. national RRT; stockpiles);
• to assess the needs for international assistance;
• to ensure business continuity in the delivery of critical health services and essential public health programs;
• to coordinate with the Ministry of Communications to develop and disseminate public information and risk communication;

**Figure 6: MOH EOC Activation Organizational Chart**

**Composition of the ICS:**

**Permanent functional roles within ICS:**
- Incident Commander
- Deputy Incident Commander
- Liaison Officer
- Planning Focal Point
- Operations Focal Point
- Advanced Planning Unit
- Documentation Unit
- Situational Analysis Unit
- Technical Specialty Unit
- Hospital Coordination Unit
- Governorate Coordination Unit

**Ad hoc members and experts of the expanded ICS**

Representatives of the following Ministries:
- Ministry of Interior
- Ministry of Foreign Affairs
- Ministry of Communications
- Ministry of Defence
Strategic meetings

Only the permanent functional roles within ICS participate in strategic meetings. Members must strictly follow the rules of confidentiality and comply with the instructions given by the Incident Commander. The members will be liable and accountable for any action decided on their own initiative. The Incident Commander may call ad hoc members and or experts to participate depending upon the overall situation and the needs for coordination at national and international levels.

ICS operates under the leadership of the Incident Commander. In its initial meeting the Command section decides level of activation, initial staffing needs, incident objectives, and frequency of meetings. This may be modified at any time by the Incident Commander depending upon the evolution of the situation. The function of Incident Commander is assumed in the interim by the first person arriving in the EOC until the designated person arrives.

Technical meetings and working groups

At the first Incident Command staff meeting the Incident Commander distributes the job action sheets to all permanent functional roles within ICS. In the first meeting of the Incident Command staff the following issues are discussed:

- Division of roles and responsibilities
- The development of the Incident Action Plan (IAP) by the Planning Focal Point
- Existing, available and potential resources
- Relevant stakeholders and ad hoc ICS functional roles
- The deployment of RRT
- Health surveillance system and epidemiology surveillance with early alert capacity
- Urgent actions for reducing morbidity and mortality
- Existing infection prevention and control programs and their present gaps
- Business continuity for the delivery of essential health services

In order to manage the response at a strategic level according to the best practices and most up-to-date scientific knowledge, the technical group should review the technical documents and make sure they are updated. The Incident Commander convokes technical meetings with the necessary ad hoc members or experts. The
Incident Commander may also decide to create specialized technical working groups to deal with specific issues.

The MOH Emergency Operation Centre (EOC)

The Incident Command staff meet and operate in the EOC of the Ministry of Health that is located on the ground floor of the Ministry of Health in Amman. Should this site be inaccessible for any reason, then the Incident Command staff will operate from an alternate site. The first staff member(s) of the MoH arriving will open the EOC and initiate the procedures in order to make it functional. The EOC has permanently the following management tools and equipment:

- Emergency Operations Plan containing:
  - SOP
  - JAS
  - Checklist
  - Logs
  - Forms
  - Pre-scripted risk communication messages
  - Maps
  - List of health care facilities and their capacities and capabilities
  - List of critical phone numbers, hotlines or call centres at national and sub-national levels
  - List of Incident Command staff including addresses and phone numbers

The security of the EOC is ensured by the Deputy Incident Commander or designated Safety Officer. S/he should make sure:

- Means of identification are available and properly used
- SOP and checklists are available and properly used
- Entry point for the Incident Command staff or invited visitors is secure
- Reporting mechanism in the event of a security problem
- Logging of actions taken for identified security issues in the “security information tracking log”.

Activation of the national CPEPR

The activation of the CPEPR

The Command Section will analyse available information and assess the current epidemiological threat and advise the Minister of Health on course of action. The Plan can only be activated by decision of the Minister of Health (level 1) which means the automatic initial activation of ICS.

The full activation of the EOC is costly. Therefore activation has three levels and is scalable and “phased” so that only the systems and resources that are required may be mobilized.

EOC Activation Level 1:

Activation of Command Staff and Focal Points who will:
- open the EOC;
- analyze and validate the available information;
- decide the mechanism for information management;
- decide if the level of activation needs to be changed;
- mobilize minimal resources;
- monitor the situation and assess the needs for closer cooperation with relevant Ministries;
- ensure that IHR are enforced at all levels of the country;
- Inventory the existing resources that the national level may mobilize.

EOC Activation Level 2:

Level 2 is the activation of all permanent functional roles within ICS. At least 1 Incident Command staff member will be present in the EOC 24/7 during activation. The Incident Commander convokes a meeting of the Incident Command staff to discuss the following issues:

- allocate roles and responsibilities among the members of the Incident Command staff; the EOC is opened and permanently staffed;
- assess the health needs and identify priority actions that need to be taken;
- develop and implement the initial Incident Action Plan and define the necessary strategies for responding to the health threat and for following up the evolution of the epidemiological situation;
- mobilize the necessary resources (limited scale) and release the necessary equipment and essential medicines, and supplies including necessary emergency stocks;
- assess present capacity of the health surveillance system and its early warning capability
- assess if the national RRT must be mobilized and dispatched;
- ensure that the capacity of laboratories is adequate for testing specimens;
- check if the necessary equipment and supplies are available for case management (preventive and curative care) and that staff involved is adequately prepared and equipped;
- ensure overall coordination role of operations when several Governorates/ Municipalities are involved;
• ensure hospital business continuity;
• ensure coordination with the National Centre for Security and Crises Management
• ensure a reliable and permanent information sharing with the health authorities of the neighboring countries and with the UN Agencies;
• coordinate with Ministry of Communications for public messaging;

**EOC Activation Level 3**

Level 3 is the full activation of the EOC. In addition to the previous levels, level 3 activation includes the following:

• the EOC permanently staffed with regular strategic meetings of Incident Command staff;
• the technical meetings are conducted on regular basis;
• revises the Incident Action Plan (IAP) at the end of operational period;
• the activation and deployment of all necessary and available national resources;
• deployment of national RRT
• the regular assessment of hospital and essential public health program business continuity;
• coordination of national health response operations conducted at all levels;
• coordinate with Ministry of Communications for public messaging
• coordination of the international assistance when requested;
• mobilization of exceptional funds and resources;

**The triggering factors for deciding the levels 2 and 3 of activation**

The Incident Commander convenes a meeting with the Command Section and Focal Points to decide the level of activation, which is submitted to the Minister of Health for approval.

**The management of the early response**

**The preparation of the initial Incident Action Plan**

In every crisis there is always a need to develop an initial Incident Action Plan for managing the response of operations. As the situation evolves it may be necessary to revise the initial IAP or to prepare new IAP. The IAP will include the elements described in the various sections of this CPEPR. The Planning Focal Point develops the initial IAP that:
• specifies the incident operations objectives;
• Which officials would be doing what (who does what; how and when, where and with whom);
• covers a specific timeframe;
• relies on the principles of incident management
• provides clear instructions on the coordination mechanisms between the levels of the health sector and with the inter-sectoral response;
• Is formulated by using the IAP standardized form. When several IAP are developed over time, the Documentation Unit maintains record of them by using the tracking log for IAP
• the IAP is always immediately communicated to the concerned partners

The preparation of guidelines and recommendations

As soon as the CPEPR is activated, ICS becomes the only command structure that prepares new guidelines or enforces existing guidelines for managing the health response to the epidemic/pandemic and for managing health response at all levels. The EOC will always ensure that all what is circulated or in use is IHR compliant and will share relevant information with relevant partners.

The management of the information by the EOC

The EOC will follow the principles on management of information of this Plan and will use all relevant management tools that are described in this section of the Plan. The EOC will refer to the principles and recommendations included in the IHR. The Documentation Unit keeps record of information that is directly related to the response.

The management of the human resources at national level

The EOC will follow the principles described in the management of human resources at the national level of this CPEPR. The MoH has normative and guidance roles. Therefore it is the responsibility of the EOC to ensure that the sub-national levels strictly follow the recommendations prepared at national level for the management of staff.

Accountability in the CPEPR

The country legal framework regarding working during emergencies in general and for health in specific is the ultimate accountability framework. If such framework does not exist or not explicitly demarcate the roles and National the consequences for not abiding to these roles, it should be developed. Each level and institution is accountable for the decisions and operations managed under their direct command and authority. The principle of accountability must be given high priority in any contact between the EOC and the sub-national levels. It is essential that those involved in the management of the response are liable and accountable for what they do or not do.
Contact tracing:

Contact tracing is an integral component of the overall strategy for controlling an outbreak of specific diseases such as EV. Contact tracing is defined as the identification and follow-up of persons who may have come into contact with an infected person. Contact tracing is an important part of epidemiologic investigation and active surveillance. Purpose of contact tracing is Interruption of the causative agent transmission in the community

Contact tracing is essential in the control of a major epidemic with potential for human to human transmission in order to avoid further spread (locally and internationally) and to deliver early care when required. Therefore the national level plays a central coordinating role for contact tracing although most of the activities of “interviews with contacts” are conducted at local level by contact team.

Elements of contact tracing:

- Contact identification
- Contact listing
- Contact follow-up: The contact follow-up teams and their supervisors should be trained in a one-day workshop to familiarize the team with basic information on the relevant disease, procedures and tools for contact tracing, and the required safety precautions. The training package should cover:
  1. Basic key facts about the disease, mode of transmission, and preventive measures.
  2. The rationale and procedures for contact tracing/follow-up.
  3. Contact tracing/follow-up tools, temperature monitoring, reporting, etc.
  4. Recommended infection prevention and control measures for contact tracing teams.
  5. Home-based preventive measures at onset of illness.
  6. Establishment of resources

Rapid Response Teams (RRTs)

Outbreaks are so frequent worldwide. Each outbreak is unique. Outbreaks differ in etiology, mode of transmission, magnitude, target group, and outcome. RRTs are crucial in preparedness and response to emerging and re-emerging infectious diseases. A clear and recent example is the unprecedented emergence of Ebola in West Africa and the potential transmission of this outbreak to other countries with catastrophic consequences.

Definition: rapid response team is:

- Predetermined
- Limited number
- Different skills
- To implement rapid and effective preparedness and response to outbreaks

**Steps of outbreak investigation:**
- Confirm outbreak
- Verify diagnosis
- Case definition
- Identify cases & obtain information
- Describe data collected and analyze
- Develop hypothesis
- Test hypothesis: analytical studies
- Special studies
- Communicate results, including outbreak report
- Implement control measure

**General Objectives of RRTs:**
- Ensure rapid and coordinated detection of potential diseases
- Immediate response to outbreaks of diseases
- Promotes comprehensive outbreak investigation.
- Improve the collaboration and partnerships among stakeholders working in outbreak investigation and response.

**Specific Objectives:**
- Prevent potential outbreaks
- Early detection of outbreaks
- Control of outbreaks
- Strengthening of Surveillance
- Provision of guidelines and tools required to deal with outbreaks
- Cooperation and coordination with other partners
- Writing epidemiological reports
• Effective communication

**Component of RRTs at the national level:**
• Director of Communicable Diseases directorate
• Head of Surveillance department
• Head of data management
• Communication expert
• Representative from Directorate of Environment
• Veterinarian from ministry of agriculture
• Representative from Food and Drug Agency
• Directorate of laboratories
• Clinician
• Laboratory expert
• Head of Infection prevention and control department

**Component of RRT at the subnational level:**
• Epidemiologist
• Head of food and environment department
• High level administrative
• Laboratory expert
• Infection prevention and control focal point

**Roles of national RRT:**
• Regular meeting
• designation experts (from inside the country or outside)
• Allocate resources
• Training oh health care workers
• Prediction, planning of potential outbreaks
• Coordination with other partners in the ministry of Health
• Coordination with the national committee for epidemics
• Coordination with National IHR focal point
• Coordination with WHO and other international and regional organizations
• Coordination with unit of emergency management
• Issue of reports

**Roles of national RRT:**
Regular meetings
- Determination of team members
- Determination of needs
- Simulation exercises
- Conduction of outbreak investigation
- Writing reports

National RRT should every kind of technical and logistic support to the subnational teams and should go to any region in case of request from the subnational team or in case of request from higher authority or according to the epidemiological situation

**Severe Transmissible case management plan:**

Detection of the Infectious disease event that should be investigated

- Define the events that constitute a severe transmissible event
- Detection of the etiologic agent using the most up to date laboratory detection mechanism
- Assure the existence of appropriate diagnostic laboratory capacity in country wherever possible and if not designate a regional laboratory that is able to detect the agent in a timely manner
- Assure compliance with strict infection control methods in obtaining and transporting the sample
- Depending on the clinical suspicion the level of laboratory infection control level 1-4 should be decided before handling the sample in the laboratory

Assign for the above process a defined rapid response group or team at the Jordan Ministry of Health whose task is to investigate patient with reported events in a timely manner and obtain the appropriate laboratory testing

Perform contact tracing for the initial event

In addition to defining the sentinel events that should be reported to the MOH as above case detection should also be sought by the following mechanism

**Sever Transmissible Illnesses Case Detection**

1- Surveillance Centres
   a. MOH clinics and hospitals
   b. Royal Medical Services
   c. Major university health services
   d. Private sector
e. Special surveillance teams in cases of emergency like population displacement

f. Border crossing medical facilities where appropriate (individuals travelling from regions with known outbreaks etc)

g. Border crossing medical facilities in borders where civil unrest is occurring

h. If an outbreak is detected then the plan should be strengthened by performing active case finding by having

i. Assigned teams to rotate upon different hospitals and clinics and querying for any new clustering of cases or newly not reported from before phenomena

j. Investigate Excess unexplained death cases in the community at large or focal points

k. Large increase above the usual cases that visit hospitals and clinics.

l. Focused public awareness as in health care workers (HCW) by flyers and other forms of communication.

2- Laboratory

   a. Assure that appropriate infection control and appropriate biosecurity level facility is available if possible in country to identify the infectious agent

   b. Assure the presence of appropriate laboratory detection capability using the most up to date rapid molecular methods in order to detect the agent in a timely manner

   c. Recording any increase in same pattern of samples’ numbers

   d. Communicating the new laboratory excess homogenous samples with the division of communicable diseases MOH

   Laboratory Surveillance

      i. Keeping samples appropriate for the suspected new outbreak for possible later testing

      ii. Doing routine check up on arrived laboratory samples for the possibility of newly emerging or re-emerging infection

3- Case identification and probable mode of transmission

   a. Respiratory

   b. Fecal Oral

   c. Contact
d. Mixture of modes

4- Sharing information with other concerned stakeholders and NGO’s about new or potential new outbreaks in the world

5- Standardized case definition should be in effect as soon as possible, initially it must have very high sensitivity, and as days goes on a more strict specific definition should be implemented based on the cumulative data.

Management Plan for Severe Transmissible Illnesses

- Place patients in strict isolation until the identification of the infectious agent
- Assure that all health care, laboratory, housekeeping personnel are trained in the infection control needed to care for highly transmissible infectious agents
- Assure that all ambulance personnel including civil defense are trained in appropriate infection control and are provided with proper PPE before patients are assigned a facility

Assign a well-defined facility to care for suspected cases in each region in Jordan

Provide sufficient supplies of PPE for the assigned facilities

1- Assign a description of a temporary holding areas in all hospitals, should a case appear in other hospitals

2- Transportation logistics; special ambulance, staff, and PPE

3- Staff training; how to deal with affected patients all over hospitals, and more specialized training for the designed hospital.

4- Make available proper PPE for the new transmissible agent.

5- At a later step, design few hospitals to accommodate cases

6- Explore options for medicinal treatment versus supportive treatment

7- Wide scale education for medical staff and public.

8- Utilize modern modes of communication to the medical community (websites of the medical associations) as well as communicate messages using social media for public education.

9- Utilize National of the art data management tools to give real time information about the spread of the outbreak and its progress

Sever Transmissible Illnesses Case Detection

Surveillance Centres

a. MOH clinics and hospitals
b. Royal Medical Services
c. Private sector

d. Special surveillance teams in cases of emergency like population displacement

Laboratory

e. Recording any increase in same pattern of samples’ numbers

Communicating the new laboratory excess homogenous samples with the division of communicable diseases MOH

f. Laboratory Surveillance

i. Keeping samples appropriate for the suspected new outbreak for possible later testing

ii. Doing routine check up on arrived laboratory samples for the possibility of newly emerging or re-emerging infection

Case identification and probable mode of transmission

g. Respiratory

h. Fecal Oral

i. Contact

j. Mixture of modes

Sharing information with other concerned stakeholders and NGO’s about new or potential new outbreaks in the world

Standardized case definition should be in effect as soon as possible, initially it must have very high sensitivity, and as days goes on more strict specific definitions should be implemented based on the cumulative data.

Management Plan for Severe Transmissible Illnesses

1. Initially assign a hospital/a ward.
2. Assign a description of a temporary holding areas in all hospitals, should a case appear in other hospitals
3. Transportation logistics; special ambulance, staff, and PPE
4. Staff training; how to deal with affected patients all over hospitals, and more specialized training for the designed hospital.
5. Make available proper PPE for the new transmissible agent.
6. At a later step, design few hospitals to accommodate cases
7. Explore options for medicinal treatment versus supportive treatment
8. Wide scale education for medical staff and public.
10.0 Elements of the educational and media plan:

_The first element:_ the media (the delivery of the right and documented information) and to clarify the importance of the partnership with various media.

_The second element:_ health providers (doctors and nurses and health promoters) to introduce them to the disease and train them on procedures to be followed when dealing with suspected cases.

_The third element:_ the involvement of the local community through health promoters and community health committees.

**Target groups:**

- Decision-makers
- Health service providers
- Media sector
- All segments of community, especially those prone to the disease.

**Implementation steps:**

1) Preparing content for educational messages. To be published through various media channels:

   - The first message: the definition of the disease.
   - The second message: modes of transmission.
   - The third message: methods of prevention and treatment if available.

2) Preparation of educational materials brochures and flyers and posters for the following categories:

   - Community members
   - Health providers
   - Travelers arriving at airports and in both languages Arabic and English.
     - Officials in border points and airports

   The following points to be taken in consideration:

1. Definition of disease.
2. Methods of transmission of the disease
3. Common symptoms of the disease.
5. Treatment.
The awareness and the involvement of members of the local community are important for the success of the fight against the spread of the disease. Here are several factors and messages that should be focused to reduce the risk of disease (General procedures depending on the nature of the disease) such as:

- Washing your hands after visiting hospital, and caring for patients at home.
- Avoiding direct or intimate contact with patients especially body fluids without the use of gloves.
- The use of protective clothing for personnel dealing with animals.
- Burial must take into account the security measures for the dead using the means of prevention and protection of the environment (as instructed by the infection control).

3) Identify a media spokesman and agree on a regular meeting with the media for updates as necessary.

4) Provide a hot line, and the Ministry of Health website www.moh.gov.jo

5) Training of focal points and health promoters at health directorates and health Centres.

6) Health awareness and media directorate represented by Information and Communication Department and the Department of awareness review the information materials, and process a list of those approved (experts) to speak for the media program.

Prepare the following address lists concerned:

- The members of the National Committee for Epidemiology.
- List processing of journalists involved in health affairs of the various means of media.
- focal points in Private Hospitals, Doctors Syndicate, Nursing Association, the Pharmacists Syndicate of associations and the private sector interested in health awareness and media (such as the Royal Health Awareness Society, the Middle East, a data network, radio and television, government and private agencies, NGO’S and coordination with relevant international bodies.
- formation of a committee of the Head of Media and head of education department and a representative from the Directorate of Public Relations and international media to follow up monitoring means visual and audio-visual and written and preparing to respond to them daily.

7) Conduct a survey KAP Study of health workers and health promoters another survey for the community members to measure their knowledge and attitudes about the disease.

8) Conduct a workshop for editors of major media (health editors) of the means of public communication (Mass media) and bloggers of the means of social communication (Facebook + Twitter) to illustrate the importance of community participation in efforts to prevent the spread of the disease.
9) Emphasis on the formation of a coordinating committee of all of the following sectors, the media, the clergy, the private sector (private hospitals, the Greater Amman Municipality, the doctors union, the Pharmacists Syndicate, Nursing Association), the universities, the Royal Medical Services, and Relief Agency, the transport sector, the Ministry of Interior, Civil Defense and nominate a liaison officer in each institution.

10) Naming a focal point to the follow-up information materials within the media officer.

11) Develop a national plan to monitor the media and means of social communication and mechanisms to ensure communication through media.

12) Provide information technology directorate at ministry of health in all data and developments of health awareness and Media Directorate and the Directorate of communicable diseases and update the information as needed (on the website of the Ministry of Health).

13) Measure the impact of the plan on health and media workers by identifying and studying the knowledge and trends as noted in points

Plan Development and Maintenance

The entire *Jordan Pandemic Influenza Preparedness and Response Plan* will be reviewed and revised annually by the MoH, which will consult with other sectors and their offices, divisions and programs to ensure continued applicability of assignments and other information contained in the plan.

Staff will meet as needed with the agencies and organizations listed in the *Jordan Pandemic Influenza Preparedness and Response Plan* to review their roles and responsibilities and revise as needed.
Concept of Operations
1.0 Concept of Operations

General
At a Governorate’s request and during the period immediately following the onset of any large-scale emergency such as pandemic influenza outbreak, National agencies may mobilize and deploy resources to the affected area to assist local governments.

Emergency Operations Centres (EoCs) are established in Governorates of Jordan for any level of emergency requiring a National field presence. However, the location, activities and scope will vary according to the parameters of the occurrence. The organizational structure of the EOC will remain basically the same for any emergency. The agencies activated for the response will be based on the nature and magnitude of the situation.

The affected local government(s) under Governorate EoC is responsible for identifying and communicating response priorities and National resource requirements to the Governorate EoC and MoH and ultimately to NCSCM. Presently there is no structure of EoC at Governorate level rather focal points are trained and designated that will function as a team at the Governorate level to initiate actions as laid down in the plan.

Authority for Direction of Control
Under the public health law NCSCM is functioning at the National level led by its Board of directors while in Governorate EoC focal points under the authority of Governor will be working to assist in organising and implementing a response to pandemic influenza.

At the Governorate level the overall authority for direction and control of the response to a pandemic influenza outbreak rests with the Governor and EoC or focal point.

The Emergency Operations Centre in MoH will be the focal point at the national level is the strategic direction and control point for pandemic influenza response to an emergency medical incident.

The overall authority for direction and control for the resources that respond to a pandemic influenza outbreak start from EoC at in the MoH at national level while at the governorate level is under the control of the Governor and public health Directorates.

Primary Direction and Control Points
Overall public health and medical direction and control and the coordination of input of all responding organizations to a pandemic influenza outbreak will be accomplished through the staffing and operation of the following direction and control points:
National Center for Security and Crisis Management (NCSCM)
The NCCM, with its board of directors and serves as the strategic coordination point for a multi-agency National response for disasters and emergencies.

Under NCSCM there is now a Board of Directors that will command Emergency Operations Centre placed in MoH. EoC has a Communications Centre with primary 24-hour point of contact for other departments and governorates and NCSCM.

Initial objectives of EoC during an event are to:

a. Identify staffing and initiate deployment of the Outbreak Investigation teams (OIT).
b. Establish and maintain communications with local health department and other elements as required.
c. Provide logistical/ground support to OIT team.
d. Develop, in conjunction with other National agencies and the affected local government(s), an initial impact assessment.
e. Coordinate actions of all agencies to ensure efficient and effective support to affected area(s).
f. Develop National response/recovery priorities.
g. Identify emergency public information needs.
h. Provide administrative, security and logistical support to OIT staff.

Continuing EoC operational objectives are to:

a. Determine need for disaster OR outbreak declaration.
b. Continue coordination of National resources and deployment of the Outbreak Response Teams (ORT).
c. Maintain communications with OIT, ORT and other elements as required.
d. Provide special logistical/administrative support.

Joint Information Centre
The purpose of a Joint Information Centre (JIC) under EoC is to coordinate the flow of information about the incident and related response issues among agencies, and to provide a single information source for the media, business community and general public. Communication among agencies, to the media and to the public, must be rapid, accurate and effective, and a JIC provides a forum for the necessary information exchange. Public information among and from all responding agencies, emergency operations centres, political jurisdictions and the media are handled through this centre, thereby allowing the coordination of information from all sources, and reducing or eliminating conflicting information and rumour.
2.0 Preparedness

Multiple stakeholders have important roles in pandemic influenza preparedness and response. Stakeholders include National departments and agencies, public health organizations, National and local health departments and laboratories, private health care organizations, influenza vaccine and antiviral manufacturers, and vaccine distributors and vaccinators. The guidelines and annexes have been compiled into a single plan with the goals of enhancing understanding and improving coordination between public and private sectors and at different levels of the health care system. This structure also emphasizes that an effective response to an influenza pandemic requires planning, infrastructure and action at many levels, and by many groups.

Planning and Coordination

The EoC have jointly established a multijurisdictional, multiagency committee responsible for developing recommendations for improving pandemic influenza preparedness and response. At a minimum, the members of the committee represent the Communicable Disease Control Program in MoH, local health departments, hospitals, infection control practitioners, first responders, local emergency management, and appropriate nongovernmental and private sector organizations.

The purpose of this group is to:

- Bring together representatives of groups likely to be adversely affected by an influenza pandemic, and take part in the response.
- Provide a forum to update group members on the steps that the government is taking to prepare for an influenza pandemic.
- Conduct regular reviews of this plan and supporting documents to ensure relevance and accuracy of information and procedures. Oversee changes to this plan.
- Plan and conduct regular pandemic influenza exercises. The group also will review after these exercises and provide recommendations about future preparedness and response activities.

Event Modelling Planning Tools

Flu Aid 2.0 is designed to help National and local-level public health officials plan, prepare and practice for the next influenza pandemic by modelling the impact a pandemic might have on their community. The software is designed to provide a range of estimates of impact in terms of deaths, hospitalizations and outpatient visits due to pandemic influenza (before interventions are applied). The software does not provide any description of how the pandemic will spread, i.e., when a specific community will be affected.
**Flu Surge** is a spreadsheet-based model, which provides hospital administrators and public health officials’ estimates of the surge in demand for hospital-based services during the next influenza pandemic. Flu Surge estimates the number of hospitalizations and deaths of an influenza pandemic and compares the number of persons hospitalized, the number of persons requiring ICU care, and the number of persons requiring ventilator support during a pandemic with existing hospital capacity.

Both these software should be regularly used by officials of MoH to conduct exercises and drills for Pandemic Influenza outbreak in Jordan.

**Training and Education:** MoH will be the lead agency for the development of a training and education plan to train official on *Jordan National Pandemic Influenza Preparedness and Response Plan*. Already made training materials from SEARO office can be used to impart trainings.

The plan developed will outline a mixture of presentations and independent studies to increase the knowledge of key officials, first responders, emergency managers, local health officials and health care systems on Jordan’ plan to respond to pandemic influenza.

**Risk and Emergency Communications**

Effective response to pandemic influenza will require the general public to make proper and informed actions. Jordan needs to develop a risk and emergency communications strategy for use in case of pandemic influenza.

**Other Key Activities for Pandemic Preparedness**

When it becomes available, pandemic influenza vaccine will be a National asset.

- **Influenza antiviral medication stockpiling** - Influenza-specific antiviral medications, when administered as prophylaxis, can be effective at preventing influenza and, as treatment, in reducing complications, hospitalization and death. Factors that will be considered include feasibility of public sector distribution during a pandemic; potential impacts, costs, and cost-effectiveness of a larger stockpile; the shelf life of stockpiled drugs; and other logistical issues.

- **Priority groups should be targeted for vaccine and antivirals as demand would be much greater than the supply** - An initial list of suggested priority groups consistent with achieving the public health goals outlined above will be developed by MoH. Prioritization schemes should have some flexibility to accommodate local needs.
3.0 Response

Phase 1: Interpandemic phase

Definition
1. No new influenza virus subtypes have been detected in humans.

Objectives
1. Rigorous surveillance in animals to detect outbreaks of viruses of human subtypes
2. Containment of the virus in animals and prevention of its spread in humans

Interventions
Key interventions in phase 1 along with roles and responsibilities of key stakeholders are given below;

| Intervention 1: Planning and Coordination to provide leadership and coordination across sectors |
|-------------------------------------------------|-------------------------------------------------|
| **Primary Agency** | **Role & Responsibilities** |
| Ministry of Health (MoH) | • Provides guidance, coordination with other ministries, and oversight to the outbreak response and containment.  
  • Develop National influenza pandemic preparedness plan  
  • Formulate Pandemic Influenza Preparedness Committee  
  • Establish and activate a cross governmental multi agency pandemic preparedness committee  
  • Conduct risk assessment  
    o Conduct modelling studies to predict impact of influenza pandemic and impact on use of vaccines  
    o Assessment of economic impact  
    o Estimate antiviral medication  
  • Periodically revise the plan after 03 years  
  • Periodically exercise the plan every year.  
  • Establish full legal authority and legislation as needed for pandemic influenza preparedness and response  
    o Law to use of forced quarantine, off licence use of medicines, compulsory vaccination, closure of institutions  
    o Declaration of emergency and protection of |
- Develop an ethical framework for pandemic influenza response
- Coordinates public health and medical information dissemination to the Governorate.
- Convene subject matter experts to include the inter-Governorate community during the outbreak.
- Assess medical and public health status and needs.
- Evaluate the need for deployment of the Strategic Governorate Stockpile of medications and other resources to contain outbreak.
- Facilitate provision of local assets to detect, conduct, monitor, contain, and respond to disease outbreak.
- Assist the governorate level on the disease outbreak response.
- Provide oversight responsibility on specimen collection.
- Integrate pandemic preparedness and response plans into existing Governorate emergency preparedness and response plans.
- Identify experts such as health care providers, environmental agencies, disease intervention experts that have the ability to respond to the outbreak.
- Identify hospitals, universities, schools, mosques and buildings in each province that has the capability to treat the affected population in the event of an outbreak.
- Ensure that the Rapid Response Team(s) will deploy to the outbreak site to assist the governorate health director in the disease management and control.
- Special focus on health of health care workers, to ensure continuity of the work and enthusiasm of the health care workers for proper response.

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<th>Secondary Agencies</th>
<th>Role &amp; Responsibilities</th>
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| National Centre for Crisis Management (NCSCM) | - Responsible for public’s health and safety and act as advisory body to the Board of Directors
- Monitor the workers’ health and safety.
- Ensures provision of health and medical services
- Identify hospitals, universities, schools, mosques and buildings in the province that has the capability to treat the affected population in the event of an outbreak.
- Ensures the governorate food and water supply’s safety.
- Coordinate the sampling and laboratory analysis of biological and environmental specimens
- Ensure that field investigations are conducted during... |
the outbreak.
- Ensures that monitoring and surveillance of community’s exposure to the outbreak are conducted.
- Recommend and execute disease prevention and control measures on or before the outbreak.
- Recommend and oversees management protocols for affected populations or individuals.
- Communicate necessary information to medical providers.
- Communicate situation assessments, awareness, and required safety measures to the public.
- Assist law enforcement agencies with the criminal investigation as required in the outbreak containment and control measures.

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<th>Focal points in Health Directorates</th>
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<td>• Coordinate local resources (Religious leaders, community leaders) to address the full spectrum of actions to prevent, prepare for, respond to, and recover from incidents involving all hazards including disease outbreaks and pandemic.</td>
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<td>• Execute Governorate laws and policies at district level</td>
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<td>• Provide leadership and play a key role in communicating to the public, and in helping people, businesses, and organizations cope with the consequences of any type of domestic incident within the town.</td>
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<td>• Negotiate and enter into mutual aid agreements with other jurisdictions to facilitate resource-sharing.</td>
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**Intervention 2: Surveillance, Situation Monitoring and Assessment** to collect, interpret, and disseminate information on the risk of a pandemic before it occurs and once underway to monitor pandemic activity and characteristics

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<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
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| Ministry of Health (MoH) | • Develop robust national surveillance system for human and animals to collect up to date clinical, Virological and epidemiological information on trends in human infection  
• Develop and strengthen the procedures and capabilities of the MoH National laboratory.  
• Coordinate and establish Governorate surveillance activities and recommendations.  
• Establish a sentinel SARI/ILI surveillance system in the country representative of all priority population groups  
• Define surveillance objectives for the inter-pandemic, pandemic alert and pandemic periods  
• Detect and investigate unusual or early signs of |
outbreak such as clusters of influenza like respiratory illness,
- Characterize and share both animal and human influenza virus isolates with WHO, FAO and other partners
- Establish a network of central reference laboratory connected to regional labs in analysing the samples collected at sentinel IILI/SARI sites for identification of seasonal and novel influenza viruses
- Determine when, where and which influenza viruses are circulating in Jordan through laboratory testing and surveillance.
- Determine the intensity and impact of influenza activity on defined health outcomes identify unusual or severe outbreaks, and disseminate information.
- Coordinate surveillance activities with WHO and within Governorates.
- Coordinate with local areas to ensure development of local plans as called for by the National plan and provide resources, such as templates to assist in planning process.
- Develop data management systems needed to implement components of the plan.
- Assist local jurisdictions with exercising plans.

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<th>Support Agencies</th>
<th>Role and Responsibilities</th>
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<tbody>
<tr>
<td>Ministry of Education</td>
<td>Assist in dissemination of information in schools, colleges, universities.</td>
</tr>
<tr>
<td>Ministry of Information and Technology</td>
<td>Assist in dissemination of information to drinking water and waste water utilities.</td>
</tr>
<tr>
<td>Ministry of Agriculture, Livestock and FAO</td>
<td>Develop a system of surveillance system in poultry at the district and governorate level and share regular information to MoH on circulating influenza viruses in poultry</td>
</tr>
</tbody>
</table>

**Intervention 3: Antiviral and Vaccine Purchase and Distribution** to outline Jordan’ plan to distribute and to dispense antiviral prophylaxis and therapy and vaccine during an influenza pandemic

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement dept. MoH</td>
<td>• Estimate antiviral requirement for treatment and prophylaxis during pandemic</td>
</tr>
<tr>
<td></td>
<td>• Stockpiling and distribution of antivirals and others such as antibiotics, antipyretics, ventilation support</td>
</tr>
<tr>
<td></td>
<td>• Activate procurement of vaccines and antivirals.</td>
</tr>
<tr>
<td></td>
<td>• Coordinate Jordan’ health and medical activities in</td>
</tr>
</tbody>
</table>
preparation, response and recovery from pandemic influenza.
- Coordinate vaccine/antiviral delivery and analysis.
- Coordinate the request, receipt, breakdown, and distribution of within Jordan.

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Transport | • Manage and coordinate the National’s disaster response and recovery efforts.  
• Help in distribution of medical supplies to Governorates and districts.  
• Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies. |
| Ministry of Interior | • To support law enforcement missions of local law enforcement agencies.  
• Provide and/or coordinate traffic control and expedited routing for supply missions or personnel movements.  
• Provide personnel and equipment to protect life and property and to enforce the laws of Jordan  
• Activation of fire service missions of local fire service agencies. |
| Ministry of Labour | • Provide inmate labour to load and unload trucks.  
• Provide trucks (with drivers) to haul supplies. |

**Intervention 4: Restriction of Movement or Activities** to Control Disease Spread by imposing restrictions on the movements or activities of persons for the purpose of preventing or controlling the spread of a dangerous infectious disease.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| MoH and Health Directorates | Coordinate and make recommendations for disease containment.  
• Coordinate public health and medical emergency and risk communication messages.  
• Implement disease control measures necessary to protect the public’s health, including but not limited to the issuance of orders for isolation, quarantine, closure, the administrations of vaccines and/or medications, medical evaluations, and specimen collection. |

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the Interior Minister and Governor</td>
<td>• Exercise police powers to make, amend, and rescind orders and regulations under certain emergency conditions.</td>
</tr>
<tr>
<td>Primary Agency</td>
<td>Role &amp; Responsibilities</td>
</tr>
<tr>
<td>---------------</td>
<td>-------------------------</td>
</tr>
<tr>
<td>Ministry of law</td>
<td>• Provide legal support and representation to National agencies and to National employees on matters related to disease containment, isolation and quarantine, and in seeking related court orders.</td>
</tr>
</tbody>
</table>
| Ministry of Interior, Transport and IT | • Coordinate, integrate, and manage overall National efforts involving the collection, analysis, planning, reporting, and displaying of information.  
• Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies. Allocate National response resources effectively and according to need; monitor their location when in use.  
• Develop scripted emergency public information messages for broadcast over media following disaster. Coordinate National monitoring and enforcement of community-based  
• Provide personnel and equipment to protect life and property and to enforce the laws of the National.  
• Coordinate all public safety with other National and local agencies during a disaster, including the dissemination of information and requests for assistance.  
• Assist and support other National and local agencies where possible, and coordinate public safety services, as needed. |

**Intervention 5: Training and Exercise Schedule and Plan** to develop a strategy for preparing National and local workforce to deal with a pandemic

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Emergency Operations Centre (EoC) | • Develop curricula, develop schedule and implement training and exercises for local and National workforce.  
• In case of shortage of time and resources table exercises should be conducted at least yearly |

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Other National Agencies and NGOs</td>
<td>Participate in exercises and training.</td>
</tr>
<tr>
<td>Local Health Departments</td>
<td>Participate in exercises and training.</td>
</tr>
</tbody>
</table>

**Intervention 6: Infection Control and Personal Protective Equipment (PPE) to be implemented in order to limit the spread of pandemic influenza.**

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH) | • Promote hand and respiratory hygiene  
• Develop and implement infection control strategy and |
protocols at all healthcare levels

- Provide primary coordination for technical guidance and health and medical operations.
- Coordinate health and medical activities in preparedness, response and recovery from pandemic influenza.
- Coordinate with local areas to ensure development of local plans as called for by the National plan and provide resources, such as templates to assist in planning process.

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO</td>
<td>• Procure equipment and supplies not available through National sources from commercial vendors or suppliers.</td>
</tr>
</tbody>
</table>
| Media cell EoC    | • Provide toxicological expertise and risk communication expertise in support of health risk communication about chemicals or other health risks.  
|                   | • Provide technical advice regarding disinfection and decontamination. |

**Intervention 7: Health system response** to provide health care services in the wake of heavy influx of influenza patients.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH) | • Planning for surge capacity. Management of patients at different levels of health care and community. Plan for private sector roles.  
|                   | • Develop plans for providing health services during a pandemic including type of care to be delivered at each specific level  
|                   | • Maintain adequate triage and patient flow between health care facilities at various levels  
|                   | • Determine potential alternative sites for medical care such as schools, nursing homes, day care centres, mosques or tents in hospital grounds  
|                   | • Health service personnel management  
|                   |   ➢ Estimate total health care professionals by category  
|                   |   ➢ Plan for recruitment of additional workers in case of a pandemic such as retired, volunteers, use of non-formal sector such as homeopaths  
|                   | • Plan for health services supplies  
|                   |   ➢ Stockpiling of medical supplies such as PPE, range of antibiotics  
|                   |   ➢ Develop a strategy for the distribution of |
- stockpiled supplies
- Adequate infection control
  - Develop and refine National infection control guidelines based on level of care
  - Training of health care providers on the guidelines and protocols
- Training plans for all health care providers
- Develop case finding, treatment and management protocols and algorithms
- Excess mortality
  - Plan for emergency capacity for storage and burial of corpses
  - Development of protocols for the safe handling of corpses respecting cultural and religious beliefs
- Plan for maintenance of essential basic services such as power, drinking water, transport, telecommunication
  - Describe essential services in the country to be preserved
  - Plan to vaccinate, provide prophylaxis and treat these groups on priority
  - Plan for replacement of these personnel such as by military, retired or voluntary organisations
  - Encourage each ministry and department for these essential services to develop their own contingency plans for emergency situations like pandemic influenza

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Transport</td>
<td>• Provide personnel and equipment for the transportation or relocation of resources which includes supplies and equipment.</td>
</tr>
</tbody>
</table>
| Jordan Red Crescent Society               | • Assist government or other qualified health providers in recruiting medically qualified volunteers to work under the direction, supervision and authority of other agencies. American Red Cross will provide referrals to these agencies and will not be responsible for verifying certifications and licensure.  
• Provide technical assistance for emergency drinking water and waste water operations. |
**Intervention 8: Communications** to provide and exchange relevant information to the public, partners, and stakeholders in order to allow them to make informed decisions and take appropriate protection and safety measures.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Information and technology | • Establish an emergency communications committee  
  • Develop a communication plan that addresses different target groups develop key messages and use of different communication channels such as website radio and TV  
  • Build and maintain public trust in public health authorities  
  • Develop effective communication strategies and messages to inform, educate and communicate with individuals and families  
  • Transparency  
  • Announcing early  
  • Develop risk communication capacities |

**Phase 2: Alert phase**

*Definition*
An influenza virus circulating among domesticated or wild animals is known to have caused infection in humans.

*Objectives*
1. Rigorous surveillance in humans and animals  
2. Contain the virus in human population

*Interventions*
Key interventions in phase 2 are same as those given for Phase 1

**Phase 4:**

*Definition*
Verified human to human transmission of an animal or human animal influenza reassortment virus able to cause community level outbreaks

*Objectives*
Rapid containment of the virus in the affected communities

*Interventions*
Key interventions in phase 4 along with roles and responsibilities of key stakeholders are given below;
## Intervention 1: Planning and Coordination to provide leadership and coordination across sectors

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| National Centre for Security and Crisis Management (NCSCM) | - Direct a National response to contain the infection in the affected communities  
- Activate Governorate emergency and crisis committee and command and control mechanism  
- Designate special status such as declaring National of emergency  
- Deploy operational and logistic response teams  
- Identify needs for inter-Governorate assistance  
- Finalize preparations for a possible pandemic including procurement plans for essential pharmaceuticals |

<table>
<thead>
<tr>
<th>Secondary Agencies</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH) | - Provides Governorate guidance, coordination with other ministries, and oversight to the outbreak response and containment.  
- Assist the Governorate Public Health Director and the government leaderships during the outbreak/pandemic to ensure proper response is occurring.  
- Coordinates public health and medical information dissemination to the Governorate.  
- Convene subject matter experts to include the inter-Governorate community during the outbreak.  
- Assess medical and public health status and needs.  
- Evaluate the need for deployment of the Strategic Governorate Stockpile of medications and other resources to contain outbreak.  
- Mobilize MoH representatives to serve as members of the Governorate Advisory Team for environment, food, and health.  
- Facilitate provision of local assets to detect, conduct, monitor, contain, and respond to disease outbreak  
- Assist the governorate level on the disease outbreak response  
- Provide oversight responsibility on specimen collection.  
- Identify experts such as health care providers, environmental agencies, disease intervention experts that have the ability to respond to the outbreak.  
- Identify hospitals, universities, schools, mosques and buildings in each province that has the capability to treat the affected population in the event of an outbreak.  
- Ensure that the Rapid Response Team(s) will deploy to the outbreak site to assist the governorate health |
<table>
<thead>
<tr>
<th>Director in the disease management and control.</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Special focus on health of health care workers, to ensure continuity of the work and enthusiasm of the health care workers for proper response.</td>
</tr>
<tr>
<td>• To invite other health care workers (not in the system) to support health care workers all over the country.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Emergency Operations Centre or focal point at Governorate level</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Responsible for public’s health and safety at the governorate level and act as advisory body to the Governor</td>
</tr>
<tr>
<td>• Monitor the workers’ health and safety.</td>
</tr>
<tr>
<td>• Ensures provision of health and medical services</td>
</tr>
<tr>
<td>• Identify hospitals, universities, schools, mosques and buildings in the province that has the capability to treat the affected population in the event of an outbreak.</td>
</tr>
<tr>
<td>• Ensures the governorate food and water supply’s safety.</td>
</tr>
<tr>
<td>• Coordinate the sampling and laboratory analysis of biological and environmental specimens</td>
</tr>
<tr>
<td>• Ensure that field investigations are conducted during the outbreak.</td>
</tr>
<tr>
<td>• Ensures that monitoring and surveillance of community’s exposure to the outbreak are conducted.</td>
</tr>
<tr>
<td>• Recommend and execute disease prevention and control measures on or before the outbreak.</td>
</tr>
<tr>
<td>• Recommend and oversees management protocols for affected populations or individuals.</td>
</tr>
<tr>
<td>• Communicate necessary information to medical providers.</td>
</tr>
<tr>
<td>• Communicate situation assessments, awareness, and required safety measures to the public.</td>
</tr>
<tr>
<td>• Assist law enforcement agencies with the criminal investigation as required in the outbreak containment and control measures.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Focal points in Health Directorates</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Coordinate local resources (Religious leaders, community leaders and Shura’s including women Shura’s) to address the full spectrum of actions to prevent, prepare for, respond to, and recover from incidents involving all hazards including disease outbreaks and pandemic.</td>
</tr>
<tr>
<td>• Execute Governorate laws and policies at district level</td>
</tr>
<tr>
<td>• Provide leadership and play a key role in communicating to the public, and in helping people, businesses, and organizations cope with the consequences of any type of domestic incident within the town.</td>
</tr>
<tr>
<td>• Negotiate and enter into mutual aid agreements with other jurisdictions to facilitate resource-sharing.</td>
</tr>
<tr>
<td>• Request district or governorate assistance as needed</td>
</tr>
</tbody>
</table>
when the town’s capabilities have been exceeded or exhausted.

**Intervention 2: Surveillance, Situation Monitoring and Assessment** to collect, interpret and disseminate information on the risk of a pandemic before it occurs and once underway to monitor pandemic activity and characteristics

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH) | • Collect specimens for testing and Virological characterization using WHO protocols  
• Share findings with WHO and inter-Governorate communities |

**Support Agencies**

<table>
<thead>
<tr>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Centre for Security and Crisis Management (NCSCM)</td>
</tr>
<tr>
<td>Ministry of Education</td>
</tr>
<tr>
<td>Ministry of Information and Technology</td>
</tr>
</tbody>
</table>

**Intervention 3: Antiviral and Vaccine Purchase and Distribution** to outline Jordan’s plan to distribute and to dispense antiviral prophylaxis and therapy and vaccine during an influenza pandemic

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Procurement dept. MoH | • Activate procurement of vaccines and antivirals.  
• Coordinate Jordan’s health and medical activities in preparedness, response and recovery from pandemic influenza.  
• Coordinate vaccine/antiviral delivery and analysis.  
• Coordinate the request, receipt, breakdown, and distribution of within Jordan. |

**Support Agencies**

<table>
<thead>
<tr>
<th>Role and Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Transport | • Manage and coordinate the National’s disaster response and recovery efforts.  
• Help in distribution of medical supplies to Governorate and districts.  
• Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies. |
| Ministry of Interior | • Request activation of the Jordan Law Enforcement System |
To support law enforcement missions of local law enforcement agencies.
- Provide and/or coordinate traffic control and expedited routing for supply missions or personnel movements.
- Provide personnel and equipment to protect life and property and to enforce the laws of Jordan
- Activation of fire service missions of local fire service agencies.

- Provide inmate labour to load and unload trucks.
- Provide trucks (with drivers) to haul supplies.

**Intervention 4: Restriction of Movement or Activities to Control Disease Spread by imposing restrictions on the movements or activities of persons for the purpose of preventing or controlling the spread of a dangerous infectious disease.**

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>National Centre for Security Crisis Management (NCSCM)</td>
<td>- Coordinate and make recommendations for disease containment.&lt;br&gt;- Coordinate public health and medical emergency and risk communication messages.&lt;br&gt;- Implement disease control measures necessary to protect the public’s health, including but not limited to the issuance of orders for isolation, quarantine, closure, the administrations of vaccines and/or medications, medical evaluations, and specimen collection.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the Interior Minister and Governor</td>
<td>- Exercise police powers to make, amend, and rescind orders and regulations under certain emergency conditions.</td>
</tr>
<tr>
<td>Ministry of law</td>
<td>- Provide legal support and representation to National agencies and to National employees on matters related to disease containment, isolation and quarantine, and in seeking related court orders.</td>
</tr>
<tr>
<td>Ministry of Interior, Transport and IT</td>
<td>- Coordinate, integrate, and manage overall National efforts involving the collection, analysis, planning, reporting, and displaying of information.&lt;br&gt;- Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies. Allocate National response resources effectively and according to need; monitor their location when in use.&lt;br&gt;- Develop scripted emergency public information</td>
</tr>
</tbody>
</table>
messages for broadcast over Emergency Alert System (EAS) following disaster. Coordinate National monitoring and enforcement of community-based
- Provide personnel and equipment to protect life and property and to enforce the laws of the National.
- Coordinate all public safety with other National and local agencies during a disaster, including the dissemination of information and requests for assistance.
- Assist and support other National and local agencies where possible, and coordinate public safety services, as needed.

**Intervention 5: Infection Control and Personal Protective Equipment (PPE) to be implemented in order to limit the spread of pandemic influenza.**

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH)| • Promote hand and respiratory hygiene  
• Develop and implement infection control strategy and protocols at all healthcare levels  
• Provide primary coordination for technical guidance and health and medical operations.  
• Coordinate health and medical activities in preparedness, response and recovery from pandemic influenza.  
• Coordinate with local areas to ensure development of local plans as called for by the National plan and provide resources, such as templates to assist in planning process. |

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO</td>
<td>• Procure equipment and supplies not available through National sources from commercial vendors or suppliers.</td>
</tr>
<tr>
<td>NCCM and National Committee for Epidemics</td>
<td>• Manage and coordinate the National’s disaster response and recovery efforts.</td>
</tr>
</tbody>
</table>
| Media cell EoC          | • Provide toxicological expertise and risk communication expertise in support of health risk communication about chemicals or other health risks.  
• Provide technical advice regarding disinfection and decontamination. |

**Intervention 6: Health system response to provide health care services in the affected communities and preventive services to those not affected**

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health (MoH)</td>
<td>• Activate surge capacity</td>
</tr>
</tbody>
</table>
• Adequate infection control
• Provide guidance to health care providers to be vigilant and look out suspected cases through widespread dissemination of guidelines and protocols

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Transport</td>
<td>• Provide personnel and equipment for the transportation or relocation of resources which includes supplies and equipment.</td>
</tr>
</tbody>
</table>
| Jordan Department of Human Services | • Provide medical support personnel to assist with health and medical operations.  
• Assist with locating specialized vehicles for transportation of the disabled. |
| Jordan Red Crescent Society    | • Assist government or other qualified health providers in recruiting medically qualified volunteers to work under the direction, supervision and authority of other agencies.  
• Provide technical assistance for emergency drinking water and waste water operations. |

**Intervention 7: Communications** to provide and exchange relevant information to the public, partners, and stakeholders in order to allow them to make informed decisions and take appropriate protection and safety measures.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH)    | • Build and maintain public trust in public health authorities  
• Transparence  
• Announcing early  
• Develop risk communication capacities |
### Intervention 1: Planning and Coordination

To provide leadership and coordination across sectors

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| National Centre for Security and Crisis Management (NCSCM) | • Implement a multisector response  
• Designate special status such as declaring an emergency  
• Assess needs for external assistance  
• Mitigate the social and economic impacts of influenza on the country |

<table>
<thead>
<tr>
<th>Secondary Agencies</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH) | • Provides Governorate guidance, coordination with other ministries, and oversight to the outbreak response and containment.  
• Assist the Governorate Public Health Director and the government leaderships during the outbreak/pandemic to ensure proper response is occurring.  
• Coordinates public health and medical information dissemination to the Governorate.  
• Convene subject matter experts to include the inter-Governorate community during the outbreak.  
• Assess medical and public health status and needs.  
• Evaluate the need for deployment of the Strategic Governorate Stockpile of medications and other resources to contain outbreak.  
• Mobilize MoH representatives to serve as members of the Governorate Advisory Team for environment, food, and health.  
• Facilitate provision of local assets to detect, conduct, monitor, contain, and respond to disease outbreak  
• Assist the governorate level on the disease outbreak response  
• Provide oversight responsibility on specimen collection.  
• Identify experts such as health care providers, environmental agencies, disease intervention experts that have the ability to respond to the outbreak.  
• Identify hospitals, universities, schools, mosques and buildings in each province that has the capability to treat the affected population in the event of an outbreak.  
• Ensure that the Rapid Response Team(s) will deploy to the outbreak site to assist the governorate health director in the disease management and control.  
• Special focus on health of health care workers, to |
<table>
<thead>
<tr>
<th><strong>Emergency Operations Centre of focal points in Governorates</strong></th>
<th><strong>Focal points in Health Directorates</strong></th>
</tr>
</thead>
</table>
| • Responsible for public’s health and safety at the governorate level and act as advisory body to the Governor  
  • Monitor the workers’ health and safety.  
  • Ensures provision of health and medical services  
  • Identify hospitals, universities, schools, mosques and buildings in the province that has the capability to treat the affected population in the event of an outbreak.  
  • Ensures the governorate food and water supply’s safety.  
  • Coordinate the sampling and laboratory analysis of biological and environmental specimens  
  • Ensure that field investigations are conducted during the outbreak.  
  • Ensures that monitoring and surveillance of community’s exposure to the outbreak are conducted.  
  • Recommend and execute disease prevention and control measures on or before the outbreak.  
  • Recommend and oversees management protocols for affected populations or individuals.  
  • Communicate necessary information to medical providers.  
  • Communicate situation assessments, awareness, and required safety measures to the public.  
  • Assist law enforcement agencies with the criminal investigation as required in the outbreak containment and control measures. | • Coordinate local resources (Religious leaders, community leaders and Shura’s including women Shura’s) to address the full spectrum of actions to prevent, prepare for, respond to, and recover from incidents involving all hazards including disease outbreaks and pandemic.  
• Execute Governorate laws and policies at district level  
• Provide leadership and play a key role in communicating to the public, and in helping people, businesses, and organizations cope with the consequences of any type of domestic incident within the town.  
• Negotiate and enter into mutual aid agreements with other jurisdictions to facilitate resource-sharing.  
• Request district or governorate assistance as needed when the town’s capabilities have been exceeded or exhausted. |
**Intervention 2: Surveillance, Situation Monitoring and Assessment**

to collect interpret and disseminate information on the risk of a pandemic before it occurs and once underway to monitor pandemic activity and characteristics

<table>
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<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
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</thead>
<tbody>
<tr>
<td>Ministry of Health (MoH)</td>
<td>• Assess the evolving pandemic including geographical spread, trends, and impact</td>
</tr>
<tr>
<td></td>
<td>• Document any changes in epidemiological and clinical features of the disease</td>
</tr>
<tr>
<td></td>
<td>• Maintain adequate Virological surveillance to detect antigenic and genetic changes in the virus</td>
</tr>
</tbody>
</table>

**Support Agencies**

<table>
<thead>
<tr>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>NCSCM</td>
</tr>
<tr>
<td>Provide technical assistance in the recruitment and deployment of National employees for temporary assignment to assist with surveillance activities.</td>
</tr>
<tr>
<td>Ministry of Education</td>
</tr>
<tr>
<td>Assist in dissemination of information in schools, colleges, universities.</td>
</tr>
<tr>
<td>Ministry of Information and Technology</td>
</tr>
<tr>
<td>Assist in dissemination of information to drinking water and waste water utilities.</td>
</tr>
</tbody>
</table>

**Intervention 3: Antiviral and Vaccine Purchase and Distribution**
to outline Jordan’s plan to distribute and to dispense antiviral prophylaxis and therapy and vaccine during an influenza pandemic

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Procurement dept. MoH</td>
<td>• Activate procurement of vaccines and antivirals.</td>
</tr>
<tr>
<td></td>
<td>• Coordinate Jordan’s health and medical activities in preparedness, response and recovery from pandemic influenza.</td>
</tr>
<tr>
<td></td>
<td>• Coordinate vaccine/antiviral delivery and analysis.</td>
</tr>
<tr>
<td></td>
<td>• Coordinate the request, receipt, breakdown, and distribution of within Jordan.</td>
</tr>
</tbody>
</table>

**Support Agencies**

<table>
<thead>
<tr>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Transport</td>
</tr>
<tr>
<td>• Manage and coordinate the National’s disaster response and recovery efforts.</td>
</tr>
<tr>
<td>• Help in distribution of medical supplies to Governorate and districts.</td>
</tr>
<tr>
<td>• Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies.</td>
</tr>
</tbody>
</table>
| Ministry of Interior                                      | • Request activation of the Jordan Law Enforcement System  
|                                                       | • To support law enforcement missions of local law enforcement agencies.  
|                                                       | • Provide and/or coordinate traffic control and expedited routing for supply missions or personnel movements.  
|                                                       | • Provide personnel and equipment to protect life and property and to enforce the laws of Jordan  
|                                                       | • Activation of fire service missions of local fire service agencies.  
| Ministry of Labour                                    | • Provide inmate labour to load and unload trucks.  
|                                                       | • Provide trucks (with drivers) to haul supplies.  

**Intervention 4: Restriction of Movement or Activities to Control Disease Spread by imposing restrictions on the movements or activities of persons for the purpose of preventing or controlling the spread of a dangerous infectious disease.**

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| NCSCM and National Committee for Epidemics (NCE) | • Coordinate and make recommendations for disease containment.  
|                                                       | • Coordinate public health and medical emergency and risk communication messages.  
|                                                       | • Implement disease control measures necessary to protect the public’s health, including but not limited to the issuance of orders for isolation, quarantine, closure, the administrations of vaccines and/or medications, medical evaluations, and specimen collection.  |

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Office of the Interior Minister and Governor</td>
<td>• Exercise police powers to make, amend, and rescind orders and regulations under certain emergency conditions.</td>
</tr>
<tr>
<td>Ministry of law</td>
<td>• Provide legal support and representation to National agencies and to National employees on matters related to disease containment, isolation and quarantine, and in seeking related court orders.</td>
</tr>
</tbody>
</table>
| Ministry of Interior, Transport and IT  | • Coordinate, integrate, and manage overall National efforts involving the collection, analysis, planning, reporting, and displaying of information.  
|                                                       | • Provide, direct and coordinate logistical/resource operations with the assistance of the designated support agencies. Allocate National response resources effectively and according to need; monitor their location when in use.  |
- Develop scripted emergency public information messages for broadcast over Emergency Alert System (EAS) following disaster. Coordinate National monitoring and enforcement of community-based
- Provide personnel and equipment to protect life and property and to enforce the laws of the National.
- Coordinate all public safety with other National and local agencies during a disaster, including the dissemination of information and requests for assistance.
- Assist and support other National and local agencies where possible, and coordinate public safety services, as needed.

**Intervention 5: Infection Control and Personal Protective Equipment (PPE) to be implemented in order to limit the spread of pandemic influenza.**

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
</table>
| Ministry of Health (MoH)        | • Promote hand and respiratory hygiene  
                                 | • Develop and implement infection control strategy and protocols at all healthcare levels 
                                 | • Provide primary coordination for technical guidance and health and medical operations. 
                                 | • Coordinate health and medical activities in preparedness, response and recovery from pandemic influenza.  
                                 | • Coordinate with local areas to ensure development of local plans as called for by the National plan and provide resources, such as templates to assist in planning process.   |

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>WHO</td>
<td>• Procure equipment and supplies not available through National sources from commercial vendors or suppliers.</td>
</tr>
<tr>
<td>NCSCM and National Committee for Epidemics (NCE)</td>
<td>• Manage and coordinate the National’s disaster response and recovery efforts.</td>
</tr>
</tbody>
</table>
| Media cell EoC                  | • Provide toxicological expertise and risk communication expertise in support of health risk communication about chemicals or other health risks. 
                                 | • Provide technical advice regarding disinfection and decontamination. |
### Intervention 6: Health system response

To provide health care services in the affected communities and preventive services to those not affected.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Health (MoH)</td>
<td>- Planning for surge capacity</td>
</tr>
<tr>
<td></td>
<td>- Maintain adequate triage</td>
</tr>
<tr>
<td></td>
<td>- Adequate infection control and use of PPE</td>
</tr>
<tr>
<td></td>
<td>- Provide social and psychological support for health care providers, patients, and communities</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Support Agencies</th>
<th>Role and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ministry of Transport</td>
<td>- Provide personnel and equipment for the transportation or relocation of resources which includes supplies and equipment.</td>
</tr>
</tbody>
</table>
| Jordan Department of Human Services | - Provide medical support personnel to assist with health and medical operations.  
|                                | - Assist with locating specialized vehicles for transportation of the disabled.                                                                      |
| Jordan Red Crescent Society | - Assist government or other qualified health providers in recruiting medically qualified volunteers to work under the direction, supervision and authority of other agencies. |
|                                | - Provide technical assistance for emergency drinking water and waste water operations.                                                               |

### Intervention 7: Communications

To provide and exchange relevant information to the public, partners, and stakeholders in order to allow them to make informed decisions and take appropriate protection and safety measures.

<table>
<thead>
<tr>
<th>Primary Agency</th>
<th>Role &amp; Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>MoH</td>
<td>- Build and maintain public trust in public health authorities</td>
</tr>
<tr>
<td></td>
<td>- Transparency</td>
</tr>
<tr>
<td></td>
<td>- Announcing early</td>
</tr>
<tr>
<td></td>
<td>- Develop risk communication capacities</td>
</tr>
</tbody>
</table>

## 4.0 Transition phase

**Objectives: De-escalation of global actions and reduction in response activities and move to recovery**

It is pertinent to mention here that during this post peak period pandemic disease levels in most countries with adequate surveillance will have dropped below peak observed levels. The post-peak period signifies that pandemic activity appears to be decreasing; however, it is uncertain if additional waves will occur and countries will need to be prepared for a second wave. Previous pandemics have been characterized
by waves of activity spread over months. Once the level of disease activity drops, a critical communications task will be to balance this information with the possibility of another wave. Pandemic waves can be separated by months and an immediate “at-ease” signal may be premature.

Recovery is the development, coordination and execution of service- and site restoration plans and the reconstitution of government operations and services through individual, private-sector, nongovernmental and public assistance programs. Recovery involves actions needed to help individuals and communities return to normal when feasible. The ANDMA is the central coordination point among National, provincial, local, and district agencies, and voluntary organizations for delivering recovery assistance programs.
Support Annexes
1.0 Planning and Coordination

Primary Agency: NCSCM  
Support Agencies: MoH

Purpose

The purpose of the Surveillance and Detection Annex is to provide leadership and coordination across sectors

• Phases 1 - Inter pandemic phase
  a. Conduct meetings of the Pandemic Influenza Preparedness Committee. The committee should review identified crucial gaps at Governorate and/or Local levels and infrastructure, and resources that are available. If not corrected in advance, these gaps may interfere with an effective response.
  b. Revise Jordan Pandemic Influenza Preparedness and Response Plan on an annual basis (minimum).
  c. Revise lists, including contact information, of partners, resources and facilities.
  d. Conduct regular updates to inform MoH, key officials, legislators, and various stakeholders on the status of pandemic influenza preparedness.
  e. Conduct conference calls, as indicated, with bordering jurisdictions to coordinate pandemic influenza preparedness activities.
  f. Review, exercise and modify the plan, as needed, on a periodic basis.

Phase 2—Human-to-human transmission confirmed. Start of pandemic
  a. Activate the pandemic influenza outbreak, meet with partners and stakeholders, and review and fully activate plan.
  b. Declaration of a public health emergency as soon as possible (if not already completed).
  c. Convene the Pandemic Influenza Preparedness Committee and meet with partners and stakeholders to review plan.
  d. Activate enhanced surveillance and communications procedures.
  e. Begin vaccine and antiviral distribution.
  f. Notify key government officials and legislators of the need for additional monetary resources (if not already available).
  g. Get declaration of a public health emergency as soon as possible (if not already completed).
  h. Activate enhanced plans for operational priorities.
  i. Arrange for appropriate facilities use.
2.0 Surveillance & Detection and Lab Testing

**Primary Agency:** MOH  
**Support Agencies:** NCSCM, National Committee for Epidemics, Communicable Disease Control MoH, Ministry of Education, Ministry of Information and Technology

**Purpose**
The purpose of the Surveillance and Detection Annex is to outline the procedures that will be utilized by the country to:

- Determine when, where and which influenza viruses are circulating in Jordan
- Determine the intensity and impact of influenza activity on defined health outcomes, and identify unusual or severe outbreaks

**Planning Assumptions and Considerations**
Although the current influenza surveillance system achieves the objectives of monitoring influenza viral strains and identifying outbreaks, interpreting surveillance data poses several challenges. Because most cases of influenza are not identified etiologically (i.e., not confirmed as influenza by a laboratory test) it is impossible to specifically count all influenza cases, hospitalizations and deaths. Laboratory testing of all influenza-like illness (ILI) cases would be prohibitively expensive and time consuming given the large number of such cases that occur each year. Since infections other than influenza can cause ILI, accurate counts of influenza cases cannot be determined based on the frequency of a clinical syndrome. Finally, many persons infected with influenza do not seek medical care and therefore remain unidentified. For these reasons, country influenza activity is measured indirectly by (1) the number of specimens tested that are positive for influenza, (2) health care provider visits for ILI compared to baseline level and (3) outbreaks in congregate settings. These indicators are measured on a regional basis to determine the overall National-wide activity level. Deaths in paediatric cases and ICU admissions also is tracked as part of the surveillance system.

An additional challenge for monitoring the effect of influenza viruses on hospitalization or mortality is that many severe influenza-related illnesses or deaths are due to secondary bacterial infections (most commonly bacterial pneumonia) or worsening of chronic diseases. Because surveillance data have not been able to capture all influenza-related hospitalizations and deaths, and because the pneumonia and influenza category also includes many persons who do not have influenza, estimating the burden of influenza requires conducting specific studies and using mathematical modelling. These studies evaluate differences in health outcomes, death or hospitalization during the influenza season and time periods before and after influenza season for defined diagnostic codes. Excess pneumonia and influenza
mortality or hospitalizations typically have been evaluated but underestimate the impact of influenza by omitting deaths related to worsening of a chronic condition, such as congestive heart failure following an influenza infection. By contrast, analyzing seasonal differences in all causes of mortality would likely overestimate the role of influenza in excess winter mortality. For these reasons, developing a means to count or estimate numbers of influenza-related deaths is challenging and can only be achieved if time and resources allow.

The severity of the influenza outbreak may strike as many as 25 percent to 40 percent of National employees. National agencies must be prepared to implement their respective Continuity of Operations Plans to ensure uninterrupted essential services to the public. During a pandemic, surveillance and epidemiology staff will need to surge from other areas of the MOH Division of Infectious Diseases and, therefore, surveillance activities for other diseases may have to cease or be scaled back.

**Concept of Operations**

Public health surveillance is the on-going systematic collection, analysis, interpretation and dissemination of health data essential to the planning, implementation and evaluation of public health practice. Surveillance supports disease control interventions, estimates the burden of a disease or injury, provides information on the natural history of conditions, determines the distribution and spread of illness, generates hypotheses and stimulates research, and aids in the evaluation of prevention and control measures. Syndrome surveillance is an investigational approach to surveillance typically using electronic databases, which may assist in both early identification of an outbreak, and defining the size and scope of a recognized health event.

**Seasonal Influenza Surveillance**

MoH conducts a seasonal influenza surveillance system using the ILI/SART sentinel surveillance system in Jordan. The system also utilizes sentinel providers throughout the National who report levels of influenza-like illness (ILI) and/or specimens from ILI patients for additional testing at the NPH laboratories. For specimen submission, MOH has been working to achieve receive reports of reportable influenza cases (intensive care unit admissions of influenza cases and paediatric influenza deaths). DEWS is used to identify deaths due to influenza, and outbreak reporting, including influenza outbreaks throughout the National.

**Jordan Governorate Electronic Disease Surveillance System**

The Jordan has a DEWS and ILI/SARI surveillance database where all information regarding 15 infections and influenza are collated and analysed but the two systems are not integrated.
Surveillance System and Laboratory Analysis

- **Phases 1—Inter-pandemic phase**
  Jordan has a strong sentinel site surveillance system for priority infectious diseases distributed along whole of the country. These sentinel sites are operating in public, regional, governorate and district hospitals, private hospitals, comprehensive and basic health centres and polyclinics in the country.

This surveillance system is getting information in two forms namely:
1. Indicator based surveillance system
2. Event based surveillance system

Data on 15 priority diseases is collected on weekly basis with collection of samples that are transported to Central Public Health Laboratory (CPHL) for confirmation.

On the other hand through WHO funding a Governorate influenza surveillance system was established in 2008 with 04 SARI and 03 ILI sentinel surveillance sites which are not part of the already existing DEWS sentinel surveillance sites. At each site there are designated focal points that collect data and samples from suspected influenza patients and send it over to the national Public Health Laboratory in Amman where the sample is analysed and results and case information is fed into a software. This information is then collated and analysed by the Influenza focal point in MoH for further dissemination.

<table>
<thead>
<tr>
<th>No</th>
<th>SARI/ILI Site</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>King Abdullah Hospital</td>
<td>North</td>
</tr>
<tr>
<td>2</td>
<td>Prince Hamza Hospital</td>
<td>Middle</td>
</tr>
<tr>
<td>3</td>
<td>Zarka Hospital</td>
<td>Middle</td>
</tr>
<tr>
<td>4</td>
<td>Karak Hospital</td>
<td>South</td>
</tr>
<tr>
<td>5</td>
<td>Sareeh Health Center</td>
<td>North</td>
</tr>
<tr>
<td>6</td>
<td>Amman Health Center</td>
<td>Middle</td>
</tr>
<tr>
<td>7</td>
<td>Mazar Health Center</td>
<td>South</td>
</tr>
</tbody>
</table>

The present Influenza surveillance system is a well-functioning that is giving a good picture of seasonal influenza trends in the country.

The country will continue the seasonal influenza surveillance system using the SARI/ILI-surveillance system and DEWS Outbreak Reporting System.

MoH Jordan would need to develop and plan for enhancing virologic and disease based surveillance systems in the event of a novel virus or pandemic that should address several issues including:

a. Laboratory surge capacity
b. Laboratory safety issues
c. Increased frequency of reporting
d. Assess means to count or estimate numbers of influenza-related deaths
e. Monitor hospital bed capacity through the regular reporting from all hospitals in the cities
f. Monitor surveillance data and investigate cases with potential exposures to the new strain
g. Increase laboratory surveillance for specimens that are not the current circulating strain(s)

• **Phase 3—Novel influenza virus identified; no human-to-human spread** will continue surveillance activities as described in previous phases.

Jordan will enhance inter-pandemic influenza surveillance activities by:

a. Increasing case detection among persons who recently travelled to the outbreak area and present with clinical illness possibly caused by influenza, including pneumonia, acute respiratory distress syndrome or other severe respiratory illness. Appropriate specimens should be collected to diagnose influenza infection. In some situations, if the novel influenza virus is a highly pathogenic avian strain, such as with the 2004 H5N1 influenza virus in Asia, local hospital laboratories should not attempt viral isolation because of the potential risk the strain could spread. Specimens should be sent to the Governorate public health laboratory or to WHO where isolation and sub typing can be done under more stringent bio containment conditions. Influenza infection can be diagnosed locally using antigen detection, immunofluorescence or PCR. Guidance will be provided by WHO appropriate to each specific novel virus alert.

b. Ensuring inter-pandemic influenza surveillance activities are underway regardless of the time of year and participating laboratories and sentinel providers are reporting data to WHO each week.

c. Subtyping influenza A viruses identified in high-risk clinical specimens and report any influenza A viruses that cannot be subtyped to WHO immediately.

d. Obtaining reagents from WHO (when they become available) to detect and identify the novel strain.

e. Recruiting and enrolling additional sentinel providers, if necessary, to reach the minimum of one regularly reporting provider for every village in the affected province.

f. Monitoring and instituting recommendations from WHO for any additional surveillance activities that should be undertaken given the specific circumstances. Reviewing contingency plans for further enhancing influenza surveillance if efficient person-to-person transmission of the novel virus is confirmed.
Phases 3—human-to-human transmission confirmed
Jordan continues surveillance activities as described in previous phases. If efficient person-to-person transmission of a novel influenza virus is confirmed, the following additional surveillance enhancements will be considered:

a. Assess the need to screen travellers arriving in the country from affected countries.

b. Investigate the epidemiology of all early cases either originating in the Jordan or imported into the country.

c. At hospitals and emergency departments, increase laboratory diagnosis of influenza, including through use of rapid antigen detection tests, for persons with compatible clinical syndromes, particularly among those who may have had recent exposure at the site of an outbreak. Laboratories should institute plans for testing substantially more specimens than usual. WHO will provide guidelines to assist with triage of specimens for testing and for choosing which isolates to send to them.

d. Public health laboratories report test results daily to WHO.

e. Assess the completeness and timeliness of reports from participating laboratories and sentinel providers, and contact non-reporters to improve their performance as necessary.

f. Investigate outbreaks reported through Governorate and increases in ILI detected through the influenza sentinel provider surveillance system.

g. Recruit additional laboratories in private sector or neighbouring country to report results to WHO.

Confirmation of onset of a pandemic
Jordan will maintain the surveillance system as described in previous phases as necessary for assessing and tracking the pandemic.

a. Enhance monitoring for antiviral resistance.

b. Seek help from WHO to conduct studies to monitor vaccine effectiveness.

c. Monitor health impacts, including deaths and hospitalizations. Community impacts could be assessed by measuring absenteeism in key industries or sectors.

d. Assess the quality and effectiveness of surveillance, make recommendations for improvement and implement recommendations during the period between pandemic waves (Phase 3) and after the pandemic (Phase 5).
Laboratory Testing

Purpose

The purpose of the Laboratory Testing is to outline the procedures and capabilities of the MOH National laboratory.

Planning Assumptions and Considerations

It is assumed that the MOH Division of Laboratories will be involved in routine influenza surveillance throughout the development of an influenza pandemic. Laboratory staff is routinely requested to work overtime hours to provide epidemiologic information to characterize the spread of an illness. It’s further understood that the Division of Laboratories may have the capability to test up to 400 specimens per week, but it will require a shift in personnel resources to reach higher level of testing capacity. It’s likely that some other testing areas (e.g., sexually transmitted disease, enteric outbreak, vaccine preventable disease) would need to be discontinued or postponed to reach this goal. Testing this quantity of specimens will need to be carefully considered and the plan to utilize local health departments as gatekeepers should be used to ensure specimens are properly authorized for testing. If this quantity of testing is needed, additional clerical support will be necessary in the laboratory for both data entry and answering phone calls from submitters.

Concept of Operations

MOH laboratory personnel have been trained and are assessed to perform the WHO real time polymerase chain reaction assay to detect the presence of the in influenza virus. As such, MOH continues in its role as the “reference laboratory” for the National’s hospital and private laboratories, testing patient samples. MOH laboratories will be testing Influenza types A and B; type A subtypes H1, H3 avian H5, H7. Current maximum capacity is approximately 400 specimens per week needs to be enhanced during an influenza outbreak, assuming staff is working overtime and other testing areas have been discontinued or delayed. The laboratories are maintaining supplies to rapidly gear up if an outbreak occurs.

The objectives of the MOH Division of Laboratories are (1) to provide maximum useful epidemiological data to assist in guiding the application of control efforts, (2) to detect any significant shift in the virus type, and (3) to assist WHO in the detection of antiviral resistant strains of influenza by forwarding positive influenza samples from Jordan to WHO. Currently, a shift in virus or antiviral resistance must be determined by WHO.

It is important to note that once a pandemic strain has been identified, testing every individual with compatible symptoms may not be necessary. Instead, the MOH may be more useful in the early stages of a pandemic testing a relatively smaller number of specimens to help epidemiologists determine the spread of disease.
3.0 Antiviral and Vaccine Purchase and Distribution

Primary Agency: MOH
Support Agencies: Ministry of Transport, Ministry of Interior, Ministry of Labour

Purpose

The purpose of this Annex is to outline Jordan’s plan to distribute and to dispense antiviral prophylaxis and vaccine during an influenza pandemic. In the annex, considerations for stockpiling of these pharmaceuticals will be established. The primary goals of antiviral and vaccine use and therapy would be to decrease adverse health impact (morbidity and mortality), maintain a functioning health care system, and reduce social and economic disruption, supporting overall pandemic response goals.

Planning Assumptions and Considerations

It is important to note that antiviral agents are an adjunct and not a substitute for vaccine. Vaccine remains the principal means for preventing influenza-related morbidity and mortality. Appropriately used, antiviral agents are assumed (but not proven) to prevent or treat infection in the recipient, but their effect on the spread of an established pandemic remains undefined.

When a pandemic first strikes, vaccine will likely not be ready for distribution. Currently, vaccine requires 6-to-8-months to produce. Once the first lots of vaccine are available, there is likely to be much greater demand than supply. Vaccine will be administered to persons in priority groups, in accordance with existing recommendations Pandemic Influenza Plan. The current prioritization has been developed with the primary goal to decrease health impacts, including severe morbidity and death. During a pandemic, the specific composition of some of the priority groups may differ according to the National and/or community needs to preserve societal functions. In addition, priority groups should be reconsidered when a pandemic occurs and information is obtained regarding the epidemiology of the virus and vaccine effectiveness.

Later in the pandemic, vaccine supply will approximate demand, and vaccination of the full at-risk population can occur.

Although the effectiveness of currently available antivirals against a pandemic influenza strain remains undefined, stockpiling of such drugs is considered prudent. Stockpiling of large quantities of antiviral drugs is most likely best performed at the National level, in order to avoid a scenario where National and local jurisdictions, as well as hospitals, corporations and individuals, are competing for what is currently a scarce resource.
The MOH will stockpile antivirals (oseltamivir and zanamivir) and will be allocating them to Governorate based on population. The current public sector stockpile target is regimens; Jordan’s allocation is as follows:

**Table 2: Estimated projections for Jordan using CDC fluAid software**

<table>
<thead>
<tr>
<th>Risk Group</th>
<th>High Risk</th>
<th>Non-High Risk</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age Groups (yrs)</td>
<td>0-18</td>
<td>19-64</td>
</tr>
<tr>
<td>Set Death Rate/1000 Population</td>
<td>7.65</td>
<td>5.72</td>
</tr>
<tr>
<td>Set Hospitalization Rate/1000 Population</td>
<td>9</td>
<td>5.14</td>
</tr>
<tr>
<td>Set Outpatient Visits/1000 Population</td>
<td>403</td>
<td>149</td>
</tr>
</tbody>
</table>

**Table 3: Percentage of total population of Jordan that will have clinical cases of influenza using CDC FluAid software**

<table>
<thead>
<tr>
<th>Lowest</th>
<th>Middle</th>
<th>Highest</th>
</tr>
</thead>
<tbody>
<tr>
<td>15%</td>
<td>25%</td>
<td>35%</td>
</tr>
</tbody>
</table>

WHO guidance should be sought on optimal stockpiles based on analysis done after the 2009 pandemic and based on these decisions regarding the appropriate quantity of antiviral drugs to maintain in the Jordan Stockpile should be decided.

**Concept of Operations**

**Strategies for Antiviral Drug Use**

The guidance is not a requirement, but is designed to define a strategy for antiviral drug stockpiling and use. The working group recommends the following strategies and settings for antiviral use to meet these goals:

1. Contain or suppress initial pandemic outbreaks overseas and in Governorate with treatment and post-exposure prophylaxis (PEP) among individuals identified as exposed to pandemic influenza and/or geographically targeted prophylaxis in areas where exposure may occur.

2. Reduce introduction of infection into the country early in an influenza pandemic as part of a risk-based policy at across borders.
   
   a. Treatment of persons with pandemic illness who present for care early in their illness and would benefit for such treatment.
b. Prophylaxis of high-risk health care workers and emergency services personnel (e.g., fire, police, employees providing critical services at utilities, such as waste water and drinking water, power, gas), for the duration of community pandemic outbreaks.

c. Post-exposure prophylaxis of workers in the health care and emergency services sectors who are not at high risk, persons with compromised immune systems who are less likely to be protected by vaccination, and persons living in group settings, such as nursing homes and prisons, if a pandemic outbreak occurs at that facility.

The following listing outlines the prioritization with the primary goal of the response to decrease severe morbidity and death. Minimizing social or economic impacts were considered secondary and tertiary goals.

**Antiviral Drug Priority Recommendations**

<table>
<thead>
<tr>
<th>Tier</th>
<th>Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Patients admitted to the hospital (T)*</td>
</tr>
<tr>
<td>2</td>
<td>Health care workers (HCW) with direct patient contact and emergency medical services (EMS) providers (T)</td>
</tr>
<tr>
<td>3</td>
<td>Highest risk outpatients - immunocompromised persons and pregnant women (T)</td>
</tr>
<tr>
<td>4</td>
<td>Pandemic health responders (public health, vaccinators, vaccine and antiviral manufacturers), public safety (police, fire, corrections, waste water and drinking water utilities, power and gas utilities), and government decision-makers (T)</td>
</tr>
<tr>
<td>5</td>
<td>Increased risk outpatients - young children 12-23 months old, persons $\geq$ 65 yrs old, and persons with underlying medical conditions (T)</td>
</tr>
<tr>
<td>6</td>
<td>Outbreak response in nursing homes and other residential settings (PEP)</td>
</tr>
<tr>
<td>7</td>
<td>HCWs in emergency departments, intensive care units, dialysis centres, and EMS providers (P)</td>
</tr>
<tr>
<td>8</td>
<td>Pandemic societal responders (e.g., nonessential critical infrastructure groups as defined in the vaccine priorities) and HCW without direct patient contact (T)</td>
</tr>
<tr>
<td>9</td>
<td>Other outpatients (T)</td>
</tr>
<tr>
<td>10</td>
<td>Highest risk outpatients (P)</td>
</tr>
<tr>
<td>11</td>
<td>Other HCWs with direct patient contact (P)</td>
</tr>
</tbody>
</table>

*T=Treatment; PEP=Post-exposure prophylaxis; P=Prophylaxis

Governorate plan needs to define issues such as; guidance for health care workers on when and when not to treat, use of antivirals in infants (risk/benefit), specific definitions and estimated population size of each group, and ability to stratify the populations.
**Pandemic Vaccine Supply**
Influenza vaccine availability will change during the course of a pandemic. Pandemic response strategies will vary with vaccine supply. Four vaccine supply levels can be defined.

**Stage 1: No Vaccine Available**
At the beginning of a pandemic, it is likely that no vaccine will be available. Interventions to decrease the burden of influenza illness will be limited to measures taken to decrease the spread of infection (such as quarantine, closing schools, cancelling public events, infection control in hospitals and long-term care facilities); to prevent infection by using antiviral chemoprophylaxis; and to effectively treat those who become ill. The duration of this period will depend on several factors: a. Time of year when the pandemic strain is identified. b. Time required for vaccine development and licensure.

**Stage 2: Limited Vaccine Supply**
When first available, the pandemic influenza vaccine supply will be less than that required to protect the susceptible population. The duration of this shortage stage cannot be predicted but could include the entire first pandemic season. Several planning issues are of particular importance for this phase of vaccine shortage:

a. Vaccinate persons in identified priority groups, in accordance with existing recommendations.
b. Plan for rapid, efficient, and equitable distribution of vaccine will need to be formulated. Provide a second dose of vaccine, if required for immunity.
c. Develop approach to inform priority groups about the availability of vaccine and where to receive it; and to educate the public regarding vaccine priorities and their rationale will be needed.
d. Develop systems to monitor vaccine supply, distribution and use.
e. Develop systems to monitor and investigate adverse events.

**Stage 3: Adequate Vaccine Supply**
During this period, pandemic vaccine supply will match the need and ability to distribute and administer vaccine. This will allow a shift from targeted vaccination of priority groups to widespread vaccination, possibly of the entire population. Strategies for widespread vaccination could include public sector vaccination clinics and/or administration of vaccine by private sector providers. Despite increased vaccine supply, efforts to ensure fair, equitable and orderly distribution remain important goals.

Plans for widespread vaccination during a pandemic should identify potential barriers to vaccination of racial and ethnic minority populations and develop strategies to overcome them. These may include holding vaccination clinics in disadvantaged areas, vaccinating at community sites such as mosques, involvement of local opinion leaders to promote vaccination, and development of focused educational messages and materials.
Stage 4: Vaccine Excess
In this stage, vaccine supply will exceed that needed to protect the population, which may occur if pandemic influenza vaccine production levels remain high after much of the population already has been vaccinated. This stage is unlikely to occur before the second or third wave of pandemic disease.

Pandemic Vaccine Priorities
Identifying priority groups for vaccination is important because vaccine supply, when initially available, will be less than demand. The following listing summarizes the priority populations. Jordan recognizes that National and local needs may require some modification to the existing recommendations upon assessment of the epidemiology of the virus and its impact on communities. In addition, priority groups will have to be specifically defined as to which functions are indeed critical to infrastructure and defined by their size within the National.

Goal 1: Protect persons at highest risk for influenza mortality
Direct protection of high-risk persons is the strategy on which annual influenza vaccination is based. Historically, older adults and those who have underlying diseases have been at highest risk of death for seasonal influenza. However, the 2009A (H1N1) pandemic virus affected a younger population. Recommendations for administration of 2009A(H1N1) pandemic vaccine were based on several factors, including current disease patterns, populations most at-risk for severe illness based on the trends seen in illness, hospitalizations and deaths, how much vaccine was expected to be available, and the timing of vaccine availability. The groups recommended to receive the novel 2009A (H1N1) pandemic influenza vaccine included

- **Pregnant women** because they were at higher risk of complications and could potentially provide protection to infants who cannot be vaccinated.
- **Household contacts and caregivers for children younger than 6 months of age** because younger infants are at higher risk of influenza-related complications and cannot be vaccinated. Vaccination of those in close contact with infants less than 6 months old might help protect infants by “cocooning” them from the virus.
- **Health care and emergency medical services personnel** because infections among health care workers have been reported and this can be a potential source of infection for vulnerable patients. Also, increased absenteeism in this population could reduce health care system capacity.
- **Children from 6 months through 18 years of age** because many cases of novel 2009A(H1N1) pandemic influenza have occurred in children and they are in close contact with each other in school and day care settings, which increases the likelihood of disease spread.
- **Young adults 19 through 24 years of age** because many cases of novel 2009A(H1N1_pdm influenza have occurred in these healthy young adults and they often live, work and study in close proximity, and they are a frequently mobile population.
- **Persons aged 25 through 64 years who have conditions associated with higher risk of medical complications from influenza.**
In addition recommendations for seasonal influenza vaccination are also important. The following summarizes recommendations for vaccination against influenza:

- All persons older than 6 months of age should be vaccinated annually.
- Protection of persons at higher risk for influenza-related complications should continue to be a focus of vaccination efforts.

In addition, promotion and support of pneumococcal polysaccharide vaccination among high-risk populations should be considered during the inter-pandemic period. Increased use of pneumococcal polysaccharide vaccine may decrease rates of secondary bacterial infections during a pandemic.

Goal 2: Decrease transmission of infection to those at highest risk for influenza mortality (provide indirect protection)
Indirect protection is achieved by decreasing the spread of infection to those at high risk. Family members of older adults and persons with chronic illnesses are recommended for annual influenza vaccination in order to decrease disease in their high-risk contacts. Collaboration within the community with schools, day cares and higher education institutions is critical to decrease transmission. The decision to dismiss students should be made locally and should balance the goal of reducing the number of people who become seriously ill or die from influenza with the goal of minimizing social disruption and safety risks to children sometimes associated with school dismissal.

Goal 3: Maintain the ability to provide quality health care, implement pandemic response activities and maintain vital community services
Protecting the health care workforce is essential to providing the quality of care that will decrease morbidity and mortality. This is particularly important at times of vaccine shortage when good clinical care will be the most important intervention to reduce influenza health impacts.

Goal 4: Maintain other important community services
Achieving the pandemic influenza preparedness and response plan goals of decreasing social and economic impacts requires maintenance of important community services, such as utilities and transportation. Such decisions can best be made at National and local levels.

In order to maintain effective community services, the following prioritization schedule will be followed within Jordan, upon completed vaccine administration to those groups previously identified:

- Agencies involved in the Strategic Governorate Stockpile Plan
- Agencies involved in this Pandemic Influenza Response Plan
- Agencies and sectors that fall within identified critical infrastructure/key resources central to maintaining continuity of operations
Distribution of Vaccines

Tier 1 Centralized Distribution
Jordan will utilize a centralized distribution method for centralized distribution of vaccine through MOH.

Vaccine Delivery and Targeted High-Risk Population
• Phases 1 — Inter pandemic phase
  a. Enhance influenza vaccination coverage levels in traditional high-risk groups, particularly subgroups in which coverage levels are low (e.g., minorities and persons younger than 65 years of age with chronic underlying medical conditions). Increasing routine, annual vaccination coverage levels in these groups will further reduce the annual toll of influenza and will facilitate access to these populations when the pandemic occurs.
  b. Use WHO guidelines on Immunization Practices recommendations to enhance pneumococcal vaccination coverage levels in traditional high-risk groups to reduce the incidence and severity of secondary bacterial pneumonia.
  c. Define the process by which review and modification of the Governorate recommendations for vaccine priority groups will occur.
  d. Consider National-specific modifications or refinements in priority groups, depending on local circumstances. For example, there may be specific groups of persons in selected Governorate whose absence, due to influenza illness, could affect public safety, security or result in the disruption of essential community services. Examples of such unique, special-skill groups might include nuclear power plant operators, air traffic controllers at major airports, workers who operate drinking water and waste water plants and workers who operate major telecommunications or electrical grids.
  e. Determine size of priority groups and develop a plan for vaccinating them.
  f. Develop a plan for providing influenza vaccine to priority groups in the event of severe or moderately severe vaccine shortages. Consider the potential need to prioritize within priority groups. Frontline health care workers will need to be defined.
  g. Develop a plan for mass vaccination of the general public once sufficient amounts of vaccine are available, including identification of vaccine administration personnel. Elicit written commitments from agencies and institutions that plan to provide vaccinators. Security issues should be taken into consideration.
  h. Ensure that appropriate legal authorities are in place that will allow for implementation of major elements of the proposed administration plan. Induct family physicians or private health care providers and authorize to administer the vaccines to priority groups in their areas.
i. Coordinate the proposed vaccine distribution plan, as recommended by WHO, with bordering jurisdictions, including Governorate, districts and unique populations.

j. Engage existing health force in planning for the monitoring and investigation of adverse events.

k. Identify a data management system to track vaccine supply, distribution, and use and to track administration of two doses of vaccine (if recommended). Key pieces of information to collect to facilitate reminder notification for second doses include name, date of birth, address and telephone number.

l. Review, exercise and modify vaccine distribution plans as needed on a periodic basis. This is applicable if the National performs its own centralized distribution.

• Novel influenza virus identified; no human-to-human spread
  a. Meet with appropriate partners and stakeholders and review major elements of the vaccine distribution plan.
  b. Modify the plan, as needed, to account for updates, if any, on recommended target groups, projected vaccine supply and human resources available.

• Phases 3—Human-to-human transmission confirmed
  a. Ensure human resources and logistics are in place to begin vaccination, taking into account need for additional staff due to illness.
  b. Coordinate planned activities with bordering jurisdictions.
  c. Conduct training for relevant agencies and partner groups regarding vaccine delivery protocols and procedures.

• —Confirmation of onset of a pandemic
  a. Fully activate the vaccination program, including distribution, administration, monitoring of vaccine distribution and administration; and tracking of dose, appropriate storage and handling and safety monitoring.
  b. Coordinate activities with bordering jurisdictions.

Antiviral Prophylaxis Distribution

• Phases 1—Inter-pandemic phase
  a. Define process through which Governorate recommendations for priority groups will be reviewed.
  b. Quantify high priority populations for prophylaxis, and develop antiviral distribution contingency plans for the different possible scenarios.
c. Quantify high priority populations for therapy, and develop antiviral
distribution contingency plans for the different possible scenarios.

d. Plan for education and notification of the medical community and of the
public around appropriate prescribing information.

e. Coordinate with bordering jurisdictions.

f. Review workman’s compensation laws as they apply to health care
workers and other essential workers who have taken antivirals for
prophylaxis.

g. Develop data management system to track antiviral supplies, distribution
and use.

• Novel influenza virus identified; no human-to-human spread
  a. Meet with appropriate partners and stakeholders and review major
elements of the antivirals plan.
  b. Modify plan as needed to account for updates, if any, on recommended
target groups and projected antiviral supply.
  c. Notify the medical community of the status of the plan and antiviral
availability.
  d. Disseminate antiviral use guidelines to the medical community and
conduct training for public health staff involved in antiviral distribution
protocols and procedures.

• Phases 3—human-to-human transmission confirmed
  a. Ensure human resources and logistics are in place to begin antiviral
distribution and administration, taking into account the need for added
staff due to illness.
  b. Coordinate with bordering jurisdictions.

• Confirmation of onset of a pandemic
  a. Fully activate antiviral distribution plan.
  b. Continue coordination with bordering jurisdictions.
  c. Implement data management system for antiviral distribution, use and
supply (if applicable).
4.0 Restriction of Movement or Activities to Control Disease Spread

Primary Agency: NCSCM
Support Agencies: Governor’s Office, Ministry of law, Ministry of Interior, Transport and IT

Purpose
This annex outlines the National’s authorities and capabilities to impose restrictions on the movements or activities of persons for the purpose of preventing or controlling the spread of a dangerous infectious disease.

Scope
The restriction of movement and/or activities involves the ability of National and local jurisdictions to be prepared legally, procedurally and materially to contain and monitor: exposed individuals or those suspected of being exposed (term: quarantine); infected individuals (term: isolation); defined groups or locations, such as individual schools, workplaces, malls and public transit systems, as determined on a case by case basis (term: focused measures to increase social distance); and entire communities, ranging from voluntary widespread cancellation of most activities (term: snow days), eliminating large gatherings of people, such as sporting events, shutting down other places where people congregate, such as schools and places of employment, or enforced restriction of movement into and out of defined areas.

Key Terms

Isolation: Isolation is the separation of a person or a group of persons infected or believed to be infected with a contagious disease to prevent the spread of infection. Ill persons are usually isolated in a hospital, but they also may be isolated at home or in a designated community-based facility, depending on their medical needs.

Quarantine: Quarantine is the separation and restriction of movement or activities of persons who are not ill, but who are believed to have been exposed to infection, for the purpose of preventing transmission of diseases. Modes of application include:

• Persons are usually quarantined in their homes, but they also may be quarantined in community-based facilities.

• Quarantine can be applied to an individual or to a group of persons who are exposed at a large public gathering or to persons believed exposed on a conveyance during inter-Governorate travel.

• Quarantine also can be applied on a wider population or geographic-level basis (e.g., snow days) with the voluntary or enforced prohibition of movements or activities. This measure is usually not technically considered quarantine because it is not directly linked to a known or highly suspect exposure (at best, the basis might be some degree of likelihood of exposure due to circumstantial or indirect evidence, such as high disease prevalence in a particular town or neighbourhood).
Quarantine (a period of isolation to prevent disease spread) is not effective in controlling multiple influenza outbreaks in large, immunologically naïve populations, because the disease spreads too rapidly to identify and to control chains of transmission. Even if quarantine were somewhat effective in controlling influenza in large populations, it would not be feasible to implement and enforce with available resources, and would damage the economy by reducing the workforce. Most people will voluntarily quarantine themselves in their home.

Quarantine may be of limited use in slowing the spread of disease during the earliest stages of influenza outbreaks, only if special circumstances apply. For example, where a case of influenza-like illness to be identified in an isolated group, such as the passengers and crew of an airplane, public health officials could prevent or slow the spread of disease to other groups by:
- Quaratining all passengers and crew members for several days
- Transferring all who become ill to isolation wards for treatment
- Treating all influenza-like illness in the wider community with suspicion

Planning Assumptions and Considerations Part 1: Preparedness

Legal preparedness for movement restriction measures includes:
   a. Adequate statutory authority for all movement restrictions and monitoring measures.

Procedural preparedness for movement restriction measures includes:
   a. Protocols for imposing, maintaining (including enforcing when applicable), monitoring and terminating each type of movement control provided for by law.
   b. Protocols for coordinating National government-imposed movement restriction measures with those either currently in force or being contemplated by local subdivisions.
   c. Procedures for providing medical care, food needs and other essential services for those affected by National-government imposed movement restriction measures; supporting local governments efforts to provide these things.
   d. Pre-scripted messages explaining the criteria, purpose, justification, methods, and expected duration of movement restriction measures countenanced in response plans.

Material preparedness for movement restriction measures includes:
   a. Isolation and quarantine facilities may range from identification of owned/leased facilities to written agreements for the use of others’ facilities to specifications for what types of facilities would be most appropriate.
   b. Food and other basic necessities (National or local government may not necessarily directly supply these things, but whichever entity is imposing the restriction has a responsibility to ensure necessities are provided, and they are safe, are available in sufficient quantities and are timely.
c. Quantities of medical supplies adequate to support those in home or facility isolation or quarantine, including antibiotics, masks and other medical consumables, antivirals, thermometers and other symptom monitoring supplies/equipment.

d. Personal protective and communication equipment for workers placed at risk because their job duties require them to impose, maintain/enforce, monitor and/or terminate movement restriction measures.

Planning Assumptions and Considerations Part 2: Response

Decisions to invoke quarantine should be made only after careful consideration of three major questions examined within the specific context of a particular outbreak:

- Do public health and medical analyses warrant the imposition of large-scale quarantine?
- Are the implementation and maintenance of large-scale quarantine feasible?
- Do the potential benefits of large-scale quarantine outweigh the possible adverse consequences?

Each of these considerations is examined in more depth below.

- Decision makers must consider whether implementing movement and/or activity restrictions at the time of discovery of disease outbreak has a reasonable scientific chance of substantially diminishing the spread of disease.

Questions officials should answer when evaluating movement and activity restriction options include:

a. What is the cause? (infectious agent)

b. How communicable is it? (transmissibility)

c. How is it transmitted? (mode of transmission)

d. When and for how long is it transmitted? (infectious period)

e. How long is its incubation period?

f. Who is susceptible?

g. Who is especially at risk of severe illness?

Concept of Operations

The movement and activity restriction options available to decision makers leading the response to an influenza pandemic depend upon: 1) the legal authority to take certain actions; and 2) the capabilities to support the taking of those actions.

- Impose isolation, quarantine, and closure

NCCM is authorized to order a person to be quarantined or isolated or a place to be closed and made off limits to the public to prevent the probable spread of a
dangerously contagious or infectious disease until such time as the condition may be corrected or the danger to the public health eliminated or reduced in such a manner that no substantial danger to the public’s health any longer exists.

- **Use other means to restrict movement or activities**
  Upon the declaration of a the governor may, among other things: recommend the evacuation of all or part of the population from any stricken or threatened area within the National if the governor deems this action necessary
5.0 Emergency and Risk Communication

**Primary Agency:** Ministry of Information and Technology

**Support Agencies:** NCCM and National Committee for Epidemics

**Purpose**

Effective emergency and risk communications is essential to supporting the public health response and to help build public trust, confidence and cooperation. This is accomplished by providing timely, accurate, consistent and appropriate information to the general public, news media, health care providers and other key partners during a pandemic influenza outbreak. Jordan has an influenza communications strategy in place.

**Strategic Objectives**

- To use innovative communication approaches in order to increase knowledge and create awareness.
- To identify key behaviours related to pandemic and infectious diseases and improve behaviours through evidence based Behaviour Change Communication.
- To build capacities of health care providers for addressing Pandemic and Infectious disease throughout.
- To build skills and individual responsibility and action of individuals and mobilise communities for dealing with the Pandemic and infectious diseases.
- To promote and advocate the importance of pandemic and infectious diseases of public health concern by the Political leadership and MoH leadership at Governorate, regional and district levels to strengthen effective communication for pre, during and post phases of the pandemic or dependant on scales of severity of the pandemic throughout the strategy period.

**Planning Assumptions and Considerations**

- An influenza pandemic will generate intense and sustained demand for information from the public, health care providers, policy makers and the news media.
- Informing health care providers and the public about influenza disease and the course of the pandemic, the ability to treat mild illness at home and the availability of vaccine will be important to ensure appropriate use of medical resources and avoid possible panic or overwhelming of vaccine delivery sites.
- Effective communication with community leaders and the news media also is important to maintain public awareness, avoid social disruption and provide information on evolving pandemic response activities. National spokespersons need to acknowledge the anxiety, distress and grief people will experience during a major public health crisis, such as a pandemic.
• Communication efforts will be directed to rapid sharing of appropriate, up-to-date information on the progression of the outbreak, the possible disruptions to routines and events, and contingency measures.

• The public must be provided as much information as possible to help them understand uncertainty is part of the process and answers may change as new information and science becomes available.

• Emergency communication is approved by the Health Minister or his designee.

• All government and non-government resources will utilize a single source of information on the National’s position regarding the emergency.

• MOH and EOC will provide regular updates regarding the pandemic.

• Coordination of release of information among National, National and local health officials is critical to help avoid confusion that can undermine public trust, raise fear and anxiety, and impede response measures. The National will utilize a Joint Information Centre that will communicate directly to EOC Operation Centre.

**Concept of Operations**

**Preparedness**

The National will provide needed health/risk information to the public and key partners for use during a pandemic influenza event to provide the basis for a well-coordinated and consistent communication strategy. This objective will be achieved by conducting the following activities:

a. Complete a plan for crisis and emergency risk communication (CERC) and information dissemination to educate the news media, public, partners and stakeholders regarding risks associated with the real or apparent threat and an effective response.

b. Conduct trainings, drills, exercises and other collaborative preparations to assess communications capacity, needs and readiness. Ensure channels of communication are in place to rapidly share appropriate information with the public, partners and stakeholders.

c. Complete a plan for activities to meet the specific needs of functional needs populations that include, but are not limited to, people with disabilities, people with serious mental illness, minority groups, the non-Arabic speaking such as migrant workers, visitors, homeless people, children and the elderly.

a. Develop clear, accessible and understandable communication resources on pandemic influenza, using existing WHO materials as a starting point

b. Provide public education campaigns and materials about pandemic flu and ways people can protect themselves, their families and others, including information on self-care and psychological well-being.
c. Develop emergency alert system messages and basic news media materials to serve as background documents prior to a pandemic influenza outbreak.

d. Identify and train National government spokespersons on public health crisis response and risk communication principles to effectively communicate helpful, informative messages in a timely manner during a pandemic influenza outbreak.

e. Implement and maintain a general informational hotline

Response

Flow of Public Information
The Office of the MOH and EoC maintains a staff experienced in news dissemination and media relations, and works in collaboration with Office of Information and Communications. The office will receive information from many National agencies regarding their response activities.

Media briefings will be conducted regularly at the Joint Information Centre (JIC) to provide updates and to offer reporters opportunities to ask questions. The EOC may choose to hold media briefings in other locations. In addition, accompanying the spokesman subject-matter experts (e.g., the National public health director, the infectious diseases physician or epidemiologist) will be made available to the media.

The communications staff will oversee the issuance of news releases Coordination of the release of information by the National health care providers, contiguous Governorate, volunteer agencies providing disaster relief, the National government, and affected local governments will be critical to building public trust and confidence.

Rumour Control
When widespread rumours, inaccuracies or misperceptions are identified, the JIC will be consulted so correct information can be promptly communicated to the public through the media. These miscommunications may be identified in media broadcasts, in print media or through public inquiries.

The hotline staff will be prepared to answer questions from the public dealing with basic facts regarding health and medical considerations during a pandemic influenza event. The hotline staff also will be able to provide numbers or connections to other telephone lines that have been established. Questions that cannot be answered by hotline staff will be recorded and provided to appropriate organizations or subject matter experts. Special public information needs may be identified through the hotline calls.

The National Ministry of Information will utilize National websites to provide updates on the pandemic outbreak, frequently asked questions, disease control and other measure to be taken by the public. Communication between National and local response agencies will be conducted through appropriate and available secure data communication exchange systems.
Emergency and Risk Communications

• Phases 1—Inter-pandemic phase
  a. Identify and train spokesperson (and backup) to the media and to the public.
  b. Develop materials and messages, including a review of WHO materials; adapt and revise as needed.
  c. Identify most effective communication channels for reaching different communities.
  d. EOC will ensure telephone hotlines and a website have been established to respond to pandemic inquiries (for instance, regarding the location of immunization clinics), and assure that systems are in place to deal with anticipated surge capacity; EOC will establish website content as needed/requested and assist with planning responses to anticipated questions.
  e. National and local public health officials and all response partners will coordinate content of media messages.
  f. Regularly update public health officials, political leaders, community leaders and the media about what information will and will not be available during a pandemic; disseminate information to public and partners on on-going basis.
  g. Coordinate with bordering jurisdictions.

• Phases 3,— Novel influenza virus identified; human-to-human transmission may or may not be confirmed,
  a. Review major elements of the plan with partners and stakeholders.
  b. Disseminate information to the public, partners and the news media on an on-going basis.
  c. Monitor media coverage and address misinformation.
  d. Coordinate with bordering jurisdictions.

• Confirmation of onset of a pandemic
  a. Review and modify messages and materials, as needed.
  b. Continue to monitor media coverage and address misinformation.
  c. Continue to disseminate credible information as it becomes available to the public and partners.
  d. Coordinate with bordering jurisdictions.

Emergency Response Plans and Procedures and coordination mechanisms

• Phases 1—Inter-pandemic phase
  a. Identify emergency response issues specific to pandemic influenza.
b. Ensure specific challenges posed to emergency response plans by an influenza pandemic are addressed in emergency response plans.

c. Review pertinent legal authorities, including quarantine laws and how they apply in a public health emergency, laws and procedures for closing businesses or schools and suspending public meetings, and medical volunteer licensure, and whether a disaster declaration is warranted.

- Phases 2-3, Novel influenza virus identified; human-to-human transmission may or may not be confirmed, but in any case is not widespread
  Meet with appropriate partners to review major elements of the health sector and essential non-health-sector response plan.

- Confirmation of onset of a pandemic
  Implement generic elements of response plans and the specific plans for identified pandemic influenza issues, including continuous collection of data concerning medical and material supplies and their allocation to rapidly identify changing patterns of need and modify or redirect policy.
6.0 Fatality Management

**Primary Agency:** Ministry of Transport  
**Support Agency:** Ministry of Interior

*Purpose*

This annex presents recommended planning guidelines for response to mass fatalities incidents. A mass fatalities incident is any situation in which there are more fatalities than can be handled in a timely and professional fashion using regularly available local resources to address a single incident or multiple incidents. This section outlines the procedures National will implement to address the collection, handling, storage, and the disposal of mass fatalities.

*Planning Assumptions and Considerations*

- The 1918 Spanish flu pandemic killed approximately 40 million people.
- The establishment of a unified command structure during the initial stages of the incident will coordinate all responding organizations and promote a more expedient and efficient conclusion to the incident.
- The success or failure to provide adequate response to a mass fatality incident is dependent upon recognition of the needs and effective incident command. The sheer magnitude of a major incident necessitates establishment of effective command systems, including delegating authority for management functions at the site(s).
- Planning and response may require the participation and cooperation of local agencies, such as, but not limited to:
  1. Medical examiners
  2. Imams
  3. Municipal officials
  4. Emergency management agencies
  5. Fire departments
  6. Emergency medical services
  7. Rescue services
  8. Hospitals
  9. Municipal and National law enforcement agencies
  10. Ancillary volunteer agencies (e.g., Madrassas and religious organisations)

- As the outbreak escalates to the pandemic level, local officials will call upon the National agencies to provide resources and assistance.
- At such time that the number of fatalities exceeds the capabilities and capacity of National agency response.
Concept of Operations

Preparedness
A mass fatalities incident involves many tasks and normally will become very complex. No single response agency can handle the breadth and depth of tasks to be accomplished. The need for planning teamwork and an appreciation of the roles of other agencies is crucial to effective working relationships, both during the planning before the incident occurs and during the incident itself. The establishment of a unified command structure during the initial stages of the incident will coordinate all responding organizations and promote a more expedient and efficient conclusion to the incident.

Each response organization should have its own specific standard operating procedures or guidelines for dealing with a mass fatalities incident. An essential part of the county disaster plan should be a resource listing. The list will contain all the resources that may be needed for a mass casualty event, location of the resource, method of delivery to the scene, a point of contact and a 24-hour phone number, if available. This list should be reviewed on an annual basis to assure accuracy and currency.

To keep mass fatality plans practical and efficient, drills and exercises should be conducted routinely. Individual response units should conduct operational drills within their response area, while functional and full-scale exercises should be conducted to assure plans, agencies and individuals are briefed, exercised and reviewed in a timely manner. Changes to the plans are based on drill and exercise comments. All hazard scenarios can include these elements.

Temporary Morgues
In a pandemic influenza outbreak, once local capabilities are exceeded, the National will assist local government in securing resources and assist with the establishment of temporary morgues.

A temporary morgue should be established after determining that the expected number of cases will exceed the capacity of normal operations.

The temporary morgue should be located close to the area where large numbers of deceased are located and should have:

a. Showers
b. Hot and cold water
c. Heat or air conditioning (depending on climate)
d. Electricity - adequate outlets for computers, faxes, printers
e. Floor drainage
f. Ventilation
The morgue site should be guarded during use and fenced in or locked for security of remains and personal property. It should be removed from public view, not be a school or other sites of local potential for long-term sensitivity and have sufficient space for body identification procedures. It also should be capable of being partitioned for separation of functions, such as body handling, property inspection, X-ray, autopsy, records maintenance and interviewing. Access to multiple telephones is a vital consideration for permitting temporary morgue personnel to acquire victim information.

Potential temporary morgue sites can be in existing mortuaries, hangers, large garages. After a morgue site is established, coordinators should obtain refrigerated trailers, as necessary. If refrigerated trailers are not available, arrange for railroad refrigeration cars, vans or other cold storage to aid in the preservation of bodies. The functions carried out at each morgue site will be determined by the circumstance.

Consideration should be given to assigning a person to each body or body part. This person will become the tracker for that body, accompanying the body through the identification process and being accountable for appropriate paperwork. This technique has been successfully used in several recent mass fatality incidents. However, exceptional care should be exercised in selecting those to perform this task. Relatively few people have been exposed to dramatically mutilated bodies (e.g., at an airplane crash) and many will be unable to handle the psychological aspect of the problem. Funeral directors who have expertise in handling family members or others who would not be overly stressed by this task should be considered. No one person should have a prolonged assignment at this task.

Documentation
Documentation refers to maintaining timely and accurate records concerning personnel involved and expenditures of time and money.

Record all incoming personnel, equipment and time of arrival. Issue identification and a task description to people reporting to the staging area(s). As noted, preparing a method of identification before an incident will save time and help reduce confusion at the scene. Document all expenditures, ordered goods, services or equipment, to include the requestor, arrival and departure times.

Dignity of the Deceased
While every effort to assist survivors should be attempted, the dignity of the deceased should be respected. All responding personnel should be informed on the proper procedures for marking the location of and removing the deceased, a legal responsibility of the coroner or medical examiner. After removal from the site, the deceased should be moved to the morgue, or to an intermediate area isolated from
the public and media and guarded by law enforcement. The deceased must be treated with respect and dignity in all thoughts and actions. A bioethics committee will be consulted before any decisions are made on the mass burial or disposal of victims.

**Safety Precautions**

The assumption behind the universal precautions for infectious disease control is that every direct contact with body fluids is infectious. Therefore, every person exposed to direct contact must take the precautions prescribed by the above standard. At a mass fatalities incident, this includes volunteers involved in search and recovery, transportation, body identification and disposition.

In addition, monitoring should be conducted throughout the incident site for flammable or toxic vapours and radiation exposure.

**Recovery**

The physical removal of the dead is part of the total recovery process. An evacuation area or morgue must be set up and staffed to receive the remains. The medical examiner is in charge of the recovery of both the bodies and their possessions, and could be assisted by some or all of the following agencies and organizations:

1. medical examiner
2. Fire departments
3. Police departments
4. Funeral directors
5. Local health departments
6. Forensic experts
7. Police investigators
8. Military agencies (including Armed Forces Institute of Pathology)
9. Public works agencies
7.0  Training and Exercise Schedule and Plan

Primary Agency:  NCSCM office
Support Agencies:  EOC and Governorate

Purpose

To develop a strategy for preparing National and local workforce, through training and exercises, to deal with a pandemic. Test the operational efficiency of the training through exercises and drills to assure staff are aware of their role in the event of a pandemic.

Planning Assumptions and Considerations

• Local health departments are funded to prepare and respond to all hazardous events including a pandemic in local communities. This is part of the Governorate disaster plan
• All public information is coordinated by the Office of the EOC communications staff.
• Staff needs to be trained and exercises conducted in advance so staff are aware of their roles during an influenza pandemic.

Concept of Operations

An exercise is a focused practice activity that places participants in a situation simulating an emergency, disaster or other event that is catastrophic in nature, and requires them to function in the capacity that would be expected of them should such an event actually occur. As part of a comprehensive program, exercises are generally most effective when they build upon one another in a manner that helps participants identify and ultimately meet specific operational goals. The overarching aim is to develop and to maintain competence in all pertinent emergency functions.

Orientation Seminar

The intent of an orientation seminar is to give participants an overview or introduction to an identified risk, along with the current or proposed approach to addressing that risk. Its scope is limited to familiarizing participants with roles, plans, procedures or equipment, although it sometimes is used to resolve some of the more elementary questions about communication, coordination and assignment of responsibilities. The format is typically a facilitated, informal discussion in a group setting.

Drill

A drill is a coordinated, supervised exercise activity, normally used to test a single specific operation or function. With a drill, there is no attempt to coordinate organizations or fully activate an emergency response plan and operating structure.
Its role in a comprehensive exercise program is to practice and to perfect one small part of the response plan and to help prepare for more extensive exercises designed to coordinate and to test several functions and involve a wider spectrum of participants. Drills also are used to provide training with new equipment, to develop new policies or procedures, or to practice and to maintain current skills. The utility of a drill is its focus on a single, relatively limited portion of the overall emergency management system, thereby permitting a targeted, highly intensive look at a potential problem area.

**Table Top Exercise**
A table top exercise is a facilitated analysis of an emergency situation in an informal, stress-free environment. It is designed to elicit constructive discussion as participants examine and resolve problems based on existing operational plans and identify where those plans need to be refined. The success of the exercise is largely determined by group participation in the identification of problem areas. There is minimal attempt at simulation in a table top exercise. Equipment is not used, resources are only deployed on paper, and time pressures are not introduced.

**Functional Exercise**
A functional exercise is an interactive, fully-simulated test of an organization’s ability to affect a coordinated response to a stressful situation under time-pressured and more-or-less realistic circumstances. This type of exercise gets its name from the fact it tests one or more functions of an organization’s operations plan. The range of suitable objectives for this type of undertaking is broad, and encompasses the coordination, integration and interaction of an organization’s policies, procedures, roles and responsibilities before, during or after an event.

The intended audience for a functional exercise consists of policy, coordination and operations personnel who will practice responding in a realistic way to carefully planned and sequenced messages given to them by “simulators.” Because these messages should reflect on-going events and problems that might occur in a real emergency, they must be scripted in a manner likely to cause participants to make decisions and then act on them. This complexity makes the functional exercise more difficult and time-consuming to design than drills and table top exercises. Participants will be required to make on-the-spot decisions and then act on them. These actions can generate a variety of actual consequences, such as responses from other players and resource shortages. These secondary consequences can, in turn, further stimulate activity within the realm of the exercise environment.

Functional exercises make it possible to test several functions and to include several agencies or departments within an agency without incurring the cost of a full-scale exercise (described below). Thus, in almost all cases, a functional exercise is a prerequisite to a full-scale exercise. In some instances, taking part in a functional exercise also may serve as a full-scale exercise for a participating organization (e.g., a hospital may conduct its own full-scale exercise as part of a community-wide functional exercise).
**Full-scale Exercise**

A full-scale exercise simulates a real event as closely as possible. It is designed to evaluate the operational capabilities of emergency management systems in a highly stressful environment, and attempts to simulate the full spectrum of conditions that those with a response role might face. To accomplish these things, a full-scale exercise must include the actual mobilization and movement of emergency personnel, equipment and resources. Ideally, a full-scale exercise should test and evaluate most of the functions provided for in the applicable emergency operations plan(s).

A full-scale exercise differs from a drill in that it coordinates the actions of several entities, tests several emergency functions and puts participants in actual vs. simulated operating environments (e.g., National, National agency and/or local emergency operations centres; dispensing and vaccination centres; “on-scene” command posts.

The requisite level of realism is achieved through a variety of techniques, including:

- “On-scene” actions and decisions
- Simulated victims
- Search and rescue requirements
- Use of actual emergency communication protocols, channels and devices
- Actual vs. “on paper only” allocation and deployment of personnel, equipment, supplies and other critical resources

Full-scale exercises are regarded as the ultimate in the test of response effectiveness “trial by fire” that is as close as practicable to an actual event. Because they are expensive and time consuming, it is advisable this form of exercise be reserved for the highest priority hazards and functions, and they be conducted only after the applicable emergency response plans and operational structure are well developed, widely understood and tested through one or more of the four less resource-intensive processes described elsewhere in this document.
8.0 Public Health and Medical Surge

Primary Agency: MOH
Support Agencies: NCSCM

Purpose
The purpose of the Public Health and Medical Surge plan is to provide basic patient care and laboratory services to a greater volume during a pandemic influenza incident.

Planning Assumptions and Considerations
It is assumed that during an influenza pandemic, health care systems may be overwhelmed and laboratories will be unable to keep pace with testing demands.

Although planning has occurred, it is assumed health care, emergency medical and laboratory staff may be ill and will subsequently reduce the available workforce.

It also is assumed there may be shortages of equipment and resources available to keep pace with increased demand for patient care and testing. It should be considered that there also might be shortages of items, such as gloves, respirators, ventilators and laboratory testing supplies.

It is assumed citizens will seek medical care once signs and symptoms are experienced. It is also assumed the news media will impact the decisions of citizens to seek medical care versus staying at home.

Because it cannot be assumed citizens will follow directions during a perceived crisis situation, local officials will be responsible for developing local plans and procedures to provide appropriate security to enable the jurisdiction to conduct response operations. It must be considered that all levels of government must have a strong public information program that will provide a level of confidence to the citizens.

It is assumed the local surge plans will be inadequate during a pandemic situation due to depending on other facilities or receiving assistance from a common vendor. It is assumed local health care facilities are creating and exercising surge plans.

It should be considered that routine laboratory testing statutory requirements be suspended in order to redirect staff and resources to pandemic influenza specimen testing.

It is assumed that once the pandemic influenza strain has been identified there will be a continued laboratory surge in order to identify patients with that particular influenza strain in order to better direct limited therapeutic resources.
It is assumed health care and laboratory facilities will remain secure.

**Concept of Operations**

- Collect information from local units of government, hospitals, laboratories, first responders and other National agencies regarding the actual or the anticipated demand for services.
- Communicate with National agencies to determine the feasibility of acquiring resources through the NCSCM.
- Confirm availability of alternate facilities, such as long-term care, outpatient surgical centres and non-traditional health care settings (e.g., school gymnasiums).
- Issue public notice advising affected populations and local medical providers of appropriate actions to be followed to reduce or to limit the impact of surge on health care facilities.
- Activate various medical response teams, such as the Jordan Disaster Management Teams, where possible and appropriate, to assist with the surge situation.
- Provide guidance to health care and laboratory facilities on appropriate actions.
- After identification of the pandemic flu type during the initial stage of the pandemic, the medical necessity of continued, rapid testing of all suspected flu cases must be determined. This decision would be based, at least in part, on the availability and efficacy of antiviral drugs and the aetiology of infection with the pandemic strain. At one extreme, virtually all laboratory resources would be devoted to influenza testing, at the expense of routine and even mandated testing in other areas (e.g., new born screening). At the other extreme, the laboratory would likely be able to maintain essential services (i.e., business continuity) by providing at least mandated testing.
- In preparation for a possible surge in demand for laboratory testing, a coalition between the MOH and private clinical laboratories should be made. Implementation of a dramatic surge in laboratory testing would still be dependent upon the availability of adequate supplies and staff to take advantage of the increased capacity that would be provided by such a coalition. The MOH labs also are working to confirm methods health care lab systems will be employing.

The following is recommended before an influenza pandemic:

- Given the potential of greatly increased demand for influenza testing at the MOH laboratory, enhancement of the laboratory information management system (LIMS) is required in this area. Ideally, optical character recognition such as bar codes forms will be used to enter patient information, and results will be sent electronically by fax from the LIMS to the submitters. Currently,
the latter capability is not in place. This component should be developed as soon as possible, since there will most likely not be an opportunity for IT to make major LIMS changes during a rapid onset of pandemic influenza. In addition, the uncertainty of staffing during a pandemic would make manual data entry a major bottleneck in testing.

**Hospital Planning**
Hospitals should be equipped and prepared to surge to maximum capacity to prepare for 1) a limited number of patients infected with a pandemic influenza virus, and 2) a large number of patients in the event of escalating transmission of pandemic influenza.

- Outline administrative measures.
- Build on existing preparedness and response plans.
- Incorporate planning suggestions from National and local health departments.
- Identify criteria and methods for measuring compliance with response measures.
- Review and update supply inventories.
- Establish and/or review procedures for receipt, storage and distribution of assets from National stockpiles.
- Establish mechanisms for periodic reviews and updates.
- Incorporate communicable disease control into the “All-hazards” incident command structure.

**Hospital Planning Process**
- Internal, multidisciplinary planning committee
- Response coordinator/incident commander
- Pandemic influenza response team

**Hospital Planning Elements**
- Procedures to facilitate laboratory testing on site.
- Predetermined thresholds for activating pandemic influenza surveillance plans.
- Mechanisms for conducting surveillance in emergency departments.
- Mechanisms for monitoring employee absenteeism for increases.
- Mechanisms for tracking emergency department visits and hospital admission/discharges for suspected/confirmed pandemic influenza patients.
- Types of data reportable to National and local health departments.
- Criteria for distinguishing pandemic influenza.

**Hospital Communications**
- Determine how communications between local and regional health care facilities will be handled.
• Use guidance from National or local health departments for external communications.
• Determine the type of hospital specific communications.
• Determine how public inquiries would be handled.
• Determine how to keep hospital personnel and patients informed.

Hospital Education and Training
• Identify educational resources for hospital personnel.
• Develop policies and procedures for the care of pandemic influenza patients.
• Develop pandemic staffing contingency plans.
• Establish policies for restricting visitors.
• Report requirements to National and local health departments.
• Train clinical personnel.
• Train intake and triage staff to detect influenza patients.
• Provide psychological support.
• Develop educational materials for patients and family members.
• Create a distribution plan for educational materials.

Hospital Triage, Clinical Evaluation and Admission Procedures
• Establish separate triage and waiting areas for persons with respiratory symptoms.
• Employ a Triage Coordinator to manage patient flow.
• Develop procedures for clinical evaluation.
• Develop admission procedures with streamlining techniques.
• Identify “trigger” points for triage.

Hospital Facility Access
• Define essential and nonessential visitors.
• Identify “triggers” for temporary closing hospital to new admissions and transfers
• Involve hospital security services to enforce access controls.

Occupational Health
• Develop a plan for detecting signs and symptoms of influenza.
• Establish policies for managing health care workers with respiratory symptoms.
• Develop time-off policies/procedures.
• Create a plan to protect personnel at high risk for complications from influenza exposure.
• Identify mental health and faith-based resources for counselling personnel.
• Create a strategy for housing and feeding personnel.
• Develop a strategy for supporting personnel family needs.
Influenza vaccination and Use of Antiviral Drugs within Hospitals

- Promote annual (H1N1) pdm influenza vaccination.
- Ensure documenting influenza vaccination for personnel.
- Develop a strategy for rapidly vaccinating or providing antiviral prophylaxis to personnel.
- Provide estimates of the quantities of vaccine needed for hospital staff and patients
- Develop a strategy for prioritizing vaccinations to critical personnel.
- Develop a pandemic influenza vaccination plan.

Hospital Surge Capacity

- Assess and coordinate staffing.
- Estimate minimum number and categories of personnel needed.
- Recruit retired health care personnel.
- Use trainees.
- Use patients’ family members.
- Collaborate with local and regional health care planning groups.
- Increase cross-training of personnel.
- Create a list of essential and nonessential personnel titles.
- Plan for rapidly credentialing health care professionals.
- Identify insurance and liability issues.
- Identify opportunities for recruiting health care personnel from other settings (e.g., medical offices and same day surgery centres).
- Establish admissions criteria for when bed capacity is limited.
- Develop policies/procedures for expediting patient discharge.
- Collaborate with home health care agencies.
- Identify “triggers” for cancelling elective procedures.
- Develop transfer agreements.
- Track bed availability.
- Expand bed capacity during times of crisis.
- Establish policies/procedures for shifting patients between nursing units.
- Establish mutual aid with other health care facilities.
- Identify areas of facility that can be dedicated to influenza patients.
- Create a system for tracking available supplies.
- Stockpile consumable resources.
- Identify “triggers” for ordering extra supplies.
- Establish contingency plans for situations where medical supplies become limited.
- Develop a strategy for ensuring uninterrupted provision of medications.
Hospital Security
• Employ additional security.

Hospital Mortuary Issues
• Assess current refrigeration capacity for deceased persons.
• Develop a mass fatality plan.
• Identify temporary morgue sites.
• Determine scope and volume of supplies needed for deceased persons.
• Ensure fatality management plans include a partnership with the local coroner’s office in the event the hospital morgue capacity is exceeded.

Care in non-hospital settings
• Develop a strategy for triage of potential influenza patients to nonhospital settings.
• Collaborate with home health care agencies for follow-up.
• Establish and staff telephone hotlines.
• Train hotline staff.
• Determine how nonhospital facilities, such as alternate care sites, will participate in the community plan.
9.0 Infection Control and Personal Protective Equipment (PPE)

Primary Agency: MOH

Support Agencies: WHO

Purpose

Provide guidance on infection control measures (e.g., isolation precautions, PPE) to be implemented in order to limit the spread of pandemic influenza.

Planning Assumptions and Considerations

During an influenza pandemic, vaccine may not be available and antiviral agents may be in short supply. The ability to limit transmission of influenza in health care settings will, therefore, rely heavily on the appropriate and thorough application of infection control measures.

Infection control practices for pandemic influenza are the same as for other human influenza viruses and primarily involve the application of standard and droplet precautions during patient care in health care settings (e.g., hospitals, nursing homes, outpatient offices, emergency transport vehicles).

MOH and WHO is the lead National agency for issuing infection control guidelines and policies, including recommendations for isolation precautions and type(s) of PPE to be worn.

WHO issues Governorate infection control guidelines, which include recommendations for isolation precautions to prevent transmission of microorganisms and the type(s) of PPE to be worn to reduce the risk of exposure to microorganisms.

During a pandemic, conditions that could affect infection control may include shortages of antiviral drugs, decreased efficacy of the vaccine, increased virulence of the influenza strain, shortages of single-patient rooms and shortages of PPE. These issues may necessitate changes in the recommended infection control practices for influenza. WHO will provide updated infection control guidance as circumstances dictate.

Local governments have primary responsibility to provide emergency medical and health services within their jurisdiction.

Local health departments have primary authority to implement and to enforce infection control measures for their citizens. Whenever a dangerously contagious or
infectious disease becomes or threatens to become epidemic, MOH may enforce additional measures as it deems necessary to protect the public health.

**Concept of Operations**

MOH will provide primary coordination for the National’s health and medical operations including issuance of recommended infection control measures (e.g., isolation precautions and type(s) of PPE to be utilized).

The Pandemic Influenza Plan will provide the framework for guidance on infection control measures for health care settings, including:

- Isolation of infectious patients in private rooms or cohort units
- Selection and use of PPE
- Hand hygiene and safe work practices
- Cleaning and disinfection of environmental surfaces
- Handling of laboratory specimens
- Post-mortem-care
- Restricting visitors
- Educating patients and health care staff
- Cohorting health care workers assigned to an outbreak unit
- Screening of persons entering the health care facility who may be infected with pandemic influenza
- Detection and control of nosocomial transmission of pandemic influenza

Settings where persons with pandemic influenza might seek and receive health care services (e.g., hospitals, emergency departments, outpatient facilities, residential care facilities and homes) should implement basic infection control principles to prevent the spread of pandemic influenza. Basic infection control principles include:

1) Limit contact between infected and non-infected persons through:
   a) Isolation precautions (i.e., standard precautions, droplet precautions, contact precautions and airborne precautions, as indicated).
   b) Measures which promote spatial separation in common areas (e.g., sit or stand as far away as possible - at least 6 feet - from potentially infectious persons).

2) Exposure control by reducing the potential for exposure to the pandemic influenza virus by persons caring for influenza patients in health care settings. Persons caring for infectious patients should:
   a) Wear a mask for close contact with infectious patients.
b) Use contact and airborne precautions, including the use of fit-tested N95 respirators (or greater respiratory protection) and eye protection, when appropriate.

c) Wear gloves (gown if necessary) for contact with respiratory secretions.

d) Perform hand hygiene after contact with infectious patients.

3) Control source by containing respiratory secretions:
   a) Instruct persons who have “flu-like” symptoms to use respiratory hygiene/cough etiquette (“Cover Your Cough”).
   b) Promote use of masks by symptomatic persons in common areas (e.g., waiting rooms in physician offices or hospital emergency departments) or when being transported (e.g., in emergency vehicles).

MOH will provide guidance on adapting infection control practices to specific health care settings, including:

• Nursing homes and other residential facilities
• Pre-hospital care (emergency medical services [EMS])
• Medical offices and other ambulatory care settings
• During the provision of professional home health care services
• During the care of pandemic influenza patients in the home or in alternative care sites (e.g., schools, auditoriums, conference centres, hotels)

MOH will provide recommendations for infection control in schools, work places and community settings.

All support agencies will provide services as indicated in other plans developed under referenced authorities in support of this annex.

**Definition of Infection Control-related Terms**

**Standard Precautions**
Standard precautions are infection prevention and control practices that apply to all patients regardless of diagnosis or presumed infection status. Standard precautions are based on the principle that all blood, body fluids, secretions and excretions, except sweat, regardless of whether they contain visible blood, non-intact skin and mucous membranes may contain transmissible infectious agents. Standard precautions include: respiratory hygiene/cough etiquette; hand hygiene before and after caring for a patient; use of gloves (clean, non-sterile gloves are adequate); use of masks, eye protection, face shields and gowns (a clean, non-sterile gown is adequate) when splashes or sprays of blood, body fluids, secretions or excretions are possible; cleaning of patient-care equipment, the patient’s physical environment and soiled linen; and precautions to reduce the possibility of health care worker exposure to blood borne pathogens. Private rooms are generally not necessary but may be considered for patients who contaminate the environment or cannot maintain appropriate hygiene. Reusable dishes and eating utensils are washed and sanitized in
a manner that renders them safe for reuse (e.g., in a dishwasher with recommended water temperature). Linen and laundry are washed and dried according to routine standards and procedures.

**Hand Hygiene**

Hand hygiene is a general term that applies to any of the following: 1) hand washing with plain (non-antimicrobial) soap and water; 2) antiseptic hand wash (washing hands with water and soap containing an antiseptic agent); or 3) antiseptic hand rub (waterless antiseptic product, most often alcohol-based, rubbed on all surfaces of hands). Hand hygiene is to be performed before and after contact with patients, after contact with contaminated items and immediately after removing gloves. Hands are to be washed with soap and water when visibly dirty or soiled with blood or other body fluids, contaminated with proteinaceous material, exposed to spores (e.g., Bacillus species or Clostridium difficile), suspected or proven, before eating and after using a restroom. It is essential health care personnel always perform hand hygiene between patient contacts and after removing personal protective equipment (PPE). Hand hygiene has frequently been cited as the single most important practice to reduce the transmission of infectious agents and is an essential element of standard precautions.

**Respiratory Hygiene/Cough Etiquette**

Respiratory hygiene/cough etiquette is a combination of measures designed to minimize the transmission of respiratory pathogens via droplet or airborne routes in health care settings. The components of respiratory hygiene/cough etiquette are: 1) covering the mouth and nose when coughing or sneezing; 2) using tissues to contain respiratory secretions with prompt disposal into the nearest waste receptacle after use; 3) performing hand hygiene (e.g., hand washing with non-antimicrobial soap and water, alcohol-based hand rub, or antiseptic hand wash) after having contact with respiratory secretions and contaminated objects/materials; 4) offering a mask to persons who are coughing to decrease contamination of the surrounding environment; and 5) turning the head away from others and maintaining spatial separation, ideally greater than 3 feet, when coughing. Respiratory hygiene/cough etiquette should be used with any person (e.g., patients and accompanying family members or friends) with signs of a cold or other respiratory infection (e.g., cough, congestion, rhinorrhoea and increased production of respiratory secretions) who enters any health care facility. Health care facilities should post visual alerts (in appropriate languages) at the entrance to outpatient treatment areas (e.g., emergency departments, physician offices, outpatient clinics) instructing patients and persons who accompany them (e.g., family, friends) to inform health care personnel of symptoms of a respiratory infection when they first register for care and to practice respiratory hygiene/cough etiquette. When space and chair availability permit, coughing persons should be encouraged to sit at least 3 feet away from others in common waiting areas.

**Droplet Precautions**
In addition to standard precautions, droplet precautions are intended to reduce the risk of droplet transmission of infectious agents from close respiratory or mucous membrane contact (e.g., less than 3 feet) with large-particle respiratory droplets (larger than 5 µm in size). Respiratory droplets can be generated by the patient during coughing, sneezing, talking or the performance of cough-inducing procedures. Because droplets do not remain suspended in the air, special air handling and ventilation are not required to prevent droplet transmission; single-patient rooms are preferred. Health care personnel and visitors wear gloves and masks (respirators are not necessary) when entering a patient’s room. A mask should be worn once, changed when moist and then discarded. Upon touching or discarding a used mask, hand hygiene is to be performed. During procedures that may generate small particles of respiratory secretions (e.g., endotracheal intubation, bronchoscopy, nebulizer treatment, suctioning), health care personnel should wear gloves, gown, face/eye protection, and a fit-tested N95 or other appropriate particulate respirator.

When a single-patient room is not available, pandemic influenza patients may be cohorted (e.g., place the patient in a room with other patients who have active pandemic influenza infection but no other infection) with spatial separation of patients (e.g., greater than 3 feet between beds in multi-patient rooms). In general, wearing eye protection (e.g., goggles) or a face shield for routine contact with pandemic influenza patients is not necessary, but should be worn as recommended for standard precautions. If transport or movement of the patient from the room is necessary, the patient is to wear a surgical mask that covers the mouth and nose, if possible.

**Contact Precautions**

In addition to standard precautions, contact precautions are intended to reduce the risk of epidemiologically important microorganisms by direct (e.g., hand or skin-to-skin contact) or indirect (e.g., touching environmental surfaces or patient-care items) contact. Single-patient rooms are preferred and health care personnel and visitors wear gown and gloves for all interactions that may involve contact with the patient or the patient’s environment. Gowns should be worn only once and then placed in a waste or laundry receptacle, as appropriate. If gowns are in short supply (i.e., the demand during a pandemic could exceed the supply), priorities for their use may need to be established. When a single-patient room is not available, pandemic influenza patients may be cohorted (e.g., place the patient in a room with other patients who have active pandemic influenza infection but no other infection) with spatial separation of patients (e.g., greater than 3 feet between beds in multi-patient rooms). When possible, dedicate the use of noncritical patient-care equipment to a single patient or cohort of patients to avoid sharing between patients. If use of common equipment or items is unavoidable, they must be adequately cleaned and disinfected before use for another patient. Rooms of patients on contact precautions are given cleaning priority with a focus on frequent cleaning (e.g., at least daily) and disinfection of high touch surfaces (e.g., bed rails, bedside commodes, faucet handles, doorknobs, carts, charts) and equipment in the immediate vicinity of the patient.
Airborne Precautions
In addition to standard precautions, airborne precautions are used for the care of patients known or suspected to be infected with pathogens transmitted by airborne droplet nuclei (small-particle residue [5 µm or smaller in size] of evaporated droplets containing microorganisms that remain suspended in the air and can be dispersed widely by air currents within a room or over a long distance). Use of an airborne infection isolation (AII) room with the door closed is required to prevent airborne transmission. An AII room is a single-patient room equipped with special air handling and ventilation capacity (e.g., negative air pressure).

Respiratory protection (e.g., NIOSH-approved N95 or higher respirators) is worn by susceptible persons when entering the room. Respirators should be used within the context of a respiratory protection program that includes fit-testing, medical clearance and training. If transport or movement of the patient from the room is necessary, the patient is to wear a surgical mask that covers the mouth and nose, if possible.

In the event of an outbreak or exposure where large numbers of patients require Airborne Precautions, consult MOH Division of Infectious Diseases to determine the safety of cohorting patients together based on clinical diagnosis in areas with the lowest risk of airborne transmission.

Personal Protective Equipment (PPE)
Personal protective equipment is a variety of barriers used alone or in combination to protect mucous membranes, skin, and clothing from contact with infectious agents. PPE includes gloves, masks, respirators, goggles, face shields and gowns. Respirators (e.g., N95 or other appropriate particulate respirator) should be used within the context of a respiratory protection program that includes fit-testing, medical clearance and training.
Appendices
1.0 Abbreviations and Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>EOC</td>
<td>Command and Control Centres</td>
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<td>CERC</td>
<td>Crisis And Emergency Risk Communication</td>
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<td>CIR</td>
<td>Critical Information Requirements</td>
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<td>CMU</td>
<td>Crisis Management Unit</td>
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<td>CPEPR</td>
<td>Contingency Plan for Epidemic and Pandemic Response</td>
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<td>CPHL</td>
<td>Central Public Health Laboratory</td>
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<td>DEWS</td>
<td>Disease Early Warning System</td>
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<td>EAS</td>
<td>Emergency Alert System</td>
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<td>EMS</td>
<td>Emergency Medical Services</td>
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<td>EOC</td>
<td>Emergency Operations Centre</td>
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<td>GCE</td>
<td>Governorate Committee for Epidemics</td>
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<td>HCW</td>
<td>Health Care Workers</td>
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<td>IAP</td>
<td>Incident Action Plan</td>
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<td>ICS</td>
<td>Incident Command System</td>
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<td>IHR</td>
<td>International Health Regulations</td>
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<td>ILI</td>
<td>Influenza Like Illness</td>
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<td>JIC</td>
<td>Joint Information Centre</td>
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<td>NCSCM</td>
<td>National Centre for Security and Crisis Management</td>
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<td>LIMS</td>
<td>Laboratory Information Management System</td>
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<td>MoH</td>
<td>Ministry of Health</td>
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<td>NCCM</td>
<td>National Centre/Committee for Crisis Management</td>
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<td>NCE</td>
<td>National Committee for Epidemics</td>
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<td>OHB</td>
<td>Operations Handbook</td>
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<td>OIT</td>
<td>Outbreak Investigation teams</td>
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<td>ORT</td>
<td>Outbreak Response Teams</td>
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<td>PAT</td>
<td>Preliminary Assessment Team</td>
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<td>PHEIC</td>
<td>Public Health Emergency of International Concern</td>
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<td>PPE</td>
<td>Personal Protective Equipment</td>
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<td>Acronym</td>
<td>Definition</td>
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<td>RRT</td>
<td>Rapid Response Team</td>
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<td>SME</td>
<td>Subject Matter Experts</td>
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<td>SOP</td>
<td>Standard Operating Procedures</td>
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<tr>
<td>WHO</td>
<td>World Health Organization</td>
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</tbody>
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2.0 References


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• MOH Emergency Preparedness and Response Plan, 2004

• Morbidity and Mortality Weekly Report, August 30, 1999

