

EAST CAROLINA UNIVERSITY

INFECTION CONTROL POLICY

Infection Control Measures for Pandemic Influenza in Healthcare Settings

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Page 1 of 18

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Recommendations for Infection Control of Pandemic Influenza in Healthcare Settings

The recommendations for infection control described below are generally applicable throughout the different pandemic phases. Recommendations may be modified as the situation progresses from limited cases (WHO phase 5) to widespread community illness (WHO Phase 6). (See appendix A for definitions)

Specific measures implemented in an actual pandemic will be determined by the nature and severity of the pandemic and advice of the CDC, N.C. Division of Public Health in collaboration with the Pitt County Health Department.

Basic infection control principles for preventing the spread of pandemic influenza in healthcare settings

A.

- Limit contact between infected and non-infected persons
 - Isolate infected persons (i.e., confine patients to a defined area as appropriate for the healthcare setting).
 - Limit contact between nonessential personnel and other persons (e.g., social visitors) and patients who are ill with pandemic influenza.
 - Promote spatial separation in common areas (i.e., sit or stand as far away as possible — at least 3 feet — from potentially infectious persons) to limit contact between symptomatic and non-symptomatic persons.
- Protect persons caring for influenza patients in healthcare settings from contact with the pandemic influenza virus. Persons who must be in contact should:
 - Wear a surgical or N95 mask for close contact with infectious patients, based on current recommendations.
 - Use contact and droplet precautions, including the routine use of surgical masks, when appropriate.
 - Wear gloves (gown if necessary) for contact with respiratory secretions.
 - Perform hand hygiene after contact with infectious patients.
- Contain infectious respiratory secretions:
 - Instruct persons who have “flu-like” symptoms (see below) to use respiratory hygiene/cough etiquette.
 - Promote use of masks by symptomatic persons in common areas (e.g., waiting rooms in physician offices or emergency departments) or when being transported (e.g., in emergency vehicles).

Symptoms of influenza include fever, headache, myalgia, prostration, coryza, sore throat, and cough. Otitis media, nausea, and vomiting are also commonly reported among children. Typical influenza (or “flu-like”) symptoms, such as fever, may not always be

present in elderly patients, young children, patients in long-term care facilities, or persons with underlying chronic illnesses

B. Management of infectious patients

1. Respiratory hygiene/cough etiquette

Respiratory hygiene/cough etiquette has been promoted as a strategy to contain respiratory viruses at the source and to limit their spread in areas where infectious patients might be awaiting medical care (e.g., physician offices, emergency departments).

The elements of respiratory hygiene/cough etiquette include:

- Education of healthcare facility staff, patients, and visitors on the importance of containing respiratory secretions to help prevent the transmission of influenza and other respiratory viruses
- Posted signs in languages appropriate to the populations served with instructions to patients and accompanying family members or friends to immediately report symptoms of a respiratory infection as directed
- Source control measures (e.g., covering the mouth/nose with a tissue when coughing and disposing of used tissues; using masks on the coughing person when they can be tolerated and are appropriate)
- Hand hygiene after contact with respiratory secretions, and
- Spatial separation, ideally >3 feet, of persons with respiratory infections in common waiting areas when possible.

2. Droplet precautions and patient placement

Patients with known or suspected pandemic influenza should be placed on droplet precautions for a minimum of 5 days from the onset of symptoms because immunocompromised patients may shed virus for longer periods and placed on droplet precautions for the duration of their illness. Healthcare personnel should wear appropriate PPE. The placement of patients will vary depending on the healthcare setting (see setting-specific guidance).

If the pandemic virus is associated with diarrhea, contact precautions (i.e., gowns and gloves for all patient contact) should be added, airborne precautions may be considered. CDC will update these recommendations if changes occur in the anticipated pattern of transmission

(www.cdc.gov/flu).

C. Infection control practices for healthcare personnel

These use primarily standard and droplet precautions (Box 1) during patient care in healthcare settings. 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, and shortages of personal protective equipment. These issues may necessitate changes in the standard recommended infection control practices for influenza.

1. Personal protective equipment

a. PPE for standard and droplet precautions

Additional precautions may be indicated during the performance of aerosol-generating procedures (see below).

- **Masks (surgical or procedure)**
 - *Wear a mask when entering a patient's room.* A mask should be worn once and then discarded. If pandemic influenza patients are cohorted in a common area and multiple patients must be visited over a short time, it may be practical to wear one mask for the duration of the activity; however, other PPE (e.g., gloves, gown) must be removed between patients and hand hygiene performed.
 - Change masks when they become moist.
 - Do not leave masks dangling around the neck.
 - Upon touching or discarding a used mask, perform hand hygiene.
- **Gloves**
 - A single pair of patient care gloves should be worn for contact with blood and body fluids, including during hand contact with respiratory secretions (e.g., providing oral care, handling soiled tissues). Gloves made of latex, vinyl, nitrile, or other synthetic materials are appropriate for this purpose; if possible, latex-free gloves should be available for healthcare workers who have latex allergy.
 - Gloves should fit comfortably on the wearer's hands.
 - Remove and dispose of gloves after use on a patient; do not wash gloves for subsequent reuse.
 - Perform hand hygiene after glove removal.
 - If gloves are in short supply (i.e., the demand during a pandemic could exceed the supply), priorities for glove use might need to be established. In this circumstance, reserve gloves for situations where there is a likelihood of extensive patient or environmental contact with blood or body fluids, including during suctioning.
 - Use other barriers (e.g., disposable paper towels, paper napkins) when there is only limited contact with a patient's respiratory secretions (e.g., to handle used tissues). Hand hygiene should be strongly reinforced in this situation.
- **Gowns**
 - Wear an isolation gown, if soiling of personal clothes or uniform with a patient's blood or body fluids, including respiratory secretions, is anticipated. Most patient interactions do not necessitate the use of gowns. However, procedures such as intubation and activities that involve holding the patient close (e.g., in pediatric settings) are examples of when a gown may be needed when caring for pandemic influenza patients.

- A disposable gown made of synthetic fiber or a washable cloth gown may be used.
 - Ensure that gowns are of the appropriate size to fully cover the area to be protected.
 - Gowns should be worn only once and then placed in a waste or laundry receptacle, as appropriate, and hand hygiene performed.
 - If gowns are in short supply priorities for their use may need to be established. Alternatively, other coverings (e.g., patient gowns) could be used. It is doubtful that disposable aprons would provide the desired protection in the circumstances where gowns are needed to prevent contact with influenza virus, and therefore should be avoided. There are no data upon which to base a recommendation for reusing an isolation gown on the same patient.
 - **Goggles or face shield**
In general, wearing goggles or a face shield for routine contact with patients with pandemic influenza is not necessary. If sprays or splatter of infectious material is likely, goggles or a face shield should be worn as recommended for standard precautions.
- b. PPE for special circumstances**
- **PPE for aerosol-generating procedures**
During procedures that may generate increased small-particle aerosols of respiratory secretions (e.g., endotracheal intubation, nebulizer treatment, bronchoscopy, suctioning), healthcare personnel should wear gloves, gown, face/eye protection, and a *N95 respirator* or appropriate particulate respirator. Respirators should be used within the context of a respiratory protection program that includes fit-testing, medical clearance, and training. If possible, and when practical, use of an airborne isolation room may be considered when conducting aerosol-generating procedures.
 - **PPE for managing pandemic influenza with increased transmissibility**
The addition of airborne precautions, including respiratory protection (an N95 filtering face piece respirator or other appropriate particulate respirator), may be considered for strains of influenza exhibiting increased transmissibility, during initial stages of an outbreak of an emerging or novel strain of influenza (e.g. WHO Stage 5), and as determined by other factors such as vaccination/immune status of personnel and availability of antivirals.
 - **Precautions for early stages of a pandemic**
Early in a pandemic, it may not be clear that a patient with severe respiratory illness has pandemic influenza. Therefore, precautions

consistent with all possible etiologies, including a newly emerging infectious agent, should be implemented. This may involve the combined *use of airborne and contact precautions*, in addition to standard precautions, until a diagnosis is established.

c. Caring for patients with pandemic influenza

Healthcare personnel should be particularly vigilant to avoid:

- Touching their eyes, nose or mouth with contaminated hands (gloved or ungloved). Careful placement of PPE before patient contact will help avoid the need to make PPE adjustments and risk self-contamination during use. Careful removal of PPE is also important. (See also: <http://www.cdc.gov/ncidod/hip/ppe/default.htm>.)
- Contaminating environmental surfaces that are not directly related to patient care (e.g., door knobs, light switches)

2. Hand hygiene

Hand hygiene has frequently been cited as the single most important practice to reduce the transmission of infectious agents in healthcare settings and includes both hand washing with either plain or antimicrobial soap and water and use of alcohol-based products (gels, rinses, foams) containing an emollient that do not require the use of water.

- If hands are visibly soiled or contaminated with respiratory secretions, wash hands with soap (either non-antimicrobial or antimicrobial) and water.
- In the absence of visible soiling of hands, approved alcohol-based products for hand disinfection may be preferred over antimicrobial or plain soap and water because of their superior microbiocidal activity, reduced drying of the skin, and convenience.
- Always perform hand hygiene between patient contacts and after removing PPE.
- Ensure that resources to facilitate handwashing (i.e., sinks with warm and cold running water, plain or antimicrobial soap, disposable paper towels) and hand disinfection (i.e., alcohol-based products) are readily accessible in areas in which patient care is provided.

3. Disposal of solid waste

Standard precautions are recommended for disposal of solid waste (medical and non-medical) that might be contaminated with a pandemic influenza virus:

- Contain and dispose of contaminated medical waste in accordance with facility-specific procedures and/or local or state regulations for handling and disposal of medical waste, including used needles and other sharps, and non-medical waste.
- Discard as routine waste used patient-care supplies that are not likely to be contaminated (e.g., paper wrappers).
- Wear disposable gloves when handling waste. Perform hand hygiene after removal of gloves.

4. Linen and laundry

Standard precautions are recommended for linen and laundry that might be contaminated with respiratory secretions from patients with pandemic influenza:

- Place soiled linen directly into a laundry bag in the patient's room. Contain linen in a manner that prevents the linen bag from opening or bursting during transport and while in the soiled linen holding area.
- Wear gloves and gown when directly handling soiled linen and laundry (e.g., bedding, towels, personal clothing) as per standard precautions. Do not shake or otherwise handle soiled linen and laundry in a manner that might create an opportunity for disease transmission or contamination of the environment.
- Wear gloves for transporting bagged linen and laundry.
- Perform hand hygiene after removing gloves that have been in contact with soiled linen and laundry.
- Wash and dry linen according to routine standards and procedures.

5. Dishes and eating utensils

Standard precautions are recommended for handling dishes and eating utensils used by a patient with known or possible pandemic influenza:

- Wash reusable dishes and utensils in a dishwasher with recommended water temperature.
- Disposable dishes and utensils (e.g., used in an alternative care site set-up for large numbers of patients) should be discarded with other general waste.
- Wear gloves when handling patient trays, dishes, and utensils.

6. Patient-care equipment

Follow standard practices for handling and reprocessing used patient-care equipment, including medical devices:

- Wear gloves when handling and transporting used patient-care equipment.
- Wipe heavily soiled equipment with an EPA-approved hospital disinfectant before removing it from the patient's room. Follow current recommendations for cleaning and disinfection or sterilization of reusable patient-care equipment.
- Wipe external surfaces of portable equipment for performing x-rays and other procedures in the patient's room with an EPA-approved hospital disinfectant upon removal from the patient's room.

7. Environmental cleaning and disinfection

Cleaning and disinfection of environmental surfaces are important components of routine infection control in healthcare facilities.

Environmental cleaning and disinfection for pandemic influenza follow the same general principles used in healthcare settings.

- a. **Cleaning and disinfection of patient-occupied rooms**

- Wear gloves in accordance with facility policies for environmental cleaning and wear a surgical or procedure mask in accordance with droplet precautions. Gowns are not necessary for routine cleaning of an influenza patient's room.
- Keep areas around the patient free of unnecessary supplies and equipment to facilitate daily cleaning.
- Use any EPA-registered hospital detergent-disinfectant. Follow manufacturer's recommendations for use-dilution (i.e., concentration), contact time, and care in handling.
- Follow facility procedures for regular cleaning of patient-occupied rooms. Give special attention to frequently touched surfaces (e.g., bedrails, tables, wheelchair arms TV controls, call buttons, telephones, lavatory surfaces including safety/pull-up bars, doorknobs, commodes, ventilator surfaces) in addition to floors and other horizontal surfaces.
- Clean and disinfect spills of blood and body fluids in accordance with current recommendations for Isolation Precautions.

8. Laboratory specimens and practices

Follow standard facility and laboratory practices for the collection, handling, and processing of laboratory specimens.

D. Occupational health issues

Healthcare personnel are at risk for pandemic influenza through community and healthcare-related exposures. Once pandemic influenza has reached a community, healthcare facilities should implement systems to monitor for illness in the facility workforce and manage those who are symptomatic or ill. (WHO Pandemic Phase 5 & 6). The following components may be triggered:

- Implement a system to educate personnel about occupational health issues related to pandemic influenza. (WHO Pandemic Phase 3-4)
- Managers will screen all personnel for influenza-like symptoms before they come on duty. Symptomatic personnel with flu-like illness should not report to work or should be sent home until they are physically ready to return to duty. (WHO Stage 5 & 6.) The following component may be triggered:
- During WHO Stage 5 or 6, any employee who is exposed to a patient suspected to have pandemic influenza without wearing a mask should contact the Office of Prospective Health for advice, or evaluation for prophylactic medication.
- If a healthcare worker has been in an area where influenza is occurring or cared for an ill person, they should not return to work for seven days after that contact ends to ensure that they are not incubating influenza (WHO Stage 4,5,6).
- Personnel who are at high risk for complications of pandemic influenza (e.g., pregnant women, immunocompromised persons) should be informed about their medical risk. An alternate work assignment, away from

influenza-patient care, may be considered on a case by case basis following an Individual Risk Assessment.

E. Healthcare Setting Specific Guidance:

1. Outpatient medical offices

a. Detection of patients with possible pandemic influenza

- Post visual alerts (in appropriate languages) at the entrance to outpatient offices instructing persons with respiratory symptoms (e.g., patients, persons who accompany them) to:
- Inform reception and healthcare personnel when they first register for care
- Practice respiratory hygiene/cough etiquette
- Implement in WHO Stage 5- regional outbreaks elsewhere.

b. Triage patients calling for medical appointments for influenza symptoms:

- Discourage unnecessary visits to medical facilities.
- Instruct symptomatic patients on infection control measures to limit transmission in the home and when traveling to necessary medical appointments.
- Implement in WHO Stage 6- Pandemic

2. “Source control” measures

- Post signs that promote cough etiquette in common areas (e.g., elevators, waiting areas, cafeterias, lavatories) where they can serve as reminders to all persons in the healthcare facility. Signs should instruct persons to:
 - Cover the nose/mouth when coughing or sneezing.
 - Use tissues to contain respiratory secretions.
 - Dispose of tissues in the nearest waste receptacle after use.
 - Perform hand hygiene after contact with respiratory secretions.
- Facilitate adherence to respiratory hygiene/cough etiquette. Ensure the availability of materials in waiting areas for patients and visitors.
 - Provide tissues and no-touch receptacles (e.g., waste containers with pedal-operated lid or uncovered waste container) for used tissue disposal.
 - Provide conveniently located dispensers of alcohol-based hand rub.
 - Provide soap and disposable towels for hand washing where sinks are available.
- Promote the use of procedure or surgical masks and spatial separation by persons with symptoms of influenza.
 - Offer and encourage the use of either procedure masks (i.e., with ear loops) or surgical masks (i.e., with ties or

elastic) by symptomatic persons to limit dispersal of respiratory droplets. (WHO Stage 5)

- Encourage coughing persons to sit at least 3 feet away from other persons in common waiting areas. (WHO Stage 5-6)
- Consider separate Influenza Evaluation Clinic (WHO Stage 6)

3. Patient placement

- Where possible, designate separate waiting areas for patients with symptoms of pandemic influenza. Place signs indicating the separate waiting areas. (WHO Stage 5)
- Place symptomatic patients in an evaluation room as soon as possible to limit their time in common waiting areas. (WHO Stage 5)

4. Other ambulatory settings

A wide variety of ambulatory settings provide chronic (e.g., hemodialysis units) and episodic (e.g., freestanding surgery centers, dental offices) healthcare services. When pandemic influenza is in the region (WHO Stage 5), these facilities should implement control measures similar to those recommended for outpatient physician offices. Other infection control strategies that may be utilized include:

- Screening patients for influenza-like illness by phone or before coming into the facility and rescheduling appointments for those whose care is nonemergency
- Canceling all nonemergency services when there is pandemic influenza in the community
- This decision will be made by ECU Physicians/Group Practice Administration or the individual clinic.

F. Care of pandemic influenza patients in the home

Most patients with pandemic influenza will be able to remain at home during the course of their illness and can be cared for by other family members or others who live in the household. Anyone residing in a household with an influenza patient during the incubation period and illness is at risk for developing influenza. A key objective in this setting is to limit transmission of pandemic influenza within and outside the home. When care is provided by a household member, basic infection control precautions should be emphasized (e.g., segregating the ill patient, hand hygiene). Infection within the household may be minimized if a primary caregiver is designated, ideally someone who does not have an underlying condition that places them at increased risk of severe influenza disease.

1. Management of influenza patients

- Physically separate the patient with influenza from non-ill persons living in the home as much as possible.
- Patients should not leave the home during the period when they are most likely to be infectious to others (i.e., 5 days after onset of symptoms). When movement outside the home is necessary (e.g.,

for medical care), the patient should follow cough etiquette (i.e., cover the mouth and nose when coughing and sneezing) and wear procedure or surgical masks if available.

2. Management of other persons in the home

- Persons who have not been exposed to pandemic influenza and who are not essential for patient care or support should not enter the home while persons are actively ill with pandemic influenza.
- If unexposed persons must enter the home, they should avoid close contact with the patient.
- Persons living in the home with the pandemic influenza patient should limit contact with the patient to the extent possible; consider designating one person as the primary care provider.
- Household members should monitor closely for the development of influenza symptoms and contact a telephone hotline or medical care provider if symptoms occur. Exposed household members should not return to work or school for 5 days after the last contact with an infected person, to ensure that they have not been infected. (WHO Stage 6)

3. Infection control measures in the home

- All persons in the household should carefully follow recommendations for hand hygiene (i.e., hand washing with soap and water or use of an alcohol-based hand rub) after contact with an influenza patient or the environment in which care is provided.
- Although no studies have assessed the use of masks at home to decrease the spread of infection, use of surgical or procedure masks by the patient and/or caregiver during interactions may be of benefit. The wearing of gloves and gowns is not recommended for household members providing care in the home.
- Soiled dishes and eating utensils should be washed either in a dishwasher or by hand with warm water and soap. Separation of eating utensils for use by a patient with influenza is not necessary.
- Laundry can be washed in a standard washing machine with warm or cold water and detergent. It is not necessary to separate soiled linen and laundry used by a patient with influenza from other household laundry. Care should be used when handling soiled laundry (i.e., avoid “hugging” the laundry) to avoid contamination. Hand hygiene should be performed after handling soiled laundry.
- Tissues used by the ill patient should be placed in a bag and disposed of with other household waste. Consider placing a bag for this purpose at the bedside.
- Normal cleaning of environmental surfaces in the home should be followed.

Box 1. Summary of Infection Control Recommendations for Care of Patients with Pandemic Influenza

Component	Recommendations
Standard Precautions	See www.cdc.gov/ncidod/hip/ISOLAT/std_prec_excerpt.htm
Hand hygiene	Perform hand hygiene after touching blood, body fluids, secretions, excretions, and contaminated items; after removing gloves; and between patient contacts. Hand hygiene includes both handwashing with either plain or antimicrobial soap and water or use of alcohol-based products (gels, rinses, foams) that contain an emollient and do not require the use of water. If hands are visibly soiled or contaminated with respiratory secretions, they should be washed with soap (either non-antimicrobial or antimicrobial) and water. In the absence of visible soiling of hands, approved alcohol-based products for hand disinfection are preferred over antimicrobial or plain soap and water because of their superior microbicidal activity, reduced drying of the skin, and convenience.
Personal protective equipment (PPE) <ul style="list-style-type: none"> • Gloves • Gown • Face/eye protection (e.g., surgical or procedure mask and goggles or a face shield) 	<ul style="list-style-type: none"> • For touching blood, body fluids, secretions, excretions, and contaminated items; for touching mucous membranes and nonintact skin • During procedures and patient-care activities when contact of clothing/exposed skin with blood/body fluids, secretions, and excretions is anticipated • During procedures and patient care activities likely to generate splash or spray of blood, body fluids, secretions, excretions
Safe work practices	Avoid touching eyes, nose, mouth, or exposed skin with contaminated hands (gloved or ungloved); avoid touching surfaces with contaminated gloves and other PPE that are not directly related to patient care (e.g., door knobs, keys, light switches).
Patient resuscitation	Avoid unnecessary mouth-to-mouth contact; use mouthpiece, resuscitation bag, or other ventilation devices to prevent contact with mouth and oral secretions.
Soiled patient care equipment	Handle in a manner that prevents transfer of microorganisms to oneself, others, and environmental surfaces; wear gloves if visibly contaminated; perform hand hygiene after handling equipment.
Soiled linen and laundry	Handle in a manner that prevents transfer of microorganisms to oneself, others, and to environmental surfaces; wear

	gloves (gown if necessary) when handling and transporting soiled linen and laundry; and perform hand hygiene.
Needles and other sharps	Use devices with safety features when available; do not recap, bend, break or hand-manipulate used needles; if recapping is necessary, use a one-handed scoop technique; place used sharps in a puncture-resistant container.
Environmental cleaning and disinfection	Use EPA-registered hospital detergent-disinfectant; follow standard facility procedures for cleaning and disinfection of environmental surfaces; emphasize cleaning/disinfection of frequently touched surfaces (e.g., bed rails, phones, lavatory surfaces).
Disposal of solid waste	Contain and dispose of solid waste (medical and non-medical) in accordance with facility procedures and/or local or state regulations; wear gloves when handling waste; wear gloves when handling waste containers; perform hand hygiene.
Respiratory hygiene/cough etiquette Source control measures for persons with symptoms of a respiratory infection; implement at first point of encounter (e.g., triage/reception areas) within a healthcare setting.	Cover the mouth/nose when sneezing/coughing; use tissues and dispose in no-touch receptacles; perform hand hygiene after contact with respiratory secretions; wear a mask (procedure or surgical) if tolerated; sit or stand as far away as possible (more than 3 feet) from persons who are not ill.
Droplet Precautions	www.cdc.gov/ncidod/hip/ISOLAT/droplet_prec_excerpt.htm
Patient placement	Place patients with influenza in a private room or cohort with other patients with influenza.* Keep door closed or slightly ajar; maintain room assignments of patients in nursing homes and other residential settings; and apply droplet precautions to all persons in the room. *During the early stages of a pandemic, infection with influenza should be laboratory-confirmed, if possible. Personal protective equipment Wear a surgical or procedure mask for entry into patient room; wear other PPE as recommended for standard precautions.
Patient transport	Limit patient movement outside of room to medically necessary purposes; have patient wear a procedure or surgical mask when outside the room.
Other	Follow standard precautions and facility procedures for handling linen and laundry and dishes and eating utensils, and for cleaning/disinfection of environmental surfaces and patient care equipment, disposal of solid waste, and

	postmortem care.
Aerosol-Generating Procedures	During procedures that may generate small particles of respiratory secretions (e.g., endotracheal intubation, bronchoscopy, nebulizer treatment, suctioning), healthcare personnel should wear gloves, gown, face/eye protection, and a fit-tested N95 respirator or other appropriate particulate respirator.

Box 2. Respiratory Hygiene/Cough Etiquette- For use at all times

To contain respiratory secretions, all persons with signs and symptoms of a respiratory infection, regardless of presumed cause, should be instructed to:

- Cover the nose/mouth when coughing or sneezing.
- Use tissues to contain respiratory secretions.
- Dispose of tissues in the nearest waste receptacle after use.
- Perform hand hygiene after contact with respiratory secretions and contaminated objects/materials.

Healthcare facilities should ensure the availability of materials for adhering to respiratory hygiene/cough etiquette in waiting areas for patients and visitors:

- Provide tissues and no-touch receptacles for used tissue disposal.
- Provide conveniently located dispensers of alcohol-based hand rub.
- Provide soap and disposable towels for handwashing where sinks are available.

Masking and separation of persons with symptoms of respiratory infection

During periods of increased respiratory infection in the community, persons who are coughing should be offered either a procedure mask (i.e., with ear loops) or a surgical mask (i.e., with ties) to contain respiratory secretions. Coughing persons should be encouraged to sit as far away as possible (at least 3 feet) from others in common waiting areas. Some facilities may wish to institute this recommendation year-round.

Appendix A

In the 2009 revision of the phase descriptions, WHO has retained the use of a six-phased approach for easy incorporation of new recommendations and approaches into existing national preparedness and response plans. The grouping and description of pandemic phases have been revised to make them easier to understand, more precise, and based upon observable phenomena. Phases 1-3 correlate with preparedness, including capacity development and response planning activities, while Phases 4-6 clearly signal the need for response and mitigation efforts. Furthermore, periods after the first pandemic wave are elaborated to facilitate post pandemic recovery activities.

The current WHO phase of pandemic alert for Pandemic (h1N1) 2009 is post-pandemic.

In nature, influenza viruses circulate continuously among animals, especially birds. Even though such viruses might theoretically develop into pandemic viruses, in Phase 1 no viruses circulating among animals have been reported to cause infections in humans.

In Phase 2 an animal influenza virus circulating among domesticated or wild animals is known to have caused infection in humans and is therefore considered a potential pandemic threat.

In Phase 3, an animal or human-animal influenza reassortant virus has caused sporadic cases or small clusters of disease in people but has not resulted in human-to-human transmission sufficient to sustain community-level outbreaks. Limited human-to-human transmission may occur under some circumstances, for example, when there is close contact between an infected person and an unprotected caregiver. However, limited transmission under such restricted circumstances does not indicate that the virus has gained the level of transmissibility among humans necessary to cause a pandemic.

Phase 4 is characterized by verified human-to-human transmission of an animal or human-animal influenza reassortant virus able to cause “community-level outbreaks.” The ability to cause sustained disease outbreaks in a community marks a significant upwards shift in the risk for a pandemic. Any country that suspects or has verified such an event should urgently consult with WHO so that the situation can be jointly evaluated and a decision made by the affected country if implementation of a rapid pandemic containment operation is warranted. Phase 4 indicates a significant increase in risk of a pandemic but does not necessarily mean that a pandemic is a forgone conclusion.

Phase 5 is characterized by human-to-human spread of the virus into at least two countries in one WHO region. While most countries will not be affected at this stage, the declaration of Phase 5 is a strong signal that a pandemic is imminent and that the time to finalize the organization, communication, and implementation of the planned mitigation measures is short.

Phase 6, the pandemic phase, is characterized by community level outbreaks in at least one other country in a different WHO region in addition to the criteria defined in Phase 5. Designation of this phase will indicate that a global pandemic is under way.

During the 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.

In the post-pandemic period, influenza disease activity will have returned to levels normally seen for seasonal influenza. It is expected that the pandemic virus will behave as a seasonal influenza A virus. At this stage, it is important to maintain surveillance and update pandemic preparedness and response plans accordingly. An intensive phase of recovery and evaluation may be required.