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Public Health
Seattle & King County



An Influenza Pandemic Planning Guide for Homeless and Housing Service Providers

Seattle-King County, Washington

Edition #1: December 2006

Acknowledgements

Development of this guide was made possible with support from the Preparedness Section of Public Health - Seattle & King County and the *Vulnerable Populations Action Team*. Much of the information in this guide was originally developed by Public Health's Communicable Disease Control, Epidemiology & Immunization Section. Public Health expresses its appreciation to the following individuals who offered their time and expertise to help shape this guide:

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Terrie Yaffe, Seattle-King County Coalition on Homelessness, and Child Care Resources
Diane Young, Public Health-Seattle & King County

Finally, our special thanks to Toronto Public Health for sharing their planning guide for homeless programs, and for allowing us to base this guide upon their work.

Disclaimer: This Planning Guide is a tool to support planning for pandemic influenza in the homeless and housing service sector. Public Health-Seattle & King County is not responsible for any misinterpretation or misuse of the contents of this guide.

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1. Introduction: Purpose of This Guide

The purpose of this planning guide is to help Seattle-King County homeless service agencies—including shelters, day programs, housing programs, and others—prepare for an influenza pandemic. This planning guide:

- Provides information on influenza, what homeless agencies can expect, and where to get more information. Outlines Public Health—Seattle & King County's (PHSKC) role during an influenza pandemic.
- Lays out issues of special concern for homeless service agencies on pandemic flu preparation and response, and offers initial guidance.
- Identifies areas for future discussion and planning.
- *Encourages organizations to start incorporating new practices in their day-to-day operations **now** that will help them during an influenza pandemic or any other emergency.*

Every organization must plan for the specific disruptions it may face during an influenza pandemic. The overall goal of planning is to reduce illness (morbidity), death (mortality), and social disruption resulting from an influenza pandemic. Although this guide identifies specific issues associated with pandemic influenza, much of the information applies to other emergencies as well.

Agencies that provide services to homeless are very diverse. Congregate shelters, apartment-style shelters, voucher programs, and low-income housing programs all have very different ways of providing clients with a place to stay. Programs that offer homeless people other services include hygiene centers, employment agencies, drop-in centers, mental health programs and meal programs. They all provide services to a wide variety of clients, and operate under different organizational and funding structures. This planning guide is intended to support the *planning process* all homeless service agencies need to undertake to address the challenges that an influenza pandemic will present. Each agency will need to adapt and think about these issues based on their clients, staffing, and site(s).

This guide will change and be updated over time. This planning guide is an evolving document. As planning continues at the federal, state and local levels, will update it to add, change, and delete information. There is a lot we don't know about influenza pandemics, and when the next one occurs we will learn as it unfolds. Consequently, guidance may need to be revised and new recommendations issued. Look for the most current guidance on the Public Health website, below.

Subscribe today to receive pandemic flu e-mail updates directly from Public Health-Seattle King County.

As a subscriber, you will get e-mails alerting you of significant updates posted to the Public Health's pandemic flu website. To sign up, go to:
<http://www.metrokc.gov/health/pandemicflu/index.htm>

2. Pandemic Influenza Information & Why Homeless Service Providers Should Be Concerned

Please visit:

<http://www.metrokc.gov/health/pandemicflu/index.htm>

for basic facts on pandemic flu and links to more information.

What is pandemic influenza?

Influenza viruses primarily cause infections of the respiratory tract (breathing tubes and lungs). In some persons, complications of influenza can be severe, including pneumonia. Pandemic influenza is a global outbreak of disease from a new influenza A virus that is unlike past influenza viruses. Because people have not been infected with a similar virus in the past, most or all people will not have any natural immunity (protection) to a new pandemic virus.

- Pandemic flu may be more severe, affect more people, and cause more deaths than seasonal influenza. It is not possible to predict in advance the severity of a future influenza pandemic.
- Once a pandemic virus develops, it can spread rapidly causing outbreaks around the world.
- If the pandemic virus causes severe disease, many people may develop serious illnesses. Some of those who develop severe influenza will die.
- There is no vaccine available at this time for a pandemic flu, and it is expected to take approximately six months after a pandemic flu appears for the first doses to be manufactured and significantly longer before there is an adequate supply for the public.
- It is not possible to predict accurately when influenza pandemics will occur. However, the current outbreak of avian influenza in Asia, Europe, and Africa has influenza experts concerned that a pandemic is developing that may be severe.
- In King County alone, it is estimated that a severe pandemic flu could result in over 540,000 people ill, 270,000 needing outpatient medical care, over 59,000 requiring hospitalization, and up to 11,500 could die.
- High levels of illness and death during a pandemic could lead to other forms of social and economic disruption. With many people in so many places becoming ill, short supplies of staffing may occur across the community, including for medical organizations, government, non-profit organizations, and many critical businesses.
- Impacts of a pandemic on everyday life may include school and business closings, the interruption of basic services such as public transportation and food delivery, and cancellation of large public gatherings.

How Does Influenza Spread?

Knowledge about the spread of influenza viruses is based on seasonal influenza. It is likely the same routes of spread will apply to a pandemic influenza virus. Influenza viruses spread from person to person through close contact. Transmission occurs through several routes, including large droplets and direct and indirect contact. Airborne transmission may also occur over short distances, but this is not known with certainty.

- **Droplet spread** occurs when relatively large respiratory droplets produced by sneezing, coughing, talking or singing come in contact with another person's eye, nose, or mouth. These droplets may spray approximately one meter (about three feet). Droplet transmission is thought to be the major route of transmission for seasonal influenza.
- **Airborne transmission** results from inhalation of smaller infected droplets that spread through the air, for example when an infected person coughs forcefully, and may occur over short distances (three – six feet). The role of short-range airborne transmission in the spread of influenza is not known, but is possible.
- **Direct contact** occurs when there is direct transfer of the virus through skin to skin contact or kissing. For example, an infected person may cough into his or her hands and then shake hands with another person who may then touch his or her own **eyes, nose or mouth**.
- **Indirect contact** occurs when objects or surfaces contaminated with the secretions of an ill person are touched by another person and brought to the **eyes, nose, or mouth**.

How long does influenza remain on surfaces?

Limited information suggests that influenza viruses survive for 24-48 hours on hard, nonporous surfaces such as stainless steel and plastic but for less than 8-12 hours on cloth, paper, and tissues. Influenza A virus can be transferred from stainless steel surfaces to hands for 24 hours, and from tissues to hands for up to 15 minutes.

How long are people infected with the pandemic flu virus infectious?

People infected with influenza are considered able to infect others beginning 1 day **before** symptoms develop and up to approximately 5 days **after** becoming sick. That means that an infected person may be able to pass on the flu to someone else before they know they are sick, as well as once they become ill. People are most contagious at the beginning of the illness, and persons with weakened immune systems and young children can be contagious for a longer time.

Why Homeless Service Providers Should be Concerned about Pandemic Flu

Impact on Health

The severity of illness and the death rate *may* be similar to a usual influenza season - or may be

much more severe. It may be anticipated that homeless people are at greater risk of becoming sick with the flu in the pandemic because:

- Homeless people live in more crowded conditions.
- Homeless people suffer from a variety of chronic and acute conditions which may affect their immune system response.
- They also suffer from addiction and mental illness in rates disparate from the general population, and may have problems following advice.
- They may not seek care (and isolation) until they are very sick.
- Social distancing will be difficult to achieve.

Impact on Daily Living

Important community services may need to be curtailed, consolidated, or suspended because of widespread absenteeism in the workplace. This will impact all residents of King County, but may have a greater impact on homeless people.

- Businesses may reduce their hours or close for a prolonged length of time. Working homeless people may not have sick leave and vacation benefits; the financial impact on the working homeless and working poor could be very hard.
- Medical facilities and emergency services such as fire, ambulance and police may also be overwhelmed by demand and therefore slow to respond. They might change the level of care they usually provide.
- Public transportation may be limited or unavailable. Poor and homeless people who rely on public transportation may be affected.
- Community activities may need to be curtailed or cancelled to prevent the spread of infection. Homeless people who rely on food banks, feeding programs, churches and libraries may have to make major adjustments to their routines.
- Restaurants, bars and coffee shops may close. Many homeless people use these businesses during the day when many shelters are regularly closed.
- Supply chains of resources (food, pharmaceuticals, fuel, etc) for every sector may be disrupted.
- Homeless people and those living on society's margins often have a limited safety net. They may not have anyone to go to the store for them or give them simple home care if they get sick.
- Homeless people who do not tend to access services may be forced by sickness and paucity of supplies to seek help at your agencies. This increased demand will impact your regular users and your staff.
- Homeless people may have limited access to information from the mainstream media (or may not trust or understand what they hear), and may be relying on trusted agency staff and case managers for information.

Impact on Emotional and Mental Health

Physical illness is not the only effect of a large scale health emergency, including an influenza pandemic. The psychological impact on the public will likely be significant. **Homeless people** enduring mental illnesses may lose continuity of care for an undetermined period of time. They may run out of medications. They may miss the comfort of regular contact with case managers, counselors and friends or family members who may be sick. Homeless people will also deeply feel the loss of any friends or caregivers who may die in the pandemic.

Staff will be under much additional stress. They will be worried about their clients, about decisions they must make for and about clients, and about the efficacy of the system and their role in it. They will be concerned about their own health, the health and safety of their families, and their finances.

All people affected by a disaster, such as a pandemic, must adjust to major changes in their lives. People may be grieving for friends or family members and may have to deal with personal or family crises. Many people will need to talk about their feelings and experiences and learn how to face the challenges of an unknown future.

Impact on Employee Absenteeism

The Centers for Disease Control and Prevention estimates that 15 to 35% of the population will become ill during the course of a pandemic and will be unable to work for a period of time. Many people who are not ill may stay home to care for children, other family members, or friends who are ill. Some people may stay home due to concerns or fears about potential exposure to influenza in the community and in the workplace. The resulting high rates of employee absenteeism will affect every sector and probably every homeless service agency.

3. Preparedness Roles & Resources

Role of Public Health - Seattle & King County During Pandemic

PHSKC takes the lead in developing a local pandemic influenza plan for Seattle and King County. However, many decisions made at the federal or state levels must be followed locally, such as establishing who has priority in receiving vaccination once a pandemic vaccine becomes available. The specific PHSKC roles during a pandemic influenza emergency response will include:

- Disease surveillance and reporting
- Case investigation and management
- Identification and follow-up of close contacts
- Health risk assessment and communications
- Liaison with hospitals and other health care system sectors
- Community-based disease control strategies
- Vaccine and antiviral medication distribution

Please visit:

<http://www.metrokc.gov/health/pandemicflu/index.htm>

to access PHSKC's "Pandemic Flu Response Plan."

Understanding the Bigger Picture: A Few Assumptions for Homeless Services Agencies

Public Health – Seattle & King County is working with federal, state, and other local government agencies to respond to pandemic influenza and to maintain essential health care and community services if an outbreak should occur. In fact, governments all around the world are preparing for the possibility of a pandemic outbreak under the leadership of the World Health Organization. Discussed below are some key planning assumptions that homeless service agencies may find useful.

Community Containment Measures. A combination of measures could be used in a strategy for slowing the spread of a severe influenza pandemic. Potential measures include voluntary isolation and treatment of ill persons at home or in a hospital, asking household members of ill persons to stay at home (quarantine) and monitor for illness for approximately 5 days; closing child day care centers and K-12 schools; limiting or prohibiting large public gatherings (i.e.,

sports arenas, concerts, theaters and other public gathering places and facilities) and voluntary social distancing measures in the community and at workplaces such as asking the public to avoid contact with others as much as possible, altering work hours and work spaces, increasing telecommuting, etc.

An important basic planning assumption for homeless service agencies:

- *At this time, Public Health—Seattle & King County does not anticipate that it would order the closing of homeless shelters during a pandemic.* This is because there is no other place for those individuals to go.

Communication: Access to Information and Guidance about Pandemic Flu. Agencies can assume that Public Health will provide various types of communication to the general public, including resources for advice and assistance on many issues. For example, a “call center” may be established and staffed that would provide referrals and information during an actual pandemic.

- If homeless-serving organizations begin to have similar issues or questions, Public Health would likely take steps within the context of the larger community incident command system to provide agencies with any specific guidance they need. *Information would change over time as a pandemic evolves.*
- During a pandemic influenza, Public Health would be coordinating with other levels of government. “Major events” related to homeless agencies would filter their way into the Emergency Operations Center (when activated). Examples might include closure or lack of staff of a homeless site, or major problems accessing food or medications for large numbers of clients.

Care Sites for People Who are Very Sick. You can expect that, during a pandemic, people who are having flu symptoms that are not severe will be discouraged from using hospital emergency departments in order to avoid overwhelming the hospitals’ capacity and to limit the spread of the flu. At this point, Public Health—Seattle & King County is in the process of exploring options for other locations (sometimes called “alternative care sites”) that would provide care to people with flu who do not require hospitalization or emergency treatment. This work is being done under the umbrella of a “Health Care Coalition” partnership of the medical system.

- *Homeless people who are very sick (too sick to be managed at home or at a homeless service site) would, like other members of the community, be directed where to go for care. Specific instructions would be available through a call center and/or other forms of communication that would be activated during a pandemic.*

Preparedness resources for businesses, non-profits, and other organizations.

Please visit the Public Health—Seattle & King County website to access pandemic flu planning checklists for individuals and families, as well as resources for businesses.

For pandemic flu preparedness tools and checklists, visit:
<http://www.metrokc.gov/health/pandemicflu/index.htm>

Other emergency preparedness links are found at:
<http://www.metrokc.gov/health/portal/prep.htm>

CHECKLISTS: Use Them!

<http://www.pandemicflu.gov/plan/>

On this U.S. Department of Health & Human Services website, you will find helpful planning checklists. Depending on the type of program(s) you operate, you might want to use portions of several checklists, as applicable.

- Faith-Based & Community Organizations Pandemic Influenza Preparedness Checklist
- Long-term Care and Other Residential Facilities Checklist
- Home Health Care Services Providers Checklist
- Business Planning Checklist
- Individuals and Families Checklist
- And more!

4. Homeless and Housing Service Providers: Before, During, and After a Pandemic

Envisioning pandemic flu: before, during, and after

During pre-pandemic (now!), you are . . .	During a pandemic, you'll be . . .	After a pandemic, you'll be . . .
• Developing your agency's business continuity plan • Developing personal & family preparedness plans • Educating staff & clients (attending trainings, sponsoring in-house trainings, etc.) • Signing up to get e-mail alerts from Public Health • Stockpiling supplies. • Refining your infection control policies & procedures. • Posting "wash your hands / cover your cough" posters. • Putting hand sanitizer in conspicuous places. • Encouraging use of hand sanitizer on entrance to your site (try it!) • Arranging mass shelter clients head to foot on sleeping mats/cots • Get in the practice of doing simple symptom screening of clients¹ • Forming key partnerships with other agencies like yours.	• Listening to & following instructions from Public Health • Operating using an "incident command" system • Assessing clients for flu symptoms. • Isolating clients with flu symptoms as best as you can. • Practicing excellent infection control measures. • Providing basic "tea & toast" level of care to sick individuals & families. • Referring sick clients to designated care sites (<i>when and if open</i>) • Possibly dealing with deaths on site, following instructions from Public Health • Working with your pre-arranged partners for mutual assistance • Communicating with emergency response system if your site is overwhelmed	• Evaluating response & lessons learned

¹ Agencies can help stop infectious diseases at the door with **five simple symptom questions**: (1) How are you feeling today? (2) have you been coughing more than usual lately? (3) have you been having diarrhea or vomiting today? (4) have you been troubled by a rash or very itchy skin or scalp? (5) do you have any sores or injuries that are not healed over? For more information, go to the publications section at: www.metrokc.gov/health/hchn and read our document "Creating a Health Conscious Culture at Your Homeless Program Site."

4-a. Develop or review infectious disease protocols, policies, and procedures

Develop or review existing protocols on infection control and response to infectious diseases. Practice them now. For example, during an influenza pandemic:

- Screen all individuals and staff on admission to the facility for symptoms of influenza (that is, fever and cough). Develop a plan for managing individuals (and staff) with symptoms, including immediate isolation (to the best of your ability at your site).
- Assure maximal spacing of clients (decrease social density).
- Assure clients exercise good cough etiquette. Provide tissues and surgical masks.
- Strongly encourage that all people sanitize their hands upon entering the building. To minimize the number of staff required to oversee this practice, consider using one primary entrance and closing secondary entrances.
- Increase ventilation to the extent possible without compromising comfort.

4-b. Train staff and clients on routine practices for infection control

- Watch for external training opportunities on emergency preparedness and pandemic flu, and take advantage of them.
- Contact Health Care for the Homeless Network to schedule a communicable disease and infection control in-service for staff and Staying Healthy class for clients.
- Educate clients on hand hygiene, respiratory etiquette, and other infection control practices. Post hand washing and respiratory etiquette signs.
- Provide in-service education sessions for staff on infection control and use of personal protective equipment (PPE).
- Encourage staff, volunteers and clients to model hand and respiratory hygiene.
- Provide staff access to infection control policies and procedures.

4-c. Learn, establish, and practice an “incident command” system

- Watch for external training opportunities on emergency preparedness and take advantage of them. They may cover incident command system training.
- A California-based organization, Collaborating Agencies Responding to Disasters (CARD) provides training on incident command system geared for non-profits. Visit their website to learn more about CARD and its resources:
<http://www.firstvictims.org/index.html>
- Increase your organization’s ability to provide timely and accurate information during an emergency. This is called “**risk communications**.” Watch for and take advantage of training for community-based organizations on risk communications. **Contact the Risk Communication Specialist at Public Health – Seattle & King County (206-296-4313) to schedule a risk communication training**, or check out a web-based course on risk

communications at the following link: <http://www.nwcphp.org/training/courses-exercises/courses/risk-communication>

4.d Stockpile supplies

Agencies should consider stockpiling critical supplies now that will enable care on site for ill individuals. If your resources are limited, make it a priority to have plenty of hand sanitizer, tissues, and masks on hand. Check the Public Health website for the latest guidance on mask usage: <http://www.metrokc.gov/health/pandemicflu/index.htm>

- Soap, paper towels, **hand sanitizer**, hand wipes, and **tissues**.
- Cleaning supplies, large and small garbage bags, and other waste disposal supplies.
- Personal protective equipment, including gloves, **surgical masks**, and goggles.
- Thermometers & thermometer covers. (Approximately one thermometer for every 10 ill clients should be adequate; clean between use per product instructions.)
- Medications used to bring fevers down, such as acetaminophen.
- Re-sealable zip-top plastic bags - for example, large Ziploc® bags.
- Disinfectant (e.g., bleach to make weak solution of 1 part bleach to 9 parts water; Lysol®; or other household disinfectant)
- Extra linen, towels, blankets, bedclothes, hospital gowns, robes.
- Sheets, curtains, twine and nails to rig up barriers for isolation of sick. (Plastic shower curtains could also be used for this purpose.)
- Extra fluids & foods: juices, Gatorade® or Gatorade® instant mix (powder), Pedialyte®, instant soups, Jello®, teas, etc.

Of course, you also want to gear up according to basic emergency preparedness guidelines from the American Red Cross (radios, first aid kits, extra food & water, etc.). Remember that basic infrastructure services may be affected during a pandemic.

Outreach Kit

During an influenza pandemic, every worker doing outreach activities with clients should carry the following supplies (per visit):

- two pairs of disposable rubber gloves
- two pairs of non-latex gloves
- two surgical masks
- two goggles
- one thermometer
- one bottle of personal hand sanitizer
- 10 moist (preferably alcohol-soaked) hand wipes
- two re-sealable plastic bags for contaminated garbage
- a water-resistant bag to carry supplies (e.g., plastic bag)

Sources of supplies:

Homeless service agencies often ask “what are some good sources to buy supplies in bulk?” Clearly, there are many vendor options but we will list here a few places for you to start—these are vendors that we have heard various non-profit or government entities have used for bulk purchasing of items such as hand sanitizer, masks & gloves, facility & janitorial supplies, etc. Listing here does not imply our endorsement of one vendor over another.

Betty Mills: <http://www.bettymills.com/shop>

Lab Safety: <http://www.labsafety.com/>

NorMed: www.normed.com

Unisource: <http://www.unisourcelink.com/index.asp>

Costco

Emergency Preparedness Service www.emprep.com

4-e. Food practices and access

During an influenza pandemic, community living settings should reinforce routine food safety and sanitation practices. Facilities should also consider the following:

- Reinforce regular hand washing by staff and volunteers and clients who prepare food
- Discourage the sharing of dishes, cutlery, and other items
- Use disposable cutlery and pre-packaged food, if staffing levels are low
- If possible, stockpile a 6–8 week supply of non-perishable food, in case deliveries of food are disrupted. Homeless service agencies facing space limitations may want to explore partnerships with other organizations (perhaps faith-based organizations with whom they partner?) to ask them to store food and water on your behalf.

4-f. Support ill individuals

During an influenza pandemic, community agencies may need to provide basic support to ill individuals, as hospitals will be overwhelmed. Agencies will also need to support the isolation of ill individuals when it is not possible to isolate these individuals elsewhere. **Homeless service providers are not expected to provide complex care to ill individuals.**

If an individual’s health status deteriorates, service providers will receive instructions from Public Health on where to send such individuals. Alternate care sites may be open.

For basic guidance on providing bedside care to ill individuals, please see Appendices A & B. While this guidance was written for home care, most of it applies to homeless service agencies as well. Additional considerations for homeless programs are described below.

Special Considerations for Isolation in Community Living Settings

Not all ill individuals will need to be hospitalized and/or go to an “alternate care site.” Many ill individuals will need to be isolated in non-hospital settings. For most, this means staying home and limiting contact within the household. Achieving “isolation” in the shelter setting will be

challenging. We also refer to this as “tea and toast” level of care—the type of care one would receive in a home setting.

- **Congregate shelters** will pose the greatest challenge, especially those with minimal distance between mats or cots.
- **Family shelters, transitional housing programs, and low-income housing sites.** Many shelters for homeless families—as well as other types of housing programs for homeless and formerly homeless people—are individual units or apartments. In these situations, isolation will generally be more feasible than in congregates shelters. However, in many of these programs, meals or other activities take place in common areas. Programs may need to think about ways to minimize interactions and gatherings in their particular setting if possible.

Ideally, an ill individual should be isolated as much as possible and as soon as possible to reduce the transmission of the virus. Homeless and housing service providers may encounter a range of issues when attempting to provide isolation for an ill individual. Each setting will face its own challenges, depending on the population served, the services offered, and the physical lay-out of the facility. Some agencies may find it particularly challenging to provide care-in-place. The following are some of the issues agencies should consider when deciding on isolation options:

- Individuals in isolation need easy access to washrooms. This may pose challenges in dormitory-style settings. When accommodating a group of ill individuals, consider access to washrooms. If communal washrooms are used, clean them frequently.
- Ill individuals need access to food, drinks, and medications. Staff need to wear appropriate personal protective equipment (PPE) when bringing supplies and providing support to ill individuals (e.g., surgical mask and eye protection if providing direct face-to-face care within 3 feet of the ill person).
- Agencies should develop strategies for handling violent, aggressive, or non-cooperative clients who are ill and are required to remain in isolation. Ill individuals in isolation may also have other mental health issues that require intervention.
- During an influenza pandemic, policies related to access to smoking, drugs, or alcohol may need to be changed, particularly for individuals in isolation.
- Individuals in isolation may need to refill prescriptions or need access to daily medications such as methadone. Consider what assistance clients and guardians may need to obtain and take prescription or over-the-counter medications.
- Different isolation options from ideal to least ideal for the isolation of ill clients in community living settings during an influenza pandemic are shown below. *While isolating ill clients in outside facilities is the most ideal, whether or not that will be possible has not yet been determined. Even if some designated sites are available, they might be full or overwhelmed.*

Isolation in Community Living Settings

IDEAL	1. Maintain Routine Infection Control Practices • Wash hands often for 20 seconds or use hand sanitizer. • Cover coughs and sneezes with a tissue or sleeve, and dispose of tissues immediately after use. • Use appropriate personal protective equipment. • Clean equipment. • Clean environment.			
	2. Isolate – Outside Facility [If sites are developed, and/or referrals to alternate care sites if open]			
	3. General Tips for Isolation within a Facility • Separate individuals by more than 3-6 feet when possible. • Designate dedicated staff member(s) to be caregiver to persons in isolation. • Wear a surgical mask when providing direct care within 3 feet. • Have hand sanitizer, Kleenex and waste can or bag at each bedside of the sick. • Place sick clients closer to rest room. • <i>Arrange beds so that individuals lie head to toe relative to each other.</i> • In larger rooms, create temporary physical barriers between beds, using sheets or curtains. This helps reduce droplet spread. • Direct ill individuals to hospitals or alternate care sites (if opened), if necessary. • Increase ventilation in the facility to the extent possible.			
	1 Person Ill	About 2 – 10 People Ill	More than 10 People Ill	Majority of People Ill
	Isolate in separate room	Accommodate together in separate room	Accommodate together on one floor or in a separate section of the building	Accommodate together throughout the entire site
LEAST IDEAL	Isolate in shared room	Accommodate together in common area	Accommodate together throughout the entire site	
	Isolate in large shared space	Accommodate together at one end of floor		

LEAST
IDEAL

4-g. Deaths on site

Many agencies that work with homeless people in our region have naturally expressed concerns about the potential for deaths on site, and what they would do. The King County Medical Examiner's Office and the Preparedness section of Public Health: Seattle & King County are developing recommendations and strategies to address the care and storage of bodies within the larger community, and the issue of homeless shelters and other communal living settings is on their radar screen. They understand that homeless shelters are crowded sites with no or few storage areas.

During a pandemic, specific information would be provided to the community about how to deal with bodies, and that information may shift over time depending on the severity of the pandemic.

Here is some general advice to help you prepare:

1. **When handling the body of someone who has died, you should take the same personal protection measures as for caring for people with influenza who are living** (i.e., latex gloves, masks, etc) because influenza transmission may still be possible after death. It is important to know that the body of someone who has died of pandemic influenza does not pose any additional communicable disease risks and is not a public health hazard.
2. If a client dies at your site, the death will be reportable to the King County Medical Examiner. The first step would be to call and report the death, and the Medical Examiner's staff will help walk you through next steps, based on the situation at hand. *What happens next will depend on the scale of the pandemic.* Based on current pandemic flu response planning, the goal would be to recover the body of the deceased within 24-48 hours from the time it is reported to the Medical Examiner's office. Recovery from locations where cold storage is not readily available, including shelters, will be the first priority during a response.
3. At the time the death is reported, specific guidance may be provided on what to do with the body until it is recovered; however, the following guidelines can be considered for preparing a body for removal:
 - If the death appears to be from pandemic influenza (not a sudden, violent or suspicious death), it is acceptable to move the body from its original location to a more appropriate temporary storage location ***only after the death has been reported to the Medical Examiner and specific permission is granted to move the body and related personal effects.*** At this time, the goal should be to find a secure place to keep the body that is as cool as possible (34-38 degrees Fahrenheit is ideal).
 - If possible, there should be something separating the body from the floor surface. Ideally, the body should be placed on plastic sheeting or *on top* of plastic bags.
 - After death, the body should remain as is. All clothing, jewelry and other personal effects should remain directly on the body. These may be critical to helping identify the deceased.

- If the deceased has any form of identification, this should be removed from his or her belongings and placed in a plastic bag (zip-top style bag if available) for protection. The bag should be pinned or stapled to the clothing so that it is secured to the body.
 - Public Health-Seattle & King County and the Medical Examiner's Office will have a form available during a pandemic that should be completed by shelter staff to help with the identification process. It is important that this form be included with any of the identification material and enclosed in the plastic bag and secured to the deceased's clothing.
 - The body should be covered with a cotton sheet or towel while it is being stored for removal.
 - After the body has been recovered and removed from site, the area where the body has been stored should be disinfected. This can be done by washing the area with a 10% bleach solution (1 part bleach to 9 parts water).
4. To help with location of family members of the deceased and other matters, any of the following information is extremely helpful. (Most agencies collect this kind of information at intake.)
- Identification: full name, date of birth, State ID card, Driver's license, social security number (if known), medical coupon, food stamp card, VA card, Tribal ID
 - Race
 - Gender
 - Any medical information including list of medications
 - Emergency contact and next of kin
 - Spiritual affiliation
 - Tribal affiliation
 - Cultural considerations

4-h. Considerations for outreach clients and outreach workers

Agencies should create a master list of clients who are receiving off-site or home-based services and maintain a record of the type of services provided. A "risk-level ranking tool" should be developed to prioritize outreach clients based on the service provided and the individual needs of that client.

The client's risk level should be identified to determine the minimum frequency at which they should be seen, given their individual needs (e.g., medication, food). If agencies anticipate they will not be able to reach their high-risk outreach clients, they should attempt to engage alternative services (community/volunteer) ahead of time to ensure continuity of service.

During an influenza pandemic service providers should, if possible, screen clients for symptoms of influenza-like illness before a scheduled visit. Clients should be asked, when possible, to contact the service provider should they develop influenza-like symptoms prior to a scheduled visit.

4-i. When homeless service agencies become overwhelmed and face possible closure

First, what can you do to prevent your agency from becoming overwhelmed? **Most important, homeless service and housing agencies can develop a service or business continuity plan.**

That process will trigger many actions that will help your agency continue its services for as long as possible, and as safely as possible. For example, individual agencies could consider expanding volunteer pools and adjusting volunteer roles and responsibilities as necessary. Cross-training of staff so that they can play different roles or work at different sites is also important to consider. Agencies could develop manuals on their procedures to ensure quick integration of volunteers or other staff who may not typically work in a given job.

It is possible that at some point during a pandemic, some agencies may lack the staff and volunteers they need to operate safely. *What then?*

A major event such as the potential closing of a large homeless shelter would be communicated to the emergency management system in your community. (This is similar to what would happen—and has happened—during an earthquake, for example.) *Next steps would depend on the scale of the pandemic and many other factors.*

Some of the ideas suggested so far include:

- What options might we as a community want to explore for creating a mobile team of additional staff who could provide supplemental support if smaller agencies require additional staff? During the pre-pandemic phase, staff could participate in training or job shadowing with partner agencies to learn basic practices and procedures.
- How might we plan for existing Health Care for the Homeless Network care providers to play roles in supporting sites other than the ones they normally work at?
- How might we pool resources across agencies (for example, food preparation staff could be consolidated at one agency's kitchen to prepare food for a number of smaller sites?)
- Broaden target populations or regular client groups in larger agencies (for example, use a wing in a men's shelter for women, if a women's shelter closes?).

Note: This topic appears to be an area for continued discussion across agencies, with Public Health staff and local government emergency planners.

4-j. Staff staying on site

- Agencies may want to consider providing space for staff members to stay at the facility, particularly those who may have difficulty securing transportation to and from their homes.

- Staff should plan for alternative child care arrangements in case transportation services are reduced or schools or day nurseries are closed.
- If no alternative child care arrangements are available, agencies may want to develop strategies to assist staff.

4-k. Reduce client mobility

Homeless populations tend to be highly mobile in part because services are spread across multiple agencies. Over the course of a day, one individual may visit several agencies. During a pandemic, this high mobility may promote the rapid spread of the virus through this population. The best way to stop the spread of influenza is to minimize close contact with other persons to the greatest extent possible. To reduce individuals' mobility, try to find ways to:

- Limit the movement of residents, such as transfers between shelters.
- Limit the number of clients or visitors at drop-ins or other day programs.
- Cancel or postpone group activities, if possible.
- Provide incentives to reduce mobility; for example, re-organizing services so that three meals are offered at one facility, instead of one meal each at three different agencies

Note: *This topic appears to be an area for continued discussion across agencies, with Public Health staff.*

4-l. Other Issues of Concern

- **Access to regular medications and health services such as kidney dialysis, methadone, etc.** These issues are currently under discussion by the *Health Care Coalition*.
- **Confidentiality / HIPAA issues during a pandemic.** During a public health emergency, public health entities have powers to suspend or alter certain requirements in the interests of public health. Specific information on this would be conveyed during the pandemic.
- **Funding.** Many agencies express concerns about their financial situation during a pandemic, and how they would pay staff. As agencies prepare their continuity plan, they in turn might consider contacting their funders to learn about their funders' business continuity plans, and what to expect.
- **Children whose parents are ill.** Homeless service agencies that work with families with children have expressed concern about what to do if a client with children becomes ill in a family shelter and is unable to supervise his or her children or dies. This issue needs further discussion. *It is important that agencies ensure client emergency contact information is up to date and, if possible and appropriate, ask clients to identify temporary caregivers for their children.*

4-m. Issues requiring further community-level planning between homeless service agencies and health system

The ad hoc pandemic flu work group identified the following issues as priorities for additional work, contingent upon availability of resources to support the work.

1. What do homeless service agencies need to **spur them to begin business continuity planning work?** Additional training opportunities for agencies working with homeless people and other vulnerable populations was requested by the work group.
2. **Communication** networks – how can we promote the two-way flow of communication needed between Public Health and homeless service agencies? How do we link with and build upon the larger communication plans under development? The work group felt that a communication network among homeless-serving organizations would be useful.
3. Should we pursue trying to designate some location(s) for homeless people with the flu to get care – the “**tea & toast**” level of care. Is this feasible? How would they be staffed and who would the “gatekeeper be?” What are their purpose(s)? Could/would they help other homeless sites stay open?
4. Need to continue to think through and discuss the scenarios of what happens when a given **homeless site is so overwhelmed** due to lack of staff and/or other issues that it **feels it needs to close**.

Appendices

Appendix A: How to Care for Someone With Influenza

Appendix B: Preventing the Spread of Influenza

Appendix C: Glossary

Note: Appendices A and B are located on the Public Health-Seattle & King County website and are also available in Adobe PDF format. The fact sheets are available in languages other than English.

<http://www.metrokc.gov/health/pandemicflu/prepare/index.htm>

Appendix A: How to Care for Someone with Influenza

During a severe influenza outbreak or pandemic, the media and healthcare providers will notify residents of King County with instructions for obtaining medical advice and receiving medical care. The following information is a general guide and is not intended to take the place of medical advice from a healthcare provider.

- Keep a care log. Record the following information about the ill person at least once each day or more often as symptoms change, along with the date and time.
 - Check the patient's temperature
 - Check the patient's skin for color (pink, pale or bluish?) and rash
 - Record the approximate quantity of fluids consumed each day and through that night
 - Record how many times the ill person urinates each day and the color of the urine (clear to light yellow, dark yellow, brown, or red)
 - Record all medications, dosages and times given
- Keep the ill person as comfortable as possible. Rest is important.
- Keep tissues and a trash bag for their disposal within reach of the patient.
- Make sure the patient avoids drinking alcohol and using tobacco. Smoking should not be allowed indoors.
- Use ibuprofen or acetaminophen or other measures, as recommended by your healthcare provider, for fever, sore throat and general discomfort.
- Do not use aspirin in children or teenagers with influenza because it can cause Reye's syndrome, a life-threatening illness.
- Keep in mind that fever is a sign that the body is fighting the infection. It will go away as the patient is getting better. Sponging with tepid (wrist-temperature) water may lower the patient's temperature, but only during the period of sponging. Do not sponge with alcohol.
- If the patient is not vomiting, offer plenty of fluids to prevent dehydration, even if he or she does not feel thirsty. Offer small amounts of fluid frequently. If the ill person is not eating solid foods, include fluids that contain sugars and salts, such as broth or soups, sports drinks, like Gatorade® (diluted half and half with water), Pedialyte® or Lytren® (undiluted), ginger ale and other sodas, but not diet drinks. Regular urination is a sign of good hydration.

Recommended minimum daily fluid intake, if not eating solid food:

- Young children – 1 ½ oz. per pound of body weight per day
(Example: A 20 lb. child needs approximately 30 oz. fluid per day)
 - Older children and adults – 1 ½ to 2 ½ quarts per day
- If the patient is vomiting, do not give any fluid or food by mouth for at least 1 hour. Let the stomach rest. Next, offer a clear fluid, like water, in very small amounts. Start with 1 teaspoon to 1 tablespoon of clear fluid every 10 minutes. If the patient vomits, let the stomach rest again for an hour. Again, try to give small frequent amounts of clear fluid. When there is no vomiting,

gradually increase the amount of fluid offered and use fluids that contain sugars and salts. After 6-8 hours of a liquid diet without vomiting, add solid food that is easy to digest, such as saltine crackers, soup, mashed potatoes or rice. Gradually return to a regular diet.

- Babies who are breast-fed and vomiting can continue to nurse. Feed smaller amounts more often by breast-feeding on only one breast for 4-5 minutes every 30-60 minutes or by offering teaspoonfuls of Pedialyte® or Lytren® every 10 minutes.
- Watch for signs of dehydration –
 - Weakness or unresponsiveness
 - Decreased saliva/dry mouth and tongue
 - Skin tenting: check this by picking up layers of skin between your thumb and forefinger and gently pinching for 1 second. Normally, the skin will flatten out into its usual shape right away. If patient is dehydrated, the skin will “tent” or take 2 or more seconds to flatten out. This is best checked on the belly skin of a child and on the upper chest of an adult.
 - Decreased output of urine, which becomes dark in color from concentration. Ill persons who are getting enough fluids should urinate at least every 8-12 hours.
- If the ill person is dehydrated, give sips or spoonfuls of fluids frequently over a 4-hour period. Watch for an increase in urination, a lighter color of the urine and improvement in the patient’s overall condition. These are signs that the increased fluids are working.
 - Children under 5 years: Give 1 ounce fluid per pound body weight over 4 hours (Example: A 20 lb. child needs 20 oz. or 2-3 cups over 4 hours)
 - Older children & adults will need 1-2 quarts of fluids over the first 4 hours
- Watch for complications of influenza. Complications are more common in individuals with health conditions such as diabetes, heart and lung problems, but may occur with anyone who has the flu. Call your healthcare provider or the pandemic flu hotline if the ill person:
 - Has difficulty breathing, fast breathing, or bluish color to the skin or lips
 - Begins coughing up blood
 - Shows signs of dehydration and cannot take enough fluids
 - Does not respond or communicate appropriately or appears confused
 - Complains of pain or pressure in the chest
 - Has convulsions (seizures)
 - Is getting worse again after appearing to improve
 - Is an infant younger than 2 months old with fever, poor feeding, urinating less than 3 times per day or other signs of illness

At a stressful time when your family is trying to cope with illness and uncertainty, keep in mind that the most basic precautions and attention to the patient’s symptoms will really help. Most patients with influenza can receive the care they need at home.

Other resources:

Public Health – Seattle & King County: <http://www.metrokc.gov/health/pandemicflu>

Individuals and Families Planning: <http://www.pandemicflu.gov/plan/tab3.html>

Influenza Symptoms, Protection and What to Do If You Get Sick:

<http://www.cdc.gov/flu/symptoms.htm>

Appendix B: Preventing the Spread of Influenza

Most patients with pandemic influenza will be able to remain at home during the course of their illness and can be cared for by family members or others who live in the household. This information is intended to help families and caregivers recognize the symptoms of influenza and care for ill persons in the home, both during a typical influenza season and during an influenza pandemic.

At the outset of an influenza pandemic, a vaccine for the *pandemic* flu virus will not be available for several months. However, it's still a good idea to get a *seasonal* flu vaccine to protect from seasonal flu viruses (see Influenza Vaccine Information Sheet).

Know the Symptoms of Influenza, which may include:

- Sudden onset of illness
- Fever higher than 100.4° F (38° C)
- Chills
- Cough
- Headache
- Sore throat
- Stuffy nose
- Muscle aches
- Feeling of weakness and/or exhaustion
- Diarrhea, vomiting, abdominal pain (occur more commonly in children)

Prevent the Spread of Illness in the Home

Because influenza can spread easily from person to person, anyone living in or visiting a home where someone has influenza can become infected. For this reason, it is important to take steps to prevent the spread of influenza to others in the home.

What Caregivers Can Do

- Physically separate influenza patients from other people as much as possible. When practical, the ill person should stay in a separate room where others do not enter. Other people living in the home should limit contact with the ill person as much as possible.
- Designate one person in the household as the main caregiver for the ill person. Ideally, this caregiver should be healthy and not have medical conditions that would put him or her at risk for severe influenza disease. Medical conditions that are considered “high risk” include the following:
 - Pregnancy
 - Diabetes
 - Heart problems
 - Kidney disease
 - Disease or treatment that suppresses the immune system
 - Chronic lung disease, including asthma, emphysema, cystic fibrosis, chronic bronchitis, bronchiectasis and tuberculosis (TB)
 - Age over 65.
- Watch for influenza symptoms in other household members.
- If possible, contact your health care provider if you have questions about caring for the ill person. However, it may be difficult to contact your usual healthcare provider during a severe influenza pandemic. Public Health–Seattle & King County’s pandemic flu website (listed below) will provide frequent updates, including how to get medical advice. If special telephone hotlines are used, these numbers will also be on the website and announced through the media.
- Wearing surgical masks (with ties) or procedure masks (with ear loops) may be useful in decreasing spread of influenza when worn by the patient and/or caregiver during close contact (within 3 feet). If masks are worn, to be useful they must be worn at all times when in close contact with the patient. The wearing of gloves and gowns is not recommended for household members providing care in the home.

What Everyone in the Household Can Do

- Wash hands with soap and water or use an alcohol-based hand cleanser (like Purell® or a store-brand) after each contact with an influenza patient or with objects in the area where the patient is located. Cleaning your hands is the single best preventive measure for everyone in the household.
- Don't touch your eyes, your nose, or your mouth without first carefully washing your hands. Wash hands before and after using the bathroom.
- Wash soiled dishes and eating utensils either in a dishwasher or by hand with warm water and soap. It's not necessary to separate eating utensils used by a patient with influenza.
- 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. Do not "hug" the laundry, in order to avoid contamination. Wash hands with soap and water after handling soiled laundry.
- Place tissues used by the ill patient in a bag and throw them away with other household waste. Consider placing a bag at the bedside for this purpose.
- Clean counters, surfaces and other areas in the home regularly using everyday cleaning products.

Prevent the Spread of Illness in the Community

- Stay at home if you are sick. Ill persons should not leave the home until they have recovered because they can spread the infection to others. In a typical influenza season, persons with influenza should avoid contact with others for about 5 days after onset of the illness. During an influenza pandemic, public health authorities will provide information on how long persons with influenza should remain at home.
- If the ill person must leave home (such as for medical care), he or she should wear a surgical or procedure mask, if available, and should be sure to take the following steps:
 - Cover the mouth and nose when coughing and sneezing, using tissues or the crook of the elbow instead of the hands.
 - Use tissues to contain mucous and watery discharge from the mouth and nose.
 - Dispose of tissues in the nearest waste receptacle after use or carry a small plastic bag (like a zip-lock bag) for used tissues.
 - Wash hands with soap and water or use an alcohol-based hand cleanser after covering your mouth for a cough or sneeze, after wiping or blowing your nose, and after handling contaminated objects and materials, including tissues.
- During an influenza pandemic, only people who are essential for patient care or support should enter a home where someone is ill with pandemic influenza unless they have already had influenza.
- If other persons must enter the home, they should avoid close contact with the patient and use the infection control precautions recommended on this sheet.

This guidance is based on current information from the U.S. Department of Health & Human Services Pandemic Influenza Plan and is subject to change. Up-to-date guidance will be available from your healthcare provider and at these websites:

Public Health – Seattle & King County: <http://www.metrokc.gov/health/pandemicflu>

Official U.S. Government pandemic flu website: <http://www.pandemicflu.gov/plan/tab3.html>

Appendix C: Glossary

Airborne transmission – the transmission of organisms, such as a bacteria or viruses, through the dispersion of very small infectious droplets (less than 5 microns in diameter). Such droplets can remain suspended in the air for long periods of time and may be inhaled into the lungs.

Antiviral medication – medication used to treat individuals who show early signs and symptoms of influenza and to prevent illness among those exposed to the influenza virus.

Asymptomatic – not showing signs or symptoms of disease.

Avian influenza (“bird flu”) – a disease caused by influenza viruses carried and spread among birds. On rare occasions, avian influenza viruses have crossed the species barrier to infect humans.

Cleaning – the physical removal of foreign material such as dust, soil, and organic material (e.g., blood, secretions, excretions and microorganisms) with water, detergents, and mechanical action. Physical cleaning removes rather than kills microorganisms.

Communicable disease – an illness due to a specific infectious agent or its toxic products that arises through transmission of that agent or its products from an infected person, animal or inanimate reservoir to a susceptible host; either directly or indirectly through an intermediate plant or animal host, vector or inanimate environment.

Communicable period – the time during which an infectious agent may be transferred directly or indirectly from an infected person to another person, from an infected animal to human, or from an infected person to animal, including arthropods (insects and related species).

Contact transmission – transmission of infection through direct physical contact and/or indirect contact via an intermediate object such as contaminated instruments, door handles, etc.

Contact precautions – precautions taken to prevent the spread of infectious agents through contact transmission.

Contagious - able to be spread from person to person or from living object to nonliving object to living object (such as person to object to person).

Disaster – a natural or man-made event that harms people, properties, livelihoods, or industries, often resulting in permanent changes to human societies, ecosystems, and environments.

Disinfection – the killing of infectious agents on objects and surfaces by direct exposure

to chemical or physical agents.

Droplet precautions – precautions taken to prevent the spread of infectious agents by droplet transmission.

Droplet transmission – the transmission of organisms, such as a bacteria or viruses, by large droplets (greater than 5 microns in diameter) produced by sneezing, coughing, talking or singing. These droplets are propelled a short distance (1 metre/3 feet or less) through the air and can come in contact with the eyes, nose, or mouth of another person, thus infecting them.

Emergency – the existence of a dangerous situation or the threat of an impending dangerous situation that will adversely affect the property or the health, safety and welfare of the community.

Emergency Operations Center – a centralized location from which emergency operations can be directed and coordinated.

Emergency plan - documents that describe principles, policies and methods for carrying out emergency operations and providing mutual aid during emergencies, including such elements as continuity of government, emergency functions of government agencies, mobilization of resources, and public information.

Endemic – the constant presence of a disease or infectious agent within a given geographic area or the usual prevalence of a given disease within an area.

Epidemic – the occurrence of cases of an illness (or an outbreak of illness) in a community or region more often than would normally be expected.

Epidemiology – the branch of medical science dealing with the transmission and control of disease, including the study of epidemics and epidemic diseases.

Flu – an abbreviation for influenza which is a highly contagious and common respiratory illness cause by a virus. There are three known types of influenza virus – A, B, and C.

Immunity – resistance to an infectious agent usually associated with the presence of protective antibodies or cells.

Immunize –to make immune, that is able to resist a particular disease, most often through administration of a vaccine delivered by a needle.

Incident Command System – a model for the command, control and coordination of emergency response, used by individual organizations working towards the common goal of stabilizing the emergency situation and protecting life, property and the environment.

Incubation period – the time interval between initial contact with an infectious agent

and the first appearance of symptoms associated with the infection.

Indirect transmission – the transmission of a pathogen from an infected person to an inanimate object and then to another person.

Infection – a condition in which organisms multiply within the body and cause a response from the host's immune defenses. Infection may or may not lead to clinical disease.

Infection control - activities aimed at the prevention of the spread of pathogens between people or animals.

Infectious disease – a disease of humans or animals resulting from an infection.

Influenza - a highly contagious and common respiratory illness caused by a virus. There are three known types of influenza virus – A, B, and C.

Influenza-like illness – acute onset of respiratory illness with fever and cough and one or more of the following: sore throat, joint aches, muscle aches or extreme exhaustion, which could be due to the influenza virus.

Isolation – the separation of an infected person or animal, during the communicable period of a disease, from others to prevent the spread of the infection to others.

Mitigation - efforts to prevent a disaster from ever occurring, or to reduce the effects of a disaster when it does occur.

Morbidity – illness; departure from a state of well being, either physiological or psychological.

Morbidity rate – the number of persons in a population who develop a disease during a specified period of time.

Mortality – death.

Mortality rate – the number of deaths occurring in a population during a specified period of time, usually a year, relative to the number of persons at risk of dying during the period.

Mutation – a permanent, transmissible change in the genetic material of a cell.

Oseltamivir – an antiviral drug effective against influenza A and B viruses that inhibits the neuraminidase protein, effectively trapping the influenza virus within the host cell and preventing it from infecting new cells. This can help in preventing infection (prophylaxis) or in reducing the duration and severity of illness once infected. It is effective if treatment is started within 48 hours of symptom onset. In Canada and the

USA, oseltamivir is sold under the brand name Tamiflu.

Pandemic – an epidemic occurring worldwide, or over a very wide area, crossing international boundaries, and usually affecting a large number of people.

Personal protective equipment (PPE) – attire used to protect workers against airborne or droplet transmission of an organism and against exposure to blood and body fluids. PPE generally includes masks, eye goggles, face shields, gloves, gowns and foot-covers.

Pneumonia – an inflammation of the lungs caused by infection.

Primary Care – the first level of care and usually the first point of contact that people have with the health care system. Primary care involves the provision of integrated, accessible health care services by clinicians who are responsible for addressing a large majority of personal health care needs, developing a sustained partnership with patients and practicing in the context of family and community. It includes advice on health promotion and disease prevention, assessments of one's health, diagnosis and treatment of episodic and chronic conditions and supportive and rehabilitative care.

Prophylaxis – prevention of or protective treatment of disease.

Public health measures – non-medical interventions used to reduce the spread of the influenza virus during a pandemic.

Quarantine – restriction of the activities of well persons or animals who have been exposed to a case of communicable disease, during its period of communicability, in order to prevent transmission of that disease during the incubation period if infection should occur.

Respiratory etiquette - simple tips to keep respiratory infections from spreading such as covering your nose and mouth every time you sneeze or cough; using a tissue when you blow your nose; putting used tissues in the trash; and washing your hands frequently, especially if you or someone you are close to is sick.

Screening - checking for disease when there are no symptoms.

Social distancing – a way to reduce the risk of exposure to an organism, such as the influenza virus, by reducing or avoiding contact with other people as much as possible.

Stockpile – reserve; goods saved for future use or a special purpose.

Surveillance – an on-going, systematic method for continuous monitoring of diseases in a population, in order to detect changes in disease patterns and implement prevention and/or control measures in a timely fashion.

Susceptible - a person or animal not possessing sufficient resistance against a particular

pathogenic agent to prevent contracting infection or disease when exposed to the agent.

Symptoms – any perceptible change in the body’s normal function, appearance or sensation which is experienced by the patient and indicates a disease process.

Tamiflu – the name under which oseltamivir is marketed in Canada and the United States.

Transmission – any mechanism by which an infectious agent is spread from a source of infection to other persons or animals.

Vaccination – the act of administering a vaccine

Vaccine – a dead or weakened form of an infectious organism that is injected into the body to stimulate an immune response, without causing disease, and thereby protect against subsequent infection by that organism.

Virus – a group of infectious agents characterized by their inability to reproduce outside of a living host cell. Viruses may subvert the host cells’ normal functions, causing the cell to behave in a manner determined by the virus.