

Where do we stand on our pandemic readiness?

On April 29, 2009, based on assessment of all available information and following several expert consultations, Dr Margaret Chan, World Health Organization's (WHO) Director-General raised the level of influenza pandemic alert from phase 4 to 5. She stated that all countries should immediately activate their pandemic preparedness plans. At this stage, effective and essential measures include heightened surveillance, early detection and treatment of cases, and infection control in all health facilities.

Below is a chart that illustrates the 6 phases of pandemic alert and their associated risks:

Description	Risks	Phase
Inter-Pandemic Phase	Low risk of human cases	1
New virus in animals, no human cases	Higher risk of human cases	2
New virus causes human cases	No or very limited human-to-human transmission	3
	Evidence of increased human-to-human transmission	4
	Evidence of significant human-to-human transmission	5
Pandemic	Efficient and sustained human-to-human transmission	6

As of the end of April, the Center for Disease Control (CDC) has identified confirmed cases of swine influenza A (H1N1) virus infection in people in a majority of states. CDC is working with local and state health agencies to investigate these cases. Mexico has reported increased levels of respiratory disease including reports of severe pneumonia cases and deaths. Right now, there is no vaccine for this new virus and the current seasonal influenza is thought to be unlikely to provide protection against this new strain.

As you can see, we are one phase away from a full-blown pandemic alert, Phase 6. Just how worried should we be? For the past decade, I have been monitoring pandemic alerts, training about the expected Avian Pandemic and preparing disaster plans with extensive pandemic protocols. We are now faced with a Swine Flu that has turned fatal. Most of the preplanning is done in Phases 1-3. The following information is intended to assist you in understanding the pandemic and becoming prepared, even if you haven't given influenza pandemic much thought in the past.

Flu – the current and real risk

According to US Department of Health and Human Services (HHS), the Centers for Disease Control and Prevention (CDC), there are several pertinent considerations about influenza pandemics. The US Department of Health and Human Services statistics state that influenza causes an annual average of 36,000 deaths among people living in the United States. In fact influenza ranks 7th among all causes of death in the U.S. Influenza results in approximately 200,000 hospitalizations per year and 70 million lost work days; causing workers to suffer 346 million days of restricted activity each year.

Influenza deaths, illnesses, and restricted activities create significant economic impact on the workplace. Normally, children and the elderly are particularly vulnerable to influenza viruses (viruses that infect the nose, throat and lungs cause influenza according to the Centers for Disease Control (CDC)). When an infected person coughs or sneezes, flu can be spread to another person. This is the type of influenza we experience during “flu season”.

Why pandemic influenza is a serious concern

The influenza virus spreads rapidly; however, people may be asymptomatic while infectious. In a pandemic situation, there may be simultaneous outbreaks in communities, creating enormous demands on the healthcare system. Because it takes months to research, test and get vaccines to market for a pandemic since it is a novel virus there are delays and shortages in vaccines. Depending upon where the pandemic begins and spreads there are also potential disruptions of the infrastructure. In other words, if police, fire, utility workers or hospital personnel were to be affected in the initial spread of the virus, you can imagine how services would be interrupted.

Influenza – what is it?

Influenza is a respiratory infection that is transmitted by respiratory secretions from infected persons coughing/ sneezing in the environment. People may end up with pneumonia or other severe respiratory complications. With a pandemic, the risk increases as there are not enough respirators to handle the additional sick people. When hospitals and healthcare systems become overwhelmed, people will be directed to stay home and care for their sick loved ones. Keeping this in mind, we must be prepared to provide this type of care at home. There are lists of supplies that might be helpful to have on hand, including **respirators with an N-95 rating**.

The incubation period is one to five days from exposure to onset of symptoms. The communicability usually lasts a maximum 1-2 days before to 4-5 days after onset of symptoms. The peak period for influenza is normally December through March in the US. This swine influenza is showing up after the normal flu season.

Influenza symptoms - rapid onset of:

- Fever
- Chills
- Body aches
- Sore throat
- Non-productive cough
- Runny nose
- Headache

Unfortunately, sick people may be asymptomatic while contagious. Remember, not all people show all of these symptoms.

Who is normally at greatest risk for serious complications?

- Persons 65 and older; nursing home residents
- Persons with chronic diseases
- Infants / pregnant women

This current flu seems to be attacking many healthy, persons not in these categories.

Influenza Types

Type A: normally associated with epidemics and pandemics; found in both animals and humans and affects all ages.

Type B: normally results in mild epidemics; affects only humans and primarily affects children.

Definition of pandemic influenza - global outbreak

Pandemics involve novel viruses, to which all or most people are susceptible. It involves transmission from person to person with a wide geographic spread.

Influenza control measures

- Education to encourage prompt self-diagnosis
- Public health info (risks, advice)
- Hand hygiene, face masks for symptomatic persons
- Business closures
- Limit exposure to the virus
- Deferring travel to involved areas

Planning for an Influenza Pandemic – mitigating the risk

If you have a disaster plan for work or home, this is definitely the time to review and update it. You may want to increase lines of communication (how will you communicate with workers about where to report to work and/or who should report?) How will you communicate with your clients? If you work in a setting with others or support staff, you will need to prepare for a reduced workforce. This is also the time to prepare employee/client educational materials. There are numerous resources that can be printed and posted in your workplace/office. You will want to decide ways to update employees/clients during a pandemic crisis.

Communicate the risk, give simple recommendation and reminders

- Avoid close contact with sick people (do you really want sick clients coming to your office?)
- Stay home when you are sick
- Cover your mouth and nose
- Clean your hands; avoid touching your eyes, nose or mouth

Pandemic influenza - 2nd waves

You need to plan ahead for second waves that occur several months or even a year between outbreaks. During the pandemic of 1957, the second wave began 3 months after the peak of the first wave; however in 1968, the second wave began 12 months after the peak of the first wave. So we may be affected by another wave just when we think it is safe to stop to catch our breathe.

Estimates of a pandemic attack rate

Pandemic experts estimate a major pandemic as severe as the one experienced in 1918-1919 may result in a range of 15% to 35% being affected. That would translate into 89,000 - 207,000 deaths and 314,000 - 733,000 hospitalizations. With this disruption of our lives, it is prudent to have sufficient necessities on hand including electrolyte replacement drinks, fluids, foods, medicines, etc.

The 1918-1919 influenza pandemic

The social and medical importance of the 1918-1919 influenza pandemic cannot be overemphasized. About half of the 2 billion people living on earth in 1918 became infected and at least 50 million people died. In the United States, 20 million flu cases were counted and about half a million people died. Many experts believe the number of fatalities was probably much higher than reported. This was called the “Spanish Influenza” because many of the early cases were in Spain. Can you imagine if every other person was very ill with flu with millions dying?

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The 1918-1919 pandemic affected the First World War as it slowed to a trickle the delivery of American troops on the Western front. The US armed forces suffered 43,000 deaths from the flu. Historians say the slow down and eventual failure of the last German offensive in the spring and summer of 1918 was attributed to influenza.

The 1918-1919 pandemic was by far the most severe of the last century. Pandemics in 1957, 1968 and 1977 did not result in the level of illness and death.

Influenza control – quarantine challenges

If international, federal, state or local agencies impose quarantines to stop the spread of the pandemic, we will need to be prepared for the challenges involved. For one, there is a short incubation period for influenza so it will be difficult to decide where to draw the lines of defense. Since a large number of infections are asymptomatic, it is often difficult to catch ill people before they infect others.

Another problem is that the clinical illness from influenza infection is non specific, so it is difficult to determine which symptoms are connected to the flu and not another illness. Quarantines are not used during annual epidemics and could potentially slow the onset of a pandemic before sustained person-to-person transmission has been established. **When planning for quarantines, prepare resources (food, water, medications, etc.) to last for at least one week (unlike other disaster planning where 72 hours has been the norm)**

Medical care during an influenza pandemic is hampered since the surge capacity of the hospital system is limited. Challenges arise due to the magnitude and duration of a pandemic, staff shortages and limited external resources.

The Swine Influenza Pandemic today

Despite expanded global and national surveillance, better healthcare, medicines, and diagnostics and greater vaccine manufacturing capacity the possibility of major global pandemic still remains.

New risks are present today, that were not a problem in the 1918-1919 pandemic. There is increased global travel and commerce and greater population density. In today's society, there are more elderly and immunosuppressed individuals and more daycare and nursing home facilities. There is also a risk of bioterrorism, which was less of a risk in 1918 (not withstanding the poison gas used in World War I).

Swine Influenza Pandemic Survival Review

- Review and update response plans
- Increase coordination and lines of communication
- Prepare for reduced workforce

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- Prepare employee education materials and ways to update employees
- Reduce or eliminate travel to active pandemic areas
- Control visitors to facilities by verbally and visually screening them for respiratory symptoms
- Screen personnel for influenza-like symptoms before they report for work. Symptomatic personnel should be sent home until they are physically able to return to work
- Ensure materials for respiratory hygiene/cough etiquette (i.e., tissues and receptacles for their disposal) and hand hygiene are available
- Promote respiratory hygiene/cough etiquette and hand hygiene as for any respiratory infection
- Consider whether some workers/support staff can work from home in the event of a pandemic crisis (how would they get needed materials/computer access?)
- Have mental health resources available to deal with deaths of family members/coworkers
- Consider strategies to provide paychecks and support to employees if the work site is quarantined (how many weeks are you prepared to survive without a paycheck?)

Communicate the Risk and Give Simple Recommendation

- Avoid close contact with sick people
- Stay home when *you* are sick
- Cover your mouth and nose
- Clean your hands
- Avoid touching your eyes, nose or mouth

Resources

<http://www.who.int/csr/disease/swineflu/en/index.html> (World Health Organization)

http://www.cdc.gov/swineflu/?s_cid=swineFlu_outbreak_001 (Center Disease Control)

<http://www.oes.ca.gov> (CA Emergency Management – state level)

<http://www.sdarc.org/> (San Diego American Red Cross Chapter)

<http://www.hhs.gov/> (Health & Human Services)

<http://www.usa.gov/> (USA government website)

<http://www.pandemicflu.gov/> (government website about pandemic)

http://www.sdcounty.ca.gov/oes/docs/FamilyDisasterPlan_List.pdf (San Diego County site with suggested disaster materials)

Many of these websites have printable materials for posting or reference. There are many more resources...just Google the terms for other sources.