

Novel H1N1 Influenza
Updated Key Points
June 11, 2009

- On June 11, 2009, the World Health Organization (WHO) raised the worldwide pandemic alert level to Phase 6.
- Designation of this phase indicates that a global pandemic is underway.
- There are now community level outbreaks ongoing in other parts of the world.
- State and international borders don't matter at this point. The bottom line is that this new virus is among us all.
- While U.S. influenza surveillance systems indicate that overall flu activity is decreasing in the United States, novel H1N1 outbreaks are ongoing in different parts of the U.S., in some cases with intense activity.
- In the United States, this virus has been spreading efficiently from person-to-person since April and, as we have been saying for some time, we do expect that we will see more cases, more hospitalizations and more deaths from this virus.
- Because there is already widespread novel H1N1 disease in the United States, the WHO Phase 6 declaration does not change what the United States is currently doing to keep people healthy and protected from the virus.
- Thus there is no change to CDC's recommendations for individuals and communities.
- WHO's decision to raise the pandemic alert level to Phase 6 is a reflection of epidemiological changes **in other parts of the world** and **not** a reflection of any change in the novel H1N1 virus or associated illness.
- At this time, most of the people who have become ill with novel H1N1 in the United States have not become seriously ill and have recovered without hospitalization.
- In the United States, we have been preparing for this for some time.
- And we are actively and aggressively implementing our pandemic response plan.
- Phase 6 is an indicator of spread and not of severity.

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- It's uncertain at this time how serious or severe this novel H1N1 pandemic will be in terms of how many people infected have severe complications or death related to novel H1N1 infection.
- There were three influenza pandemics in the last century and they varied widely in severity.
- The 1918 pandemic killed tens of millions of people.
- The 1957 pandemic is thought to have resulted in at least 70,000 deaths in the United States.
- Deaths from the 1968-69 pandemic were about the same as for seasonal influenza.
- This pandemic certainly poses the potential to be at least as serious as seasonal flu, if not more so.
- Because this is a new virus, many people will not have immunity to it and illness may be more severe and widespread as a result.
- We are still learning about this virus and expect that, like all influenza viruses, it will continue to change.
- There are some encouraging signs:
 - So far we have not seen an extensive pattern of very severe illness related to this virus.
 - Results of a serology study conducted by CDC suggest that some adults may have some degree of preexisting cross-reactive antibody to the novel H1N1 flu virus, especially adults older than 60.
 - And, this virus does not have the genetic markers for virulence that we saw in the 1918 pandemic virus, or that we see today in the H5N1 virus in Asia that has been lethal among people.
- But it's early days and too soon to predict what will happen.
- It is important to remember that the potential remains for the virus to change and cause more severe disease.
- The real uncertainty is the fall and how the novel H1N1 virus will affect the 2009-2010 influenza season in the United States.
- We are still learning about the severity and other epidemiological characteristics of the novel H1N1 virus.

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- This information is important and will be taken into account when making recommendations with regard to vaccine and other preventive measures in the fall.
- CDC will update its guidance and recommendations as more information about the novel H1N1 flu virus becomes available.
- It will be important that we continue to watch this virus carefully.
- The Southern Hemisphere is just going into their flu season and how this virus behaves will give us some clues about what we can expect for the Northern Hemisphere.
- The situation is indeed sobering, but it's important to keep in mind that we are not helpless.

We are taking action:

- The Federal Government is mounting an aggressive response to this newly declared pandemic.
- CDC's goals during this public health emergency are to reduce transmission and illness severity, and provide information to assist health care providers, public health officials and the public in addressing the challenges posed by this newly identified influenza virus.
- To this end, CDC continues to update guidance.
- Visit the CDC website at <http://www.cdc.gov/h1n1flu/> for more information or call 1-800-CDC-INFO.
- Everyday, we learn more about this virus and what we learn will continue to inform the actions that we take in response.
- We are aggressively taking early steps in the vaccine manufacturing process, working closely with manufacturing and the rest of the government.
- Vaccines are a very important part of a response to pandemic influenza.
- CDC isolated the new H1N1 virus, made a candidate vaccine virus, and has provided this virus to industry so they can begin scaling up for production of a vaccine, if necessary.
- There are many steps involved with producing a vaccine and we are committed to going forward with the NIH, and FDA, BARDA, and the

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manufacturers of influenza vaccines, to see about developing full scale vaccine production.

- Where possible, we are taking parallel steps to speed up the vaccine process.
- If things go well, and we develop a full scale production, it would be several months until the vaccine were available.
- So vaccine is an important tool for the future.

Public:

- So far, most people who have been ill with this virus have recovered.
- We are monitoring hospitalization and death rates.
- At this point, whether you are tested and actually diagnosed with novel H1N1 is less important than what you do if you become sick.
- It's possible that this summer, people around you may get sick and you may get sick.
- Certainly in the fall, with our flu season, people around you will be getting sick and you may get sick.
- Be prepared to stay home for a week or so if you are ill.
- Most people infected with this virus so far have experienced the regular symptoms of flu (fever, cough, body aches + a significant number of people have reported vomiting and diarrhea).
- For people who are critically ill, we do have antiviral medications in our arsenal against flu.
- The priority use for influenza antiviral drugs at this time is to treat severe influenza illness.
- Influenza antiviral drugs are prescription medicines (pills, liquid or an inhaler) with activity against influenza viruses, including swine influenza viruses.
- There are two influenza antiviral medications that are recommended for use against swine influenza. These are oseltamivir (trade name Tamiflu ®) and zanamivir (Relenza ®).
- Influenza antiviral drugs work best when stated soon after illness onset (within two 2 days), but treatment with antiviral drugs should *still be considered after 48 hours of symptom onset, particularly for hospitalized patients or people at high risk for influenza-related complications.*

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- You have a role in protecting yourself and your family.
- Stay informed. Health officials will provide additional information as it becomes available. Visit www.cdc.gov
- Everyone should take these everyday steps to protect your health and lessen the spread of this new virus:
 - Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissue in the trash after you use it.
 - Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
 - Avoid touching your eyes, nose or mouth. Germs spread this way.
 - Try to avoid close contact with sick people.
 - If you are sick with a flu-like illness, stay home for 7 days after your symptoms begin or until you have been symptom-free for 24 hours, whichever is longer. This is to keep from infecting others and spreading the virus further.
 - Follow public health advice regarding school closures, avoiding crowds and other social distancing measures.
 - If you don't have one yet, consider developing a family emergency plan as a precaution.

Pandemic Severity, General

- Influenza pandemics can range in severity, mainly in terms of the number of people that have severe illness and die.
- Pandemic severity may also change over time and will differ across regions of the world, in different countries and even within different communities within a country.
- Pandemic disease severity will vary depending on several factors: a nation's ability to provide health care to their people, the availability of antiviral medications to treat those who are sick, differences in how the disease affects people in different age groups, and the effectiveness of efforts to reduce person-to-person transmission of influenza.
- An evaluation of pandemic severity should be based on local circumstances for this reason.

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- A pandemic severity index helps public health officials to match the timing of the spread and severity of the outbreak with the appropriate use of public health and community resources to minimize the number of people who get sick and the number of people who die.

U.S. Pandemic Severity Index (PSI)

- CDC developed the U.S. Pandemic Severity Index (PSI) to describe the severity of a pandemic in terms of illness and death.
- The U.S. PSI scale is based on the case-fatality ratio; the likelihood of people dying from the disease.
- The PSI scale ranges from Category 1 to Category 5 and is comparable to the U.S. hurricane severity index.
- Category 1 is the least severe and Category 5 is the most severe.
- At the current time, CDC estimates that the pandemic situation in the U.S. would be equivalent to a pandemic severity index of 2. (This would be most similar to the 1957 influenza pandemic, however, it's uncertain how the current situation will evolve over the coming months so it's not possible to make a predication about deaths at this time.)
- CDC will re-evaluate the classification of the Pandemic Severity Index should there be evidence that the pandemic has become more severe.
- The PSI will be adjusted based on that evaluation and appropriate guidelines and recommendations provided.
- CDC emphasizes that unnecessary weight not be given to the numeric categorization of the pandemic.
- According to the U.S. PSI:
 - A category 1 pandemic has the following:
 - Case fatality ratio of less than 0.1 percent
 - Excess death rate of less than 30 per 100,000 people
 - Illness rate of 20-40% of the population
 - Less than 90,000 potential deaths (based on 2006 U.S. population)
 - Similar to a more severe seasonal flu year in the United States
 - A category 2 pandemic has the following:

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- Case fatality ratio of 0.1 percent to less than 0.5 percent.
- Between 90,000 and 450,000 deaths in the U.S. (based on 2006 U.S. population)
- Excess death rate of between 30 to less than 150 per 100,000 people
- Illness rate of between 20 and 40 percent.
- Similar to 1957 pandemic.
- A category 5 pandemic has the following:
 - Case fatality ratio of greater or equal to 2 percent
 - Excess death rate of more than 600 per 100,000 people
 - Illness rate of 20-40% of the population
 - Greater than or equal to 1.8 million potential deaths (based on 2006 U.S. population)
 - Similar to the 1918 pandemic
- The importance of identifying a category of severity is only to help guide the public health interventions recommended for individuals and communities.
- The PSI scale helps public health officials match the range of public health intervention efforts to the severity of a pandemic.

For a Category 1 to 3 pandemic:

- Ill adults and children are asked to stay home voluntarily.
- If someone in the household is sick, well adults and children do **not** need to stay at home.
- School and child care dismissal is not generally recommended, but may be considered depending on the local impact of the disease.
- Workplace and Community adult social distancing efforts (e.g., encouraging teleconferences instead of meetings, reducing density, meaning the number of people crowded into an enclosed space, in public transit and the workplace, postponing or canceling selected public gatherings, encouraging people to telework, or take staggered shifts) are generally not recommended.
- For a Category 4 to 5 pandemic

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- Ill adults and children are asked to stay home voluntarily.
- If someone in the household is sick, well adults and children should stay at home too.
- School and child care dismissal is recommended for up to 12 weeks.
- Workplace and Community adult social distancing efforts (e.g., encouraging teleconferences instead of meetings, reducing density, meaning the number of people crowded into an enclosed space, in public transit and the workplace, postponing or canceling selected public gatherings, encouraging people to telework, or take staggered shifts) are recommended

Declaration of Phase 6 and Travel

- At this time, CDC does not recommend against travel to any country.
- CDC will continue to monitor the H1N1 situation around the world and will provide recommendations to U.S. travelers based on the changing situation.
- Travelers should check the CDC travelers' health website (www.cdc.gov/travel) for information related to this outbreak, as well as for health information on the prevention and management of flu.
- Travelers should also check the website of the embassy of the country to which they are traveling for the latest updates on entry or exit screening procedures which may impact their travel.
- CDC recommends that ill persons postpone travel both for their protection and that of other travelers.

WHO Phases

- The World Health Organization (WHO) has developed a plan to be prepared for a global outbreak of influenza to help countries to protect the public's health before and during a pandemic.
- This plan defines the "phases" of a pandemic which describe the global risk for a pandemic and the extent of global spread.
- The WHO phases provide a benchmark to guide national preparedness and planning for a pandemic, and helps to indicate when countries should shift to response and mitigation efforts.

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- The WHO phases are:
 - **Phase 1:** No new influenza virus subtypes have been detected in humans. An influenza virus subtype that has caused human infection may be present in animals. If present in animals, the risk of human infection or disease is considered to be low.
 - **Phase 2:** No new influenza virus subtypes have been detected in humans. However, an animal influenza virus circulating among domesticated or wild animals is known to have caused infection in humans and poses a substantial risk of human disease.
 - **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. Human infection(s) that occur with this new subtype occur with at most rare instances of human-to-human spread, or spread to a close contact.
 - **Phase 4:** Small cluster(s) of human infections with limited but verified human-to-human transmission. The spread is highly localized, suggesting that the virus is not well adapted to humans. However, the virus has the potential to cause "community-level outbreaks.
 - **Phase 5:** There is human-to-human spread of the virus into at least two countries in one WHO region. Most countries are not affected but there are larger though localized cluster(s) of human infections due to human-to-human spread. These changes suggest that the virus is becoming increasingly better adapted to humans. There is a substantial pandemic risk.
 - **Phase 6:** The pandemic phase. There is increased and sustained transmission with community level outbreaks in at least one other country in a second WHO region. This phase indicates that a global pandemic is under way.

WHO Phase 6 Declaration

- The World Health Organization (WHO) has declared Pandemic Phase 6; that this outbreak of influenza is a pandemic, which means that the current novel H1N1 flu which is spreading involves sustained human-to-human transmission in two or more regions of the world.
- Because there is already widespread novel H1N1 flu virus disease in the United States, the WHO Phase 6 declaration does not change what

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the United States is currently doing to keep people healthy and protected from the virus.

- Thus there is no change to CDC's recommendations for individuals and communities.
- CDC's initial recommendations were aimed at preventing and minimizing illness and death in light of uncertainty about the how severe novel H1N1 flu would be.
- It is important to remember that the potential remains for the virus to change and cause more severe disease.
- CDC will update its guidance and recommendations as more information about the novel H1N1 flu virus becomes available.

Significance of WHO Phase 6 Declaration – [Moderate] Severity Index

- WHO has a three point scale to determine pandemic severity – mild, moderate and severe.
- At this time, WHO has indicated this seems to be a moderately severe pandemic.
- The WHO severity index advises countries about the possible impact on health and other related issues as a result of the current novel H1N1 flu outbreak.
- Similar to how on any given day the weather pattern and the severity of weather will differ from country to country around the world and even within a country, the novel H1N1 flu pandemic will affect countries and communities in different ways.
- The effects of the novel H1N1 flu pandemic will not be the same for all countries, and countries may not experience effects at the same time.
- Transmission of the novel H1N1 virus from person to person will affect countries at different times of the year but also in different locations within these countries.
- The potential health effects of the influenza pandemic will differ depending on several factors: a nation's ability to provide health care to their people, the availability of antiviral medications to treat those who are sick, differences in how the disease affects people in different age groups, and the effectiveness of efforts to reduce person-to-person transmission of influenza.

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- As understanding of the novel H1N1 virus becomes clearer over time, the WHO recommendations may change. CDC will remain flexible in order to respond in the best way possible to the changing situation and provide updated guidance as more information becomes available.