

Preparing Your Organization for H1N1 Pandemic Influenza (Swine Flu): Planning and Prevention

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Introduction

The World Health Organization (WHO) declared the current H1N1 virus to be pandemic in June 2009. Health professionals are asking communities, organizations and businesses to plan and prepare for the worst. The following article provides information on how businesses and organizations can maintain an adequate inventory of critical supplies and prevent the spread of the H1N1 virus with effective cleaning, disinfecting and sanitizing procedures and products.

What is pandemic flu?

The flu, also known as influenza, is a contagious respiratory virus that affects millions of Americans each year, typically between the fall and spring. This “seasonal” flu causes approximately 36,000 deaths annually in the U.S. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity, and for which there is no vaccine. A pandemic flu spreads easily from person to person, can cause serious illness, and can travel across the globe in a relatively short time. It is difficult to accurately predict the number of deaths and serious illnesses associated with a pandemic flu. However, one recent study estimated that an influenza pandemic could cause 89,000 to 207,000 deaths and approximately 500,000 hospitalizations in the United States alone.¹

What is the H1N1 (Swine Flu) Virus?

There are four main influenza “Type A” virus subtypes that have been isolated in pigs. H1N1 is one of the four. Like all viruses, pig viruses change constantly. For instance, pigs can be infected by avian (bird) and human influenza viruses as well as swine influenza viruses. The viruses can swap genes (reassort) and new viruses can emerge that are a mix of swine, human and avian influenza viruses. The current H1N1 influenza virus that is causing illness in humans is believed to be one of these mixtures and is being referred in the widespread media as “Swine Flu.” The most recent H1N1 virus was detected in the United States in April 2009, and is believed to have spread from Mexico. Other countries in our region, including Canada, have also reported cases of this “novel” virus, which seems to spread rapidly from person to person, much in the same way that regular seasonal influenza viruses spread.²

How does H1N1 spread?

Like any contagious flu or virus, H1N1 can be spread by an infected person through coughing or sneezing. You can also become infected by touching something – such as a

surface or object – that is infected with the virus and then touching your mouth, eyes or nose. Studies have shown that influenza virus can survive on environmental surfaces and can infect a person for 2 to 8 hours after being deposited on a surface.

What is the supply chain impact of pandemic flu?

According to the U.S. Department of Health and Human Services, if a pandemic hits the United States, over 40% of the workers in our buildings, factories and businesses could become sick. The effects on our schools, government, businesses and supply chain could be devastating. In addition to the loss of workers, there would likely be a huge demand for products that provide infection protection. Products that could be affected include medical-grade face masks, N95 particulate respirators, non-latex gloves, surface disinfectants, surface cleaners, hand soap, hand sanitizers, facial tissue, plastic can liners, microfiber cloths, paper towels and toilet tissue. This overwhelming demand could cause supply shortage and create the potential for product allocations by manufacturers and suppliers.³

What cleaning and disinfecting should be done to prevent the spread of flu virus?

To prevent the spread of an influenza virus like H1N1 it's important to keep surfaces (especially desks, tables, surfaces in the public washroom such as door handles, switches, flush handles, etc., kitchen counters and other cross contaminated surfaces) clean and disinfected by wiping them with a cleaner and appropriate disinfectant according to directions on the product label. The Environmental Protection Agency (EPA) registers disinfectant products and has recently announced that they believe, based on available scientific information, that currently registered influenza A virus products will be effective against the 2009 H1N1 flu strain and other influenza A virus strains on hard, non-porous surfaces.¹⁰

Facilities should ask their suppliers to confirm that the disinfectant they are using is effective against one of the "Type A" influenza viruses and to provide a list of other disinfectants they offer with "Type A" claims.

Preparing for pandemic influenza

It is important that businesses and organizations begin planning now to control the spread of this novel flu, and prepare for potential supply shortages. In fact, governments all around the world are preparing for the possibility of a flu pandemic under the leadership of the Centers for Disease Control and Prevention (CDC) and the WHO. An effective pandemic preparedness plan will include two components: **Prevention** and **Preparedness**.⁴

CDC officials suggest that businesses and organizations take action now to review their current pandemic flu plan or develop a new plan. They recommend that organizations involve their employees in development and review of the plan and also encourage organizations to share the plan and policies with their employees. Many organizations are building an H1N1 information and resource database where employees can electronically access information or call a phone number where they can find out more about H1N1 and their organization's pandemic plan.

Preventing the spread of germs

As discussed, pandemic flu – like all flu – are highly contagious and easily spread from person to person. Therefore, it is critical that organizations and individuals practice prudent techniques to prevent the spread of germs in the workplace.

Prevention Techniques⁵

- **Cough or sneeze into a tissue and then throw it away.**
 - Cover your mouth and nose using a tissue when sneezing or coughing.
 - Discard the tissue into the trash and immediately wash your hands.

- **Throw away tissues or other disposable items used by an infected person in a trash container that contains a trash can liner.**
 - Cleaning professionals should wear appropriate gloves when handling contaminated waste.

- **Avoid touching your eyes, nose, or mouth.**
 - Germs are often spread when a person touches something that is contaminated and then touches their eyes, nose, or mouth.
 - Germs can live for a long time (some can live for 2 hours or more) on surfaces like doorknobs, desks, and tables.

- **Avoid close contact with people who are sick.**

- **Be educated and stay informed.**
 - Keep up-to-date by reading articles in publications or on the web and listening to radio or television programs that provide relevant information about H1N1 flu.

- **Practice healthy living.**
 - Eat a balanced diet, exercise daily, get enough sleep and drink plenty of water.
 - Get your annual flu vaccination

Practice Good Hand Hygiene⁶

CDC identifies washing hands with soap and water as one of the most effective ways to prevent the spread of germs. Hand hygiene is an important barrier to minimize the risk of the transmission.⁷

- **Wash hands frequently and properly with soap and water.**
 - Rub hands vigorously together and scrub all surfaces giving attention to fingernails and surfaces where jewelry is worn. The soap combined with the scrubbing action that helps dislodge and remove soils and germs.
 - Make sure to wash hands for at least 20 seconds.

- Turn off faucet using a towel to prevent touching a “high contact” handle.
- Dry hands thoroughly with a disposable towel.
- Use of appropriate hand sanitizer is acceptable if soap and water is not available.
 - If using a gel, rub the gel in your hands until dry.
 - Gel doesn’t need water to be effective.⁶

Practice Good Environmental Surface Hygiene⁷

Environmental surfaces can serve as reservoirs of pathogenic germs.⁷ The transmission of germs from environmental surfaces to humans is primarily caused when hands contact an unclean or contaminated surface. Germs invade the human body when contaminated hands touch eyes, mouth and/or nose.⁷

Environmental surfaces can be divided into two groups – those with minimal hand-contact such as floors and ceilings and those with frequent hand contact known as “high touch surfaces.” Since some disease-causing germs can live on inanimate surfaces for extended periods of time, it is important to properly clean and disinfect high contact surfaces. What follows are several infection control principles to effectively clean and disinfect high touch environmental surfaces.⁷

- According to the CDC, you should wipe and scrub away soils that contain disease-causing germs with an EPA-registered disinfectant, making sure to utilize appropriate infection control techniques.⁷
- Frequently disinfect high touch surfaces like doorknobs, light switches, wall areas around toilets and urinals and fixture knobs.
- Effectively clean environmental surfaces prior to disinfecting to ensure surfaces are safe to handle.
 - Cleaning is an essential function of any disinfection process because it decontaminates a surface and renders it safe for use. Cleaning removes organic matter, salts, and visible soils, all of which can harbor germs and interfere with the effectiveness of the disinfectant. One-step disinfect-detergents provide simultaneous cleaning and disinfecting characteristics.
 - Many facilities with “green cleaning” initiatives are finding that using a two-step process of cleaning with a general purpose cleaner that has been green certified by EPA Design for the Environment (DfE) and/or Green Seal, followed by disinfecting with an EPA registered disinfectant, does a better job of removing surface soils. Managers in these facilities have found the two step process improves the cleanliness of the surfaces, and reduces the amount of active disinfecting agents needed to deactivate the disease causing germs, without sacrificing disinfecting efficacy.
- Frequently prepare fresh cleaning solution to prevent the spread of germs caused by dirty and contaminated cleaning solutions and tools.

- Bucket solutions become contaminated almost immediately during cleaning, and continued use of the solution will transfer increasing number of microorganisms to each subsequent surface to be cleaned. A variety of mopping and mop bucket methods have been designed to address the frequency with which cleaning solutions are replaced. A two-bucket method is employed by many health care organizations to prevent the cross-contamination caused when a contaminated mop or cloth is introduced into a bucket or container of cleaning and/or disinfecting solution
- Launder cleaning cloths and mop heads after use and allow them to dry before re-use to prevent spreading contaminants.
- There is a growing trend by health care cleaning professionals to use microfiber wipes and microfiber flat mopping systems.

Preparedness

Maintain an Adequate Source and Inventory of Critical Supplies

Routine supplies and services may be unavailable or in short supply during a novel virus or pandemic outbreak. A facility should implement a pandemic preparedness supply plan to include a design to maintain and quickly source an adequate inventory of disinfectants, cleaners, hand soaps, hand sanitizers, facial tissue, can liners, hand towels, and toilet tissue.⁸ Sufficient and accessible infection control supplies should be provided in all appropriate business locations. Gloves and other infection control or respiratory supplies should be readily available. Merchants and buyers of critical items should align themselves with strategic suppliers that provide a primary and secondary source for each critical item to minimize potential disruptions to business operations. It is common practice for suppliers in the event of shortages to give priority to their best customers.

What Are The Critical and Semi-Critical Infection Control “Must-Have” Supply Items Needed For the H1N1 Pandemic Outbreak?

In the event of a pandemic outbreak, there will likely be shortages of critical and semi-critical supply items related to preventing the spread of H1N1 virus. Below is a checklist of critical and semi-critical must-have supply items that should be always in stock during a pandemic outbreak.

Critical Supply Items

1. **Surface Cleaners** – CDC and EPA both encourage the removal of soils from environmental surfaces as an important process to control the spread of infections. Professional cleaning supply distributors can recommend an effective cleaning product that is compatible with the disinfecting product and processes being used.
2. **Surface Disinfectants** – Disinfecting contaminated environmental surfaces is critical to controlling the spread of germs and disease. A facility should use an EPA-registered disinfectant that is effective against Type A influenza viruses.
3. **Hand Soaps** – CDC recommends frequent hand washing as the single most effective way to control the spread of disease. Adequate hand soap inventory

should be maintained. No-touch hand soap dispensers can provide an additional measure of protection.

4. **Hand Sanitizers** – CDC recommends hand sanitizers be used where water and/or soap is not available. They should NOT be used as a replacement for routine hand washing with soap and water. No-touch hand sanitizer dispensers can provide an additional measure of protection.
5. **Facial tissue** – CDC recommends that people sneeze and cough into a facial tissue as a way to prevent the spread of the germs. Non-scented facial tissues will likely be in more demand to prevent additional irritation to respiratory systems affected by a cold or the flu.
6. **Gloves** – CDC recommends that health care workers and housekeeping workers wear appropriate gloves to protect themselves and others from exposure. Non-latex gloves will be preferred and in high demand.
7. **N95 Respirators** – The new California ATD Standard “requires medical staff to use N95 particulate respirators” where patients are treated with a febrile respiratory illness.⁹

Semi-Critical Supply Items

1. **Can Liners** – Contaminated facial tissues, paper towels and trash should be appropriately contained inside can liners.
2. **Wipers** – Wiping cloths and/or microfiber wipers are excellent cleaning and disinfecting tools to help wipe and scrub away contaminated soils.
3. **Paper Towels** – An adequate supply of paper towels will be important to encourage frequent hand washing. A no-touch paper towel dispenser can provide an additional measure of protection and waste reduction.
4. **Toilet Tissue** – This is an essential restroom supply item that will be in huge demand during a pandemic.
5. **Medical Grade Face Masks** – There is a growing demand by consumers and workers who will want to wear face masks where there are large gatherings of people. Some companies are providing or making these face masks available to their workers.

Conclusion

The CDC says that planning and taking immediate action can help protect businesses and employees from the negative economic and social impact of the H1N1 pandemic influenza (flu). Businesses will play a key role in helping to protect the health and safety of workers as well as limiting the negative impact of the H1N1 pandemic flu on the economy and society. It is important for businesses to implement plans now to effectively deal with the impact of a pandemic on their enterprise, employees and customers. An effective pandemic plan will include employee access to current information about their company’s pandemic plan and how to protect themselves and their families from the H1N1 virus. A comprehensive pandemic flu plan will also include a viable supply source in addition to effective hand hygiene and environmental surface hygiene policies to reduce the potential for infections. It is important that facilities keep adequate inventory of critical and semi-critical infection control supply items identified in the checklist above on hand during the H1N1 pandemic outbreak.

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