

# **H1N1 (Swine Flu) influenza virus:**

## **Key Steps for Pandemic Preparedness at the Workplace**

### **What We'll Cover Today**

Pandemic history, triggers and actions

- Hierarchy of Control as a method to reduce exposure
- Building systems and the spread of influenza
- Cleaning and maintenance protocols during an outbreak
- Security considerations during a pandemic
- Conducting the Business Impact Analysis (BIA)
- Key components of an emergency response plan
- The importance of local, state & federal health agencies
- Steps to create an effective response team
- List of important websites to bookmark

### **1. What is the swine flu?**

Swine Influenza (swine flu) is a respiratory disease of pigs caused by type A influenza virus that regularly causes outbreaks of influenza in pigs.

Swine Flu: Transmission to Humans

- Through contact with infected pigs or environments contaminated with swine flu viruses
- Through contact with a person with swine flu
- Human-to-human spread of swine flu has been documented also and is thought to occur in the same way as seasonal flu, through coughing or sneezing of infected people.

### **2. Swine Flu Symptoms**

The symptoms of swine flu in people are expected to be similar to the symptoms of regular human seasonal influenza and include fever, lethargy, lack of appetite and coughing. Some people with swine flu also have reported runny nose, sore throat, nausea, vomiting and diarrhea

### **3. Swine Flu: *Treatment***

- Limited supplies of vaccine available (including seasonal flu vaccines)
- Antivirals for the treatment and/or prevention of infection:
  - Oseltamivir (Tamiflu) or
  - Zanamivir (Relenza)
  - Use of anti-virals can make illness milder and recovery faster
- They may also prevent serious flu complications
- For treatment, antiviral drugs work best if started soon after getting sick (within 2 days of symptoms)

#### **Guidelines for General Population**

- Covering nose and mouth with a tissue when coughing or sneezing
  - Dispose the tissue in the trash after use.
- Hand washing with soap and water
  - Especially after coughing or sneezing.
- Cleaning hands with alcohol-based hand cleaners
- Avoiding close contact with sick people
- Avoiding touching eyes, nose or mouth with unwashed hands
- If sick with influenza, staying home from work or school and limit contact with others to keep from infecting them

CDC Updates source: <http://www.cdc.gov/h1nflu/>

### **4. Solutions:**

#### **A. OSHA's Hierarchy of Control**

##### **Engineering Solutions:**

- Sneeze Guards
- Drive through business
- Foot-operated trash receptacles
- Negative pressure ventilation

### Administrative Solutions:

- Employee training
- Social distancing
- Hand washing procedures
- Stagger work schedules

### Personal Protective Equipment:

- N95 Respirators
- Surgical mask
- Gloves

Remember – PPE is a last line of defense

## **B. Types of Protective Masks**

- **Dust Masks** – often called comfort masks. Will not be NIOSH certified, not fitted to the users face and provide very little protection against small airborne contaminants.
- **Surgical masks** - Easily available and commonly used for routine surgical and examination procedures however not designed to prevent inhalation of small airborne contaminants.
- **High-filtration respiratory mask** - Microstructure filter disc to flush out particles bigger than 0.3 micron.
  - The mask numbers indicate their filtration efficiency. For example, a N95 mask has 95% efficiency in filtering out particles greater than 0.3 micron under normal rate of respiration.

## **C. Surface Survival of Influenza Virus**

- **Hard non-porous surfaces 24-48 hours**
  - Plastic, stainless steel
    - Recoverable for > 24 hours
    - Transferable to hands up to 24 hours
- **Cloth, paper & tissue**
  - Recoverable for 8-12 hours
  - Transferable to hands 15 minutes

\*Humidity 35-40%, Temperature 28C (82F)

## **D. Cleaning as a Defense**

**Discourage employees from using other peoples phones, keyboards, desks, tools etc.  
Ask employees to daily clean their keyboards, phones desks etc.**

**Stockpile soap, tissue, hand cleaner etc**

**Think about areas not typically cleaned (or infrequently cleaned) during “normal” conditions. These areas might include:**

- **Hand rails**
- **Elevator buttons**
- **Door knobs**
- **Light switches / thermostats**
- **Controls (machinery / equipment)**
- **Vending machines**
- **Cabinets and file drawers**
- **Copier / printer / fax**

## **E. Dining & Cafeteria Issues**

- **Place a sanitation station at entrance to dining facility**
- **Replace silverware with plastic wrapped disposable utensils**
- **Suspend offering “buffet line” items or place such items behind a serving counter**
- **Suspend items that are not pre-cooked**
- **Place trays, utensils, cups etc behind a serving counter**
- **Assign cafeteria personnel to continuously sanitize hard surfaces common touched by patrons**
- **Require rubber gloves, head gear, food service masks be used by food preparers**
- **Suspend use of ice storage bins (non-dispenser models)**

**Is eating pork safe during epidemics?**

**Swine influenza viruses are not spread by food. Eating properly handled and cooked pork products is safe.**

**Cooking pork to an internal temperature of 160 degrees F kills bacteria and viruses**

## **F. Restroom Cleaning**

- Consider motion sensor activated soap dispensers, faucets and hand towel dispensers
- Increase frequency at which waste paper is collected
- Increase frequency at which faucets and sinks are wiped down
- Install signage with hand washing reminders

## **G. Building Systems**

Your buildings mechanical system can play a role in limiting the spread of an epidemic. The maintenance technicians working on your system should be trained in proper influenza prevention methods and provided PPE as necessary

### **Also give thought to:**

- Increase amount of outside air and decrease the re-circulated air
- Open windows if applicable
- Use HEPA filters (but understand the additional load this creates)
- Increase frequency of filter change outs
- Insure preventative maintenance is performed

## **5. Elements of Your Preparedness Program**

- Risk Assessment
- Business Impact Analysis (BIA)
- Business Continuity Plan (BCP)
- Employee Training
- Testing the Plan
- Revising the Plan (Lessons Learned)

### **Sample Risk Assessment**

## **Risk Assessment**

Influenza viruses have threatened the health of animal and human populations for centuries. Their genetic and antigenic diversity and their ability to mutate rapidly make it difficult to develop a universal vaccine or highly effective antiviral drugs. A pandemic occurs when a novel strain of influenza virus emerges with the ability to infect and efficiently spread among humans. Because humans lack immunity to the new virus, a worldwide epidemic, or pandemic, can result. Each of the three pandemics in the last century resulted in the infection of approximately 30% of the world's population and the death of 0.2%-2% of infected individuals. Conversely, this indicates that 98%-99.8% survived the pandemics.

## **6. Critical Industries & Resources**

The U.S. Government has placed special emphasis on pandemic influenza planning for Critical Industries / Key Resources (CI/KR). These include:

- Government Facilities
- Dams
- Commercial Facilities
- Nuclear Power Plants
- Food and Agriculture
- Public Healthcare
- Banking and Finance
- Chemical and Hazardous Materials

## **7. Business Impact Analysis**

Consider how your business may be affected by a pandemic:

- Absenteeism
- Lower work productivity
- Change in patterns of commerce (web based, drive through, off-peak hours)
- Interrupted supply / delivery
- Work stressors
- Negative PR
- Quarantine / Curfews
- Travel Issues
- Security Issues

## **8. Potential Services Impact**

- **Community Services May Be Impacted**
  - **Refuse Collection May Be Impacted**
  - **First Response Times May Be Impeded**
  - **Schools May Close For Extended Periods**
- **Necessities And Utilities May Become Intermittent**
  - **Groceries/Drugs May Become Unavailable As Supply Chain Slows**
  - **Rolling Brownouts And Blackouts Are Possible**
  - **Water Supply May Become Limited**
  - **Telephone Service May Become Unavailable**

## **9. Potential Services Impact**

- **Typical Large City Has Only Enough Food To Sustain Itself For Less Than A Week**
- **Outgoing/Incoming Mail/Parcel Services/Shipping Impeded**
- **Incoming Gasoline, Chlorine, Food Drug Deliveries Impacted**
- **Small/Medium Manufacturing Businesses Cease/Cut-Back Operations; Lack Of Parts For Autos And Other Durable Goods Stops Production On Assembly Lines**
- **America's Economy Impacted**

**Travel Issues, School Closings. Effective Response Teams and Policies and Procedures**

**Create lists and procurement responsibilities for the following items:**

- **Vendors and suppliers (include alternates)**
- **Supplies (hand sanitizer, food & water, fuel for generators, etc)**
- **Insurance Coverage**
- **Generator maintenance schedules**
- **Critical data access (hard copy, off-site, digital etc)**
- **Evacuation procedures (staging areas, evacuation captains)**
- **Shelter-in-place procedures**
- **Key people in the organization**

## 10. H1N1 Resources

<http://www.cdc.gov/h1n1flu/>

Current counts of swine flu by State

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

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

Helpful checklist (online or .pdf) for pandemic BIA and planning

<http://www.ifmafoundation.org/pandemic.pdf>

Great resource on pandemics – geared to facility managers

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

Excellent BIA resource for Critical Industry / Key Resources (CI / KR)

<http://osha.gov/Publications/OSHA3327pandemic.pdf>

Helpful resource from OSHA on pandemics (especially the respirator section)

<http://wpsac.org/>

Check the safety blog and newsletter for updates

## Conclusion

This material was produced by the Workplace Safety Awareness Council, a 501(c)(3) not-for-profit organization dedicated to safety in the workplace. For further information about the council or upcoming safety related training, please visit our website at:

<http://www.wpsac.org>