# 2009 H1N1 FLU: MINIMIZING RISKS

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# Agenda

- Introduction
  - Beth Johnson, NRA EVP Public Affairs
- Topic Speaker
  - Dr. Bruce Cords, Ecolab, VP Environment, Food Safety & Public Health
- Question & Answers
  - Moderated by Beth Johnson
  - Answers by Dr. Cords

# What We Will Cover

- What is Human Influenza?
- What is 2009 H1N1 Flu (Swine Flu)?
- What is a Pandemic?
  - How viruses mutate
- Influenza Prevention Methods
- Additional Resources

# Human Influenza

# What is Human Influenza?

- A respiratory infection with fever and often respiratory complications
  - More frequent in immunocompromised and elderly populations
- It is transmitted human-to-human
- Each year a vaccine cocktail is assembled for the expected flu strains
  - 2008-09 vaccine did not include the 2009 H1N1
- Each year, approximately 36,000 people die from the flu in the U.S.
  - As of 06 May 2009, only two H1N1 deaths in the U.S.

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Source: CDC 2004 http://www.cdc.gov/mmwrhtml/rr54e713a1.htm

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# When is Human Influenza Transmitted?

- One day prior to showing symptoms
- Up to seven days after symptoms first appear
- Most infectious during first three days of illness

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# How is Influenza Transmitted?

- Droplet transmission
  - Large droplets generated by sneezing, coughing or talking
  - Occurs over a distance of up to 6 feet
- Contact transmission
  - Direct – touching an infected human
  - Indirect – touching an object that an infected human touched or contaminated with droplets
- Airborne transmission?
  - Due to small droplet nuclei, distance traveled is unknown

# How Long Does Influenza Virus Survive?

- Stainless steel and plastic
  - Survives 24-48 hours
  - Transferred to hands up to 24 hours
- Cloth, paper, tissues
  - Survives 8-12 hours
  - Transferred to hands up to 15 minutes
- Hands
  - Survives up to 5 minutes
- Implications
  - Increase frequency of disinfection and hand hygiene

Source: Bean et al. 1982. J. Infect Dis. 146(1):47-51.

# 2009 H1N1 Flu

(Swine Flu)

# What is Influenza A?

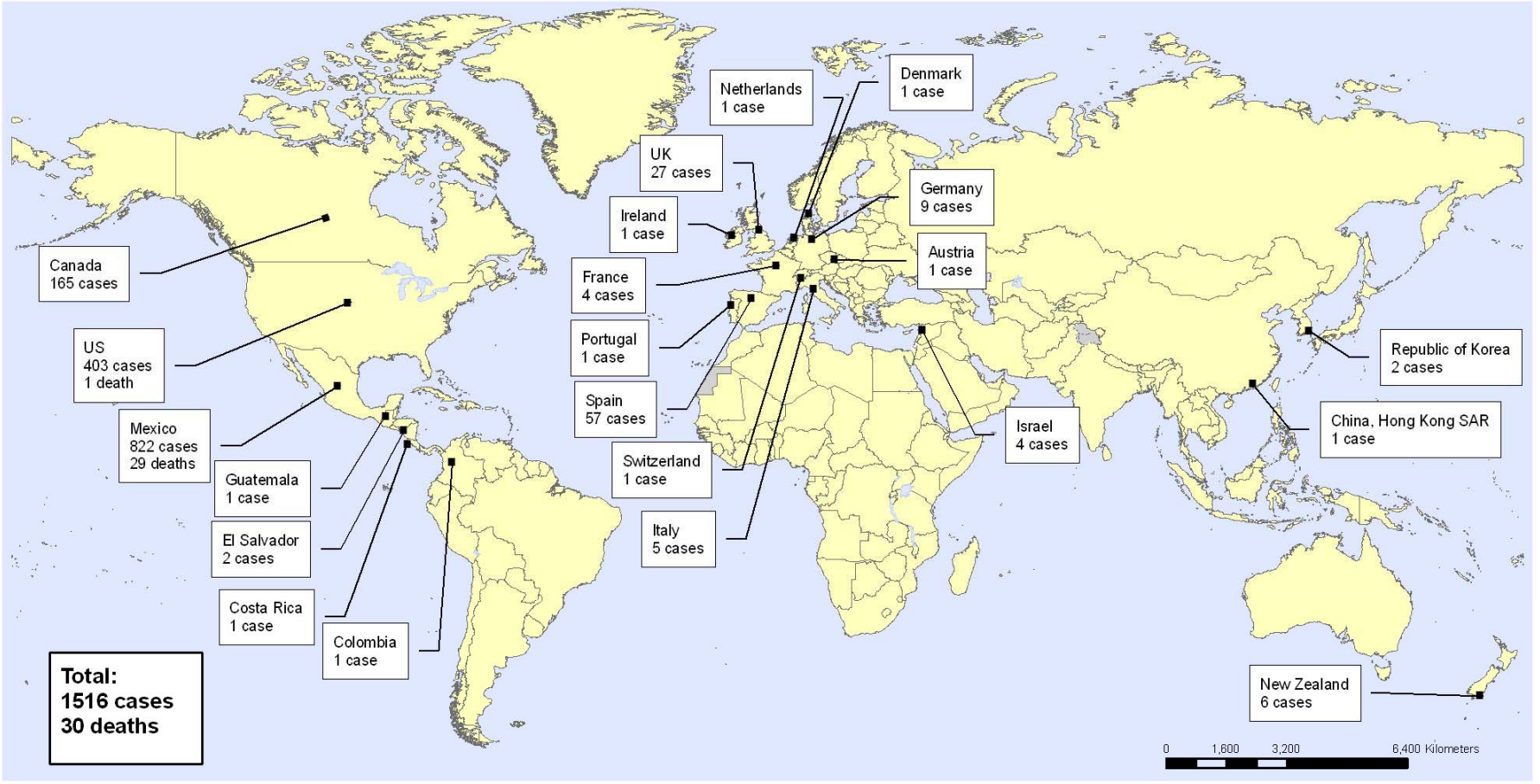
- Influenza A is a group of viruses that cause contagious respiratory disease
  - Many different strains of influenza exist
- Strains typically infect different animals
  - Highly pathogenic avian influenza H5N1 continues to circulate among birds in certain regions
  - H1N1 is one of the most common Influenza A strains that infects pigs
- In 2009, an influenza A H1N1 strain developed the ability of transmission among humans

# How is the 2009 H1N1 Flu Transmitted?

- Contact with pigs is NOT associated with ongoing transmission in the 2009 outbreak
- Influenza viruses are NOT known to be spread through consumption of food, including pork
  - http://www.fda.gov/oc/opacom/hottopics/H1N1Flu/faq_food.html
- Primary mode of transmission in this outbreak, and for this virus, is thought to be similar to seasonal influenza

# New Influenza A (H1N1), Number of laboratory confirmed cases and deaths as reported to WHO

***Status as of 6 May 2009 06:00 GMT***




The boundaries and names shown and the designations used on this map do not imply the expression of any opinion whatsoever on the part of the World Health Organization concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries. Dotted lines on maps represent approximate border lines for which there may not yet be full agreement.

*Map produced: 6 May 2009 06:24 GMT*

Data Source: World Health Organization
Map Production: Public Health Information and Geographic Information Systems (GIS)
World Health Organization

World Health Organization



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Updates at www.who.int/csr/disease/swineflu/updates/en/index.html

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# What Are Symptoms of 2009 H1N1 Flu?

- Symptoms typical of seasonal influenza
  - Fever (usually high), headache, extreme fatigue, dry cough, sore throat and chills
- Some reported diarrhea and vomiting
- Rare cases, progression to pneumonia and respiratory failure, leading to death

# Pandemic

# What is Pandemic Influenza?

## A Global Epidemic

- Results from the emergence of a new virus to which the overall population possesses no immunity
- Influenza pandemics are a rare but recurring event (occurred in 1918, 1957 and 1968)
- Pandemic influenza severity can vary
- May come in waves (down in summer, increase in fall)

Source: World Health Organization

# How Does Pandemic Human Influenza Compare to Seasonal Influenza?

## Differences

- Initially no human vaccine or natural immunity
- Potentially higher virulence, affecting broader age groups
- Potentially more people infective

## Similarities

- Personal hygiene is critical
- Same products
- Same procedures
- Same mode of transmission
- Similar survival

**NET RESULT: Increase frequency of cleaning and disinfection**

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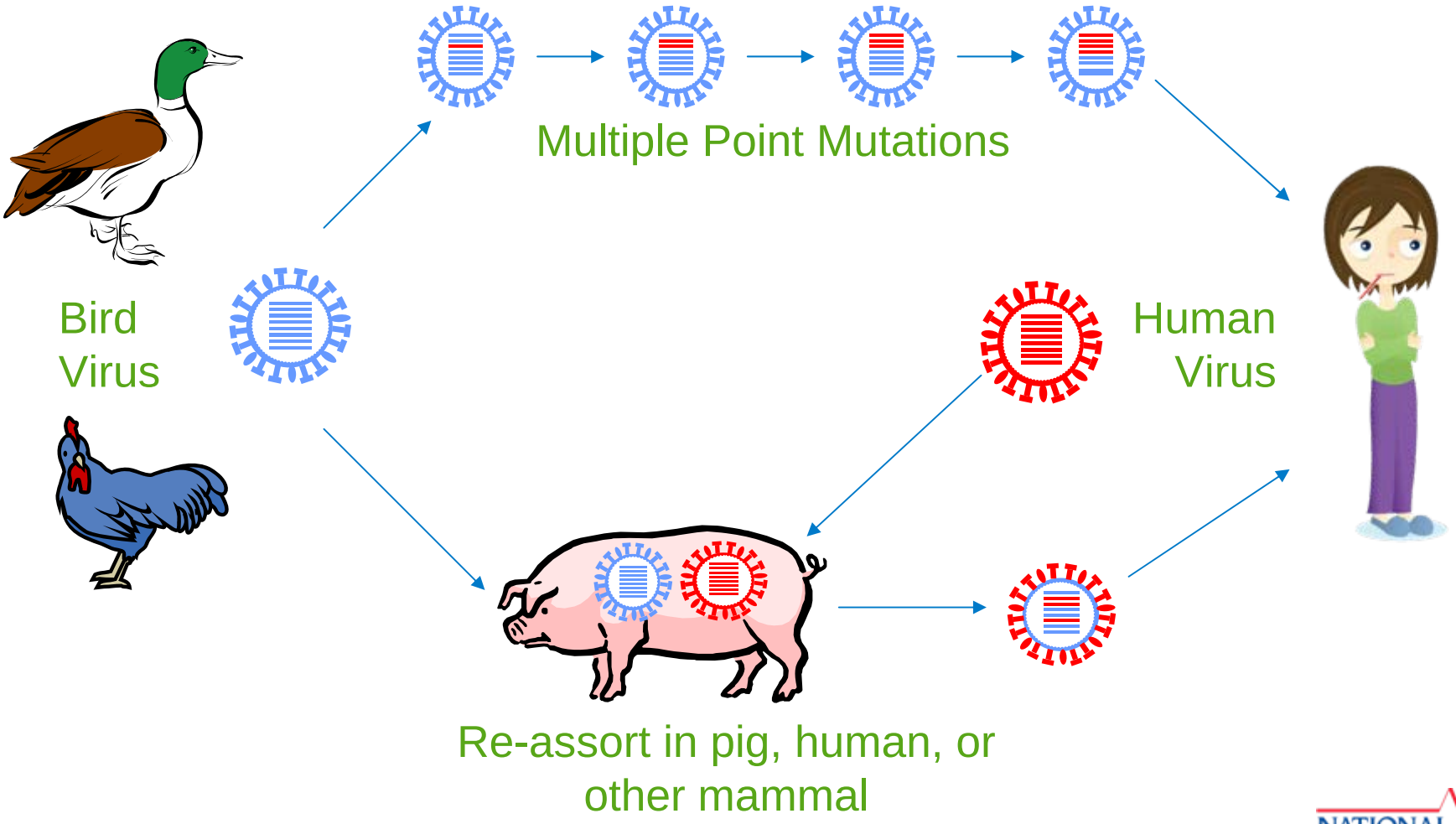
# How Do Viruses Mutate?

## Variety of Routes



# WHO Influenza Pandemic Phases

| | | |
|---|---|---|
| Inter-pandemic phase<br>New virus in animals, no human cases | Low risk of human cases | 1 |
| | Higher risk of human cases | 2 |
| Pandemic alert<br>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 |

http://www.who.int/csr/resources/publications/influenza/GIP_2005_5Eweb.pdf

# Why The Concern About Pandemic Influenza?

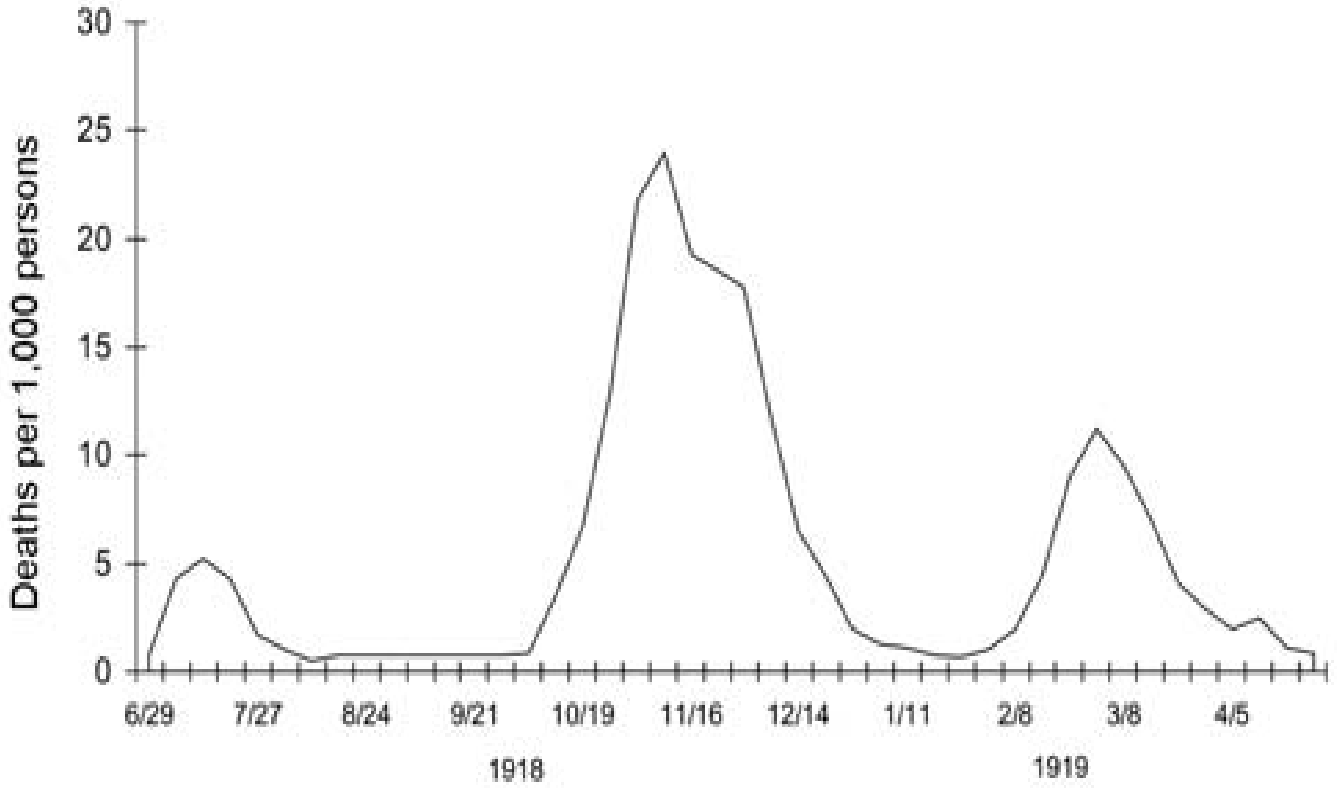
- Influenza pandemics are inevitable: naturally recur at cyclical intervals
- Can cause:
  - High levels of sickness and potentially death
  - Drastic disruption of critical services
  - Severe economic losses
- There will be little warning time between the onset of the spread of a pandemic and its spread around the world
- Outbreaks occur simultaneously in many areas

# Why The Concern About Pandemic Influenza?

- Impact can last for weeks to months
- Can occur in waves
- Implications during actively spreading pandemic:
  - Public health authorities may close restaurants, schools, public events, etc.
  - Public may stay home out of fear
  - Need to plan accordingly!
  - Think about drive through, delivery, etc.

# Pandemics Can Hit in Waves – Remain Vigilant

## Weekly influenza & pneumonia mortality, United Kingdom, 1918–1919




Source: Taubenberger & Morens. 2006. EID 12(1):15-22.

# Where Could We Go From Here?

## Open to debate but could be one of the following:

- Disease at current level of severity subsides to low #'s of background cases
- Disease acquires virulence factors making disease more serious and sustained
- Virus virtually disappears for now and reappears later as more virulent variant (ref 1918)

# Prevention

# Control of 2009 H1N1 Flu in Humans

- 2008-2009 seasonal influenza vaccine not likely to protect humans from the 2009 H1N1 flu virus
- Antiviral drugs oseltamivir (Tamiflu®) and zanamivir (Relenza®) can lessen the symptoms of this virus
- Follow precautions for seasonal influenza to control spread of disease
  - More info follows

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Source: http://www.cdc.gov/swineflu/general_info.htm

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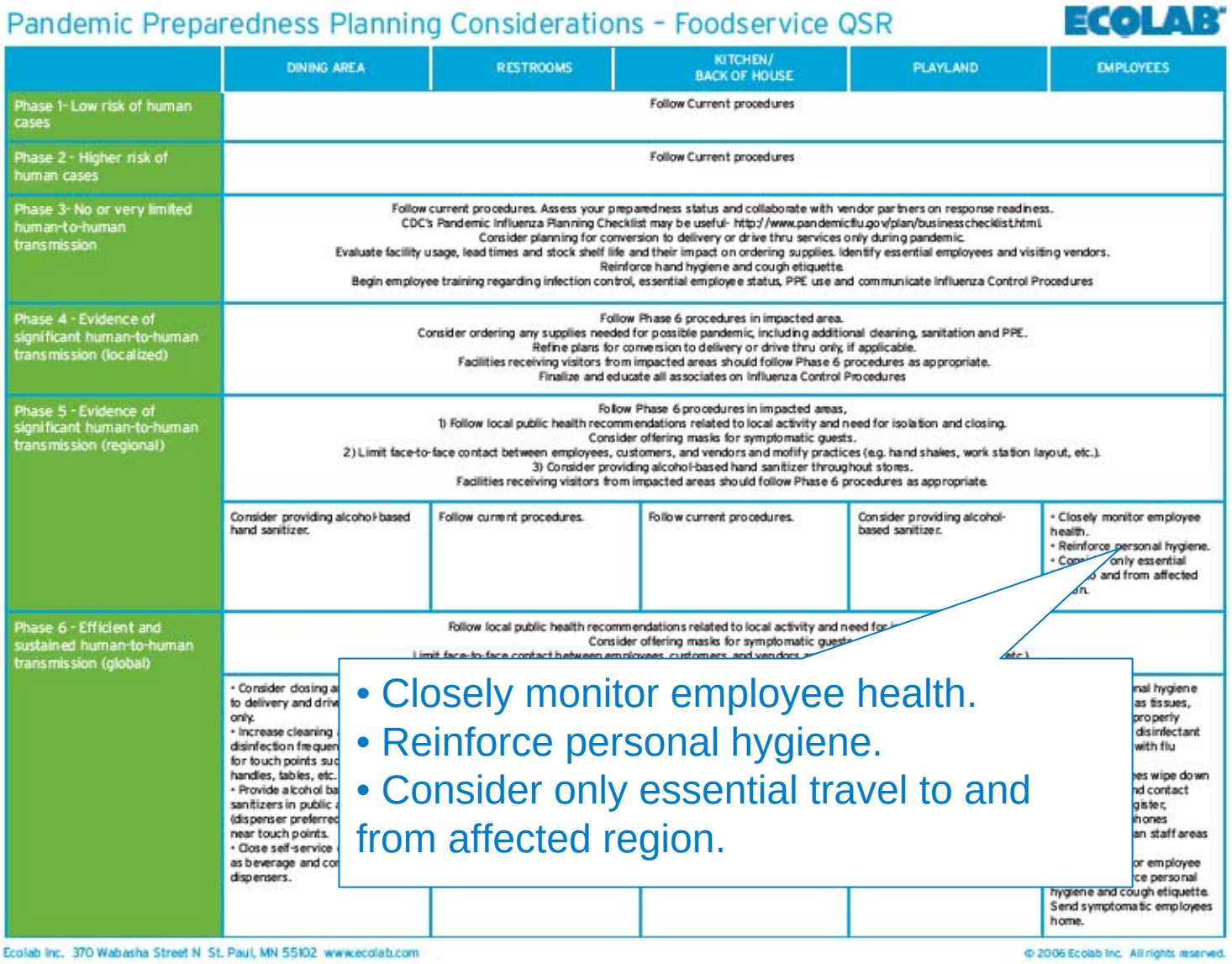
# Have a Plan!



## Pandemic Preparedness Planning Considerations – Foodservice QSR

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| | DINING AREA | RESTROOMS | KITCHEN/ BACK OF HOUSE | PLAYLAND | EMPLOYEES |
|---|---|---|---|---|---|
| Phase 1- Low risk of human cases | Follow Current procedures | | | | |
| Phase 2 - Higher risk of human cases | Follow Current procedures | | | | |
| Phase 3- No or very limited human-to-human transmission | Follow current procedures. Assess your preparedness status and collaborate with vendor partners on response readiness.<br>CDC's Pandemic Influenza Planning Checklist may be useful- http://www.pandemicflu.gov/plan/businesschecklist.html<br>Consider planning for conversion to delivery or drive thru services only during pandemic.<br>Evaluate facility usage, lead times and stock shelf life and their impact on ordering supplies. Identify essential employees and visiting vendors.<br>Reinforce hand hygiene and cough etiquette.<br>Begin employee training regarding infection control, essential employee status, PPE use and communicate Influenza Control Procedures | | | | |
| Phase 4 - Evidence of significant human-to-human transmission (localized) | Follow Phase 6 procedures in impacted area.<br>Consider ordering any supplies needed for possible pandemic, including additional cleaning, sanitation and PPE.<br>Refine plans for conversion to delivery or drive thru only, if applicable.<br>Facilities receiving visitors from impacted areas should follow Phase 6 procedures as appropriate.<br>Finalize and educate all associates on Influenza Control Procedures | | | | |
| Phase 5 - Evidence of significant human-to-human transmission (regional) | Follow Phase 6 procedures in impacted areas,<br>1) Follow local public health recommendations related to local activity and need for isolation and closing.<br>Consider offering masks for symptomatic guests.<br>2) Limit face-to-face contact between employees, customers, and vendors and mofify practices (e.g. hand shakes, work station layout, etc.).<br>3) Consider providing alcohol-based hand sanitizer throughout stores.<br>Facilities receiving visitors from impacted areas should follow Phase 6 procedures as appropriate. | | | | |
| | Consider providing alcohol-based hand sanitizer. | Follow current procedures. | Follow current procedures. | Consider providing alcohol-based sanitizer. | • Closely monitor employee health.<br>• Reinforce personal hygiene.<br>• Cons only essential<br>and from affected<br>n. |
| Phase 6 - Efficient and sustained human-to-human transmission (global) | Follow local public health recommendations related to local activity and need for<br>Consider offering masks for symptomatic guest<br>Limit face-to-face contact between employees, customers, and vendors | | | | |
| | • Consider closing a<br>to delivery and driv<br>only.<br>• Increase cleaning<br>disinfection frequen<br>for touch points suc<br>handles, tables, etc.<br>• Provide alcohol ba<br>sanitizers in public<br>(dispenser preferred<br>near touch points.<br>• Close self-service<br>as beverage and co<br>dispensers. | | | | nal hygiene<br>as tissues,<br>properly<br>disinfectant<br>with flu<br>es wipe down<br>nd contact<br>gister,<br>hones<br>an staff areas<br>or employee<br>ce personal<br>hygiene and cough etiquette.<br>Send symptomatic employees home. |

- Closely monitor employee health.
- Reinforce personal hygiene.
- Consider only essential travel to and from affected region.

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# Cough Etiquette

- Posters available in several languages
  - http://www.cdc.gov/flu/protect/covercough.htm
- Handwashing posters available from NRA ServSafe™, Ecolab and others
  - http://www.restaurant.org/fluinfo/handwashing_poster.pdf

# General Influenza Prevention

## Personal Hygiene – Proper Hand Washing Procedures

- Wet hands with warm water
- Apply soap to hands
- Rub hands together vigorously for 15-20 seconds, covering all surfaces of hands and fingers
- Rinse hands with warm water
- Thoroughly dry hands with disposable towel or air blower
- Use towel to turn off faucet

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# General Influenza Prevention

## Personal Hygiene – Use of Hand Sanitizer

### Considerations

- Use on visibly clean hands
- Consider offering in public areas

### Procedures

- Apply product to palm
- Rub hands together covering all surfaces of hands and fingers
- Rub 15-20 seconds

# General Influenza Prevention

## Hard Surface Cleaning and Disinfecting

### Clean

- Organic material could protect the virus from sanitizers or disinfectants
- Removal of the organic material is a key part of effective disinfection

### Rinse

- Detergents should be rinsed off to avoid dilution or inactivation of disinfectant

### Disinfectant

- Follow directions for use on the product label of a properly registered disinfectant which has claims of effectiveness against influenza viruses listed on the label

# Disinfectants

- EPA states: “Currently registered influenza A virus products will be effective against the 2009-H1N1 flu strain.”
  - Must follow label instructions
  - http://www.epa.gov/oppad001/influenza-disinfectants.html

# General Influenza Prevention

## Hard Surface Disinfection – Procedure Overview

- Wipe down frequently touched surfaces with a properly registered disinfectant
  - Light and air control switches
  - Faucets and toilet flush levers
  - Door knobs, TV and radio controls, remote controls, telephones, touch screens, etc.
  - Public restroom doors
  - Other surfaces as needed
- Disinfect all surfaces in the bathroom that may have contacted respiratory secretions, urine or feces according to standard infection control procedures
- Carefully read and follow all product directions according to the product label

# General Influenza Prevention

## Personal Protective Equipment (PPE)

- **Wear disposable gloves** while cleaning and disinfecting
  - Discard gloves after use
  - Wash hands frequently before and after gloving, with soap and water and/or use an alcohol based hand sanitizer
- **Masks advised** for direct contact with influenza patients in healthcare settings
  - Benefit of mask not established in non-healthcare settings (CDC & WHO)
- **Additional equipment** (respirators, protective clothing, etc.) advised when splashing or aerosol of known infective material is likely

# General Influenza Prevention

## Summary of Steps to Minimize Risks

- Wash your hands often
- Avoid touching eyes, nose and mouth
- Avoid close contact
  - Avoid contact with people who are sick
  - Keep distance (6 feet) from others to protect from getting sick
- Cover your mouth and nose when coughing or sneezing
- Stay home when you are sick
  - With cold or flu symptoms, stay home and get plenty of rest
  - Check with your local health care provider as needed

# Your Questions Answered

# Q&A

*Q: Can people get 2009 H1N1 flu virus by eating food products?*

A: Influenza viruses are not known to be spread by eating food items. Influenza viruses are spread through inhalation or through touching contaminated surfaces and then touching the mouth, nose or eyes.

*Q: Should individuals or restaurants alter cooking methods to decrease the risk of 2009 H1N1 flu virus?*

A: It is not necessary to alter cooking times or temperatures for any food products in order to reduce chances of contracting 2009 H1N1 flu virus, because eating food is not a known method of transmission of influenza viruses.

# Answering Your On-Line Questions


# Additional Resources

# Additional Resources–

## *Operator Preparedness Hotline*

For more information on developing a public health outbreak or pandemic preparedness operating plan, please call the Ecolab Operator Hotline!

- Operator Hotline: 866-848-1939
- Hours Staffed: 8:00am-5:00pm CST Monday through Friday

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# Additional Resources

## www.ecolab.com

- Ecolab brings you the most up to date information with links to the WHO, CDC, FDA and other news sites
- Ecolab representatives can provide site specific procedures for influenza mitigation and pandemic preparedness suggestions

## www.restaurant.org/fluinfo/

- NRA provides information and resources regarding the H1N1 flu virus, its impact on human health, and how the restaurant industry is responding to protect their employees ad customers

# Notations

- The information contained in this presentation is in accordance with U.S. Centers for Disease Control and Prevention (CDC) and World Health Organization (WHO) recommendations
- These recommendations offered are as a set of best practices to help lower the probability of contracting influenza type A viruses