

## Institutional Preparations for an Influenza Pandemic

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UNIVERSITY of LOUISVILLE  
*dare to be great*

## Introduction

- General Information on Influenza Pandemics
- Specifics of an Avian Flu Pandemic
- Preparations that should be considered
- Status of the University of Louisville Preparation efforts

## What is 'the flu'?

**Answer:** *An illness caused by influenza virus*

- A sudden onset respiratory illness accompanied by fever
- Flu causes yearly epidemics worldwide
- **NOT** the nausea/vomiting/diarrhea that people call "the stomach flu."

## How is influenza spread?

**Answer:** *Very quickly due to short incubation!*

- 2 days after you catch the virus, you feel sick
- Infected people shed virus; make others sick
  - Shedding can begin 1 day BEFORE you feel sick
  - Peak shedding first 3 days of illness
  - Subsides by 5-7 days
    - Can be 10+ days in children



## Is flu only spread through the air?

**Answer:** *Mainly spread by large droplets in air.*



- Large droplet mostly
  - Generated by coughing, sneezing, talking
  - "spitting distance"
- Contact with contaminated hands or surfaces, sometimes
- Microscopic droplets less common

## What is the difference between an epidemic and pandemic?

**Answer:** *They primarily differ in scope and the mechanisms by which they occur.*

- Epidemics occur every year due to **minor** changes in influenza A viruses that circulate
- Pandemics happen only occasionally when a completely new influenza A virus circulates

## What are the consequences of yearly epidemics in U.S.A?

- > 36,000 die and 200,000 are hospitalized
- 5 to 20% of general population infected
- Nursing home attack rates of up to 60%
- 85% of flu-related deaths in ages > 65



## What about past flu pandemics?

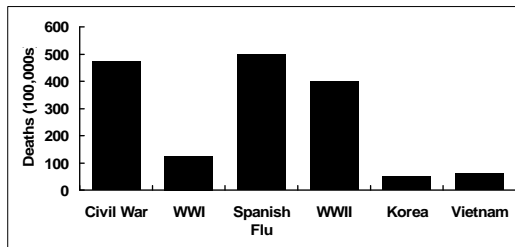


Credit: US National Museum of Health and Medicine

1918: "Spanish Flu"    1957: "Asian Flu"    1968: "Hong Kong Flu"

A(H1N1)	A(H2N2)	A(H3N2)
20-40 m deaths	1-4 m deaths	1-4 m deaths
675,000 US deaths	70,000 US deaths	34,000 US deaths

## Can you put pandemic flu into perspective for me?



## What consequences might result from a pandemic, now?

- Infected: 90 million US
  - Based on 30% attack rate
- Hospitalized: 865,000 to 9.9 million US
- Deaths 4.5 million US
  - Based on a 5% fatality rate
- Serious social and economic disruption

## What would the University of Louisville projections look like?

- Students, Staff and Faculty that would become ill would be approximately 8,257.
  - Using the CDC infection rate of 30%
- Students, Staff and Faculty that might die would be approximately 1,088.
  - Using the CDC rate of 5% fatalities

## What is "bird flu?"

**Answer:** Currently, the term refers primarily to avian influenza A strain H5N1.

- Wild birds carry all known influenza A subtypes
- Recognized in Hong Kong '97
- Has spread throughout Asia, Middle East and Europe, & more recently to the Middle East some European countries.



### How does “bird flu” affect humans?

**Answer:** There have been 319 human cases of H5N1 flu with 190 deaths as of 7/25/07.  
(Determined by lab analysis)

- Vietnam, Indonesia, Thailand, China, Turkey, Cambodia, Iraq, Egypt, Nigeria, and Djibouti
- No sustained person-to-person transmission
- Most have severe viral pneumonia (lung infection)

### What is required for a pandemic to occur?

● **Answer:** A new virulent virus with human-to-human spread.

- ✓ ● Novel virus to which population has little or no immunity
- ✓ ● Virus that causes severe illness in humans
- Virus must be capable of sustained human-to-human transmission

### What Preparations Should be Made for an Influenza Pandemic?

- Personal Preparations
- Institutional Preparations
- Local, State and Federal Assistance

### What personal preparations should I make?

- Prepare to be self-sufficient for several weeks:
  - Non-Perishable food
  - Bottled water
  - Medicine
  - Pet food
  - Promote good hygiene
  - Develop a social distancing plan

### What should our institutional preparations include?

- Pandemicflu.gov has a checklist for colleges and universities
  - Incorporate pandemic planning into your comprehensive all hazards disaster plan
  - Identify potential risks associated with a pandemic
  - Develop plans in response to those risks
  - Identify essential personnel and work to ensure that they report to work if not ill
  - Determine when you should suspend operations due to the pandemic

### Best Resource?

- Look for similar sized institutions and look at their plan.

## Risks

- Failure to take action prior to the arrival of the infection
- Being responsible for residential students that can not go home
- Essential employees may not come to work in fear of their health or their family's health
- Financial hardship due to lack of operations
- Loss of faculty/research due to closing school

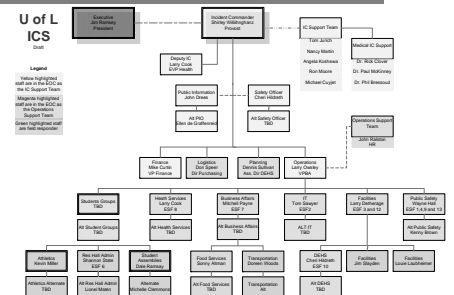
## Plans

- Identify critical infrastructure and facilities that you plan to keep in operation
- Determine what essential staff you need and how to get them to work
- How are you going to respond to sick students
- Develop a communications plan for students/parents and the public

## How has the University of Louisville prepared?

- Implementation of the National Incident Management System and ICS
  - Replaces our former incident management system
  - Outlines the system for managing a disaster
  - Integrates with the Louisville Metro Emergency Operations Plan

## Incident Command Structure



## Developed a Response Matrix

- Developed by the Emerging Disease Planning Work Group
- Has different levels of response to certain world/local events
- Integrates with the city's emergency plans by utilizing emergency support functions for organization
- Version 4.1 is the latest

## Tested the System and the Plan

- Used a tabletop exercise to test the plan
- Exercise was written by University Emergency Planner
- Exercise was facilitated by a MD on the faculty of the Harvard School of Public Health
- Exercise was critiqued and resulting findings are being acted upon currently

## U of I Tabletop Exercise



## Where is U of L going from here?

- Fine tune our response matrix
- Develop individual plans for each ESF
- Ensure that our plan integrates with the Louisville Metro Pandemic Plan
- Work on our food and fuel contracts to get priority in an emergency
- Determine the trigger point for reducing and stopping operations

## Where is U of L going from here?

- Develop HR policies for personnel that may be encouraged to work or encouraged to stay home
- Expand our capabilities for distance learning
- Encourage faculty to revise instructional plans to do more web based education
- Determine how to maintain research during a pandemic