

Swine Flu Outbreak in the US

Emergency Response and Management

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IDRC 2009, Chengdu

Outline

- H₁N₁ flu outbreak
 - A well established surveillance system is key
- Emergency response and management
 - A real time test of pandemic preparedness
- The art of alerting the public while remaining calm
 - Lessons learned from the US experience

H1n1: Identification & Investigation

- 4/15 - The first novel H₁N₁ patient in the US was confirmed by laboratory testing at CDC
- 4/17 - The second patient was confirmed. It was quickly determined that the virus was spreading from **person-to-person**.
- 4/22 - CDC activated its Emergency Operations Center to better coordinate the public health response.
- 4/26 - the US Government declared a **public health emergency**

The Spread and Outbreak

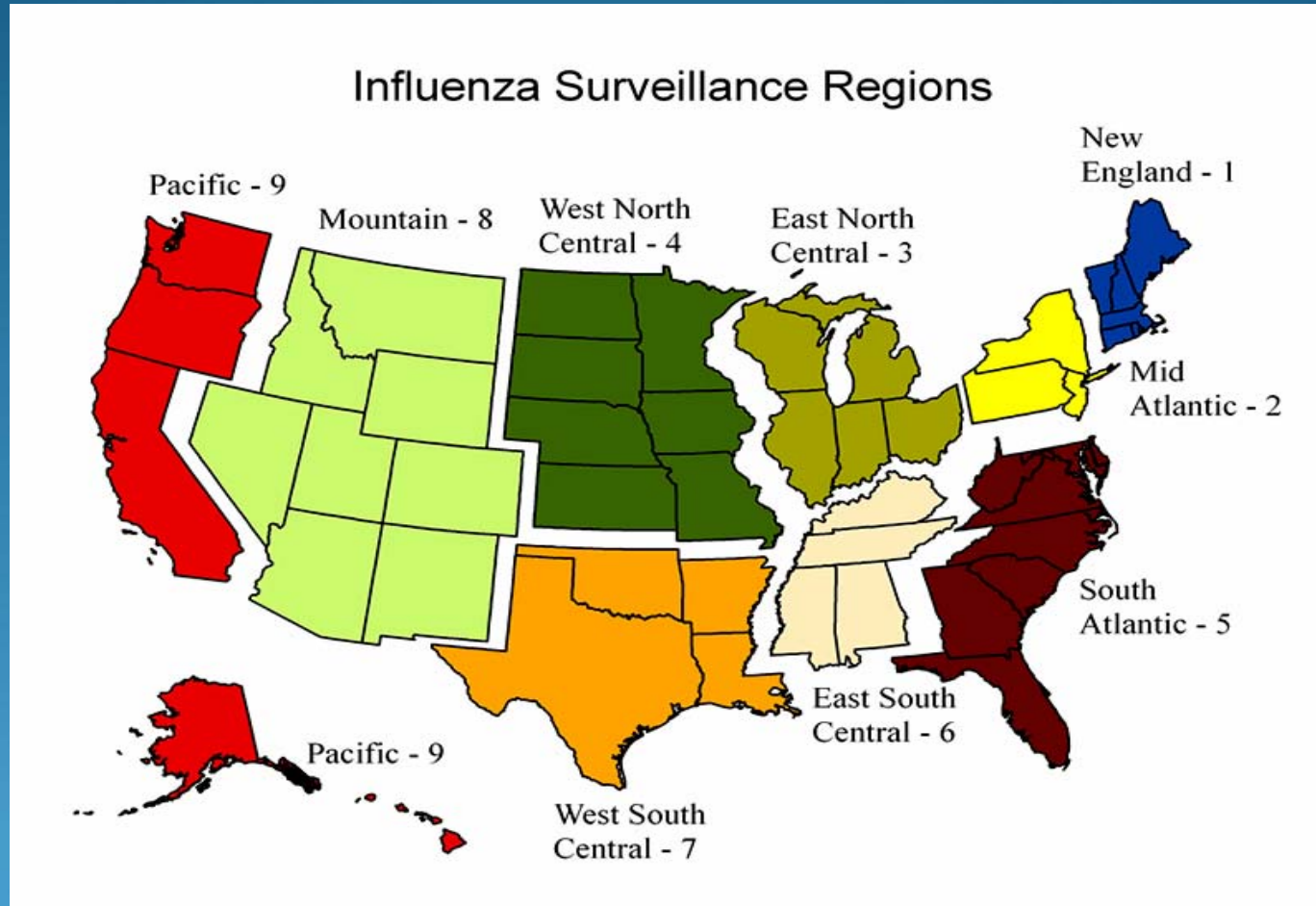
- 4/29 – 1st death, total 66 found in 6 states
- 5/5 – 2nd death, 403 confirmed in 38 states, with another 700 "probable" cases
- 6/2, over 10,000 cases confirmed and it spread to all 50 states, total 19 deaths
- Yet on 5/5 - CDC is no longer recommending that schools close because of swine flu - reverse from previous week

CDC Influenza Surveillance

WHO and NREVSS collaborating laboratories located in all 50 states and Washington D.C. report to CDC the number of respiratory specimens tested for influenza

1. Viral surveillance
2. Outpatient illness surveillance
3. Mortality surveillance
4. Hospitalization surveillance
5. Summary of the geographic spread of influenza

Surveillance and Report Regions

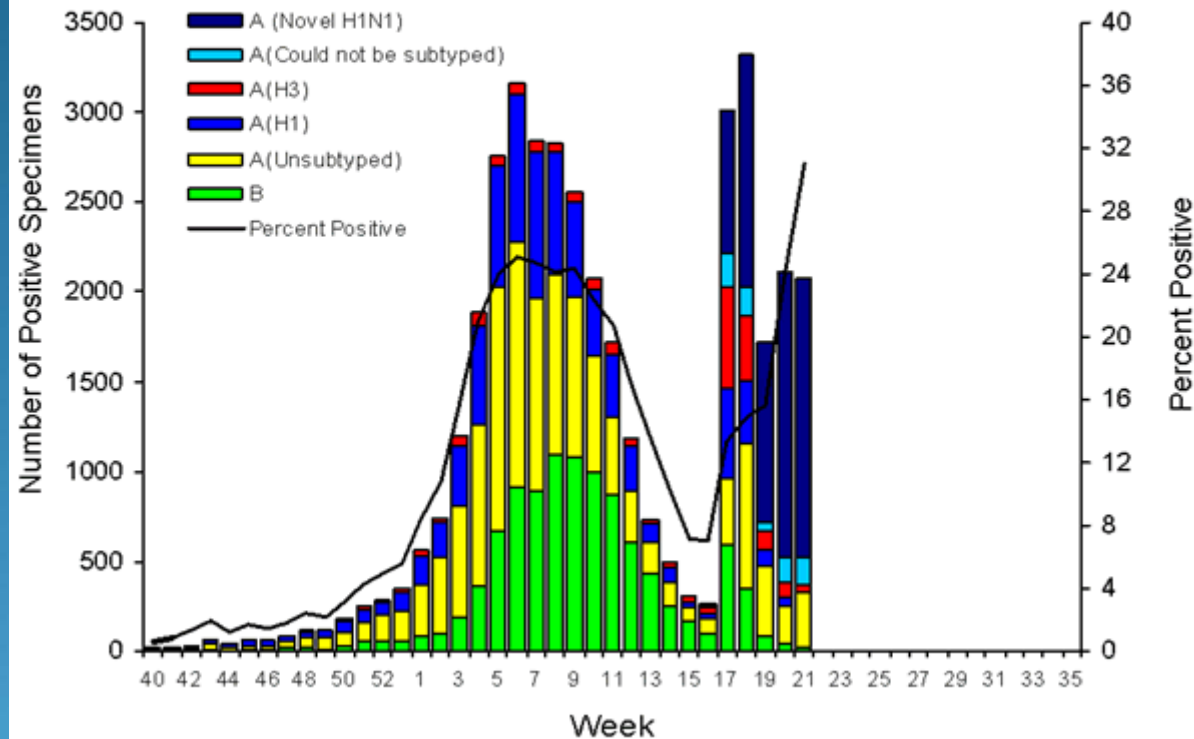


Surveillance Goals

1. Find out when and where influenza activity is occurring
2. Track influenza-related illnesses
3. Determine which influenza viruses are circulating
4. Detect changes in influenza viruses
5. Measure the impact influenza is having on deaths in the United States

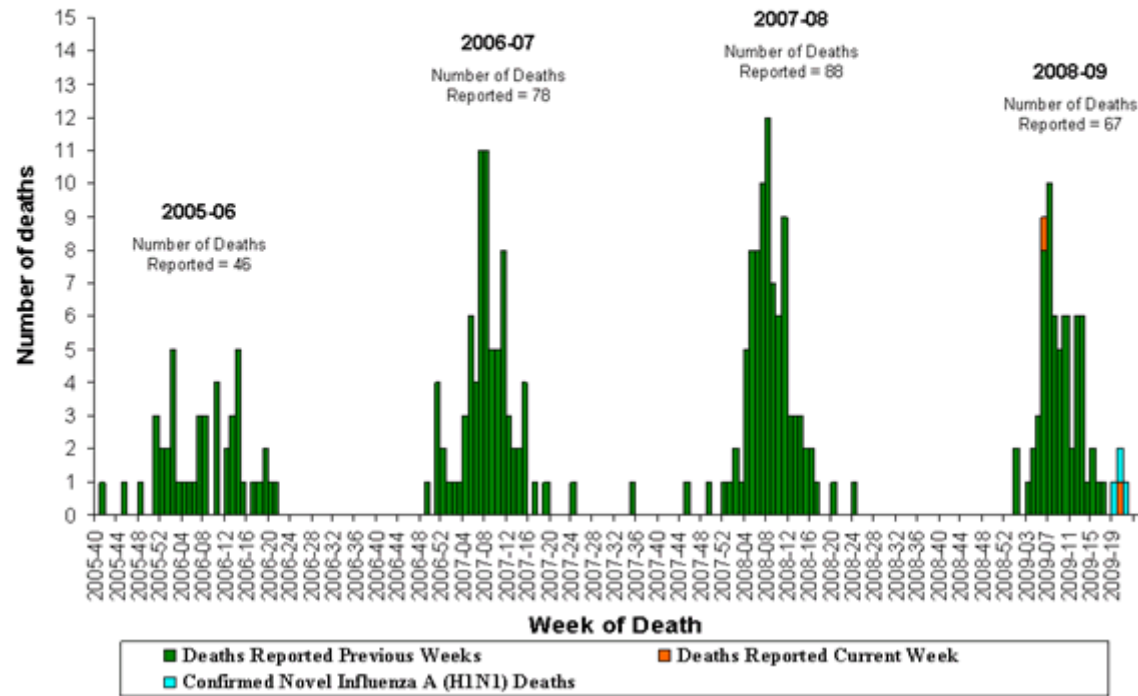
Pattern Monitoring

Influenza Positive Tests Reported to CDC by U.S. WHO/NREVSS Collaborating Laboratories, National Summary, 2008-09



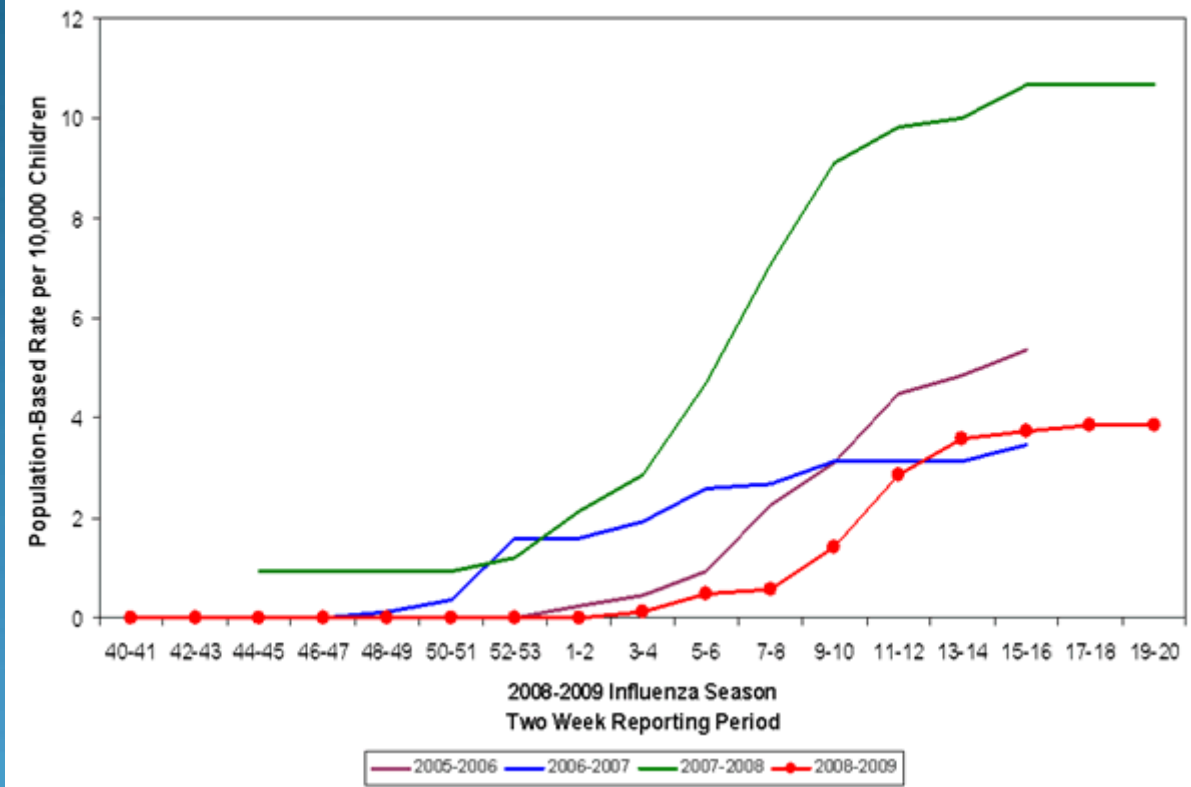
Pattern Monitoring

**Number of Influenza-Associated Pediatric Deaths
by Week of Death:
2005-06 season to present**



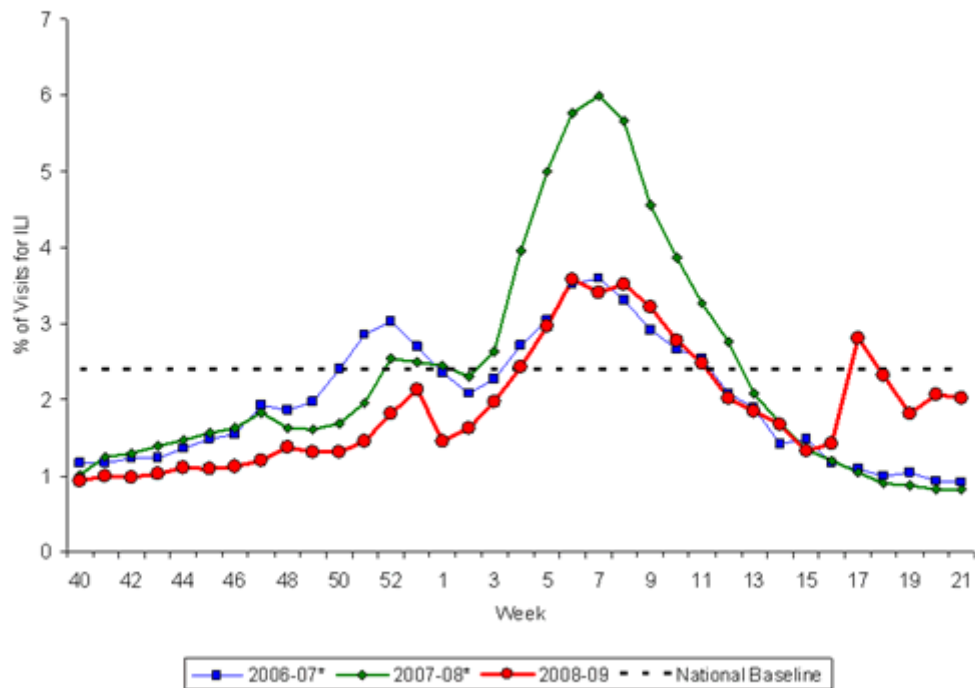
Pattern Monitoring

NVSN Influenza Laboratory-Confirmed Cumulative Hospitalization Rates for Children 0 - 4 Years, 2008- 09 and Previous Three Seasons



Pattern Monitoring

Percentage of Visits for Influenza-like Illness (ILI) Reported by the US Outpatient Influenza-like Illness Surveillance Network (ILINet), National Summary 2008-09 and Previous Two Seasons



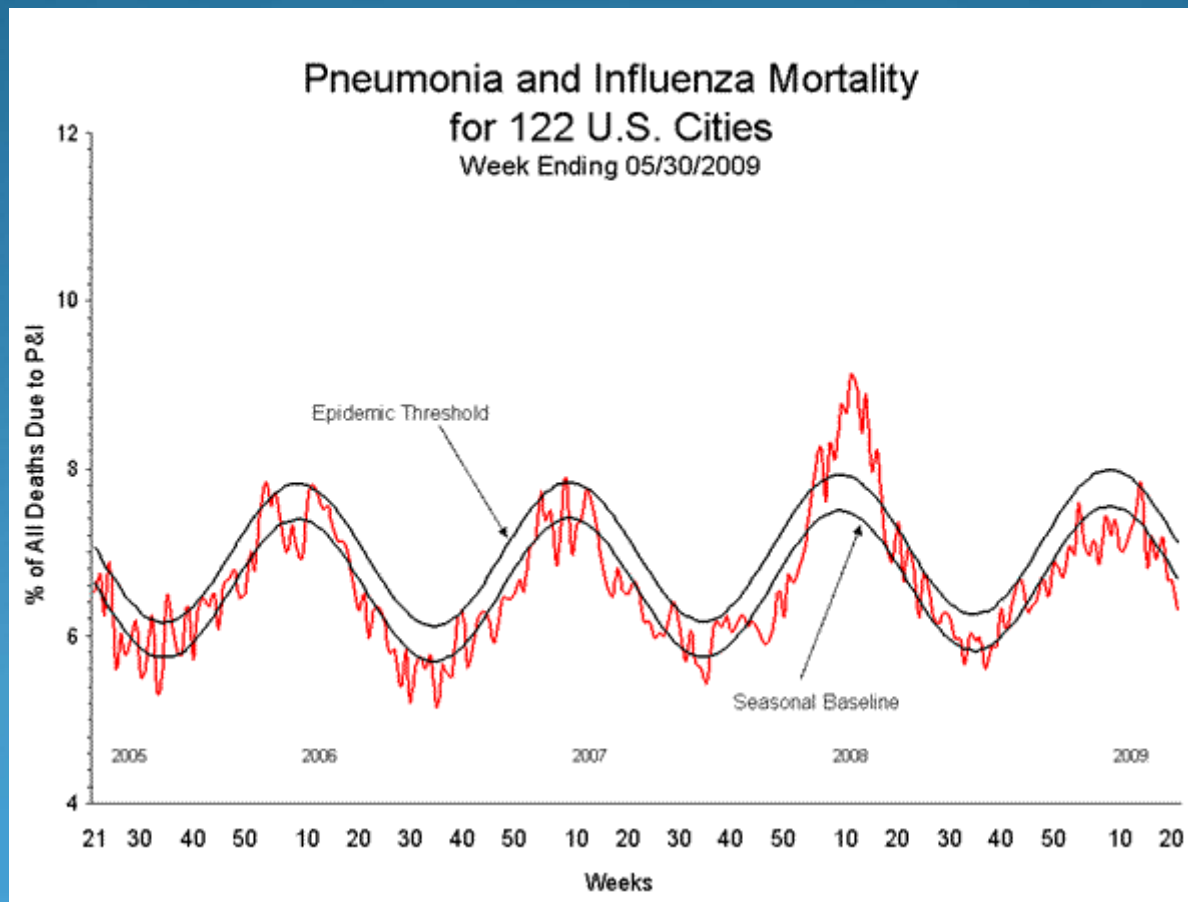
*There was no week 53 during the 2006-07 and 2007-08 seasons, therefore the week 53 data point for those seasons is an average of weeks 52 and 1.

Why Lower Level of Concern?

1. The H₁N₁ flu has been relatively mild in the U.S.—about as severe as a seasonal flu
2. Virus experts find that the current H₁N₁ swine flu lacks the virulence factors linked to severe illness in previous flu pandemics
3. Most deaths had underlying health conditions
4. Flu deaths are common around the world; in the U.S. alone, about 36,000 people a year die of flu-related causes

Why no panic or isolation?

- Keep the crisis in context



The Government Response :

Establish Clinician Guidance Timely

- Identifying and caring for patients (5/5)
- Antiviral recommendations (5/6)
- Emergency use authorization (EUA):
medical products (5/7)
- Clinical data collection forms and
templates (5/12)
- Infection control, lab testing, ER (5/13)

The Government Response: Guidelines for All Organizations

- Special needs population
- Workplace
- Community & public gatherings
- Childcare, schools & colleges
- Travel & travel industry

(<http://www.cdc.gov/h1n1flu/guidance/>)

Practice Good Health Habits

--at work, in home & school

- Avoid close contact
- Stay home when you are sick
- Cover your mouth and nose
- Clean your hands
- Avoid touching your eyes, nose or mouth
- Educating yourself on taking care of the sick

The Government Response:

Prepare for the Worst and Think Long Term

- The U.S. is shipping to states not only enough anti-flu medication for 11 million people, but also masks, hospital supplies and flu test kits.
- President Barack Obama asked Congress for \$1.5 billion in emergency funds to help build more drug stockpiles and monitor future cases, as well as help international efforts to avoid a full-fledged pandemic.

The Government Response:

Preparedness

Swine Flu: White House Says "It's Not A Time To Panic"

1. President Barack Obama's administration sought to look both calm and in command, striking a balance between informing Americans without panicking them.
2. The confidence also comes from 5 years of preparedness buildup.

National Pandemic Preparedness

- *“Once again, nature has presented us with a daunting challenge: the possibility of an influenza pandemic... Together we will confront this emerging threat and together, as Americans, we will be prepared to protect our families, our communities, this great nation, and our world.”*
–President George W. Bush, November 2005

National Pandemic Preparedness

- Secretary of Health and Human Services (2005)



“Some will say this discussion of the Avian Flu is an overreaction. Some may say, ‘Did we cry wolf?’ The reality is that if the H5N1 virus does not trigger pandemic flu, there will be another virus that will.”

Secretary Mike Leavitt

Department of Health and Humans Services

November 2, 2005

Phases of Pandemic Preparedness

- Planning phase
- Preparedness phase
- Response
- Recovery

Response & Recovery Strategies

How to maintain key essential operations & services if:

- 40% workers were sick
- supply chains and travel were interrupted
- no essential resources available
- shortage caused security & social stability
- the outbreak lasts 6 months

Physical Critical Infrastructure and Key Resources

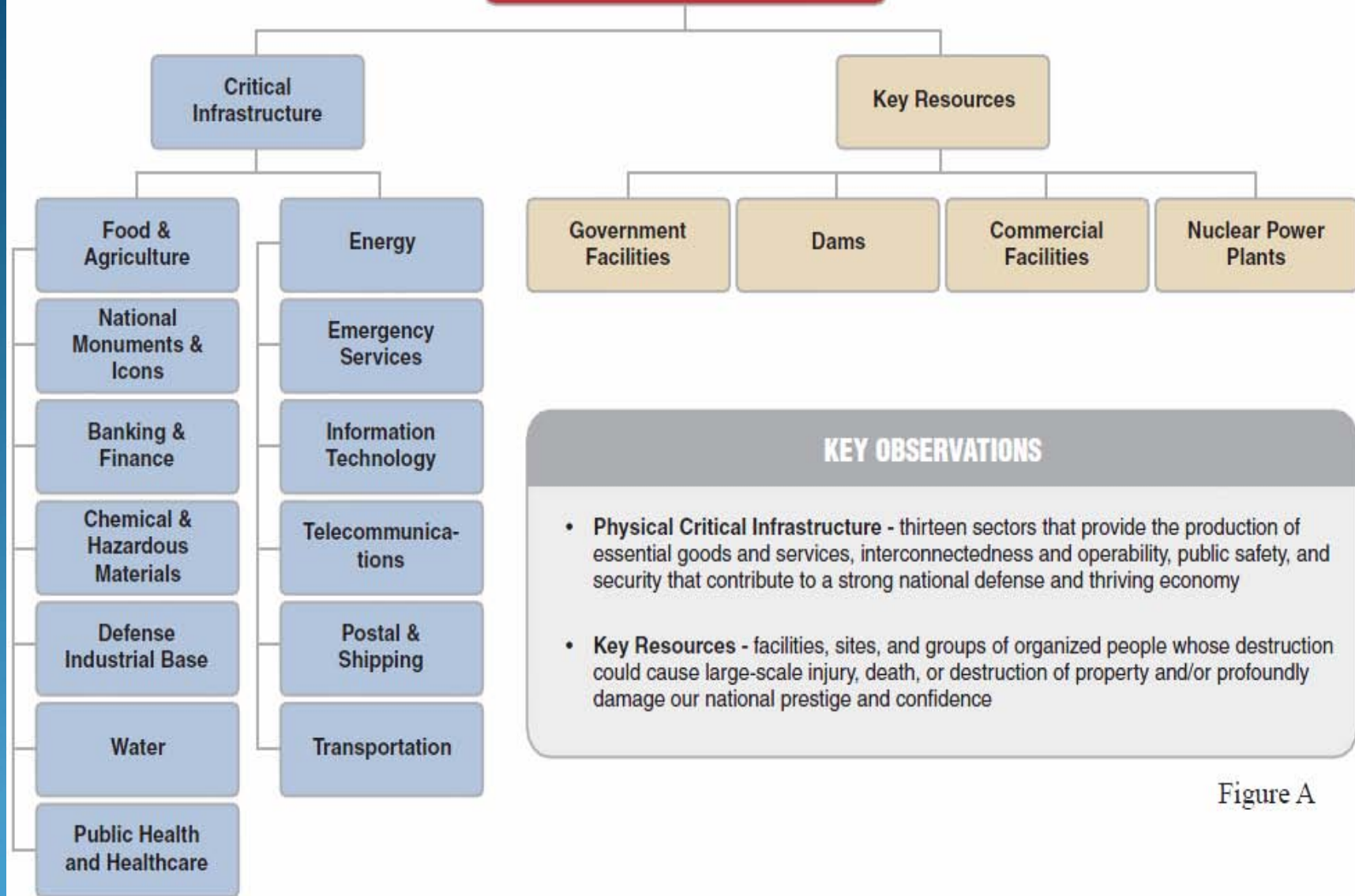


Figure A

Lessons Learned from the US

1. Early preparedness development
2. Rigorous research and comprehensive surveillance systems
3. Balance the public alert and calm
4. Decisions made based on science and data, not emotions and panic—the government didn't shut down borders and quarantine patients

Questions?

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