Pandemic Influenza H1N1: Update

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Pandemic H1N1 vs. Seasonal Flu

- Similar severity
  - Not “mild”
- Similar transmissibility
- Affects younger populations
- Will likely infect more people than seasonal flu
  - More severe illnesses
  - More deaths

How Flu Spreads

- Most spread through coughing and sneezing
- Contact transmission also important
  - Hand to hand, contaminated surfaces
- Airborne transmission also possible

Pandemic Influenza

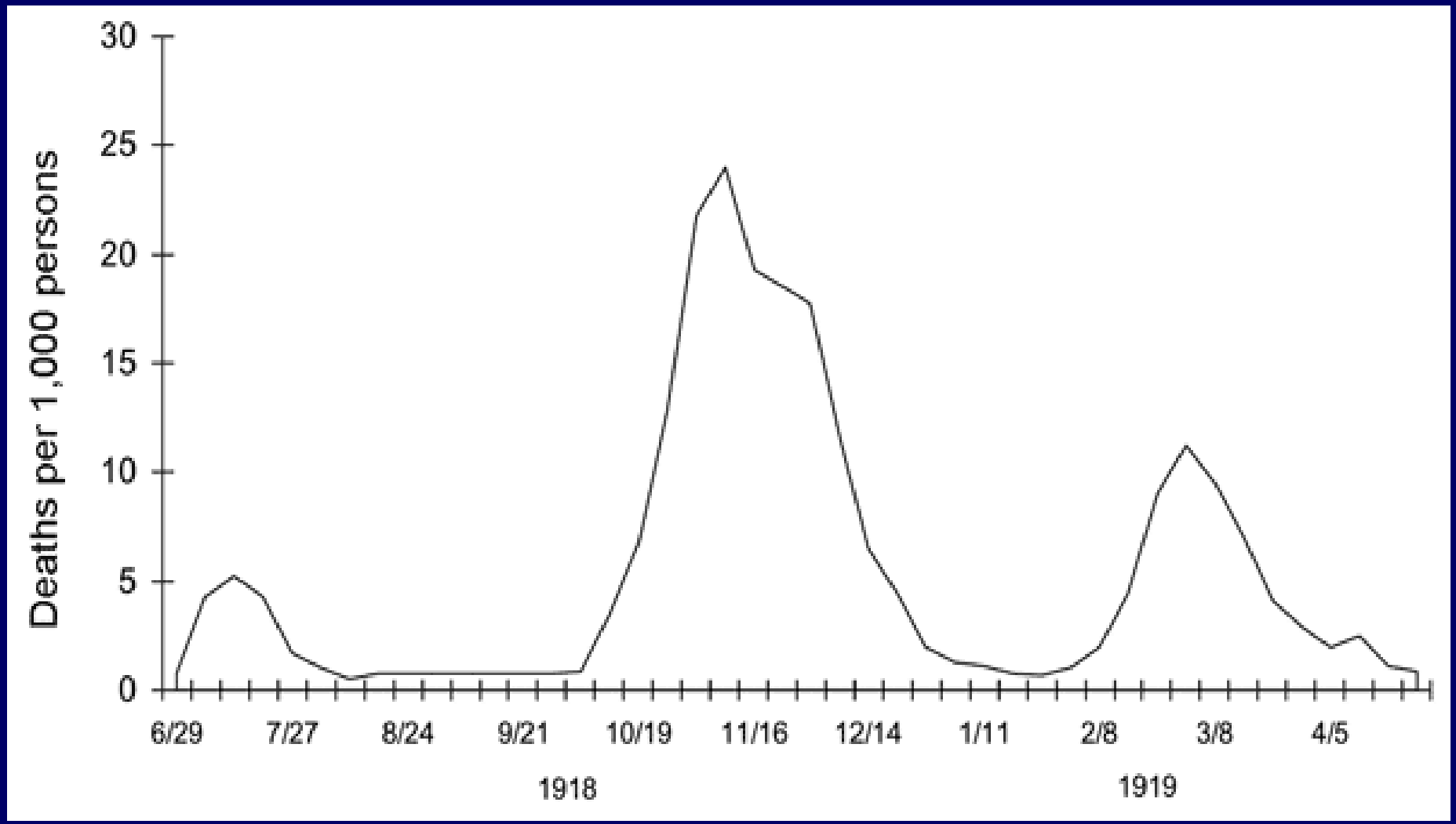
Three Conditions:

1. **Novel virus (all or most susceptible)**
2. **Transmissible from person to person**
3. **Wide geographic spread**

Impact of Past Influenza Pandemics

Pandemic, or Antigenic Shift	Excess Deaths in US	Populations Affected
1918-19 (A/H1N1)	500,000	Persons <65 years
1957-58 (A/H2N2)	70,000	Infants, elderly
1968-69 (A/H3N2)	36,000	Infants, elderly
2009-10 (A/H1N1	???	Persons <65 years

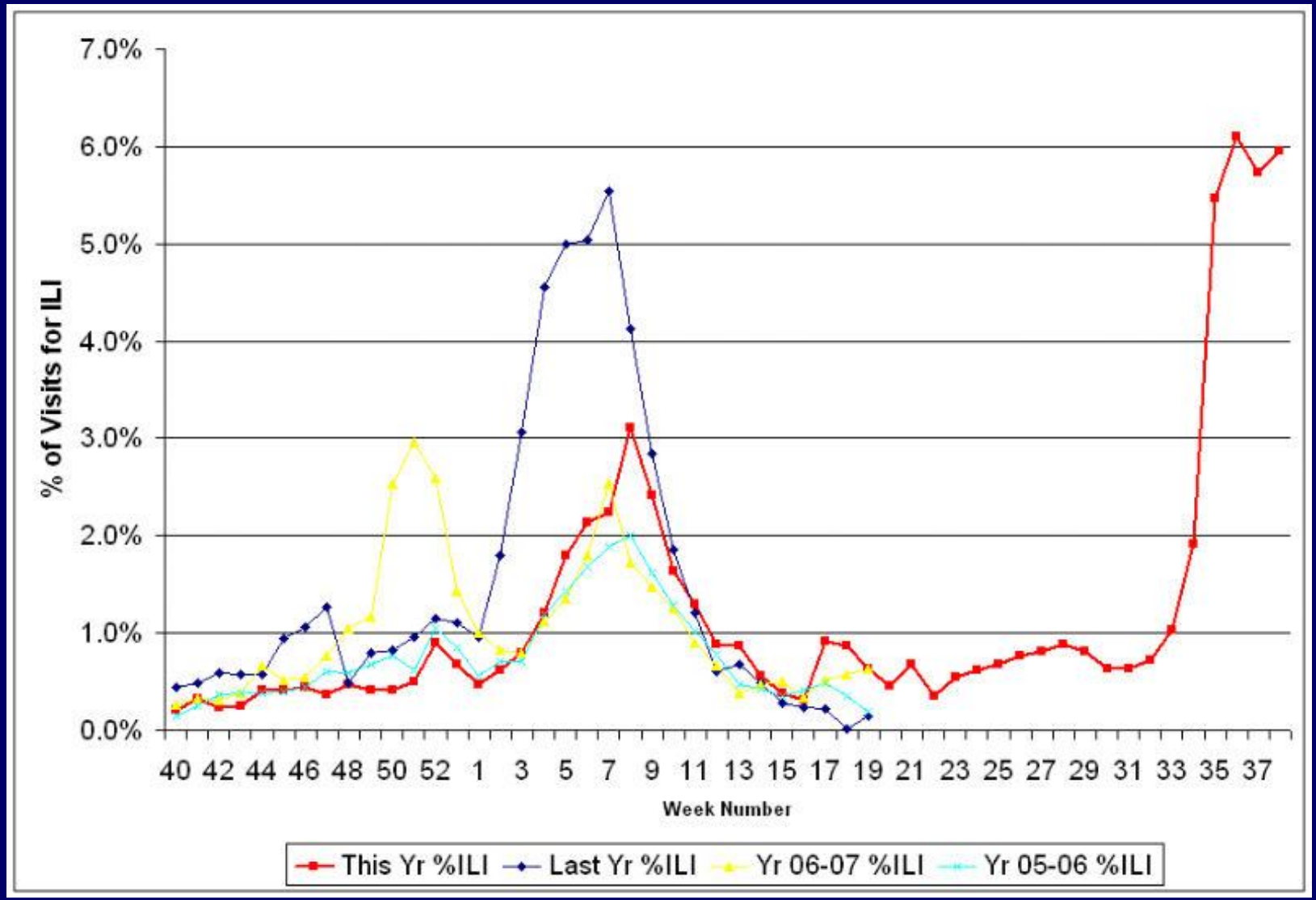
1918 Pandemic: 2nd Wave



Pandemic influenza: Waves

- Highly unpredictable
- 1957: second wave began 3 months after peak of the first wave
- 1968: second wave began 12 months after peak of the first wave

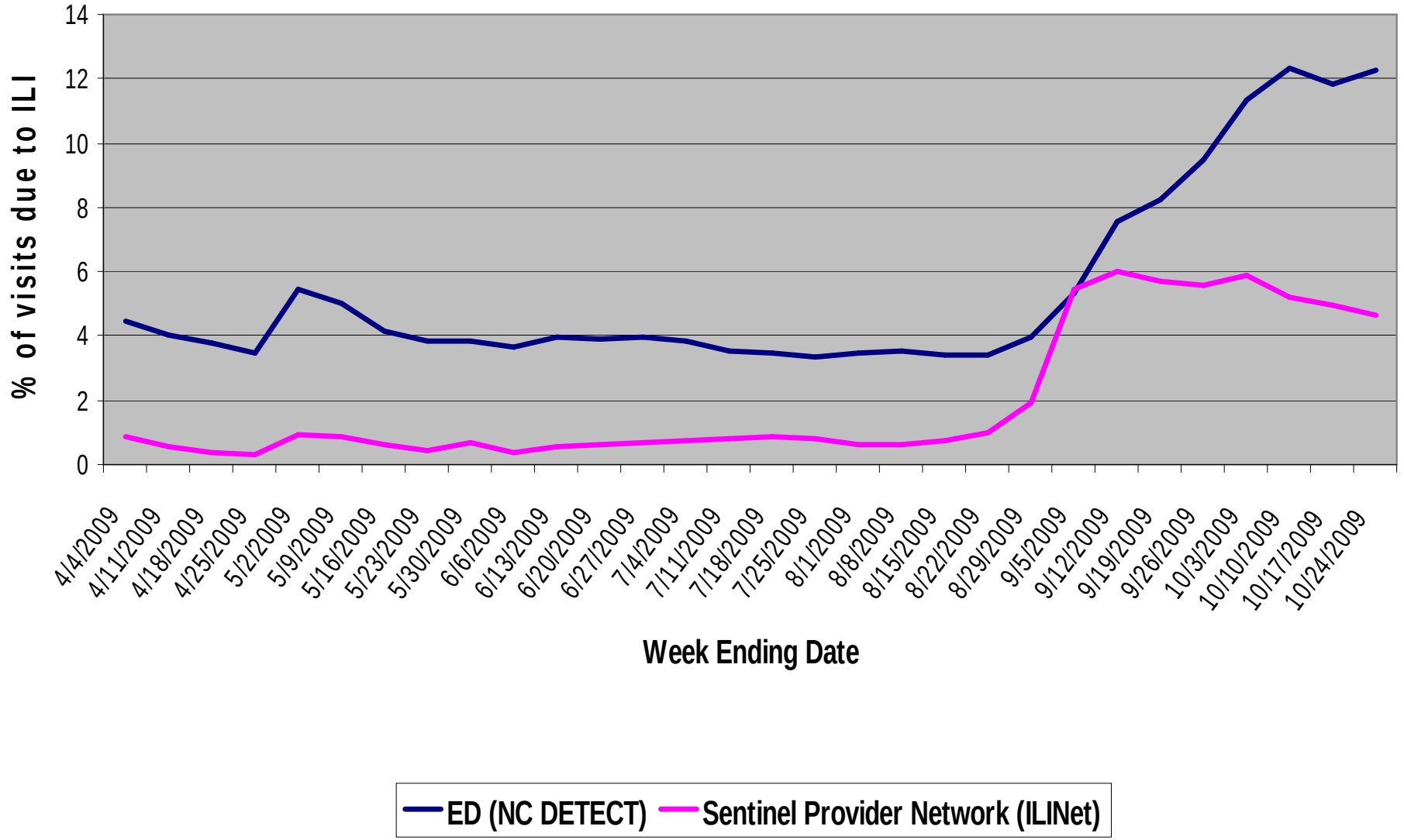
2009 H1N1 Pandemic Waves, NC



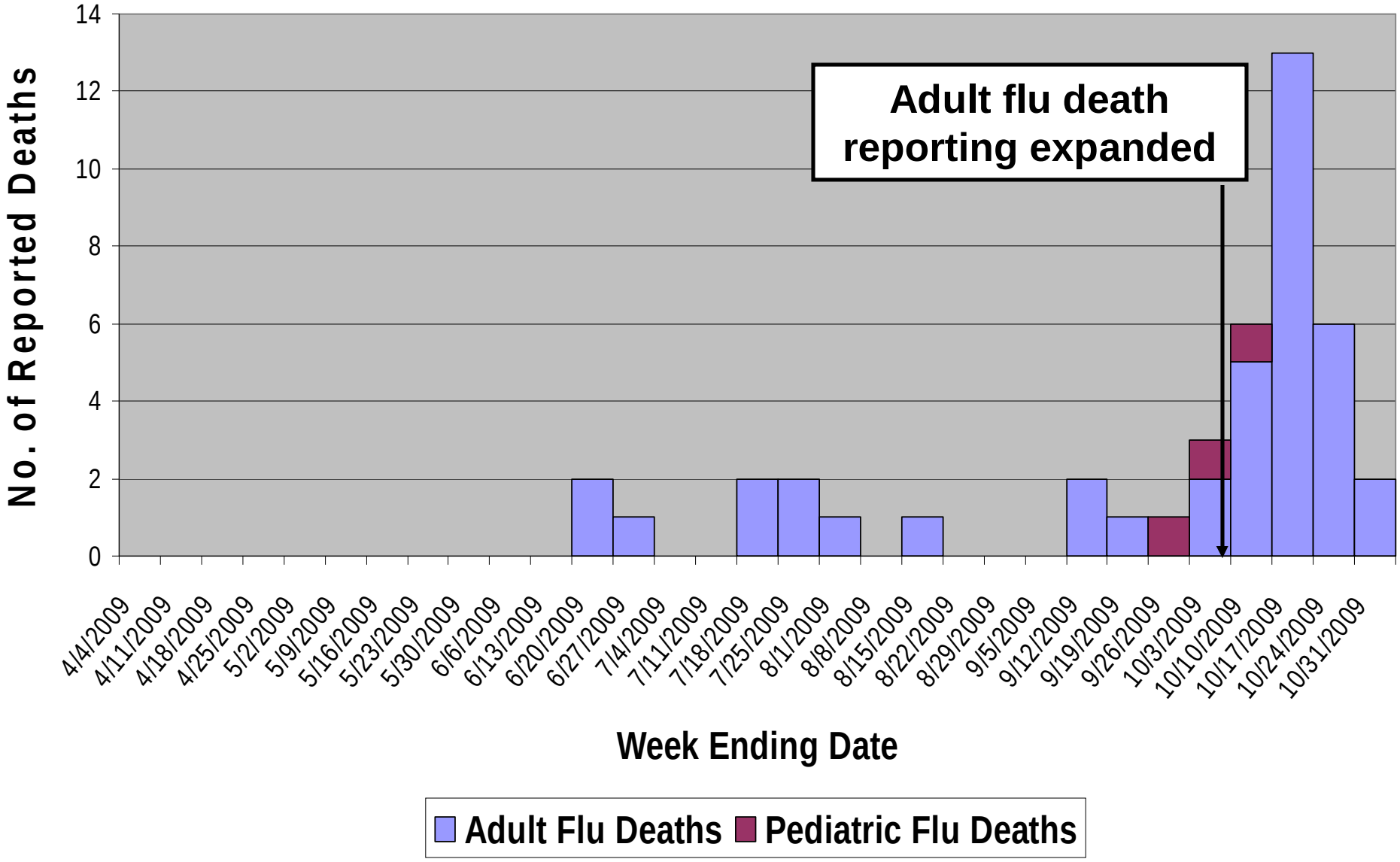
Where We Are Now

- **WHO Phase 6 Pandemic**
  - **Determined by global spread, not severity**
- **High levels flu activity across NC**
- **Planning for mixed season with several strains circulating**
- **Monitoring for increases in (1) severity, (2) transmissibility, or (3) antiviral resistance**

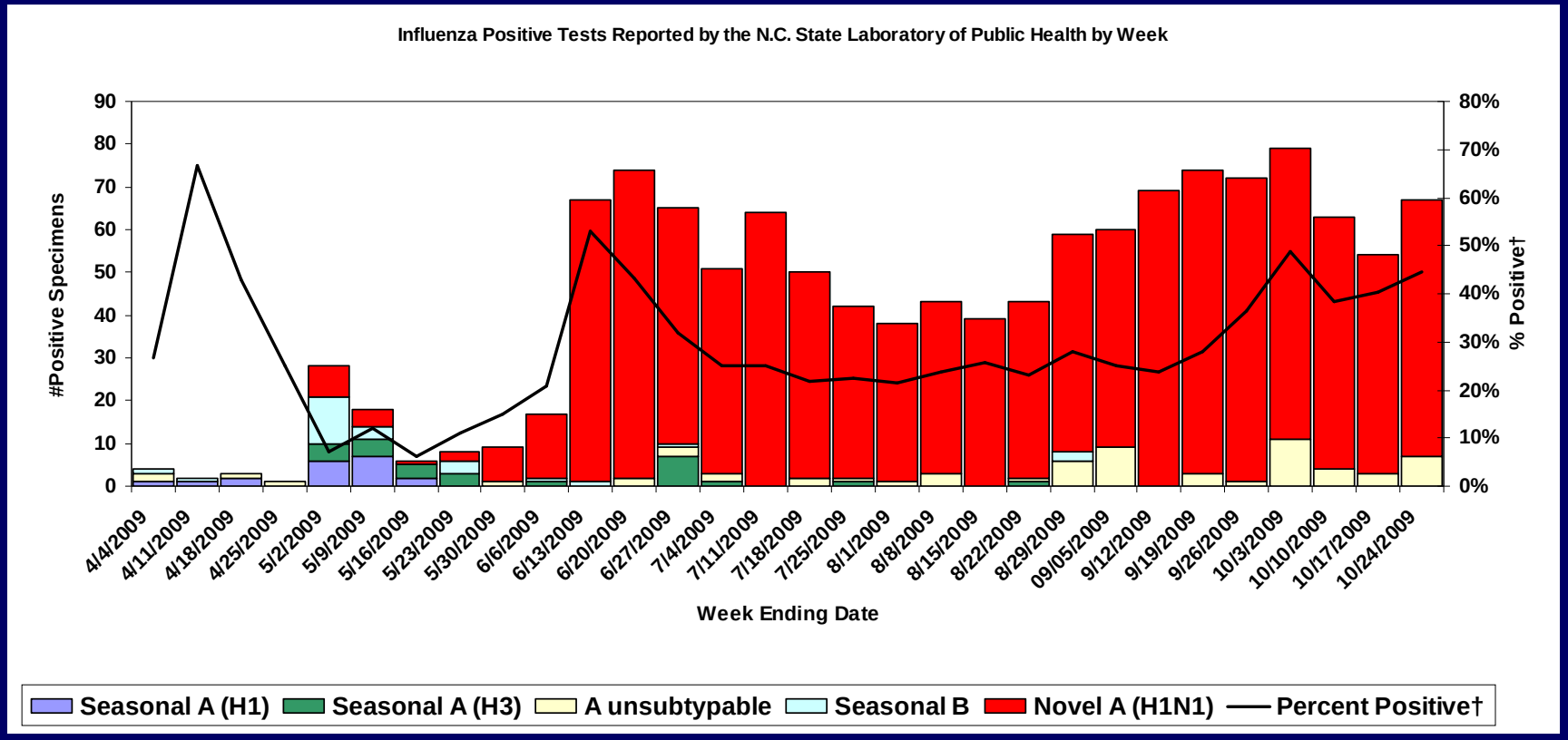
Influenza-Like Illness Surveillance in North Carolina, 2009-2010



Influenza-Associated Deaths Reported in North Carolina as of October 29, by Week of Death (N=43)



NC State Lab Influenza Virus Testing Results by Week, 2008–2009



Antiviral Treatment

- **Healthy patients with uncomplicated illness do not need to be treated with antivirals**
- ***Treatment recommended*** **for**
  - **All hospitalized or severely ill patients with confirmed or suspected influenza***
- ***Consider treatment*** **for**
  - **Patients at higher risk complications**

***REGARDLESS OF TIME SINCE SYMPTOM ONSET**

Nonpharmaceutical Interventions

- Recommendations based on disease severity
- Guidance issued for specific settings
  - Workplace
  - Farms
  - Schools
  - Camps
  - Health care facilities
  - Long-term care facilities
- www.flu.nc.gov and www.cdc.gov/h1n1flu

Isolation Recommendations

- **Remain at home until at least 24 hours after fever resolves (without fever-reducers)**
  - **3–5 days in most cases**
  - **Duration NOT influenced by use of antivirals**
- **Practice good respiratory hygiene after return**
  - **Many still shedding >24 hours after fever**

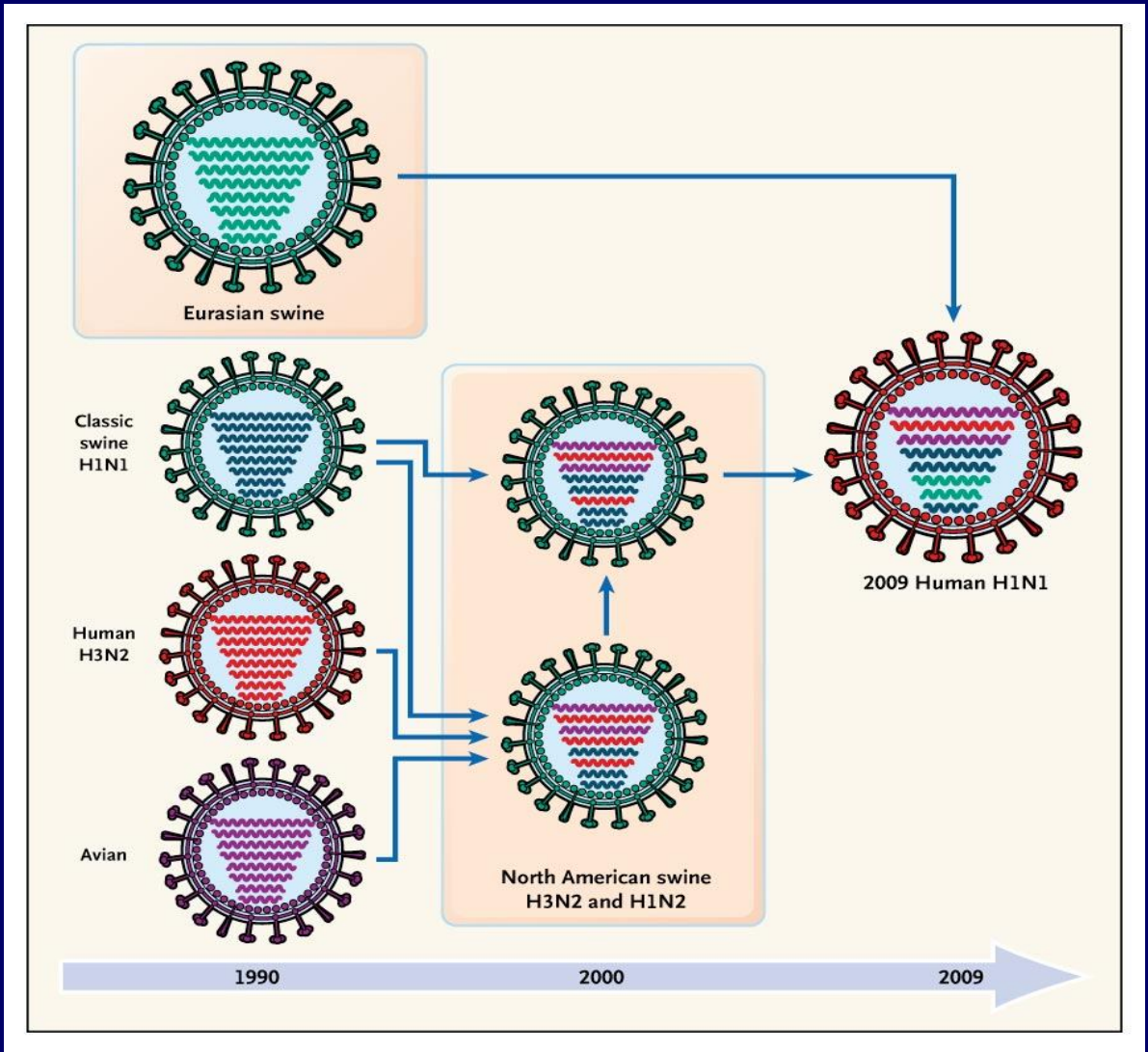
What's Next?

- Seasonal and H1N1 flu vaccination campaigns
- Continue enhanced surveillance
  - Communicate information to partners
- Work with businesses, schools and others to decrease impact
- Wait for May!

Public Health Resources

- www.flu.nc.gov
- www.cdc.gov/h1n1flu

Genetic Components of the Pandemic H1N1 Virus



Trifonov V et al. N Engl J Med 2009;10.1056/NEJMp0904572