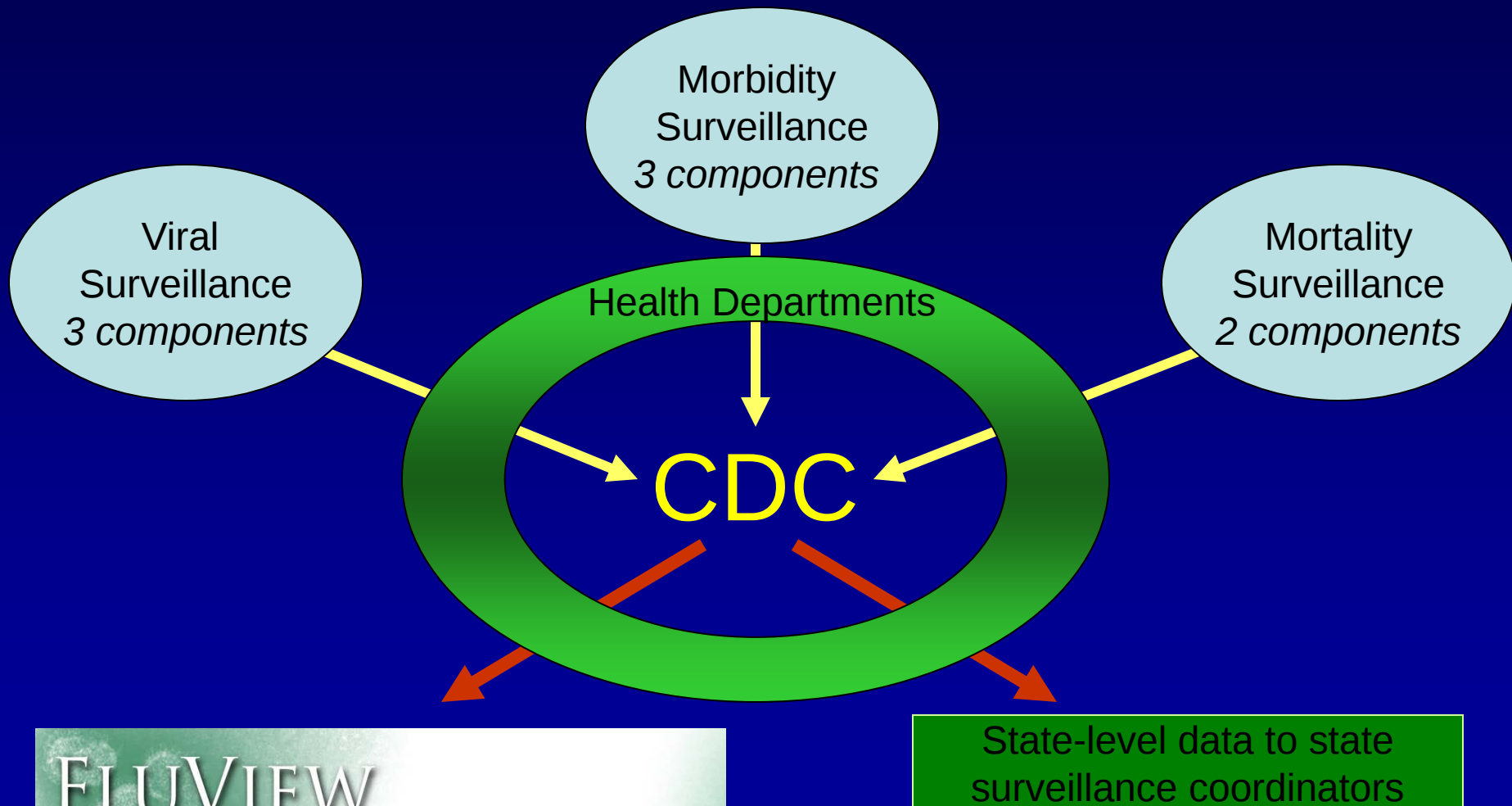
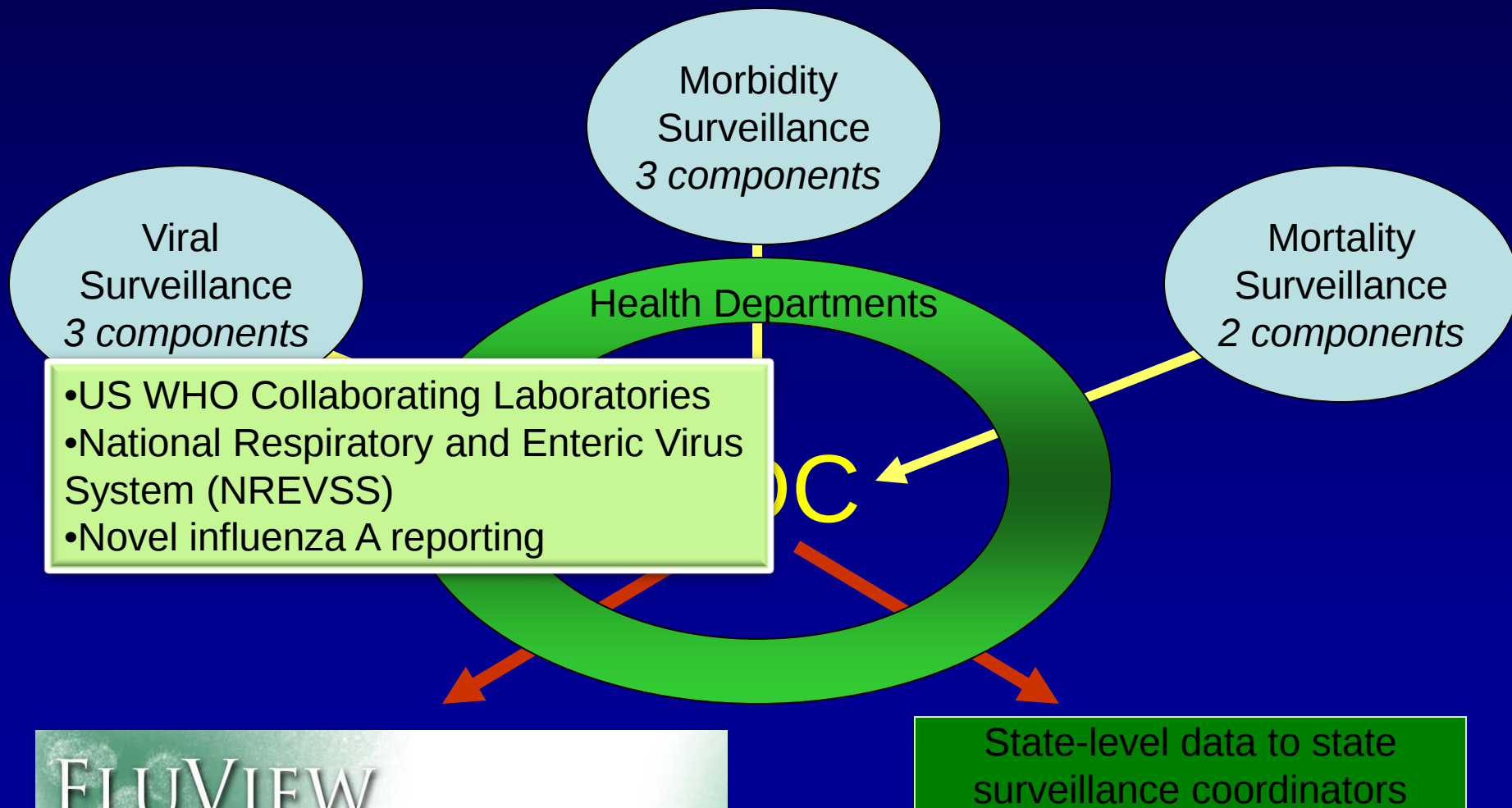

US Influenza Surveillance

Lynnette Brammer, MPH
Epidemiology and Prevention Branch
Influenza Division
National Center for Immunization and Respiratory Diseases
Centers for Disease Control and Prevention

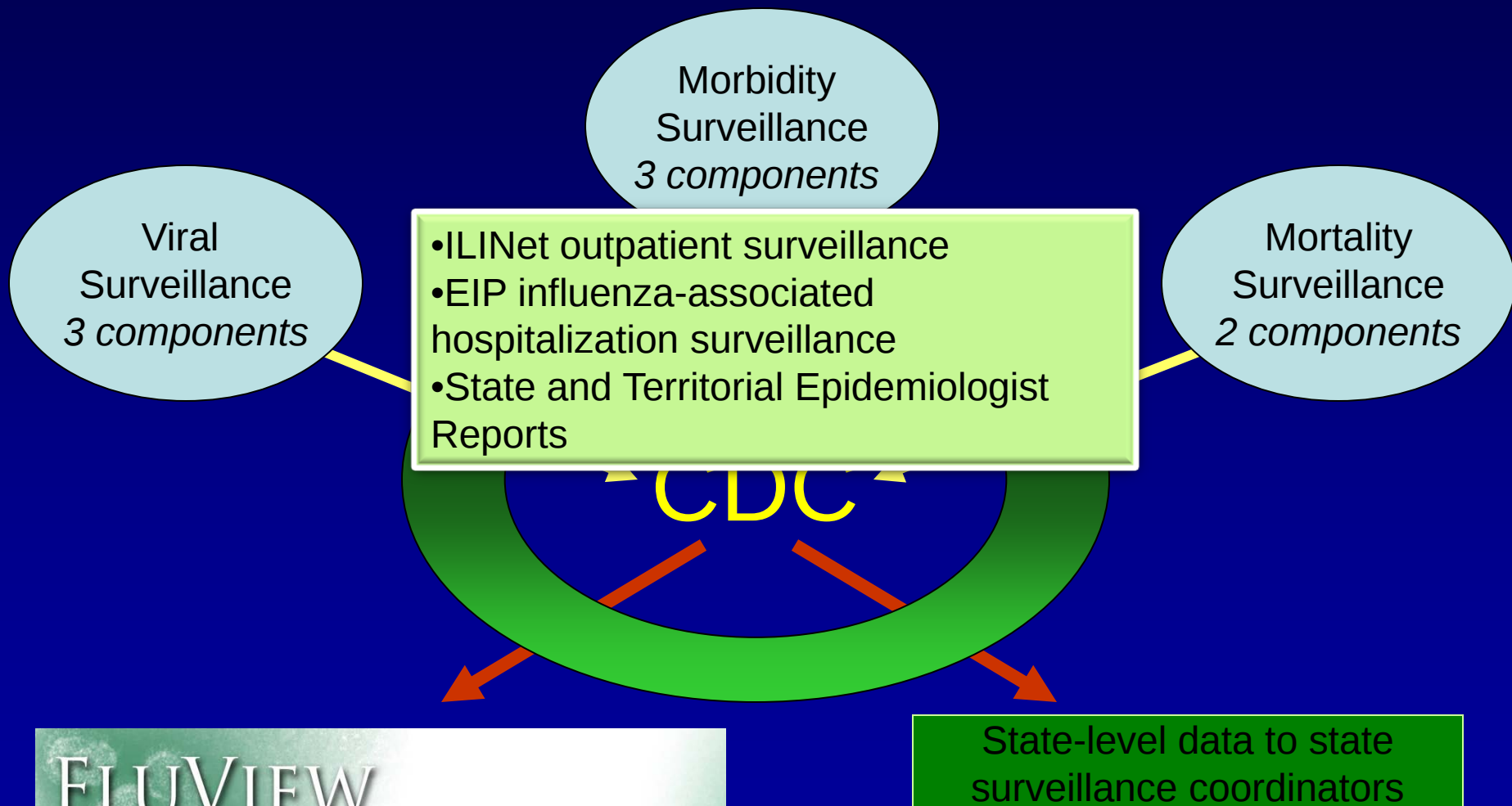
U.S. Influenza Surveillance



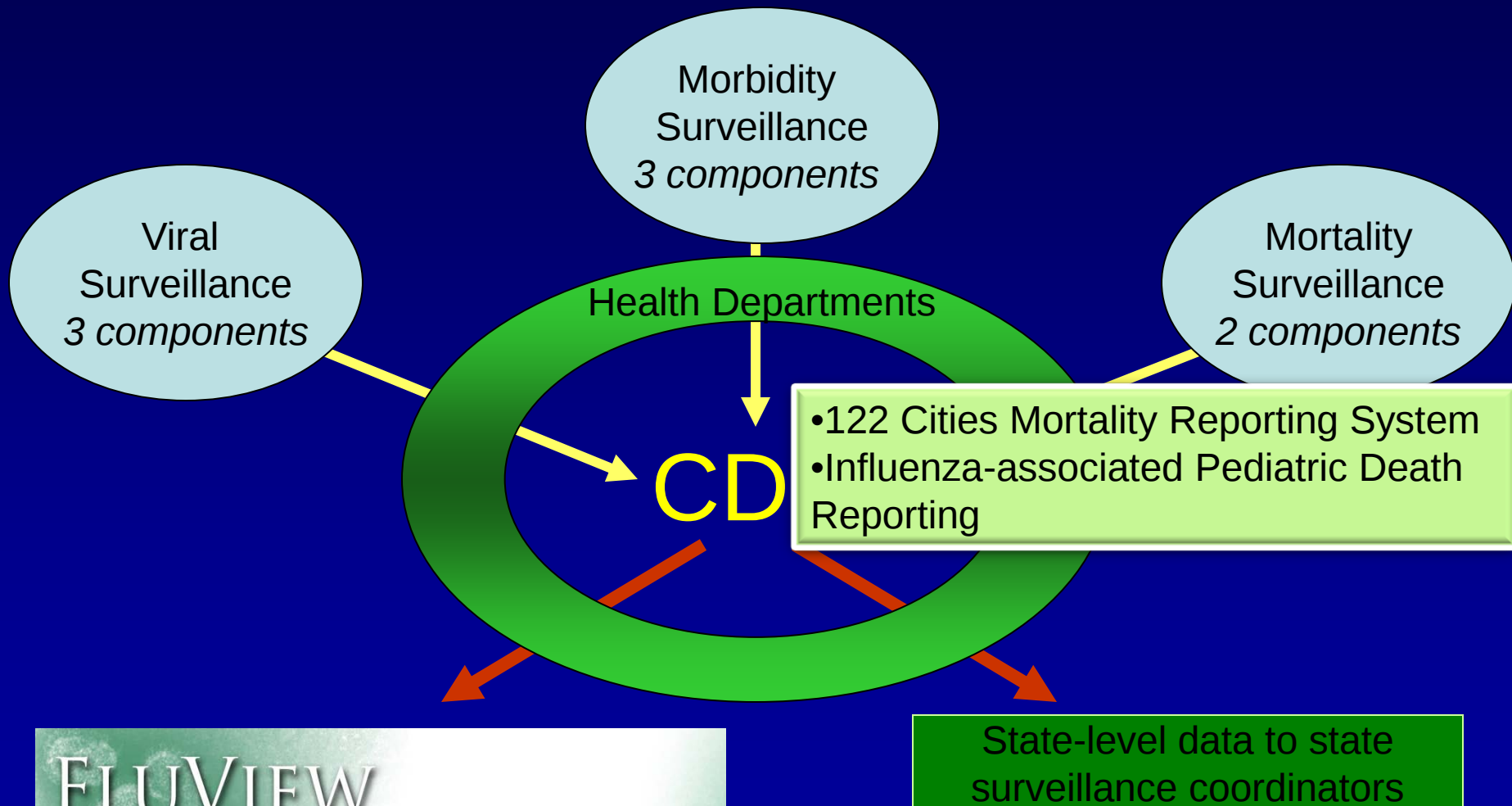
U.S. Influenza Surveillance



U.S. Influenza Surveillance

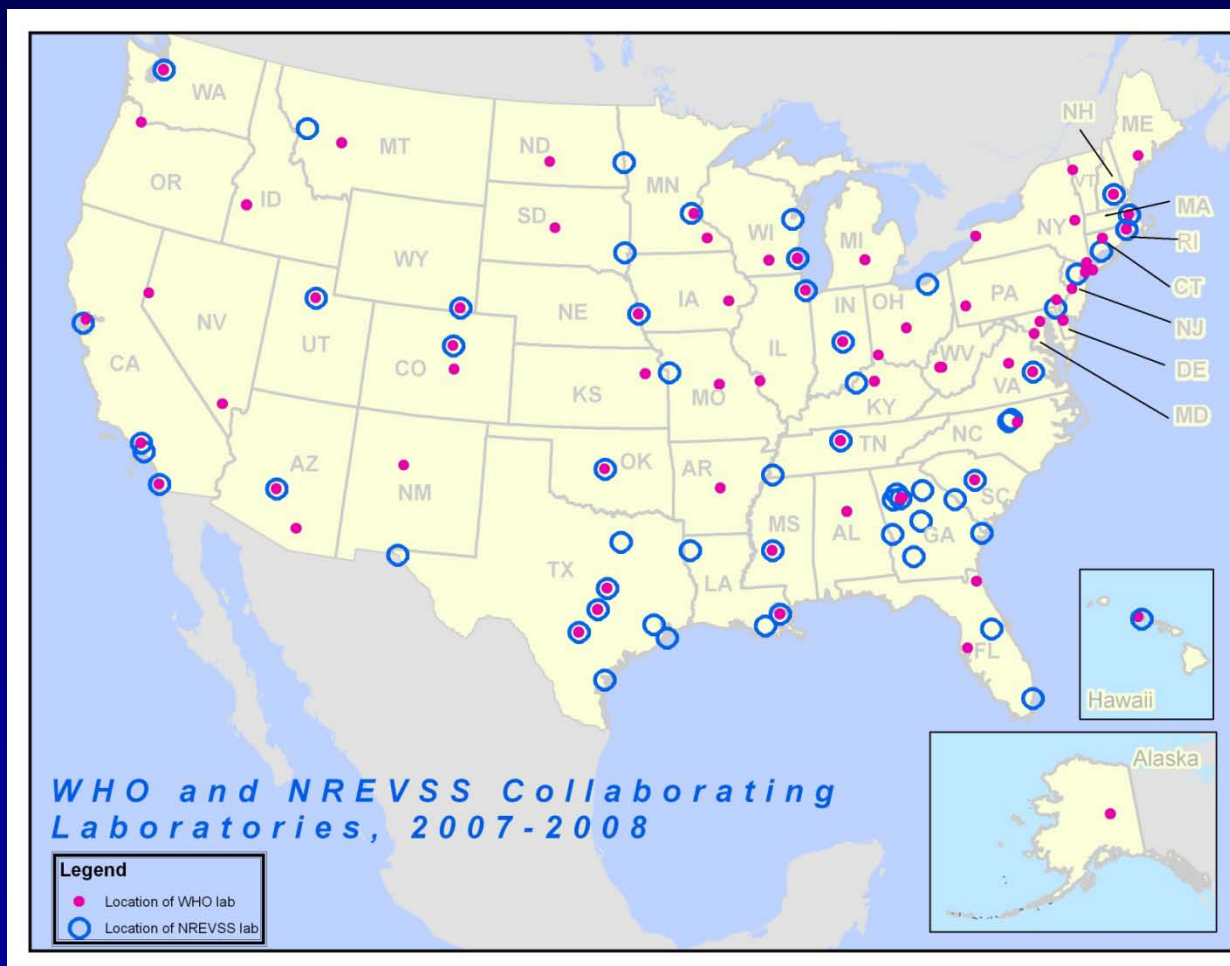


U.S. Influenza Surveillance



WHO / NREVSS Laboratories

- All state labs participate as WHO labs
- Weekly reports
 - # specimens tested
 - # positive for influenza: type, subtype, age group



Number of Specimens Tested for Influenza and Number Positive

Season	All labs	
	# tested	# positive
2002-03	96,871	9,841
2003-04	152,262	25,104
2004-05	186,478	24,501
2005-06	180,961	21,497
2006-07	189,415	23,941
2007-08	262,262	42,425
2008-09	458,133	94,415
2009-10*	459,088	90,258

* As of June 3, 2010

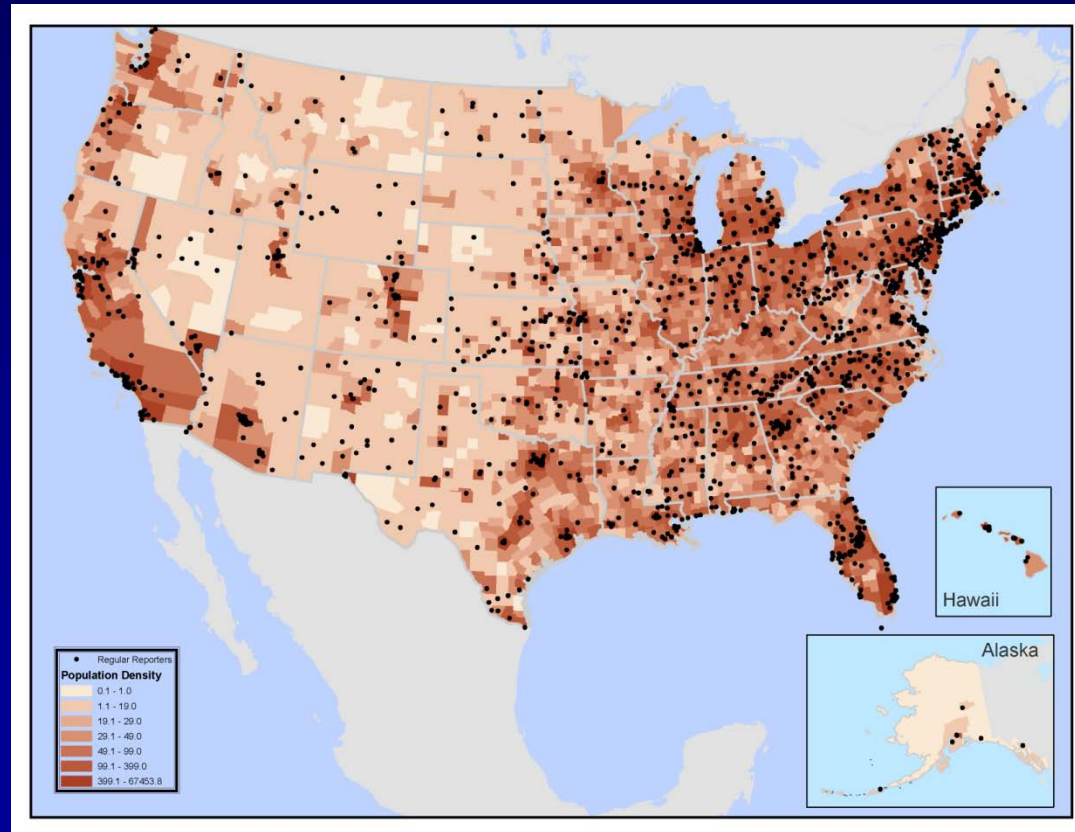
Tracking Cases Infected with Viruses with Pandemic Potential

- Novel Influenza A Virus Surveillance
 - New CSTE reportable condition for 2007-08
 - Improves reporting of strains of pandemic potential
 - Facilitates early initiation of appropriate public health responses
- Investigation of confirmed cases

Outpatient Surveillance for Influenza-like Illness

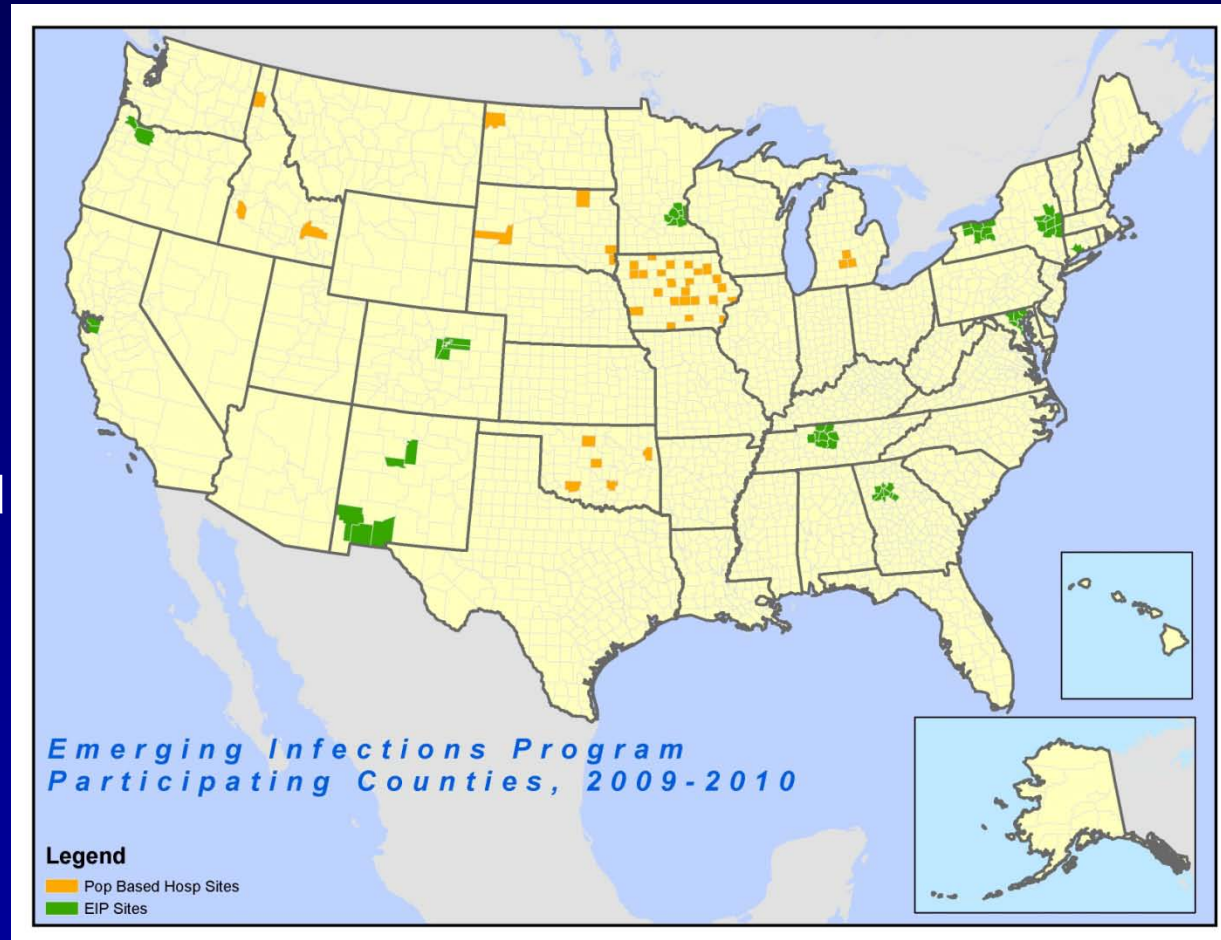
- Monitor Influenza-like Illness (ILI)
 - >3,300 healthcare providers in 50 states
 - >25 million patient visits each year
 - Subset provides clinical specimens

Regularly Reporting Sites 2009-10



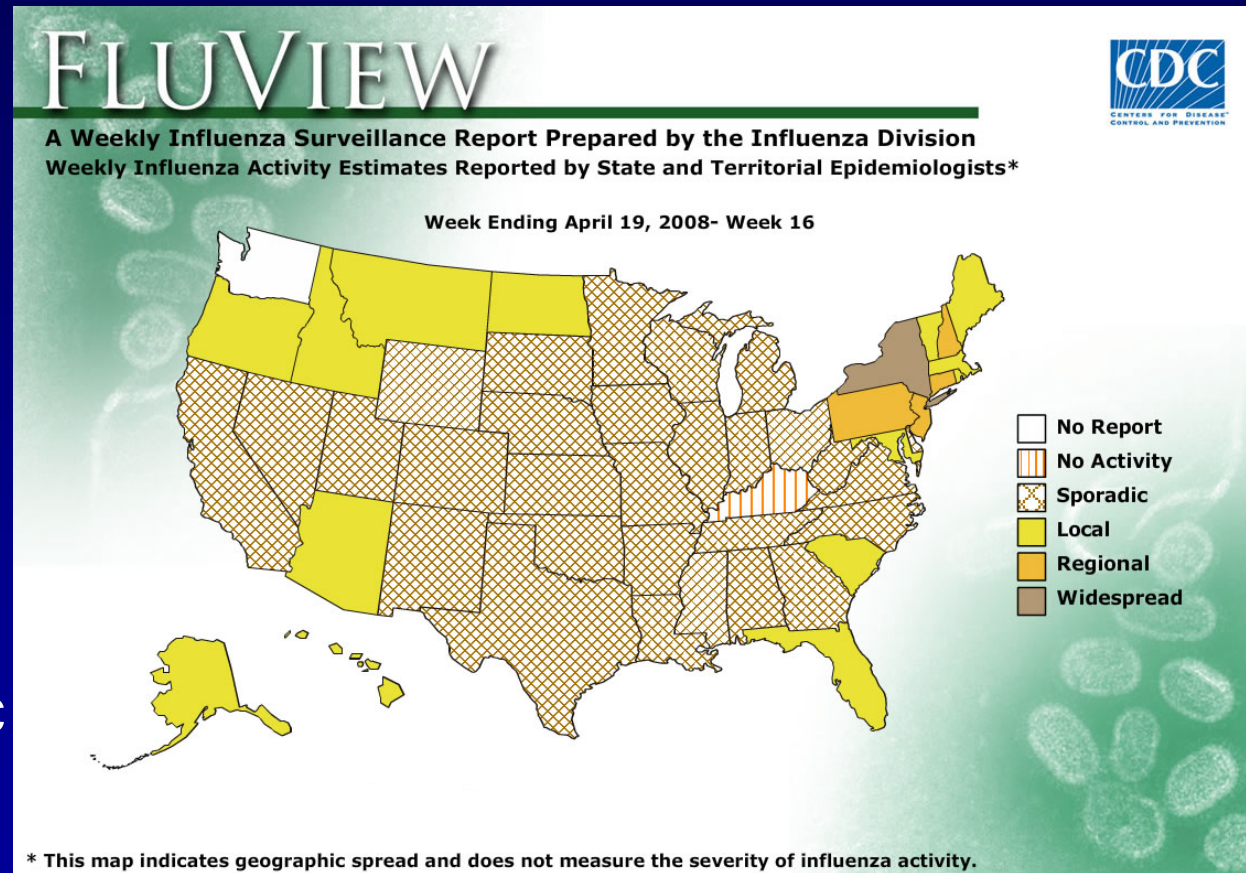
Hospitalization Surveillance

- Emerging Infections Program (EIP) – 12 sites in 10 states
 - children and adults hospitalized with laboratory-confirmed influenza infection
- EIP-like sites in 6 states
 - Added in 2009



Tracking State-Level Influenza Activity

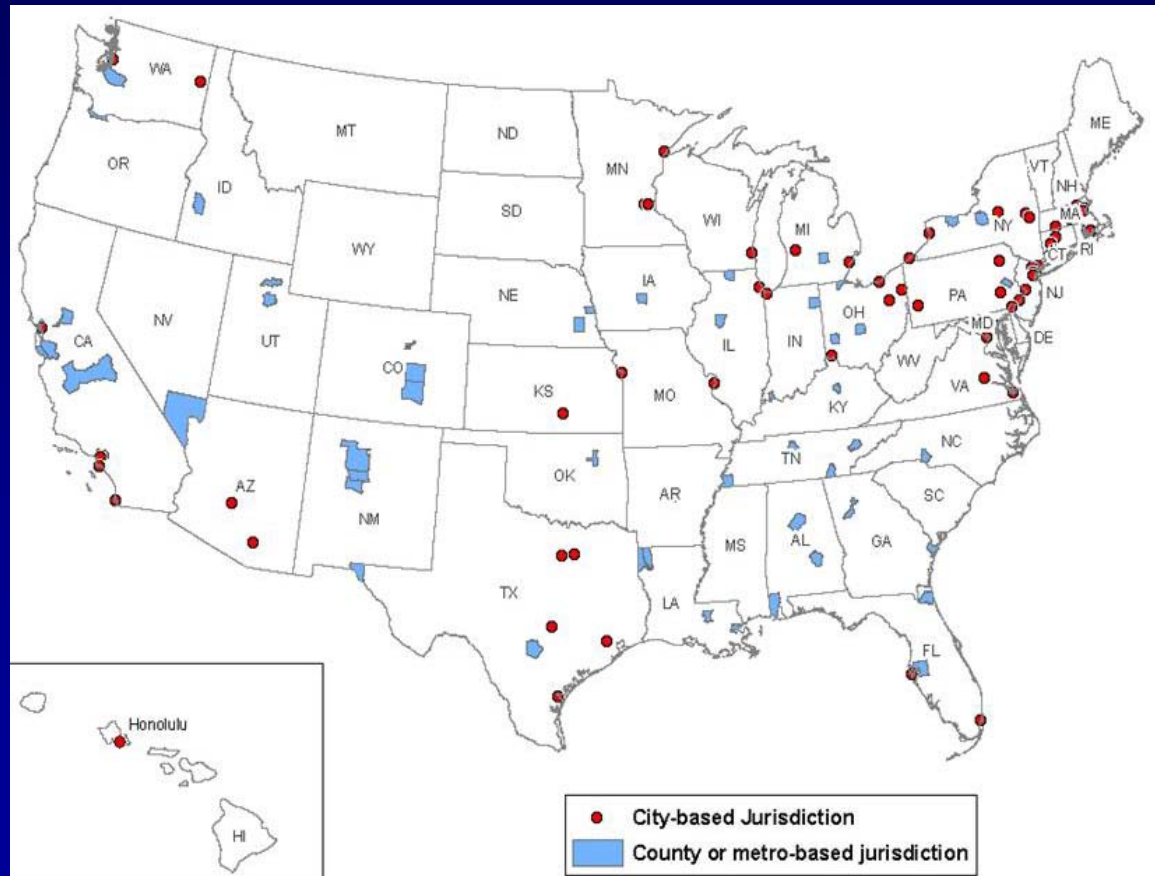
- Weekly report from state epidemiologists
- Rank flu activity based on:
 - ILI
 - Lab-confirmed cases
 - Other data available
- Tracks geographic spread, not intensity



Tracking Deaths – Mortality Surveillance

- Weekly reports from vital statistics offices
- Covers ~25% US population
- In place for 40+ years
- Timely - ~ 1 week delay

122 Cities Mortality Reporting System



Week Ending 08/08/2009

Week Ending 08/08/2009



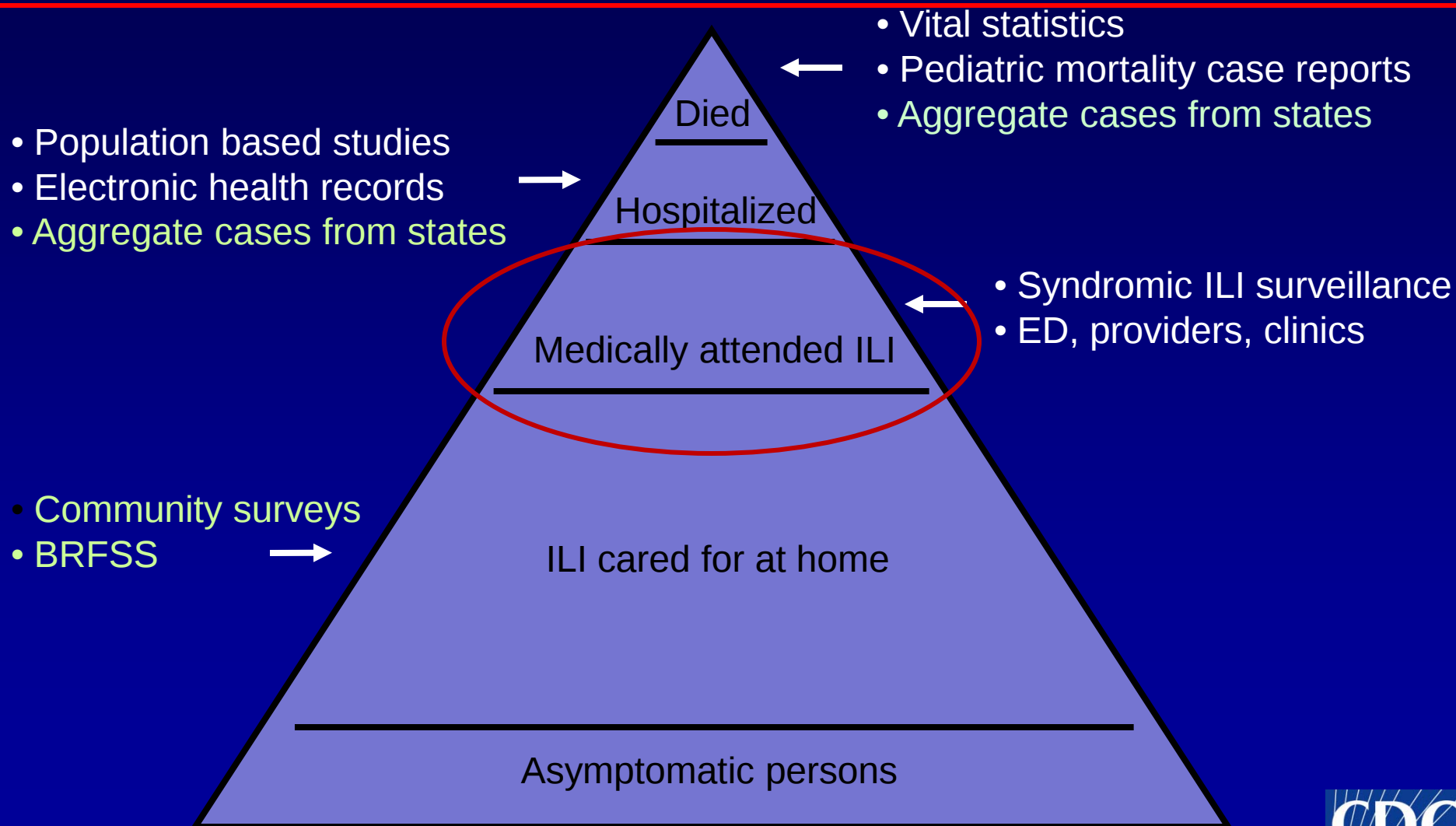
Influenza-Associated Pediatric Mortality Reporting

- Nationally notifiable disease
- Population-based, lab-confirmed measure of severity
- Initiated after 2003-04 season when over 150 children died of influenza
- Reported by state health departments

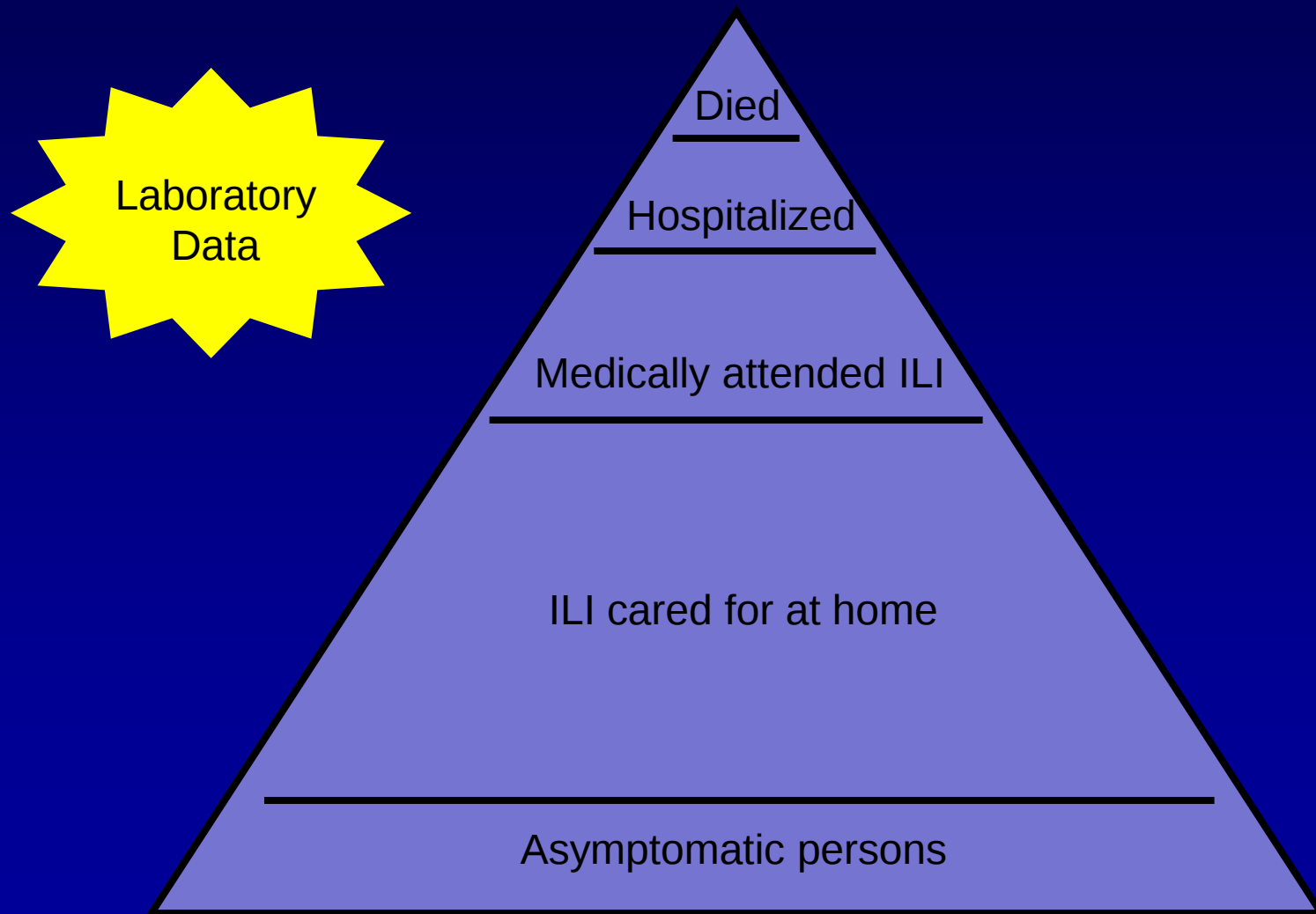
Influenza-Associated Pediatric Mortality Case Definition

- Death resulting from a clinically compatible illness that was confirmed to be influenza by an appropriate laboratory or rapid diagnostic test
- In a person aged <18 years
- With no period of complete recovery between the illness and death

Influenza Burden Paradigm



Influenza Burden Paradigm



Medically Attended Illness

- How much ILI is really flu?
- Is any of the non-febrile respiratory illness flu? If so, how much?
- If it isn't flu, what is it?

Questions?