

# CDC Update on Pertussis

National Vaccine Advisory Committee Meeting  
September 11, 2012

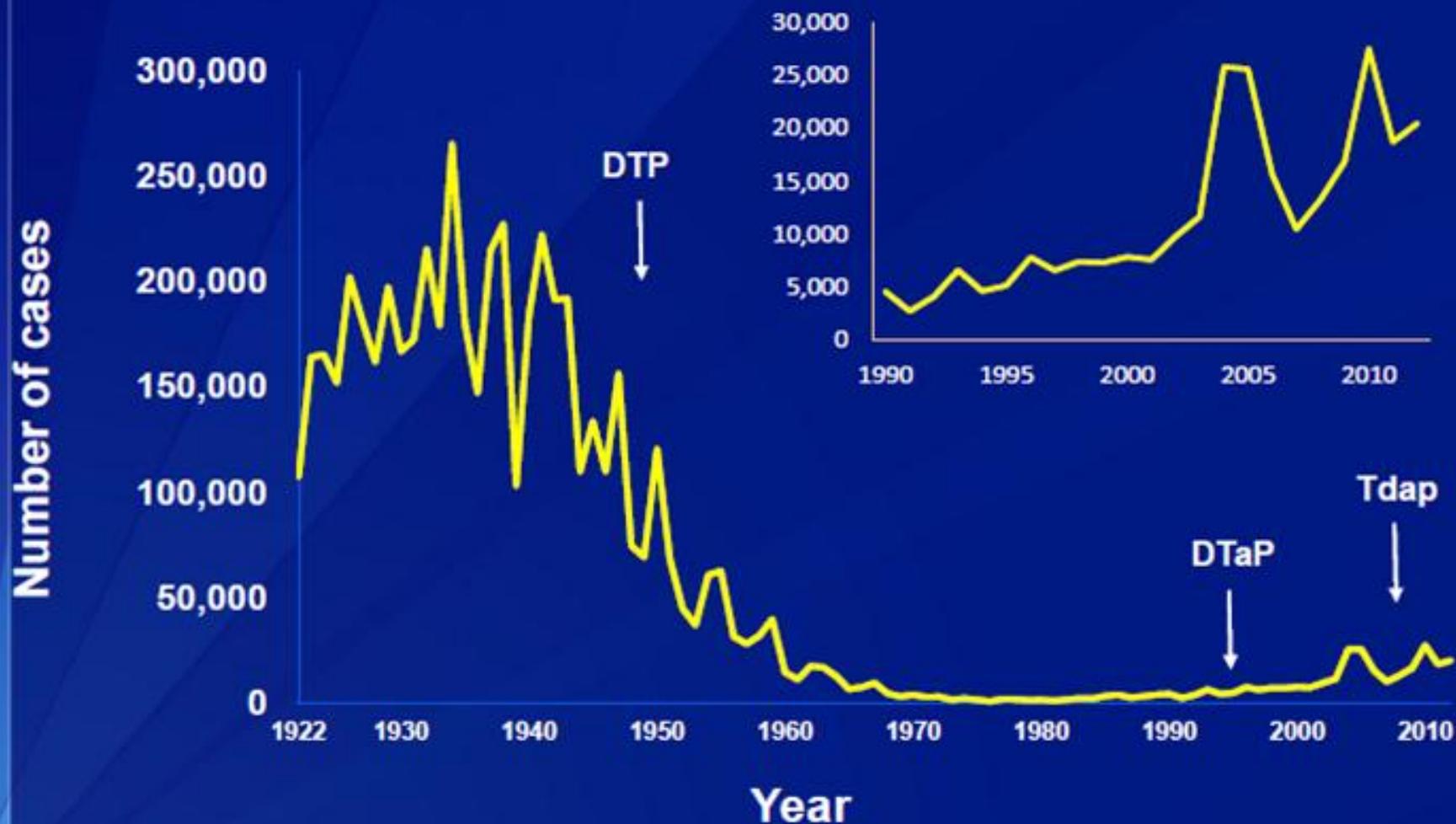
**Anne Schuchat, MD**

Director, National Center for Immunization and Respiratory  
Diseases

Assistant Surgeon General, US Public Health Service



## Reported NNDSS pertussis cases: 1922-2012\*

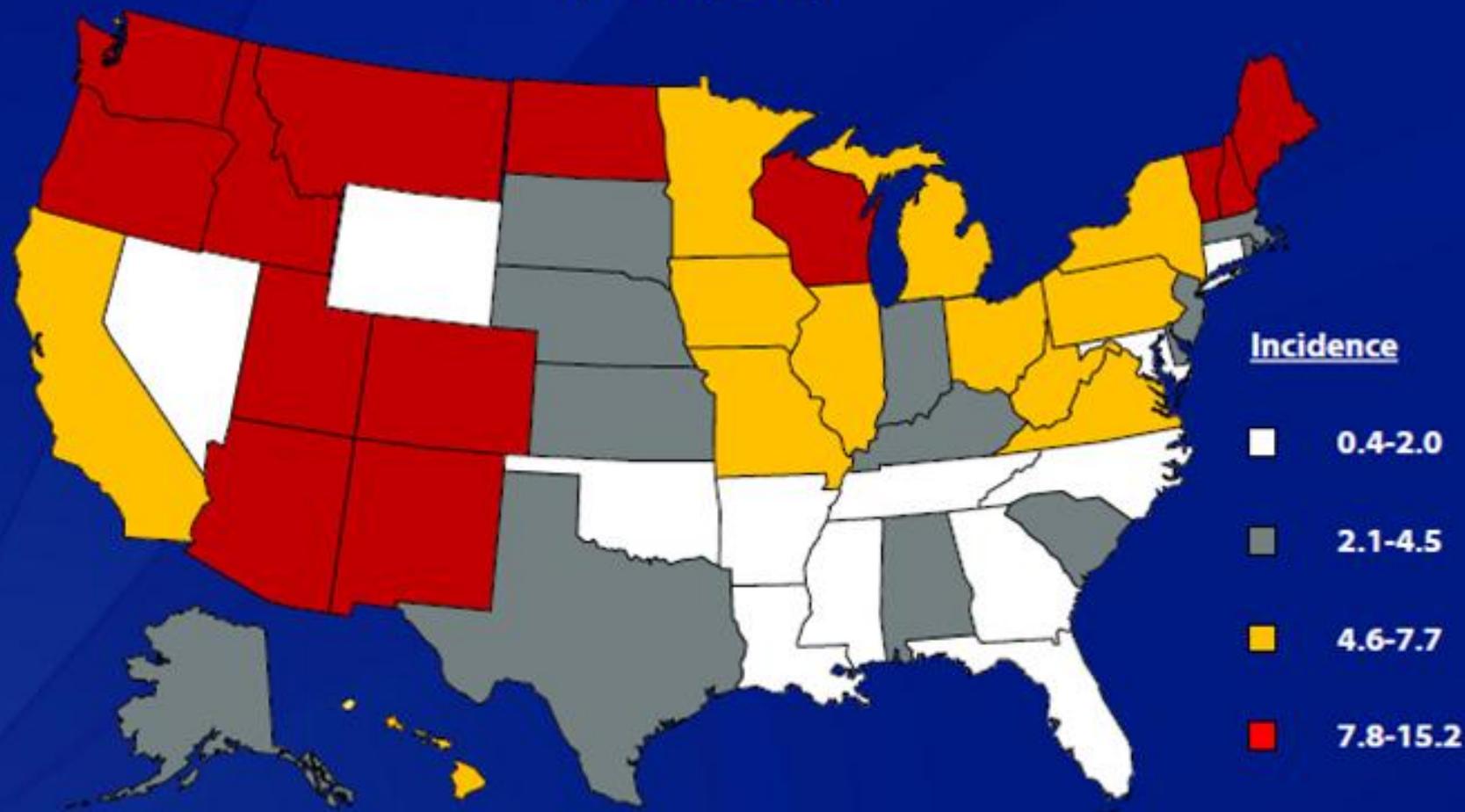


\*2011 data are provisional; 2012 data are provisional through week 30..

SOURCE: CDC, National Notifiable Diseases Surveillance System and Supplemental Pertussis Surveillance System and 1922-1949, passive reports to the Public Health Service

# Annual incidence by State, 2011\*

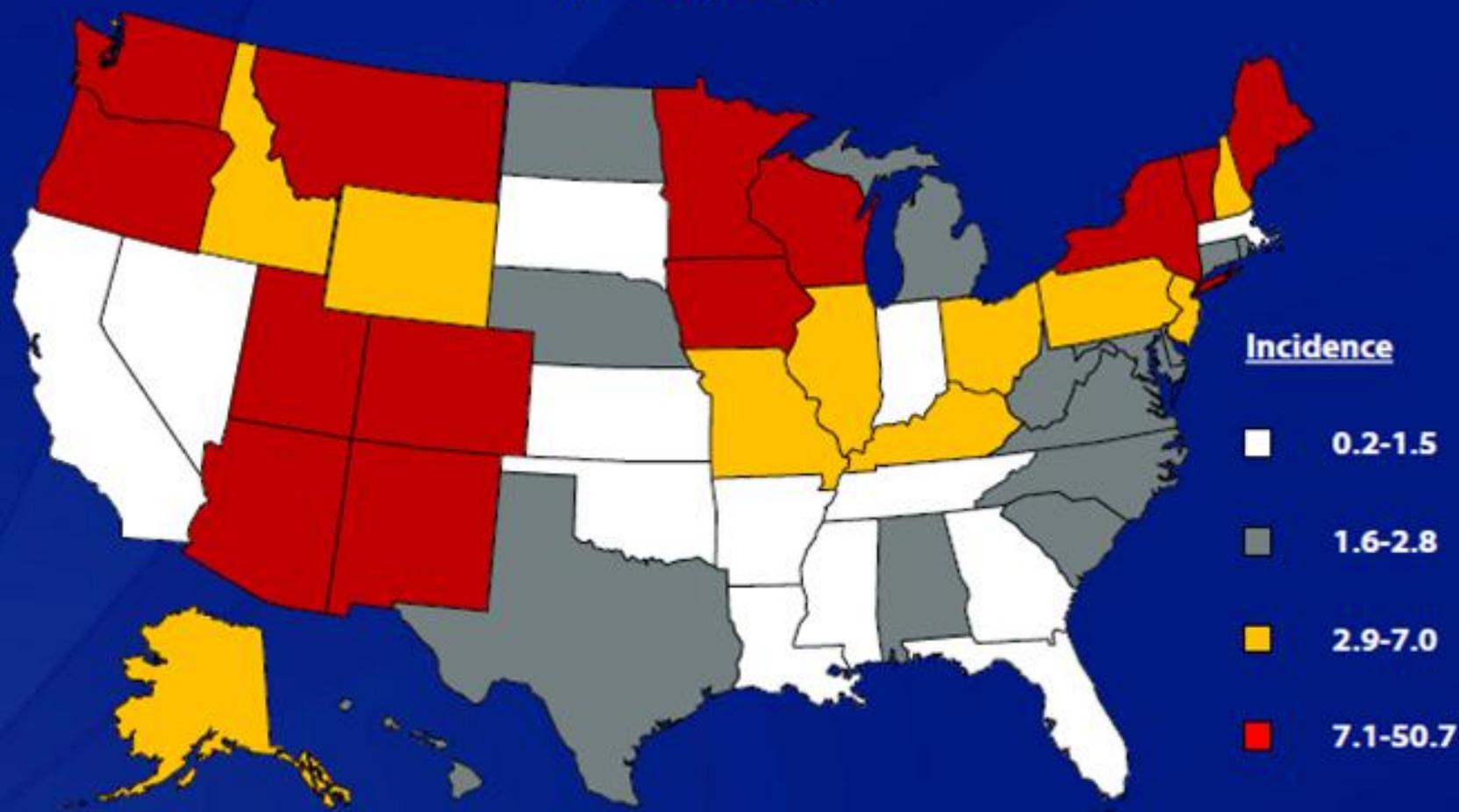
Incidence 5.0  
(n=15,216)



\*2011 data are provisional. Incidence is per 100,000 population  
Source : CDC National Notifiable Disease Surveillance System, 2011  
CDC Wonder Population Estimates (Vintage 2009)

# Annual incidence by State, 2012\*

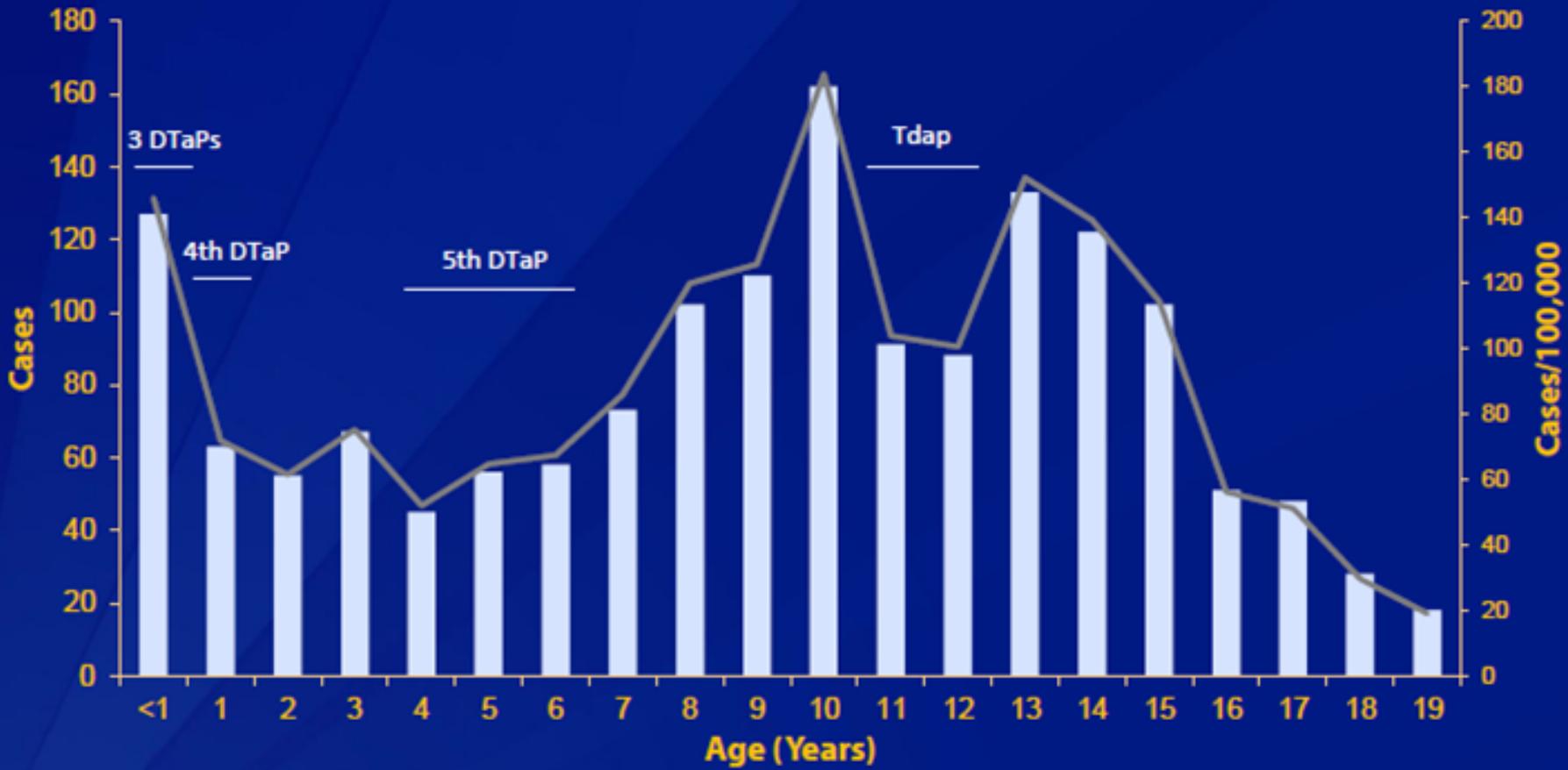
Incidence 5.2  
(n=16,181)



\*2012 data are provisional and reflect data reported through July 5, 2012. Incidence is per 100,000 population



# Pertussis cases and rates by age — Washington, 2012

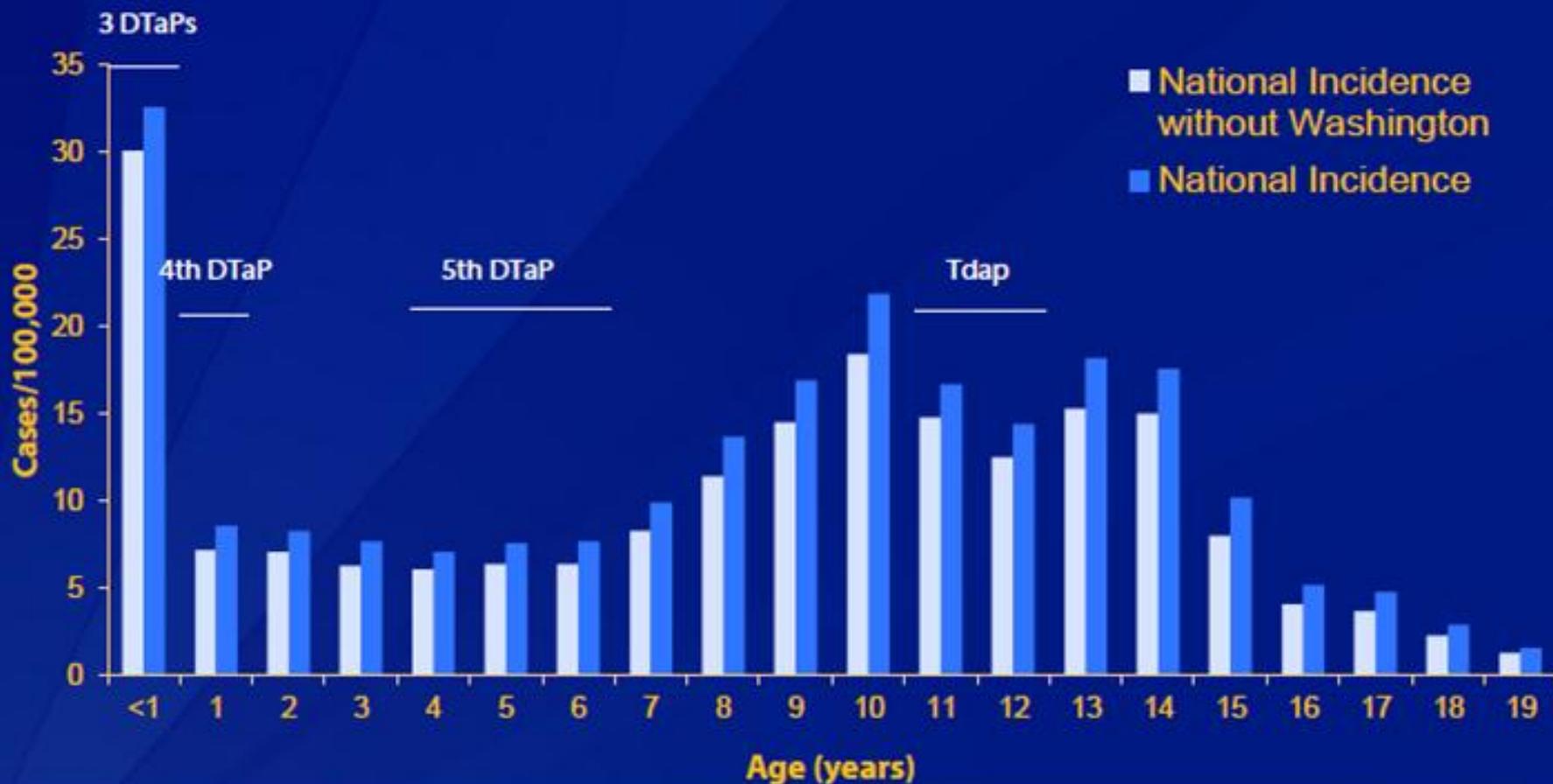


**Vaccine Type Received\***

Acellular Only	Whole Cell and Acellular
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Transition Period

# Pertussis cases by age — United States, 2012



Vaccine Type Received\*

Acellular Only

Transition Period

Whole Cell and Acellular

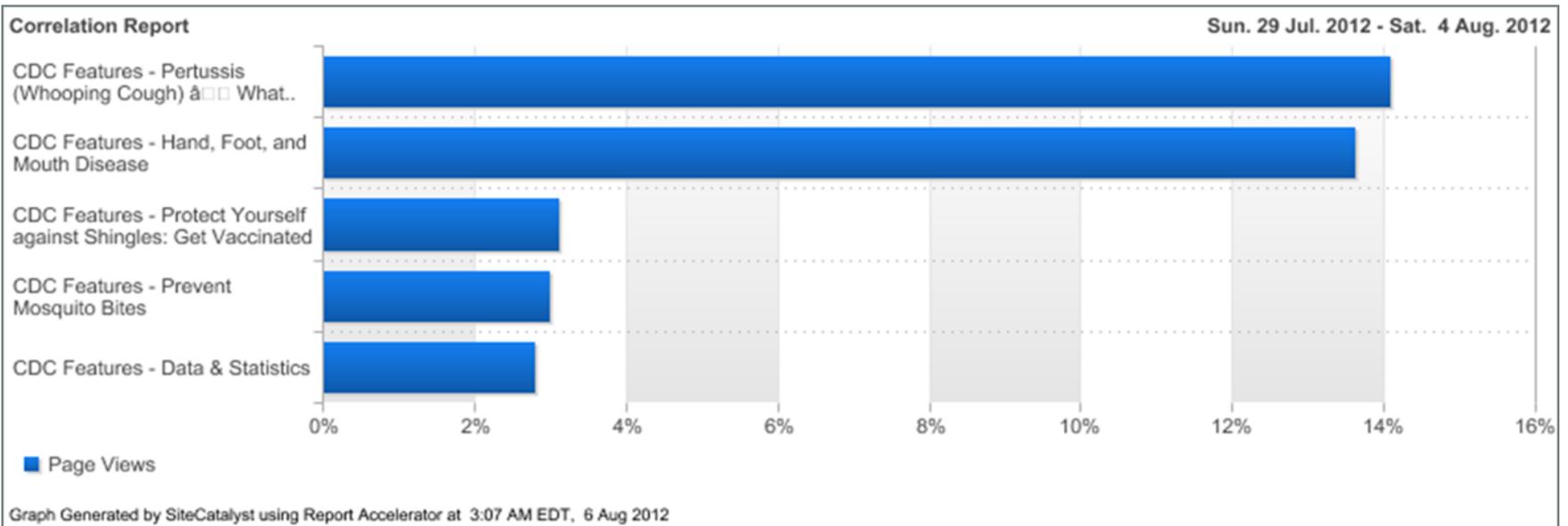
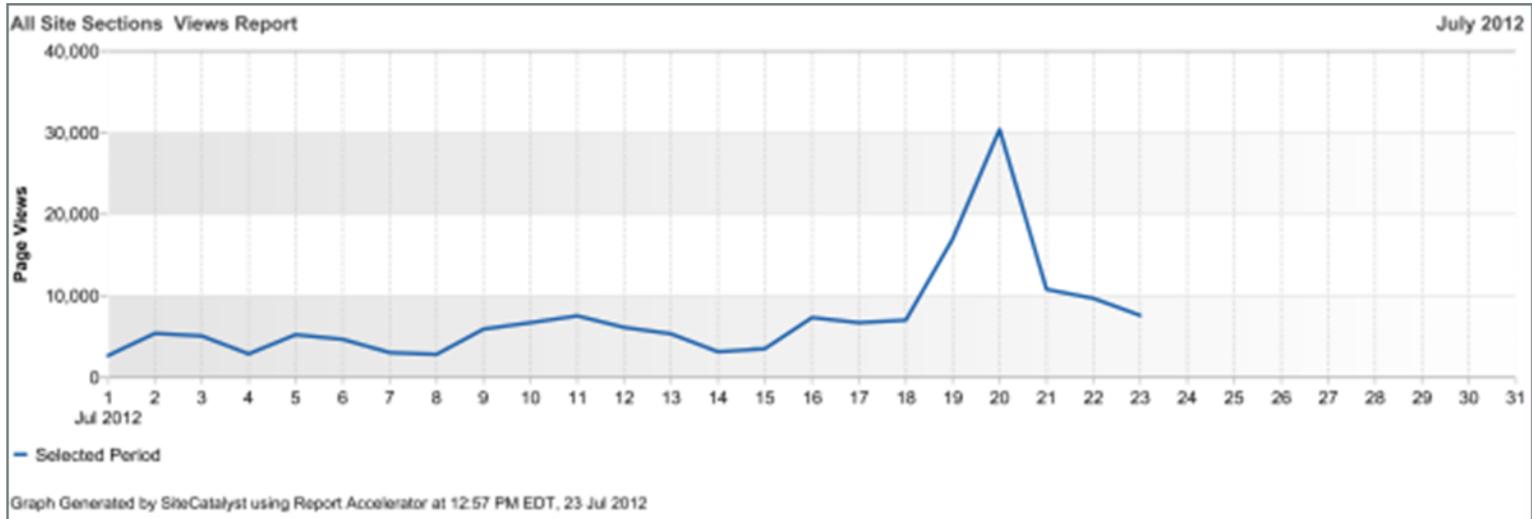
## Pertussis Epidemic — Washington, 2012

Since mid-2011, a substantial rise in pertussis cases has been reported in the state of Washington. In response to this increase, the Washington State Secretary of Health declared a pertussis epidemic on April 3, 2012. By June 16, the reported number of cases in Washington in 2012 had reached 2,520 (37.5 cases per 100,000 residents), a 1,300% increase compared with the same period in 2011 and the highest number of cases reported in any year since 1942. To assess clinical, epidemiologic, and laboratory factors associated with this increase, all pertussis cases reported during January 1–June 16, 2012, were reviewed. Consistent with national trends, high rates of pertussis were observed among infants aged <1 year and children aged 10 years. However, the incidence in adolescents aged 13–14 years also was increased, despite high rates of vaccination with tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis (Tdap) vaccine, suggesting early waning of immunity. The focus of prevention and control efforts is the protection of infants and others at greatest risk for severe disease and improving vaccination coverage in adolescents and adults, especially those who are pregnant. Pertussis vaccination remains the single most effective strategy for prevention of infection.

180 of 966 total cases for the year had been reported during the same period in 2011 (Figure 1). Cases were reported in 32 of the 39 counties (median: 24 cases; range: 1–485 cases). Statewide incidence was 37.5 cases per 100,000 population, ranging from 4.9 to 414.9 by county. Incidence was highest in infants aged <1 year and children aged 10, 13, and 14 years (Figure 2). Among the 1,867 cases with known race and ethnicity, statewide cumulative incidence was higher in Hispanics than non-Hispanics (53.1 versus 24.6 cases per 100,000 population). Of the 155 reported pertussis cases in infants aged <1 year, 34 (21.9%) were managed in a hospital. Among these hospitalized infants, 14 (41.2%) were aged <2 months. Of the 2,360 cases involving children aged ≥1 year with known outcome, 14 of the children (0.6%) were hospitalized. No fatalities were reported.

Compared with the incidence in Washington, the national incidence for the same period in 2012 was lower overall (6.2 cases per 100,000 population). However, the national

# The message gets through!



# Maximizing the Vaccination Program



- ❑ Sustaining DTaP coverage
- ❑ Increasing Tdap coverage
- ❑ Vaccinating to protect infants

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## Cutbacks Hurt a State's Response to Whooping Cough

By KIRK JOHNSON  
Published: May 12, 2012

MOUNT VERNON, Wash. — **Whooping cough**, or **pseudotuberculosis**, an infectious **respiratory disease** once considered doomed struck Washington State this spring with a severity that health officials say could surpass the toll of any year since the 1940s, as a vaccine went into wide use.



Matthew Ryan Williams for The New York Times

In Skagit County, Alice Hansen, 2, got her vaccination.

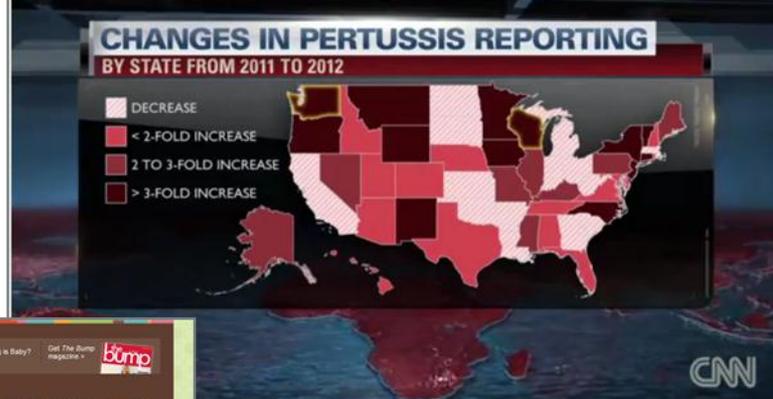
### Related

Health Guide: Whooping Cough (Pertussis)

Although no deaths have been reported so far this year, the disease was declared an epidemic in Washington State in May, the most in at least a century, at this time, 128.

The response to the epidemic was hampered by budget cuts.

Here in Skagit County



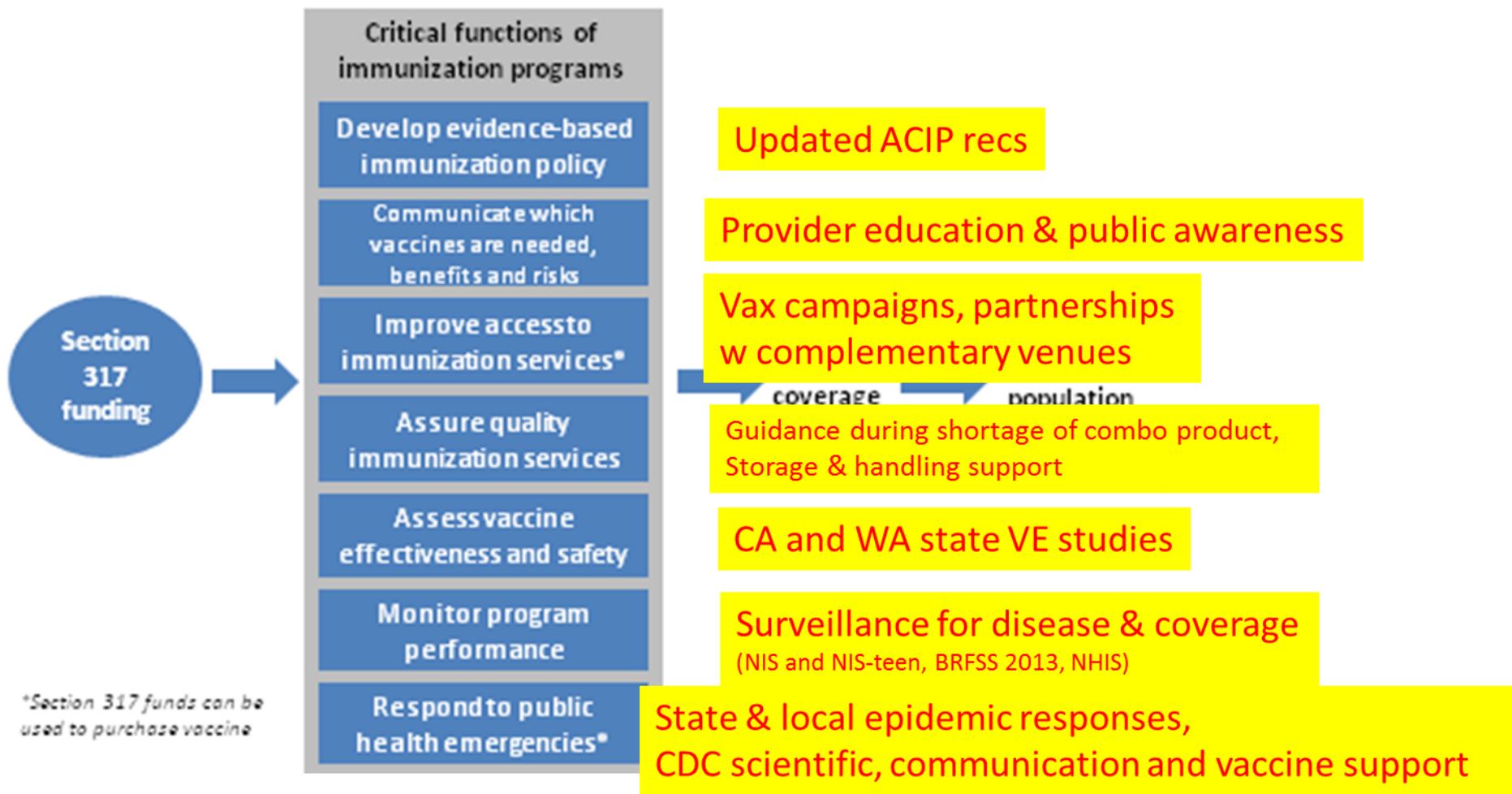

# Recent ACIP Recommendations on Tdap

- ❑ No minimum interval from last Td
- ❑ Use for under-vaccinated children aged 7-10 years
- ❑ All healthcare workers
- ❑ Persons aged 65 years and over
- ❑ Pregnant women + cocooning

# Selected Current and Future MVPD Activities

- ❑ **Vaccine effectiveness investigation in WA state**
- ❑ **Improving diagnostic testing to improve surveillance**
- ❑ **Enhanced Pertussis Surveillance sites**
  - Enhanced case ascertainment and improved data quality
  - Platform for analyses and studies
- ❑ **Evaluating effectiveness of cocooning/maternal vaccination**
- ❑ **Evaluating Tdap duration of protection**
- ❑ **Assessing temporal trends in susceptibility/infection**
  - Serosurvey
  - Modeling

**Figure 3: Role of Section 317 funding in preventing infectious disease**



# Acknowledgments

- ❑ **CDC: Tom Clark, Allison Patti and Div of Bacterial Diseases**
- ❑ **Washington State Department of Health**