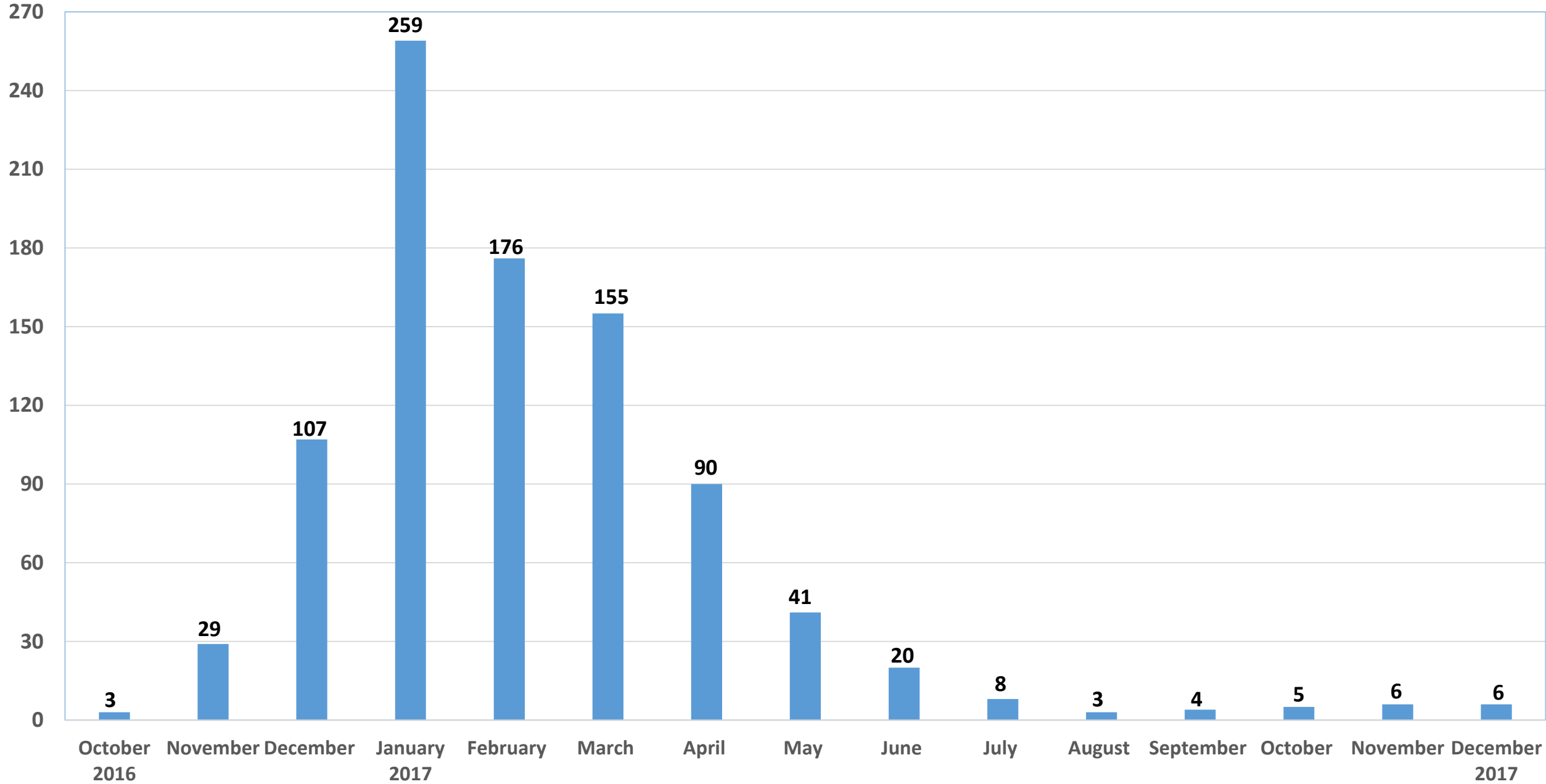




Vaccine Preventable Diseases Surveillance Update

**Vaccine Advisory Committee Quarterly Meeting
January 2018**

Mumps Activity in Washington State October 2016 – December 2017



Mumps investigations in Washington State – 4th Quarter of 2017

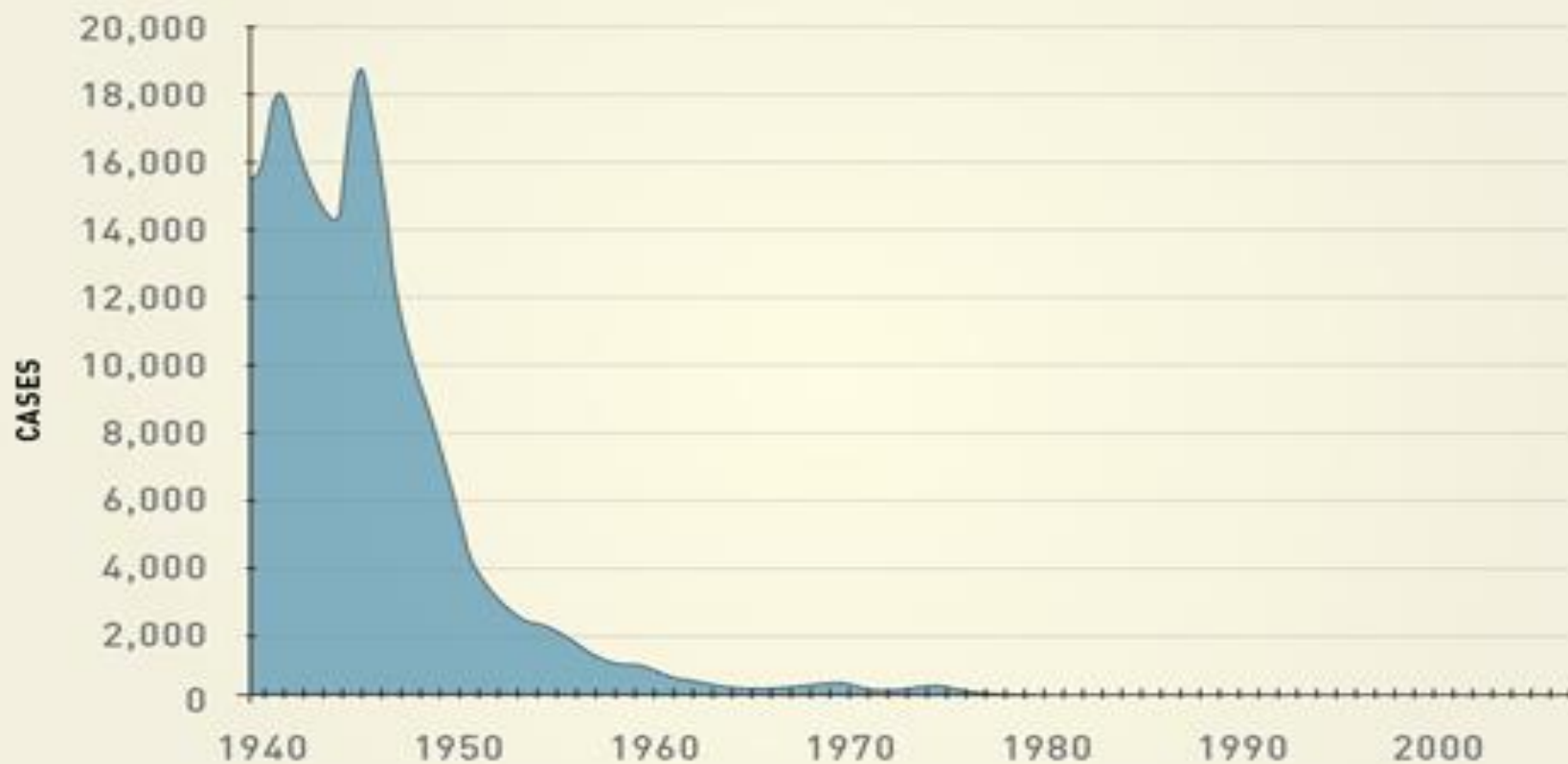
- 131 investigations
- **18 Cases reported to CDC**
 - **10** **Confirmed**
 - **8** **Probable**
 - *113* *Suspect*
- All 10 confirmed cases - genotype G
- All were sent for sequencing

Mumps molecular epidemiology in Washington State – 4th Quarter of 2017

- 10 positive swabs sent for molecular sequencing
 - 8 completed
 - 2 pending
- **Thurston County** 3 match our Multi-state outbreak strain
 - School cluster
- **Spokane County** 2 match a unique strain causing the outbreak in Alaska
 - Also had a probable case in Marshallese student. No positive swab available.
- **Grant County** 1 matches our Multi-state outbreak strain
- **King County** 2 pending
- **Pend Orielle County** reported their first case since the outbreak began but confirmed by serum testing only. No swab available for sequencing.

Diphtheria in the United States

1940-2007



Source: Centers for Disease Control and Prevention. *Epidemiology and Prevention of Vaccine-Preventable Diseases*. Atkinson W, Wolfe S, Hamborsky J, McIntyre L, eds. 11th ed. Washington DC: Public Health Foundation, 2009.

Current diphtheria surveillance in the United States

Case Definition (2010):

Probable:

In the absence of a more likely diagnosis, an **upper respiratory tract illness** with an adherent membrane of the nose, pharynx, tonsils, or larynx; and absence of laboratory confirmation; and lack of epidemiologic linkage to a laboratory-confirmed case of diphtheria.

Confirmed:

An **upper respiratory tract illness** with an adherent membrane of the nose, pharynx, tonsils, or larynx; and any of the following: isolation of *Corynebacterium diphtheriae* from the nose or throat; or histopathologic diagnosis of diphtheria; or epidemiologic linkage to a laboratory-confirmed case of diphtheria.

Comments:

- **Cutaneous diphtheria should not be reported.**
- Respiratory disease caused by nontoxigenic *C. diphtheriae* should be reported as diphtheria.
- **All diphtheria isolates, regardless of association with disease, should be sent to the Diphtheria Laboratory** National Center for Immunization and Respiratory Diseases (NCIRD), CDC.

Corynebacterium diphtheriae isolated from wounds

In WA State 1 – 4 reports of C diphtheriae isolates NOT associated with respiratory illness per year

- All submitted to CDC and tested for the presence of the tox gene
- Several associated with “empty nose syndrome”
- C diphtheriae isolated from wounds is rarely toxigenic

Three recent cases of toxigenic C diphtheriae isolated from wounds in residents of the United States

- All appear to have been exposed during international travel
- One was a Washington resident

Toxigenic cutaneous diphtheria case histories

Minnesota – September 2015

- Abdominal wound
- 30-40 years of age
- Travel to Somalia
- Unvaccinated

Minnesota – September 2017

- Leg wound
- 40-50 years of age
- Travel to Somalia
- Unknown vaccination status

Washington case – September 2017

Superinfected insect bites on lower extremities

10-20 years of age

Travel to Phillipines

Fully vaccinated

Follow-up activities

Health care contacts identified and notified

14 close contacts identified

- Immunization status assessed
- Tested (all negative)
- Treated

Working with MN and CDC

- MMWR
- SOP (standard operating procedure)

CSTE position statement to propose adding cutaneous diphtheria caused by a toxigenic organism to the case definition