Vaccine Advisory Committee

Quarterly meeting

April 19, 2018

Vaccine-preventable diseases surveillance update

Chas DeBolt RN, MPH

VPD Update:

Topics

- **Pertussis** activity and maternal Tdap status for infant pertussis cases

- **Mumps** activity Sept 2017 – March 2018.
  - Mumps 3rd dose recommendation and guidance

- **Hepatitis A** surveillance – diagnostic & case definition issues.

- **Toxigenic cutaneous diphtheria** – additional case reported in U.S.
  - Proposed changes to surveillance case definition

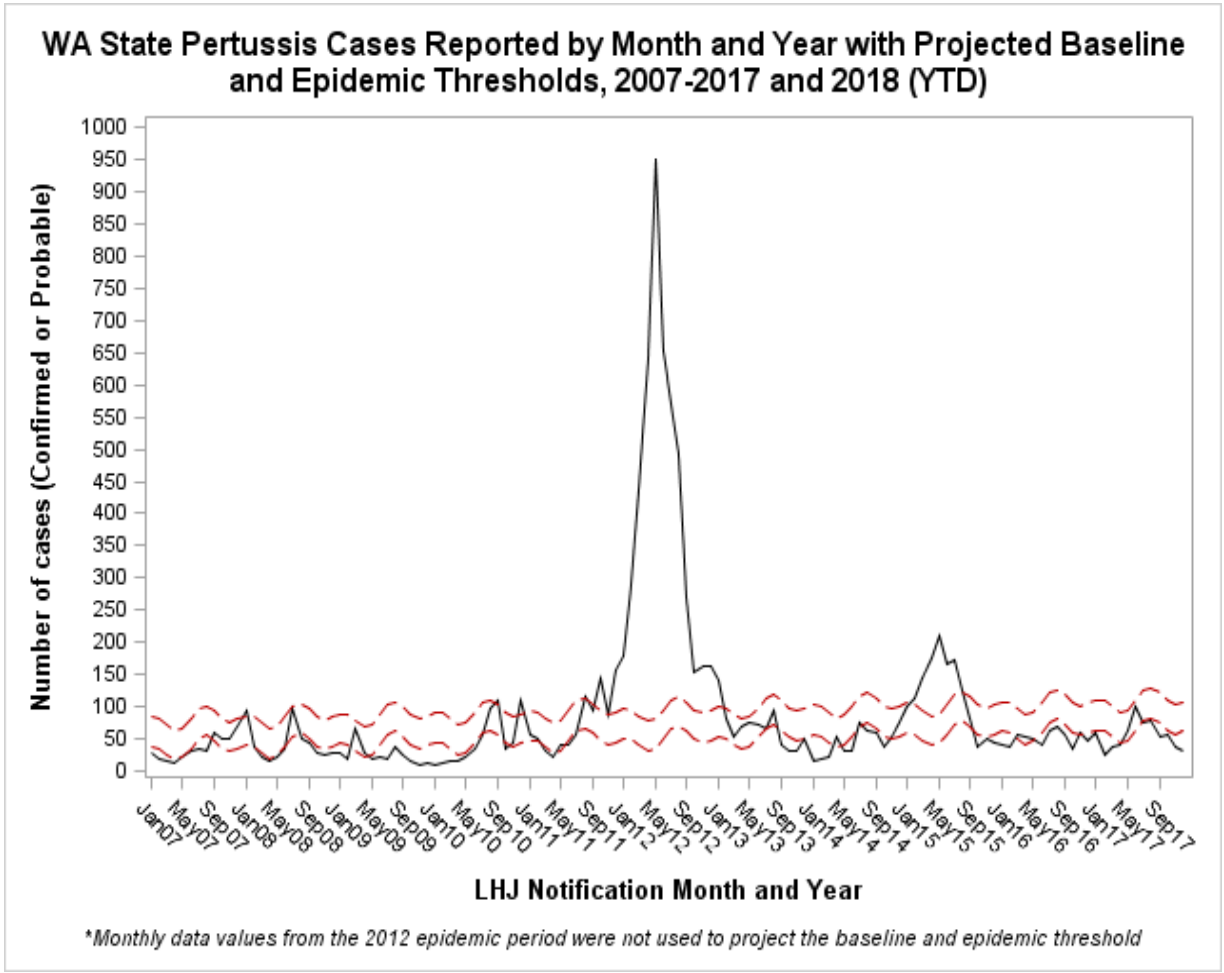
Pertussis Update

- Pertussis reports are below baseline
- Clusters are occurring in some local health jurisdictions
  - Some have received media attention
- Rates of pertussis remain highest among infants (<1 year)

  20/100,00 population

  vs.

  1.5/100,000 in all age groups (includes infants)



Severity of illness by maternal Tdap status among 241* infant pertussis cases reported in Washington 2015 – 2017

**Includes "confirmed", "probable", and PCR positive "suspect" cases*

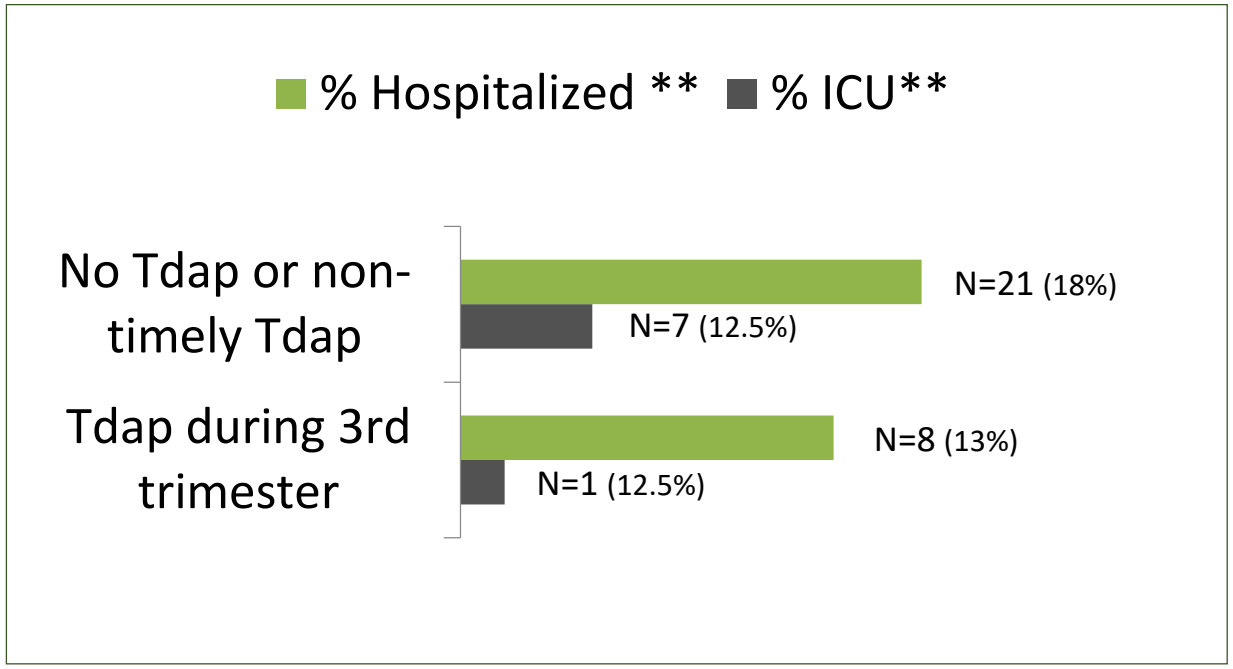
• Maternal Tdap status unknown	58
• Maternal Tdap status: none or not per ACIP recommendation	115
• Maternal Tdap status: given per ACIP recommendation	60
• Infant outcomes (hospitalization and/or ICU admission) unknown	8
	241

Missing infant outcomes:

- 1 infant for whom neither hospitalization nor ICU admission was reported
  - Maternal Tdap – none or not per ACIP recommendation
- 7 infants reported as hospitalized but ICU admission was not documented
  - 3 – Maternal Tdap – given per ACIP recommendation
  - 4 – Maternal Tdap – none or not per ACIP recommendation

Severity of illness by maternal Tdap status among 241 infant pertussis cases reported in Washington 2015 through 2017*

Maternal Tdap Status	Number of Cases (n=175)*
No Tdap or non-timely Tdap	115
Tdap during 3rd trimester	60



*Excludes 58 infants for whom maternal Tdap status was not available and 8 infants for whom outcomes (hospitalization and/or ICU admission) have not yet been determined

**Difference in neither *hospitalization* nor *ICU status* is currently statistically significant, but numbers are small.

Sensitivity analysis results: If all 7 hospitalized infants with unknown ICU status had required ICU care, the difference would reach significance.

- 3 additional infants with timely maternal Tdap and
- 4 additional infants with no or not timely maternal Tdap

Mumps activity October 1, 2017 – March 31, 2018

	Q4 2017	**Q1 2018**
Mumps reports/investigations	141	171
Confirmed cases	10	10
Probable cases	9	7
Specimens genotyped	8	4 (additional 2 pending)

Genotyping: All specimens were type G.

Sequencing: In Q4 2017, 2 specimens matched the Alaska outbreak strain.
All others matched have the Sheffield reference strain (caused the 2016-2017 multi-state outbreak).

Mumps third (or outbreak) MMR dose recommendation

Recommendation:

"Persons previously vaccinated with 2 doses of a mumps virus–containing vaccine who are identified by public health authorities as being part of a group or population at increased risk for acquiring mumps because of an outbreak should receive a third dose of a mumps virus–containing vaccine to improve protection against mumps disease and related complications."

Vote at October 2017 ACIP meeting:

Published in MMWR *Weekly* / January 12, 2018 / 67(1);33–38

- Guidance around this recommendation is currently under development
  - Should be published as an MMWR in July, August 2018

Hepatitis A Outbreaks March 2017 – April 11, 2018

Jurisdiction	Cases	Hospitalizations	Deaths	Doses of vaccine distributed (if known)
California	**704**	**461**	**21**	123,000 vaccine doses distributed to local health jurisdictions
San Diego	587	402	20	
Michigan	**804**	**646 (80.3%)**	**25 (3.1%)**	Persons with history of injection/non-injection drug use, homelessness or transient housing, and incarceration thought to be at greater risk.
Kentucky	**311**	**218**	**1**	Primarily among persons experiencing homelessness, and persons who inject drugs. Sequencing links to CA and UT
Utah	**233**	**(~70%)**	**2**	Many cases are experiencing homelessness, and/or inject drugs.
Salt Lake City	148		2	Median age 39 years Targeted vaccination campaigns

CSTE Hepatitis A Workgroup convened to update national case definition

Purpose:

- Add molecular detection of HAV virus in a clinical specimen as confirmatory laboratory criteria
  - Previously the only confirmatory lab was serologic detection of Hep A IgM

- Clarify the clinical case criteria

Hepatitis A case ascertainment criteria (proposed)

Report any illness to public health authorities that meets any of the following criteria:

Clinical presentation criteria:

- A person who is acutely ill with jaundice. (Associated symptoms or signs might include: fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, abdominal pain, or dark urine.)

Laboratory criteria:

- A person who has tested positive for IgM antibody hepatitis A (IgM anti-HAV positive) OR
- A person who has tested positive for hepatitis A RNA.

Criteria for epidemiologic linkage:

- A person who is acutely ill with symptoms consistent with acute viral hepatitis and had epidemiologic contact with a laboratory-confirmed hepatitis A case during the 15-50 days prior to onset of symptoms.

Administrative data: A person whose death certificate lists hepatitis A as a cause of death or a significant condition contributing to death.

Clinical data: A person whose healthcare record contains a diagnosis of hepatitis A.

Other recommended reporting procedures

- All cases of hepatitis A should be reported.
- Reporting should be ongoing and routine.
- Frequency of reporting should follow the state health department’s routine schedule.

Hepatitis A criteria to determine case classification (proposed)

Clinical Criteria
An acute illness with a discrete onset of any sign or symptom consistent with acute viral hepatitis (e.g., fever, headache, malaise, anorexia, nausea, vomiting, diarrhea, abdominal pain, or dark urine),

AND

a) jaundice or elevated bilirubin levels†, **OR**
b) elevated serum alanine aminotransferase (ALT) levels‡,

AND

c) the absence of a more likely diagnosis

Laboratory Criteria for Diagnosis
Confirmatory laboratory evidence:

- Immunoglobulin M (IgM) antibody to hepatitis A virus (anti-HAV) positive
- Nucleic acid test (NAT) for hepatitis A virus RNA positive (including genotype testing)

Epidemiologic Linkage
Close contact with a laboratory-confirmed hepatitis A case during the 15-50 days prior to onset of symptoms.

Case Classification
Confirmed:

- A case that meets the clinical criteria and is IgM anti-HAV positive§, **OR**
- A case that has hepatitis A virus RNA detected by NAT (including genotype testing) **OR**
- A case that meets the clinical criteria and occurs in a person who has an epidemiologic link with a laboratory-confirmed hepatitis A case (i.e., household or sexual contact with a laboratory-confirmed hepatitis A case during the 15-50 days prior to onset of symptoms).

† Elevated total bilirubin levels > 3.0 mg/dL.
‡ Elevated ALT levels > 100 IU/L.

Fourth toxigenic cutaneous diphtheria case in U.S.

- Additional case reported in New Mexico, early 2018
  - Exposed during international travel
  - MMWR describing all 4 cases is currently being written

- Position statement submitted to CSTE Infectious Disease Steering Committee for discussion by membership at June meeting
  - Would make isolation of toxigenic *C. diphtheriae* from any site reportable
  - Continue requirement for each C. diphtheriae isolate be tested for toxin production
  - Both respiratory and cutaneous disease caused by toxigenic C diphtheriae would be reportable as diphtheria.