



IDAHO DEPARTMENT OF  
HEALTH & WELFARE

# Disease Bulletin

- Pertussis Outbreaks Affect Idaho Infants
- Bloodborne Pathogen Risk for People with Diabetes in the Community Setting
- New Idaho Influenza Website!
- STD Treatment Guide App

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## Pertussis Outbreaks Affect Idaho Infants

**P**ertussis incidence peaks every 3 to 5 years and outbreaks occur every year in the United States. The primary goal of pertussis control efforts is to decrease morbidity and mortality among infants; a secondary goal is to decrease morbidity among people of all ages. Pertussis outbreaks can be difficult to identify because of co-circulation with other respiratory pathogens. Because of variability in specificity of PCR testing, getting confirmation with culture for at least one suspect case is recommended any time there is suspicion of a pertussis outbreak. Often, identification of an ongoing outbreak is made based on a positive laboratory result received about the index case. However, this identification can occur well after symptom onset of the index and associated cases, highlighting the importance of recognizing clinical signs and symptoms.

To reduce the risk of pertussis in new mothers and their very young infants, the Centers for Disease Control and Prevention (CDC) now recommends that pregnant women receive Tdap vaccine during each pregnancy. During outbreaks, prevention efforts focus on improving rates of Tdap vaccination among pregnant women and their families to reduce severe illness and possible deaths in vulnerable infants in the weeks and months after birth, when they are at highest risk of severe illness.

In Idaho, epidemiologic investigations and interventions are conducted by epidemiologists working in one of Idaho's Public Health Districts. Public Health District epidemiologists collaborate with providers, patients, and patients' families to identify contacts at risk of exposure; recommend prophylaxis, isolation, or vaccination; and implement additional disease control strategies as needed. To better understand pertussis outbreaks in Idaho, we analyzed pertussis outbreaks occurring during January 1, 2002 through June 1, 2013.

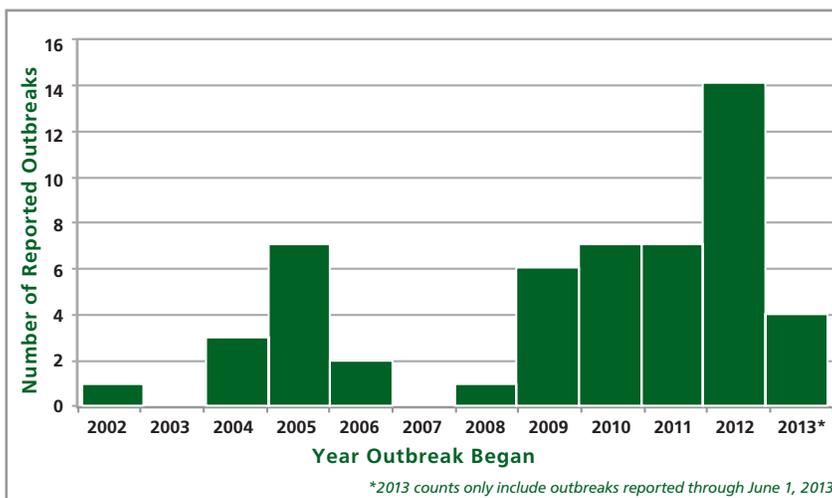
### Results

Fifty-two outbreaks associated with 717 cases of pertussis were analyzed (Figure 1).

The number of cases associated with outbreaks varied considerably, ranging from 2 to 182, with a median of 4 cases and mean of 14 cases.

Outbreak-specific case definitions used to identify cases during an epidemiologic investigation can differ from standard public health surveillance case definitions. Among the 717 cases associated with the 52 outbreaks analyzed,

Figure 1. Number of pertussis outbreaks reported in Idaho by year outbreak began, January 2002–June 2013



PERTUSSIS OUTBREAKS CONTINUED ON PAGE TWO



IDAHO DEPARTMENT OF  
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432 were reported as meeting the standard public health surveillance case definition for probable or confirmed pertussis (see [wwwn.cdc.gov/nndss/script/casedefDefault.aspx](http://wwwn.cdc.gov/nndss/script/casedefDefault.aspx) for pertussis surveillance case definitions and categories). The mean age of reported cases was 6 years with a median of 2 years (range 17 days to 70 years) (Figure 2).

**Pertussis in Infants**

Nearly half of the outbreaks analyzed included an infant aged <12 months. Young infants are at highest risk for acquiring pertussis-associated complications, including secondary bacterial pneumonia. National data from 1997 through 2000 indicate that pneumonia occurred in 5.2% of all reported pertussis cases, and among 11.8% of infants aged 6 months or younger.\* Among Idaho outbreak-associated cases, pneumonia occurred in 12.5% of cases among infants aged 6 months or younger and in 11.9% of cases among all infants (aged <12 months). Of the 32 outbreak-associated cases of pertussis among infants aged 6 months or younger, 56.3%

(n=18) were hospitalized (Figure 3). One death occurred in an unvaccinated 10 month-old hospitalized with pertussis-associated pneumonia in 2011.

Among the outbreak-associated cases of pertussis in infants, one-quarter (24.4%) were less than two months of age, and therefore too young at the time of diagnosis to have received the first recommended dose of DTaP. While absolute certainty of disease transmission is often difficult to ascertain for sporadic cases of disease, epidemiologic investigations can provide insight into the most likely source of disease transmission during outbreaks. Among the nine infants too young to be vaccinated, four (44.4%) appeared to have acquired the disease from a parent, three (33.3%) from an older sibling, and three (33.3%) from other symptomatic family members (e.g., grandparents, cousins).

**Conclusions and Recommendations**

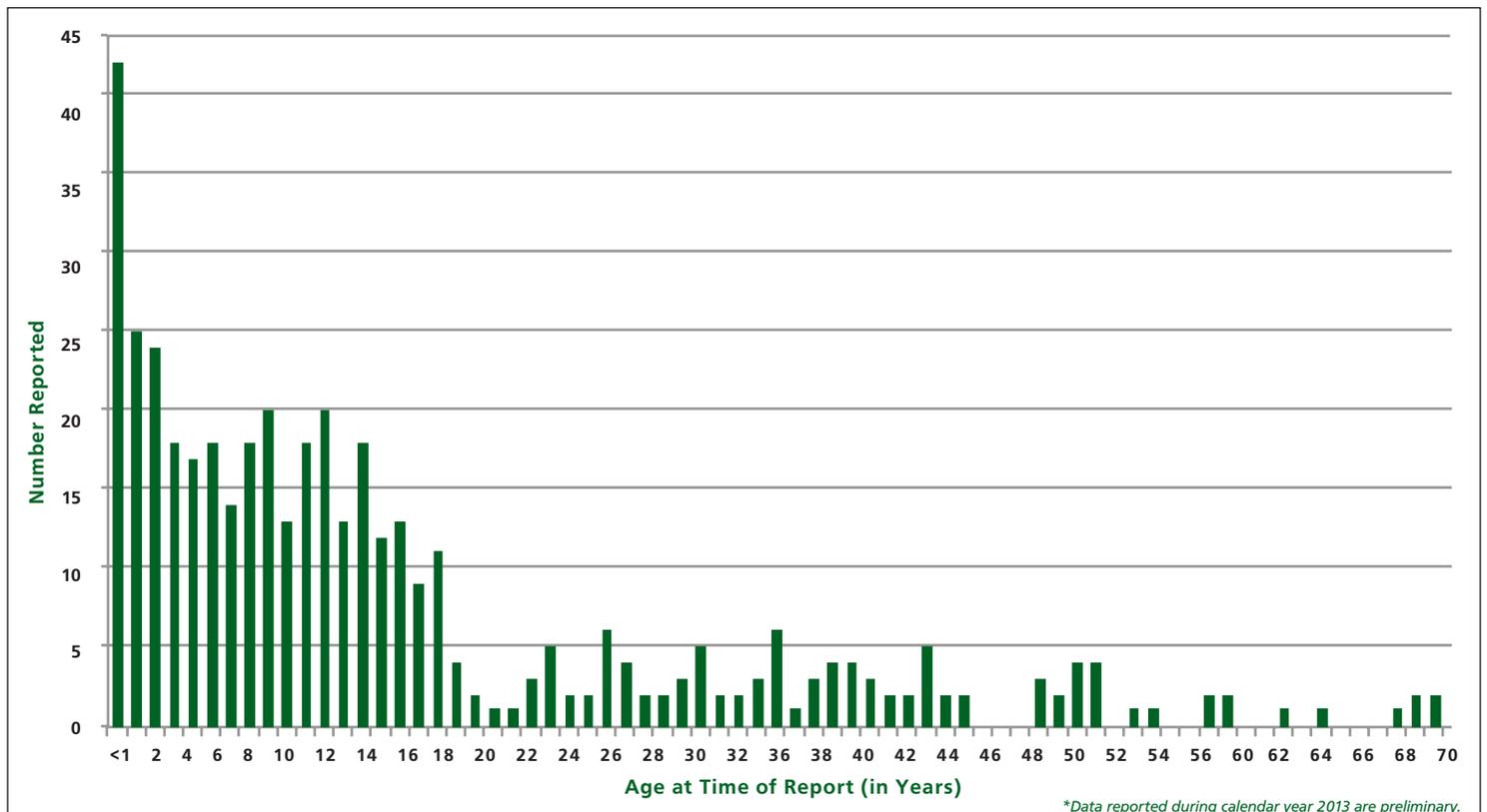
Pertussis incidence continues to be considerably higher than other vaccine-preventable diseases in the United States and Idaho. Although infants are dispro-

portionately affected by morbidity and mortality, it is important to remember that pertussis is not just a childhood disease and immunity after vaccination is not life-long. Unrecognized pertussis among adolescents and adults is a risk factor for pertussis in infants. Early symptoms are indistinguishable from those of minor respiratory tract infections; persistent cough due to pertussis can be misdiagnosed as bronchitis or asthma. For this reason, healthcare providers should ensure all patients are up to date on pertussis vaccination and boosters and consider pertussis in differential diagnoses of cough illness among adolescents and adults. Early detection, treatment, and reporting of pertussis are crucial to preventing disease in these populations and protecting infants. For the current pertussis vaccination recommendations, see [www.cdc.gov/vaccines/schedules/hcp/index.html](http://www.cdc.gov/vaccines/schedules/hcp/index.html).

If you suspect a case of pertussis, report the diagnosis to your Public Health District or the Bureau of Communicable Disease Prevention's Epidemiology Program. Laboratory confirmation is

**PERTUSSIS OUTBREAKS CONTINUED ON PAGE THREE**

Figure 2. Age distribution of probable and confirmed pertussis cases identified in outbreaks reported in Idaho, January 2002–June 2013\*





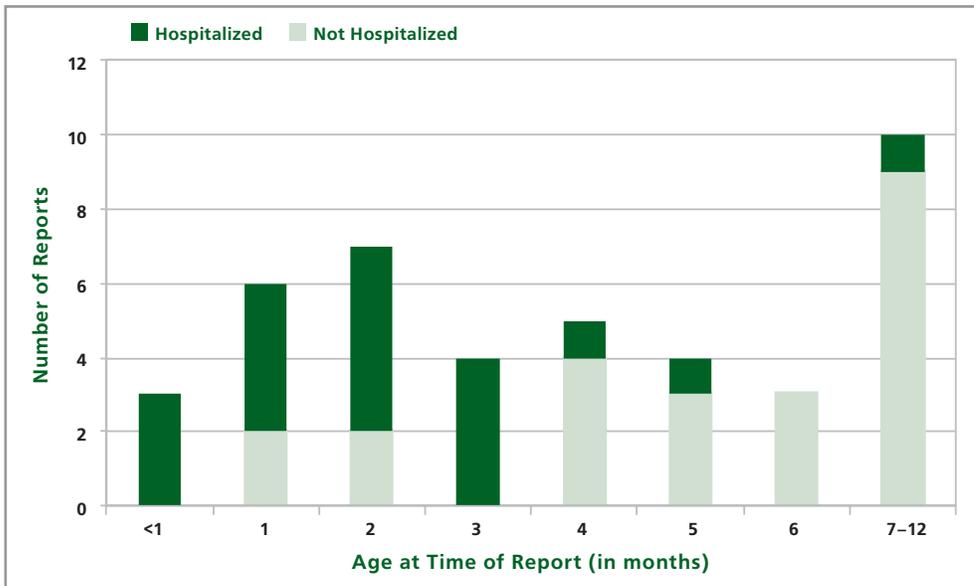
## PERTUSSIS OUTBREAKS CONTINUED FROM PAGE TWO

not required for reporting. Public health interventions are most effective when implemented quickly and include identi-

cation of close contacts, referring contacts to healthcare providers for evaluation and follow up, and advising patients and fami-

lies on how to avoid further transmission of the disease within their households and the community.

Figure 3. Disease incidence and hospitalization among infants reported with pertussis in outbreak events, 2002–2013.



\*Centers for Disease Control and Prevention. Pertussis. In: The Pink Book: Course Textbook, 12th Ed. Accessed December 24, 2013. URL: [www.cdc.gov/vaccines/pubs/pinkbook/pert.html](http://www.cdc.gov/vaccines/pubs/pinkbook/pert.html)

### Idaho Disease Bulletin Available Electronically

The Idaho Disease Bulletin (IDB) website ([www.IDB.dhw.idaho.gov](http://www.IDB.dhw.idaho.gov)) includes searchable indices of issues from the last 10 years, the ability for readers to suggest topics, and the ability for readers to sign up to receive an electronic copy of the IDB. If you would like to receive an email with a link to new issues of the IDB please go to [www.IDB.dhw.idaho.gov](http://www.IDB.dhw.idaho.gov) to submit a request or send an email to [IDB@dhw.idaho.gov](mailto:IDB@dhw.idaho.gov).

## Bloodborne Pathogen Risk for People with Diabetes in the Community Setting

In June 2013, an acute hepatitis B virus (HBV) infection in an adult male living with diabetes was reported. Public health investigation identified three contacts during his exposure and infectious period, one who was also living with diabetes and shared a blood glucometer with him. Insulin injection equipment was not shared. Serologic testing of this person indicated early acute HBV infection. The infection status of the remaining contacts of the index patient was unable to be verified and contacts of the second patient were not infected. Available information implicates transmission of HBV infection via blood glucose monitoring equipment.

Outbreaks of bloodborne pathogens from blood glucose monitoring equipment have been reported in long-term care and medical facilities.<sup>1</sup> Community-based transmission has been reported<sup>2</sup>, but is less frequently described. In addition to educating medical staff assisting patients with diabetes monitoring and treatment in facilities, it is important for healthcare providers to ensure their patients with diabetes living in community settings are adequately educated

about the risks of blood-borne pathogen transmission if blood glucose monitoring equipment and insulin and injection equipment are shared, and for healthcare providers to offer HBV vaccination per the Advisory Committee on Immunization Practices (ACIP) recommendations.

Sharing equipment for blood glucose monitoring and insulin administration can be an overlooked risk for exposure to blood-borne pathogens. Sharing lancet devices can expose persons to blood-borne pathogens, even if the disposable lancet is not shared, because the device containing the lancet is difficult to adequately disinfect. Glucose meters can become contaminated by blood on the test strip insertion site and outside surfaces<sup>3</sup> and should be assigned to single individuals whenever possible and never shared. Insulin injection pens are for single-patient use only and should never be used for more than one person. Changing the needle and reusing the cartridge does not protect against contamination with blood, and changing the cartridge does not make these safe for multi-person use. Even dried blood in amounts not visible to the naked

eye can result in transmission of bloodborne pathogens during blood glucose monitoring and injectable insulin administration.<sup>4</sup> As a result, the Centers for Disease Control and Prevention (CDC) and the U.S. Food and Drug Administration (FDA) have recommended these devices never be used for more than one person.<sup>5,6,7</sup>

Adults with diabetes are estimated to acquire HBV infection at approximately twice the rate of people without diabetes.<sup>8</sup> The ACIP recommends that HBV vaccine be administered to all unvaccinated adults with diabetes aged 19 through 59 years as soon as possible after a diagnosis of diabetes is made, and for people with diabetes aged 60 years or older at the discretion of the treating clinician.<sup>9</sup>

Healthcare providers can refer patients to Certified Diabetes Educators for instruction on diabetes management, including safe and appropriate blood glucose monitoring and insulin injection techniques. A list of recognized Diabetes Education Centers in Idaho can be found at [www.diabetes.idaho.gov](http://www.diabetes.idaho.gov).



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An electronic version of the Idaho Reportable Rules may be found at <http://adminrules.idaho.gov/rules/current/16/0210.pdf>.

Current and past issues are archived online at [www.idb.dhw.idaho.gov](http://www.idb.dhw.idaho.gov).

## New Idaho Influenza Website!

A new IDHW influenza web page has been created. From the new page, readers are able to access information on seasonal influenza, influenza vaccination, and pandemic influenza preparedness. The influenza page provides access to national and Idaho trends in laboratory surveillance, influenza-like illness surveillance, and disease severity. Visit the new page at [www.flu.idaho.gov](http://www.flu.idaho.gov).

## STD Treatment Guide App

The STD Treatment Guide app for iOS® or Android™ smartphones and tablets is available free from CDC. In addition to guidance on the treatment of over 21 sexually transmitted infections, the app includes guidance for evaluation and prophylaxis after sexual assault and for effectively taking a patient's sexual history.

The guidelines may also be downloaded to Apple® smartphones and tablets as an eBook readable via the native iBooks® app, and to other devices as an Adobe® PDF document.

### BLOODBORNE PATHOGEN CONTINUED FROM PAGE THREE

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