



Department of Health and Social Services
William H. Hogan, MSW, Commissioner
Jay Butler, MD, Chief Medical Officer

3601 C Street, Suite 540
Anchorage, Alaska 99503

<http://www.epi.Alaska.gov>

Division of Public Health
Beverly Wooley, Director

Local (907) 269-8000
24 Hour Emergency (800) 478-0084

Editors:
Joe McLaughlin, MD, MPH
Bradford D. Gessner, MD, MPH

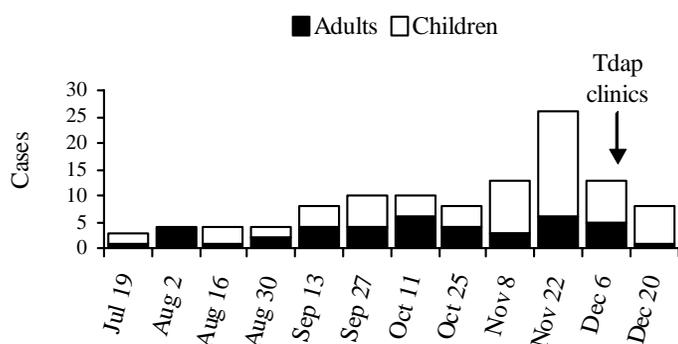
Bulletin No. 3 January 20, 2009

Tdap Mass Vaccination Clinics — Juneau, December 2008

Juneau Pertussis Outbreak

During 2008, Juneau health care providers reported 111 persons with pertussis to the Alaska Section of Epidemiology (SOE); 68 (61%) were children aged ≤ 15 years. By comparison, one case of pertussis was reported in Juneau during 2007. Pertussis reports began in July, increased steadily throughout the fall, and peaked in late November (Figure). Summer cases occurred primarily in homeless adults and autumn cases occurred primarily in school-aged children. Standard pertussis control measures implemented during this outbreak, including case finding and chemoprophylaxis of contacts, did not impede community disease transmission.

Figure. Pertussis Cases by Onset Date — Juneau, 2008 (N=111)



In November 2008, Section of Epidemiology (SOE) personnel consulted the U.S. Centers for Disease Control and Prevention (CDC) regarding the use of Tdap (tetanus toxoid, reduced diphtheria toxoid, and acellular pertussis) vaccines to stop community pertussis outbreaks involving school-aged children. Licensed in 2005, Tdap vaccines are approved for persons age 10–18 years (Boostrix[®]) and 11–64 years (Adacel[®]).¹ CDC personnel stated that Tdap was used in at least one school-based outbreak and might have helped control the outbreak.² This prompted SOE, the Alaska Section of Public Health Nursing (SON) and the Juneau School District (JSD) to launch a Tdap mass vaccination clinic for all Juneau children aged 10–18 years, their parents, school employees, and adults who were caregivers for infants.

Tdap Mass Immunization Clinics

Methods

Planning and implementation of the Tdap immunization clinics was performed by SON, SOE, and JSD. The three agencies met multiple times over a two-week period prior to implementation of the clinics to address numerous logistical considerations (Table 1). Southeast Regional PHN personnel led clinic planning and implementation, and JSD offered clinic space at two middle schools, which were accessible to the majority of the Juneau population. All implementing agencies contributed personnel to run the clinic; volunteers were also recruited from the community.

Table 1: Mass Vaccination Clinic Considerations

- Target groups
- Number, location, and scheduling of clinics
- Staffing (e.g., vaccinators, clerical, volunteers)
- Space, equipment, supplies
- Number of vaccination stations to maximize traffic flow
- Determining which vaccines should be used
- Ordering, shipping, storage and handling of vaccines
- Paper versus electronic registration and data collection
- Parking and traffic control
- Public information campaign

Results

Clinics were held on December 16 at Floyd Dryden Middle School and December 17 at Dzantik'i Heeni Middle School. Each clinic ran from 2:00–8:00 PM. Immunization information was preloaded into a computerized immunization module (MassImms) that is part of VacTrAK, Alaska's new immunization information system;³ this allowed clinic staff to easily review and update immunization information during registration.

The two clinics were attended by 800 persons; 777 (97%) attendees were vaccinated. Ages of attendees ranged from 4–70 years (Table 2). The average time for an individual to register, receive the vaccine, and check out was 2 minutes. Forty-nine (6%) individuals brought their immunization cards with them to the clinic. Twenty-three attendees were not vaccinated; 10 had a record of a previous Tdap in the MassImms database and 10 had a record of a previous Tdap recorded on their immunization cards. Three attendees registered, but deferred vaccination for unknown reasons. Three individuals were inadvertently given an unnecessary Tdap prior to discovering evidence of a previous Tdap on written vaccine records (2), and in the MassImms database (1).

Table 2: Number Vaccinated by Age Group

Age (Years)	Number Vaccinated (%)
0–4*	1 (<1)
5–9*	1 (<1)
10–14	149 (19)
15–19	63 (8)
20–29	73 (9)
30–39	106 (14)
40–49	182 (23)
≥50	202 (26)
Total	777 (100)

*Two patients aged <10 years received DTaP instead of Tdap.

School nurses and community health care providers administered numerous doses of Tdap vaccine to children, adolescents and adults prior to these clinics; the total number of persons vaccinated by these providers during the outbreak was unknown at the time of publication of this *Bulletin*.

Discussion

Tdap is a new vaccine, and its efficacy in controlling pertussis outbreaks is unclear. Although one study found that school-based Tdap vaccination clinics could quickly achieve high vaccine coverage during an outbreak, the effect of Tdap on shortening the duration of the outbreak was undetermined.² While the number of reported cases of pertussis in Juneau appeared to be dropping even prior to the mass immunization clinics, it is too early to determine whether the outbreak is truly subsiding.

Mass immunization clinics such as these require intensive planning and implementation by multiple agencies, and the role of school and community partners cannot be overstated. Further research is needed to determine if Tdap immunization campaigns are effective for controlling pertussis outbreaks. In the meantime, health care providers should promote routine Tdap vaccination before outbreaks occur.

References

1. *Epidemiology Bulletin*. Implementation of Tdap Vaccine for Adolescents and Adults. No 3, January 11, 2006. http://www.epi.hss.state.ak.us/bulletins/docs/b2006_03.pdf
2. CDC. Use of Mass Tdap Vaccination to Control an Outbreak of Pertussis in a High School - Cook County, Illinois, September 2006 - January 2007. *MMWR* 2008; 57:796-799. <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm5729a2.htm>
3. *Epidemiology Bulletin*. VacTrAK: Alaska's New Immunization Information System. No. 1, January 5, 2009. http://www.epi.hss.state.ak.us/bulletins/docs/b2009_01.pdf