



**Department of Health and Social Services**  
Adam Crum, MSPH, Commissioner  
Jay C. Butler, MD, Acting Chief Medical Officer

**Division of Public Health**  
Merry Carlson, Acting Director  
Local (907) 269-8000  
24 Hour Emergency (800) 478-0084

**Editors:**  
Joe McLaughlin, MD, MPH  
Louisa Castrodale, DVM, MPH

3601 C Street, Suite 540  
Anchorage, Alaska 99503 <http://www.dhss.alaska.gov/dph/Epi>

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## Mumps Outbreak Overview — Alaska, 2017–2018

### Background

Mumps is a vaccine-preventable viral illness that spreads through respiratory droplets. Symptoms typically start 16–18 days (range: 12–25 days) after exposure and include fever, headache, muscle aches, fatigue, and loss of appetite, followed by swollen salivary glands. The best way to prevent mumps infection is through vaccination with the measles, mumps, and rubella vaccine (MMR).

When the United States mumps vaccination program began in 1967, about 186,000 cases were reported annually. Since then, the number of mumps cases has decreased by >99%.<sup>1</sup> During 2012–2016, the annual number of mumps cases reported nationally increased from 229 to 6,366.<sup>1</sup> In response to the national increase in mumps activity, in October 2017, the Advisory Council on Immunization Practice (ACIP) recommended offering a third dose of MMR during outbreaks.<sup>2</sup>

Mumps is a reportable condition in Alaska. During 2011–2016, the Section of Epidemiology (SOE) received an average of <1 case report of mumps per year. This *Bulletin* summarizes the epidemiology of a large mumps outbreak that occurred in Alaska during 2017 and 2018.

### Methods

SOE reviewed mumps reports received during May 2017 through September 2018, and classified cases as suspected, probable, or confirmed.<sup>3</sup> Patients with confirmed or probable cases were interviewed to ascertain epidemiologic risk factors. Alaska Department of Labor and Workforce Development 2017 population estimates were used to calculate rates.

### Results

During May 1, 2017 through September 30, 2018, 391 confirmed and probable mumps cases were identified (Figure). Case counts were highest in Anchorage (351, 90%), followed by Mat-Su (16, 4%), Southwest (14, 4%), Southeast (5, 1%), Gulf Coast (3, <1%), and the Interior (2, <1%). Case counts were slightly higher in females (208, 53%). The median age of patients was 25 years (range: 3 months to 79 years); 14 (4%) were children aged ≤6 years. Race data were available for 341 reported cases; rates by race were highest for Native Hawaiian or other Pacific Islanders (NH/PI), Alaska Native people, and Whites (1,906, 50, and 11 cases per 100,000 population, respectively). Four patients were hospitalized; none died. Of the 229 patients for whom vaccination status was known, 214 (93%) had received ≥1 MMR prior to illness onset. Of these, 51 (24%) had received 1 dose, 144 (67%) had received 2 doses, and 19 (9%) had received ≥3 doses. An epidemiologic link to another case was identified for 39% of cases.

### Discussion

This is the largest documented mumps outbreak in Alaska since case reporting records began in the 1970s. The high prevalence of prior MMR vaccination among mumps patients during this outbreak is not surprising due to waning immunity to the mumps component of the vaccine over time.<sup>2</sup> During the outbreak, Alaska was one of the first states in the nation to

recommend a third dose of MMR in the context of an outbreak.<sup>2</sup> This recommendation (issued on November 15, 2017)<sup>4</sup> initially focused on persons at increased risk for acquiring mumps or any persons who self-identified as NH/PI, if at least 5 years had passed since their second MMR. Despite this recommendation, the outbreak continued. On December 28, 2017, the recommendation was expanded to all Anchorage residents,<sup>5</sup> and on February 21, 2018, it was further expanded to any Alaska resident who wanted added protection during the outbreak.<sup>6</sup>

Other interventions included targeted community lectures, vaccination clinics, and an extensive media campaign to raise public awareness about the outbreak and to encourage MMR vaccination. State-supplied MMR was made available to health care providers who were enrolled to receive vaccine through the Alaska Vaccine Assessment Program.<sup>7</sup>

This prolonged outbreak response required the sustained effort of epidemiologists, public health nurses, laboratorians, public information officers, and many others. The outbreak ended on September 30, 2018, two incubation periods after the onset date of the last reported case had passed.

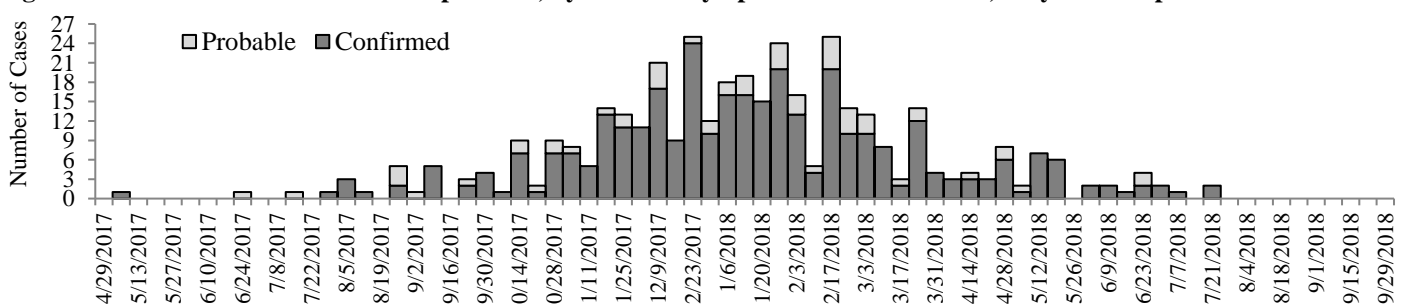
### Recommendations

1. Vaccination with an outbreak dose of MMR vaccine is no longer recommended in Alaska; however, health care providers should ensure that their patients are up-to-date on their MMR vaccinations per the routine ACIP schedule.<sup>8</sup>
2. Clinicians should continue to be watchful for new cases of mumps in light of heightened mumps activity nationally.
3. Persons with mumps-like symptoms should be evaluated by a clinician and self-isolate if mumps is suspected.
4. Laboratory testing (RT-PCR or virus culture) should be performed if mumps is suspected.
5. Promptly report all suspected cases to SOE: phone 907-269-8000, or fax 907-561-4239 [using the appropriate form](#).

### References

1. CDC. Mumps Cases and Outbreaks. Available at: <https://www.cdc.gov/mumps/outbreaks.html>
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4. SOE *Epidemiology Bulletin*. “Mumps Outbreak Update and Recommendations for a Third Dose of Vaccine.” No. 28, November 15, 2017. Available at: [http://www.epi.alaska.gov/bulletins/docs/b2017\\_28.pdf](http://www.epi.alaska.gov/bulletins/docs/b2017_28.pdf)
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6. Alaska Public Health Advisory. “MMR Vaccination Recommendations for the Ongoing Mumps Outbreak in Alaska.” February 21, 2018. Available at: [http://dhss.alaska.gov/dph/Epi/Documents/phan/AKPHAN\\_20180221\\_Updated\\_MMR\\_Rec.pdf](http://dhss.alaska.gov/dph/Epi/Documents/phan/AKPHAN_20180221_Updated_MMR_Rec.pdf)
7. CDC. Notes from the Field: Mumps Outbreak – Alaska, May 2017–July 2018. *MMWR* 2018;67(33):940–1.
8. CDC. Routine Measles, Mumps, and Rubella Vaccination. Available at: <https://www.cdc.gov/vaccines/vpd/mmr/hcp/recommendations.html>

**Figure. Confirmed and Probable Mumps Cases, by Week of Symptom Onset — Alaska, May 2017–September 2018**



(Contributed by: Stephanie Massay, MPH, MT(ASCP) and Amanda Tiffany, PhD, MPH, Alaska Section of Epidemiology.)