

**Title:** 2016 Mumps Outbreak in Nebraska

**Authors:** Blake Hendrickson, MPH#\*, Caitlin Pedati, MD, and Thomas Safraneck, MD

**Purpose:** 2016 saw a significant rise in the number of mumps cases in the United States. While the MMR vaccine has significantly reduced the incidence of mumps in recent decades, cases and outbreaks still occur. The objective of this poster is to share information about a recent outbreak of 43 cases in Nebraska amongst mostly vaccinated, college-aged students.

**Methods:** In Nebraska, disease surveillance data from laboratories and healthcare settings prompts public health action when appropriate, which is carried out by local health departments in collaboration with the Nebraska Department of Health and Human Services (NDHHS). The laboratory, clinical, and public health information gathered during this process is reported to the CDC for compiling and analyzing national surveillance data.

**Findings:** Through this surveillance system, an outbreak of mumps that started in Fremont and subsequently spread to other areas of Eastern Nebraska was identified and mitigated. Public health actions included isolation of suspected cases for 5 days, contact tracing, educating exposed individuals, distributing information to the public and healthcare providers, organizing laboratory testing, and employing vaccination campaigns in settings deemed appropriate.

**Implications for Practice:** One of the most important questions with vaccine-preventable disease investigations is whether the illness was caused by vaccine failure or a failure to vaccinate. However, this question can be quite difficult to answer. An individual's vaccine record is not always available and vaccines often provide incomplete protection. Mumps immunity from the MMR vaccine in particular has been shown to wane over time and may not be as protective against the genotype found in this outbreak. Therefore, it is an ongoing priority for public health officials to enhance surveillance activities, apply appropriate interventions, and continually assess the effectiveness and uptake of vaccines.