Measles in Minnesota: Community and Public Health Interventions
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Summary of Topic:
A panel of staff from the Minnesota Department of Health will present on the 2017 measles outbreak. Seventy-nine outbreak cases of measles and over 8,500 exposures were identified. Factors leading to the outbreak, successful response strategies, and use of the immunization information system will be discussed.

Description of Session:
Measles is a highly contagious and serious disease that can lead to hospitalization and death. Before vaccination, about 3-4 million people got measles each year and 450 to 500 died. As children were vaccinated cases in the United States declined to fewer than 100 cases a year.

The 2017 Minnesota measles outbreak affected predominantly unvaccinated children; 90% (71/79 cases) were unvaccinated. Additionally, 81% (64/79) of cases occurred among Somali Minnesotans. Vaccination with measles mumps rubella (MMR) vaccine among 2-year-old Minnesota-born children of Somali descent declined, from a high of 92% in 2004 to 42% in March 2017. This decline is due to the community’s perceived increase rate of autism among their children and the misunderstanding that autism was related to MMR vaccination. Studies consistently document that there is no relationship between vaccines and autism. Measles spread quickly in this community because of low MMR coverage among young children.

A multipronged response leveraging new and existing partnerships in addition to using existing surveillance infrastructure helped end the outbreak. We will present on three interventions that contributed to the end of this outbreak and the ongoing work in each area.

Outreach to the Somali Minnesotan community began in 2011 in locations where mothers and young children gather. Culturally appropriate community outreach intensified during the outbreak, led by MDH’s Somali Minnesotan staff. State and local public health officials worked with Somali medical professionals, faith leaders, elected officials, ethnic media outlets, and other community leaders to disseminate educational materials, attend community events, and create opportunities for open dialogue and education about measles and concerns about MMR vaccine. Existing relationships allowed us to communicate directly and swiftly with the communities most impacted.

Minnesota’s immunization information system, the Minnesota Immunization Information Connection (MIIC), was used to establish the immunization status of cases and exposures where possible, and to monitor vaccination activity trends during and after the outbreak. Use of MIIC’s immunization record request service increased during the outbreak as schools, childcare centers, health care personnel, and other organizations sought to confirm the vaccination status of their students and employees.

Exposure to cases occurred in a variety of settings. MDH collaborated with local health departments, health care facilities, childcare facilities, and schools to implement response activities such as exclusion of susceptible individuals from congregate settings for 21 days. Existing reporting and response infrastructure were used to quickly identify measles cases, exposed individuals, and those at highest risk
following exposure. Carefully built relationships with childcare administrators played a pivotal role in contact investigation and implementation of exclusion measures. Throughout the outbreak, we coordinated the need for over 500 persons to be excluded from public settings.

These interventions helped limit the number of cases. Existing public health infrastructure and engagement of the community were critical to the response and will continue to be a pillar of the program’s work to mitigate future outbreaks.