

Oakland County Measles Outbreak Response

Oakland County Health Department Success Story

2019 Michigan Preventive Health and Health Services (PHHS) Block Grant

Challenge

Oakland County is the second most populous county in Michigan. In 2019, Oakland County experienced the largest measles outbreak in Michigan since 1999, when 40 of 44 confirmed cases in the state occurred there. Through funds provided by the PHHS Block Grant, Oakland County was able to partner with the Michigan Department of Health and Human Services (MDHHS) to quickly respond and contain the outbreak.

Most of the healthcare community had never seen a confirmed measles case in person due to the United States' elimination of the vaccine-preventable disease. Measles is a very contagious disease. If exposed, approximately 90% of people who have not been vaccinated or previously had measles will develop the disease.¹ The first confirmed measles case was identified on March 13, 2019. The case was travel-related in an individual visiting from Israel following a stay in New York. Within one week, seven additional measles cases were confirmed with 29 exposure sites, and by day 19 of the outbreak, 29 cases were confirmed. The concentration of cases occurred in the Orthodox Jewish community of southeastern Oakland County. Most confirmed cases were adults who had undocumented measles (MMR) vaccine status or only received one of the recommended two doses of the MMR vaccine. No hospitalizations occurred, and no deaths were reported.

A measles outbreak in a similar Orthodox Jewish community occurred simultaneously in New York. The Oakland County Health Department (OCHD) staff were acutely aware that this local measles outbreak could mimic the New York outbreak, rapidly expand, and affect the quality of life for residents if immediate action was not taken.

Approach

The availability of PHHS Block Grant funds allowed Oakland County to lead response efforts by coordinating with existing partners, including healthcare systems, multiple local governments, MDHHS, schools, daycares, synagogues, and other community organizations.

The OCHD Health Division conducted thorough epidemiologic investigations of patients to identify exposure sites. A significant alliance was formed with the Council of Orthodox Rabbis of Greater Detroit and Detroit Hatzalah, a local Emergency Medical Services organization. Prevention messages were delivered to the Orthodox community via communication channels

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that outside agencies could not access, as the community traditionally has limited access to media on the Sabbath and religious holidays. Information was delivered to every household via the community's recorded messaging system "The Calling Post," written and verbal statements at religious services, and door-to-door outreach. This partnership helped OCHD become a trusted voice and healthcare provider in the Orthodox Jewish community. Clinical staff provided home visits to affected neighborhoods to directly engage with ill or exposed household members and collect samples for testing.

Vaccination clinics offered extended hours at common neighborhood and religious sites. OCHD and traditional hospital partners also worked closely through continuous communication and resource sharing. OCHD created and provided clinical guidance documents regarding measles that did not exist within the healthcare community before this outbreak, even at the Federal and State level.

The use of community-based interventions to address vaccine preventable diseases response is a recommended practice of the Community Guide of Preventive Services.²

Results

OCHD's successful response to end the largest statewide measles outbreak included the following swift actions taken in just 37 days:

- **3,349** measles vaccinations given
- **5** outreach vaccination clinics
- **11** press releases
- **50+** television, radio, and newspaper interviews
- Targeted case management to confirmed cases
- Direct access to vaccination in poorly resourced areas, including in the Orthodox Jewish community

The outbreak officially ended on June 5, 2019, following a 42-day waiting period with no additional confirmed cases.

¹ <https://www.cdc.gov/measles/transmission.html>

² www.thecommunityguide.org/findings/vaccination-programs-community-based-interventions-implemented-combination