

UM PHIPRAC Measles Scenario Planning Exercise

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Goal

Evaluate readiness and response for operations and data analytics in the event of a measles outbreak associated with the UM campus.

Participants

UM Public Health Infection Prevention Response Advisory Committee (PHIPRAC), including:

- Washtenaw County Health Department (WCHD)
- Michigan Public Health Integrated Center for Outbreak Analytics and Modeling (MICOM)

What-if scenario: measles introduction to UM residence hall

Developing the scenario

The PHIPRAC Epidemiology & Surveillance Sub-Committee (which includes 3 MICOM members) developed the scenario, which centered on a student returning from travel becoming the index case for a measles outbreak. We aimed for the scenario questions to evaluate logistical and operations readiness for UM and our ability to coordinate with WCHD for contact tracing and response.

Running the exercise

Key considerations during the exercise included:

- Communication strategy
- What data do we have? How can we use it to prioritize and make contact tracing more feasible?
- Vaccine status determination
- Coordination with WCHD and clinicians/Michigan Medicine
- Individual exclusion logistics and coordination with the Offices of Housing and Student Life

Takehome messages & key quotes

"This [measles response] is a huge amount of effort from public health infrastructure"

"Being first out with communications is such a huge challenge"

Main takehomes:

- Take a proactive approach to outreach
- Need for additional data to support response and prevention efforts
- Frequent touchpoints with clinical team and WCHD

Models & analytics in action

This exercise illustrated how modeling can be used in practice to improve preparedness and decision-making. We used both simple toy models, as well as realistic agent based models that included GIS data for Washtenaw County [1] to simulate measles spread in Ann Arbor under different vaccination scenarios. This enabled the group to test out what-if scenarios and decisions in a realistic way.