

West Virginia 2024 Measles Case Investigation and Response

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Overview of West Virginia 2024 measles outbreak and response.

2024 Measles Case

Case Summary

- On April 18, 2024, the West Virginia Department of Health was notified of a suspected measles case in Monongalia County, West Virginia. Case-patient was a 20-year-old male who had recent international travel.
- Case-patient developed a cough on Monday, April 15, followed by a high fever that ranged from 102.5 to 105 °F, conjunctivitis, diarrhea, white lesions in the buccal mucosa, and finally a rash that started on Thursday, April 18.
- The patient who initially presented to an urgent care facility, was transferred to the emergency room (ER) of a local hospital (Hospital A), which was notified prior to the transfer and the patient was placed on airborne isolation immediately upon arrival.
- Specimens collected for measles testing included a nasopharyngeal/throat swab, serum, and urine.

2024 Measles Case (cont'd)

Case Summary Continued

- The case-patient was partially vaccinated with one dose of MMR vaccine and reported international travel within 21 days of symptom onset.
- Testing of real-time reverse transcription–polymerase chain reaction (rRT-PCR) nasopharyngeal/throat swab confirmed the diagnosis on Sunday, April 21 and an outbreak investigation was opened.
- On Monday, April 22, the Centers for Disease Control and Prevention was notified, and specimens were forwarded to the Wisconsin State Laboratory of Hygiene for genotyping.
- Follow-up sequencing of the nasopharyngeal/throat swab and urine at the Wisconsin State Laboratory of Hygiene determined the specimen to be measles genotype D8.

Investigation, Contact Tracing, and Initial Response



Initial Investigation

- On Monday, April 22, 2024, representatives from Hospital A, LHD, and the West Virginia Department of Health met to discuss initial plans for continued follow up and contact tracing.
- Based on the case-patient's rash onset date of Thursday, April 18, the infectious period was determined to be from Sunday, April 14, to Monday, April 22.
- LHD established contact with the case-patient to complete the investigation, which included collecting additional details about the patient's movements during the established infectious period and identifying any close contacts requiring follow up.

Investigation, Contact Tracing, and Initial Response (cont'd)



Contact Tracing

- Based on information obtained from the case-patient interview and medical record review, it was determined that the patient received occupational therapy on April 15, visited an outpatient clinic on April 17, and an urgent care on April 18, prior to being transferred to an emergency room the same night.
- For the outpatient and urgent care clinics, medical records were used to obtain lists of patients who had scheduled appointments and were in the facilities while the case-patient was in the building, including up to two hours after the case-patient left the building.
- Line lists were provided to LHD for initial contact and follow up.

Investigation, Contact Tracing, and Initial Response (cont'd)

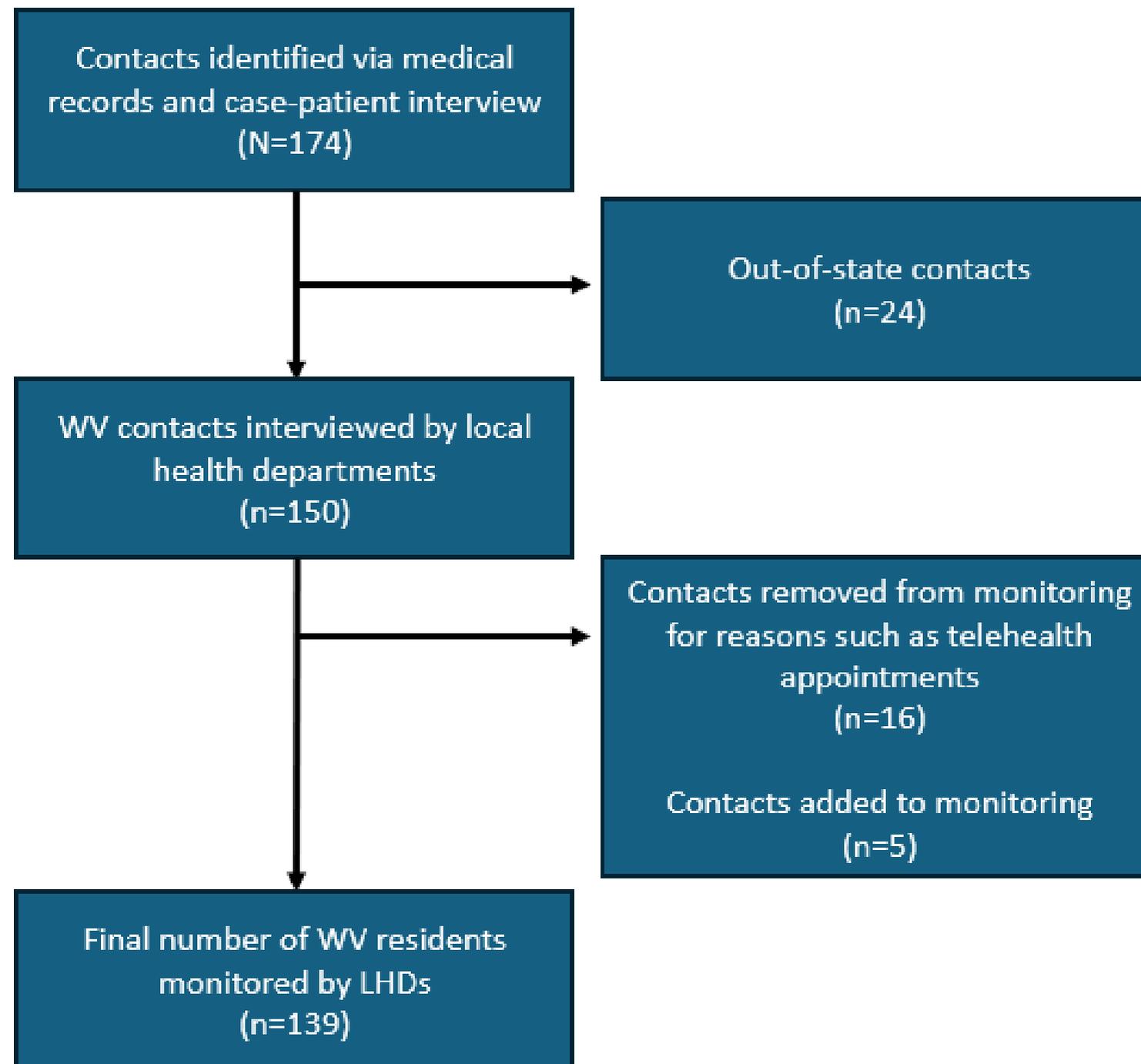


Contact Tracing and Initial Response

- Post-exposure prophylaxis (MMR (Measles, Mumps, and Rubella) vaccine) was no longer an option since more than 72 hours had passed since initial exposure.
- However, immunoglobulin (IG) could still be administered to immunocompromised patients (regardless of measles immune status) and to pregnant people without evidence of measles immunity.
- Therefore, these two high-risk groups were prioritized for initial contact.
- Doses of adult MMR vaccine were obtained by the West Virginia Department of Health and made available to LHD in preparation for the possibility of additional cases and the need for the rapid administration of MMR as PEP.

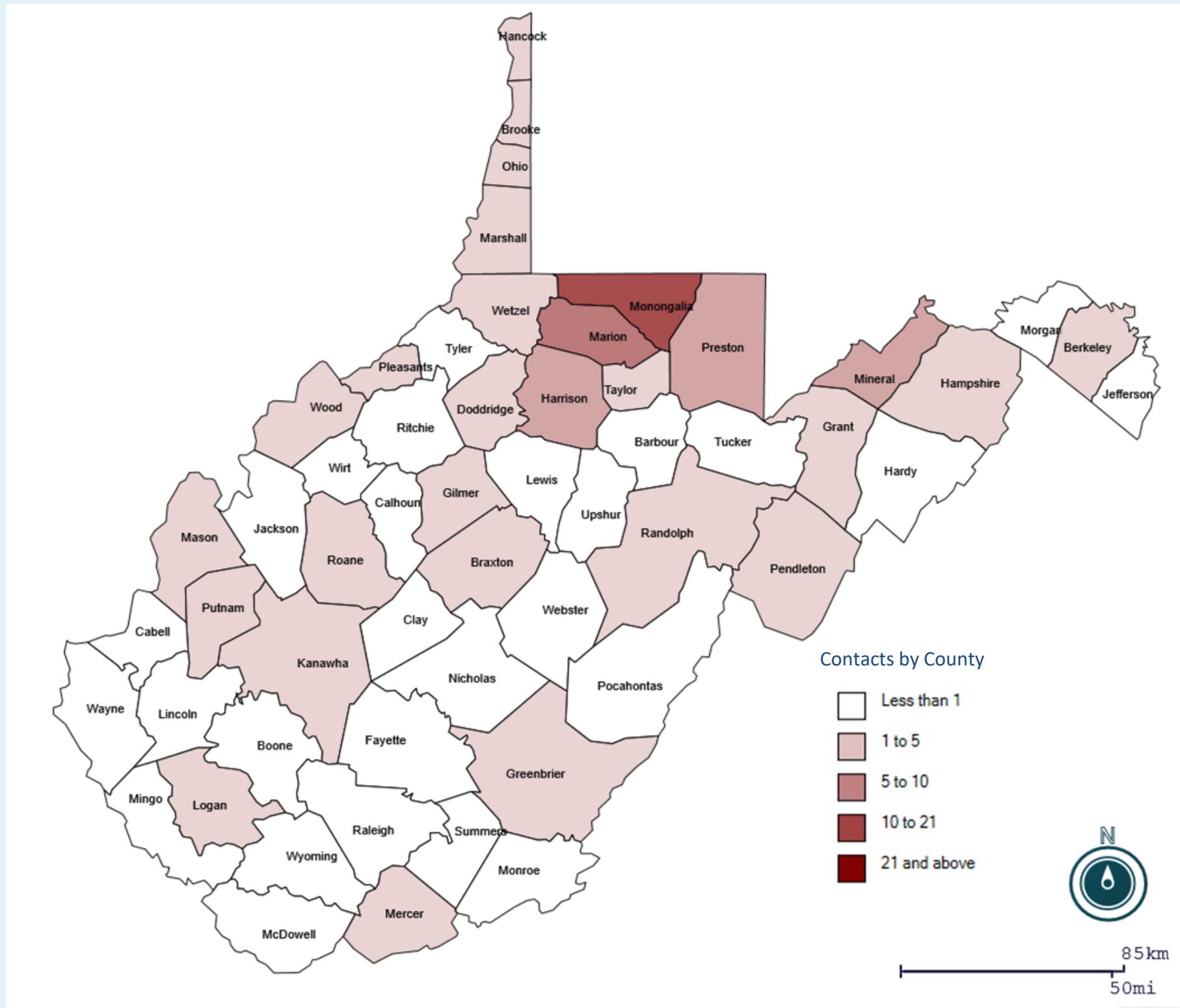
Outcome of Investigation and Contact Tracing

Figure 1. Contact inclusion and exclusion process.



Outcome of Investigation and Contact Tracing (cont'd)

Figure 2. Number of West Virginia contacts by county following measles exposure (N = 139)



Contact Information



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