

Use of Immunization Registry During Measles Outbreak, Indiana 2011

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Background

An unvaccinated Indiana resident returned from overseas while infectious with measles in June 2011. The subsequent investigation uncovered 13 additional cases that were epidemiologically linked to the index case. The Indiana Children and Hoosiers Immunization Registry Program (CHIRP) was used to help determine the immunization status of case contacts. The immunization records for all suspect cases were examined in CHIRP. The registry also played a role in two large exposures (a school bus trip and workplace exposures).

School Trip Exposure

Two siblings of the index case took part in a school trip to an out of state amusement park. The two siblings were infectious during the trip. In addition to the two infectious students, 23 students and 4 adults participated in the trip. Twenty-two students had 2 documented MMRs in CHIRP. One student had 1 MMR in CHIRP. The student subsequently showed proof of a second MMR. Only 1 of the four adults had 2 MMRs in CHIRP. One adult was known to be unimmunized and had to be quarantined. Blood was drawn on another adult and proved that the adult was immune. The last adult was lost to follow up.

Factory Exposure

An adult worked at a factory while infectious. As a result, 346 workers were exposed to measles. Twenty-nine employees were born before 1957. Immunization records for the remaining 317 workers were examined in CHIRP. Forty-six (14.5%) had 2 documented MMRs in CHIRP. An additional 5 workers provided proof of 2 MMRs.

Blood was collected from an additional 220 workers for IgG testing and 182 (82.7%) had positive measles titers. MMR vaccine was provided at no cost to those who participated in the factory clinic.

Conclusions

Having an accessible online database of immunization records decreased the time necessary to assess the immunization status of contacts. This provided useful information that helped guide interventions during the 2011 measles outbreak in Indiana. As expected, CHIRP was more useful when the person exposed was under the age of 30. Very few providers enter historical records. As the number of vaccinations in the registry increases, the usefulness of the registry during vaccine preventable disease outbreak investigations will also increase.

Figure 1: School Bus Trip Exposure

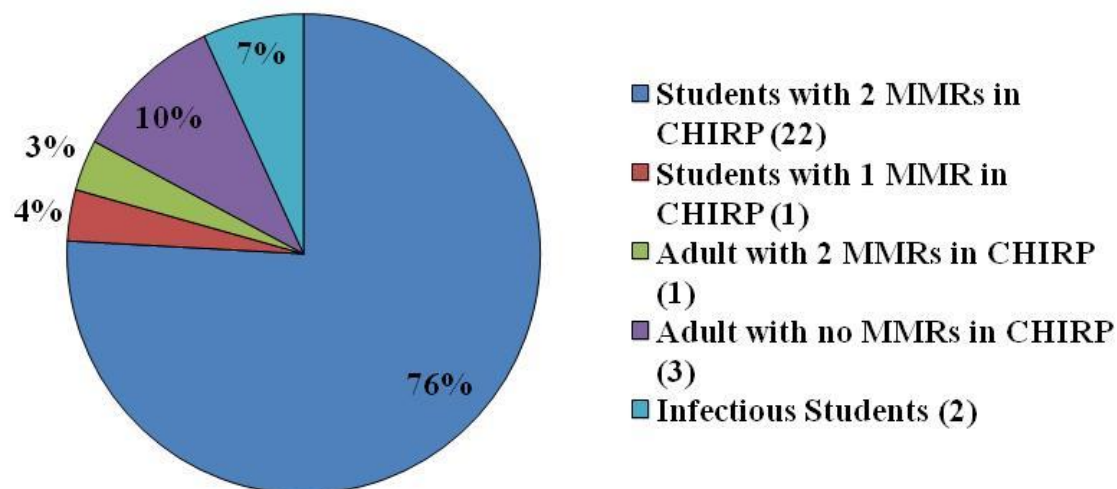


Figure 2: Factory Exposure

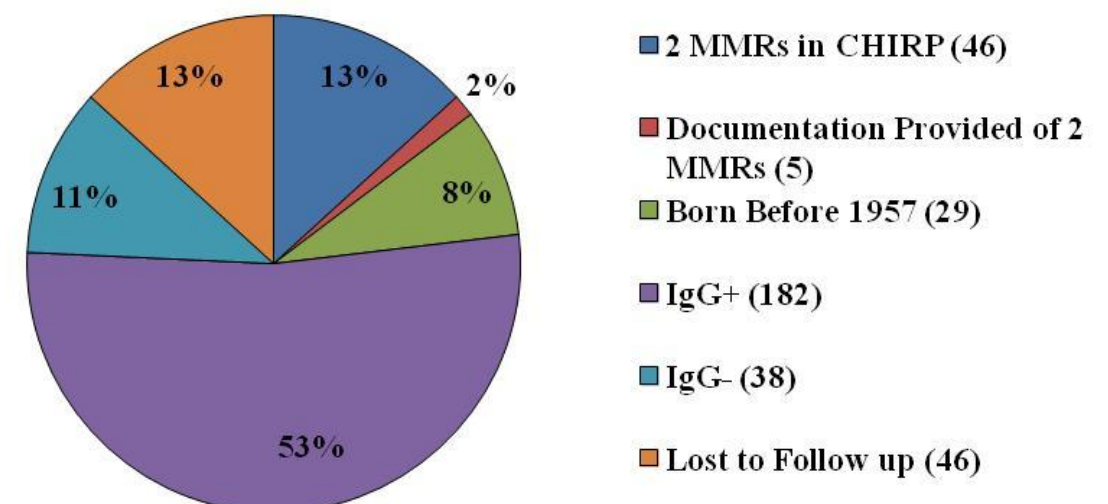


Figure 2: Factory Exposure

