

Spread of Measles Virus in Europe

[Announcer] This program is presented by the Centers for Disease Control and Prevention.

[Karen Hunter] Hi, I'm Karen Hunter and today I'm talking with Dr. Paul Rota, Team Lead for the Measles Laboratory, Division of Viral Diseases, at CDC. Our conversation is based on a paper about a measles survey in Europe 2008-2011, which appears in CDC's journal, *Emerging Infectious Diseases*. Welcome, Dr. Rota.

[Paul Rota] Hi. Thank you for inviting me.

[Karen Hunter] Dr. Rota, why was this study conducted?

[Paul Rota] This study was conducted to investigate measles outbreaks in Europe. And in this case, particular attention was paid to using genetic analysis of circulating viruses to track the spread of measles. Looking at the genetic characteristics of viruses can help us to determine the source of infection. And this information is then used to point out gaps in vaccination coverage. I'd like to add that measles is well controlled in many of the regions of the world by vaccination; however it still remains a serious health threat. Measles is one of the most infectious viruses known, and it can effectively circulate, even in populations that have a high level of immunity. In fact, it takes ninety-five percent of the population to be vaccinated to interrupt transmission of measles. In developed countries, one out of 1000 people die from measles or its complications, but this number can be 10 to 100 times higher in developing countries. Even in developed countries, measles causes a severe illness. In the study we are discussing today, nearly 40 percent of the people who had measles were hospitalized.

[Karen Hunter] Why is this information important?

[Paul Rota] It's important to document the spread of a single lineage of measles virus. In this case, the single lineage was found in Europe for nearly three years, from 2008 to 2011. This outbreak spread to several countries and resulted in more than 25,000 people developing measles. The results of this study show how quickly a single lineage of virus can circulate following introduction into countries that still have less than optimal vaccination coverage. Several groups of people were indentified who did not have a high level of vaccine coverage and so were susceptible populations for measles infection. This information helps us to identify problems with delivery of vaccination services and allows public health officials to respond in an appropriate manner.

[Karen Hunter] What kind of information was analyzed?

[Paul Rota] The authors analyzed standard case reporting information from a number of European countries. Individuals with measles have a high fever and rash, along with some respiratory symptoms. Samples from individuals with rash and fever were tested in the laboratory [to] confirm that these cases were caused by measles virus and not caused by other viruses which can also cause rashes.

[Karen Hunter] What can be done to prevent the spread of measles?

[Paul Rota] Well, the best way to prevent measles is to get vaccinated. The more people who are vaccinated in a community the less the infection can spread. The World Health Organization recommends two doses of vaccine and most countries in the world are providing two doses. In the US, most states have laws requiring that children have two doses of measles vaccine when they start school. It's also important to remember that the vaccine used to prevent measles in the US also prevents rubella and mumps.

Since the virus spreads very quickly, it's very important to identify unvaccinated populations before these outbreaks can occur. Outbreaks can sometimes be controlled by vaccinating people even after the outbreak has started. Also quarantining the non-vaccinated individuals help control the spread.

[Karen Hunter] Thanks, Dr. Rota. I've been talking with Dr. Paul Rota about a paper that appears in the August 2011 issue of CDC's journal, Emerging Infectious Diseases. You can see the entire article online at www.cdc.gov/eid.

If you'd like to comment on this podcast, send an email to eideditor@cdc.gov. That's e-i-d-editor - one word - at c-d-c-dot-gov. I'm Karen Hunter, for Emerging Infectious Diseases.

[Announcer] For the most accurate health information, visit www.cdc.gov or call 1-800-CDC-INFO.