

Britain Declares National Incident After Poliovirus Found in London

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Health authorities in Britain have declared a national incident after finding evidence suggesting local spread of poliovirus in London.

Although health authorities indicated that the use of the term “national incident” was used to outline the scope of the issue, no cases of polio have been identified so far, and the risk to the public is low. But health authorities urged anyone who is not fully immunized against poliovirus, particularly young children, to immediately seek vaccines.

“Most of the U.K. population will be protected from vaccination in childhood, but in some communities with low vaccine coverage, individuals may remain at risk,” said Dr. Vanessa Saliba, a consultant epidemiologist for the U.K. Health Security Agency.

The last case of polio in Britain was in 1984, and the country was declared polio-free in 2003. Before the introduction of the polio vaccine, epidemics were common in Britain, with up to 8,000 cases of paralysis reported every year.

Routine surveillance of sewage in the country picks up poliovirus once or twice a year, but between February and May, officials identified the virus in several samples collected in London, according to Dr. Shahin Huseynov, technical officer for the World Health Organization’s vaccine-preventable diseases and immunization program in Europe.

Genetic analysis suggests that the samples have a common origin, most likely an individual who traveled to the country around the New Year, Dr. Huseynov said. The last four samples collected appear to have evolved from this initial introduction, likely in unvaccinated children.

“The importance of this finding is that even in well developed countries, the countries where usual vaccination coverage is quite high, it is still important to ensure that all children have access to vaccines,” he said.

British officials are now collecting additional samples and trying to identify the source of the virus. But the wastewater treatment plant that identified the samples covers about 4 million people, almost half of the city, making it challenging to pinpoint the source.

Polio is spread most often by an infected person who does not properly wash their hands and then touches food or water ingested by someone else. The virus thrives in the gut and emerges in the feces of infected people. In up to 1 percent of patients, the virus can infect the spine and cause paralysis.

“Most of the disease is asymptomatic, it is only about one in 500 children who are actually paralyzed,” said Dr. David Heymann, an infectious disease expert at the London School of Hygiene and Tropical Medicine who previously led the W.H.O.’s polio eradication program.

In Britain, immunization for polio is carried out with an injected inactivated poliovirus, which cannot be shed through feces. But some countries of the world rely on an oral polio vaccine that contains a live, weakened version of the virus. Immunized people can briefly shed this virus in their feces, which can then turn up in sewage.

That’s what health officials believe happened in this case. The virus in the collected samples came from a type of oral polio vaccine that is used to contain outbreaks, according to Dr. Huseynov.

In recent months, that type of vaccine has been used only in Afghanistan, Pakistan and some countries in the Middle East and Africa, he said.

Wild poliovirus has been eliminated from every country in the world, except Afghanistan and Pakistan. But vaccine-derived polio continues to cause small outbreaks, particularly in communities with low vaccination coverage.

“Polio persists in some of the poorest parts of the world. Until it is eradicated worldwide the risk of importation and spread in the U.K. and elsewhere will continue,” said Nicholas Grassly, a vaccine epidemiologist at Imperial College London.

Recent figures in London suggest immunization coverage of 86.6 percent, according to the Global Polio Eradication Initiative.

The analysis so far suggests community transmission, most likely among young children. A less likely possibility is that a single immunocompromised individual has shed the virus for months.

“The big issue here is whether it’s been continuously circulating in the U.K. or whether it’s an immunodeficient person,” said Dr. Walter Orenstein, associate director of the Emory Vaccine Center and a former director of the United States’ Immunization Program.

If it's the latter, Orenstein said, "they need to find that immunodeficient person."

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