

Discovery of polio virus in London sewers prompts urgent vaccination of children

Robert Stevens
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All London-based children aged between one and nine are to be “urgently” offered a polio vaccine booster. The decision was taken by the Johnson government following advice from the Joint Committee on Vaccination and Immunisation.

The move to vaccinate nearly a million children over the next four weeks follows the declaration by the government of a “national incident” in June, after poliovirus was detected in the London Beckton sewage plant.

The samples were taken between February and May this year. The plant has a catchment area of about 4 million people spread throughout the north and east of the capital. At the time the UK Health Security Agency (UKHSA) said the disease may have already been spreading between “closely linked” individuals.

After infection through the gastro-intestinal tract by one of the three serotypes of polio virus, the virus replicates in the gut.

Polio attacks the nervous system, with young people under the age of five most vulnerable. It initially causes flu-like symptoms but is known to cause permanent paralysis. The virus can affect the muscles that control breathing, causing death due to asphyxiation. It is fatal for up to 10 percent of the children who suffer from paralysis.

In a statement this week, UKHSA said, “Following the findings earlier this year of type 2 poliovirus (PV2) collected from the Beckton sewage treatment works, further upstream sampling undertaken by the UK Health Security Agency (UKHSA) and the Medicines and Healthcare products Regulatory Agency (MHRA) has now identified at least one positive sample of the poliovirus, currently present in parts of the following boroughs: Barnet, Brent, Camden, Enfield, Hackney, Haringey, Islington, Waltham Forest.”

These represent a quarter of London’s 32 boroughs.

It warned, “The level of poliovirus found and the high genetic diversity among the PV2 isolates suggests that there is some level of virus transmission in these boroughs which may extend to the adjacent areas. This suggests that transmission has gone beyond a close network of a few individuals.”

Explaining the significance of its finding, the UKHSA revealed, “A total of 116 PV2 isolates have been identified in 19 sewage samples collected in London between 8 February and 5 July this year, but most are vaccine-like virus and only a few have sufficient mutations to be classified as vaccine

derived poliovirus (VDPV2).

“VDPV2 is of greater concern as it behaves more like naturally occurring ‘wild’ polio and may, on rare occasions, lead to cases of paralysis in unvaccinated individuals.”

Dr Vanessa Saliba, Consultant Epidemiologist at UKHSA, said, “No cases of polio have been reported and for the majority of the population, who are fully vaccinated, the risk is low. But we know the areas in London where the poliovirus is being transmitted have some of the lowest vaccination rates. This is why the virus is spreading in these communities and puts those residents not fully vaccinated at greater risk.”

The BBC noted, “the samples detected are linked to a polio vaccine used in other countries.

“Parts of the world still dealing with polio outbreaks use the oral polio vaccine - which is safe but uses a live virus. This gives a huge amount of immunity but has the potential to spread from person to person in areas where not a lot of people are protected.

“This becomes a problem if it continues to spread, as the safe form of the virus used in the vaccine can mutate and evolve until it can once again lead to paralysis.”

The UKHSA said it was “working closely with health agencies in New York and Israel alongside the World Health Organization to investigate the links between the poliovirus detected in London and recent polio incidents in these 2 other countries.”

The poliomyelitis (or) polio virus has been known since ancient times, but it was in the 20th century that it caused widespread epidemics. These emerged in Europe and the US in the late 19th century, persisting until the middle of the 20th century. In the US there was an outbreak in 1916 that resulted in over 27,000 cases and more than 6,000 deaths and led to polio becoming a global disease.

The return of polio in Britain comes after the disease had been totally eradicated due to a public information drive and mass vaccination programmes—aimed at everyone aged under 40—from the late 1950s onwards. Crippled polio victims were once a common sight in Britain and in the early 1950s epidemics resulted in as many as 8,000 annual notifications of paralytic poliomyelitis in the UK. There were up to 750 deaths a year from the disease.

In 1955, the last year before the polio vaccine was introduced in the UK, more than 3,000 cases were recorded. In 1961 there were 707 acute cases and 79 deaths.

By 1963 the number of cases had slumped to just 39. The last outbreak of indigenous poliomyelitis was in the late 1970s. Since 1984 no cases have been reported in Britain, with the country formally declared polio-free in 2003. There are more than 100,000 survivors from the disease in Britain today, including those who would have required extensive treatment in “iron lung” respirators. Polio was also wiped out by 1988 from the US, Australia and much of Europe but remained prevalent in more than 125 countries.

In July, the WSWS ran an interview with Dr. Diane E. Griffin, M.D. and Ph.D., a university distinguished service professor and a professor in the Department of Molecular Microbiology and Immunology at the Johns Hopkins Bloomberg School of Public Health. The interview covered Long COVID and viral RNA persistence, but Professor Griffin also addressed the significance of vaccine-derived poliovirus being found in London sewers.

She said, “I’m not surprised to hear that it’s being found. I think in Tel Aviv they’ve known that they’ve had polio in wastewater for a long time and they’ve never been able to identify the person that it’s coming from....”

“So, polio vaccine is a live virus vaccine. And that group of viruses are RNA viruses. It’s very good at constantly mutating and selecting for viruses that replicate better. It also recombines with other viruses like it including other types of polioviruses. There are three types of polioviruses.

“Basically, there’s a selection process particularly if it’s being transmitted in a population. That vaccine virus is constantly being shed from the gastrointestinal tract and in low vaccinated populations where people haven’t been vaccinated then you get a lot of transmission.

“I think maybe one of the questions that’s interesting and I haven’t heard about what is happening in the UK but I’m sure the UK has high vaccine coverage for polio, but they use an inactivated vaccine as we do and as many developed countries do and not the live virus vaccine.

“But the inactivated vaccine doesn’t induce intestinal immunity, meaning you can still get infected even though you don’t get sick. The inactivated polio vaccine prevents the virus from going to the brain. And that’s the only part of poliovirus infection that anybody’s really worried about because of the paralysis. Summing it up, the inactivated vaccine works perfectly well to protect against paralytic polio, but it doesn’t protect against infection.

“So, most of the developed countries that are using the inactivated vaccine are susceptible to an introduction of polio through the fecal-oral route or contaminated water or food that then can spread to others. And then if you don’t have a highly vaccinated population, you may start getting cases of paralysis.

“Surveillance for polio, traditionally, has depended on [the

presentation of] paralysis among cases. Even with a completely unvaccinated population with wild type infection, only one in 100 to 200 ever get paralyzed. Most people have asymptomatic infection which means you can have a lot of undetected transmission and spread without recognizing it unless you’re doing other kinds of surveillance, like the wastewater surveillance.”

To achieve immunity from polio, vaccines must be regularly administered in childhood. In Britain, pre-school children and those aged 8 and 14 are vaccinated. The World Health Organization recommends that, to be successful, a school-aged vaccination programme should achieve a 95 percent uptake. However only three areas of Britain—Rutland, County Durham and East Riding—meet the threshold, with overall uptake UK-wide under 85 percent.

The fact that a deadly form of polio virus has been detected in London, a city of nearly 10 million, must raise the alarm. Under successive governments for over four decades public health infrastructure and expenditure has been gutted, resulting in the country’s population being disastrously exposed to diseases once considered eradicated and susceptible to new pandemics.

The Johnson government ignored, with terrible societal consequences, a decade of pandemic planning ahead of the COVID-19 disaster. Its criminal policy encouraged the spread of the virus, despite being forced by opposition in the population to impose several lockdowns. The existence and transmission of the polio virus was confirmed just one month before the Office for National Statistics also confirmed on July 13 that more than 200,000 people had died from COVID in Britain.

It also emerged this week that despite the WHO declaring last month that monkeypox was a global health emergency, the UK will likely exhaust stocks of the vaccine in the next two to three weeks. The UK officially has 2,859 cases of monkeypox, one of the largest tallies in the world.



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