

Polio was found in New York City wastewater. Should we brace for another epidemic?

It's easy to feel a bit of panic in the air. A young man was [paralyzed](#) in the New York City suburbs. Poliovirus was found in the [wastewater](#) of 8 boroughs of London. What in Sam Hill is going on here?

To understand, I had to do some reading. Whatever little bit I learned about polio in med school I promptly forgot, since, well, no one sees polio anymore. Vaccines made the worst-case, 1 in 200, outcome of a poliovirus infection, paralytic poliomyelitis, virtually disappear.

Not *totally*, however, and that's where this virus and the vaccines that prevent it get so interesting. So much so that it's worth breaking it down a little, to get a better handle on why it popped up in a New York City suburb, and what that means to us going forward.

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How does a virus with an $R_0 > 5$ circulate for months in places like New York and London without tearing through the kids in a densely-packed, non-immune community, and not rapidly spread to other communities?

It strikes me that we have either been exceedingly lucky to have not heard of more than 2 cases of paralytic polio since reports began to circulate 6 months ago; or the circulating vaccine-derived strains are either less transmissible or less virulent than we imagine them to be.

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Perhaps the New York outbreak will yet lead to a massive polio outbreak, unlike the warnings thus far raised in London and Jerusalem. Meanwhile, I await a virologist to explain the seeming contradiction between the disaster we would expect from these emergent strains in multiple countries and what we are actually seeing. Truly, like so much in medical science, it's a mystery.

What is not at all mysterious is the appropriate response to these reports of circulating polioviruses. Yes: vaccination!

[This is an excerpt. Read the original post here.](#)