



World Health
Organization

World Health Organization

TOPIC B:

Vaccine-Derived Polio Outbreak

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Introduction:

Infectious diseases such as the Coronavirus have always been a threat to human existence in various ways. Besides the health effects these illnesses present, economic and social aspects are also deeply impacted by the consequences of potential outbreaks. In 1988, global efforts eradicated Polio in nearly every nation around the world; only Nigeria, Pakistan, and Afghanistan remained infected (WHO, 2020). Unfortunately, it has since re-entered western Africa, contaminating countries in the region and nations such as Syria, Cameroon, Indonesia, and Yemen. A wild-polio outbreak has not been declared since the year 2016, however, vaccine-derived cases are growing in unimmunized areas living without adequate sanitation (Maclean, 2020). Despite the vast advancements to eradicate the disease, Polio remains a global threat as long as a single child remains infected. Experts fear it can quickly spread and be re-introduced into polio-free nations with unimmunized populations, having consequential effects around the world.

Background Research:

Poliomyelitis, commonly known as Polio, is a highly infectious disease. It mainly affects children under the age of 5, and the health effects can be very severe. Three strains of the virus used to exist (type 1, type 2, and type 3), but after the global campaign to end the disease in 1988, only type 2 prevails; the remaining strains have been officially certified as globally abolished (WHO, 2020). The effects Polio has on children can make them reach a critical condition. In specific situations, the virus attacks the spinal cord and brain, which can cause paralysis. 5-10% of paralyzed children die due to crippled breathing muscles (Mohamed, 2019).

There is currently no treatment to cure Polio, yet the disease can be easily preventable. Governments have implemented several vaccines to immunize populations around the world, and the most common one used in developing countries is an oral form of the treatment. It is commonly utilized because of its low cost and accessibility, given that it only requires two drops per dose (Mohamed, 2019). In non-developing countries, "...a more expensive, injectable version of the vaccine – which contains an inactivated virus incapable of causing the disease – is used as a preventative" (Mohamed, 2019). However, rising vaccine-derived cases in Nigeria, the Democratic Republic of the Congo, Central African Republic, and Angola were reported last year. In these rare cases, the virus introduced through the oral vaccine can mutate and ignite new outbreaks.

These new Polio cases present a big challenge to the international community because more than 95% of the population needs to be immunized to declare Polio officially extinct (Mohamed, 2019). In 2020, the WHO African region was declared Poliomyelitis-free, but unfortunately, this is not the end of the disease. The vaccine-derived poliovirus is circulating in areas where there is only partial vaccination, increasing from 68 cases in 2018 to 316 cases in 2019 (Maclean, 2020).

Experts fear infections will increase this year because vaccination campaigns were paused when the pandemic arrived. A report by the Independent Monitoring Board claimed that the vaccine-derived outbreak in Western Africa is getting out of control. "The report found 'the strategy is already failing badly on the goal of reducing, and ultimately eliminating, vaccine-derived polioviruses' and argued that new strategies are needed to tackle the polio epidemic." (Mohamed, 2019).

Furthermore, refugees and immigrants fleeing violence or natural disasters in the region are highly connected to the spread of infectious diseases. Most of the migrants come from countries with weak or non-existent health systems, which means immunization treatments are crucial (WHO, 2019). Likewise, vaccination resistance in the region also presents a significant difficulty when immunizing populations. Cultural and social aspects limit and prevent the correct application of the vaccine, specifically in areas afflicted by violent extremist groups. It is also important to consider that because the oral vaccine has infected people on several occasions, populations are naturally rejecting any type of treatment of immunization.

United Nations Intervention:

The World Health Organization, in partnership with UNICEF, is supporting health ministries in 13 countries within Western Africa. The program consists of workshops that, according to Dr. Modjirom Ndoutabe, WHO's Regional Rapid Response Team Coordinator for Africa, aim to train the participants on standard operating procedures for polio outbreak response according to international health regulations (WHO, 2019). The Global Polio Eradication Initiative is a public-private global partnership, which includes WHO, Rotary International, the United States Centers for Disease Control and Prevention, UNICEF, and the Bill & Melinda Gates Foundation among many others (WHO, 2019). The initiative has come closer to eradicating the disease since 1988, but the vaccine-derived infections remain a threat.

Points To Consider:

- Vaccine-derived Polio outbreaks are different from wild-Polio outbreaks. Vaccine-derived cases are, as the name implies, Polio infections caused by the oral vaccine.
- Polio can be easily prevented but easily transmitted as well, so the spread of the virus to Polio-free countries can be devastating: an immunization campaign is extremely necessary.
- The areas most affected by the outbreaks (Western Africa) usually encounter vaccination resistance and several types of issues when immunizing their populations; immigration, violence, and extremist groups play an important role in this issue. Each affected country's position is crucial.

Questionnaire:

- A. What is my country's position?
- B. What are my country's policies?
- C. What can my country do to solve this issue?
- D. Which countries can my delegation work with?
- E. What are three possible solutions?
- F. What could happen if the issue is not solved promptly?

Useful Links:

-Mohamed, Edna. "Polio Outbreaks in Africa Caused by Mutation of Strain in Vaccine." The Guardian, 28 Nov. 2019,

www.theguardian.com/global-development/2019/nov/28/polio-outbreaks-in-four-african-countries-caused-by-mutation-of-strain-in-vaccine

-World Health Organization. "Does Polio Still Exist? Is It Curable?"

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www.who.int/news-room/q-a-detail/does-polio-still-exist-is-it-curable.

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-Maclean, Ruth. "Africa Celebrates the End of the Wild Poliovirus (but Not the End of All Polio)." The New York Times, 24 Aug. 2020, www.nytimes.com/2020/08/24/world/africa/polio-africa-eradicated.html.

-Mohamed, Edna. "Polio Outbreaks in Africa Caused by Mutation of Strain in Vaccine." The Guardian, 28 Nov. 2019, www.theguardian.com/global-development/2019/nov/28/polio-outbreaks-in-four-african-countries-caused-by-mutation-of-strain-in-vaccine

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-“WHO Supports Cross River State in Administering Polio Vaccines to Cameroonian Refugees.” WHO | Regional Office for Africa, 2020, www.afro.who.int/news/who-supports-cross-river-state-administering-polio-vaccines-cameroonian-refugees Accessed 30 Nov. 2020.

-World Health Organization. "WHO, UNICEF help boost West Africa's capacity to respond to polio outbreaks." WHO Regional Office for Africa, 27 Nov. 2019, <https://www.afro.who.int/news/who-unicef-help-boost-west-africa-capacity-respond-polio-outbreaks>