Global Model WHO 2024

COMMITTEE A5

STUDY GUIDE

POLIOMYELITIS ERADICATION

Geneva, Switzerland
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The Most Accurate Simulation of the World Health Assembly

Global Model WHO
Committee A5

Poliomyelitis Eradication (University)

This study guide is designed to help you navigate the complex topics of climate change, pollution, and health as you prepare for the Global Model WHO A5 simulation. Use it alongside the official UN document as a reference. The guide includes key questions to prompt deeper thinking, facts to expand your knowledge, and a glossary to clarify important terms. Be sure to consult the page and paragraph numbers listed for each comment to see exactly what section of the document it addresses.

As you read through each section, reflect on the questions provided to help shape your arguments and anticipate counterpoints. The guide also offers insights that can aid in forming well-rounded, innovative solutions during debates. Use this resource to complement your own research and strengthen your overall understanding of the issues.

GOAL 1: PERMANENTLY INTERRUPT ALL POLIOVIRUS TRANSMISSION IN ENDEMIC COUNTRIES

DID YOU KNOW THAT...

Page 1, Heading

- There are two forms of the virus that can lead to outbreaks of the disease. There is the wild polio virus (WPV) and vaccine-derived polio (VDPV). The WPV is a naturally occurring virus but the VDPV stems from mutations in the weakened strains of the virus used in the oral polio vaccine (OPV). In very rare instances, these weakened viruses can undergo genetic changes and revert to a form capable of causing paralysis. This situation typically arises in communities with low immunization rates, where the vaccine virus can circulate for extended periods, allowing it to mutate. There are three types of VDPV: Circulating Vaccine-Derived Poliovirus (cVDPV), Immunodeficiency-Related Vaccine-Derived Poliovirus (iVDPV), and Ambiguous Vaccine-Derived Poliovirus (aVDPV). Research the differences between these three types of VDPV.

- The Global Polio Eradication Initiative (GPEI) was initially launched in 1988 with the primary goal of eradicating wild poliovirus, which was responsible for hundreds of thousands of cases of paralysis worldwide each year. Through widespread vaccination campaigns, wild poliovirus types 2 and 3 have already been eradicated globally (WPV2 in 1999 and WPV3 in 2019). WPV1, the last remaining wild strain, is now only circulating in Afghanistan and Pakistan, and global efforts are heavily focused on stopping its transmission in these areas. Although the original goal was to target wild poliovirus, the rise of vaccine-derived poliovirus (VDPV) in certain regions has also become a major focus of eradication efforts.
- The GPEI is one of the largest public health programs in the world. It has involved 20 million volunteers, delivering more than 2.5 billion doses of oral polio vaccine each year to children in over 120 countries.

THINGS TO THINK ABOUT...

Page 1, Heading
What are the two main goals identified in the report? How can they be achieved?

GLOSSARY

`Page 1, Heading

- Eradication of a disease:
  Permanent reduction to zero of the worldwide incidence of infection caused by a specific agent as a result of deliberate efforts; intervention measures are no longer needed. Smallpox is the only human disease that has been completely eradicated through global public health efforts. This achievement was declared by the World Health Organization (WHO) in 1980 after a successful worldwide vaccination campaign that spanned over two decades.

THINGS TO THINK ABOUT...

Page 1, Paragraph 2
In 2023, wild poliovirus type 1 was only endemic in two countries worldwide: Afghanistan and Pakistan. Why are Afghanistan and Pakistan the last two countries remaining with wild poliomyelitis?

DID YOU KNOW THAT...

Since the last Emergency Committee meeting, twelve new WPV1 cases were reported, five from Afghanistan and seven from Pakistan bringing the total to 14 in 2024. The number of WPV1 positive environmental samples in Pakistan in 2024 is 186 compared to 126 during all of 2023. The number of WPV1 positive environmental samples in Afghanistan in 2024 is 44 compared to 62 in all of 2023.

GLOSSARY

Page 1, paragraph 2

- **Poliomyelitis:**
  Poliomyelitis (polio) is a highly infectious viral disease that largely affects children under 5 years of age. The virus is transmitted by person-to-person spread mainly through the fecal-oral route or, less frequently, by a common vehicle (e.g. contaminated water or food) and multiplies in the intestine, from where it can invade the nervous system and cause paralysis (World Health Organization).

- **Viral transmission:** Viral transmission is the process by which viruses spread between hosts. It includes spread to members of the same host species or spread to different species in the case of viruses that can cross species barriers (Nature).

- **Endemic:**
  A disease is described as endemic when it is consistently present in a specific geographic area or population. The number of cases of a disease that is endemic is generally stable without large increases. (Compare to a disease that is described as an epidemic which are characterized by a sharp rise in cases over a short period of time. They can occur when a new disease emerges, or when a previously controlled disease spreads widely due to factors like changes in the environment, population immunity, or behavior.)

Page 1, paragraph 4

- **Zero-dose children:**
  Zero-dose children are defined as those that lack access to or are never reached by routine immunization services.

DID YOU KNOW THAT..

Page 2, paragraph 5

Misinformation and vaccine hesitancy, along with conflict and political instability, have been major barriers to polio eradication in the remaining endemic countries. In some areas, vaccination workers have faced hostility, and in extreme cases, vaccinators have been attacked or killed. In many countries, female vaccinators play a vital role in administering polio vaccines, especially to children in culturally conservative regions.

THINGS TO THINK ABOUT...

- Page 2, Paragraph 6
  What are key recommendations by the Technical Advisory Group for Pakistan and Afghanistan to address the remaining subnational immunity and surveillance gaps identified in both countries?
- Environmental surveillance, which involves testing sewage and wastewater, allows health workers to detect poliovirus in a community before cases of paralysis occur. This has been crucial in preventing outbreaks and quickly targeting vaccination efforts.

GOAL 2: STOP TRANSMISSION OF CIRCULATING VACCINE-DERIVEDPOLIOVIRUS AND PREVENT OUTBREAKS IN NON-ENDEMIC COUNTRIES

DID YOU KNOW THAT...

Page 2, Paragraph 7

- In 2022, there was an outbreak of wild poliovirus type 1 with one case reported in Malawi and eight in Mozambique.
- Wild poliovirus can survive in sewage and contaminated water for a long time, making poor sanitation a significant factor in spreading the disease. This is why improving water, sanitation, and hygiene (WASH) infrastructure is critical in polio-endemic areas.

THINGS TO THINK ABOUT...
How could outbreaks and further transmission in countries like Malawi and Mozambique be prevented?

DID YOU KNOW THAT...

Page 2, paragraph 8

Polio eradication efforts have also strengthened health systems by improving disease surveillance, promoting immunization programs, and building the capacity for outbreak response, which has been useful in combatting other diseases like measles, Ebola, and COVID-19.

GLOSSARY

Page 2, paragraph 8

- Vaccine-derived poliovirus:
  Vaccine-derived poliovirus is a well-documented strain of poliovirus mutated from the strain originally contained in OPV. OPV contains a live, weakened form of poliovirus that replicates in the intestine for a limited period, thereby developing immunity by building up antibodies. On rare occasions, when replicating in the gastrointestinal tract, OPV strains genetically change and may spread in communities that are not fully vaccinated against polio, especially in areas where there is poor hygiene, poor sanitation, or overcrowding (World Health Organization).

Page 2, paragraph 9

- Consequential geographies:
  The concept is closely related to the identification of areas where poliovirus transmission continues despite global eradication efforts and where targeted interventions are most needed to prevent outbreaks. Consequential geographies often include countries or regions where polio remains endemic.

THINGS TO THINK ABOUT...

Page 3, Paragraph 10

How are ongoing conflicts in a country like Sudan hindering the outbreak response efforts?

DID YOU KNOW THAT...

Page 3. paragraph 11

- The novel oral polio vaccine type 2 (nOPV2) is a new version of the oral polio vaccine specifically designed to address the issue of vaccine-derived poliovirus type 2 (VDPV2). It was introduced as part of the effort to combat outbreaks of circulating vaccine-derived poliovirus type 2 (cVDPV2), which is the most common type of VDPV causing polio outbreaks in recent years. The nOPV2 was granted Emergency Use Listing (EUL) by the WHO in 2020, allowing its accelerated use in outbreak settings to control cVDPV2. It has since been deployed in various countries experiencing cVDPV2 outbreaks. The standard OPV2 was withdrawn from routine immunization programs in 2016 as part of the global polio eradication effort, but cVDPV2 outbreaks have necessitated targeted reintroduction of vaccines like nOPV2.

- The Inactivated Polio Vaccine (IPV) developed by Dr. Jonas Salk has been available since 1955. and became the first effective vaccine to protect against poliomyelitis. While IPV contains a killed version of the poliovirus which cannot mutate or revert to a virulent form and induces immunity in the bloodstream protecting against paralysis, it is less effective than OPV at inducing immunity in the intestines (mucosal immunity), where the poliovirus typically enters and replicates. This means that individuals vaccinated with IPV can still carry and spread the virus, even if they don't get sick themselves. Both nOPV2 and the standard OPV2 are effective in generating intestinal immunity, which is critical for stopping the transmission of poliovirus, including both wild and vaccine-derived strains. This mucosal immunity prevents the virus from spreading in communities.

- Several outbreaks and transmissions of vaccine-derived poliovirus type 2 have been reported in the last years, which is why novel oral polio vaccine type 2 continues to be administered through the WHO emergency use listing procedure.

Page 3, Paragraph 12
The certification of the eradication of wild poliovirus type 1 is planned by the end of 2026, while the interruption of vaccine-derived poliovirus type 2 strains is planned in 2025.

THINGS TO THINK ABOUT...

Page 3, Paragraph 12
When are we planning to finally eradicate polio and which challenges remain?

<u>Enabling environment</u>

THINGS TO THINK ABOUT...

Page 3, Paragraph 13
Why is a gender-responsive approach to poliomyelitis eradication needed and how is this implemented?

GLOSSARY

Page 3, Paragraph 13

- Acute flaccid paralysis:
  Acute flaccid paralysis (AFP) is a rare but serious neurological illness which is normally due to inflammation of the spinal cord. AFP is characterized by rapid onset of weakness of an individual's extremities, often including weakness of the muscles of respiration and swallowing, progressing to maximum severity within 10 days. The term 'flaccid' indicates weakness accompanied by hyporeflexia or areflexia in the affected limb or limbs. In the past, AFP was commonly due to poliovirus infection (gov.uk).

THINGS TO THINK ABOUT...

Page 4, Paragraph 14
Why is it important that integration efforts focus on the country level?

Page 4, Paragraph 15
Why did immunization coverage decrease during the pandemic and how can we reach pre-pandemic levels again?

DID YOU KNOW THAT...

Page 4, Paragraph 15
During the COVID-19 pandemic, there was a decline in routine immunization with an increase in zero-dose children worldwide.

GLOSSARY

Page 4, paragraph 15

- Pandemic:
  A pandemic is an epidemic that has spread across multiple countries or continents, usually affecting a large number of people worldwide. It involves widespread transmission and a higher scale of impact compared to an epidemic. Pandemics often occur when a new infectious disease emerges for which people

have little to no pre-existing immunity, allowing it to spread easily from person to person across the globe.

Preparing for the post-certification world

THINGS TO THINK ABOUT...

Page 4, Paragraph 17
Why is there a switch in vaccination strategies in routine immunization programmes?

DID YOU KNOW THAT...

Page 4, Paragraph 17
Vaccination strategies shifted from using trivalent oral polio vaccine to bivalent oral polio vaccine and will cease to use all oral polio vaccines in the future in routine immunization programmes.

Containing poliovirus

DID YOU KNOW THAT...

Page 4, Paragraph 18
In 2018, the resolution WHA 71.16 on poliomyelitis – containment of polioviruses was passed.

GLOSSARY

- Containment of polioviruses:

  Containment of polioviruses refers to the strategies and measures taken to ensure that wild poliovirus (WPV), vaccine-derived poliovirus (VDPV), and Sabin strains (used in oral polio vaccines) are securely handled and cannot escape into the environment, especially after their eradication. This is a critical aspect of the Global Polio Eradication Initiative (GPEI) to prevent the reintroduction of the virus into the community after eradication.

Cessation of oral polio vaccine and certification

THINGS TO THINK ABOUT...

Page 5, Paragraph 20

Why will the oral polio vaccine stop being used in routine immunization programmes once wild polioviruses are eradicated globally? What is the risk associated with using oral polio vaccines??

Financing and global commitment to poliomyelitis eradication

THINGS TO THINK ABOUT...

Page 5, Paragraph 21
What kind of commitments have been made during the sessions of the Health Assembly, the Rotary International Convention, the G7 leaders' and health ministers' meeting, the G20 health ministers' meeting and the Eastern Mediterranean Regional Subcommittee on Polio Eradication and Outbreaks?

DID YOU KNOW THAT...

Page 6, Paragraph 21
Significant pledges and commitments made by global partners and donors have resulted in US$ 3.3 billion in funding, while US$ 4.8 billion are needed to ensure the successful implementation of the Strategy.

ACTION BY THE EXECUTIVE BOARD

THINGS TO THINK ABOUT...

Page 6, Paragraph 22
What would be your answers to those questions to the Executive Board?

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