

## **Polio post-eradication – ensuring that once polio is eradicated, it will *remain* eradicated**

The stated aim of the Global Polio Eradication Initiative (GPEI) is to eradicate all forms of poliovirus once and for all. More concretely, this means: to attain a world where no child anywhere will ever again be paralysed by any form of poliovirus - be it wild, or vaccine-derived ([VDPV](#)) - and then subsequently sustain such a world in the long-term. In that context, the post-eradication era is a critical part of the [polio eradication strategy](#).

The primary risks of a potential polio re-introduction into post-eradication world are: continued use of oral polio vaccines (OPV) in routine immunization programmes leading to circulating vaccine-derived polioviruses (cVDPVs); and, inadvertent release of poliovirus from a research/diagnostic laboratory or vaccine manufacturing facility. A third and lesser risk is the chronic excretion of VDPVs by persons with primary immunodeficiencies (iVDPVs).

The GPEI and its partners continue to elucidate and implement risk mitigation strategies to address all three risks. Thanks to its unique profile to induce mucosal immunity (needed to interrupt person-to-person virus transmission), OPV remains the bedrock tool for achieving interruption of poliovirus circulation globally. IPV use alone would not accomplish this objective, particularly in areas of dense populations with inadequate sanitation infrastructure. However, OPV use in a post-eradication world is incompatible with the overall global goal of ensuring no further paralysis cases occur. Therefore, the current plan is to eventually [discontinue use of OPV](#).

Following the removal of the type 2 component in OPV in 2016 (after the global eradication of wild poliovirus type 2) via the switch from trivalent OPV to bivalent OPV, the current plan is to remove bivalent OPV from routine immunization programmes one year after the certification of wild poliovirus eradication. However, alternative options continue to be explored, based on evolving epidemiological, programmatic and operational realities and developments, including the potential removal of the type 3 component from bivalent OPV ahead of that time.

Simultaneously, a comprehensive [laboratory containment](#) effort (a Member State-led process, approved by the [World Health Assembly](#)) and implementing iVDPV surveillance and developing new tools (such as antivirals and monoclonal antibodies) are being pursued, to help address the other primary risks to help secure a lasting polio-free world.

Long-term immunization policy in the post-eradication era continues to be fine-tuned and strengthened, as new vaccine solutions, products and formulations become available. This work is coordinated in close collaboration with global vaccine manufacturing partners, to ensure that an appropriate balance between supply and demand can be managed in a planned and forecasted way. This includes developing, evaluating and using new vaccines such as novel OPVs<sup>1</sup> (which are genetically more stable and therefore less likely to be associated with the emergence of cVDPVs); introduction of IPV-containing combination vaccine formulations for both developed and developing countries; and safer and more affordable production processes of IPV. In addition, the GPEI is coordinating with the broader

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<sup>1</sup> Bandyopadhyay, Ananda S., and Simona Zipursky. "A novel tool to eradicate an ancient scourge: the novel oral polio vaccine type 2 story." *The Lancet Infectious Diseases* (2022)

immunization community, to increase the availability of polio vaccines in routine and supplementary immunization programmes.

This means ensuring that the capacity for outbreak response, routine immunization and global disease surveillance is maintained to minimize the risk and consequences of any potential poliovirus re-emergence or re-introduction into a post-eradication world. It also means that the most sustainable, operationally-appropriate and epidemiologically relevant routine vaccine programmes for the post-eradication era are implemented, using a combination of different vaccine solutions, for different areas, depending on operational and epidemiological realities<sup>2</sup>. While universal protection against paralysis through routine immunization with IPV is the aspirational goal, sporadic outbreaks even in national high-coverage settings have been noted; as such, hand-in-hand with strengthening routine immunization must be the capacity to conduct outbreak response campaigns with OPV, including its novel forms, to stop any potential outbreak/poliovirus transmission rapidly.

The GPEI welcomes scientific discourse with a broad range of stakeholders, both to ensure a world free of poliovirus transmission can be rapidly attained, and that such a world can be sustained in the long-term. This expansive area of work continues to be guided by several global, regional and national independent expert and scientific advisory groups, focusing deliberations and scientific debate on area-specific topics. These groups include the Strategic Advisory Group of Experts on immunization (SAGE) and its specific working group on polio eradication, to advise and evaluate the most relevant and appropriate policies for the short-, medium- and long-term; the Global Commission for the Certification of the Eradication of Poliomyelitis (GCC), to help elucidate and guide requirements to both achieve eradication and maintain it; the Polio Research Committee (PRC) and Polio Research and Analytic Group (PRAG) to guide and support research, development and analytic efforts and identify knowledge gaps; and, the Containment Advisory Group (CAG) to guide global containment activities, to name but a few. Further technical and advisory groups, and close coordination with global public health and research institutions, provide crucial input into the global polio eradication scientific and research agenda. And in October 2022, more than 3,200 leading scientists, physicians and global health experts from 110 countries around the world published the [Scientific Declaration on Polio Eradication](#), calling for the full implementation of all strategic approaches, grounded in the experts' conviction of the feasibility and urgent need for eradication.

It is largely thanks to the historical input of such groups and institutions that the world stands today on the threshold of achieving our common quest for a polio-free world. It is also important to note that neither the eradication strategies, nor the post-eradication strategies, have ever been 'set in stone', as it were. Strategies and policies continue to evolve, through an ongoing process of scientific debate, evaluation, research and ultimately proven field work. As such, the GPEI wishes to underscore its extreme appreciation of the ongoing scientific debate – it is only through such ongoing scientific debate and discourse with scientists and experts from around the world that lasting success can collectively be achieved.

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<sup>2</sup> Polio vaccines: WHO position paper – June 2022, available at: <https://www.who.int/publications/i/item/WHO-WER9725-277-300>