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POLIO ERADICATION AND TRANSITION: IDENTIFYING LESSONS FOR GLOBAL HEALTH

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INTRODUCTION

The world marked a historic milestone on 24 October 2019: wild poliovirus type 3 (WPV3) was certified as globally eradicated. [1] Following the eradication of WPV2 in 2016, WPV3 is the second of the three types of WPVs to have been eradicated. However, worldwide polio eradication is far from over, as several challenges remain to be addressed and resolved.

On 27 October 2019, the Global Health Centre (GHC) at the Graduate Institute of Geneva, hosted a high-level panel discussion in Berlin at the World Health Summit. The event critically reflected on the key lessons drawn from the polio eradication programme, explored how these lessons can be best used for the benefit of national health systems and global health, and assessed the wider implications of both polio eradication and transition for global health. This report elucidates key messages drawn from the event.

Bernhard Schwartländer, Chef de Cabinet at the World Health Organization

CHALLENGES TO POLIO ERADICATION AND TRANSITION: LESSONS FOR GLOBAL HEALTH

TACKLING CVDPVS – CAN THE INTERNATIONAL COMMUNITY WIN THE "RACE AGAINST TIME"?

Although the recent eradication of WPV3 deserves celebrating, other strands of polioviruses persist and must be addressed urgently. In addition to prevailing WPV1 cases in Afghanistan and Pakistan, [2] all panellists expressed their concern regarding the increasing incidence of circulating vaccine-derived polioviruses (cVDPVs). In 2019, approximately 100 cases of cVDPVs were reported across Africa and Asia. [3] Bernhard Schwartländer, Chef de Cabinet at the WHO, noted the alarming possibility of the current vaccine-virus inducing outbreaks taking the nature of a WPV outbreak.

The Oral Polio Vaccine (OPV) can lead to outbreaks of vaccine-derived polioviruses. OPVs contain attenuated vaccine-viruses which replicate in a person's intestines for a limited period to help the body develop immunity against the virus. As the vaccine-virus is excreted during this period, it can spread within under-immunized communities and can undergo genetic changes, which can turn into a polio-form that paralyzes children. To tackle cVDPVs, a more genetically stable attenuated vaccine-virus has been developed and is currently undergoing clinical trials. This novel OPV2 (nOPV2), developed by Bio Farma in Indonesia, is planned for release in June 2020.

Whilst the nOPV2 does present a new opportunity, panellists warned that its implementation must be carefully planned. To be successful, it must fulfill three criteria. First, effective mechanisms are needed to ensure enough doses of nOPV2 are available in the stockpile which can be quickly released. Second, the planning of specific campaigns is required. These campaigns must coordinate the release of the nOPV2 in parallel with existing campaigns with vaccines that are currently available, such as the Inactivated Polio Vaccines (IPVs). It is important to keep in mind that the OPV and IPV must be used in combination – whilst IPV strengthens the immune system and provides protection from polio, OPV is the main preventive measure against polio. Third, in addition to these technical aspects, the introduction of nOPV2 needs to be accompanied by a carefully planned and executed communication strategy. Since vaccine hesitancy is fuelled by anti-vaccination narratives and mistrust in public authorities, both in polio-endemic and non-endemic communities, the introduction of nOPV2 needs to account for this challenge as it will otherwise further complicate the vaccination of children.

In addition to these criteria, panellists voiced their concerns regarding certain manufacturers' reluctance to produce the new vaccines due to fear of accidental contamination, which could ultimately lead to another epidemic.

In other words, as Bernhard Schwartländer noted, "they [the vaccine manufacturers] do not want to be the ones who take the risk for the world." Stephen Sosler, Immunization Technical Advisor at Gavi, underscored how these issues require a dialogue centered on the fact that manufacturing of vaccines is a global public good. Bernhard Schwartländer indicated that fighting cVDPVs is a "race against time" as these strains of polioviruses need to be eradicated within the 2019-2023 Strategic Plan period. Yet, these efforts are slowed down by structural factors pertinent to the production of novel vaccines.

These experiences, albeit being polio-specific, hold important lessons for global health initiatives in general. On the one hand, eradication of viruses circulating 'naturally' needs to be accompanied by continued monitoring of vaccine-induced outbreaks and efforts to improve existing vaccines. If global health actors forego such activities, they do not only endanger the success of their

individual eradication campaign, but also risk that communities lose trust in public authorities and health actors. On the other hand, it demonstrates that the global health community needs to create an infrastructure for the development, production, and distribution of improved vaccines. Addressing these issues is a task for the global health community as a whole.

POLIO TRANSITION-PLANNING THROUGH THE EYES OF GAVI – TOP DOWN AND UNREALISTIC?

The governance structure of the GPEI has remained flexible over the course of its activities. This allowed the multi-stakeholder initiative to address emerging issues and challenges through changes in its way of operation. One of the recent challenges is the planning for polio transition, which includes the integration of polio-assets into wider national health systems. To this end, in addition to other considerations, Gavi, the Vaccine Alliance, recently became a member of the Polio Oversight Board (POB). Since then, Gavi has increasingly been contributing to the GPEI governing structures, including technical and review bodies.

As a new member, Gavi is able to provide fresh perspectives on the work of the GPEI. According to Stephen Sosler, the main synergy between the work of Gavi and the GPEI lies in planning and coordination at the country level. Gavi has significant health systems strengthening (HSS) resources available in the polio transitioning countries. However, until today, these are not necessarily being used complementarily with the available polio resources. Hence, Gavi tries to pull the polio transition planning efforts in this direction. However, Stephen Sosler observed that the plans currently being developed by the GPEI are “way too top-down driven” without properly unpacking which essential polio functions are required once polio transmission stops.

Stephen Sosler further noted that the idea of Gavi acting as a short-term transition supporter at country level is unrealistic. The Gavi Board may have agreed to support the diminishing polio support at country level in a time-limited manner. However, Gavi does not have the resources to support countries such as Sudan, Somalia and Chad, whose entire primary health care network is essentially built with the polio infrastructure. He warned that whilst India is a “gold standard model” in terms of having successfully eradicated polio in 2014, it is also “a cautionary tale of what other countries are going to go through.” In India, the process of transitioning polio resources into federal and/or state budgets has been extremely slow. Hence, it is far from realistic to assume that Gavi’s support over a short period of time is sufficient to ensure effective transition. These concerns are aggravated in countries where governments are facing much wider and more difficult challenges than in India.

This experience can inform the global health community concerning two key aspects. First, the inclusion of actors who have previously been outside of governing bodies can provide not only technical expertise, but also fresh perspectives on the modus operandi of an initiative. If global health initiatives are open toward such perspectives, it can ultimately improve their performance. Second, the cooperation with specialized agencies, such as Gavi, can increase the complementarity of activities on the country level. However, global health initiatives should realistically assess the capacities of such agencies to deliver tasks beyond their specific portfolio.

“India is a bit of a gold standard model but (also) a cautionary tale of what other countries are going to go through.”

Stephen Sosler, Immunization Technical Advisor in Vaccine Implementation at Gavi, the Vaccine Alliance

VERTICAL PROGRAMMES – UNFIT FOR SUSTAINABLE FUNDING?

The New Polio Endgame Strategy 2019-2023 estimates an additional 4.2 billion USD is required to achieve polio eradication and certification, of which the GPEI must raise 3.27 billion USD. On 19 November 2019, the GPEI had its most recent pledging event in Abu Dhabi, where donors pledged 2.6 billion USD, remaining almost 1 billion USD short of the actual target. The pledging coincided with similar processes in other major global health initiatives, namely the Sixth Global Fund Replenishment which raised 14 billion USD in October 2019[4] and the Gavi replenishment that is set to take place in June 2020.[5] This illustrates how it has become increasingly difficult to secure funding for health-related programmes given the competitive funding landscape with various organizations competing for the same donors.

Judith Diment, Chair of the Polio Eradication Advocacy Taskforce at Rotary International, noted that Rotary International intends on raising 50 million dollars every year until 2023. However, she pointed out that maintaining awareness and commitments amongst donors, even within Rotary, has become increasingly difficult, especially with regard to cVDPVs. She further noted that Rotary International does not see itself in a position to play a particular role during the transition phase. Instead, they see transition as the primary responsibility of the respective governments.

The example of polio demonstrates the challenge of vertical funding streams for the operation of organizations when an eradication campaign comes to an end. As approximately 20% of the WHO’s budget in the biennium 2018-2019 came from the GPEI, the WHO is placed in a critical financial situation. [6] Against this background , Bernhard Schwartländer affirmed that the WHO is beginning to negotiate with current and new donors to ensure current resources do not disappear during the post-eradication and transition phase of polio.

The question of funding after eradication and during the transition phase of a programme illuminates a larger global health issue, namely of vertical programmes and their funding mechanisms. Donors do not see building health systems as their responsibility. As echoed by Rotary International, they perceive this as the responsibility of the respective governments. Instead, donors are motivated by the idea of ending specific diseases and measuring impacts. Ilona Kickbusch asserted that the objective of UHC spurs a re-invention of the primary health care agenda. Hence, it is necessary, amongst others, to explore how one can adjust the motivations and preferences of different actors, including citizens, politicians, governments, and donors, to contemporary needs. This will require donors to accept different types of funding streams and move away from replenishment processes if global health institutions are to build and strengthen health systems.

Judith Diment, Chair of Polio Eradication Advocacy Task Force at Rotary International

MOVING FORWARD

This report demonstrates that the polio experience provides valuable lessons for global health, particularly with regards to vaccines, the inclusion of specialized agencies, and the implications of vertical funding mechanisms. Against this background, the discussions at the World Health Summit identified several points which need to be taken into account.

Panellists expressed their great determination and commitment to ending polio with the statement that **"*Failure is not an option*".** As Judith Diment noted, the global health community has benefited from an estimated 27 billion USD through the investments in polio eradication. Should polio be eradicated worldwide, this number will rise to 40-50 billion USD by 2035.[7] However, were the programme to shift from an eradication to a control programme, WHO has projected that 200,000 children would be victims of polio within the next ten years, which would be an unacceptable outcome. Furthermore, Stephen Sosler, underlining the importance of polio eradication for Gavi's

work, claimed that "(i)f we do fail in our effort to eradicate polio, there will be serious consequences for the entire global health agenda, global health community, and for countries that will experience resurgences of polio."

The GPEI embarked with the objective of eradicating polio, which remains at the top of its agenda for the reasons elaborated above. However, panellists stressed that eradication is not sufficient for the GPEI to be a success. Instead, it is necessary to **"*finish the job in the right way*".** The polio programme has been stalling over the last few years. Stephen Matlin, Senior Fellow at the GHC, suggested that we must take advantage of this period to reflect upon the programme. The polio community must not repeat the mistakes made after the eradication of smallpox in 1980, when "eradicationists" rapidly moved forward to the next disease without fully absorbing all the lessons available. It would be a great loss if the polio programme were to make the same mistake.
For the GPEI to have a lasting legacy beyond polio eradication and transition, it needs to hold difficult discussions and connect these to the wider global health landscape. These include, amongst others, debates around the responsibility of securing the availability of vaccines; discussions on governance, transitioning, and sustainable funding; and reflections on the shift from vertical disease programmes to horizontal programmes supporting health systems as a whole. As Ilona Kickbush underscored, "any of you active in global health should be interested in this agenda". In other words, "***polio is, or should be, everyone's business***".

Yet, the polio event and discussions at the World Health Summit in general demonstrated that such discussions are largely absent. Not only did few participants know about the implications of post-polio eradication adjustments for the wider global health landscape, but there was overall very little engagement between the polio community and the wider global health community. Perhaps the only disease-specific programmes which gained attention at the Summit were on HIV/AIDS, tuberculosis and malaria. The fact that polio stands on its own reveals the consequences of a vertical programme that has been working in its own silo for many years. It is now time for the global health community to start expanding their relationships across vertical programmes to enable mutual exchanges and learning.

> *"If anything, I wish more people would recognize that, as we discuss polio, we're discussing critical issues of global health in general… any of you active in global health should be interested in this agenda."*

Ilona Kickbusch, Chair of International Advisory Board at the Global Health Centre, the Graduate Institute, Geneva

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