Second Report of the

Transition Independent Monitoring Board of the Polio Programme

December 2017

ONE DOOR CLOSES ANOTHER OPENS

This report

The Transition Independent Monitoring Board (TIMB) was created by the Global Polio Eradication Programme (GPEI) to monitor and guide the process of polio transition planning. This is our second report. It provides an analysis of the priorities, plans, risks and opportunities as the eradication of polio appears to be drawing closer. In this second report, we have made 18 recommendations for action.

We also intend to initiate a wide range of discussions with non-polio organisations, professional bodies, civil society organisations, and donors prior to and during our next formal meeting.

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The TIMB's reports are entirely independent. No drafts are shared with the GPEI prior to finalisation. Although many of the data are derived from the GPEI, the TIMB develops some of its own analyses and presentations.

At various points in the report we have used the term *Polio Programme* as shorthand for all the people, assets, activities and facilities, throughout the world, that are concerned with polio. This is to distinguish from the term *GPEI* which, when people refer to it, tends to be taken to mean either the management entity formed from the polio spearheading partners and/or the global polio leadership and/or the organised programmes of polio eradication at global, regional, or country level.

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OVERVIEW

In our first report, *The End of the Beginning*, published in July 2017, we set out the background to, and purpose of, polio transition planning.

The Polio Transition Planning Programme was initiated by the Global Polio Eradication Initiative (GPEI): the five-way partnership between the World Health Organization (WHO), the United Nations Children's Fund (UNICEF), the United States Centers for Disease Control and Prevention (CDC Atlanta), Rotary International and the Bill and Melinda Gates Foundation. Up until recently, the GPEI's sole mission and purpose has been to eradicate polio from the world. Over 30 years, it has provided the leadership and technical expertise that has brought the number of wild poliovirus cases down from an initial 350,000 to just 16 by 1st December 2017. The GPEI is not a donor but has allocated $15 billion entrusted to it to pursue the polio eradication goal and, as long as the poliovirus is still circulating, requires almost $1 billion a year to keep the work going.

Wild poliovirus is still being found in the endemic polio reservoirs in Pakistan and Afghanistan. There are inaccessible and poorly monitored areas of Nigeria, around Lake Chad and in neighbouring African countries. There are three active outbreaks of vaccine-derived poliovirus: two in Democratic Republic of Congo and a very large one in Syria. The Polio Oversight Board of the GPEI had previously judged the prospect of eliminating poliovirus transmission by 2017 as "pessimistic". The current and 15th report of the Independent Monitoring Board (IMB) of the GPEI sees a low likelihood of the end of 2017 being the moment that the elusive target is finally hit. The problem with any predictions is that interruption of transmission will only be known after a reasonable length of time has passed since the last case or environmental sample. That waiting period has never been properly defined. If only one high season is needed to be sure, it would already take the date up to late 2018.

The IMB's current report, *Every Last Hiding Place*, expresses concerns about: the quality of implementation in key geographies; a worrying number of inaccessible populations; the reliability of some of the surveillance data; the absence of a transformative solution to reach high-risk mobile populations and; a pervading sense of fatigue. All this means that it is vital for the commendable GPEI leadership team to lift the performance and the spirits of the Polio Programme, which has seemed to have hit a 'wall' familiar to athletes in endurance sports in the final stages of a race.

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The remarkable persistence of the poliovirus means that it is very difficult for the leadership of the GPEI and countries to ease back from the 'day job' of interrupting poliovirus transmission and focus on polio transition. In addition, the policy-making, technical delivery, and leadership necessary to address the challenges of completely extinguishing polio even after the time of interrupting global transmission, through official certification (the pre-certification period), to making sure that it is really gone (the post-certification period), is becoming much more complex than it originally appeared. Writing the rulebook for where poliovirus should be legitimately used and contained after global certification was seemingly a narrow strand. Since more detailed scrutiny, it is laden with potential risks that need to be mitigated. For example, countries are bidding to have far more poliovirus facilities than is considered manageable or safe, whilst one of the current uses of polioviruses in the United States of America is to test the efficacy of cleaning fluids. Moreover, since the TIMB meeting itself, the GPEI has published, for consultation, a Post-Certification Strategy that runs to 75 pages. Again, this shows the massive complexity and formidable challenge of finishing the job of ridding the world of poliomyelitis, completely. It also accounts for the consternation and concern of interested observers of the Polio Programme when the GPEI is perceived to be creeping toward dissolution.

Despite its seemingly inevitable demise, and the budget reductions already taking effect, plans for what happens after the GPEI folds are unclear. The scale of management and oversight tasks to finally interrupt transmission of wild poliovirus, to keep it from re-emerging, to get rid of all vaccine-derived poliovirus outbreaks, and to safely lock up all essential remaining poliovirus supplies surely requires an *'all singing, all dancing'* GPEI-type function. The current mood music is not matching this. In any other sector, given the life-and-death nature of the issues, and the hundreds of millions of dollars at risk from programme slippage, major project management arrangements would undoubtedly have to be built to handle the different strands of work required.

Rightly acting as a responsible steward of its tangible and intangible assets, more than three years ago, the GPEI began to consider the future of the polio infrastructure and other lessons that had been learned in its 30-year journey. Responsibility for initiating and progressing different aspects of what started as, "Polio legacy" planning and became, "Polio transition" planning was allocated to different lead officers and teams within the partnership. A Transition

Management Group has been overseeing this process.

One of the earliest concerns of polio transition planning was to ensure that the wider immunisation systems of low-income countries do not collapse after the withdrawal of GPEI resources that are used far more widely than polio-only activities. Most are heavily underpinned by the Polio Programme's funding, staff, and other assets, and have been so for many years.

A cornerstone of transition work so far has been the country planning process. The GPEI has focused on 16 priority countries, those with the greatest dependency on externally provided polio resources. The idea is that most will be able to use the GPEI-facilitated planning process to establish and structure their own budgets to take over the polio-funded services.

The transition planning process is trying to bridge the two worlds of global management and donor funded country level financing for continuing polio-related needs and other non-polio health commitments. Countries sit in a landscape of competing or complementary global health commitments. They also have their own priorities and the agreements that they have signed up to. All countries should have national goals for Universal Health Coverage. They have pledged to address the health targets of the Sustainable Development Goals. They also have quasi-legal obligations in the International Health Regulations and to global health security. These are their guiding stars. So, when they produce their plans for polio transition, they must be mindful of the range of health commitments before them. Plans must be harmonised and aligned with these wider considerations.
At this point, some of the key data needed to understand potential funding and health service delivery gaps are uncollected or do not seem to be openly available. For example, it is not clear what the impact of health service cuts that have already been made are in the African Region. There are no detailed plans from Gavi, the Vaccine Alliance (Gavi), and the Measles & Rubella Initiative, yet about how the loss of polio funding will affect their programmes. Other impact assessments do not seem to be available, such as the loss of vitamin A delivery, reductions in bed nets and scaling down of health camps. A degree of denial has played a part in slowing the planning process. Many countries affected by the funding loss have not yet come to terms with the reality of its withdrawal. Neither have some of the key organisations that have benefited from polio funding over the years. The transition planning process has unsettled some traditional donors. They are wary of countries establishing a market stall of potential health services at which donors are expected to shop. Few donors are prepared to engage with the GPEI planners as brokers seeking funding for country service-need shortfalls. They prefer to engage through bilateral discussions with countries in the context of their existing commitments and programmes of aid.

At its first meeting, and in its first report, the TIMB concluded that big pieces of the polio transition-planning puzzle remained unsolved. The TIMB posed 16 high-level and searching questions about the process itself that cover the following broad themes: which individuals and organisations should be involved, where the priorities should lie, how the goals of polio transition should be achieved, and what would be the most practical indicators to use to monitor progress. Many of these questions do not yet have definitive answers.

Critics have observed that, for a process

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three years old, efforts to broaden transition engagement to stakeholders beyond those already supporting polio eradication have not been vigorously pursued.

At this first TIMB meeting, a bold and ambitious vision of polio transition was set out by the GPEI team in presentations and discussion. It encompassed a broad range of plans and activities, some to do with risk mitigation, some developmental, and some highly aspirational. They seemed to move along a spectrum from *"must-do"*, through *"should-do"*, through *"would like to do"* to *"nice to do"*.

Examples along this implicit spectrum were:

- Polio essential activities necessary to eliminate and contain wild and vaccine-derived poliovirus up to and after global certification *(must-do);*
- Achieving and maintaining essential immunisation activities where they are wholly or largely funded by polio resources to a level that would mitigate the emergence of vaccine-derived polioviruses while ensuring high coverage for other antigens *(must-do);*
- Redesign aspects of the internal structure of the partner organisations (mainly the UN agencies and CDC Atlanta) to re-orientate them to polio transition and especially taking account of the loss of polio resources that they use directly (must-do).
- Put in place a rescue package for some countries whose already fragile health systems will completely collapse when polio funding is withdrawn *(must-do);*
- Build on and reshape surveillance functions into a comprehensive global communicable disease surveillance system *(should-do);*
- Use the watershed moment of cessation of polio to make a planned and coordinated global investment in routine immunisation systems *(would like to do);*

- Use the transition planning work at country level as a springboard to strengthening their health systems in line with the principles of Universal Health Coverage *(nice to do).*

The feel of the discussion at this first TIMB meeting, although tentative on concrete commitments, was quite aspirational and tending to lean towards trying to capture the benefits of the full range of the polio transition spectrum.

At our second TIMB meeting, the mood was very different. It seemed to have hardened to a more pragmatic viewpoint, admittedly not overtly articulated. To some extent, this must reflect the growing apprehension about how difficult a task polio transition is beginning to look. It is breathtakingly sweeping and multi-level, involving a complete shift from a well-supported, top-down global enterprise to a country-centred

approach that requires local leadership, buy-in, and financing. Those who might be tempted to grab the polio transition reins are surely daunted by the runaway horse currently requiring $1 billion a year for its care and feeding.

The discussion at the TIMB meeting also recognised that the current status of efforts to stop poliovirus transmission in the endemic countries was disappointing. Many within the GPEI just want to get the polio eradication job over and done with but the trouble is that polio just is not melting away as fast as it needs to, according to the pace of transition. This, together with the scale of the work required pre- and post-certification, created a kind of polio-specific imperative and meant that the in-depth developmental and aspirational side of the polio transition agenda was greeted with less enthusiasm than it had been at the first TIMB meeting.

Other factors are crucially important in determining the pace and scope of polio transition planning. They turn on leadership, the definition of what success looks like, organisational design, the ceding of power, and formal accountability. In the past, the GPEI had little appetite for looking at itself in the mirror. In 15 reports, over five years, the IMB has pushed hard to get the Programme to focus more on human factors and the management of change as distinct from technical activities. Before the IMB, the GPEI lacked a transparent process for critical review. The managers implementing the Programme were the same as those evaluating its progress. The IMB filled a vitally needed gap of transparency. The GPEI is an impressive management entity, with a cohesive amalgam of partners that has embraced a common goal and ceded policy-making powers to this body in pursuit of that goal. Donors too have been prepared to give over their funds and trust this entity to spend them wisely and appropriately based largely on technical assessments.

For polio eradication, therefore, the GPEI has created a leadership and accountability function that is unprecedented in global health. It has been able to run with a command-and-control emergency-style approach in which it calls the shots, including to country governments. It holds countries to account for their performance. Donors do not question or scrutinise, in any detail, spending decisions. The heads of each of the spearheading partners directly participate in the top level of its governance structure, seldom needing to go back to the parent governance boards for authority.

As it has declared its intention to ‘sunset’, this unique organisational structure deserves a long, and some would say *longing*, backward look. It will not survive in its present form to deliver all possible aspects of polio transition. It is important to realise why. Firstly, donors only signed up to polio eradication and will probably still donate for the Polio Programme, with few strings attached, if the GPEI continues to have credible and effective plans for the polio essential functions. However, if the interruption of poliovirus transmission continues to miss deadlines, thereby pushing the need for pre- and post-certification functions further and further into the future, there could be trouble. Moreover, if a decision is made to disband the GPEI and transfer the management of polio essential functions to a different division within WHO, the donor support for this may not be straightforward. The halcyon days of command-and-control would be over.

Secondly, though much of the underwriting of essential immunisation in those heavily polio-supported countries is a “must do”, there is little

indication to suggest that donors will simply sign on the dotted line. Most already have a strong interest in strengthening routine immunisation. So too does Gavi, which often is envisioned to maintain polio's immunisation assets. Some TIMB sources report that Gavi is still not convinced that the GPEI has created the infrastructure necessary to contribute to sustained immunisation delivery. There is certainly an important role for GPEI in discussions but not in receiving and allocating donations to underwrite routine immunisation shortfalls, nor in directing investment. Countries are likely to have to make their own cases to donors and convince them that they cannot self-fund. The bill could be greater than at present; requests will not just be for mainstreamed polio activities but also for other immunisation activities that have languished so far. Gavi representatives have attended all TIMB meetings so far. This is very welcome and provides a natural opportunity for Gavi to present its plans at the next TIMB meeting.

Thirdly, if responsibility for polio transition moves from the current GPEI structure, WHO is likely to be the most obvious leadership choice given the global nature of its work. Any partnerships will be based on looser federations. The leadership role will no longer be delivered through a unified governance structure with ceded powers for policy-making and programme delivery. Once the driving collective force of the GPEI is removed, the impact of WHO, even with collaborators, is likely to be lower and slower. The developmental and aspirational goals of polio transition are likely to blend into existing priorities and plans and find their own level and pace.

The biggest casualty will be the lack of impetus and funding to build a comprehensive communicable disease surveillance system that is of the highest quality, modern and dependable.

Having that would truly be a global public good. Another substantial risk would be the lack of leadership and support to adequately deal with, and stop the re-emergence of vaccine-derived polioviruses.

The early instigators of work to capitalise on the Polio Programme's legacy were ready to follow a dream: a dream that not only would the world remain polio-free, but that routine immunisation programmes would surge forward, to save hundreds of thousands of children's lives; a dream that polio assets would be the acorn that produced a mighty oak tree of a comprehensive integrated global surveillance system; a dream that all that had been learned from polio eradication and the loyal and dedicated staff that served would be the catalyst to improvements in health equity through expanding the reach of health services and; a dream that the legacy of polio would help the world to become a healthier place for all.

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It is likely now that the polio transition process will scope its role in a more circumscribed way. After its recent meeting, the TIMB was left with the very strong impression that if the polio essential functions (the first of the *must-dos*) were secured and effectively maintained, then the GPEI would feel that it had delivered a successful transition. The GPEI has clearly laid the foundations of all the other aspects of polio transition but now seems eager to hand the further work over to others. This handover is likely to be to another (i.e. "non-polio") part of WHO. It seems likely that the existing corporate GPEI structure will remain in place until the end of wild poliovirus transmission and to prepare and implement pre- and post-certification plans. If the polio essential functions were transferred out of GPEI this would create dangerous instability because many of these functions are needed to complete the increasingly protracted task of ending transmission.

Sorting through these complications will take strong, experienced leaders. In the fringes of the recent TIMB meeting, many spoke of their concern that a leadership vacuum is emerging at the core of the transition planning. Unless this situation is rectified quickly, this critical process will continue to falter and perhaps fail. The GPEI acknowledged at the TIMB meeting that it is not where it would like to be on these issues. It cited recent leadership changes at WHO has caused delayed decision-making, and assured the TIMB that relevant appointments are imminent. Will new appointments bring a leader of substance who will be responsible for taking what the GPEI hands over, and how will such an individual be placed within WHO? It is vitally important that the right leadership team is established. The TIMB will seek an early meeting with the new leadership team.

The TIMB was established to mirror the role of the IMB that, over the last five years, has assessed the Polio Programme's progress in meeting the goals and targets in its strategic planning documents. The IMB has also assessed the GPEI performance at global and country level, published reports and made recommendations, and held the Polio Programme to account for delivery. These independent oversight and evaluative functions have played a valuable part in prompting and supporting the improvements that have been made. The idea that the TIMB should occupy a similar space in the polio transition programme, is still a work in progress. This is for three reasons. Firstly, the programme does not yet have a clear set of plans with defined targets, outcomes, and interim milestones of progress that can be formally assessed. Secondly, the polio transition programme, unlike the mainstream Polio Programme (aiming to interrupt transmission globally) does not have a single organisational or management entity that can be held to account for the entirety of the work. The question, "Who is in charge of successfully delivering and coordinating polio transition?" has no clear answer. The task of who, or what, to monitor then takes some figuring out. Thirdly, it is envisaged that the TIMB, as a neutral and authoritative party, would play a convening role for non-polio organisations to engage them in the transition process and help to advance thinking. This is a positive and valuable role but will need to be carefully executed to ensure that the TIMB does not become so deeply involved in the transition planning process that is conflicted with its role as an independent assessor.

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CERTIFYING THE WORLD POLIO FREE

RISKS AND COMPLEXITIES

The interrelationship between certification of polio eradication and polio transition is crucial.

In 1995, the WHO Director-General charged a newly formed Global Certification Commission for polio eradication with three tasks. The first was to define the parameters and processes by which polio eradication would be certified, guiding regions and countries in establishing their data collection processes. The second was to receive and review the final reports of each regional certification commission. The third was to issue, if and when appropriate, a final report to the WHO Director-General certifying that global polio eradication had been achieved.

This initial specification of the task was “global polio eradication” and the World Health Assembly resolution in 1988 that had endorsed a policy of global polio eradication did not at that point specify wild poliovirus separately from vaccine-derived poliovirus.

There are three levels in the certification committee structure. National polio teams provide surveillance and laboratory data on polioviruses in their countries. From these national public health functions come the data that are then provided to the National Certification Committees. These committees must be independent of the Polio Programme and they also must be independent of the government organisation that implements the Polio Programme. They are comprised of those individuals whom the country believes have the experience and competence to review and make judgements on data in their country that show that poliovirus transmission has been interrupted for a period of at least three years. Each national committee reports to their corresponding Regional Certification Commission that in turn reports to the Global Certification Commission.

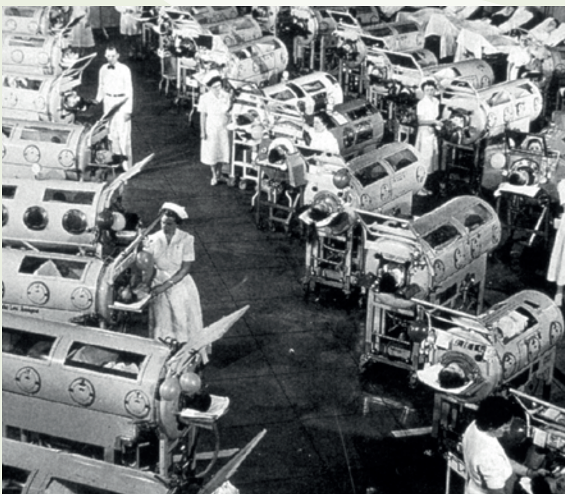
This is the hierarchy of independent expert scrutiny that will ultimately say whether polio has been eradicated from the world.

There was an apparent shift in certification policy and processes in 2004. A publication from the *Bulletin of the World Health Organization* specified two essential prerequisites for global

polio-free certification. They were to show the absence of wild poliovirus (isolated from cases of acute flaccid paralysis, suspect polio cases from healthy individuals or environmental samples) in all WHO regions for a period of at least three years, in the presence of high quality certification standards for surveillance. Also, they had to show the meticulous containment of all wild poliovirus stocks in laboratories through completion of the requirements of the global action plan for laboratory containment of wild polioviruses.

This was an important statement. It helpfully placed emphasis on environmental surveillance and on the need to begin thinking and planning for poliovirus containment. However, it is not clear where the authority came from to reframe the polio eradication goal from the World Health Assembly's *all* polioviruses to *wild* polioviruses.

The then Global Certification Commission did recognise, however, that the full benefits of polio eradication would only accrue when circulating vaccine-derived polioviruses were also gone and requested WHO to develop a separate process for verifying the absence of circulating vaccine-derived viruses in the post-certification era after cessation of oral polio vaccine use.



Whilst these policy shifts may seem only of historical note and occurred 13 years ago, they are currently very relevant and proving somewhat controversial. The definition of certification was discussed at great length during the TIMB meeting. If certification requires the interruption of wild poliovirus only, many countries will remember that they were led to believe that the GPEI would deliver "eradication" in a way that would mean their country would no longer see paralysis of their children caused by polioviruses. In many cases they were also led to believe that such a situation would no longer require the use of polio vaccine. The current definition of certification is based on old evidence. For example, there is a better understanding of the emergence and consequences of vaccine-derived polioviruses. It is recognised that all are caused by using oral polio vaccine to eradicate wild polioviruses. It is known that vaccine-derived polioviruses only occur in areas of low vaccine coverage or in immune-incompetent recipients of oral polio vaccine. Essential immunisation coverage with oral polio vaccine is one of the four fundamental strategies of polio eradication. To that end, the occurrence of vaccine-derived poliovirus is a failure. This situation begs the question, "How can we certify the eradication of polio when vaccine-derived polioviruses are still causing paralytic disease?". This will be a question many will be asking.

The formal certification of polio-free countries, regions and ultimately the world crucially depends on whether surveillance measures can be relied upon. Currently, different surveillance methodologies are being used and reported by countries to their Regional Certification Committees.

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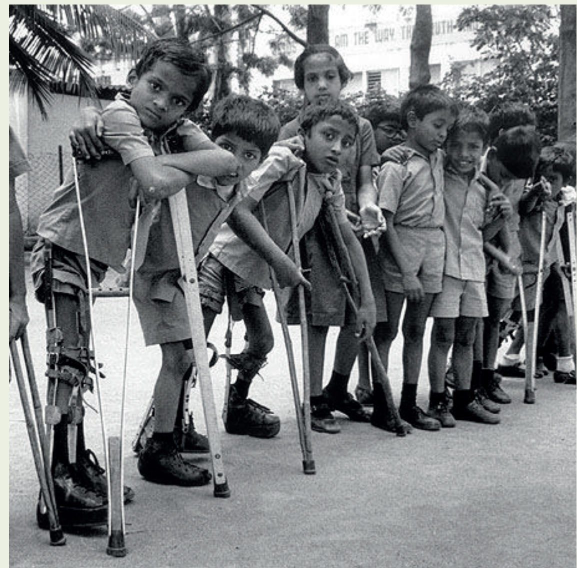
Acute flaccid paralysis (AFP) surveillance has been established as the gold standard. The metrics involved with it are well-defined so that it is clear when the necessary standards have been achieved. There is a criterion for an acceptable AFP rate, there are criteria for the sample collection techniques and their timeliness, and there are criteria for sample quality. The Regional and Global Certification Commissions can assess the quality of surveillance and compare across countries. However, AFP surveillance has failed in a number of industrialised countries. It has either been abandoned or it is continuing with substandard indicator level reports. So, AFP might be one of the gold standards for poliovirus surveillance, but it is not ubiquitous. There are many places that do not provide AFP data or provide substandard AFP data. Poliovirus was discovered in Israel, four years ago. There was an outbreak of poliovirus with extensive transmission but no paralysed cases. AFP surveillance had failed to detect the transmission because no individual was paralysed.

Industrialised countries have by and large replaced AFP surveillance or augmented it with enterovirus surveillance and/or environmental surveillance. Environmental surveillance for poliovirus is now a well-established method and is proving crucial in the remaining polio-endemic countries. Enterovirus surveillance is less well known. It involves having a network of laboratories that are testing faecal specimens, and also cerebrospinal fluid for the presence of an enterovirus based on the clinical presentation of the patient. Where enteroviruses are being identified, they are then tested to exclude poliovirus.

This is a different process of collecting samples, but is aimed at ruling out the presence of silent poliovirus transmission. Methodologically, this is a problem. There are few criteria that link enterovirus surveillance performance or environmental surveillance performance with AFP surveillance performance in long non-endemic countries. So whilst the parameters of AFP surveillance, its sensitivity and specificity, are well defined, there are no linking criteria to alternative methods of surveillance (their sensitivity and specificity) in relation to AFP in such circumstances. There has been no experience of enterovirus surveillance in a country that went on to have a polio outbreak to know if this method would have forecast or confirmed the outbreak.



The Global Certification Commission has recently become concerned that particularly the long-certified countries are simply making the required returns but are not really challenging their own data to explore the risks being faced, and the processes to mitigate those risks. The Commission has now asked the National Certification Committees to change the interpretation of their annual update reports to include a risk assessment that is relevant to their own country's circumstances. WHO regions have

been asked to update their polio risk assessment methodologies, including considering new risks: of circulating vaccine derived viruses, immune-deficient vaccine-derived polioviruses and breaches of containment.

The certification process also has to deal with the concept and the practical realities of containment of polioviruses that remain viable outside the natural environment. Thus, a global scheme is being developed that will certify containment in addition to interruption of transmission, two vitally important functions.

Two policy documents currently define the context and purpose of containment. The first is the WHO Global Action Plan (GAP III) to minimise poliovirus facility-associated risks after eradication of wild polioviruses and the cessation of oral polio vaccine use. The second is the operational guidance for how to do containment.

A key policy principle is that only those facilities in countries that serve critical functions would be expected to continue to operate using polioviruses. They will be termed and designated *Polio Essential Facilities*. It is intended that this will reduce the number of poliovirus essential facilities worldwide, and aim to bring the accidental risk of release of poliovirus as close as possible to zero. This will be based on a regulatory philosophy focusing on so-called "bio-risk". Post-polio eradication, the consequence of a reintroduction of poliovirus into vulnerable populations, as vaccination is being withdrawn, could be devastating.

There are two well-recognised remaining sources of poliovirus: laboratories and vaccine production facilities. In addition, a small number of people who are immunologically incompetent may be excreting a vaccine-derived poliovirus, which in the exposed population could have the paralytic potency of the wild poliovirus.

The systems handling or storing poliovirus must maintain a high rate of compliance with a regulatory framework. Risk tolerance, of the potential for a breach of containment, will have to be extremely low. The objective of developing bio-containment standards is to provide a very high level of assurance that there would be

no release of poliovirus post-eradication. The bio-risk management approach to be adopted conforms to operating standards used in industries for circumstances such as containment.

There is a great deal of operational detail behind these standards. The bio-risk management system includes, for example: good microbiological technique, clothing and personal protection equipment, human factors, health care, emergency response, and accident and incident investigation. It facilitates the identification of best practice. It is a risk-based approach. It allows for different solutions for managing bio-risk. The idea is to ensure continuous improvement.

When moving beyond the obvious major places where polioviruses are stored or used, a situation of major complexity emerges. The simple question, *"Where are the polioviruses going to be?"* turns out to be a very searching one indeed. Polioviruses are in production facilities, quality control laboratories, animal houses, filling lines, packaging areas, and vaccine and seed storage areas. They are in research facilities. In the United States of America, detergents are tested against polioviruses. So manufacturers of detergent, under existing law, have to use polioviruses to show the effectiveness of their detergents. To change that will require a change in the law. This is one illustration of the extent to which polioviruses are currently being used for different purposes in different sorts of places.
Imagine, in a country, a 30-year research programme on enteric viruses that has amassed and retained a huge collection of faecal specimens, whilst studying the biology of rotaviruses. During those 30 years, wild poliovirus may have been circulating. So, will anyone know that such samples do not intercurrently contain wild poliovirus? Are they to be tested, destroyed or locked up? If retained securely, the research laboratory that had no previously declared research interest in poliovirus would have to become a Polio Essential Facility and meet all necessary requirements.

At its meeting, the TIMB heard examples of situations that illustrated the risks very well. One event happened in Ecuador in the late 1980s, or early 1990s. There was a contamination in a research laboratory working on old wild poliovirus specimens, which led three compatible cases of paralysis to be incorrectly diagnosed as confirmed polio cases. In 2014, a pharmaceutical company lost control of wild poliovirus in Belgium. It should not have happened but it did. In 2017, a manufacturer in the Netherlands lost a significant quantity of wild poliovirus type 2 because a tube became disconnected. Two people who were working in the facility right next to the virus saw a spill on to the floor. The person working at the facility who was closest was splashed. He subsequently went home on the bus (after decontamination).

Any laboratory or other facility wanting to store, handle, use or research poliovirus will have to go through a rigorous compliance procedure to become a certified Polio Essential Facility. This will mean establishing, implementing and maintaining the bio-risk standards. It will mean allowing all relevant people to access the facility to check. It will mean reporting any breach or incident that could jeopardise the status of maintaining containment. It will also require the applicant for Polio Essential Facility status to demonstrate that the population around the facility has high levels of immunity. Then there has to be assurance that the surrounding environment has sound sanitation so that the location of the facility is not one that would allow the onward transmission of polioviruses if they were accidentally released. The process

for scrutiny of applications, review of data and recommendations for certifying containment will initially be managed by a country's national authority that will provide the necessary material for the Global Certification Commission. A working group of the Global Certification Commission will do the operational work of looking at all of the applications and either endorsing them or disagreeing with them.

Assessment of progress

No sort of risk assessment has been done, country-by-country, on the timing of transition and its interrelationship with interruption of transmission. There is an assumption that the finishing line is defined and the high-risk countries will cope with transition to an adequate degree by that point. That might not happen. Also, if interruption of transmission takes longer than anticipated, transition may have been forced by budget restriction from the GPEI. Just when countries need to put in their final pushes, the programme will be passing or have passed to untried and untested arrangements. Transition out of the GPEI should really follow achievement of the goal not precede it.

In order to sustain a polio-free world in perpetuity, the GPEI has launched a Post-Certification Strategy (currently out to consultation). It provides high-level guidance, overseen by the GPEI's strategy committee. The key actions involve what is being done now to make sure that all the polio essential functions, defined in the Post-Certification Strategy, are planned for and taken on by existing partners (in some cases by other entities and organisations). There is also a mechanism in place to ensure coordination of the work across all the partners.

The WHO Executive Board will discuss the Post Certification Strategy in January 2018. The Polio Oversight Board will discuss the implementation of the Post Certification Strategy at its next meeting and will also be asking about the commitment that each one of the polio spearheading partners is making to take responsibility for these actions. It is expected that a Post Certification Strategy will be endorsed at the World Health Assembly in May 2018. The Post Certification Strategy does not include details of its implementation and fundraising plan nor who will be accountable for its execution. The GPEI wants that to be developed later together with newly identified partners.

The GPEI's wish is to stop the use of oral polio vaccine immediately when it is considered safe to do so. Given the experience with the switch from trivalent to bivalent oral polio vaccine, approximately 18 months of planning will be needed. The GPEI considers that planning could start six months before certification and therefore the use of oral polio vaccine will stop within one year of certification. Similarly, the GPEI believes that the transition of some of these functions could actually start before certification. The rationale is that if the process is started early, other partners can be engaged while the GPEI still has resources and the expertise within the staff to ease the handover. This will not work if

transition advances too far ahead of interruption of transmission. This will also not work if the inactivated polio vaccine (IPV) supply shortages encountered with the 2016 bivalent oral polio vaccine switch occur again.

The current state of interrupting poliovirus transmission in the remaining polio reservoirs is not favourable, as described and analysed in the recently published 15th IMB report. On top of this, there is a shortage of inactivated polio vaccine (IPV) that will itself influence the speed of progression to certification. Moreover, because of poliovirus outbreaks, the monovalent oral polio vaccine is being used. That means there is a perpetual re-seeding of vaccine-derived poliovirus back into communities.

The scope and type of activities in preparation for global certification are going to have an impact on:

- the protection strategies of the Post Certification Strategy
- the readiness criteria for oral polio vaccine cessation
- outbreak response parameters
- the continuation and duration of key surveillance strategies.

The certification standards for polio surveillance should include the possibility of establishing different standards for conflict-affected countries, or those recently certified endemic regions. They need to be scrutinised more rigorously. Certifying countries in which polio has been eliminated for years is the easy part of the task. How will the Global Certification Commission deal with Nigeria and Borno? What will convince them that transmission has indeed stopped? Currently the intersection timelines for certification and containment are not clear. At the TIMB meeting, the GPEI indicated that it had not done any detailed work on this.

One complex problem is how long it is going to take to get all Polio Essential Facilities certified so that their containment is complete. If certification of global polio eradication is held back until the laboratory containment is judged safe and secure, that will extend the certification date further into the future.

It is difficult to escape the conclusion that certification of the interruption of poliovirus transmission should be unlinked from the certification of containment. This was the position taken by the Global Certification Commission at its October 2017 meeting. The reality of unlinking is that whilst the certification of the interruption of transmission uses established surveillance methodologies, with the certification of containment, there is a lot of work still to do.

A total of 28 countries have declared that they wish to retain the poliovirus or poliovirus potential materials in a total of 91 specified poliovirus facilities. This is many countries, and a large number of facilities. If this number were maintained, it would be extremely costly and complicated to ensure that no virus escapes. The target figure is for only 20 Polio Essential Facilities. Even that number will be extremely challenging to manage.

03

ORGANISATIONAL CHANGE

PHASING-OUT THE GLOBAL POLIO ERADICATION INITIATIVE (GPEI)

There are two main elements associated with winding down of the GPEI. The first is to make sure that the functions that are needed to sustain a polio-free world are well defined; and, the second is to do what is necessary to ensure their maintenance. This is something that the GPEI has taken full responsibility for leading. Also, there is a need to identify and address the impact on other health programmes that the wind down of the GPEI is having and will have. For this area, the GPEI does not see a role for itself other than in initiating the process.

The life span of the GPEI as an organisation runs until polio eradication has been officially certified. This is aligned with the Endgame Strategy. This involves an extension of the same activities to cover to the end of 2020, but if there is still transmission in 2018, that takes it beyond 2020.

The GPEI believes that it can use its fundraising capabilities to raise awareness amongst the donors of what needs to be funded, and to start raising funds, but it wants this effort to be led by those that will be implementing the activities. For example, for the cessation of use of oral polio vaccine, the GPEI told the TIMB that it would be much better if UNICEF and the routine immunisation section of WHO started to lead preparatory work with the countries themselves. Much of the funding will need to be at country level, and will involve discussions with donors.

The dissolution of the GPEI requires the component organisations to:

- Document the resources they currently receive for, and spend on, polio eradication;
- Specify the staffing structure and funding they will need to deliver polio essential functions and the requirements of the Post Certification Strategy;
- Define their on-going role in the non-polio aspects of polio transition planning, and the

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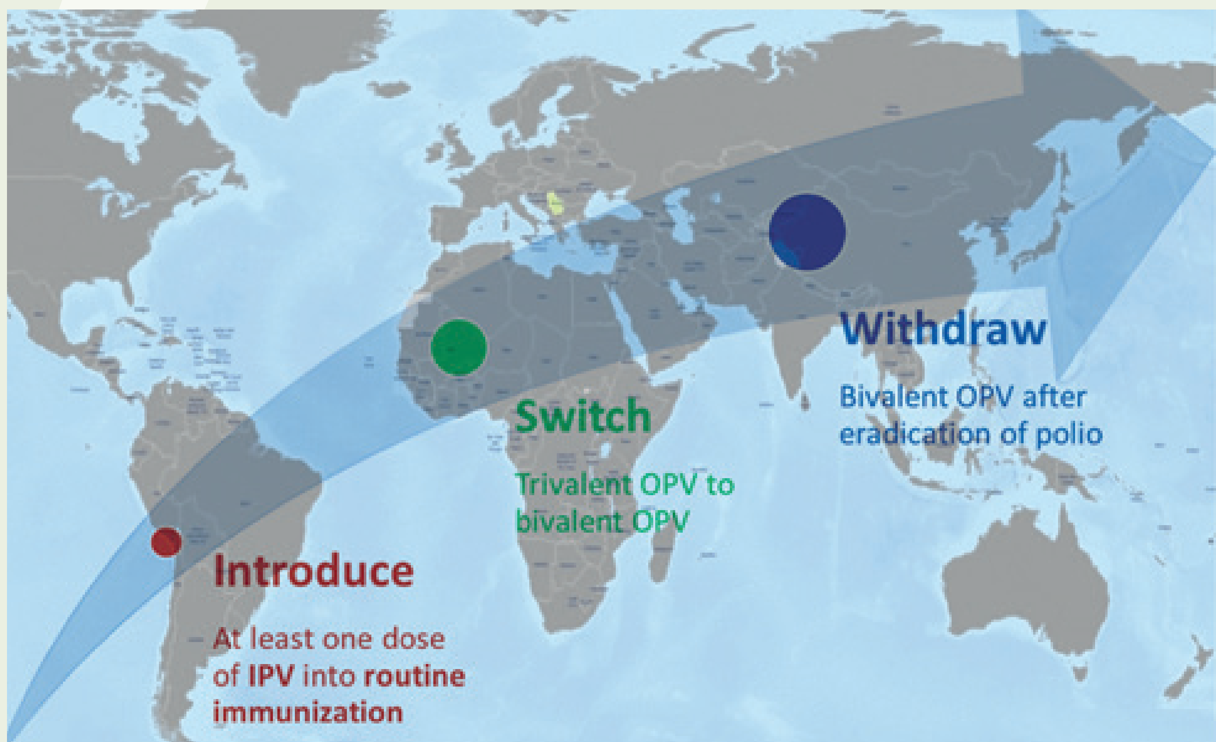
consequent staffing structure and funding implications;
- Delineate and scope their relationship with the other GPEI partners (and new non-polio partners) in a non-GPEI context; and
- Agree and communicate their leadership, accountability, and reporting lines for polio essential functions and non-polio aspects of polio transition planning.

In reality, most of these detailed organisational review and planning functions only apply to the two United Nations agencies and CDC Atlanta. The other two GPEI spearheading partners, Rotary International and the Bill and Melinda Gates Foundation do not receive polio funding. They are primarily resource mobilisers and donors, though in practice, they do much unpaid work to facilitate the delivery of the Polio Programme.

The Bill and Melinda Gates Foundation have about 20 people specifically involved with polio. This group will be maintained through to certification. At the same time, though, the polio team is talking with other groups in the Foundation as part of the process of planning for the transition. This is involving, most obviously, interactions with their routine immunisation counterparts but also the surveillance groups working on malaria and neglected tropical diseases. The role of the Foundation in the post-certification strategy is not yet determined, and will affect the 2021 to 2025 timeframe.

Rotary International is determining its priorities for both the short term and the long term. Its sole goal and purpose has been polio eradication and members are not making any commitment beyond that. They do see a role for the organisation in polio advocacy in the future, but very much wish to see how others will be



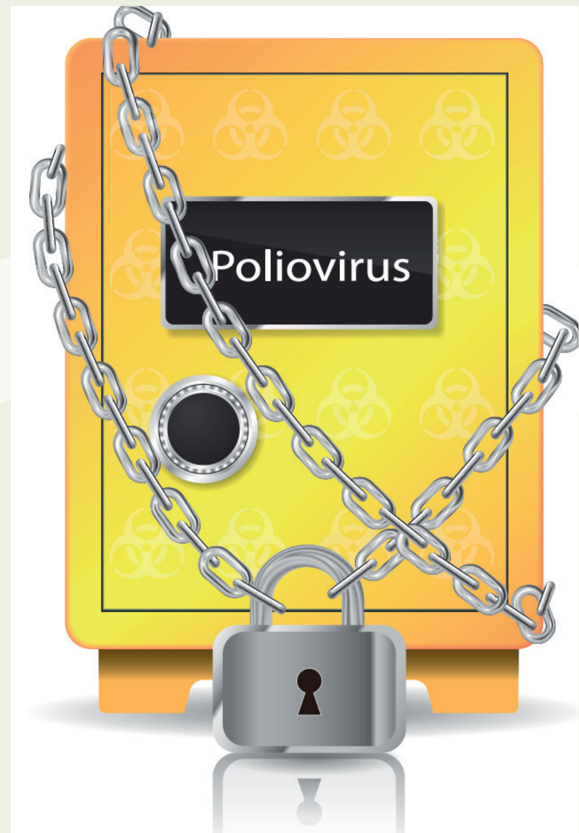
engaged with the Post Certification Strategy before deciding on any involvement.

WHO has received very large amounts of donor money for polio eradication over a very long period of time. Also, it has tended to take the 'first among equals' leadership role within the GPEI partnership. All this will stop. Polio transition will be a huge change for the organisation.

WHO representatives at the TIMB meeting said that the objective of the polio transition planning process for their organisation is, primarily, to decide what role WHO wants to play in establishing and maintaining polio essential functions. WHO is currently looking at all polio essential functions:

- containment
- responsibilities for the cessation of use of oral polio vaccine
- surveillance (including the associated laboratory and network and data management)
- outbreak preparedness and response
- vaccine management
- supply chain
- forecasting and stockpile management (a joint responsibility with the UNICEF supply division)
- research
- resource mobilisation
- communication.

In reviewing these essential functions, WHO will have to decide which responsibilities to take on and where they should be hosted in the future and by whom. It seems to be assumed that this will mean a management transfer away from the current WHO polio team. The immunisation and emergencies clusters appear to be the candidates for receiving such functions within WHO. No decision has yet been taken on this, nor whether it will be a phased transition or transfer,



and what resources and management capacity will be required.

UNICEF aims to situate polio transition in the broader priorities that it has in the health sector. UNICEF's health strategy runs up to 2020, with an approach to health system strengthening that stretches to 2030. Within this, the organisation is in the final stages of developing an immunisation road map that sits under the overall health strategy to avoid any immunisation silo being created. For UNICEF, immunisation provides a very logical entry point for health system strengthening. Its philosophy is that the organisation has established capacities at country level and whatever is done for immunisation can later be built on for other child survival interventions.

UNICEF regards transition and post-certification as one process, though within the organisation they are the responsibility of different groups. A plan is being developed. Many of UNICEF's most important accountabilities will be within the post-certification period, particularly:

- the cessation of oral polio vaccine
- the management of procurement of inactivated polio vaccine (IPV)
- oral polio vaccine outbreak preparedness and response.

UNICEF's leadership team sees a natural gradient to shift these accountabilities away from their polio team to those working in broader immunisation. Polio assets will be merged with immunisation assets. Even simple measures like having UNICEF polio staff in the immunisation mailing list, and invited to immunisation team meetings, have already started. For UNICEF, immunisation is a given, particularly taking account of the make-up of the organisation and the position that immunisation has in the UNICEF view of health sector strengthening. Strengthening immunisation systems for high population immunity is a critical goal for UNICEF. So everything done in the area of addressing inequities, immunisation, supply chain logistics, communication for development, becomes one with what is done for all other vaccine-preventable diseases.

CDC Atlanta is the only national government core partner in the GPEI. Its polio transition plan has been primarily drafted by the organisation's global immunisation division with much input from other departments. There are many components of the organisation that are interested in polio transition.

It is important to see the role of CDC Atlanta in polio transition planning in the context of other

government departments in the United States of America. USAID, the development arm of the government, will develop its own polio transition plan. The diplomacy arm, the United States Department of State, is interested in polio transition, so too are the Department of Defence and the White House National Security Council. At some point, there will be an integrated United States of America government polio transition plan.

CDC Atlanta's draft plan has two key objectives: first, to keep the world polio free; and second, to reduce vaccine-preventable deaths. Vaccine-preventable deaths will be addressed in three main ways: creating a robust immunisation system that will target all vaccine-preventable diseases; supporting the Global Vaccine Action Plan goals (for example, the gains in measles and rubella, like fewer than 100,000 deaths from measles, are at substantial risk because activities rely heavily on the polio system infrastructure); and enhancing a global, sensitive integrated surveillance system to detect and respond to vaccine-preventable diseases.

The components of the polio essential functions link up well with other components of CDC Atlanta's work related to reducing vaccine-preventable deaths. Outbreak response will probably not stay with the immunisation programme but will be part of the global rapid response team in the organisation's Division of Global Protection. Containment is likely to be led by the Office of Public Health Preparedness and Response.

The presentations that the TIMB heard from the polio partner organisations made no comment about what has been learned from the strength of the GPEI as a management entity. Over many years, the organisations have ceded some of their authority to this global management agency. It has the power to hold country programmes to account and direct the way that activities are performed. It has the power to make major policy decisions. It determines how almost $1 billion of annual funds for polio eradication are spent.

In developing terms of reference for GPEI's successor, priority activities will include:

- Overseeing the development, implementation, and monitoring of polio essential functions (surveillance, immunisation, outbreak response) that will be needed for at least the subsequent decade to ensure a polio free world;
- Ensuring proper financial support and leadership for country immunisation systems that currently are dependent on GPEI funding and will falter if not adequately attended to. These include countries like South Sudan whose health services in many areas rely completely on polio resources;
- Pushing forward on a global integrated surveillance plan that capitalises on polio's assets in both community, and facility based surveillance;
- Engaging appropriate stakeholders to ensure continuation and expansion of polio's laboratory network;
- Serving as a clearing house for various projects focused on collecting and disseminating lessons learned through 30 years of polio eradication programming; and
- Promoting other polio assets-staff, social networking, health system capacity building,

outreach and service delivery strategies to other health programs that might find them useful.

The current GPEI transition plans do not yet provide any vision or structure for how to deliver this comprehensive and powerful programme of work.

Assessment of progress

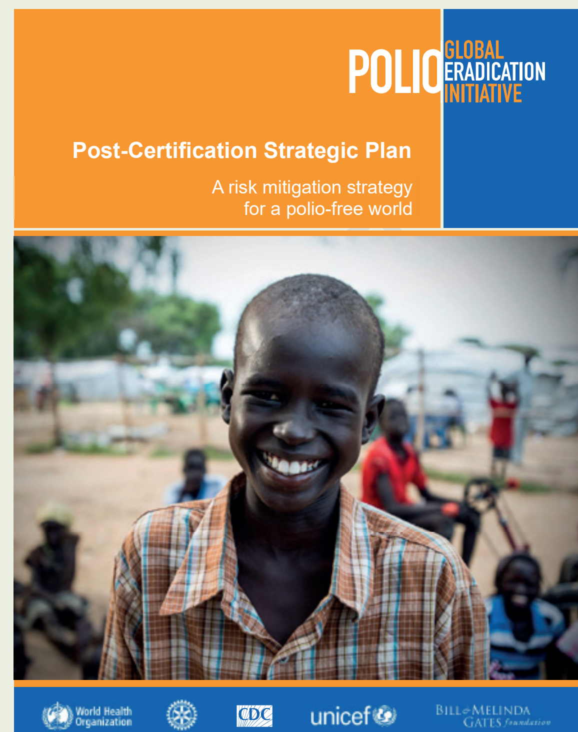
The TIMB heard presentations from each of the GPEI spearheading partners about the way their individual organisations were planning to adapt to the demise of the GPEI, the consequent reductions of polio funding, the need to maintain polio essential functions, and the wider potential gains of polio transition.

It is clear that none of the partners yet has an agreed and finalised plan for their organisations. All are at the 'work in progress' stage.

The polio Post Certification Strategy featured so heavily in the presentations and discussion that, by implication, it was made out to be *'the only game in town'*. The Post Certification Strategy is a very lengthy technical document. It sets out the functions of what is required after certification. A well-vetted, globally accepted Post Certification Strategy is necessary for the world to remain polio-free. The TIMB expressed concern that the current rapid timeline for adoption of this strategy by relevant governing bodies may not be sufficient to achieve the necessary global consensus.

Aside from the polio essential functions, there was some commitment in organisational plans to strengthen routine immunisation (particularly UNICEF and CDC Atlanta), and to develop surveillance (mostly CDC Atlanta). There was little mention of the organisations' roles in any wider aspects and opportunities of polio transition planning. Neither was there any mention of how post-GPEI relationships between the polio partners, and between they and others, could capture for posterity the 'global public goods' that currently represent the hidden value within the Polio Programme.

Of all the external partners that will have a bearing on whether the GPEI individual organisations' transition plans are successful, Gavi is the most prominent. However, Gavi's planning timescales do not match all aspects of the polio partners' trajectory. The Post Certification Strategy covers a time period for which Gavi has not yet planned and has not fundraised for. Gavi works on five-year funding cycles. Its current strategic period goes through to 2020. If certification takes place then, Gavi will start its next strategic period. As of now,



this dovetails quite nicely, but slippage on the part of certification of polio eradication seems increasingly likely to cause problems.

There are many actions in the polio partners' organisation plans that would conceivably fall into what Gavi's next strategic period would plan to target. Those are the types of negotiations, discussions that will have to take place as Gavi starts to really flesh out what its next strategic plan will look like and how donors will be approached to fund those activities. Gavi could potentially play a key role in vaccine stockpiling. That is something that Gavi does already for meningitis, yellow fever and cholera vaccines. Gavi also provides significant resources to WHO and UNICEF for certain expertise in functions that are important for Gavi's mission.

The GPEI is a unique organisational structure that has allowed the Polio Programme to reach the point where the number of confirmed, wild poliovirus polio cases worldwide is at the lowest point in history. Also, the beauty of GPEI has been that when there is a poliovirus outbreak, massive resources can be directed to it, action can move rapidly, and with intensive focus, to deal with the problem. Had the GPEI not existed, this would surely not have been possible. There is a near certainty of circulating vaccine-derived poliovirus outbreaks post-certification with far less certainty that adequate resources and responses will be mobilised as rapidly as currently possible through GPEI.

The benefits of the current unified governance structure with considerable powers to manage change will be dissolved on the basis of current thinking and plans. There are serious risks in assuming that coordinating the necessary work with only the individual agency mandates will achieve the same quality of operations as a GPEI-type integrated governance model.

There appears to be no thinking to try to capture and replicate the successful elements of the GPEI governance structure in the new polio transition world.

There has apparently been no exploration of the idea of a special agency to drive forward and oversee the complex process of implementation. After an Olympic Games, some cities have established a legacy body with a management team and board into which all sorts of organisations ceded some powers so that it could deliver the legacy of the Olympics, fully and on time. This could be a very successful way of capturing the benefits of this cohesiveness that was the hallmark of the GPEI achievements. It could be limited to a five-year lifespan to avoid the nervousness attendant on creating a new global body. Other organisations such as Gavi and the World Bank, could be part of the organisation. In that way, the non-polio players essential to polio transition can be fully engaged. A more informal form of coordination means that their representatives will not always have the 100% backing of their organisations. So afterwards, the follow-through in some cases will happen, in others, it would start but not be sustained.

Notwithstanding the idea of a new transition agency, individual aspects of polio transition are so complex that it is difficult to see who will manage them and how they could operate effectively from within a bureaucracy. A case in point is containment. Faced with a complex, time-critical and high-risk change, many other sectors would set up modern project management arrangements to execute the task.

04

COUNTRY PLANNING AND ASSESSMENT

At its first meeting in May 2017, the TIMB heard from the GPEI team about the work that they were doing with the 16 priority countries. Quite a few had started polio transition planning, but some of the most important parts of the process were not in place at that point including: the identification of transition strategies, the existence of costed draft transition plans, the finalisation of transition plans and agreements on funding.

The TIMB has since sought to understand the extent of progress. The TIMB wanted to gain a realistic view of whether the emerging plans have properly and comprehensively mapped the current dependency on polio budgets at country level. The TIMB wanted to know about the countries' ideas and requirements to meet their population's future public health needs. The TIMB wanted to be able to judge the prospects for successful implementation, especially in respect of country ownership, funding gaps and donor engagement.

The GPEI team has used a number of criteria to assess the country plans:

- **Ownership by the government.** Is the plan fully owned by the relevant government authorities, particularly the ministry of health, but also ministries of finance and planning? Was the plan reviewed by a committee chaired by a minister?
- **Polio essential functions.** Is there a detailed plan for ensuring sustainable implementation of the polio essential functions at the country level? To what extent are they mainstreamed into existing structures at the country level, such as broader disease surveillance?
- **Execution preparedness.** Is there a detailed, measurable execution plan with milestones for transition, clear roles and responsibilities?
- **National capacity building.** Does the plan incorporate elements for transfer of responsibilities from implementing agencies to the government over time? Does the financing strategy for the plan include domestic resources?
- **Integration.** Is the transition approach aligned with national priorities and planning? Does this include not only the national health sector strategic plan but also other financing mechanisms and international global health initiatives such as Gavi, and the joint external evaluation action plans for global health security?

04

- **Financing.** Does the plan include a realistic and detailed budget with line items for specific activities and a realistic financing strategy for that budget?

There has been some progress since the last TIMB meeting. Eight polio transition priority countries now have draft plans available. The GPEI strategy had been to support all 16 countries to finalise their plans by the end of 2017. This deadline will not be met for a variety of reasons. Some countries such as the Democratic Republic of Congo have been dealing with emergencies (in their case an outbreak of vaccine-derived poliovirus) that took priority over polio transition planning. Other countries have taken longer to fully appreciate the importance of responding to impending polio budget cuts, and the reality that GPEI funding will eventually disappear.

It is striking that even the more advanced plans are still relatively early work in progress. They need a great deal of further development. They have been put together at the country level and would benefit greatly from discussion with donors and other stakeholders. On this assessment they still have some way to go. The GPEI team will continue to encourage countries to drive their plans to conclusion but a policy decision has been taken that direct support for the planning process will stop in June 2018. The reason that the GPEI's Transition Management Group took the decision falls back to accountability. The transition guidelines have been out there for three years. Countries have had three years within which to plan.

The Transition Management Group pointed out to the TIMB that a deadline is important. They hired consultants. Those consultants need to get their work finished and the countries that were

allocated resources to support the polio transition planning process should know that results are expected.

One of the most crucial areas of the transition plans is whether countries have grasped the importance of having the polio essential functions in place. More guidance on this will be available to countries now that the GPEI Post Certification Strategy has been published for consultation.

On the assessment criteria, generally speaking, the South-East Asian countries, India, Indonesia, Myanmar, Nepal and Bangladesh, are further ahead than many of their African counterparts, perhaps understandably as they have been polio-free for longer. The main focus in those countries has been on sustaining the polio and vaccine preventable disease surveillance structure, which is still very largely funded with polio resources.

The TIMB was particularly concerned about the lack of progress in Somalia and South Sudan, which are fragile states with weak health infrastructure.

On hearing the presentations on country plans at its meeting, the TIMB gained the impression that the development of plans had been driven at the technical level by polio staff, essential immunisation teams and health ministry officials. There seemed to be much less engagement and firm signs of commitment at the political level. This is in marked contrast to polio eradication where overall leadership is at the Prime Ministerial or Presidential level.

It is of equal concern that WHO and UNICEF country offices are not as active as they should be. This is important not just in leadership to produce credible plans but because it is ministers and country office leadership that are at the level that engages with donors and broader stakeholders. This will be vital as the financing of these plans comes under discussion. The GPEI team is about to initiate a new, high-level advocacy strategy with Ministers of Health, Finance, Budget and Planning and with WHO and UNICEF country representatives in these priority countries. It seems rather odd to be using an advocacy strategy to target their own managers who should surely be already delivering polio transition planning at country level.

When the GPEI team steps back from facilitating the process of polio transition planning in the 16 countries, which it will in June 2018, the process will grind to a halt unless regional offices and country offices take ownership and accountability for planned development, and drive the process from these levels. Country and regional office leadership must seize on the importance of these plans and engage the higher levels of government at country level.

The TIMB was deeply concerned to hear that some of the planning countries are assuming that new funding sources will become available to support partner agency infrastructure at current levels. They were referred to as *"having their head in the sand, like ostriches"*. Many countries are stuck in this attitude because they have been receiving international support for these functions for many years. The GPEI has difficulty in getting this message to sink in because it has been the vehicle for a great deal of funding over time. Such countries tend not to accept that GPEI will not come in with more funding eventually. This is a bad state of affairs. There are some examples of best practice, such as Nepal, that other countries can be directed to. Mostly, though, pressure needs to be put on the highest levels of government to understand the risks and to take the need for action more seriously.

Whilst many of the plans incorporate financing strategies, few have concrete sustainable financing options. The Asian countries are stronger, but even here the list is short. India is already realising government domestic commitments. Nepal has just included a line item in their national budget on polio transition. They are also accessing Gavi support over time. The African countries have fewer viable funding options identified. The GPEI claimed to have had

difficulties getting donors' country missions to participate in simulation exercises that have taken place in Nigeria, Ethiopia and Angola.

Those polio priority countries that have a Gross Domestic Product (GDP) of over $1500 per person generally show good levels of essential immunisation coverage. Government expenditure on health, while it may not be over 10%, in some of these countries is fairly robust with a lower reliance on external resources. Those countries with a GDP per capita of lower than $1500 per person, but not fragile states, still have quite high immunisation coverage. This is especially so for Bangladesh and Nepal, where coverage is over 90%; however, other countries in this group are in the 80% range. The external resources for health are much higher in these countries; for example, the figure is 42% in Ethiopia. Those countries that are recognised as fragile states and also have a GDP below $1500 per person, have much lower levels of immunisation coverage: for example, 31% in South Sudan and 42% in Somalia. It is harder to get information on external health and government expenditure on health in some of these countries.

The TIMB raised concerns about countries that are not in the 16. These are countries that receive GPEI funding support but are not judged priorities, for example, Niger, Yemen, Iraq and Syria all fall into this category. The TIMB was told that rather than simply add them to the list, WHO is going through a due diligence process with its regional offices. Which will be better? Put them on the list or treat them as special? Iraq, Syria and Yemen certainly are special. The possibility of a late detected vaccine-derived outbreak in Yemen is surely quite high.

There are very strong arguments for looking at the classification of countries afresh. This will make for more meaningful assessment of progress and monitoring. For example, those countries with weak health systems that entirely or mostly depend on external funding and non-governmental organisation (NGO) service delivery for routine immunisation and polio eradication activities have similar challenges. The polio endemic countries represent more than 87% of the total GPEI resources spent in the 16 priority countries. Within this group are countries in conflict and affected by movement of refugees. There are other countries with the potential to transition and streamline the polio assets to benefit the routine immunisation programme and other public health programme priorities. However, they will need bridging external funding in the form of grants, or loans and encouragement to continue strengthening their routine immunisation programme.

Then there are countries that seem to have taken ownership and made a strong national commitment to ensure the availability of national

resources (money and personnel). They are intent on continuing to use polio assets (both knowledge gained and infrastructure established) in the last three decades.

Assessment of progress

The country planning aspect of polio transition has made concrete progress since the first TIMB meeting. The GPEI officer who has been managing the process is to be commended for her diligence and overall leadership.

There are a number of barriers to further progress, some of which are in danger of becoming insurmountable.

Firstly, too many countries are not prepared to face up to the reality that they are going to lose polio funding that has been part of the health infrastructure for decades. There were very mixed messages during the TIMB meeting, including that countries are taking on ownership and, at the same time, countries are very much in denial that this transition is going to happen. The goal that the majority of the 16 priority countries will absorb current polio assets and budgets into their domestic health financing plans in the near future is unrealistic. Even a country like India that has taken full ownership of solving this problem took several years to reach the point where it had a viable plan for self-sufficiency. Many of the priority countries are not even at the point of starting this journey, attitudinally, in information and planning capability or in domestic resource terms.

Secondly, most of the engagement with the planning process at the country level has been with technical staff. There has been much less involvement at the political level in countries.

Thirdly, WHO and UNICEF country staff, who should be helping to drive the process, are a group that are deemed not to be engaged. So much so that a communication and advocacy strategy is being prepared by the agencies to engage their own staff in this respect.

Fourthly, it is the capacity of WHO at country level that is at stake in many of these countries. So, policy decisions have the potential to affect their own jobs. They appear to be conflicted.

Fifthly, there are humanitarian situations where domestic financing is not a reality. At the current stage of country transition planning, Somalia and South Sudan fall squarely into this category. Solutions are urgently needed to make sure especially that the polio essential functions are financed sustainably over time.

Sixthly, there has been insufficient consultation with donors in the country planning process. Engagement with donors needs to be on their terms. There must be no expectation that donors will step in and start funding a shopping list of things where there is no clear vision of what will

be achieved or how it is consistent with a donor's priorities. Donor funding will be needed at least for an interim period, but the right discussions have not yet taken place for that to be feasible. The ideal situation is that donors, country governments and implementing partners all have clear views and good solutions.

Seventhly, it is not clear what the predominant 'mindset' is amongst the countries that have been made aware of the risks of losing their funding. If the mindset is one of fighting to retain the money, or a 'bidding culture', irrespective of an objective look at proper risks, then is there a good challenge function in place?

Finally, it remains very difficult to gain a clear understanding of all the polio assets at global, regional and country level and their precise origin; to say simply "GPEI-funded" is not satisfactory. Also, a simple accounting statement of the nature of the funding gap in countries, what services are affected, and what the country plan seeks to pay for in future does not seem to be available.

Status of transition plans for the 16 priority countries

Country	Communication initiated	Coordination body established	Mapping of assets	Mapping of priorities	Transition strategy agreed	Transition plan drafted and costed	Transition plan finalised and funding agreed
Afghanistan	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Angola	Complete	Complete	Complete	Complete	In progress	In progress	Not yet started
Bangladesh	Complete	Not available	Complete	Complete	Complete	In progress	In progress
Cameroon	Complete	Complete	Complete	Complete	Complete	Complete	In progress
Chad	Complete	Complete	Complete	Complete	Complete	Complete	Not yet started
DRCongo	Complete	Complete	Complete	Complete	Complete	Complete	In progress
Ethiopia	Complete	Complete	Complete	Complete	In progress	In progress	Not yet started
India	Complete	Complete	Complete	Complete	Complete	Complete	In progress
Indonesia	Complete	Not available	Complete	Complete	Complete	Complete	Not yet started
Myanmar	Complete	Not available	Complete	Complete	Complete	In progress	In progress
Nepal	Complete	Complete	Complete	Complete	Complete	In progress	In progress
Nigeria	Complete	Complete	Complete	Complete	In progress	Not yet started	Not yet started
Pakistan	Not available	Not available	Not available	Not available	Not available	Not available	Not available
Somalia	Complete	Not yet started	Complete	In progress	Not yet started	Not yet started	Not yet started
South Sudan	Complete	Complete	Complete	Complete	In progress	In progress	Not yet started
Sudan	Complete	Complete	In progress	In progress	Not yet started	Not yet started	Not yet started

Complete | In progress | Not yet started | Not available

Source: Transition Management Group Country Planning Task Team: October 2017

Scale and nature of dependency on polio funding

Country	GPEI 2017 budget, US$	DTP3 WUENIC coverage	Gavi fragility status	GDP per capita, US$	General government health expenditure per capita, US$	General government health expenditure as % of total government expenditure	External resources for health as % of total expenditure on health
Angola	7,155,000	64%		4101.5	115.2	5%	3%
Indonesia*	907,000	81%		3346.5	37.6	6%	1%
Pakistan**	218,824,000	72%	X	2671.7	29.6	5%	8%
Sudan	7,955,000	93%		2414.7	27.8	12%	3%
India*	37,767,000	87%		1593.3	22.5	5%	1%
Somalia	19,580,000	42%	X	1434.7	12.7	n/a	n/a
Cameroon	9,495,000	84%		1217.3	13.4	4%	11%
Bangladesh	2,038,000	94%		1211.7	8.6	6%	12%
Myanmar	2,266,000	75%		1161.5	9.3	4%	22%
Chad	18,294,000	55%	X	775.7	20.3	9%	19%
Nigeria**	210,598,000	56%	X	743.3	16.1	8%	7%
South Sudan	16,291,000	31%	X	730.6	12.5	n/a	n/a
Ethiopia	14,025,000	86%		619.2	15.6	16%	42%
Afghanistan	87,124,000	78%	X	594.3	20.3	12%	23%
Nepal	2,028,000	91%		549.3	n/a	11%	13%
DRCongo	31,603,000	81%	X	456.1	7	11%	38%

GDP over $1500 per capita
GDP under $1500 per capita
GDP under $1500 - fragile states

*GPEI grant plus self-financing **GPEI grant plus loan

Columns 3 and 5: 2015 data

Columns 6, 7 and 8: 2014 data

Source: Transition Management Group Country Planning Task Team: 2017

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SYNERGIES AND STAKEHOLDERS

At its meeting, the TIMB reviewed the state of relationships between the polio transition planning and other global health programmes where there is potential to review, preserve, or enhance tangible and intangible polio assets by creating synergies. Six examples were discussed: *the Measles & Rubella Initiative; essential immunisation; Every Woman Every Child; global health security; Scaling Up Nutrition; and The Global Fund to Fight AIDS, Tuberculosis and Malaria.*

The Measles & Rubella Initiative is the global health programme that most people feel has the greatest synergy with the Polio Programme. It is also considered to be the one at biggest risk from poor implementation of polio transition. That is because about 90% of the measles deaths worldwide occur in the 16 polio priority countries. Most of the world's rubella and congenital rubella syndrome cases occur in these same 16 countries. A range of mainly polio-funded expertise is required for measles elimination, including:

- micro-planning and service delivery
- community mobilisation
- the surveillance and laboratory network
- campaign planning and implementation
- outbreak response
- political engagement and advocacy.

Polio field staff in these countries stated in a survey that about a third of their time is working on routine immunisation for measles and rubella. One estimate provided at the TIMB meeting is that about 70% of the measles surveillance is actually done by the polio programme, using polio-related funding amounting to around $77 million. There is more than 200,000 polio-funded staff, mainly surveillance medical officers, who are supporting the Measles & Rubella Initiative. This is a profound contribution by the GPEI and requires intensive focus at global level if the risks of transition are to be well navigated. It cannot be fully addressed by the polio transition planning work at country level.

Closely following the Measles & Rubella Initiative in priority terms, is the essential or routine immunisation programme more generally. It was part of the Polio Endgame Strategy to improve routine immunisation in the poorest-performing areas of the world. The 16 priority countries are home to 60% of the total global unvaccinated child population. This has somewhat been forgotten. Gavi is the principal partner for the

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Polio Programme in this area. TIMB sources have regularly reported tensions at the global level between the GPEI and Gavi.

Gavi's strategic position, and the marching orders given to its senior country managers, is that its terms of engagement on polio transition planning, have to be based on a country-driven, country-owned process. Gavi has indicated its willingness to open up its annual joint appraisal processes to allow information related to polio transition planning to be put on the table. The idea behind Gavi's joint appraisals is that they are not just an assessment of Gavi's investments in the countries, but are intended to give a holistic picture of the essential immunisation programme in the country, as well as the different investments that are being made to support an individual country's programme.

Until recently, this was difficult because of slow progress. Gavi's discussions at the country level were short on detail and information about polio asset mapping, and the impact of polio budget reductions. The recent round of Gavi joint appraisals has been more productive because of a more robust and comprehensive picture of the essential immunisation programmes. In some countries, there is now greater clarity on what polio budget shortfalls might mean for the immunisation programme.

The global health security agenda is potentially a very strong synergy with polio transition. There is awareness at the President and Prime Ministerial level in most countries about the human and economic costs of pandemics of known pathogens, and of new and emerging infections. Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), and the Ebola virus disease outbreak in West Africa are all examples of threats that helped to engage interest and mobilise resources at the highest political level. So too is the threat of antimicrobial resistance. Good work has started on this. A number of the priority countries, for example, Ethiopia, Pakistan, Nigeria and Somalia, have undertaken Joint External Evaluations with the Emergencies team at WHO and the other relevant stakeholders in that group. This has focused on polio infrastructure being lost and thereby weakening global health security.

The Global Health Security Agenda is one of a number of parallel programmes whose interests coalesce around building a strong integrated system of global surveillance for the future.

In West Africa, the World Bank is structuring some very large loans for the community for a regional surveillance network. Those would go to fund some of the surveillance needs and some of these plans, probably through the development of country-level capacity to do case-based surveillance.

The TIMB was frustrated and disappointed that the inspiring idea floated at its first meeting to deliver the global good of a modern, dependable, and comprehensive integrated global communicable disease surveillance system to the world did not appear to have been developed further by its second meeting. This is potentially a massive lost opportunity. It could cost the world dearly.

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Every country is supposed to have a national action plan, to fulfil the Sustainable Development Goals and Agenda 2030. The TIMB saw little evidence of this forward thinking in the transition plan discussions. This is supposed to be discussed now in every country. The United States Department of State, however, has been reaching out to countries for several years to raise their awareness of the transition process, and to emphasise that it is not just about the 16 priority countries, but others as well. The United States Department of State's representatives are continuing to ask: "How is your transition planning going? Have you involved your Finance Minister? Have you involved your Prime Minister?". Ambassadors too can convey the policy messages, in a way that will resonate with the highest level of government, where a technical health message may not penetrate.

There seems to have been relatively little involvement of global professional associations, for example, the paediatric and child health bodies, in polio transition planning. They can provide expert advice but also be powerful advocates. A more recent development is the establishment of National Immunisation Technical Advisory Groups (NITAGs). These cover 83 countries and more are being established. They could be leveraged to raise the profile and commitment to polio transition planning especially where they have the ear and the respect of the government of their country. In some countries, at least in the sphere of Gavi countries, most NITAGs are still at a formative stage.

The networks of NGOs that provide public health services in many of the poorer and conflict affected parts of the world could be valuable allies in the development of polio transition plans. They have not been sufficiently engaged nor have civil society organisations more generally.

Assessment of progress

Through their wide range of contacts in the global health world, TIMB members have listened to the voices of many potential polio transition planning stakeholders. A number of consistent themes about progress run through the many points, opinions, and observations that we have heard:

- The walls of the 'polio bubble' are perceived as being very thick and impenetrable. Few people understand the full distribution of the current polio assets, the uses to which they are being put, and the costs. There is an almost universal feeling of a lack of transparency. Polio outsiders are asking simple questions and they feel that they are getting complex or vague answers.
- There is some comment that the GPEI has been undertaking polio transition planning for a long time with less to show for it than might have been expected.
- There is little evidence of a crowd of stakeholders banging at the door to get into the polio transition planning room; the value and importance needs explanation, and proper engagement.
- There is still antagonism in some quarters based on polio's vertical programme history. This is nothing new but it is coupled with cynicism and doubt, now that the finish line is in sight, about what of lasting value polio has

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to offer routine immunisation. Some critics see the current GPEI as trying to get out as soon as they can, passing the buck to Gavi, and trying to sell off their infrastructure, 'garage sale' style. Polio transition needs a better and more humble narrative on essential immunisation. A 'project fear' approach, threatening dire consequences, is the wrong way.

- Many non-polio global health bodies and networks acknowledge that polio transition is very important. This must not be understood as a full commitment to the planning process. Most seem happy to find out more and enter into exploratory discussions. This is proceeding slowly. It is more about them determining their position than thinking that their organisation has to have a plan of its own.
- There is considerable concern about the complexities of integrating the strong bottom-up, country-based driver of transition planning with the need for assertive, coordinated action at global level. This is a huge strategic management challenge that would trouble even the most sophisticated operation in any other sector. There is also widespread surprise at the absence of a proper global polio transition plan beyond the Post Certification Strategy, and the mixed progress of country planning. These action plans deal with only a limited aspect of transition.

- Some of the country polio donors have felt that their voices were not heard loudly enough in the polio eradication programme and they are concerned that history is repeating itself in polio transition planning. These are difficult times. When money for international aid is under much heavier scrutiny, donors must not be taken for granted, they should have access to all the information that they need and they should be fully consulted at every stage.
- Donors seem to hold the view that beyond ending polio, they would not wish to harness themselves to a holistic polio transition implementation process. They see themselves contributing to strengthening routine immunisation and other public health programmes through their own global health development programmes.
- No one understands what the role of regional and country offices will be in implementing polio transition.
- There is a growing body of opinion that there must be an attempt to propose the development of a comprehensive integrated global communicable disease surveillance system. This would have strong support from those working in global health security and resilience, antimicrobial resistance, and other major communicable disease prevention and control programmes. There are opportunities, too, created by: digital data capture and analytical methods; advances in near patient testing; and quicker and cheaper genetic profiling of organisms.

Opportunities for polio transition: Integration with other global health initiatives

Global initiative/ programme	Is there interaction with GPEI today?	Programme components that align with GPEI functions or skills	Potential for future synergies
Measles & Rubella Initiative	Very good	Microplanning and service delivery, community mobilisation, surveillance/lab, campaigns, outbreak response, political engagement	Good
Every Woman Every Child - Maternal, Newborn, and Child Health	Very limited	Community engagement, emergency preparedness, surveillance and response, water and sanitation, immunisation, political engagement	Good
Immunisation - Gavi	Very good	Microplanning and service delivery, community mobilisation, surveillance/lab, data management, campaigns, political engagement	Very good
Global Health Security - WHO Health Emergencies/ International Health Regulations	Very good	Surveillance, data management, emergency and outbreak response, campaigns	Very good
Scaling Up Nutrition (SUN)	Very limited	Social mobilisation, community linkages, community based surveillance, advocacy	Limited
Global Fund - HIV/malaria/TB	Very limited	Community based surveillance, advocacy, political engagement for more domestic financing	Limited

Source: WHO 2017

Very good | Good | Limited | Very limited

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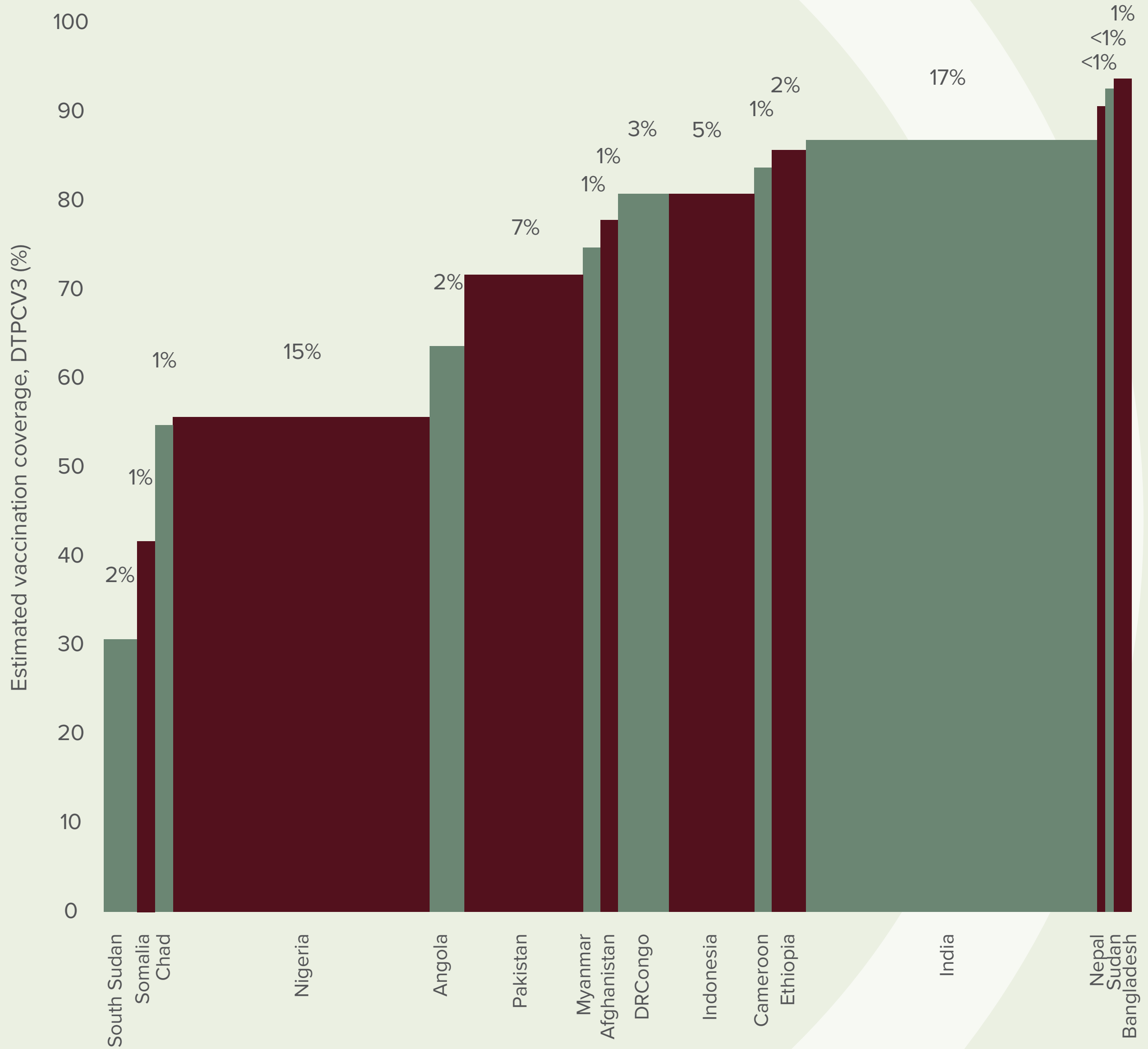
Estimated essential immunisation coverage and proportionate contribution to total global number of unvaccinated infants



Width of each column reflects the contribution of unvaccinated children to total global number: 2015/16 data

Source: Transition Management Group Country Planning Task Team

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MEASURING PROGRESS

The GPEI explained to the TIMB its framework for measuring progress in the polio transition programme.

Essentially, it proposes to regularly evaluate plans and actions in five main strands of transition:

- country transition plans
- GPEI spearheading partnership organisations' own transition plans
- the Post Certification Strategy
- donor level engagement
- engagement of technical programmes outside polio.

The approach of measuring and assessing the quality of the different transition plans and their implementation will lead to a high-level monitoring framework. The country planning process has been discussed earlier in this report and the TIMB's concerns set out in detail.

Assessment of progress

The measurement framework that has been set out to monitor progress is based largely on judgements about whether particular process steps within plans have been achieved. Normally, explicit standards would be developed so that evaluation was not based only on subjective criteria. This is especially important because some key measures, such as country ownership, are difficult to assess even qualitatively. So far, there are very few outcome measures in any part of the GPEI's measurement framework.

Quality of polio transition plans in eight priority countries

Category	Bangladesh	Cameroon	Chad	DR Congo	India	Indonesia	Myanmar	Nepal
Ownership	Variable	Variable	Yes	No	Yes	Yes	Yes	Yes
Polio-essential programming	Variable	Yes	No	Yes	Yes	Yes	Variable	Variable
Execution preparedness	No	Variable	No	Variable	Yes	Yes	Variable	No
Sustainability - responsibilities	Yes	Variable	Variable	No	Yes	Yes	Yes	Variable
Sustainability - domestic resources	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Integration	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes
Financing - budget	Variable	Yes	Variable	Yes	Yes	Variable	Variable	Variable
Financing - strategy	Yes	Yes	Variable	Yes	Variable	Yes	Yes	Variable

Source: Transition Management Group Country Planning Task Team: October 2017

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CONCLUSIONS

The polio transition planning process has moved on since the first TIMB report, *The End Of The Beginning*, published in July 2017.

More country plans have reached a later stage of preparation. Globally, there is now a Post Certification Strategy that is out for consultation. More extensive discussions, and joint working, have taken place with some key non-polio stakeholders, in particular Gavi. The Global Certification Commission has done important work in clarifying what will be needed to declare the world truly polio free. This will instil greater rigour into the delivery of polio essential functions. The complexity and ramifications of poliovirus containment have been helpfully set out. Each of the five spearheading partners that make up the GPEI corporate management structure is well underway with plans for their organisations. This really only applies to the two United Nations agency partners (WHO and UNICEF) and CDC Atlanta. Rotary International and the Bill and Melinda Gates Foundation are primarily donors. The organisations' plans will set out what will be done about their polio-funded assets and how their internal management structures and accountabilities will be redesigned to fit with their ongoing role in polio transition planning and implementation. WHO will be particularly heavily affected by the withdrawal of polio funding. Donors have clarified their position. None will commit now to funding anything not connected to polio eradication. In the future, most will not wish to sign up to a globally-led and unified donor programme aimed at funding other aspects of transition. They will work with countries directly in the context of their mainstream development plans.

All this represents progress but the situation is not satisfactory. Country plans have largely been drawn up by technical staff assisted by GPEI-paid consultants. There is little political commitment and alignment to the process. Some countries are in denial that the external polio funding they have relied on for decades will really disappear. Many country officials of WHO and UNICEF are said to be uncommitted like the governments of the countries that they are working in. The GPEI is planning an advocacy strategy to address these deficits. There is nowhere anyone can go to find answers to simple common sense questions about country planning such as:

- What public health services (polio essential functions and non-polio activities) is polio money currently paying for?

- How much money is being spent on which services?
- Which donor's money is being used for what?
- Which of these services will be continued in the future and what will it cost?
- Will the opportunity be taken to create new services and what will they cost to run?
- How much of the future costs will the country be able to pay from its domestic budgets?
- Will there be a shortfall, short term or long term, and who will fund it?
- What are the consequences for the population of failing to meet the shortfall, short term or long term?

There are very few country plans that are implementation ready. The GPEI is withdrawing the support for country planning in June 2018, likely before there will be any certainty that transmission has been interrupted in Pakistan and Afghanistan (or discovered in Borno, Nigeria, for instance).

Beyond the concerns about the country planning process, this TIMB report has highlighted other areas that need to be addressed:

- Work with non-polio stakeholders is in its early stages. It is assumed that most will want to make their own organisational plans but this is not the impression of TIMB sources. Most seem to be interested in finding out more and discussing transition but with no commitment to formally alter their strategic plans to buy in to it. Work with Gavi and the Measles & Rubella Initiative has started strongly and needs to progress urgently.
- The framework to monitor progress is based largely on qualitative assessment of process steps in plans for which there are no explicit standards, and some key measures (such as country ownership) that are difficult to assess even qualitatively. There are very few outcome measures at all.
- There is no plan yet to build a comprehensive integrated global communicable disease surveillance system. The opportunity to create this global public good as a legacy of polio is in danger of being lost or done in an incomplete way.
- The wider, developmental vision of polio transition planning seems to have fallen out of sight at global level even though it has been intensively discussed in the country planning work. At the global level, GPEI seems to be deeply pre-occupied with polio essential functions and its recently published Post Certification Strategy.
- The enormous benefits of the stable, multi-organisational, unified governance model, with elements of command-and-control that characterises the GPEI, is not seen by the Polio Programme as a global good and legacy of polio. Most surprisingly, it seems set to be replaced not with an implementation structure based on modern management principles but with a bureaucratic solution of the traditional kind in which WHO leads and engages with other partners. The TIMB was told that "coordination" would be necessary to bring together individual organisations' "mandates". It is not clear what this means. When the IMB recommended the management and governance structure of the GPEI be reviewed in the light of its role in interrupting poliovirus transmission, a great deal of thinking was put into the resultant changes. Accountability, decision-making and stakeholder engagement were all addressed as part of the organisational redesign. The process for replacement of the *entire* GPEI appears not to have had the depth of thinking that it warrants.

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RECOMMENDATIONS

Country transition planning

Recommendation 1: The Transition Management Group should urgently review the need to add countries to the priority list. The original list of 16 countries was drawn up based upon their GPEI funding level. Countries whose conditions risk jeopardising polio eradication should also be on the list.

Recommendation 2: After compiling an extended list of priority countries, the Transition Management Group should establish a new classification of countries that provides a clear and dependable basis for assessing progress and monitoring.

Recommendation 3: Country asset maps should be further refined to provide flow charts of the ultimate source of donations and precisely what the money has been funding. The GPEI is not a donor but most countries do not understand this and it is creating an asymmetric and untenable basis for discussing the future of funded polio assets. The maps should be published.

Recommendation 4: The implications of withdrawing polio resources from countries whose health infrastructure is already in a parlous state should be urgently addressed. Their health systems could collapse altogether. There is also the risk that these countries lack adequate post-transition competence, which may endanger eradication, notably through the emergence of vaccine-derived polioviruses. These countries should be assessed and designated as requiring 'special measures'. Joint financing approaches should be prepared.

Recommendation 5: A simple country-level analysis should be produced and published that sets out: a) the nature of current polio assets; b) the nature of non-polio services provided through polio assets (including the proportion of assets used for this other purpose); c) the extent to which the country can and intends to fund the current polio assets from its domestic budget, and the timescale for doing so; and d) plans to develop or reorganise public health services as part of the polio transition planning process. The analysis should include costs throughout.

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Global and systemic

Recommendation 6: A risk assessment should be carried out, country-by-country, on the timing of transition and its interrelationship with interruption of transmission. If interrupting transmission takes longer than anticipated, transition may have been forced ahead by budget restriction from GPEI. Just when countries need to put in their final pushes on eradication, the Polio Programme will be passing to untried and untested arrangements.

Recommendation 7: The GPEI must urgently define a clear pathway, at the country, regional, and the global level, to ensure that the polio essential functions continue. It must be costed in-country, regionally and globally. Without this, eradication will not be sustained.

Recommendation 8: The GPEI should make clear to its governing bodies and member states that its primary goal and major success criterion has become the interruption of transmission of wild poliovirus not all poliovirus (vaccine-derived polioviruses also transmit and cause paralysis). There is concern inside and outside the polio community on this point. It is important that everyone is clear on the policy and timescale for ending vaccine-derived poliovirus circulation.

Recommendation 9: The development and evolution of the Post Certification Strategy should be closely coordinated with the Global Certification Commission and the Strategic Advisory Group of Experts. This three-way coordination is vital and is not yet happening. It should be reviewed before, at the time of, and after, global certification.

Recommendation 10: A detailed statement of costed GPEI assets at global, regional and country level, together with the donor source, should be published in a form that is completely transparent and can be understood by a non-technical audience.

Recommendation 11: Senior global officials of the polio spearheading partners should organise a comprehensive programme of engagement and in-country briefing of government cabinets, ministerial departments (beyond health), law-makers and civil society on polio transition.

Recommendation 12: The Transition Management Group should examine the governance structure of polio transition planning at country level in the light of the potential for conflicts of interest in that many of the polio-funded staff are WHO people whose employment is directly affected by the advice that they give. Also, country officers of the two United Nations agencies should be immediately brought into the accountability structure for delivering stronger polio transition plans.

Recommendation 13: The TIMB is aware that a detailed stakeholder mapping exercise, including interviews, is underway within the GPEI. This should be made available to the TIMB as soon as possible. The TIMB will actively engage with such stakeholders, particularly the 'non-polio' organisations and individuals, in the next phase of its work. Civil society organisations should be a much more prominent part of transition discussions and they will be engaged too.

Recommendation 14: Global health professional and expert bodies should be sought out and fully engaged in the process. They could act as powerful advocates for polio transition planning. The TIMB will facilitate this process.

Recommendation 15: The senior leadership of the GPEI should have a big and wide-ranging discussion with their counterparts at Gavi. This should review all opportunities to maximise the benefits of the collaboration to secure a successful Post Certification Strategy and raise the routine immunisation coverage of the poorer parts of the world.

Recommendation 16: A better defined communication plan should be developed. This should extend beyond reporting on resources and progress, to create awareness about the need for continuous investments by polio free countries until eradication is assured. The goal should be to nurture a social movement around the historic achievement and the collective commitment to a polio free world. It should be adapted to regional and national cultures and situations. It should also include polio champions and polio-affected survivors.

Recommendation 17: An ambitious proposal for the development of a comprehensive integrated global communicable disease surveillance system should be drawn up. It should aim to meet global and country needs in relation to the prevention of vaccine-preventable diseases, identifying new and emerging diseases, threats to global health security, and tracking progress of disease prevention and control programmes. Other major programmes involved in the prevention and control of communicable diseases should be fully engaged in its design. The needs of programmes to combat antimicrobial resistance should be another driver for the process. Future and leading edge developments such as big data analysis, artificial intelligence, hand-held digital data capture, near patient testing, animal and environmental monitoring, and genetic profiling of organisms should form part of the thinking. The TIMB stands ready to facilitate discussions on this.

Recommendation 18: The planned abandonment of the GPEI, a unique management structure with ceded powers, clear accountability channels, and powerful performance management arrangements should receive very careful consideration. It is apparently to be replaced with a more bureaucratic arrangement, ill-defined coordinating mechanisms, and no stated provision for modern project management. Moreover, it is important that transition out of the GPEI should follow achievement of the eradication goal, not precede it.