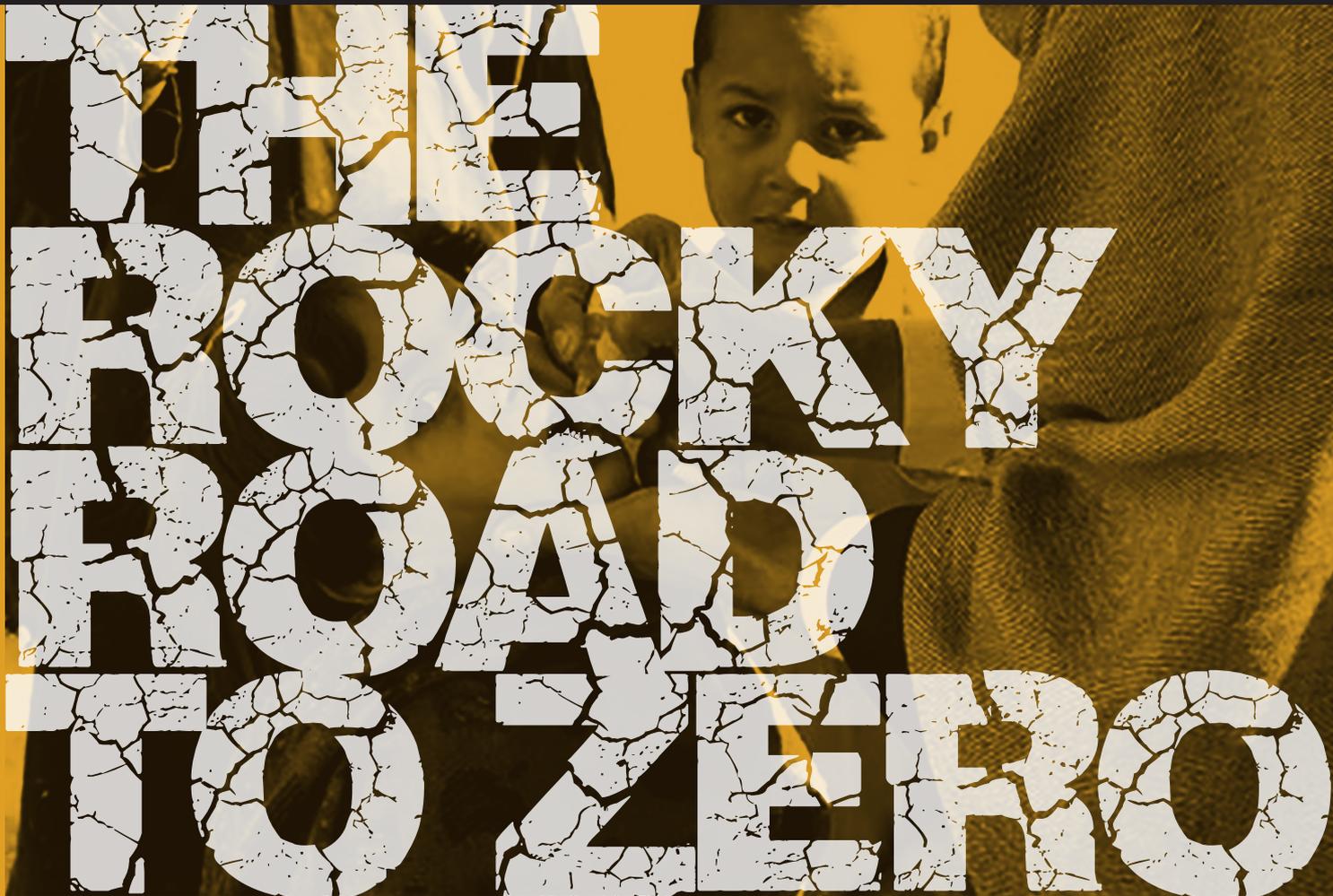


INDEPENDENT
MONITORING
BOARD OF THE

GLOBAL POLIO ERADICATION INITIATIVE



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Eleventh Report: May 2015

INDEPENDENT
MONITORING
BOARD OF THE

GLOBAL POLIO ERADICATION INITIATIVE

The Independent Monitoring Board provides an independent assessment of the progress being made by the Global Polio Eradication Initiative in the detection and interruption of polio transmission globally. This eleventh report follows the IMB's twelfth meeting, held in Abu Dhabi on 29 and 30 April 2015.

Sir Liam Donaldson (Chair)

Former Chief Medical Officer, England

Dr Nasr El Sayed

Assistant Minister of Health, Egypt

Dr Susan Goldstein

Programme Director, Soul City: Institute for Health & Development Communication, NPO, South Africa

Dr Jeffrey Koplan

Vice President for Global Health, Emory University

Dr Sigrun Mogedal

Special Advisor, Norwegian Knowledge Centre for the Health Services

Professor Ruth Nduati

Chairperson, Department of Paediatrics and Child Health, University of Nairobi

Dr Arvind Singhal

Marston Endowed Professor of Communication, University of Texas at El Paso

Professor Michael Toole, AM

Deputy Director, Burnet Institute, Melbourne

Secretariat:

Dr Paul Rutter

Ms Alison Scott

INTRODUCTION: IT WAS NEVER GOING TO BE EASY

The last report of the Independent Monitoring Board (IMB) of the Global Polio Eradication initiative (GPEI), published in October 2014, was clear that the programme's goal of interrupting polio transmission globally by the end of 2014 would not be met. This assessment was confirmed as 2015 began and children were still being paralysed by polio. Nobody expressed great surprise, accustomed to the sad reality that the polio programme has missed one deadline after another.

Despite this, 2015 has brought a sprit of optimism to the programme. Since August 2014, the wild polio virus has been detected in just two countries, Afghanistan and Pakistan. Nigeria – long the third endemic country – has not had a case since July 2014. The three recent regional outbreaks – in the Middle East, the Horn of Africa, and Central Africa – have been quiescent since that time. At the time of writing, there have been just 23 children paralysed by polio so far this year – there had been 77 at this point last year.

Optimism is a double-edged sword for this programme. There is real and genuine progress to be positive about. But the IMB recalls three years ago, in 2012, when optimism last soared. That year, case numbers plummeted. There were no outbreaks outside of the endemic countries. The programme seemed to be on the up. But this optimism was misplaced – 2013 and 2014 brought a wave of three major multi-country outbreaks, growth in global polio case numbers, and a series of difficult new challenges for the programme.

Overall, the global programme in 2015 is a better one than when the IMB started its work nearly five years ago. The programme's progress is a predictable and direct result of following advice and adopting new ways of working. The programme has responded well to the challenges set by the IMB in a number of domains, particularly:

- Understanding and addressing the reasons why children are repeatedly missed by vaccination campaigns
- Strengthening accountability throughout the programme, so that expectations are clear and enforced
- Improving collaborative working between partners, so that the strengths of each can contribute to the effort as a whole
- Getting the best staff to the places where they are needed the most
- Putting governments in the lead of their countries' polio eradication programs, with partners in support
- Enhancing urgency, so that business as usual cannot prevail
- Encouraging innovation and the spread of successful ideas
- Emphasising demand, not just supply, through stronger people-centred offerings to key population groups
- Ensuring that armed conflict and political sanctions are not allowed to be absolute barriers to reaching every child with the polio vaccine
- Focusing effort on the small geographic areas ('sanctuaries') where most polio virus resides
- Putting more emphasis on outbreak preparedness and response, not allowing the endemic countries (though important) to monopolise focus.

Notably, most of these have little to do with the virus or the vaccine directly, and everything to do with people, communication and management. When these fundamentals have been addressed, progress has been seen. When they have been disregarded, progress has been slow or absent. When the global view has had a narrow focus (rather than a comprehensive approach that combines disease reduction and risk mitigation), there have been major setbacks – such as the major outbreaks of 2013.



So the current sense of optimism has some real basis to it. But the sense of optimism is also highly dangerous. The two-steps-forward-one-step-back history of the programme teaches hard lessons about assuming that plain sailing is ahead. Security, operational and political problems can suddenly arise, disrupting the programme's progress. The polio virus has a habit of revealing itself in the most difficult places on earth. Hard-won success can quickly fall away. The last three years have demonstrated that the final stage of the march to polio eradication is a rocky road, as the polio virus fights to save itself from extinction.

This IMB report, more than any of its predecessors, urges the programme, at global and country level, to embrace, with determination and passion, the culture and methods of fundamental quality improvement. The global programme is better than it was, but it remains far from excellent. If it truly aims for excellence, it can become a resilient programme with strong prospects of successfully navigating the rocky road ahead. If it does not, it will have to put its faith in being able to limp towards the finishing line despite big patches of mediocrity.

AFGHANISTAN: WORRYING STAGNATION

For some time now, the Afghanistan programme has failed to make meaningful progress. It is now one of just two countries in the world where the polio virus is holding on. In the virus' other home – neighbouring Pakistan - the polio programme has accelerated markedly over the last six months. Meanwhile, Afghanistan is failing to get to grips with the same programmatic problems that it has suffered for years. Frustratingly close to the finish line, Afghanistan's polio programme has hit a wall.

Afghanistan's problems cannot be blamed on Pakistan alone. A stronger Afghanistan programme would not allow Pakistan virus to take hold.

The IMB is aghast to see that in the key areas of the east and south, the number of missed children today is no fewer than it was a whole year ago. There is no hiding from this key metric of bad performance. More parents refuse to vaccinate their children against polio than in any other country. In Nangarhar, two-thirds of parents even believe that polio is a curable disease – “so why is vaccination necessary?” they ask. Many elsewhere are of the same view, and harmful rumours abound. Now, four months after the end-2014 deadline for stopping polio, this stagnation and adverse sentiment is highly alarming.

AFGHANISTAN: TIME TICKING AWAY

Big gaps in campaign quality

Helmand and Kandahar: 10% of children missed
Eastern provinces: 5% of children missed



Unchanged gaps in campaign quality

Helmand and Kandahar: 10% of children missed
Eastern provinces: 5% of children missed

The Afghanistan polio programme works in complex, taxing circumstances. On the day that the IMB met, there were no fewer than 30 separate security incidents in the Southern region. The IMB deeply respects those working in the front line in these conditions. For them, and for the country as a whole, the blocks to eradication really must be demolished.

Leaders must step forward to support their staff and reach out to their children.

Afghanistan's new government came to power in 2014. It has stated clear commitment to stopping polio, but it is so far failing to translate this wish into reality.

In the past, the polio programme has been admirably neutral in its stance. This has worked. It is not purely a government programme. In a country where anti-government elements have a degree of power, this is an important characteristic. But this cannot absolve the Ministry of Health of its responsibility to lead the work that success requires it to lead. The need for neutrality has allowed the government's commitment to the programme to lapse too far. The new government must resolve to maintain a careful balance between programme neutrality and insistence on accountability.

The Afghanistan Minister of Health did not attend the recent IMB meeting because of other priorities. It is clear that the Minister is committed to the cause, personally and on behalf of both parties. The issue is that there is no effective mechanism to turn this sentiment into results day-by-day. This very practical problem needs an urgent solution. In

every recent successful country, the solution has been to put a very senior official in day-to-day charge of the programme. Appointing a lightweight to such a crucial position is usually a recipe for failure.

Once appointed as the IMB recommends, the senior official needs to lead a programme that focuses sharply on the high-risk districts in Kandahar, Helmand and the east – ensuring that the right people, finances, and political support are in place to reach every missed children there, fast.

In the past, the Afghanistan polio programme has been an innovator, whose work other countries have copied. It was the first to use bivalent oral polio vaccine, the first to introduce permanent polio teams, and broke new ground in reaching border populations. It is now time for Afghanistan to call in that debt, and learn from innovative developments in other countries.

AFGHANISTAN: SAME OLD STORY

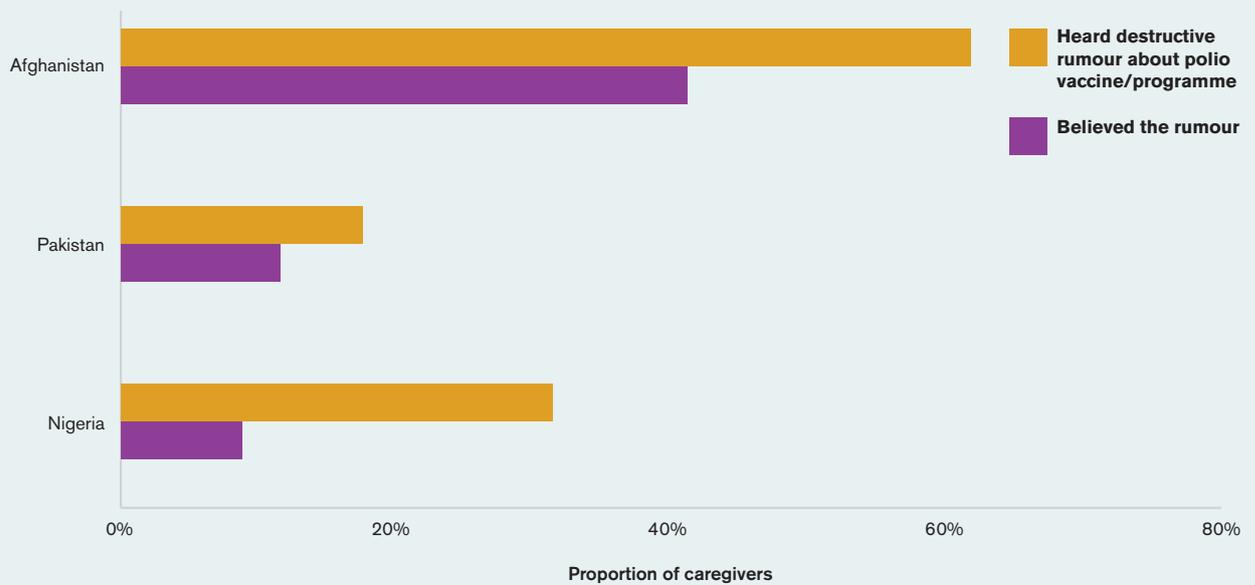


The concept of an Emergency Operations Centre has helped both Nigeria and Pakistan enormously. Replicating the exact model might not work in Afghanistan, but the principles that have made these centres potentially transformative must be introduced urgently. All country programme leaders and their partner officials must work as a team, meeting daily. Clear direction, close teamwork, integrated functions, excellent timely data, and decisive problem solving are some of the key success factors that have worked in Nigeria. There is a pressing need

to reinvigorate application of the National Emergency Action Plan, and to increasingly refine the approach to delivering high quality campaigns in insecure areas.

Recent experience in Pakistan demonstrates that change can happen fast. The system changes required in Afghanistan must not take any more than weeks to enact. At its next meeting, in October 2015, the IMB will judge the country on whether it has turned the situation around.

ADVERSE SENTIMENT: RUMOURS RUNNING RIFE IN AFGHANISTAN



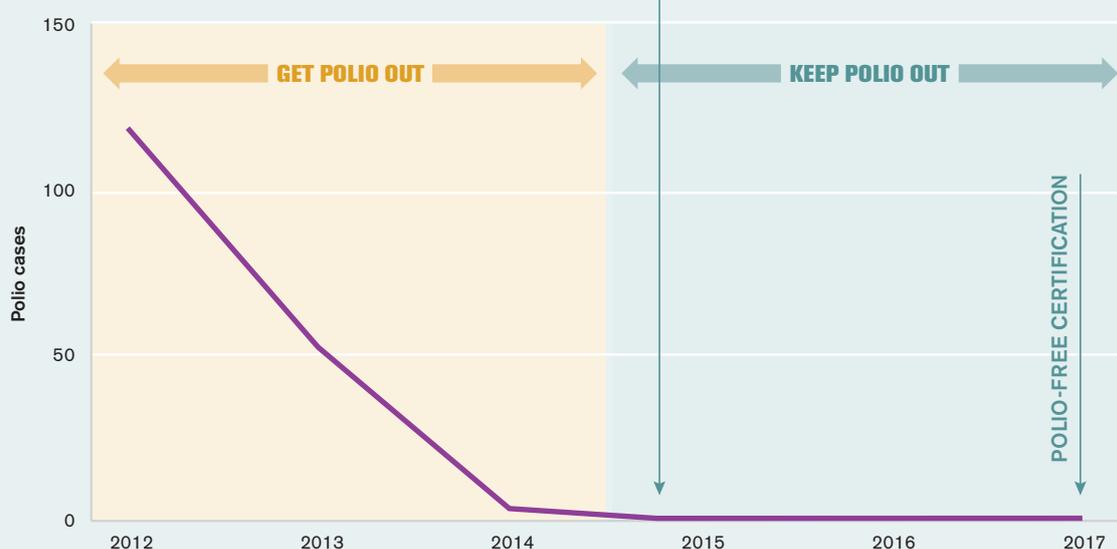
NIGERIA: BUILDING RESILIENCE TO STAY POLIO-FREE UNTIL 2017

In its last report, the IMB praised the Nigeria programme for staying free of wild polio virus for three months. This period has now extended to ten months. Nigeria polio virus has regularly infected other African countries in the past, but that has not happened for more than a year now. No circulating vaccine-derived polio virus has been detected since January 2015. The Nigerian general election has come and gone without the deterioration in programme performance that accompanied past elections. The improvements in the Nigeria programme are most

evident in the large jumps in immunity achieved in the worst performing local government areas.

The most important factors in Nigeria's progress to date seem to have been: firstly, the establishment of Emergency Operations Centres (EOCs) that have transformed the quality of planning, decision-making, coordination and inter-agency working; secondly, embracing an approach of innovation and rapid scale-up; and, thirdly, addressing poor individual performance.

NIGERIA: YOU ARE HERE



Some press coverage has suggested that the country has already rid itself of polio. This is dangerous thinking. The challenge for the Nigeria programme is now one of resilience. Certification of a polio-free Nigeria cannot happen until 2017. Excellent programme performance is as vital over the next three years as it has been over the last three years.

The area with greatest vulnerability is the Northeast of the country. Here, 62% of settlements remain inaccessible to vaccinators. This creates worrying blindspots for the

programme. There is an urgent need to establish who is living where, and to reinstitute vaccination campaigns that run as close to normally as is achievable. This requires innovation, and a willingness to reach out to a range of partners. Strong surveillance is also crucial, so that Nigeria can quickly respond to any polio presence. Surveillance is generally strong, but there are still areas of weakness that need to be addressed. There were 35 compatible cases in 2014, demonstrating surveillance gaps. The programme has identified 40 Local Government Areas in which surveillance needs to be improved.



A great deal rests in the hands of Nigeria’s new government. With strong commitment, there is good potential that Nigeria will eradicate polio within their term, and will be able to celebrate a great Nigerian victory. But if the polio programme loses momentum or support, the country could be responsible not only for polio coming back to Nigeria, but elsewhere in Africa too.

India faced and met the challenge of staying polio-free between its last detected case and its official polio-free declaration. The IMB judges that Nigeria currently falls short of the levels of programmatic excellence achieved in India. The areas of risk we have described mean that Nigeria is

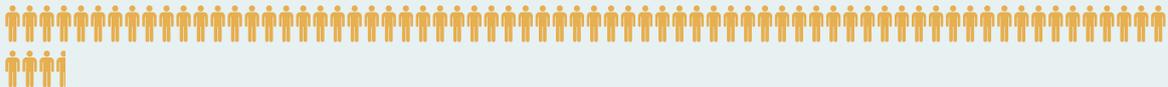
not yet safe. Nigeria must build further resilience and, over the next six months, move its programme from good to great. The IMB is very concerned that national, state and local government politicians, as well as the Nigerian public, will now start to believe that polio is gone permanently from Nigeria. It needs to be made absolutely clear that Nigeria has not yet been certified polio-free. The programme and its partners need a clear, coordinated communication and advocacy plan to ensure that the public and political leaders understand the substantial work that lies ahead. In the meantime, the growing triumphalism surrounding the prospect of a polio-free Africa must be halted.

ACCOUNTABILITY IN ACTION: THANKS, WARNINGS AND GOODBYES IN NIGERIA

WRITTEN OR VERBAL COMMENDATION 1344 STAFF



WRITTEN OR VERBAL WARNING 716 STAFF



NON-RENEWAL OF CONTRACT 276 STAFF



WHO-employed staff; Jan-Jun 2014

PAKISTAN: RECENT POSITIVE MOVES BUT EARLY DAYS

In Pakistan, polio paralysed three times as many children in 2014 as it had in 2013, and the programme was floundering in response. In the meetings and discussions that preceded its last report, the IMB encountered wave after wave of negative comment about the polio programme in Pakistan. Those who spoke did so in harsh and despairing terms, some expressing pity for the plight of the children of Pakistan. Few were prepared to make their comments openly for fear of upsetting the government of Pakistan.

As the only truly independent element of the polio programme, free of any stake in its planning and delivery, the IMB had no choice other than, very publicly, to “speak truth to power.” It did so exposing the fundamental weaknesses of the polio programme in Pakistan. The IMB recommended changes aimed not at simply strengthening the programme but putting it on a national emergency footing. The government of Pakistan did not accept the IMB’s recommendation but has found and adopted an alternative approach that it feels will have the same impact.

Six months on, a positive difference is evident. The signs of improvement are early but clear. Crucial amongst these is that the government of Pakistan has taken hold of the reins of polio eradication. The Prime Minister has established a Focus Group, to drive the programme from the highest possible level. The newly established national Emergency Operations Centre is working well, with strong leadership from the government and support from partners. There is a real sense of collaboration – between the different parties that govern the country and its provinces; between the civil administration and the military; and, between the programme’s partners. The IMB met with senior federal and provincial leaders, and was impressed with their insights into the polio eradication context and their determination to improve the situation.

It is very early days. The Pakistan programme is still moving through the foothills of a very high mountain that is still to be climbed. Many basic dysfunctions remain. In some areas, half of all microplans used in campaigns are out of date. Whole settlements are being discovered that were previously being missed by vaccinators. Most of the provincial Emergency Operating Centres have only been properly established in recent weeks. Similar ways of working need to penetrate well beyond the federal and provincial levels, into the districts and union councils where polio remains at large.

The programme does not pay its front-line workers reliably. This must be resolved – and urgently. Pakistan’s programme has ideas to boost the morale, engagement and status of its all-important vaccinators, but this will be wishful thinking unless the serious demotivator – not being paid in full and on time – is properly done away with.

In taking the next steps to build on this new impetus, it is important for the programme at country level to truly understand the social geography in the affected areas. There is innovation in place addressing some local situations, such as offering a broader package of services than polio vaccine (so-called Health Camps). Such innovation must continue.

Pakistan must not duck out of facing up to the fundamental barriers to reaching children, nor must it continue to reach for tired and unimaginative solutions that have failed in the past. Whilst the majority of Pakistan is free from polio, and has been for some time, the challenge of eradicating polio from a small number of geographical areas where it persists is formidable. In most of the country, children are being reliably vaccinated against polio. But in too many, children are being persistently missed.

PAKISTAN: THE WORLD IS WATCHING



KHYBER PAKHTUNKHWA

In the whole of Pakistan, Peshawar tops the IMB's list of concerns. Round after round of vaccination campaigns have failed to stop transmission in this hub of population movement. The *United For Health* initiative was a strong step in the right direction, drawing together the governments of Khyber Pakhtunkhwa and neighbouring FATA, and the army. The programme in Peshawar needs urgent strengthening, with strong leadership and some new ideas. Collaboration remains key. The greatest challenge remains in specific small areas, which need concentrated focus to match the specific local context. These are not only in Peshawar – parts of Bannu and Tank need special attention too.

FATA

A year ago, the North and South Waziristan agencies of FATA were the greatest concern for Pakistan's polio programme – in fact, for the entire global programme. This changed in June 2014, when a major military intervention brought the areas under government control. Advance warning of this led to a mass population exodus. As the displaced people start to return in coming months, good plans are in place to ensure that vaccination continues.

Khyber agency is now the greatest concern in FATA. In two of its three subdivisions – Bara and Jamrud – both security and campaign quality are serious barriers to progress. There is frequent movement between Khyber and Peshawar – helping the virus to circulate, but also offering an opportunity to vaccinate children on the move. The programme in FATA is well led, and has achieved an increase in accessibility over recent months. This is a complex area, though, and the highest level of military and political support is required to close the remaining gaps in FATA's polio eradication programme.

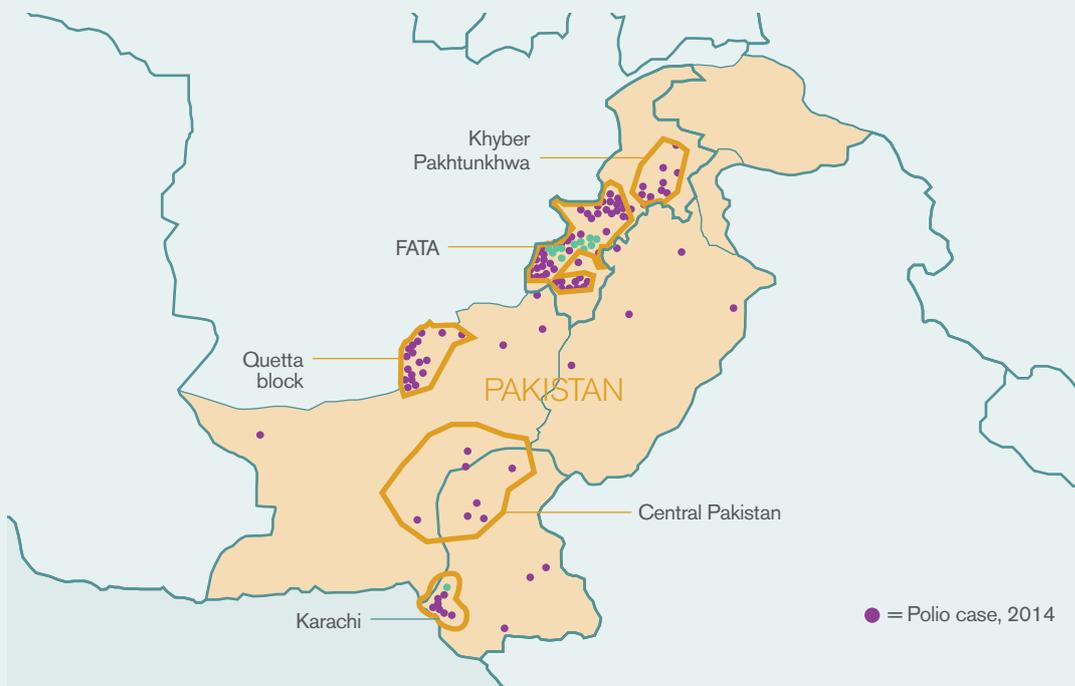
SINDH

The polio virus tends to thrive in Karachi, but a strengthening programme is making in-roads against this. In April 2015, environmental surveillance found no polio virus in Gadap. This is good in a city with a new Emergency Operations Centre and cross-party support for polio eradication. However, campaigns are still being delayed and there is regular spread of virus from Karachi to other parts of Pakistan. Violence remains endemic in this mega-city and threatens to disrupt even the best-planned of campaigns. Strong programme leadership must be sustained in Karachi or all will be lost. Where Northern Sindh meets Balochistan and Punjab, a further outbreak of virus has occurred. This area of central Pakistan is complicated to manage because it involves three provinces, and needs close attention.

BALUCHISTAN

The *Quetta block* – Quetta, Killa Abdullah and Pishin – stopped polio transmission in 2013, but has since become re-infected. Here too, an Emergency Operations Centre has recently been established, and is benefiting from strong leadership. The quality indicators, though, show poor campaign performance that must be turned around.

2014 IN PAKISTAN: A YEAR OF LIVING DANGEROUSLY



PUNJAB

Punjab has the best routine immunisation coverage in Pakistan, generally strong campaigns, and little problem with polio. The province is innovating, using technology to track and support vaccinators' work. But bordering the Northern Sindh outbreak, and with substantial movement between provinces, Punjab must retain the highest level of vigilance against polio.

Pakistan seems to have established a more positive trajectory for its polio eradication programme. A great deal more change is needed to translate this early positive momentum into operational improvement, and so into meaningful progress against polio. Several features already in place must be strengthened and reinforced if the country is to succeed:

- Firstly, that there is leadership from the highest levels. The Prime Minister's Focus Group and the National Task Force need to continue, meeting even more regularly and exerting an even greater leadership role. Each Chief Secretary needs to lead the eradication of polio from his province. These leaders at the highest level must ensure that the National Emergency Action Plan is being implemented in full. The frequent, effective meetings of these, the country's leaders, will be the most powerful demonstration of the political will vital to Pakistan's success.
- Secondly, that there is cross-party collaboration. Pakistan's parties have indicated that polio eradication should be above politics. This is commendable, and central to success.
- Thirdly, that the army and police are playing a crucial role, defending the children of Pakistan from an enemy – the polio virus – that is small but deadly.
- Fourthly, that the programme is working to improve the basics in the places where it matters the most – microplans; vaccinator selection, training and motivation; social mobilization; finding missed children.

Time is absolutely of the essence. Pakistan was supposed to stop polio transmission by the end of 2014, and failed to do so. It has now established a new timeline, of stopping polio by May 2016. For some this is too far away. There is no room for relaxing into a leisurely pace. The time is now. In the coming weeks, Pakistan needs to build a programme truly capable of stopping polio. This means dealing fast with the major dysfunctions that remain. The IMB will expect nothing less when it next reviews Pakistan's programme.

THE SITES OF RECENT OUTBREAKS: A FRAGILE STABILITY

The major polio outbreaks in Africa and the Middle East that made 2013 such an *annus horribilis* for the polio programme have been quelled. Polio went first to Somalia and the wider Horn of Africa, then the Middle East, and then into Central Africa, hitting three of the most complex parts of the world. Each of these outbreaks overflowed into 2014. They accounted for 275 paralysed children in total and rocked confidence in the programme's management that had not heeded warnings about low immunity levels in countries neighbouring endemic areas, and risked frightening off donors who doubted the programme leadership's competence.

The IMB criticized the early management of both the Horn of Africa and Central Africa outbreaks, which took too long to get up to speed. The Middle East outbreak was very well managed.

These outbreaks are probably over, but nobody ever again should assume that the task of polio eradication rests solely in the endemic countries. Resurgent armed conflict and major population displacements in Yemen are one reminder of continuing vulnerability. The programme is working to strengthen polio immunity levels in these huge geographical swathes. Also, the outbreak response capability has been boosted over recent months, with the development of new standard operating procedures, and a roster to ensure timely deployment of staff. Outbreak detection is a matter of strong surveillance, discussed separately in this report.

The late Dr. Ciro de Quadros, IMB member and experienced polio eradicator, repeatedly warned the programme that its calendar of vaccination rounds must be based absolutely on need, and not have its corners cut by short-sighted financial controls. The programme has improved its position on this now, and has a very full campaign calendar. However, the IMB judges that its other long-standing message – on the quality of those campaigns – has not yet been heeded. In some African countries, a quarter of all children identified

by the surveillance system (*NPAFP cases*) have not had a single dose of polio vaccine. More should be done, and this is largely a question of getting skilled boots on the ground to review and boost campaign quality. IMB sources have expressed serious concerns about a number of aspects of the arrangements in outbreak-vulnerable countries: in Yemen, the vaccine cold chain is degraded, particularly in small villages; in some towns in Libya, immunity is below 50%; some Syrian camps are “no-go areas”; there are a million visitors with children to holy places in Iraq where vaccination is sparse; in Europe, vaccination coverage in conflict-plagued Ukraine is amongst the lowest in the world. The IMB asks that these concerns are reviewed.

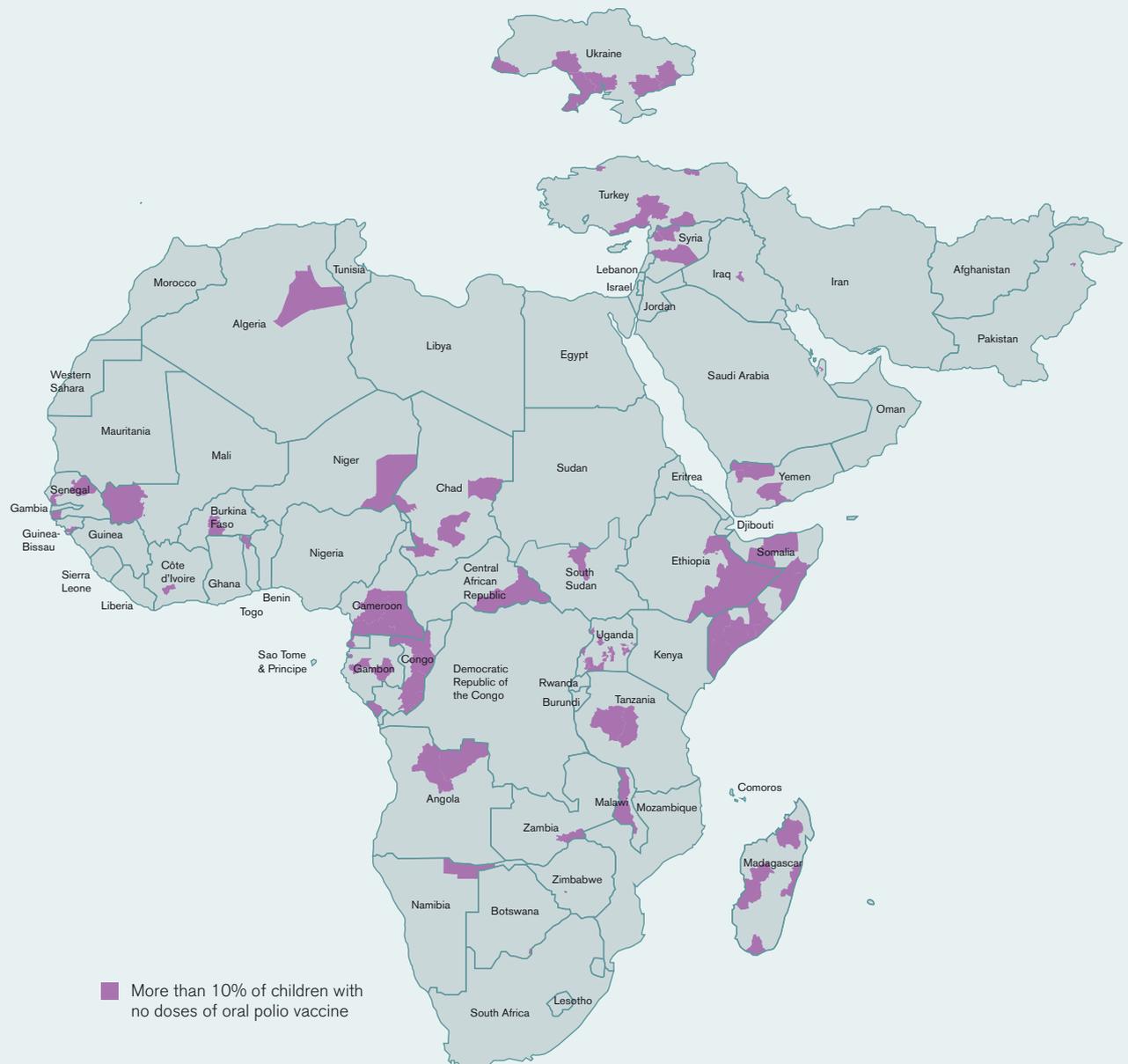
In 2013, the polio virus took root in three parts of the world that were highly vulnerable to outbreaks, and these same areas remain at high risk. Indeed, there is some risk that transmission is still occurring, undetected, particularly in Somalia or Syria, though the likelihood of this is low. There is more risk of a new importation into a country currently in the throes of an emergency (such as Yemen) or into one where a crisis arises anew (such as Nepal). The health service infrastructure has been seriously degraded in Syria, Iraq, and Libya, whilst conflict is closing areas down to differing degrees so that children are hard to reach. Serious immunity gaps are opening up in sub-regional localities all the time in complex and rapidly changing patterns. It is important that the senior polio leadership in the two regions have people that are not involved in operational work to keep an overview and gather real-time public health intelligence, both data and situation reports from the field, to map this position.

It must be assumed that the polio programme has one or more complex outbreaks ahead. The question must therefore be asked, again: is the programme doing all it can to reduce the risk of this happening? If and when it does happen, will the programme be able to respond in a resilient manner – that is, without depleting the resources (particularly human,

but also vaccine and financial) available elsewhere? In the IMB's view, the programme can respond to these questions now more confidently than it could two years ago – but

some further critical review would be useful. The surge in funding and support that accompanied the three outbreaks cannot be allowed to ebb too soon.

LOW IMMUNITY: TOO MANY POPULATIONS AT RISK



THE GLOBAL POLIO ERADICATION SYSTEM

THE NEED TO HARNESS THE POWER OF PEOPLE

Polio eradication is a people programme. Its work is done by many thousands of people, for the sake of all humanity. People – not the vaccine or the virus – count the most.

The IMB has emphasized this message repeatedly in its previous reports. Historically, the programme has had too great a tendency to focus on the technical elements of polio eradication – the virus and the vaccine – and to pay too little heed to the people factors. The programme now pays far greater attention to people factors than it used to. People are increasingly recognized as central to success. At this critical stage, there can be no let up in this attitude. Indeed, the approach needs to shift still further, in three important ways.

Firstly, the programme's success is highly dependent on a relatively small number of technical specialists, whose skills can be applied to boost programme performance in the remaining endemic countries, to mount outbreak responses, or to do global-level strategic work. They are a finite and valuable resource. When the best people are put into the worst places, they achieve real results. But if they are transferred out of an area of second-tier risk, they too must be replaced with good people. The IMB has been concerned to hear instances of individuals being taken, for example, away from the Middle East and Horn of Africa and into Pakistan. Such redeployment may be entirely appropriate for the evolving needs of the programme, but the overall impression is of a global programme stretched quite thin. If progress remains positive, this may be fine. But if the unexpected occurs – as it may well do – will the programme be able to cope? Is the global programme staffed for its best-case scenario, or for its worst-case scenario? The IMB is concerned that the former is closer to the truth. It is not easy to find more great people, but it is vital that the programme leaves no stone unturned in trying to do so. Bright young graduates have added a lot to the programme, as have experienced recent retirees. Finding some more of them, and

getting them quickly to where they are needed, could now be a crucial determinant of the programme's success – and of its all-important resilience should progress take a turn for the worse.

Secondly, there is great unrealized potential to better motivate front line workers. Their importance is now well-recognized, and spoken of in terms of their selection, training and pay. But truly understanding, and bolstering, their motivation is highly fertile ground that still lies almost untouched. Perhaps Pakistan can now tread into this valuable area, where in the recent history of polio eradication no other country has really ventured.

Finally, when victories occur along the path to eradication, these need to be recognized and celebrated as victories of the people whose hard work brought them about. In Nigeria, most pressingly, it should be made clear that the progress against polio belongs to the people of Nigeria. In time, when global eradication is reached, it should be celebrated as a victory for the many programme workers – especially those who have risked their lives. This is not only the right and proper course to take – it can also help galvanise the momentum needed to continue down the path, and then to move on to other health-boosting endeavours. Victory will belong to the vaccinators who visited every home repeatedly. It will belong to the programme managers who worked seven days a week to close the gaps in campaign implementation. The important contribution of programme funders must be acknowledged, but the victory is not – and must not be seen as – primarily theirs. The partner agencies deserve applause when things go well, but they too should not be central in the spotlight.

SECURITY COMPROMISED AREAS: NEED FOR AN ARCHITECTURE FOR COORDINATION

The GPEI has a good record of gaining access to parts of the world that were seemingly impenetrable even to humanitarian

interventions. However, sometimes the security response to inaccessibility is not well-coordinated with the vaccination follow through. For example, it is no good sending 500 police officers into an area without in-depth joint planning to work out the logistics of the public health activity, as well as ensuring that sophisticated preparatory communications engage the local populations and preserve the perceived neutrality of the vaccinators. The global programme experts should provide more advice and support to the country teams in this complex and sensitive mission critical area.

FOCUS ON BORDER AREAS AND CROSSINGS: THE LIKELY LAST REFUGE OF POLIO

When polio was eradicated from other WHO regions, it was often the border areas and crossings where the polio virus made its last stand. History may be repeating itself in Afghanistan and Pakistan. Each of these countries has been infected with virus from the other, and much of each country's polio has been near the two countries' border. The IMB was disappointed to hear that a recent planned cross-border meeting between Afghanistan and Pakistan has been delayed by many weeks, following a last-minute cancellation for security reasons. The problem is not the mere fact of this delay, but that it demonstrates too little belief that cross-border collaboration between the two countries is one of the essential keys to interrupting transmission. Such collaboration is crucial to ensuring that every child is reached as they cross the border. It is also vital for ensuring that during vaccination campaigns there are no spaces between where each Afghanistan team's vaccination finishes and their counterpart Pakistan team's vaccination starts. If the importance of this was truly understood, the cancelled meeting would have been rescheduled to occur within days, not months.

The other prominent border area for the polio program is Lake Chad, where Chad, Cameroon, Niger and Nigeria meet. In this complex area, with hundreds of dispersed islands, there has been some good cross-border collaboration in the past, but the situation is now more difficult. This year, conflict between insurgents and armed forces is rising, and there is the potential for explosive further increase. The

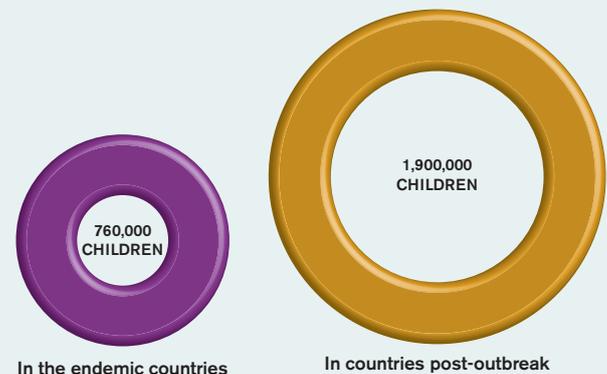
global programme leadership should engage fully with this as a special topic as advised in an earlier IMB report.

THE ULTIMATE MEASURE OF PERFORMANCE: PERSISTENTLY MISSED CHILDREN

The IMB headlined its fifth report, published in June 2012, with an estimate that the programme was entirely failing to vaccinate 2.7 million children in key areas of the world, leaving them vulnerable to polio. This single metric, the *missed child*, mined from the mountain of data collected by the eradication programme, showed with chilling simplicity that the programme was failing.

In this and subsequent reports, the IMB encouraged the programme to make missed children its central focus. Over time, there has been considerable sharpening of focus onto this, to good effect.

THE PERSISTENTLY MISSED CHILDREN: EVERY ONE A PROGRAMME FAILURE



Estimated number of children under five years with zero doses of polio vaccine
Source: NPAFP % 0-dose 13 May 2014-12 May 2015, UN population estimates 2015

A re-analysis today shows that Afghanistan, Nigeria and Pakistan between them have an estimated 760,000 children who have never received even a single drop of polio vaccine. These *persistently missed children* are being failed by the programme, and are the key to stopping polio transmission worldwide.

Persistently missed children reside not only in the endemic countries. There are 1.9 million of them in the countries that

had outbreaks in 2013-14. Each of them is a reason for the virus to return.

These shockingly large numbers show how far below excellence the polio eradication programme is falling.

SIMPLE DROPS OF VACCINE AND THE COMPLEXITIES THAT LIE BEHIND THEM

The work of ensuring that polio vaccine of the right kind is available in the right quantities at the right time in the right places sounds like a straightforward matter. It is far from it. The processes that create and deliver vaccine to the front line in all corners of the world are based on complex judgments and calculations hidden from public view. It is largely taken for granted that everything necessary will happen to supply the programme with what it needs, when it needs it, without interruption or incident. Within the GPEI, this work is led by UNICEF and involves billions of doses of polio vaccine every year. Vaccine requirements are calculated, manufacturing capacity identified, funding mobilized, prices negotiated, storage facilities identified, orders made, deliveries executed, and cold chains maintained. This life cycle of vaccine management has been refined over many decades. The scientific, policy-making, and logistic skills are well-developed and have served the polio programme well.

Over the years, much of the requirement for vaccine has been stable and predictable, allowing a good lead-time for manufacture and supply. But much of it has not. Outbreaks and altered plans have resulted in major unscheduled demand for vaccine, and these needs have largely been met.

The polio eradication programme is now entering a phase in which vaccine management is more complex than ever, and in which the public health and financial consequences of getting it wrong are much greater than in the past. Some of the new complexity centres on the withdrawal of trivalent oral polio vaccine (tOPV), which is planned for April 2016 and discussed in the next section.

At this stage in the eradication effort, the world cannot afford for delay in vaccine availability to affect an outbreak

response, or for constrained supply to slow progress in the remaining endemic countries. It is crucial that the fundamental elements of strong vaccine management and demand prediction continue to be built. In May 2014, the IMB highlighted that many countries were requesting more vaccine than they actually needed, because they were not taking proper account of vaccine stock already available in country. The IMB welcomes the work that UNICEF has led to start to address this. Technical staff deployed through the STOP programme are now being trained in vaccine management. A standard operating procedure aims to boost reporting on vaccine stock. UNICEF Western and Central Africa Regional Office has led the way this in this area, reducing oral polio vaccine demand by 2.5 million doses over two months.

Although there has been some strong work, vaccine continues to be wasted. IMB sources report that they have seen fridges stocked full of vaccine far in excess of requirements; and vaccine that sits unused and so is wasted. Vaccine is precious, and there is considerable scope for countries, supported by partners, to further improve its judicious management.

VACCINE DERIVED POLIO VIRUS: A POTENTIAL SHOW STOPPER

Global withdrawal of trivalent oral polio vaccine is planned for April 2016, so time is very tight to stop the current outbreaks of circulating strains of Type 2 virus derived from oral polio vaccine (cVDPV2).

There were originally three types of wild polio virus. Type 2 was the first to be eradicated, in 1999. Type 3 has not been seen since 2012, and later this year the global certification commission will consider whether or not it has been eradicated. Type 1 remains in circulation – at least in Afghanistan and Pakistan.

Oral vaccine against all three virus types continues to be used. The trivalent oral polio vaccine (tOPV) protects against types 1, 2 and 3; the bivalent vaccine (bOPV) against types 1 and 3.

Where there is suboptimal immunity, the virus strain contained within the vaccine itself can mutate and spread, causing polio paralysis. This is circulating vaccine-derived polio virus (cVDPV). Though rare, this is a downside of the oral polio vaccine that is not seen with the injectable, inactivated polio vaccine (IPV). For this reason, oral polio vaccine needs to be removed from use as wild polio is eradicated.

When all three types of wild polio have been eradicated, all oral polio vaccine will need to be withdrawn. For now, vaccine targeting the eradicated type 2 virus can soon be removed. The plan is to do so globally in April 2016. This will require withdrawal of tOPV, and a switch to using bOPV in its place (the 'tOPV-bOPV switch').

This switch necessitates bOPV being made available in large quantities. It requires the introduction of the injectable inactivated polio vaccine (IPV) into routine immunisation schedules around the world. And it requires careful management of remaining tOPV supplies, to ensure that production remains sufficient until the point of withdrawal, and to maintain an appropriate stockpile afterwards. Whilst vital and complex in itself, the withdrawal of tOPV is also a dress rehearsal for the withdrawal of all OPV, which will need to take place after polio eradication has been completed.

SAGE, the committee from which the global programme draws its main scientific advice, has been assessing the timing of the polio vaccine switch for over a year. At its last meeting, it gave a provisional date for withdrawal of bivalent polio vaccine of April 2016. This decision was necessary to allow all aspects of the advance preparation – a vast undertaking.

There are risks that could lead to SAGE stepping back from this recommendation on timing. The number one risk is if either Nigeria or Pakistan fails to conclusively stop its cVDPV outbreaks.

The tOPV-bOPV switch is highly complex. It involves every OPV-using country in the world withdrawing vaccine within a tight two-week window. Preparations for this are well underway. If an outbreak in Nigeria, Pakistan (or elsewhere)

delays this process, it is liable to cause chaos, confusion and great expense. It is vital that Nigeria and Pakistan ensure that their cVDPV outbreaks are conclusively stopped, fast.

SURVEILLANCE FIT FOR THE PRESENT AND THE FUTURE

Strong surveillance has always been a cornerstone of polio eradication, but never has it been more vital than at this late stage in the global eradication effort. Without strong surveillance, there is risk of delay in detecting and responding to outbreaks. Surveillance will also be the basis on which the world is certified polio-free, when that day comes.

Acute Flaccid Paralysis (AFP) surveillance has long been the main basis of polio surveillance, requiring that any case of such paralysis be reported and investigated. In recent years, environmental surveillance has played an increasing role – detecting the virus directly in waterways. The two play a complementary role. Experience of AFP surveillance is longer, and its quality measures are better developed.

Two main indicators assess the quality of AFP surveillance. The standards set for each are widely acknowledged to be absolute minimums. Nobody could dare say that surveillance is strong if the standards are not met, and meeting the standards is no guarantee that polio transmission could not occur undetected.

Given the importance of surveillance, the IMB remains alarmed by the gaps that still exist. Only nine of the 70 countries in AFRO and EMRO meet both surveillance standards in every sub-national area.

In addition, as eradication approaches, the quality of clinical diagnosis of potentially compatible cases of polio becomes increasingly important. Even in the absence of laboratory-confirmed cases of wild polio virus, continued reporting of compatible cases will threaten certification. If AFP surveillance was optimal though, these potential cases would not arise in the first place.

The global programme recognizes that there has not been sufficient strategic focus on improving surveillance. It now needs to move very quickly to close this gap. At its next meeting, the IMB will ask to be informed of the actions that are underway.

CAMPAIGN QUALITY: FAILURE TO STANDARDISE BEST PRACTICE

The IMB continues to be surprised by the variable quality of polio vaccination campaigns around the world. Delivering high quality immunization campaigns each and every time a vaccine team takes to the streets anywhere in the world is a key function. In any other high-risk field, it would be unacceptable to take a laissez-faire approach to public protection. Who would fly with an airline where the pre-flight engine inspections are allowed to vary in quality from airport to airport and from month to month? The presence and adherence to a standard operating procedure or not for polio immunization campaigns is equally something that can make the difference between life and death. We pick this up again in the later section of this report dealing with quality and performance.

THE MANAGEMENT REVIEW: A CHANCE TO REINVIGORATE THE GPEI

This is the first IMB report since the completion of the GPEI management review that was established after an IMB recommendation made in October 2013. It is early to judge the overall impact of the review, but the GPEI has moved quickly to implement the action on structures, governance, and leadership that was agreed by the Polio Oversight Board following the review.

The IMB will particularly judge the impact of these changes by assessing how well the programme's headquarters is discharging its key functions of:

- Communicating the vision
- Policy making
- Leadership of quality improvement
- Appointing the best people in mission-critical posts

- Resource mobilization
- Accounting for progress and finances

If the changes in the review have not engineered each of these functions strongly into the global strategic management of the programme, then the new structures (with their associated acronyms) that have emerged from the review will be seen as nothing more than "old wine in new bottles".

LOOKING AHEAD: ONLY THE BEST WILL DO

In each of its previous reports, the IMB has assessed progress as on-track, off-track or at-risk, against an established deadline. With the end-2014 deadline missed and another, rightly, not set, such a judgment no longer applies. Polio eradication is long overdue, and every passing day is a day too long. All efforts must be focused on totally and urgently finishing the job.

Over the next year, the polio programme's approach could fall within any of three scenarios:

- **The laissez-faire scenario** in which the priority is a polio-free Africa, with action in the other two endemic countries little better than routine disease prevention and control activities and rolling on of vaccine campaigns in the other countries at greatest risk of infection.
- **The incremental change scenario** in which widespread improvement activity is taking place to achieve stepwise changes, raising the quality of campaigns, strengthening surveillance, and increasing accessibility.
- **The fully engaged scenario** in which there is a deep understanding of the reasons for each pocket of continuing transmission, a relentless focus on improvement at every level, an empowerment of front-line staff to find new solutions to intractable problems, and a rapid adoption of best practice and innovation from other parts of the programme. In this scenario, the number of persistently missed children plummets.

Over the time that the IMB has monitored progress towards polio eradication, the programme has hovered between the first and second of these scenarios, sometimes moving firmly forward but often slipping back. Certainly, efforts are focused on ramping up campaign quality. Questions of access to populations are high-priority for the programme. There is a moderate amount of work to improve surveillance. But is this enough? The IMB has had the impression for some time that the programme too often sets a path that could be characterized as “more of the same but better.” Of course, this kind of incremental improvement is necessary but it may not be sufficient to eradicate polio. Transformational change measures are also needed.

The best chance of eradicating polio comes through embracing the third scenario. In the fully engaged scenario, there would no longer be any hiding place for the polio virus. What does “fully engaged” really mean? It means three things: Firstly, a level of political leadership within countries that goes beyond commitment, to taking full ownership of the challenge of polio eradication. Fully engaged political leaders in a country will have a burning passion to banish this cruel disease from their land once and for all. Secondly, “fully engaged” means programme management aligned from global, to national, to provincial, to neighbourhood level that completely understands the value of making quality improvement drive every aspect of its work; thirdly, “fully engaged” means a programme dedicated at all levels to the importance of people, from getting the best staff in the most difficult jobs, to treating the front-line vaccinators with dignity and respect, to weeding out bullying and corruption, to letting parents know how important they are to the whole endeavour.

PERFORMANCE: MOVING FROM THE ORDINARY TO THE EXTRAORDINARY

There is a widely quoted saying within the world of quality improvement:

“Every system is perfectly designed to produce the results that it gets.”

The stark truth is that, as of now, the system of polio eradication is perfectly designed to keep missing the eradication goal.

A system, whether in public health, healthcare, or any other sector, is composed of the processes, actions, interactions, interventions, ways of working, technology, relationships, and human behaviours that produce results, intended and unintended. The quotation is simple and memorable but, on reflection, it is also deep and profound. Applied to the polio eradication programme at global and country level it means that the results that it is getting are a direct result of the way the “system” is designed and operates.

The current system is set up to regularly deliver unintended consequences (children are missed, there are gaps in surveillance, parents experience vaccine fatigue, polio virus persists) as surely as it is to deliver intended consequences. Unless the system is changed, the unintended results will persist because the polio eradication system is “perfectly designed” to produce them.

Improving the system requires going upstream and looking fundamentally at the processes critical to the success of the system, fully understanding their flaws, redesigning them, and then ensuring that they are delivered exactly as required every time.

An initial three *mission-critical processes* should be redesigned where they fall short of excellence or improved further where they are generally effective. These three processes are:

- Reaching every child: Investigating each instance of a missed child; specifying and implementing action to reach the child but also to prevent a recurrence
- Strengthening surveillance: Ensuring that every gap in the surveillance system is studied and remedied
- Ensuring rigorous independent monitoring: Improving the process of campaign quality assessment

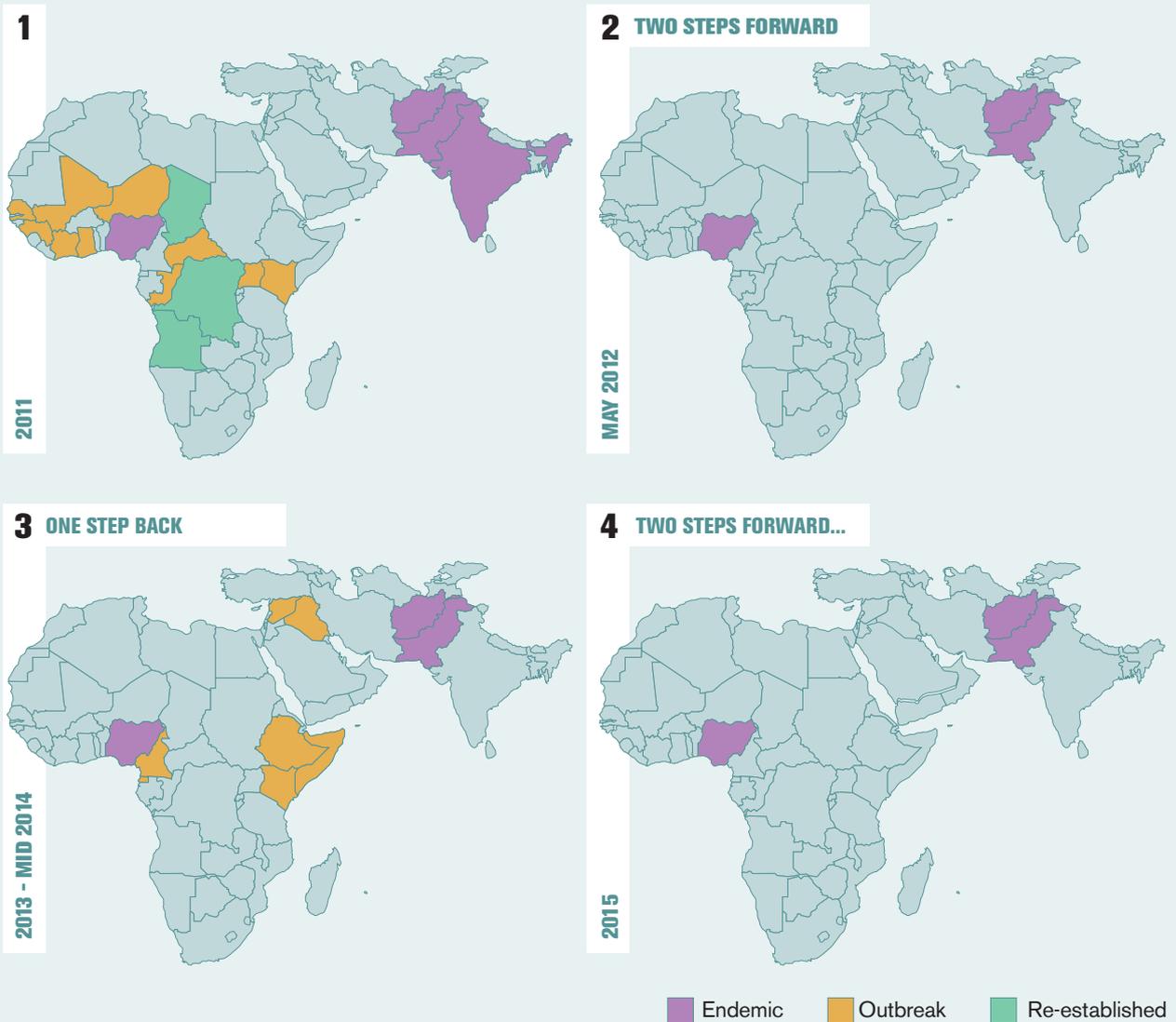


This is not straightforward work. It does not mean issuing guidelines and standard operating procedures, or trying to impose a single blueprint everywhere. It means strengthening the fundamentals of the process of quality improvement that occurs at global, national and local levels.

It might take a decade to build up expertise within the programme, to undertake such work at the level required to make a real difference. This is why the IMB

has recommended specialist experts to be integrated with the polio teams in countries to rapidly introduce the transformational approach that is so badly needed. Someone making a counter-argument that this external help is unnecessary and it can all be done in-house only has to look at the continuing suboptimal performance that sits alongside impressive improvements. Such a mixed approach, in which excellence exists only patchily, is fatally flawed.

THE COURSE OF POLIO ERADICATION NEVER DID RUN SMOOTH



CONCLUSIONS AND RECOMMENDATIONS

Over recent years, the IMB has witnessed the polio programme improving its system, and improving performance as a result. But further fundamental work of system redesign remains to be done.

The IMB emphasizes that recent gains should be applauded, but should not be a source of triumphalism. There will be some temptation to coast; to think that it is now just a matter of time. The rocky road to eradication does not allow for coasting.

The IMB has made a series of recommendations intended to catalyse the further changes that are required. No crystal ball can now tell when polio will be eradicated. No crystal ball is required to know that polio will not be eradicated until the system is perfectly designed to so.

Speed in improving the system is key. Without the discipline of fast implementation, the polio virus will still be circulating more than a year from now – in short, the programme will have granted the polio virus permission to keep on paralyzing children for more than another whole year after the last failed deadline of ending transmission. It will be the polio virus celebrating, not the programme.

AFGHANISTAN

1. The IMB recommends that Afghanistan's Minister of Health appoints a very senior official with the skills and credibility to lead the programme day-to-day on the Minister's behalf.
2. The IMB recommends that programme officials from the Southern and Eastern regions of Afghanistan visit the Emergency Operations Centres of Pakistan at once, and return with lessons that can be appropriately applied in Afghanistan with urgency.

NIGERIA

3. The IMB recommends that the new President of Nigeria makes a clear public declaration that polio cannot yet be considered gone from Nigeria, and sets out and leads a plan to achieve polio-free certification in 2017.

PAKISTAN

4. The IMB recommends that Pakistan's National Task Force meets at least monthly until polio transmission is stopped, to oversee strict implementation of the National Emergency Action Plan. The National Task Force should particularly ensure that a monthly meeting of each Chief Secretary with their Deputy Commissioners goes ahead without exception, and with full attendance, to tightly oversee implementation of the National Emergency Action Plan in each province.
5. The IMB recommends that Pakistan's National Task Force, within the next four weeks, resolves the issues that are resulting in front-line workers not being properly paid, to stall any further deterioration in morale amongst this crucial group, which could be fatal to the programme.

OUTBREAKS

6. The IMB recommends that the Polio Oversight Board explicitly re-affirm that the programme's planning – in and beyond the endemic countries – should be based on what is needed to achieve eradication, not limited by what funds are available, and that more funding should be sought in the event of a shortfall. The IMB further recommends that the Polio Partners Group formally endorse this approach, and actively seek to mobilise further funds that may be required. The work of the Financial Accountability Committee is critical in ensuring that finances are well-managed, and that donors have the appropriate information and assurances.

THE NEED TO HARNESS THE POWER OF PEOPLE

7. The IMB recommends that the GPEI partner agencies convene an urgent meeting to i) leave no stone unturned in urgently recruiting more top-notch staff into the polio-infected and highest-risk countries, cutting through red-tape as needed to achieve this, ii) explicitly analyse whether the best people are currently in the places where they are needed the most.

SURVEILLANCE FIT FOR THE PRESENT AND FUTURE

8. The IMB recommends that the program should expedite activity to improve surveillance, aiming to reach global-certification standard by the end of 2015. Any uncertainty about what global-certification standard now constitutes (particularly the role of environmental surveillance) should be clarified with input from the Global Certification Commission.

SIMPLE DROPS OF VACCINE

9. The IMB recommends that in the endemic and priority countries, vaccine wastage be urgently reduced to 15% as an absolute maximum in every subnational area, starting by full implementation of the programme's standard operating procedure for reporting on vaccine utilization and stock balance.

VACCINE-DERIVED POLIO VIRUS: A POTENTIAL SHOW-STOPPER

10. The IMB recommends that the Prime Minister of Pakistan and the President of Nigeria each receive a monthly briefing on stopping circulating vaccine-derived polio virus in their countries, to ensure that neither country stands in the way of the planned global withdrawal of trivalent oral polio vaccine.

PERSISTENTLY MISSED CHILDREN

11. The IMB recommends that an urgent global polio summit is convened on the subject of the persistently missed child, charged with the task of producing a plan that will cut the number of such children by 50% within six months.

PERFORMANCE: MOVING FROM THE ORDINARY TO THE EXTRAORDINARY

12. The IMB recommends that the GPEI makes funds immediately available to appoint a company with an established track record in process redesign and quality improvement. This company should deploy staff to work in each of the Emergency Operations Centres and at global programme management level. The IMB asks that this recommendation is implemented urgently with the company selected by 1st July 2015, teams in place by 1st August 2015 and initial improvement results posted by the time of the IMB's next meeting, in October 2015.