

Independent  
Monitoring Board  
of the  
Global Polio  
Eradication Initiative

Report

July 2011

# Independent Monitoring Board of the Global Polio Eradication Initiative

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This second report follows our third meeting, held in London on 30 June and 1 July 2011.

At present the needs are:

- To concisely understand the global situation
- To maintain clear and energetic focus in each country with ongoing transmission
- To see the wood for the trees in identifying and dealing with the programme's key risks
- To find innovative solutions that break through entrenched problems
- To surface fundamental problems that need urgent attention

We are grateful to the many partners of the Global Polio Eradication Initiative who have provided us with information, logistical support, and valuable insights. We are grateful for their help, and commend their commitment. Our role remains to speak with a clear, objective voice that is independent of any of these partners. We each sit on this board in a personal capacity. We remain resolutely independent, and will continue to present our frank view without fear or favour.

Sir Liam Donaldson (Chair)  
Former Chief Medical Officer, England

Dr Nasr El Sayed  
Assistant Minister of Health, Egypt

Dr Jeffrey Koplan  
Vice President for Global Health  
Director, Emory Global Health Institute

Professor Ruth Nduati  
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Professor Michael Toole  
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Dr Ciro de Quadros  
Executive Vice President, Sabin Vaccine Institute

Dr Sigrun Mogedal  
Special Advisor, Norwegian Knowledge Centre  
for the Health Services

Dr Arvind Singhal  
Marston Endowed Professor of Communication  
University of Texas at El Paso

\*Dr Chowdhury was unable to participate in the meeting but endorses this report

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The Independent Monitoring Board was convened at the request of the World Health Assembly to monitor and guide the progress of the Global Polio Eradication Initiative's 2010-12 Strategic Plan. This plan aims to interrupt polio transmission globally by the end of 2012.

The IMB will next meet on 28-30 September 2011 in London.

# Contents

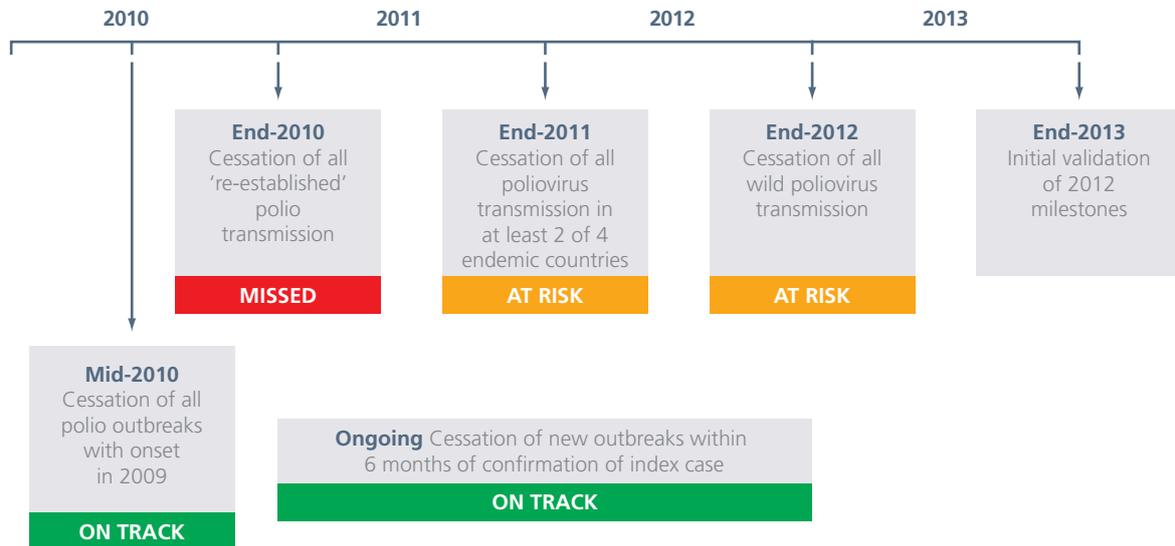
Executive Summary	4
Our previous report	6
Global progress assessment	7
Country by country	10
Seven immediate risks	17
Analysis of inconsistencies, weaknesses and dysfunctions	18
Recommendations	25

## Executive Summary

1. Our first report, in April 2011, took a broad, frank look at the task of interrupting polio transmission – its historical context, the factors critical to success, the key remaining countries. The Global Polio Eradication Initiative (GPEI) achieved a 99% reduction in polio cases worldwide between 1988 (the year of the GPEI's founding) and 2000, but this was followed by a decade of 'stalemate' with no further headway being made. Evidently, eradicating the final 1% of polio is the greatest challenge yet. Nothing short of excellence will complete this task.
2. By our current assessment, the GPEI is not on track to interrupt polio transmission by the end of 2012 because:
  - The programme is performing poorly in controlling polio in countries with re-established transmission (DR Congo, Chad and Angola)
  - The programme is weak in anticipating and preventing outbreaks in high-risk countries previously free of polio; 14 such countries have suffered outbreaks since the beginning of 2010
  - The polio numbers in Pakistan are going in the wrong direction: the number of cases this year has doubled compared to the same period in 2010
  - The urgency and power of the response of the programme to the situations in Chad and DR Congo has not been commensurate with the serious problems of capacity, capability and quality control on the ground in these countries
  - There are too many examples of failure to ensure consistently high quality of vaccine campaigns and surveillance in key areas
3. If the question is asked: "What will be done differently next month to completely transform progress against the stubborn persistence of active polio?" there is no convincing answer. More of the same will not deliver the polio eradication goal.
4. But polio eradication is still possible, in the near-term, if there is enhanced political commitment, secure funding, strengthened technical capacity, and if the concerns below can be swiftly tackled.
5. This report identifies key areas of immediate risk. Listing these, we ask the GPEI to ensure that it has a clear plan to deal urgently with each.
6. We highlight areas of inconsistency, dysfunction and weakness in the programme, and provide recommendations to break through these.
7. We raise key long-term issues relating to serious resource shortfalls and the need for a clear polio endgame plan.
8. We update our assessment of the global milestones (see next page) and of progress in each of the seven countries with persistent transmission:
  - India has made strong progress and is on track to interrupt transmission this year.
  - Afghanistan is making good progress, but has not yet sufficiently overcome its access challenges.
  - Recent national elections set back Nigeria's strong progress, which now needs to be resurrected.
  - High-level commitment is evident in Pakistan, but the country needs to get to grips with serious local level performance issues.
  - We welcome the additional technical support being afforded to Chad, where the situation is alarming. The surge teams of WHO and UNICEF need to become swiftly functional.
  - We are deeply concerned by DR Congo, where visible commitment of the President is much needed.
  - Angola is making good progress but needs to retain its focus on the province of Luanda.
9. Our view remains that stopping polio transmission needs to be treated as a global health emergency. Failure would allow this vicious disease to resurge.

We will continue to provide a frank and independent assessment of the progress being made. Our next meeting will be held in London on 28-30 September 2011.

### Strategic Plan: Global Milestones



Our current assessment of progress against each of the 2010-12 Strategic Plan global milestones

## Our previous report

Issued three months ago, our first report presented a stock-take of the Global Polio Eradication Initiative in the round. Taking an outside, objective view, we synthesised our assessment of where the GPEI stood.

The report was widely welcomed. It seemed to resonate with many who know the programme well.

### **Substantial progress in enacting our April 2011 recommendations**

There was important action in response to our previous report. In particular:

- We expressed alarm about Chad. The country's emergency action plan is now greatly strengthened. The technical capability and capacity on the ground is being enhanced. As detailed later, we remain deeply concerned about Chad and will watch progress carefully.
- We recommended that the heads of WHO, UNICEF, CDC, Rotary International and the Bill & Melinda Gates Foundation Global Health Programme speak by teleconference to ensure that they are maximising their personal and organisational efforts to complete eradication. They did so, and will continue to do so after each of our reports is published. Their persistent personal leadership is uniquely powerful.
- We recommended that no real distinction should be made between the countries with re-established polio transmission and the countries with endemic infection. WHO, CDC and UNICEF have presented us with a comprehensive plan to scale up efforts in the former group of countries to the level of those in the latter. We will track its implementation.

A summary of the actions taken against each of our April 2011 recommendations can be found on the IMB website ([www.polioeradication.org/IMB.aspx](http://www.polioeradication.org/IMB.aspx)). We will continue to track progress against each of our recommendations. In any instances where the partnership decides not to enact one of our recommendations, we ask to be immediately informed of the reasons for this.

### **Failure to signal urgency**

We were very disappointed by the response to one of our recommendations. We recommended that the May 2011 World Health Assembly should consider a resolution to declare the persistence of polio a global health emergency. In feedback we had indicated that if the term 'emergency' was a procedural barrier to such a resolution, we would be flexible with the use of words. We had felt that having pledged to the goal of eradicating polio, the World Health Assembly needed to state unequivocally that this remained a high priority for all Member States, not just an interested minority. A partnership that aspires to eradicate a disease from the world should have been able to act with sufficient speed and flexibility to develop a resolution that fulfilled at least the spirit of our recommendation, even if not enacting it to the letter. An opportunity to heighten global resolve has been lost. A full year will pass before the next such opportunity, which must not be similarly missed.

# Global progress assessment

Our view of the Global Polio Eradication Initiative remains: polio eradication is feasible and vital. It is a privilege to see the talent and commitment of many who strive towards this goal. The GPEI's 2010-12 Strategic Plan is clear and strong. In the main, its indicators are showing themselves to be valid. However, considerable additional focus is needed if polio eradication is to be achieved in the near term.

## End-2011 and end-2012 milestones remain off-track

We are unshakeable in our view that the GPEI is not on track to interrupt polio transmission as it planned to do by the end of 2012.

There can be no guarantees, but **India** does appear on track to interrupt transmission this year. Both **Nigeria** and **Afghanistan** could bring this goal within their grasp. Each is performing well and is to be commended on their progress. Neither is yet at the level of performance that is needed to complete the job. We commend **Pakistan** on its heightened commitment, but remain concerned that it risks becoming the last global outpost of this vicious disease, jeopardising the global effort. We will retain this concern until we see its plans being translated into effective action at local level.

**“We are concerned that Pakistan risks becoming the last global outpost of this vicious disease”**

## Non-endemic countries are of increasing strategic importance

Over the last three years, the number of polio cases in endemic countries has fallen substantially. In the same period, the position of non-endemic countries has worsened (figure 1). This surge is continuing. In the first half of 2011, there have been twice as many cases in non-endemic countries as in endemic countries (162 vs 79).

**Annual number of cases in endemic and non-endemic countries**

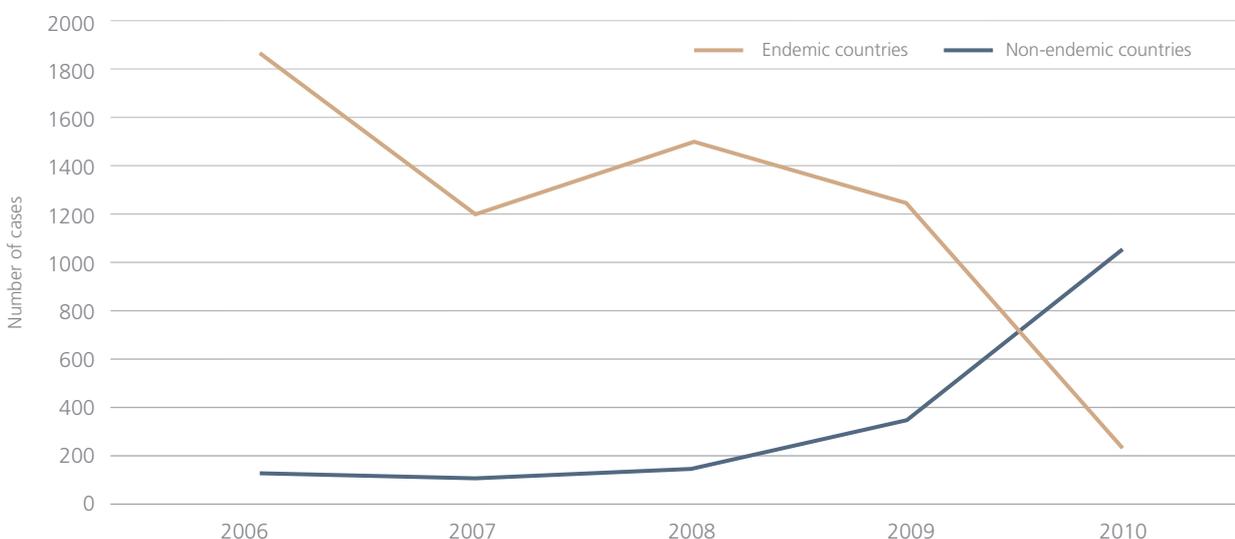


Figure 1: Tackling polio in non-endemic countries is of increasing strategic importance

### The countries with re-established transmission remain of key concern

Non-endemic countries fall into two categories: those in which transmission has been re-established for 12 months or more, and those with shorter outbreaks. The 2010-12 Strategic Plan aimed to interrupt transmission in all four 're-established' countries by the end of 2010. This milestone was conclusively missed and the programme must be judged to have performed poorly in this regard. **DR Congo** and **Chad** both continue to have cases. Their 2011 totals are currently 59 and 80 respectively. **Angola** has had four cases in 2011. **Sudan**, the fourth 're-established' country, has not detected any cases in 2011, though environmental surveillance detected a virus in Southern Egypt genetically related to previously circulation in Sudan. This raises the possibility of ongoing undetected transmission in Sudan.

Our previous report expressed deep concern about these re-established countries. Each has interrupted polio transmission in the past, which differentiates them from the four remaining 'endemic' countries and makes it all the more worrying that the programme is failing to get on top of the problem. Our last report recommended that no real distinction should be drawn between these countries with re-established transmission and the countries with endemic infection. We are pleased to note the plans of CDC, WHO and UNICEF to enhance the support that these countries receive. We will monitor this closely. We also welcome the close personal attention that the Director of WHO's Regional Office for Africa is giving this issue. In June 2011, he convened and chaired a three-day meeting to examine what further efforts WHO can make to accelerate the implementation of emergency plans in these countries. We commend his personal commitment and strong leadership.

### Strategic Plan: Global Milestones

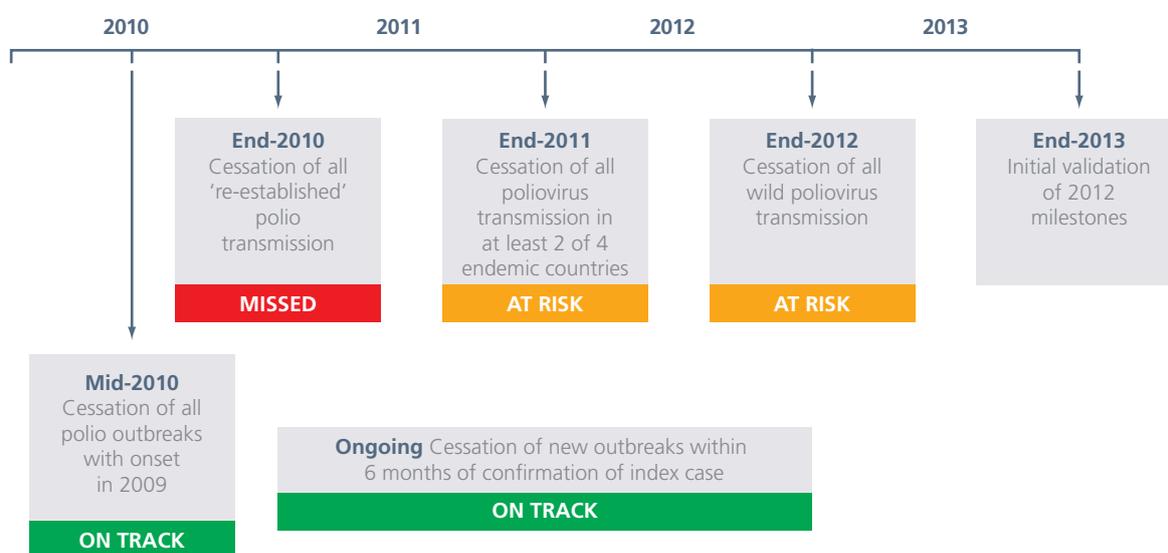


Figure 2: Our current assessment of progress against each of the 2010-12 Strategic Plan global milestones

### Success in stopping outbreaks in previously polio-free countries, but where is the successful prevention?

A further important milestone set out by the 2010-12 Strategic Plan is the control of outbreaks that arise in countries previously free of polio. The goal is to stop any such outbreak within six months of the first case being confirmed. We congratulate the GPEI on its continued success in achieving this milestone.

We remain concerned though by the number of such outbreaks that are occurring. A number of countries, especially in West Africa, sit as vulnerable 'tinder boxes', at risk of ignition by a flame of transmission from a nearby country.

It is alarming and bad for the programme's morale that there are still surprises. Fourteen countries have had polio outbreaks since the start of 2010. More needs to be done to identify the tinder boxes and take action before they ignite. We welcome the efforts of CDC and the WHO regional offices to accelerate this work. We will continue to ask for reports on its progress. We are concerned that Libya represents a recent addition to the list of potential tinder boxes, at great risk when its refugee population re-enters the country from Chad.

**"It is alarming and bad for the programme's morale that there are still surprises. Fourteen countries have had polio outbreaks since the start of 2010. More needs to be done to identify the tinder boxes and take action before they ignite"**

### Decline in type 3 cases: an opportunity

Tracking the number of cases is only one measure of the progress being made. We do not give it undue focus, but it is of interest. There have been 241 cases globally in the first half of 2011, a 47% reduction from the equivalent period last year. In the first half of 2010, 15 countries were affected; in 2011, 13. Of particular note, there have been just 25 cases of type 3 poliovirus detected so far in 2011 (compared to 57 in the first half of 2010). The incidence of type 3 poliovirus has diminished considerably since 2009 (figure 3). This creates a window of opportunity to entirely interrupt its transmission earlier than had been planned.

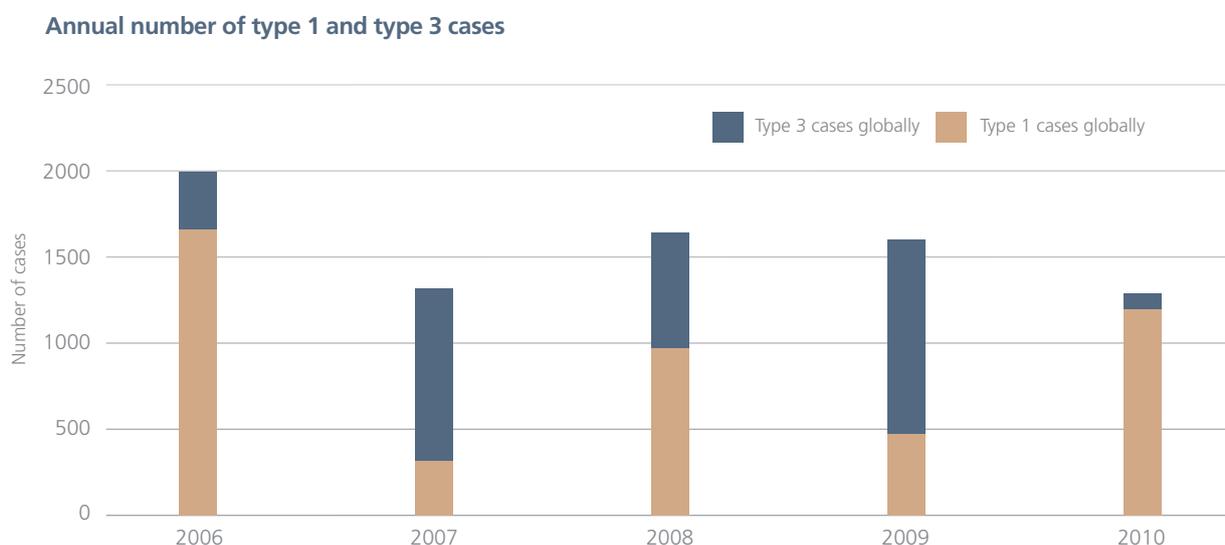


Figure 3: There was a sharp reduction in type 3 cases between 2009 and 2010

## Country by country

During our meeting, we held discussions with the Minister of Health or his/her representatives from each of the seven countries with established polio transmission (the 're-established' and 'endemic' countries). We are grateful for their participation.

The countries lie across a broad spectrum of progress. We make our assessments of progress using a number of inputs. We look at current epidemiology, at CDC's analysis of immunisation and surveillance data, at reports provided to us by countries, and at 'soft intelligence' that reaches us. We are finding that these sources tend to triangulate well.

The number of cases of polio is only one indicator of progress, but it says something of value. Comparing the first half of 2011 to the first half of 2010, three countries have achieved a decrease in their number of cases whilst four have seen an increase (figure 4).

We will not offer recommendations for every country at every meeting. Our specific recommendations are clearly highlighted. We will continue to work with each of these seven countries to monitor progress carefully.

### Angola

Angola did not achieve the GPEI Strategic Plan goal of interrupting polio transmission by the end of 2010. Four cases have been detected in the first half of 2011, all in the south-eastern province of Kuando Kubango.

Data demonstrate ongoing problems with both vaccination campaign quality and surveillance. Independent monitoring data suggest that vaccination campaign quality has been improving over recent months. The national missed children rate is between 6 and 8%. However this belies considerable sub-national variation. In the critical Luanda province, only one of the nine districts consistently achieved coverage over 90% in the vaccination rounds of February, March and April. Surveillance performance is being weakened by problems with stool specimen collection.

#### Assessment

We commend the government of Angola on its evident commitment to this work. Its allocation of financial resources is notable. However considerable work remains to be done if Angola is to have any chance of successfully interrupting polio transmission soon.

Number of cases between January and June: 2010 vs 2011

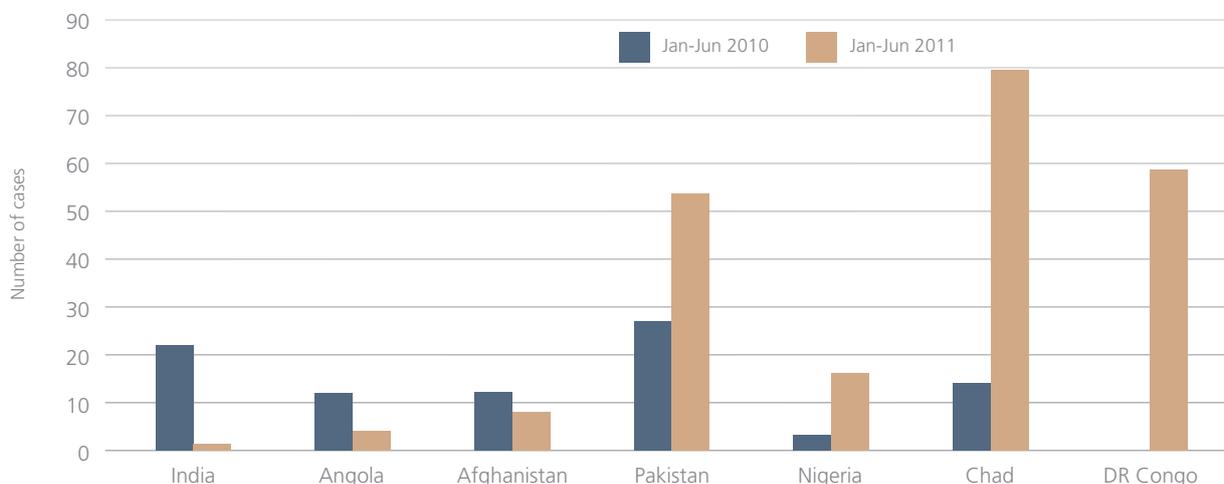


Figure 4: There is substantial variation in the progress made in different countries

It is critically important that Luanda Province is kept polio-free. There have been no cases detected there yet this year, but it remains at high risk. The personal involvement of the Vice-Minister of Health and the Governor of Luanda is welcome. We understand that child vaccinators are being used, a problem that must be tackled. The data clearly demonstrate that vaccination performance in Luanda lags far behind what is required to be sure of interrupting polio transmission. We were pleased to hear of several initiatives to enhance vaccination performance, including steps to improve training and to ensure consistency of vaccinators from one round to the next. Luanda Province's worsened performance in the May campaign, though, demonstrates that more focus is needed here.

**"It is critically important that Luanda Province is kept polio-free"**

We understand that a key WHO post – an international epidemiologist, working to support the government at national level – has been repeatedly filled by individuals on short-term contracts only. There is a clear need to expedite the recruitment of a member of staff into this post on a long-term basis.

#### Recommendations

- **We recommend that WHO appoint, at the earliest, an epidemiologist on a long-term contract to support the Angolan national government**

## Afghanistan

The challenge of interrupting polio transmission in Afghanistan centres on 13 districts in the Southern region. Each is affected by conflict, making access to children a considerable challenge. The programme operates through a web of Non-Governmental Organisations and uses access negotiators (teachers, mullahs, vets, and others) who can respond to the evolving situation in each area. Afghanistan is a highly mountainous country which makes access to dispersed populations an additional challenge.

In each of the last three vaccination rounds, no more than two of the thirteen high-risk districts have achieved 90% coverage. It is not uncommon for more than half of all children to be missed in some districts.

There have been eight cases of polio reported so far in 2011. CDC assesses the country's immunization performance as weak and surveillance performance as intermediate.

#### Assessment

We are impressed by the quality of leadership that we see in Afghanistan. The president's commitment is clear. The country's strategy is responsive, nimble, and flexible. Given the difficult circumstances, good progress has been made. However, Afghanistan is not on track to interrupt polio transmission by the end of 2011. Indeed, the vaccination data suggest that the country is far from achieving such a goal.

The 'Informal Consultative Group' (ICG) seems to be a particularly useful forum for highlighting problems in high-risk areas and solving them in good faith outside formal channels. It shows the value of creating safe and open spaces where problems can be discussed and resolved by stakeholders without pretence, defence or blame. For instance, programme leaders of the ICG are aware that child vaccinators are used in some areas, and are trying to resolve the issue.

We commend the engagement of the public health sector with the animal health sector in addressing polio. We note the introduction of innovations such as deliberately including a young child as an adjunct to the vaccination team (not as a vaccinator) in areas where this helps in ensuring vaccinators' access into homes. It seems vital that such innovative practices are systematically identified and amplified.

## Chad

In our previous report, we described the situation in Chad as a public health emergency. Transmission is now widespread. There have been 80 cases detected so far in 2011. Cases are scattered throughout the country, though there is a particular focus and concern about Logone Oriental. CDC assesses immunization performance as weak and surveillance performance as intermediate.

Our previous report recommended that Chad's emergency action plan be urgently strengthened and that WHO and CDC urgently dispatch a task force to strengthen technical capacity in the country.

### Assessment

The emergency action plan was not revised as rapidly as we had suggested. Incredibly, the process took six weeks. However, the resulting document is strong. It sets out clear objectives, timelines and milestones. It establishes useful accountability mechanisms. UNICEF, CDC and WHO are each strengthening their technical support in the country. We are told that a total of 100 new staff will be in post within four weeks. We welcome the clear personal leadership of the Director of the WHO African Regional Office and the WHO Representative in Chad. The difficult and crucial challenge now is to assemble this new surge of staff into a coordinated functioning team with the utmost speed. Every action must be taken to support this. The simultaneous introduction of so many staff does present the opportunity to establish a unified team identity and joint training between the three agencies involved.

We welcome the commitment of Chad's government to this work. As key political posts are filled over the coming weeks, it is vital that their holders also become engaged.

We were also made aware of the government plans for major investment in the health sector in Chad. The weakness in the primary health care system also affects the national capacity and readiness for keeping Chad polio free after transmission has been stopped and needs to be addressed.

Chad's new emergency action plan is generally strong but it aims to tackle many areas simultaneously. It does not clearly prioritise the outbreak in the eastern part of the country. Its situational analysis identifies high-risk areas, but this is not reflected in the planned objectives and actions. The plan sets out indicators to track the expansion of technical support, but these are structure and process indicators that will not allow the actual performance of this enhanced team to be evaluated.

The situation in Chad remains of great concern. We ask to receive fortnightly updates on the

implementation of the plan, with a particular focus on progress made in establishing a functional WHO/CDC/UNICEF team. Given Chad's emergency situation, we will not hesitate to immediately voice any concerns about lags in implementation to the heads of agencies that are involved. It is vital that Chad receives the utmost attention.

### Recommendations

- We recommend that the heads of WHO, CDC and UNICEF pay personal attention to ensuring that arrangements are in place to enable their agencies' new teams in Chad to begin functioning effectively at the soonest possible time
- We recommend that Chad's emergency action plan is reviewed to (i) establish a clearer priority focus in the areas identified as being high risk, (ii) establish performance indicators that can be monitored as the technical teams increase in size
- We recommend that the Chad programme incorporates collaborative working with the animal health sector in order to enhance vaccination amongst remote and difficult-to-reach populations
- We ask to receive fortnightly updates on the implementation of Chad's emergency plan, with a particular focus on progress made in establishing a functional WHO/CDC/UNICEF team

### DR Congo

Having missed the goal of stopping polio transmission by the end of 2010, DR Congo has so far recorded 59 cases in 2011. At this time last year, it had recorded no cases for six months. The majority of the 2011 cases have been in Kinshasa. There are three separate chains of transmission currently active in the country. The most longstanding of these, in the east, has been ongoing since 2006.

On the basis of independent monitoring data, CDC assesses the country's vaccination performance as intermediate. In the April 2011 National Immunisation Day, five of 11 states missed more than 10% of children.

The epidemiological situation has substantially changed since the GPEI 2010-12 Strategic Plan was written. That plan established a Major Process Indicator for vaccination that focuses on just three provinces – Orientale, North and South Kivu. Transmission is now far more widespread.

Surveillance performance is weak. Inadequacy of stool specimens is a particular problem. Virologic analysis confirms the presence of a significant surveillance gap, especially in the eastern part of the country.

The country's emergency plan aims to interrupt transmission by the end of September 2011.

### Assessment

We are deeply concerned by the situation in DR Congo. The worrying picture revealed by vaccination and surveillance data is confirmed by observations of widespread dysfunction on the ground. Our last report welcomed the country's emergency action plan. With current progress, it is highly improbable that the country will be able to interrupt polio transmission by the end of September 2011 as planned.

Leadership from the highest level is key for polio eradication and we urge the active involvement of the President in this cause. Without his active involvement, we cannot believe that the necessary step-change will occur to interrupt polio transmission in DR Congo.

### Recommendations

- We recommend that the spearheading partners secure the engagement of the President of DR Congo as the leader of this country's emergency actions to interrupt polio transmission
- We recommend that DR Congo, with CDC and WHO, amend the Major Process Indicator for end-2011 that is based on vaccination to reflect the need for good coverage across the recently affected areas

## India

In 2009, India had 741 cases of polio. In 2010, this figure fell by 94% to 42. In the first six months of 2011, there has been just one case in the country. Western Uttar Pradesh and central Bihar were the longstanding foci of ongoing transmission. The last cases in these areas were detected over 15 and nine months ago, respectively. The country's sole 2011 case was detected on 13 January in West Bengal.

Based on its immunization and surveillance performance, CDC now assesses India to be at low risk of failing to detect and interrupt transmission. India fully achieved its country-specific end-2010 goals set out in the GPEI 2010-12 Strategic Plan. No other country with endemic or re-established transmission did so. Environmental samples have yielded no wild poliovirus to date in 2011.

### Assessment

All that we see from India looks positive. The country has come this far through a great deal of hard work and financial investment. The scale of its response has been immense (figure 5). The absolute proof is still a number of months away. The country is now entering the traditional high season of polio transmission. We heartily commend India on what has been achieved to date. We also repeat our plea that complacency would be fatal in the crucial months ahead. The response cannot be to sit and wait. It must be to proactively seek out every potential vulnerability and address it.

We were presented with a summary of current activities. This is generally very well formulated. One question should be at the forefront of everybody's minds: 'where are we vulnerable and what can we do about it?' We were not convinced that sufficient risk analysis has yet been conducted across all states of the country. Within each state, where are the key vulnerabilities? Taking these analyses together, where is the country most vulnerable? Action is being taken on each of these questions, but its depth should be more searching and its pace more frenetic.

### Recommendations

- We recommend that within the next month each state of India completes its risk analysis to identify areas and populations at high risk

of importation and spread of polio, setting out a clear plan to address the vulnerabilities identified

- We recommend that the Indian national programme critically updates its own view of risk in light of the state analyses, to discover whether any areas need further intervention

Each national immunisation day in India involves:	
<b>225,000,000</b>	doses of polio vaccine
<b>2,000,000</b>	vaccine carriers
<b>6,300,000</b>	icepacks
<b>2,500,000</b>	vaccinators
<b>1,170,000</b>	vaccination teams
<b>155,000</b>	supervisors, in <b>155,000</b> vehicles
<b>709,000</b>	vaccination booths
<b>174,000,000</b>	children immunized

Figure 5: These numbers illustrate the scale of India's polio programme

## Nigeria

### Situation

Nigeria made excellent progress in 2010. The number of cases that year was 95% lower than in 2009. As well as being an important goal in itself, stopping polio transmission in Nigeria is of great strategic importance to the global eradication effort. The virus readily spreads from northern Nigeria, seeding infection in surrounding countries that have low routine immunization coverage (figure 6). Besides the human impact, dealing with these outbreaks is an expensive diversion for the global programme.

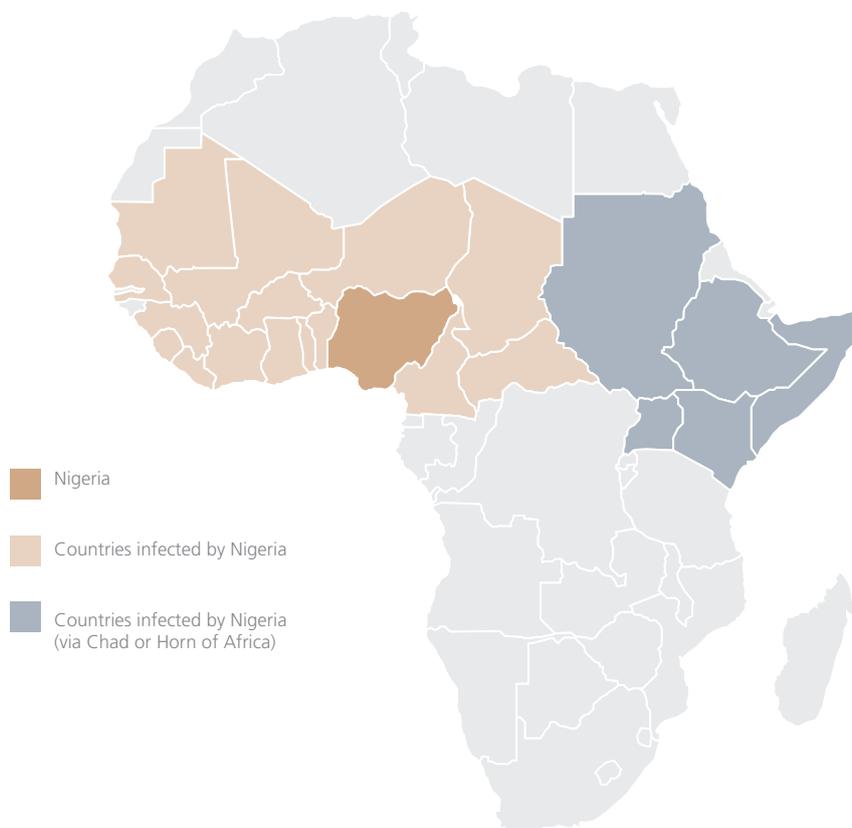


Figure 6: The strategic importance of Nigeria in achieving global eradication is shown by the fact that polio spread to 20 other African countries between 2006 and 2010

The GPEI 2010-12 Strategic Plan identified twelve northern Nigerian states as high-risk. Eight of these are achieving the Major Process Indicators set for both end-2010 and end-2011: less than 10% percent of children receiving no doses of OPV and over 80% of children receiving at least three doses. Katsina and Yobe are failing to achieve the first and second indicators respectively. Borno and Kano are failing on both indicators.

Data monitoring the 'Abuja commitments' track the personal involvement of state governors in eradication activities. Commitment waned substantially over the recent election period. There have been five times as many cases in the first half of 2011 as there were in the first half of 2010.

In our April 2011 report, we judged that Nigeria was not on track to interrupt polio transmission by the end of 2011. We said that it had the potential to do so, and urged it to commit to this aim. In response, the country rapidly developed an emergency action plan. This sets out clear responsibilities at every level. It rejuvenates focus on the Abuja commitments as a means to track leadership involvement at the local government authority (LGA) level.

### Assessment

The loss of momentum as a result of the country's elections has caused our optimism to wane a little since we published our April 2011 report.

Having said that, the leadership of this programme in Nigeria clearly remains determined. There are positive signs. The country's government is showing greater commitment to eradicating polio. This has been visibly demonstrated through the recent allocation of federal funds to the endeavour. The emergency action plan presented to us is strong.

Performance must be elevated in the critical geographic areas so that it is commensurate with the commitment shown at the highest levels of government.

The action plan highlights states of particular concern (including those described above, where the data clearly show adverse immunization performance).

Kano is a major worry. It has low routine immunization coverage, persistence of all three types of circulating polio virus, and is the geographical link between the north-east and the north-west. Kano remains a smouldering risk that could yet undermine the whole eradication effort.

**"Kano remains a smouldering risk that could yet undermine the whole eradication effort"**

We were concerned to hear of delays in the procurement of World Bank funded vaccine. These delays lasted for several months this year, represent a continuing source of risk, and need to be rapidly dealt with.

The strengthened communication and social mobilization activities in northern Nigeria is noteworthy. The implementation of the intensive ward communication strategy in recent months is a step in the right direction. The increased emphasis on data-driven microplans to identify resistant households and missed children is critically important for follow-up and resolution. The increasing involvement of traditional and religious leaders over the last six months is palpable. Emirs of certain local government areas (LGAs), notably in Zamfara and Sokoto states, now hold polio review meetings in their palaces, bringing visibility and credibility to the polio vaccination campaigns.

We welcome the introduction of environmental surveillance in Nigeria. It is clear that significant gaps persist in surveillance. We note the recent completion of a desk surveillance review in Kano, plans for further reviews in Kabi and Sokoto, and a subsequent plan for an international desk surveillance review.

### Recommendations

- **We recommend that Nigeria works with CDC and WHO to agree and introduce an additional Major Process Indicator, based on independent monitoring data, for end-2011**

## Pakistan

### Situation

Pakistan stood alone amongst the endemic countries in recording an increase in cases between 2009 and 2010. In response, the country set out a National Emergency Action Plan. This has two main foci. In the Federally Administered Tribal Areas (FATA), it aims to introduce strategies to increase coverage in areas of poor access. Elsewhere, it establishes a particular focus on 33 high risk districts in Khyber Pakhtunkhwa, Sindh, Balochistan and central Pakistan. It aims to increase vaccination coverage through a clear series of responsible committees and officers – at union council, district, province and national level – each reporting process indicators and coverage data up the chain.

CDC continues to assess immunization performance as weak and surveillance performance as intermediate. There have been 54 cases so far this year, exactly double the number of cases recorded in the first half of 2010.

### Assessment

Our previous assessment was that Pakistan's emergency action plan is well formulated, but that its impact on the ground was not yet apparent. This remains our assessment. We do commend the Prime Minister on his personal leadership. He chaired a task force meeting in June 2011. However, it is clear that the plan is yet to make a real impact at union council level.

The plan sets a goal of interrupting polio transmission in FATA, Khyber Pakhtunkhwa, and central Pakistan by mid-2011. This has clearly not been achieved.

We welcome the action that is being taken to significantly enhance capacity at district and union council level. One hundred communication and social mobilization staff are being recruited to work at district level; 400 at union council level. This is an important and necessary development.

Sindh province is of particular interest. In other areas of the country, the programme has to overcome the problems caused by conflict and insecurity. Sindh does not. We will therefore look at Sindh as a pure marker of success (or otherwise) in the national plan's ongoing

implementation. There is no real reason why we should not see clear progress in Sindh soon.

It is increasingly clear that Pakistan's commitment to stopping polio transmission is growing. Its government is to be commended for the action that it is taking. Its partners are working strongly. However, Pakistan still lags behind the rest of the endemic countries. It still looks like it will be the last country to stop transmission, putting its neighbours and the global effort in jeopardy. The country needs to muster up relentless energy to really get to grips with the challenges of implementing its emergency action plan.

**“Pakistan needs to muster up relentless energy to really get to grips with the challenges of implementing its emergency action plan.”**

## Seven immediate risks

Amidst the complexities of this global programme, its leaders must maintain a clear view of the key immediate risks that face the programme, and have a solid plan to prevent or overcome each of them.

By our assessment, these risks are:

1. Failure to extinguish transmission in areas known to seed widespread infection: northern Nigeria, Luanda Province in Angola, eastern DR Congo, Chad
2. In DR Congo, failure to gain the presidential commitment necessary to establish an imperative to eradicate polio from the country
3. In Chad, failure to rapidly mould the 100 new field staff into a high quality team delivering improvements
4. In India, failure to see the warning signs in currently unaffected areas from which polio could yet resurge
5. Failure to close sub-national surveillance gaps, allowing polio to persist beneath the radar
6. In Pakistan, failure to tighten accountability, allowing ineffectual vaccination campaigns to continue in many union councils
7. Failure to act on micro-level weaknesses and deficits in vaccination programmes in many affected areas

# Analysis of inconsistencies, weaknesses and dysfunctions

Our first report, published in April 2011, assessed the factors that are critical to the GPEI's success – technical factors, organisational factors, political and governance factors, infrastructure factors, and people factors.

It remains striking that the programme does not seem able to achieve consistency in its performance across these critical success factors. For example, excellent vaccination campaigns carried out regularly and missing very few children are a hallmark of the programme in some countries, whilst in others campaigns are carried out sporadically and consistently miss large swathes of children, leaving the population unprotected against the virus.

In some countries, commitment from the top is strong and delivery systems at regional and local levels reflect and align with this, whilst in other countries political commitment at national level degrades and is dissipated as it works through to the front-line.

In this section of the report we use our deepening insights into why there is success, failure and mediocrity in performance to explore the root causes of it. At the end of the report, we make recommendations to address the areas that we discuss in this section.

## **1. Deficits in local leadership, know-how and experience are making progress impossible**

In some polio-affected countries, despite the political commitment from the top there are just not enough people at programme delivery level to ensure that this commitment is translated into action on the ground. Local leadership roles are not easy. They require individuals to have experience in micro-planning, to motivate and inspire staff, to collect and review data, to keep a relentless focus on quality assurance, to be adept at logistics and to be creative and nimble in finding solutions. Unless local leaders with these skills (and more) are in place in the most intractable polio hot-spots, it is virtually certain that eradication will fail.

It is no good believing like Mr Micawber (in Charles Dickens' David Copperfield) that "something will

turn up". Similarly, the training lead time is too long. We were strongly of the view that countries with a strong track record of eradication could form natural partnerships with affected countries. For example, why could not staff from Brazil be seconded to strengthen the eradication effort in Angola? Why not staff from Egypt lend a helping hand in Chad? Why not Chinese expertise be deployed in support of DR Congo? Coupled with appropriate financial support, these partnerships could be also be very effective in demonstrating broader political support for polio eradication. We make a recommendation to promote this idea.

## **2. Failing to recognise that local insights from the field have programme-wide implications puts the GPEI at risk**

No matter how much global, regional and national commitment and planning takes place, ultimately polio eradication will only be achieved if local circumstances are right. One of the most difficult aspects of any programme of change is to use micro-level insights which highlight dysfunctions in order to 'diagnose' system-wide problems and take corrective strategic actions. Equally, it is often tempting in a generally successful programme to dismiss observations of bad practice locally as isolated occurrences, or to assume that local leadership will automatically deal with them.

We are increasingly concerned that observations coming from the field are not being surfaced to the programme decision-makers and acted upon.

There are many examples we have come across but four perhaps illustrate the general points:

- Vaccinators in one campaign stood passively at their post in the town square rather than mingling with the crowds and actively encouraging caregivers to bring their children for vaccination
- Tally sheet forms being falsified, exaggerating vaccination coverage
- Power failures leading to spoiling and loss of stool specimens
- Paid vaccinators "sub-contracting" tasks to untrained children

These may seem like hair-splitting observations, not worthy of being raised at the highest levels of a global programme. We disagree. The iceberg effect suggests these observations are unlikely to represent the full extent of dysfunction occurring within the observed team, and that such dysfunction likely extends beyond that team to other teams or tasks. Each observation should therefore be seen as a beacon. What does it say if a team is standing at its post, not actively engaging with the crowd? It suggests that they are not effectively engaging with the task with which they are charged, of vaccinating as many children as they possibly can. Perhaps their instructions have been too rigid, and they are not encouraged to use their common sense. Perhaps they are failing to take responsibility. A great deal of learning lies behind each of these events. If data tally sheets are being falsified, what does that say about commitment to the programme? It is not likely to be an isolated event, but to reflect deep and damaging dysfunction.

When the same problem occurs in many different places, system-wide solutions may be needed. The use of children as vaccinators is one example of a recurring theme. As well as the 'sub-contracting' issue, this can arise because the reimbursement offered is not sufficient to attract mature motivated vaccinators, or because of lax recruitment processes.

Micro-level observations are important for two reasons. First, the extent to which they occur in different geographies provides a clear marker of where the greatest problems lie. Second, these observations offer rich pickings from which to learn. The common thread in three, perhaps all four, of the observations above is a failure to take responsibility. The programme can learn something from this about the way it needs to communicate with staff.

Micro-level observations tell the real story in a way that high-level indicators rarely can. They must reach the top tables, be used, and be taken just as seriously as macro indicators of programme effectiveness.

### **3. Failing to collect and recognise the importance of social data causes children to be missed by vaccination rounds**

Polio moves in mysterious ways, affecting particular groups of the population disproportionately and spreading in ways that are not at first apparent. The collection of detailed information about every child who is found to have polio has helped to unravel some of the mysteries. Whole countries' strategies have been altered for the better by taking into account the golden insights that case reports can provide. They showed, in India, that children of mobile populations were frequently affected by polio, having been repeatedly missed by vaccination rounds. These children lived off the map, unrecorded by any microplan that guides house-to-house visits. Eagle-eyed investigators spotted recurrent reports about polio amongst the children of migrant brick kiln workers. These insights have sparked nationwide efforts to reach these vulnerable population groups on vaccination days. If the case reports had solely captured medical data, these subtleties would have been lost, and the Indian polio programme would be weaker.

While progress has been made in collecting and tracking social data to guide polio eradication efforts, data quality and completeness varies substantially between countries. We learn with concern that it is common for social data to be missed from the forms when potential polio cases are investigated, that case investigation forms are often filed with gaps where this valuable information should be. We cannot know what insights are being missed as a result, but we are certain that they are being missed. When GPEI workers come into contact with a child who has polio, they have a golden opportunity to harvest data of real value. Whether they are a doctor, a local government worker or a communications specialist, their responsibility must be the same – to record complete data that can benefit the programme. We make a specific recommendation to address this point.

#### **4. Global standardisation of procedure has been highly successful in other programmes; why not polio?**

Amongst other complex reasons for poor vaccination coverage, one stands out as being painfully simple. Some areas achieve poor coverage because vaccinators do not consistently use the same techniques as their better performing colleagues do elsewhere. The management challenge that this presents is one of reducing variation, of finding means to elevate the performance of the poorest performing group to that of the best. The techniques themselves are not complex. The challenge is in getting people to use them reliably. The standard response is to produce guidelines or checklists, but these tend to gather dust on a shelf rather than reaching those who need to apply them.

Variation in performance is a problem faced by many industries, and the polio programme can learn from their solutions. Aeroplane passengers would not welcome variation in performance. They want to know that their pilot has taken each of the basic measures that he or she should have taken. Checklists are an integral part of a pilot's work. They are used in a very particular way. Their completion is not viewed as a paperwork exercise or a vague set of stimuli sitting in the background. Instead the checklist is a prompt for team communication, and for team commitment to an action. Pilots talk through their checklists, checking that each key action is completed. None of the actions is complicated for a trained pilot to perform. They might have remembered to perform most of them anyway, without the use of the checklist. But the checklist is there as a prompt to ensure that they never forget. By running through it together, the pilots take responsibility. It binds them together as a team.

Team-based checklists are now permeating into clinical practice. In the operating room, some actions that are clearly essential are still missed with remarkable frequency. Such things as checking the patient's identity and ensuring that essential supplies are on hand. Surgical teams now use WHO's Safe Surgery Checklist to verbally agree simple best practices before the operation starts. Many believed that the Safe Surgery checklist was not needed, that it would not have any impact. They were wrong. Its use markedly

reduces the number of operations in which simple actions are missed. It reduces operative mortality by a remarkable 40%.

We make a recommendation that a similar lesson be applied to polio. This is not to create more paperwork. As has occurred in the cockpit and then in the operating room, the crux here is in enhancing vaccination teams' recall of the actions that they need to take, and in promoting team-based responsibility for following through on that recall. It will add a few minutes to a vaccination day but may increase the impact ten-fold.

#### **5. People will solve micro-problems if empowered to do so**

In polio vaccination, two things are certain: that vaccinators will encounter challenges, and that in no two places will these challenges be exactly the same. It is important that front-line staff systematically apply best practices. It is equally important that they respond flexibly to the unique challenges that they face. Where guidelines cannot reach, human ingenuity must take over. We were interested to hear the story from Afghanistan of vaccinators being refused entry to houses because mothers were too intimidated to open the door. The ingenious response has been to include a child to help the vaccination team. The child can approach the house and negotiate with the mother in a way that the adult team cannot. The use of children as vaccinators is a problem in some parts of the world, but with this subtle flip in emphasis, it is a great solution.

In northern Nigeria, a vaccinator finds that she can overcome a frosty reception by helping a mother in her work of pounding millet. Finding that this tactic works in one household, she quickly applies it in others, and shares it with her colleagues. A simple solution, found by a flexible and motivated worker. A rigid or disinterested vaccinator would not have come up with this.

Such 'micro-innovations' or micro-behavioural practices are often clever because they are simple. They can be highly effective. Each cannot usually be spread beyond the specific context, though they can be shared with others locally. But what can and must be spread is

the problem-solving attitude, the can-do willingness, and the freedom of the front-line to innovate. We make recommendations about how this can be systematically stimulated.

### 6. Selective use of combined IPV/OPV is being talked about; why not take a serious look at it?

We hear murmurings about the idea of giving IPV and OPV in combination. Proponents highlight the particular value of this idea in areas where access to children is severely limited by conflict. In such settings, each opportunity to access a child is valuable. Repeated vaccination forays cannot be made so the value of each must be captured by using the most effective intervention that there is. Some evidence suggests that a combined approach reduces the risk of vaccine failure compared to giving either IPV or OPV alone. (figure 7).

Others are opposed to the idea, believing that it adds unnecessary complexity and cost, and could be dangerous. We do not take a particular view on the answer to this question. But we observe that the question is floating in the ether rather than being grasped. This does have the potential to be a useful innovation, so the debate needs to be properly aired. We make a recommendation to stimulate this.

### 7. The GPEI is based on 'push' with very little 'pull'; where is the mobilisation of demand from parents?

Many developed healthcare systems have now realised that patients do not simply do what their doctor tells them to do. They have shifted their modus operandi from one in which the doctor dominates and 'compliance' is the aim, to one in which there is a balanced dialogue between parties, a recognition that the patient shares both the power and the responsibility. Programmes are run to empower patients, who tell their doctor what they would like him or her to do for them, rather than the other way round.

The language that we hear from the GPEI reminds us of the consulting rooms of yesteryear. 'Compliance' is still measured. 'Refusals' are something to overcome. It all sounds somewhat confrontational. Even the work of social mobilisers is focused on making people aware about campaigns and in overcoming refusals that arise.

There are some pockets of 'pull' in the programme. Rotary does some good work with groups that engage communities. But for the most part the programme does not seem to reach the deeper level of really, truly,

Percentage of children failing to seroconvert after type 1 vaccination

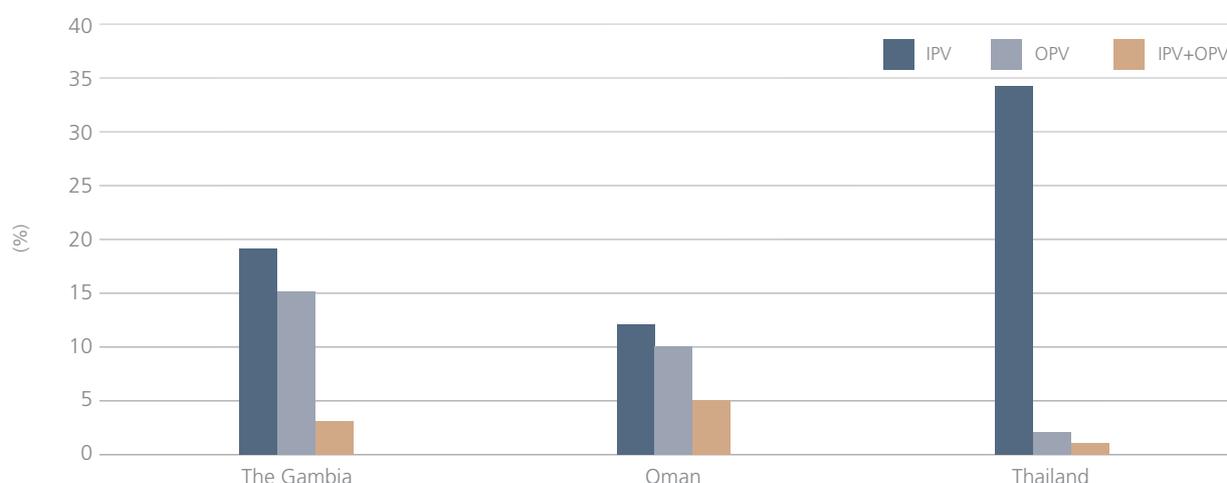


Figure 7: Vaccination courses that combine IPV and OPV have been shown to result in fewer children failing to seroconvert than those that use IPV or OPV alone

Source: WHO Collaborative Study Group on Oral and Inactivated Polio Vaccines. Combined Immunisation of infants with oral and inactivated poliovirus vaccines: results of a randomized trial in The Gambia, Oman and Thailand, J Infect Dis 175(Suppl 1):S215-S227, 1997.

building demand. It misses an opportunity to build a lasting trust and confidence, and to stimulate demand at an emotional level from communities, a demand that could reach even beyond polio.

If every parent really understood the polio vaccine, they would be clamouring for it rather than having to be 'overcome'. If every mother was encouraged to see vaccination as part of her nurturing role, she would see the lack of an offer of vaccine as neglect of her child. She would be fighting to get it. Whilst there are pockets of this in evidence in the programme, but the 'push' approach currently has far greater prominence than the 'pull'.

### **8. The projected funding gap is deadly serious; where is the plan to break through it?**

It is becoming clear that more of the same approach to resource mobilisation is not going to fund polio eradication through to completion. The GPEI has a talented group of individuals working to mobilise resources. It has the longstanding support of a core group of partners. But it is neither right nor sustainable that the burden of financing this programme should rest disproportionately on a narrow funding base. There are a number of richer countries that have called for polio eradication, but have barely supported it financially.

It is also clear to us that the narrative of polio eradication is somewhat under-developed. Intentionally or not, the message that the GPEI is giving seems to be: (i) this is an important cause, (ii) we are nearly there, (iii) we cannot come this far and then fail. All are valid arguments. But each is readily rebutted: there are many important causes; the GPEI has said "nearly there" before; economists do not consider sunk costs when evaluating future options.

The Global Alliance for Vaccines and Immunisation (GAVI) has been a close supporter of polio eradication for some years. Many of its own key partners are also proponents of polio eradication. GAVI's partners recently pledged \$4.3 billion towards its work. GAVI's mission is to save children's lives and protect people's health by increasing access to immunisation in poor countries. Its indicators include the under-5 mortality rate and the number of future deaths averted. There

are clear synergies between the goals of GAVI and the goal of the GPEI.

There is a role for greater public advocacy. In the minds of those supporting and working towards polio eradication, it is a great international endeavour of historical importance. In the minds of the public, we see a different story. Some vaguely believe that polio has already been eradicated. Most do not understand its relevance. Rotary International has done some fine work in publicising the cause. Their End Polio Now motif has certainly raised awareness. The Bill & Melinda Gates Foundation has also raised polio's profile, not least through the work of its co-chairs. But the issue remains more prominent in the health and political spheres than it does in the public psyche. The programme suffers as a result. Politicians respond to their electorate. If key groups of people saw it as more of an important issue, so would their governments.

Polio has been a leading cause of disability worldwide. Its eradication would likely be of great interest to groups advocating on behalf of those with disabilities. Their voice is a powerful one. Targeting advocacy towards specific groups such as this could be highly effective in sparking wider public awareness.

### **9. The lessons from major innovations in one part of the programme need to be properly applied elsewhere**

We repeatedly see accountability problems where there is a federal-local divide. The Abuja Commitments in Nigeria were a successful and specific mechanism to overcome this. It is noticeable that no such approach exists in full elsewhere. There are essentially four elements to the Abuja Commitments mechanism:

#### **Abuja Commitments: Four key elements**

**Public commitment (1)**  
**made by governors to specific actions (2).**  
**Indicators tracked (3) monthly and**  
**reported publicly (4) through the press.**

The second and third of these are seen commonly elsewhere. The first and fourth are not. We offer a recommendation to address this specific point.

## **10. Setting a deadline date is of little value without clear milestones along the way**

Most of the countries with emergency action plans set a date by which they wish to interrupt transmission. These dates look a little arbitrary, since there is often no clear idea of how this progress will proceed along the way. If a country hopes to interrupt transmission by the end of the year, what outcomes should we be seeing by September? With no sub-goals defined, there is no clear way of knowing whether the plan is on track until its final deadline date is reached. We are hearing ambitious plans to stop transmission in some countries within a small number of months. Even the well-defined Major Process Indicators do not capture progress over this short a period of time.

If all are to be convinced that the timing of an end-goal is based on more than just faith or bluster, it is vitally important to be able to model what progress is needed on the path to success. We make a recommendation that asks countries to address this issue.

## **11. The programme needs to set out a clear plan that runs through to post-eradication**

The current Strategic Plan covers the period until polio transmission is interrupted. Planning for what needs to be done after that is a complex puzzle. Some of this puzzle's pieces are recorded in formal documents, but in some cases thinking has advanced since they were written. There is haziness and uncertainty about how precisely the pieces come together into a unified whole.

The GPEI must focus urgently on clearing this haze, on establishing a clear plan that runs through into the post-eradication period. This is needed for several reasons. Most obviously, the GPEI needs enough time to properly plan each of the stages, to gain agreement from the multiple parties involved, and to start operationalizing the plans.

The plans for subsequent phases of polio eradication may present synergies that can be realised today. For example, it may become clear that particular work will be needed to enhance surveillance in some areas during a future phase. That work should happen now so that the current phase of the programme can also benefit. Similarly, it may be decided that IPV has a

substantial role to play in subsequent phases. As a result, the cost of its production would fall and the GPEI would need to find a way to administer it more widely than at present. This opens up the possibility of IPV taking on a greater role in the current phase of the programme also. These are merely examples. The full synergies will not be seen until the plans are completely and openly debated.

Partners need to know what the plan is. Interrupting transmission is a key chapter in the story of polio eradication. But everybody knows that it is not the end of the story. We hear partners' understandable reluctance to increase their support for the current phase without fully understanding what comes next. They need a clearer idea of how long it will be until the polio story is complete and how much that will cost. The ability to close the short-term funding gap depends on clarifying the long-term view.

The planning will need to establish how eradication-mode activities will be phased into routine service delivery and surveillance after eradication is complete. This will require close collaboration with primary healthcare services. Starting soon will maximise the efficiency and effectiveness with which this can occur.

The programme also needs to demonstrate a thirst for efficiency. Partners need to see that current operations are being relentlessly examined to see where resources can be saved. They want to know that the GPEI is flexible and innovative.

Used wisely, this plan could maximise the GPEI's legacy. The GPEI has focused mainly on its central aim – to eradicate polio. Some have argued with this. A WHO meeting in 1999 suggested that subsequent eradication programmes should take a broader approach from the start (figure 8).

We are not at the start of an eradication programme. Retrospection is of limited use. Now is not the time to redefine an entire strategy. But it is the time to prospectively work out precisely what the GPEI's legacy should be. "We eradicated polio" ... and what else?

- Microplans have mapped thousands of communities in detail. How can these plans best continue to be used?
- Tens of thousands of people have been trained as social mobilisers. How can their skills be used after polio has gone?
- Dozens of laboratories have been set up, hundreds of technical staff trained

The list goes on. Without a clear plan for each of these assets, the people will lose their skills, the equipment gather dust, and the microplans become relics. As the report of the 1999 WHO meeting says, “positive impacts are not automatic, they have to be planned”

**“Now is not the time to redefine an entire strategy. But it is the time to prospectively work out precisely what the GPEI’s legacy should be. “We eradicated polio”... and what else?”**

The GPEI’s work has sewn seeds of potential. They must be nurtured if they are to bear fruit. The central aim remains the eradication of polio, but the additional gains must not be lost. We welcome the work of the Polio Research Committee. Amongst other things, it is currently calling for proposals on a pilot project to use GPEI assets to improve the quality of routine immunisation.

**“Future eradication programs should explicitly address at the outset how they will help strengthen health systems and should have specific goals, indicators and baseline data against which to measure progress”**

-Meeting on the impact of targeted programmes on health systems: a case study of the Polio Eradication Initiative. WHO, Geneva, 16-17 December 1999

Figure 8: A 1999 WHO meeting suggested that subsequent eradication programmes should pursue a strategic focus wider than single disease eradication

Decisions about vaccination are complex. It is not only a question of determining when and how to switch from OPV to IPV, but also between OPV types. Surveillance is key. In particular, we observe that Expert Review Committees will have an important role to play in cases that may represent polio clinically but were detected too late for laboratory confirmation. They must be free to make a diagnosis of polio if that is their judgement and they must have access to the diagnostic facilities that they require. These complexities must be given attention, but they must not consume focus entirely. Room must be left to ensure that the legacy for public health and health service delivery is optimised (figure 9).

- Vaccination strategy and logistics
- Secure surveillance
- Achieving the potential legacy for public health and health service delivery

Figure 9: Three key issues need to be addressed by the polio endgame plan

We welcome the spearheading partners’ intention to publish a working draft of the polio endgame plan. We would ask to review this in advance of our next meeting.

## Recommendations

On the basis of our preceding analysis,

1. We recommend that the heads of the spearheading partner agencies ensure that a clear plan is in place to address each of the seven key risks that we have highlighted
2. We recommend the creation of twinning mechanisms, through which a country explicitly commits technical expertise and financial assistance in support of a named polio-affected country. Such arrangements should be agreed at ministerial level. The country with polio should retain primary control over what technical assistance it requests. We recommend that the GPEI seek to establish at least two such arrangements urgently, such that the agreements and the technical assistance are in place within the next three months.
3. We recommend that the GPEI spearheading partners and country programmes mandate that all sections of AFP (i.e. possible polio) case investigation forms must be completed in full, notably the social data sections. Any forms in which information is missing should be returned to the individual who filed them to be completed.
4. We recommend that Rotary International pilots the use of a short team-based checklist by vaccination teams at the start and finish of each vaccination day. The items on the checklist should reflect the accepted best practices that are taught to teams. The day's work should not start or finish until the team has talked through the checklist, and committed to each of its items.
5. We recommend that UNICEF pilots and rapidly implements a simple tool that field staff can use in immunisation debrief sessions to identify, record, and locally disseminate effective micro-innovations. We recommend that UNICEF establishes an expectation that this tool will be used after each immunisation round, and that very brief reports are compiled globally and shared rapidly.
6. We recommend that UNICEF creates or commissions textual and audiovisual materials (including short films) that use case studies to communicate the power of micro-innovations, and empower vaccinators and social mobilisers to be creative in tackling the challenges that they meet. These videos should be widely distributed for viewing at vaccination team training days. The GPEI may wish to use this opportunity to communicate other key messages, such as the global view of polio eradication and the vital role of front-line workers.
7. We recommend that, at its next meeting, SAGE examines the potential for a combined IPV/OPV approach to be used in appropriate settings
8. We recommend that the spearheading partners identify leading disability advocates and explore their interest in learning more about polio eradication, with a potential view to advocating for enhanced financial and political support.
9. We recommend that the spearheading partners formally explore with GAVI whether a portion of its recent large funding package could be allocated to activities that further the goals of both GAVI and of the GPEI
10. We recommend that Pakistan, Afghanistan, DR Congo, Chad and Angola each establish a system with the same four key elements as the Abuja Commitments, to enhance and track the commitment of the key individuals at state/province and local level.
11. We recommend that each of the seven countries with established transmission should set out a timeline of milestones en route to interrupting transmission.

12. We recommend that the GPEI's endgame plan should incorporate a phase-by-phase plan to optimise the GPEI's public health and health service delivery legacy. This should list out the benefits that are achievable and define how each can be reached, setting clear objectives, milestones and indicators. We recommend that the GPEI identifies a named individual or group who has clear authority to lead this part of the work. This might involve recruitment. It could alternatively involve identifying existing capability elsewhere within WHO or UNICEF. Such an arrangement would allow the core current teams to concentrate on completing the eradication of polio, whilst ensuring that the broader focus is also given the attention that it needs.

And from earlier in the report,

13. We recommend that WHO appoint, at the earliest, an epidemiologist on a long-term contract to support the Angolan national government

14. We recommend that the heads of WHO, CDC and UNICEF pay personal attention to ensuring that arrangements are in place to enable their agencies' new teams in Chad to begin functioning effectively at the soonest possible time

15. We recommend that Chad's emergency action plan is reviewed to (i) establish a clearer priority focus in the areas identified as being high risk, (ii) establish performance indicators that can be monitored as the technical teams increase in size

16. We recommend that the Chad programme incorporates collaborative working with the animal health sector in order to enhance vaccination amongst remote and difficult-to-reach populations

17. We ask to receive fortnightly updates on the implementation of Chad's emergency plan, with a particular focus on progress made in establishing a functional WHO/CDC/UNICEF team

18. We recommend that the spearheading partners secure the engagement of the President of DR Congo as the leader of this country's emergency actions to interrupt polio transmission

19. We recommend that DR Congo, with CDC and WHO, amend the Major Process Indicator for end-2011 that is based on vaccination, to reflect the need for good coverage across the recently affected areas

20. We recommend that within the next month each state of India completes its risk analysis to identify areas and populations at high risk of importation and spread of polio, setting out a clear plan to address the vulnerabilities identified

21. We recommend that the Indian national programme critically updates its own view of risk in light of the state analyses, to discover whether any areas need further intervention

22. We recommend that Nigeria works with CDC and WHO to agree and introduce an additional Major Process Indicator, based on independent monitoring data, for end-2011