The final push for polio eradication?

WHO and partners hope that they can finally rid the world of polio. But insurgency, Taliban-initiated boycotts, and a US$1 billion funding deficit will not make it an easy task. Dara Mohammadi reports.

Bruce Aylward has reason to lay awake at night. As Assistant Director-General of WHO, he is heading the Global Polio Eradication Initiative, which, after 23 gruelling years and two failed attempts, is making another high-stakes swing at the eradication of polio.

“There was a bit of a false premise going around about the consequences of failure”, he tells The Lancet. “Many people had, for a long time, almost lied to themselves, saying that if eradication failed it wouldn’t really matter, that we could just continue with cases at a very low level.”

He explains how outbreaks in Tajikistan and DR Congo in 2010–11 changed that perception. During the outbreaks, hundreds of children were left paralysed and, uncharacteristically for the virus, which usually affects only young children, many adults were also infected, with substantial proportions of them dying from the disease.

“People are starting to understand that over time we are again going to have over a quarter of a million children paralysed every single year if this programme fails”, he says. “And it’s not going to be a gradual creep back up that nobody notices, we could have serious backlashes in places that have long been polio-free, with tremendous mortality rates in adults.”

And on the face of it, the programme’s target to stop the transmission of wild poliovirus by the end of 2013 seems tantalisingly achievable. As a result of impressive gains made by the programme in recent years, polio is at an all-time low. Only six countries are yet to be declared polio-free. Of them, Angola and DR Congo have not recorded a single case this year; a third, Chad, has recorded only five.

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But look a little deeper and the cracks start to appear. The three remaining polio-endemic countries have had 95 cases between them this year—Nigeria has had 57, Pakistan 23, and Afghanistan 15. And intensified efforts of late in these three endemic countries have failed to make the substantial impacts on disease prevalence seen in other countries. Add to this a funding deficit of about US$1 billion (figure), which has led to the scaling-back of supplementary polio immunisation campaigns in neighbouring countries, leaving them vulnerable to explosive reinvasions of the disease.

The world has, it seems, woken up to the consequences of failure. In May this year, the World Health Assembly declared polio a programmatic emergency for global public health, and an accompanying report from the Independent Monitoring Board (IMB), entitled Every Missed Child, hammered home the urgency with which countries and partnering organisations must act to prevent failure.

The report highlights regions in which commitment is lacking and management is weak, and calls for immediate mobilisation of the funds needed to reinstate cancelled campaigns. Then there is what the IMB describe as a towering and malevolent statistic that hangs over the polio eradication initiative: the estimated number of children in the six persistently affected countries who have never received even a single dose of polio vaccine—2.7 million.

How have so many children been missed after so many door-to-door national immunisation campaigns that are run roughly every 6 months? Zulfi qar Bhutta, Chair of the Division of Women and Child Health, Aga Khan University, Pakistan, puts a finger on one of the main reasons. “The problem is, as one might have predicted, the remaining pockets of polio also happen to be some of the most difficult regions of the world”, he says. “You’re trying to eradicate polio in the middle of areas besieged with insurgency and conflict—these are war zones.”

With the militant Islamist group Boko Haram trying to carve out a Muslim state, shootings and explosions are a feature of everyday life in parts of northern Nigeria. A recent explosion there has destroyed a store of solar refrigerators, compromising the cold chain needed to get the oral polio vaccine out to where it is needed. Curfews in some areas have made the movement of immunisation teams difficult. And continued fighting on the Afghanistan-Pakistan border also restricts access to children. Polio workers in the region have lost their lives, including a doctor who was shot dead 2 weeks ago.
And, as if further complications weren’t needed, a faction of the Pakistan Taliban has recently publicly boycotted polio immunisation campaigns in Waziristan in the Federally Administered Tribal Areas (FATA), blocking vaccine to as many as 200,000 children. They are calling for the USA to stop the use of unmanned drones. The number of deaths of Pakistanis, including young children, killed by these drones dwarfs the numbers paralysed by polio in the past few years.

Bhatta explains how the decreasing incidence of polio in Pakistan has turned polio immunisation into a bargaining chip for the Taliban. “They know the interest from the west in trying to eradicate polio”, he says, “they also know that they are not eradicating polio for themselves, they are eradicating polio for everybody else. Using polio immunisation for political leverage was going to happen sooner or later.”

Aylward is diplomatic about the way forward. “You can’t simply tell them that they have to vaccinate their kids”, he explains. “That’s a complete lack of any kind of sensitivity to the fact that there are actual grievances that need to be addressed here for this to move forward—look, commanders want their populations to be healthy, so let’s work from that premise and sort it out.”

Aylward unpacks the problem into two main areas. The first is the need to make sure that commanders are aware of the severe consequences of preventing children from being vaccinated. Second, is the need to effectively communicate that polio eradication is truly a global effort, endorsed by UNICEF and other international groups, and with broad-based financial support from foundations such as Rotary International and many governments, so not just a western programme.

“Part of the solution is making sure the information is there”, he explains. “The commanders know that the polio programme can’t make the drones stop, these are intelligent people, they know what’s inside and outside of the realm of the possible for the programme.”

But this boycott comes on the back of a building mistrust of immunisation programmes. In the months leading up to the killing of Osama bin Laden in May, 2011, the CIA employed a local doctor, Shakil Afridi, to run a fake hepatitis-vaccination campaign around Abbottabad, where bin Laden had been hiding. The idea was to obtain DNA samples from his family members to confirm his presence there.

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Bhatta describes this CIA-led campaign as “absolutely atrocious”. “As a result, the community perception of immunisation campaigns being benign and benevolent has evaporated”, he tells The Lancet. “That was over a year ago—slowly and steadily it will heal, but it’s there. And it’s there among some hard-core people.”

Bhatta says that in some areas of Pakistan and Afghanistan, polio teams cannot get access to some areas. And in others, they might be allowed access but a proportion of families refuse vaccination. “It’s no different from families refusing measles immunisations in Europe”, he says. “People say you may be right about what you’re saying, but I don’t want my kid to be part of this.”

Research led by Heidi Larson at the London School of Hygiene and Tropical Medicine, UK, also suggests that dips in vaccine acceptance started after news of the CIA’s bogus immunisation campaign broke. Findings from her team’s Vaccine Confidence Project, show increases in polio vaccine refusals in the Taliban strongholds of Balochistan and FATA since the breaking of the story in July, 2011. Acceptance rates in other regions of the country have remained largely unaffected.

Larson says that the effect of the CIA campaign on vaccination acceptance was not immediate, but contributed to decreasing vaccine confidence and polio-vaccine uptake in Taliban-sympathetic regions of both Pakistan and Afghanistan, even 1 year later.

She points out that such complications are not completely uncharted territory for the programme. Rumours of subversive tactics from western governments to sterilise Muslim populations through polio vaccination led to state-wide boycotts of polio immunisation in northern Nigerian states in 2003-04, lasting longest, for 11 months, in Kano. The boycott had disastrous ramifications. Polio outbreaks occurred not only in Nigeria and its neighbouring west African countries, but also all the way to Indonesia, following the route of the Haj pilgrimage.

Given the programme’s precarious financial position, a reoccurrence of such an outbreak would be devastating. Larson was in Nigeria at the time of the boycott, while heading up UNICEF’s global communication for immunisation. “We worked very hard to dispel rumours such as those that were circulating in northern Nigeria a decade ago due to the mistrust of western government’s motives”, she
“Polio vaccination is being integrated, in whole or in part, in a number of different programmes around the world but only to a limited degree in the remaining endemic countries”, he says, suggesting the scale-up of integration of polio immunisation with measles campaigns or distribution drives of bednets or vitamin A, whatever the local populations are calling for.

The programme, then, will need people with intimate knowledge of local sensitivities in each of the remaining pockets of polio if they are to produce such tailor-made strategies. But the weak managerial oversight of campaigns in some regions, as highlighted in the IMB’s report, suggest that national polio teams might not be up to that challenge.

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The report calls for continuation of the good progress made in Angola, DR Congo, and Chad, and also commends improvements in Pakistan, although concedes that considerable challenges remain in the area. Nigeria, it says, has yet to show that it is overcoming its problems—and highlights the urgency with which they must get a handle on the situation, given frailties of neighbouring countries’ health systems.

Afghanistan is also a cause for concern, it says. Insecurity has been a problem there, but as the situation has improved the number of cases has continued to rise. It calls for Afghanistan to get back to basics and show that it can deliver high-quality care in the affected regions on the Pakistan border.

“The kind of leadership we’re calling for”, explains Sigrun Mogedal, a member of the IMB and an author of the report, “is the leadership needed to get the right information, leadership around getting access, leadership around partnering with other services, and leadership in terms of quality. We need a kind of leadership from all involved to get that whole impressive polio immunisation machinery to focus on where we haven’t managed to reach children with automatic repetition of immunisation programmes. We are so close to finishing, it’s doable, and we believe it is possible—even after seeing all these hurdles.”

To clear these hurdles, and to eradicate the disease, will surely need this kind of belief from partners and funders. But the spectre of previous high-profile failures has loomed large over the programme as it has swung between two near misses and has had to fight for funding against other disorders, some of which arguably more pressing in the eyes of populations and funding bodies.

Three previous attempts to eradicate human diseases have fallen at technical hurdles: yellow fever was discovered to be harboured in monkeys, Yaws had a subclinical disease that could not be detected, and previous attempts to rid the world of malaria were thwarted by, among other things, drug and insecticide resistance.

And, as Aylward explains, the elimination of polio from India earlier this year—which was long recognised as a country where current methods might not be able to interrupt transmission because of the intensity of transmission there—has given the polio eradication programme a massive boost.

“Now that India has become polio-free, we have crossed that rubicon”, Aylward states. “We’ve crossed from our primary barrier being technological or biological feasibility to one of political and societal will. Now the question is, do we have the political will to finance this? And do we have the societal will to get these kids vaccinated?”

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