

## The Last Mile

### Should we still believe in the eradication of polio?

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**Is the total eradication of poliomyelitis a reasonable goal? Claire Magone relates the negative effects of a campaign against this disease, which has no real justification and could even be a prejudice to other world health issues.**

### The global eradication of polio, a “gift from the 20<sup>th</sup> to the 21<sup>st</sup> Century”

In the 1980s, a global commitment was made to eradicate polio in the wake of the eradication of smallpox. As far as the world health community was concerned, this successful experience (the world’s last reported case of smallpox was in 1977 and the disease’s eradication was certified in 1980) made it an example model on which to base future campaigns against infectious diseases.

Polio was in some ways the natural next choice for eradication. It was and remains, a disabling disease for which there is no effective treatment, and back in the '70s and '80s it was wreaking havoc worldwide, with between 300,000 and 500,000 cases reported each year. Yet mass vaccination campaigns had already significantly reduced incidence in many industrialised countries following the introduction of the Salk inactivated polio vaccine (IPV) in 1955 and the Sabin oral polio vaccine (OPV) in 1962. From 1974 onwards, this OPV vaccine - because it is easy to administer (a few drops in the mouth), less costly than the inactivated vaccine (about US\$0.15 against \$3 for the IPV in 2012) and capable of inducing a form of collective immunity - became the vaccine recommended by the World Health Organization (WHO) for use on its expanded programme of immunisation.

In 1988 the World Health Assembly adopted a resolution for the eradication of polio, offering the prospect of an end to the disease as “an appropriate gift, together with the eradication of smallpox, from the twentieth to the twenty-first century.”<sup>1</sup>

The 20<sup>th</sup> century did not offer the gift of a vanquished polio virus to the 21<sup>st</sup> century. However, thanks to an extraordinary financial mobilisation on the part of governments and international and transnational, public and private organisations, accompanied by an equally extraordinary human mobilisation in the form of a global commando of several million community health workers, all of this backed up by highly efficient socio-health engineering – notably the organisation of national polio immunisation days and door-to-door “mop-up”

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<sup>1</sup> <http://www.polioeradication.org/Portals/0/Document/AboutUs/History/WHA.Resolutions.and.Decisions.pdf>

campaigns -, annual incidence was reduced spectacularly in little more than 10 years, the number of notified cases plummeting from 350,000 in 1988 to fewer than 1000 in the 2000s.

For the members of the Global Polio Eradication Initiative<sup>2</sup> (GPEI) and its partners, these results were pleasing but not sufficient as the prospect of total eradication was the only argument capable of guaranteeing an uninterrupted flow of funding. In his Annual Letter 2011, in which he urged the world to be aggressive in its efforts to “eradicate that last one percent”, Bill Gates claimed that “eradication could save the world up to \$50 billion over the next 25 years.”<sup>3</sup> Indeed, this prospect of a world rid of the cost of managing polio epidemics, rid of the potential economic burden of thousands of newly paralysed people each year and eventually rid of the cost of immunisation, is crucial to the GPEI: it provides the donors with a completion date, and hence the promise of a return on their investment.

From this point of view, reducing the disease to incidental proportions worldwide is therefore not enough. In order to justify the pursuit of an eradication policy – i.e. the complete and permanent disappearance of polio – the argument put forward is that the cost of a control strategy (which would consist in attempting to maintain polio incidence at low levels year after year) would in fact be higher than the total cost of achieving the goal of eradication.

But this ostensibly sound argument aside, the main reason for maintaining the objective of total eradication is simple: to sustain interest in polio. As the members of the GPEI put it themselves:

In fact, any control scenario would be difficult to execute. Without the motivation of eradicating polio, countries would struggle to recruit the large numbers of health workers and volunteers who have been crucial to polio eradication to date. They also would likely face tremendous challenges in sustaining the required spending and political will.<sup>4</sup>

In other words, it is not the spending and political will that are essential to achieving the objective of eradicating polio, it is the objective of eradicating polio that is essential to maintaining the spending and political will.

Eradication is therefore a particularly motivating public health objective, but it depends on a scenario in which failure is simply not an option<sup>5</sup>. This requirement explains the way in which the obstacles encountered on the road to eradication over the last fifteen years have been analysed and portrayed by its proponents.

### ***Believing in the eradication of polio***

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<sup>2</sup> Partnership created in 1988 between the Rotary Club, WHO, UNICEF and the Atlanta Centre for Disease Control

<sup>3</sup> [http://www.gatesfoundation.org/~media/GFO/Documents/Annual Letters/2011annannualletterfre.pdf](http://www.gatesfoundation.org/~media/GFO/Documents/Annual%20Letters/2011annannualletterfre.pdf), p.5.

<sup>4</sup> “[Economic Case for Eradicating Polio](#) », Global Polio Eradication Initiative, 2012”, p. 5.

<sup>5</sup> “[The principles of disease elimination and eradication](#)”, Walter R. Dowdle, *Morbidity and Mortality Weekly Report, Centres for Disease Control and Prevention, Dec 99.*

Since the beginning of the 2000s, the “last mile” on the road to eradication has been endless. Pockets of resistance have appeared, beginning in Nigeria in 2003. By then, victory over polio was already being presented as “within reach”, so WHO decided to scale up its efforts in this country where half of the world’s cases were concentrated. The number of national immunisation days was increased from 5 in 2001 to 8 in 2002 and then 11 in 2003. But the teams met with growing resistance on the part of the population in the north of Nigeria, and sometimes with verbal and even physical violence. The population found the vaccinators’ determination to enter their homes particularly suspect as they didn’t consider polio to be a priority compared to measles or malaria, - diseases that were being ignored at the time by both the government and its western allies.<sup>6</sup> In July 2003, the Supreme Council for Sharia in the north of Nigeria called for the suspension of immunisation until the harmlessness of the vaccine could be confirmed. In March 2004, after months of negotiation, tests conducted by a committee of national and international religious and scientific personalities proved the vaccines to be harmless. Finally, these vaccines were imported from Indonesia, putting an end to the boycott.

This episode was widely presented by the media and in scientific literature as evidence of the obscurantism of the authorities who had taken advantage of the ignorance and gullibility of the Nigerians and jeopardised “15 years of work and 3 billion dollars”<sup>7</sup>. But upon closer analysis, many of the criticisms made by the Nigerian authorities and the population were not only rational, they revealed the major differences between local health priorities and those imposed by global health actors. This is illustrated in the following extract from a conversation between the Emir of Kazaure, political and religious leader of the State of Jigawa in the north of Nigeria, and a representative of WHO in Nigeria in 2003.<sup>8</sup>

**Dr Gloria (WHO):** Your Royal Highness, we’d like to thank you very much for this audience. I am from Zimbabwe and I have been sent to cover WHO activities in Nigeria and especially polio eradication. In my country we have eradicated polio. The World Health Organisation is now poised to eradicate the disease in its entirety from the World especially in developing countries of Africa (...) but in order to certify Africa free of poliomyelitis, all African countries, including my country and Nigeria must ensure the total eradication of the disease through immunisation.

**The Emir of Kazaure:** Thank you very much for your visit. I must say that you have read the WHO Advocacy manual very well by the way you spoke persuasively about your mission here. I have been going through the manual myself, and, I have seen how sophisticated and aggressive it is.

In 2000 and 2001, when we informed the WHO of our fears and concerns [regarding the possibility that the vaccine contains substances that could render the population sterile], we received the response that the medicines had been certified by the WHO and manufactured in the best possible conditions, and that the vaccine contained no other ingredient. We wanted to have evidence but what we are given is only assurances (...).

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<sup>6</sup> Elisha P. Renne, *The politics of polio in Northern Nigeria*, Indiana University Press, 2010.

<sup>7</sup> Clare Kapp, « Surge in polio spreads alarm in northern Nigeria », Clare Kapp, *The Lancet*, Vol 362, 15 November 2003, p. 1631.

<sup>8</sup> Extracts from a discussion between the Emir of Kazaure, Najeeb H. Adamu and Dr Gloria Mugandu, published in the Nigerian newspaper *The Weekly Trust*, in November 2003, «We will not submit our children to vaccination».

When you have vaccinated a population, you tell us that you have reached 60, 70 or 100,000 people, that all the children of the State have been vaccinated. Then you return the next day saying there is a new case, and you need to revaccinate the entire State. What does that say about the vaccine's effectiveness? But we are beginning to see why some of these questions are not being answered. In the United States for example, they have the vaccine Adverse Reaction System, but we don't have such a system here. No one knows what's going on, you come, you vaccinate, you raise funds and the following year, you re-vaccinate the same children. But what are you after, what is the WHO after? What is UNICEF after? Why all this desperation? How much money has been spent in Nigeria to wipe out 109 cases? How many children die of measles, malaria, and diarrhoea? (...).

These pockets of social resistance to immunisation contributed to the emergence of new epidemics caused by strains of a vaccine-derived poliovirus. In fact, the oral vaccine is a *live* attenuated vaccine: the vaccine-viruses therefore continue to be excreted by people who have been vaccinated and, in under-immunised settings, this allows the virus to circulate and genetically mutate. Thus epidemics of vaccine-derived poliovirus, as opposed to epidemics of wild poliovirus, developed in the Philippines in 2001, Saint-Domingue and Haiti in 2001 and Madagascar in 2002, China in 2004, and there have been outbreaks in Nigeria since 2005 and in DRC and Somalia since 2008<sup>9</sup>. Twenty or so outbreaks have been notified since the beginning of the 2000s.

Furthermore, some countries where the virus had disappeared are now being re-infected by wild polioviruses imported from other countries. Congo Brazzaville, for example, where the last case was identified in 2000, was hit by a very deadly polio outbreak in 2010 which killed 180 people out of the 431 cases of paralysis identified, mostly among young adults. Kenya and Somalia are other recent examples.

These phenomena, which are an integral part of the problem, that modify the problem itself, and are not just obstacles to be overcome, should give us serious pause for thought about what to do next. Yet in response to biological uncertainties or to resistance by an irreducible proportion of the population to this public health programme, whatever the proclaimed benefits, the GPEI and its partners simply proffer more and more “reasons to believe”<sup>10</sup>. The fight for eradication would thus seem to be taking on a mystical dimension for proponents of continuing whatever the cost. This dimension had already emerged during the eradication of smallpox, as illustrated by the accounts of certain WHO expatriates who took part in the final and particularly aggressive campaigns in India in 1974-75: « *I was religiously fervid, I was a crusader* », said one of them a few years later<sup>11</sup>.

It was against this blind faith that the GPEI's Independent Monitoring Board<sup>12</sup> warned in its report in 2011, highlighting “excessive optimism”:

The Programme has an established narrative of positivity – a pervading sense of “nearly there”. The danger comes in how the Programme deals with information that does not sit well

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<sup>9</sup> See WHO website I'OMS (<http://www.who.int/features/qa/64/fr/index.html>) and [GPEI website](#)

<sup>10</sup> « *Reasons to believe* », a video clip produced by the GPEI.

<sup>11</sup> Paul Greenough, “Intimidation, coercion and resistance in the final stages of the South Asian smallpox eradication campaign, 1973-1975”, Soc. Sci. Med, vol. 41, 1995.

<sup>12</sup> Independent Monitoring Board : set up at the request of the GPEI board and the World Health Assembly , and composed of experts.

with this narrative. (...). There are several geographical areas in which progress is clearly lagging behind plan. In each of these places, the Programme has an important judgment to make. Is the current strategy broadly working, though slower than had been hoped? Or is the current strategy basically failing? If it appears that the current approach is broadly working, the right thing to do is to maintain it, heighten it, iteratively enhance it, give it more funding and more time. If the strategy is basically failing, though, these are precisely the wrong actions to take.<sup>13</sup>

### **Eradication at whatever cost**

The GPEI has nonetheless decided to see the programme through and continues to “analyse [the question of whether eradication is operationally feasible], as if the planners lived in a world liberated of contradictory politics and agendas: in general, if everyone goes in the right direction and does exactly what is expected of them at the desired moment, will this disease be eradicated ?”<sup>14</sup> The goal and strategy remain the same: to bring polio vaccination coverage as close as possible to 100% through combining incentives and coercive measures. Some of its measures are particularly aggressive, as in Nigeria, for example: door-to-door canvassing with a physical inspection of people’s homes and threats of imprisonment for the recalcitrant.

Yet this uncompromising attitude has created a vicious circle, notably in situations where there is overt hostility between government authorities and their politico-religious opponents (Pakistan, northern Nigeria and Somalia, for example): the more the international community places the emphasis on polio to the detriment of what the local population considers to be public health priorities, the more suspicious this population becomes, the more resistance there is to vaccination, and the more political groups use this situation to prove their power by demonstrating their ability to positively influence or hamper the success of eradication. Polio is repeatedly used as a means of political blackmail. Local authorities attempt to promote their own interests by playing on the determination of the supporters of eradication. Thus the blackmail consists in accepting or refusing to play the game in order to move their own agenda forward. Thus in June 2013, the traditional authorities in North Waziristan in Pakistan decreed a boycott of the polio vaccination, demanding electricity be brought to their region in exchange for their cooperation.

The world health community is also taking an increasingly radical stance. Thus in Somalia recently, a WHO spokesperson affirmed, “When al-Shabab [Somali Islamic group] is forced out, health officials rush in and vaccinate children<sup>15</sup>.”

### **National vaccinators versus polio, martyrs to the cause?**

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<sup>13</sup> Independent Monitoring Board of the Global Polio Eradication Initiative report, October 2011, p 22. (<http://www.polioeradication.org/Portals/0/Documents/Aboutus/Governance/IMB/4IMBMeeting/IMBReportOctober2011.pdf>)

<sup>14</sup> Svea Closser, “Chasing polio in Pakistan, why the world’s largest public health initiative may fail », Van der Bilt University, 2010, p. 31.

<sup>15</sup> [“New push against polio and new vaccines in Somalia”, 25 April, 2013.](#)

Practices are also becoming more radical. In places where the eradication campaign is at the centre of a power struggle, the national vaccinators find themselves in danger. Twenty were murdered in Pakistan between December and June 2013 and at least ten in Nigeria. Thirty deaths in six months for 55 notified cases of polio world-wide over the same period. The authorities are responding to this new situation with force. In Nigeria, local journalists have been arrested for “incitement to murder and to public disorder” after presenting a radio programme criticising the eradication campaign, and the radio station has been shut down; in Pakistan, as employing armed escorts for the vaccinators was not paying off (the police were also getting killed), the vaccinators are now authorised to carry weapons.

As for the campaign’s architects, they are ploughing ahead with their plan: “Within the strategic framework, a key element is the development of security access operations plans with the overarching principle to “*stay and deliver*”: [...]. The programme will also seek to maximize use of local versus international staff”<sup>16</sup>. Whereas the last mile towards the eradication of smallpox in the last-remaining pockets of resistance in southern Asia was completed by international staff from the World Health Organization, the GPEI has decided to use exclusively national staff. How can this decision be justified when local vaccinators are the most at-risk, caught in the middle between the determination of authorities to proceed and that of opposition armed groups to interfere with the process? It is hard not to be cynical and see this plan as just a means of ensuring activities are allowed to continue, as there is a very fair chance that if 30 international staff were killed within six months, the programme’s future would be seriously compromised, whereas the death of 30 national staff is not an obstacle to its expansion.

### **Conclusion: what lessons?**

It is during the last mile on the road to eradication that the matter of the real costs of this adventure needs to be put back on the agenda: the human cost first of all, and urgently, because we cannot accept the assassination of vaccinators. But also the social cost. The programme is feigning ignorance of the fact that no public health measure will ever be adhered to by 100% of the population. It is also underestimating the extent to which the discrepancy between the means devoted to the global polio threat and the total lack of means made available for neglected public health priorities is perceived as an injustice by many populations who are now refusing to play along. In the long term, this blinkered strategy will undermine the cooperation with populations that is essential for moving other public health issues forward. It is also likely to cause irreversible damage to the enthusiasm of millions of community health workers by turning them into cannon fodder.

Yet we can only deal with the perverse effects of the *last mile* by abandoning the objective of eradication. Because the problems now being encountered are not circumstantial but consubstantial to eradication and to the radicalism of its ambition. Setting ourselves the objective of permanently removing a disease or a virus from the face of the earth implies programming to maintain total control over the behaviour of both pathogenic agents and

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<sup>16</sup> Polio eradication and end game strategic plan 2013-2018, GPEI.  
[http://www.polioeradication.org/Portals/0/Document/Resources/StrategyWork/EndgameStratPlan\\_20130409\\_ENG.pdfAt](http://www.polioeradication.org/Portals/0/Document/Resources/StrategyWork/EndgameStratPlan_20130409_ENG.pdfAt)

human beings. The unreasonableness of such an ambition has become glaringly apparent over the last mile.

But how can we let go of the public health objective of eradication without also letting go of the fantastic political, scientific and financial mobilisation that this ambition creates? No doubt by endeavouring to persuade funding agencies that money spent on treating patients and controlling diseases is never a wasted investment for those who benefit from it.

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