

Polio

A Rotary engine

Can a businessmen's club eradicate polio from the world?

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Getty Images Goodbye to all that

IT IS a year since the last case of polio was diagnosed in India. That is not enough to pronounce the country polio-free—three clear years are the conventional period required for that to happen. But it is a good start. And if India really is clear, then what was once a global scourge will now be endemic to a mere three countries: Afghanistan, Nigeria and Pakistan. The number of people infected, meanwhile, has dropped from 350,000 in 1988 to 650 last year.

All this is in large part thanks to the efforts of Rotary International. In 1985, after a successful pilot study in the Philippines, this businessmen's club cum global charity announced a plan to eradicate polio by vaccinating every child under five at risk of catching it. The estimate then was that it would cost \$120m. Some \$800m of Rotary money later

(plus a lot from other sources), the virus is still out there, but its remaining hidey-holes tell their own story: where civil disorder is rife, medicine is hard.

On January 17th Rotary announced it had raised yet another \$200m. The Bill & Melinda Gates Foundation will contribute a further \$405m, and the pressure will thus be kept up. John Germ, one of Rotary's trustees, thinks that if all goes well 2016 might be the first year when no new cases are reported. That would, though, mean spending more than \$1 billion a year between now and then.

The inspiration for Rotary's campaign against polio came from the eradication of smallpox. Like polio, smallpox was a viral disease for which effective, easily administered vaccines existed. And crucially, like polio, smallpox had only one animal host: *Homo sapiens*. In principle, then, extermination should be possible. The practice, however, has turned out rather different.

First, unlike smallpox, polio viruses can survive for long periods outside a host—for instance in sewage. Second, when the campaign began in earnest there were three main varieties of polio, each of which required a specially tailored vaccine. Focusing effort on one of these strains often led to the resurgence of another. Third, besides the inevitable difficulties of working in places that have poor medical infrastructure, the campaign ran into some specific human problems. The most notorious of these was the rumour, spread in 2003 by certain religious leaders in Nigeria, that the vaccine would sterilise girls and was part of an American plot to rid the world of Muslims. This helps explain why polio persists in Nigeria.

That polio can actually be eradicated is suggested by the elimination, in 1999, of one of the three strains. Whether the resources needed to do so might be better spent elsewhere, though, is a matter of debate. Some would prefer to see a shift to policies that improve overall health, including investing in decent sanitation and clean water.

The response to that is that if you remove the specific pressure on polio it will simply bounce back. Moreover, in practice, a synthesis between the two positions is emerging. According to Mr Germ there is already a debate within Rotary about what to do next. Providing clean water and improving maternal and child health are popular options.

One thing everyone wants to avoid, though, is what happened after smallpox was eliminated. Then, the infrastructure of health workers and clinics that had been created to detect and fight the disease was allowed to evaporate. Had it been used instead to focus on polio, that illness, too, might have been vanquished by now.

Polio in Pakistan

Paralysis

One more way in which Pakistan fails its people

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EPA That's all it takes

FOR a symptom of Pakistan's problems, consider the spread of poliomyelitis. This week brought the 115th confirmed case of polio, a crippling and at times fatal disease passed on virally, mainly through bad hygiene. The tally is well up on last year.

In most countries polio is barely a memory. Rich countries had largely eliminated it by the 1970s, and many poor countries soon followed suit. Three decades ago the world saw an estimated 400,000 polio cases a year. Thanks to a cheap and effective vaccine, administered by two drops into a child's mouth and washed down with dollops of public and private money, the annual global number is now roughly 1,000.

Only in South Asia and Nigeria is it still endemic, though it occasionally flares elsewhere. Since even wretched countries such as Sudan and Myanmar are rid of polio, doctors dream it could follow smallpox and rinderpest to become the third disease wiped from the planet. For hope, look at India. Last year it had just 44 cases of polio, down from an estimated 250,000 three decades ago. Sarah Crowe, of UNICEF in Delhi, credits "one of the biggest

mass mobilisations ever for public health". This year teams of workers headed to train stations, schools and villages, mostly in Bihar and Uttar Pradesh, dosing children with vaccines and promoting habits like soapy hand-washing. Pitiful levels of sanitation persist: fewer Indians (about 50%) have toilets than have mobile phones. But this health campaign is working.

By contrast Pakistan flounders, even though the president, Asif Zardari, declared a national polio emergency in January and received help from the United Nations and the Gates Foundation. "Definitely the cases are on the rise", says a glum Dr Altaf Bosan, who heads the government campaign.

Blame insecurity most. Three-quarters of last year's cases were in conflict-ridden areas. The ignorance of religious leaders does not help, with their suspicion of foreign ways. Nor does poor government management. The World Health Organisation thinks that over 200,000 Pakistani children missed their polio vaccinations in the past couple of years. The worst-affected spots are Baluchistan, beset by sectarian massacres and police killings, and the unstable Federally Administered Tribal Areas near the Afghan border. Southern Sindh, deluged by two years of floods, has also been hit.

As more people migrate—because of violence, floods or economic need—the virus has travelled north, to Khyber Pakhtunkhwa, Gilgit-Baltistan and beyond. Ten polio cases reported last month in the Chinese region of Xinjiang, which borders Pakistan, were the first in China since 1999. Eastern Afghanistan also struggles with eradication, given insecurity and its porous borders. But the heart of the problem is Pakistan. Officials conceded in January that the country could be "the last remaining reservoir of endemic poliovirus transmission in the world, and the only remaining threat to achieving global polio eradication." That is no distinction to savour.

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