WHO plans new yaws eradication campaign

A massive push to free the world from yaws failed in the 1950s and 1960s. But WHO, emboldened by new research findings, has agreed to launch a second attempt. John Maurice reports.

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Yaws has already had a brush with eradication. From 1952 to 1964, WHO and UNICEF undertook a mass campaign that used benzathine benzylpenicillin to treat some 300 million people in 46 countries. The campaign slashed the prevalence of yaws by 95%—from 50 million cases at the start of the campaign to 2.5 million at its close. The job, most observers thought, would be quickly finished. But no, yaws returned, almost surreptitiously, to many of its old hunting grounds in parts of Africa, southeast Asia, and the Pacific Islands. Surreptitiously, because most countries had stopped reporting cases when the mass campaign ended. The few places that continued or resumed surveillance have seen ample evidence of a resurgence of the infection.

Just why the WHO–UNICEF campaign failed to achieve its goal is still the subject of debate. Possible reasons include: a too early shift from a disease focused to a primary health care approach without ensuring that all affected countries had strong enough health systems to play their part in the campaign; poor surveillance for detection of cases, case contacts, and latent (ie, subclinical) cases and over-reliance on clinical, rather than serological, evidence to monitor impact of campaigns; weak political will and shortage of funding; drug supply problems; and inadequate community awareness and poor acceptance of treatment by injection.

For whatever reasons, yaws is still with us. Today, the prevalence and incidence of the infection are not known. In 1995, when WHO last issued estimates, there were 2.5 million cases of endemic treponematoses (mostly yaws).

In 2011, yaws gained a place on WHO’s eradication hit-list. But nothing much happened until January of this year, when The Lancet reported a study done in a Papua New Guinea island where yaws is endemic. The study showed conclusively that a single oral dose of azithromycin, a macrolide antibiotic, is as effective in curing children of yaws as the hitherto standard benzathine benzylpenicillin given by injection. The findings of

For the Papua New Guinea study
see Articles Lancet 2012; 379: 342–47
this study jump-started the NTD community into action.

In early March, just a month after publication of The Lancet report, WHO convened a group of treponematosis experts to the small lakeside town of Morges, near Geneva. The topic: the possible eradication of yaws in light of the results of the Papua New Guinea study. During the meeting, Cynthia Kwakye-Maclean, a municipal director of health services in Ghana, announced the preliminary results of an ongoing study in her country that seems likely to come to the same conclusion as the Papua New Guinea study. Meeting participants also listened to Rajendra Panda, of India’s Ministry of Health and Family Welfare, as he described the successful campaign his country had undertaken, between 1996 and 2003, to rid itself of yaws. Since 2004, India’s stringent surveillance system has not found a single case.

After 3 days, the meeting formally pressed the start button on an all-out offensive against yaws. Before leaving Morges, the experts etched out an eradication strategy that calls for a single dose of azithromycin to be given to entire populations in areas known to harbour yaws. The initial mass treatment will be followed by 6-monthly surveys to detect and treat remaining cases. In the interval between the 6-monthly surveys, the health facilities serving the endemic communities will follow up and treat infected people and their close contacts. Eradication of yaws will be declared when no cases have been reported over 3 successive years. The deadline for that declaration is 2020, according to a roadmap published by WHO in January of this year. Meeting that deadline would make yaws the second disease to be eradicated (after smallpox, eradicated in 1980)—unless, of course, guinea-worm disease, “on the verge of eradication”, according to WHO, meets its 2015 deadline. Not to forget polio, which is still struggling to take its final bow. The race is on.

The meeting’s decision to launch a new yaws eradication campaign was unanimous. But questions and doubts were voiced. Eradication failed before. Why would it succeed now? “For several reasons”, says Kingsley Asiedu of WHO’s NTD department and convener of the Morges meeting. “With azithromycin we have a new tool that avoids many of the problems with the traditional treatment. We won’t need skilled health workers to administer it. It doesn’t need injection equipment. There’s no pain and so no fear for children. There’s no risk of spreading infection from poorly sterilised needles. And it just takes a single dose to do the job. Mopping up the remaining cases in the world should be much easier than before and certainly less costly. And look, India did it. Why can’t all the other countries with yaws?”

It might be less costly, the meeting agreed, but it will need funds. How readily will funds be forthcoming for a disease that causes much suffering and distress but is not fatal and is statistically overshadowed by a long list of major killers like AIDS, pneumonia, malaria, and so on? To which, David Fegan of the Central Hospital in Port Vila, Vanuatu, commented: “One thing that yaws has going for it is that it is eminently eradicable. If you can’t eradicate yaws, you can forget these other diseases.”

David Mabey, professor of communicable diseases at the London School of Hygiene and Tropical Medicine, UK, and an internationally recognised authority on NTDs, believes that funding may be a problem but that a window of opportunity has opened in recent weeks. “Neglected tropical diseases are back on the international health agenda”, he says. He cites the January meeting at the Royal College of Physicians in London where a global initiative to control or eradicate ten NTDs by 2020 was launched and where Microsoft chairman Bill Gates pledged US$363 million towards achieving the goals of the initiative. WHO, too, is giving yaws a higher priority ranking. “What’s more”, Mabey says, “we’ve learned a few lessons since the earlier yaws campaign. We realise now that it’s not enough just to do a few rounds of treatment. You need the commitment—financial, political, technical, and so on—to see the job through to completion. You need a strong diagnostic and surveillance system. And you need a lot of advocacy. But now that we have a single-dose oral treatment of proven efficacy, the time is ripe to eradicate yaws.”

One issue that troubled a few meeting participants was the possibility of bacterial resistance to azithromycin. “There is very little likelihood that resistance will emerge in communities where azithromycin has not been used in the past and where yaws occurs”, said Oriol Mitjà of the Department of Medicine at the Lihir Medical Center in Papua New Guinea and principal investigator of the Papua New Guinea study that precipitated the Morges meeting. “We will certainly be careful to use the antibiotic only in campaigns and not leave it around for daily use. And during the campaign we will be watching out for any resistant cases and could switch to a different antibiotic for these cases.”

The chief concern, though, of the meeting was the possibility of not achieving enough sustained political commitment for a disease with a low epidemiological profile. “The issue with this disease is not size, not numbers”, says Asiedu. “Today we can go to the moon. We have internet. And now we have an easy way of getting rid of a disease that causes years of suffering in young children. A single dose will do the trick. How can we morally justify not using it? The rationale for getting rid of this disease is the fact that we can do it—easily, inexpensively, and, I hope, quickly.”

John Maurice