

## YAWS elimination: India's success story leads the way for global eradication

### STORY HIGHLIGHTS

- ◆ India's successful elimination of yaws, a neglected tropical disease, leads the way towards global action to eradicate this disease.
- ◆ Its elimination has been a boon for marginalized and neglected poor populations in the affected areas.
- ◆ Successful role of the community level functionaries in reaching inaccessible, at-risk populations in controlling yaws paved the way for an important role for community-based health volunteers for future health interventions.

There is a famous saying in public health – where the road ends, yaws begins.

Dr Rajendra Panda, an Indian doctor, now retired, vividly recalls the time when he led a government medical team deep into the forested areas of Dantewada in Central India in what is now Chattisgarh state. "It was the summer of 1995. We were hearing reports of cases of yaws in Dantewada. But no doctor had actually seen anyone with yaws. Local health workers were unaware of its existence. So we set out to collect evidence. There were three of us – all medical doctors. We had to cross a river to get to the areas where yaws cases were suspected. There was no boatman; we rowed ourselves. We walked 10 kms in the forest before we saw the first yaws case – a boy of about ten with heavy lesions on both his hands. He was roaming around, scantily clad, and seemed totally unaware that there was anything wrong."

"We moved around the forest and found 12 more cases – mostly young children, some adults. We brought them to the nearest health sub-centre at Nelasnar in Dantewada and took a blood test. They were diagnosed with yaws and each given a shot of penicillin," says Dr Panda, a former Joint Director, National Centre for Disease Control at Bastar in Chhattisgarh.



“Very little of anecdotal patient perspective on yaws is available as it was such a neglected disease. The photographs of those yaws cases – some 30 slides – were used as teaching material for subsequent training sessions with doctors and paramedical staff,” points out Dr Panda. Soon after, India sought the help of the World Health Organization to deal with the disease.

Yaws, a chronic bacterial infection, is transmitted mainly through direct skin contact with an infected person. A single skin lesion develops at the point of entry of the bacterium, after 2-4 weeks of contact. If left untreated, multiple lesions appear all over the body. Although rarely fatal, yaws can lead to chronic disfigurement and disability. Overcrowding, poor personal hygiene and poor sanitation facilitate the spread of the disease. It is easily curable. Penicillin was the mainstay for the yaws eradication story in India. Subsequently, oral drugs have become available. Without treatment, every tenth person infected with yaws develops disfiguration and disabling complications. The bacteria causing yaws closely resembles the one that causes syphilis. However, unlike syphilis, yaws does not transmit through sexual route and is spread by intimate, skin-to-skin contact in humid tropical, remote, hilly and tribal regions of Africa, Asia and the Pacific Islands.

The global story of yaws eradication has had an uneven track record. Yaws was first targeted for global eradication in the postwar era. Between 1952 and 1964, the programme successfully treated some 50 million individuals and reduced the prevalence of the disease by more than 95%. But, even as challenges of the last mile remained, there was a waning of control efforts. This saw reemergence of the disease in 1970s.

The WHO roadmap on neglected tropical diseases, published in January 2012, targets the eradication of yaws by 2020.

The story of yaws elimination by India is an inspiring but little-known story. Elimination of the disease means interruption of transmission demonstrated by zero cases, continuously for three years and duly validated by serological surveys. In India the last reported case of yaws was in 2004.

Yaws has never been much in the news because it affects people in remote, rural pockets; in hilly, humid forested areas; and because most often yaws effects the poorest of the poor – people who typically do not grab headlines.

“The infection puts the marginalized population living in remote, inaccessible hilly and tribal areas at a further disadvantage because of the morbidity and disability associated with the disease,” notes the publication *Yaws Elimination in India – A Step towards Eradication*, a 2006 report by the National Institute of Communicable Diseases and WHO Country Office for India.

“Yaws was one of the first diseases taken up by WHO for elimination in the early 1950s. WHO has partnered with the Government of India and provided technical inputs and modest financial support for some critical activities,” says Dr Nata Menabde, former WHO Representative in India.

WHO’s assistance included: technical advice; advocacy; vehicles for use in endemic areas; sensitization of key stakeholders at community level; establishment of surveillance systems; capacity-building of health personnel; and monitoring and evaluation. The last of the six Independent Appraisals of the Programme was conducted in May-June 2014.

Yaws was first reported in India in 1887, more than 125 years ago, from tea gardens in the state of Assam. It spread in central and central-eastern parts of India. However, by late 1960s it declined dramatically worldwide including in India, where it remained confined to 51 districts across 11 states of the country.

While yaws-control activities were declining elsewhere globally, India sustained its efforts and launched the Yaws Eradication Programme in 1996–1997 and scaled up operations to its full geographical coverage by 1999, leading to its elimination in 2004. How did this turnaround come about?

Dr A. C. Dhariwal, presently Director of the National Vector-Borne Disease Control Programme, recalls his days as a young programme officer working on yaws: “Our focus was to interrupt yaws transmission and we did this by improving personal hygiene, sanitation, community awareness, and by early diagnosis and treatment of individual cases as well as targeted treatment of affected communities. Our interventions were a huge boon to the underserved population groups, as it provided them both health and social benefits,” says Dr Dhariwal.

The role of the community level functionaries in reaching inaccessible, at-risk populations and their success in controlling yaws paved the way for an important role for community-based health volunteers for future health interventions.

Dr S. K. Jain, National Programme Officer for Yaws Eradication Programme, says, “The strategy was kept simple yet effective by biannual pre-and-post-monsoon active house-to-house search, followed by treatment of cases and contacts. This was supplemented by strengthening capacity of health personnel in identification and management of the disease, strong surveillance, advocacy and community awareness, and intersectoral coordination with other concerned departments such as tribal welfare. To promote self-reporting and referrals, the programme also introduced cash incentives for patients as well as informers.”

“‘Nil’ case reporting has continued for more than 10 years now, and currently, yaws reporting has been integrated into weekly reports of the disease surveillance programme,” says Dr Jain. ‘Nil’ case reporting is when the reporting unit reports zero cases even after completion of thorough surveillance activities.

The International Task Force for Disease Eradication at its meeting in October 2007 commended the example set by India in demonstrating the possibility of interrupting transmission of yaws nationwide, given sufficient political will and despite the biological constraints associated with the pathogen.

“India’s example hopefully will spur the global action to eradicate this highly curable and preventable neglected tropical disease,” says Dr Dhariwal.