Consigning a Dreaded Disease to History: The Final Push to Eliminate Leprosy

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ABSTRACT

Eliminating leprosy has greater implications than simply resolving a public health problem. Leprosy is closely linked with poverty and typically affects the poorest of the poor. Early detection and treatment with multidrug therapy not only stops the transmission of leprosy, it also prevents disabilities, and thereby the downwards spiral towards social exclusion and destitution. While eliminating leprosy is not an insurmountable challenge, important hurdles remain which are being addressed in this final push to consign this dreaded disease to history.

Leprosy affects about 1 million people in Asia, Africa, Latin America and the Pacific. The chronic symptoms often afflict individuals in their most productive stage of life and impose a significant economic and social burden on their families and society at large.

The word leprosy often conjures up images of disfigurements and deformities. That is not surprising since it is a leading cause of permanent disability in the world. WHO estimates that 2-3 million individuals are permanently disabled by leprosy. The consequences for the individuals and their families can be disastrous, as they become dependent for care and financial support on others, leading to insecurity, shame and isolation. Moreover the deformities reinforce the fear of leprosy and its negative image.

LEPROSY CAN BE CURED

But the real face of leprosy has changed dramatically with the advent of multidrug therapy (MDT) in the early 1980s. MDT cures leprosy, interrupts its transmission and through early cure prevents disabilities. This means that patients can lead completely normal lives during their treatment.

The effectiveness of MDT in curing leprosy, its impact on transmission, ease of use under field conditions and good tolerability made it possible to envisage the elimination of leprosy. In fact, leprosy is one of the few infectious diseases that meet the demanding criteria for elimination: practical and simple diagnostic tools - it can be diagnosed on clinical signs alone; the availability...
with multidrug therapy (MDT) and a single significant reservoir of infection – humans.

What is leprosy?
- Leprosy is an infectious disease caused by a bacillus, Mycobacterium leprae.
- It progresses slowly with an average incubation period of three years.
- It mainly affects the skin and peripheral nerves.
- The disease can be diagnosed based on clinical signs alone.
- Leprosy can be cured with multiple drug therapy (MDT) in 6 months or 1 year depending on the type of disease.
- After the first dose of MDT, patients are no longer infectious.
- If detected early and treated with MDT, leprosy will not lead to deformities.
- The best way to prevent the spread of leprosy is to treat all patients with multidrug therapy.

The term “elimination” means bringing down the disease burden to a very low level, which will lead to a reduction in the source of infection so that the disease will disappear naturally as it did in many parts of the world. This level has been defined by WHO as a prevalence rate of less than 1 case per 10,000 inhabitants. Elimination is a less ambitious target than eradication, which implies no new cases. This unfortunately is not feasible for leprosy for a variety of reasons including the long incubation of the disease, the lack of a vaccine, etc.

**SUBSTANTIAL PROGRESS...**

The 1991 World Health Assembly resolution to eliminate leprosy as a public health problem by 2000 gave substantial impetus to global leprosy control efforts. The results are impressive. Over the past 15 years more than 10 million leprosy patients have been cured with MDT, the prevalence rate has dropped by 85% to reach 1.4 per 10,000 inhabitants and leprosy has been eliminated from 98 countries. MDT has also prevented about 2 million people from developing deformities through early cure. The progress made is far more than simply statistical – the alleviation of human pain and suffering is immeasurable.

**... BUT STILL A LONG WAY TO GO**

However, the established prevalence rate of leprosy in the 10 most endemic countries is still over four times the target level. These countries represent approximately 90% of the global leprosy burden and 24 countries carry the rest of the burden.

The reasons for missing the elimination deadline of the year 2000 are varied and include the high prevalence itself, the intensity of disease transmission and limited geographical coverage with MDT services. In a few countries wrought by civil strife, elimination efforts are seriously undermined by a damaged health infrastructure. Most importantly, there is a substantial hidden caseload, as suggested by the high numbers of new cases emerging with the widening coverage of elimination campaigns. The reasons for these hidden cases are complex and include inadequate access to diagnosis and treatment, poor awareness of the availability of free and effective treatment, and delay in seeking treatment for fear of social consequences. The consequences of this delay can be devastating to individuals and their families, as leprosy can lead to progressive and irreversible deformities, often resulting in social exclusion. In addition, it also maintains a pool of infection in communities.

**A GLOBAL ALLIANCE TO ELIMINATE LEPROSY**

In November 1999, at the initiative of WHO, a Global Alliance for leprosy elimination was created which aims to detect and cure all the remaining leprosy cases in the world - estimated at 2.5-2.8 million - and thereby eliminate the disease from every country by the year 2005. The Global Alliance brings together all the key partners with different yet complementary roles - Governments of leprosy endemic countries (implementation), World Health Organisation (technical and strategic leadership), the Nippon Foundation (US$24 million for implementation), Novartis (free MDT for all patients ca. US$30 million), and the International Federation of Anti-Leprosy Associations (country level assistance). Other organisations such the World Bank and DANIDA will support elimination efforts in India. The Alliance works with all organisations interested in leprosy and work together to implement a common strategy.

**THE STRATEGY**

The elimination strategy hinges on detecting all cases and curing them with MDT. This is a highly focused and effective way to deal with the problem. Efforts in this final phase will focus on generating and meeting “demand” for treatment through better awareness of the early signs of the disease and improving access to leprosy diagnosis and treatment.

This final push requires the synchronised implementation of the following key activities:

- Capacity building to enable all health facilities, particularly in endemic areas, to diagnose and treat leprosy
- Leprosy services have traditionally been provided...
through specialised staff who deal exclusively with leprosy. Although this has provided high quality care, the services have limited reach and have also created the perception that leprosy is a complicated disease and only “their” concern. Leprosy diagnosis and treatment can be easily made available at primary health care facilities.

Paramedic staff can diagnose leprosy based on clinical signs alone, and start treatment. The treatment itself, available in calendar blister packs, is easy to dispense and highly effective. Integrating leprosy services in the general health services will not only dramatically improves patient access to treatment but will also enhance the credibility of the local health services. It will also ensure that health services will be in a position to treat the new cases who will appear even after the disease has been “eliminated”.

**Improved logistics to ensure adequate stocks of MDT at all health facilities**

Local stock-outs of MDT at the health centre level is a chronic problem in most countries due to inadequate planning, poor information systems, limited distribution networks, shortage of vehicles, etc. This undermines the credibility of the health services and seriously impairs the prospects of cure. Simple logistics and delivery systems will be put in place which exploit synergies with other diseases or even delivery networks for consumer products.

**Dispelling the fear of leprosy and improving awareness of the early signs of the disease in order to motivate people to seek timely treatment**

Often people only recognise leprosy at a late stage of the disease – once irreversible nerve damage has occurred. At times, people also ignore the signs of leprosy for fear of the social repercussions that may follow. Many communities are also unaware that free and effective treatment is available for leprosy and accept the disease rather fatalistically – as a punishment from God or witchcraft. This has to be changed. Efforts are being made to change the negative image of leprosy and create a supportive environment in which people do delay seeking treatment – this will not only ensure their cure without deformities but also minimise the risk for other members in the community of contracting the disease. Radio, TV, posters, bill boards, bus shelters and other media have already been used successfully to generate demand for treatment in many countries.

**Ensuring that all patients receive a full course of treatment and are cured**

Patients often have to interrupt their treatment because of a shortage of drugs at the health centre, because of poor access to health services, or simply because they live in very remote areas. Innovative approaches, such as “Accompanied MDT”, help address this problem. Patients are given a choice. They can take the entire course of treatment with them and someone from their family helps them comply with their treatment, or they can return
to the health centre at regular intervals to collect their medication. Understandable, illustrated patient information is being developed to help patients and their families understand the disease, their treatment, how to take their drugs as well as possible complications.

CLOSELY MONITORING PROGRESS TOWARDS ELIMINATION
This can be done at all levels (national, regional, district and municipality) in order to take corrective action and find pragmatic solutions to deal with any problems. For example, expanding the coverage of leprosy services will inevitably lead to an increase in new cases and has immediate implications for drug requirements which must be catered for. The parameters to monitor progress have been simplified so that leprosy surveillance can be integrated into the regular disease surveillance.

PRIORITIES FOR INTERVENTION
In order to focus efforts on countries with the greatest leprosy burden, leprosy endemic countries have been classified into three groups based on their prevalence rates: Intensification, Acceleration and Consolidation. Countries in the “intensification” category – Angola, Brazil, Central African Republic, Democratic Republic of Congo, Guinea, India, Indonesia, Madagascar, Mozambique, Myanmar, Nepal and Niger – need the highest priority as they account for 90% of the global leprosy problem. Countries in the “acceleration” category have eliminated the disease at the national level, but still have high endemic areas within their borders, and need to intensify leprosy elimination efforts in these areas. Those in the “consolidation” category need to take active measures to ensure the continued availability of leprosy services so that the inevitable trickle of new cases will be treated.

IMPLEMENTATION UNDERWAY
Leprosy elimination is no longer a technical problem. The strategy is in place, as are most of the resources. In the priority countries, national task forces, comprising all key players, have been established who are spearheading the implementation of the strategy in the priority countries. Generic “kits” for capacity building, community awareness, MDT logistics and monitoring are under development which will be adapted to local requirements. The determined and large-scale implementation of the intensified strategy will have positive repercussions beyond the elimination of leprosy. It will enhance the credibility and confidence of local health services and will put into place systems that can be used for other diseases. Leprosy elimination will also provide new insights into changing the perception of stigmatised diseases and will release resources to tackle other diseases. And above all, it will consign a dreaded disease to history.

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