The place of leprosy in the control–elimination–eradication spectrum

Editor – I would like to expand on Lockwood & Suneetha's reflections on the leprosy elimination campaign (*1*), and in particular their statement that "leprosy is perhaps more appropriately classed as a chronic stable disease rather than as an acute infectious disease responsive to elimination strategies", by using the control–elimination–eradication (CEE) paradigm that has served public health workers and surveillance experts so well in the fight against communicable diseases since the late 19th century (*2*).

Infectious disease "elimination" commonly refers to reducing the number of cases of disease to a small and routinely manageable number. Thus, prevalence trend is a key yardstick in the CEE paradigm. When leprosy elimination campaigns were put in place in the 1990s, their primary goals were to implement enhanced surveillance activities in order to detect leprosy cases promptly and to treat them immediately with multidrug therapy (*3*). Between 1985 and 2002, global leprosy prevalence fell by about 95% (*1*). In May 2001, the World Health Assembly affirmed that "the overall target, set ten years ago, for the global elimination of leprosy as a public health problem has been attained" (*4*).

"Control" is usually the first approach to cope with the deleterious effects of intractable infectious diseases such as tuberculosis and syphilis. When the prevalence and adverse effects are curtailed, the focus normally shifts from control to elimination. For example, as the prevalence of Chagas disease continues to fall in Central America, the focus has shifted from disease control to disease elimination, through vector control activities and the screening of blood banks (*5*).

Smallpox is probably the only human disease so far that has reached the "eradication" end of the spectrum (no cases reported since 1979), though dracunculiasis (guinea-worm disease) — which, like leprosy, is a chronic stable disease — and poliomyelitis are also inching very close to being eradicated. For instance, there are currently less than 800 incident cases of polio worldwide, and the formidable infrastructure for polio eradication makes it more likely than ever that the disease will be eradicated during this decade (*6*). Interestingly, erstwhile polio researchers expressed serious doubts concerning the feasibility of poliomyelitis elimination or eradication about a century ago, when poliovirus microbiology and vaccination were less well understood (*7*).

It is noteworthy that diseases that have progressed steadily from the control to the eradication ends of the spectrum are invariably those whose microbiology has been well delineated and for which effective control and treatment measures to interrupt transmission are available. The microbiology of leprosy is not yet fully elucidated, and it appears unlikely that multidrug therapy alone would prevent leprosy transmission (*1*). Given these gaps in current knowledge concerning microbiology and therapy, it is not surprising that the elimination stage appears to be the dead end for efforts to reduce the scourge of leprosy. While it would be counterintuitive to go back to the control stage of the paradigm, given the tremendous progress made in case detection and treatment (especially since the introduction of multidrug therapy in the 1980s), it is also clear that unless we can bridge the gaps in our knowledge of leprosy microbiology and transmission mapping, leprosy elimination is unlikely to progress to leprosy eradication.

Rather than table a World Health Assembly resolution that leprosy has not been eliminated, as reportedly suggested by some evaluators of the Global Alliance for the Elimination of Leprosy (*1*, *8*), it might be more productive to work towards overcoming our knowledge gaps with regard to leprosy microbiology and therapy. Unless extraordinary resources are provided for clinical and epidemiological research, leprosy will remain a disease that is eliminated but is far from eradicated. Such an approach might in fact stimulate interest among a new generation of researchers, and generate research funding from donors that hitherto appear reluctant to support leprosy research. ■

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Invest in breaking the barriers of public–private collaboration for improved tuberculosis care

Editor – Mahendradhata & Utarini rightly call for a an urgent move from feasibility studies of public–private collaboration in tuberculosis (TB) control to studies that analyse success factors as well as the cost and cost-effectiveness of such initiatives (*1*). WHO is currently coordinating a number of operational research initiatives that focus on these issues.

In the August 2004 issue of the *Bulletin*, we published a study on success factors for public–private collaboration in TB control (*2*). That analysis was based on project evaluations of four initiatives in three countries. We

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