Lepr Rev (1996) **67,** 151–161

Teaching Materials and Services

WHO. A Guide to Eliminating Leprosy as a Public Health Problem. First Edition, 1995.

This important document has been prepared by the *Action Programme for the Elimination of Leprosy*, WHO, Geneva. The Preface, by the Director of the Programme, Dr S. K. Noordeen, reads as follows:

> 'We have never come so close to seeing leprosy conquered. Even though the disease continues to afflict a large number of people, it is now possible to eliminate it as a public health problem. As a result of the very encouraging results from 10 years' intensive use of treatment based on a combination of antileprosy drugs, known as multidrug therapy (MDT), the World Health Assembly in 1991 resolved to eliminate leprosy as a public health problem by the year 2000. Later, a WHO Working Group on Leprosy outlined the strategy for eliminating the disease and, since then, practically all the major endemic countries have implemented action plans to eliminate the disease.
>
> The central part of the elimination strategy is to make the WHO-recommended MDT accessible to all patients, including those living in difficult to reach areas and populations.
>
> The purpose of this Guide is to enable every health worker in endemic countries to contribute to the historic task of reaching all leprosy patients with MDT and attaining the goal of eliminating leprosy as a public health problem. Although the Guide is likely to be useful for health workers at all levels, it is targeted mainly at those who have major responsibilities for organizing and implementing leprosy work in the field. It can be used both as self-learning material as well as material for training courses.
>
> The Guide aims to give a clear picture of what needs to be done to implement MDT and attain the elimination goal. It does not attempt to cover every aspect of the disease and is certainly not meant to replace textbooks on leprosy. Only the most important concepts are discussed and details of action to be taken, including technical steps, are given. Users may refer to the documents listed at the end of the Guide for further information.
>
> The Guide has been prepared through contributions from Dr M. Virmond, Brazil, and staff of the Action Programme for the Elimination of Leprosy at WHO Headquarters in Geneva. Acknowledgement is made to the various WHO publications and documents on leprosy and leprosy elimination, and suggestions from a number of experts.'

The main sections include the following: The disease: leprosy; eliminating leprosy; diagnosis of leprosy; classification of leprosy; organizing diagnostic services; treatment of leprosy; management of complications; patient care and referral activities for disability prevention and management; organizing MDT services; patient card (sample); selected reading material. The emphasis throughout is on the presentation of guidance on the most important operational aspects and the implementation of multiple drug therapy, avoiding uncertainties and confusing choices of action. Selected examples of the subject matter and presentation are as follows:

Page 8. Current situation
The top 25 endemic countries contribute 92% of the estimated leprosy cases in the world whilst the top 5 countries contribute more than 80%. In 1995, there were an estimated 1·8 million cases in the world, most of them concentrated in South-East Asia, Africa and the Americas. Among these 1·3 million were registered for treatment of whom 1 million were being treated with MDT. The number of new cases detected worldwide each year is about half a million.

WHO Region	Registered cases	Detection	MDT Coverage %
Africa	113 650	47 900	80·60
Americas	195 891	36 623	65·85
Eastern Mediterranean	23 219	6504	81·51
Europe	4916	–	47·38
South-East Asia	913 664	456 882	76·38
Western Pacific	40 508	12 737	97·70
Total	1 291 848	560 719	76·17

Page 13. Essentials of the elimination strategy
The main thrust of the strategy to eliminate leprosy is to:

expand MDT services to all health facilities;
ensure that all existing and new cases are given appropriate MDT regimens;
encourage all patients to take treatment regularly and completely;
promote awareness in the community about leprosy so that individuals with suspicious lesions will report voluntarily for diagnosis and treatment;
set targets and time-table for activities and make all efforts to achieve them; and
keep good records of all activities in order to monitor the progress towards elimination.

Page 29. Who is likely to report to the health centre?
The persons reporting to the health centre for diagnosis and treatment of leprosy are the following:

Persons reporting	Action to be taken
Leprosy cases who were never treated before	Examine carefully, diagnose, classify, explain facts about the disease and treatment, start MDT.
Leprosy cases who had treatment with dapsone in the past	Ask details of past treatment, check records if available, if MB start MDT. If PB, examine carefully, if signs of active leprosy present, start MDT. If no active signs present, reassure, explain facts about the disease. In case of doubt, start MDT.
Leprosy cases who had treatment with MDT in the past	Ask details of past treatment, check records if available, examine carefully. If a full course of appropriate MDT regimen was completed, reassure, explain facts about the disease and advise to return if necessary. If not, start MDT.
Suspect cases	Examine carefully, if no signs of leprosy, reassure, explain facts about the disease and advise to return if necessary. If in doubt, refer.

Other conditions causing skin lesions	Examine carefully, diagnose and treat skin condition, or refer.
Other conditions causing nerve damage	Examine carefully, diagnose and treat condition or refer.
Contacts of leprosy patients for check up	Examine carefully. If a cardinal sign is present diagnose, classify and treat. If not, explain facts about the disease, advise to return if necessary.
Normal individuals for information and/or check up	Examine carefully, explain facts about the disease, clear doubts.

Before you announce the diagnosis of leprosy to the person and his or her family: Think again—Check your findings—Reconfirm the cardinal sign/s. If in doubt: Explain. Wait. Follow-up. Refer.

Page 60. Selected reading material

1 *Chemotherapy of Leprosy for Control Programmes.* Report of a WHO Study Group, TRS 675, 1982.
2 *WHO Expert Committee on Leprosy*. Sixth Report, TRS 768, 1988.
3 *Chemotherapy of Leprosy.* Report of a WHO Study Group, TRS 847, 1994.
4 *Report of the International Conference on the Elimination of Leprosy as a Public Health Problem.* Hanoi, Viet Nam, 4–7 July 1994.
5 *Risk of Relapse in Leprosy*. WHO/CTD/LEP/94.1.
6 *WHO Weekly Epidemiological Record*, June 1995.
7 *Global Strategy for the Elimination of Leprosy as a Public Health Problem*. WHO/CTD/LEP/94.2.
8 *A Guide to Leprosy Control.* Second Edition, WHO, Geneva, 1988.
9 *Managing Programmes for Leprosy Control.* WHO Training Modules, 1993.
10 *Prevention of disabilities in patients with leprosy. A practical Guide.* WHO, Geneva, 1993.
11 *Elimination of Leprosy, Questions and Answers*, WHO/CTD/LEP/93.7.
12 *MDT—Questions and Answers.* WHO/CTD/LEP/91.3.
13 *Prevention of Blindness in Leprosy.* Revised Edition. The International Centre for Eye Health, London, 1991.
14 *On Being in Charge—A guide to management in primary health care*. Second Edition, WHO, Geneva, 1992.
15 *Leprosy*. Edited by Hastings, R. C., Churchill Livingstone, Edinburgh, Second Edition 1994.

Document reference: WHO/LEP/95.1. *Action Programme for the Elimination of Leprosy*, WHO, 1211 Geneva 27, Switzerland.

Schieffelin Leprosy Research and Training Centre, Courses for 1996*

Course	Qualifications	Duration	Commencing date
I *Courses recognized by the Government of India*			
1 Ophthalmic aspects	Qualified medical personnel in leprosy	1 week	Mar 4–Mar 9 Sep 9–Sep 14
2 Nonmedical supervisors'	Qualified paramedical workers with min of 5 years of field experience	3 months	Apr. 1–Jun. 29
3 Medical officers'	Medical personnel engaged in leprosy work	6 weeks	Jul. 29–Sep. 8
4 Physiotherapy technicians'	+2 passed or PUC (with science subjects)	12 months	Jul. 1–Jun. 29
5 Laboratory technicians'	+2 passed—Science graduates preferred	12 months	Jul. 1–Jun. 29
6 Paramedical workers'	+2 passed (Science Graduates preferred)	5 months	Jul. 1–Dec. 31
7 Smear technicians	+2 passed (with science subjects)	3 months	Sep. 8–Dec. 21
8 Dip. in Prosthetic & Orthotic Engg.	+2 passed (Science Graduates preferred)	30 months	Jul. 1–Jun. 30
II *Other courses offered by the Institution*			
1 Condensed course in leprosy	Nonmedical personnel	1 week	Mar. 11–16 Sep. 16–21
	Medical personnel	1 week	Mar. 4–9 Sep. 9–14
2 Refresher course in skin smears	Trained laboratory technicians	2 weeks	Apr. 22–May 4 Aug. 19–31
3 Eye care in leprosy	Paramedical workers/NMS	1 week	Mar. 20–25
4 Ophthalmic nursing care in leprosy	Nursing technician students, Staff Nurses	2 weeks	May 13–25
5 Programme management issues in leprosy control	Project officers and supervisory level in leprosy control projects	2 weeks	Mar. 18–30
6 Research methods in leprosy	Medical personnel	1 week	Oct. 14–19
7 Training of trainers	Teaching personnel	2 weeks	Mar. 18–30
8 Medical records technology	+2 passed	12 months	Jul. 1–Jun. 29
III *In-service training*			
a Inservice training in medicine, surgery, surgical rehabilitn. pathology, lab. technology, ophthalmology & epid. and lep. control	For qualified medical personnel/ health professionals	3 months	By arrangement
b Medical record keepers	+2 passed with proficiency in in typing and good English	2 months	By arrangement
c Basics of physiotherapy in leprosy	Bachelor in physiotherapy	1 week	By arrangement
d Medical students	Clinical medical students	1 week	By arrangement
e Psychosocial aspects in leprosy	Nonmedical personnel	1 week	By arrangement

* Courses are run every year, but check with Centre for dates early in 1997. The address is given at the end.

Mailing Address: Director/Head, Branch of Training/Training Officer, S.L.R. and T. Centre Karigiri, 632 106, N.A.A. Dist., Tamil Nadu, S. India. Telephone: (0416) 21522; Fax: 91-416-26759; Telegram: 'LEPSEARCH' Vellore-7.

The Erasmus Summer Programme—25 Courses in Quantitative Medical Research

The above is to be held in Rotterdam, The Netherlands, 12–30 August 1996.

The Erasmus Summer Programme offers 25 courses on the principles and methods of quantitative research in medicine and public health in a 3-week programme. The first week provides introductory courses, the second week methodology courses and the third week advanced courses. It is possible to subscribe for 1, 2 or 3 weeks in one of the disciplines Clinical Research, Epidemiology, Health Services Research, Human Drug Research and Human Genetics or to mix and match courses from different disciplines in order to design your own individual programme.

Week 1
Principles of Research in Medicine and Epidemiology. *Albert Hofman*
How to Write a Medical Article. *Stephen Lock*
Introduction to Data-analysis. *Theo Stijnen*
Clinical Decision Analysis. *Job Kievit and Jacobus Lubsen*
Clinical Genetics. *Dick Lindhout*
Introduction to Health Services Research. *Johan Mackenbach and Frans Rutten*
Epidemiology for Clinicians. *Albert Hofman*
Policy Analysis in Health Care. *Tom van der Grinten and Bradford Kirkman-Liff*

Week 2
Regression Analysis. *Stanley Lemeshow*
Methods of Clinical Research. *Diederick Grobbee*
Methods of Public Health Research. *Johan Mackenbach*
Genetic Epidemiology. *Lodewijk Sandkuijl, Bertram Müller and Cornelia van Duijn*
Epidemiology and Health Policy. *Louise Gunning*
Design, Conduct and Analysis of Clinical Trials. *Jan Tijssen*
Meta-analysis. *Anders Ahlbom*
Research in General Practice. *André Knottnerus and Arno Hoes*
Data Handling in Epidemiologic Research. *Michael Koenders and Ronald Stolk*

Week 3
Statistical Modelling in Epidemiology. *Michael Hills*
Advanced Study Design. *Olli Miettinen*
Pharmaco-epidemiology. *Paul Stolley*
Advanced Genetic Association Studies. *Lodewijk Sandkuijl and Cornelia van Duijn*
Medical Technology Assessment. *Paul Kind and Frans Rutten*
Molecular Genetics for Clinicians and Epidemiologists. *Peter Heutink and Ben Oostra*
Human Drug Research. *Adam Cohen and Arno Hoes*
Health Economics. *Wynand van de Ven and Eddy van Doorslaer*

Seminar series:
Sir Richard Doll (Oxford University);
Paul Stolley (University of Maryland);
Dimitrios Trichopoulos (Harvard University);
and *Henrik Wulff* (University of Copenhagen).

The Erasmus Summer Programme is meant for those involved in quantitative research, including clinicians, public health practitioners, research officers, epidemiologists, pharmacologists, biostatisticians and geneticists.

Upon request, a brochure with detailed information on the courses, the extracurricular programme, accommodation and an application form will be sent to you. Further information:

Ms Yvette Schunselaar, Office for Post Graduate Medical Education, Erasmus University Medical School, PO Box 1738, 3000 DR Rotterdam, The Netherlands. Phone: +31 (0)10 408 7881; Fax: +31 (0)10 436 7271; E-mail address: secr@paog.fgg.eur.nl.

WHO: SAPEL Projects gather momentum

LEP News, December 1995, WHO Action Programme for the Elimination of Leprosy gives examples of special action operations in Brazil and Chad:

The objective of Special Action Projects (SAPEL) is essentially to accelerate MDT coverage in difficult areas, firstly by identifying special situations and populations requiring rapid action, and then by developing and putting into effect innovative and feasible strategies. They will normally be of limited duration and, once each project ends, the national leprosy elimination programme will be expected to sustain any further activities that may be required. The experience gained will be of value in improving activities in other areas of the country that face similar problems.

The WHO Secretariat's role is to coordinate and cooperate with other agencies in the projects, while international NGOs and other donor agencies are invited to participate and to provide funding.

Amazonas State in Brazil and Eastern Chad offer two examples of SAPEL operations in the field. Amazonas embraces more than 1·5 million sq. km. in northern Brazil, with a population of just over two million—essentially farmers, fishermen or rubber plantation workers—living in widely scattered communities along the Amazon River and its tributaries. More than 20,000 patients have been started on MDT since it was introduced to the State in 1982. But a major difficulty encountered by leprosy workers is the long time spent by patients in collecting drugs from health centres; vast distances are involved and boat transport is both slow and expensive.

The SAPEL project seeks to improve MDT coverage in the municipalities of Carauari and Jurua, on the banks of the River Jurua. While coverage is almost 100% for towndwellers, in the countryside it falls below 50%. The project manager proposes to use Rural Health Agents who were originally contracted for an anti-cholera campaign. They will be trained to detect new leprosy cases and become involved in case-holding and health education activities. Patients will only need to visit the Town Health Centre for confirmation of diagnosis in doubtful cases and for treatment of complications; this should help to ensure the sustainability of project activities. The budget needed is US$ 20,000, half of which has been contributed by the German Leprosy Relief Association (GLRA). Up to June 1995, 13 rural health agents from Jurua and 21 from Carauari had been trained; skin examinations had been performed on 900 individuals and six new cases were detected.

In Eastern Chad, the SAPEL proposal aims to improve MDT coverage through community involvement among leprosy patients belonging to nomadic tribes who are constantly on the move. The leprosy prevalence rate is about 11 per 10,000 population, and it is difficult to maintain high compliance; among the nomads, patients rarely continue treatment beyond three doses of MDT.

The target population consists of three nomadic tribes numbering about 100,000 people; completing treatment of between 250 and 300 leprosy patients will depend on knowing precisely the seasonal movements of these tribes. Resource persons among clan leaders will be selected and trained to spot suspect cases and to deliver MDT. The results will be monitored using three indicators; specificity of diagnosis, clinical improvement and regularity of treatment. A budget of US$ 12,720 has been approved for a period of 12 months. In June 1995, a well-trained team from the national programme went to the area to organize case-finding and select resource persons from the nomadic community. Altogether 115 individuals were examined during the first round of activities before the rainy season started, but no case of leprosy was detected. Provided the end-results are good, this project could be a trendsetter for problems faced by other Sahelian nomadic populations.

Disability: a residual problem

Need for treatment, rehabilitation—and changed attitudes

The ostracism that leprosy patients face is likely to be overcome only slowly, as communities realize that former leprosy patients living among them have been totally cured and cannot transmit the disease to others. But residual impairments—including serious disfigurement—will remain; the lack of sensation will leave cured patients still at risk of injury from heat or other hazards, and they will continue to have difficulty in walking, working and living everyday lives. Ways have to be found of ensuring that such problems and residual deformities do not inhibit people from accepting them as 'fully paid-up' members of the community. So far from deserving ostracism, the cured leprosy patients will need and deserve care and rehabilitation for years to come.

It was the dread of those deformities that caused people to shun leprosy sufferers in the first place, but today a change of mind is needed. Formal health education can help to bring about such a change, while informal methods of education might include group discussions involving disabled leprosy patients themselves, their families and opinion leaders (school teachers, religious leaders, village elders). Once understanding replaces fear and stigma about the physical and social handicaps, a major step will have been taken towards generating supportive measures to efface the old image of leprosy. Of course, no statistics can convey the true disability that stems from social rejection.

WHO's *Weekly Epidemiological Record* of 22 September 1995 (No. 38, 1995, 70, 269–276) contains a study entitled 'Leprosy disabilities: magnitude of the problem,' which attempts to estimate the global burden of disability, and the impact on that burden of control programmes based on MDT. The latest available information shows that the number of cases presenting with disabilities at the time of detection is 39,962 (7·3%) out of 549,672 cases diagnosed in the world; 95% of these cases are reported from the 15 major endemic countries.

MDT interventions have had a tremendous impact on the prevalence of the disease and consequently on disabilities suffered by patients. The overall incidence of impairment is rapidly being reduced because MDT shortens the duration of the disease and limits the incidence and seriousness of leprosy reactions. This reduction is also helped by the leprosy workers' regular monthly contacts with patients, and their improved monitoring and treatment of complications. A key factor is, of course, for new cases of leprosy to be identified and treated as early as possible.

The WHO study concludes that, since MDT was introduced in 1982, about 6·7 million patients have been cured with MDT. This includes about 2·5 million old cases and some 4·2 million new cases detected during the last 12 years. Assuming that 10% to 30% of them already presented disabilities before starting treatment, it can be estimated that MDT intervention has so far prevented between one and two million persons from suffering new disabilities attributable to leprosy.

(*Lep News*, December 1995)

TB: now the world's leading killer of HIV-positive people. WHO, 1995

In WHO Press Release, No. 43, June 1995 under the heading 'Medical Community ill-prepared to cope with rising threat' TB is given as the main killer of HIV-positive people:

Tuberculosis is the leading killer of HIV-positive individuals on a global scale. Health programmes are currently ill-prepared to tackle the crisis. In response, a special meeting of AIDS and TB research experts was convened this week by the World Health Organization's Global Tuberculosis Programme to identify the most relevant research and action to improve TB control in areas where HIV infection is prevalent or increasing.

'The HIV/TB dual epidemic is undermining efforts to control TB,' warned Dr Arata Kochi, Director of WHO's Global TB Programme.' As the incidence of HIV rises in Asia, tuberculosis

will take a deadly toll on those dually infected, killing almost one-third of HIV-positive people, and infecting many of their contacts with TB including those who are HIV-negative. Appropriate research and action are urgently needed to tackle this problem.'

The Global Tuberculosis Programme, in cooperation with the Global Programme on AIDS, is mobilizing medical experts from industrial and low-income countries to develop a new HIV/TB research strategy. This strategy will seek to improve TB control programmes already disabled by growing HIV prevalence and to prevent devastation of TB programmes in countries with a newly emergent HIV problem. The new Joint UN Programme on AIDS (UNAIDS), which will become operational in January 1996, intends to further cooperate with the Global TB Programme.

By the end of the decade, around one-third of all deaths among HIV-positive people will result from TB, according to Global TB Programme estimates. In Abidjan, for example, 32 percent of AIDS cases were considered to have died from TB. HIV is now spreading most rapidly in Asia where TB infection is even more widespread than in Africa.

'The co-epidemic complicates efforts to care for AIDS patients and to identify and treat TB patients,' said Dr Anthony Harries, a physician at Queen Elizabeth Central Hospital in Blantyre, Malawi. 'Health workers are having to deal with ever-increasing caseloads of patients with HIV and TB, and are struggling to manage their programmes while limited by a shortage of manpower and funds, and hampered by a lack of appropriate technology.'

TB germs are transmitted through the air, spreading from person-to-person through coughing, sneezing or even talking. As the disease progresses it is characterized by fever, weight loss and violent coughing which effectively disperses the bacteria to infect surrounding individuals. People who are HIV-positive are probably more likely to be infected with TB than people who are HIV-negative when inhaling TB germs. And people who are co-infected with TB and HIV are 30 times more likely to become sick with TB than people infected only with TB. Because increased HIV cases result in increased cases of infectious TB, larger numbers of people will carry and spread this germ to previously healthy populations. Additionally, the presence of HIV also makes diagnosis of TB much more difficult. People who are HIV-positive often falsely test negative for TB, even though they are ill with the disease.

'As a result of past neglect, TB has already spiralled out of control,' said Dr Paul Nunn, Chief of Research for the WHO Global TB Programme. 'But today, fuelled by the HIV epidemic, TB represents an even larger menace. That is why it is vital that today's narrow TB research agenda be broadened to reflect the complications caused by HIV/TB infection.'

Nunn believes that around the world much current research does not come close to reflecting today's priorities. 'Money is being wasted on projects that will be neither practical nor effective,' he said. 'There is widespread misallocation as well as underfunding. For example, donors have continued to fund narrowly-defined biomedical research that will simply be too costly to be practical in battling the HIV/TB co-epidemic.'

To address this situation, the Global TB Programme is seeking a new partnership with leading scientists and academics from the TB and AIDS communities to help communicate these priorities to leading agencies.

'It is vital that TB and HIV programmes work together in research efforts. This interaction would greatly benefit everyone involved,' said Dr Hans Moerkerk of the Netherlands' Ministry of Welfare and Chairperson for the WHO research meeting.

The group agreed upon a set of the most pressing research needs surrounding the HIV/TB co-epidemic. These are to: 1 improve diagnosis and treatment of TB in HIV-infected individuals; 2 assess the role of and need for preventive TB therapy for vulnerable populations; 3 research coordination and integration of TB services with HIV services at the district level in areas of high HIV prevalence, including emphasis on the role of the private sector; 4 explore the barriers which impede TB patients from seeking and continuing care in high HIV prevalence areas; and 5, conduct a critical study of current expenditures for TB control in communities badly effected by HIV.

'These research priorities will hopefully help us avoid an even worse TB catastrophe in the future,' said Dr Kochi. 'We already know that directly observed treatment, short-course (DOTS) cures TB,' he continued. 'DOTS is inexpensive, and it works. But the numerous barriers to proper treatment of HIV-positive people must be addressed.'

Consensus existed in the group that there is still limited time to take action. With correct research priorities, progress can be made towards lessening the devastating impact of the HIV/TB co-epidemic, especially in Asia where the problem is multiplying.

For further information, contact Mr Kraig Klaudt, WHO Global TB Programme, Geneva, telephone (4122) 791 4627.

Leprosy disabilities: magnitude of the problem, September 1995, WHO

The September 1995 issue of *Weekly Epidemiological Record* (*Relève Epidémiologique Hebdomadaire*), **70,** 269–76, reviews the subject of disability in leprosy in considerable detail. The opening paragraph reads as follows:

Leprosy is considered to be a public health problem and is feared by the community because it is known to produce impairments such as deformities which very often lead to the handicap of social ostracism. Programmes for the control and subsequently for the elimination of leprosy are directed towards reducing these consequences of the disease to very low levels, so that the number of individuals with disabilities as a result of leprosy will be negligible. Most of the experts believe that the best strategy for preventing the long-term consequences of leprosy such as disabilities lies in detecting the disease at an early stage and treating it adequately with multidrug therapy (MDT). However, a number of individuals present with residual disabilities and thus encounter handicap because of past leprosy. Most control programmes do not maintain or possess information on these patients.

The purpose of this article is to review the available information on disabilities due to leprosy and to estimate the overall importance of such disabilities and the likely impact of control programmes based on MDT. These estimates could be used to set priorities and planning of essential activities aiming at preventing the occurrence of disabilities in the community.

The following sections cover: definition and measurement of disabilities related to leprosy; WHO grading of disabilities due to leprosy; WHO International Classification of Impairments, Disabilities and Handicaps; magnitude of the problem (prevalence, incidence, MDT intervention); current situation; estimated global prevalence using various methods; actual proportion of newly-detected cases presenting with disabilities and incidence rates published from various studies.

The Discussion and Conclusions are as follows:

Discussion

Both approaches tend to estimate that the prevalence of individuals living with visible disabilities due to leprosy ranges between 1 and 2 million. The reduction in the incidence of disabilities can be explained by the efficacy of drugs, the reduction in the duration of the disease, the reduction in incidence of lepra reactions, and by operational factors such as improvement in early detection and management of cases.

Only visible physical disabilities have been considered here. Temporary physical disabilities before and during treatment, reactions and complications, and the inconvenience of sustaining long-duration treatment, should all be considered in order to estimate the impact. Moreover, among all infectious diseases, leprosy has a specific cultural connotation and it is difficult to assess the individual social and psychological impact it causes.

Estimates based on information collected from the field through control programmes are often

questioned. It is clear that the sensitivity, specificity and completeness of information collected should be evaluated. On the other hand, applying rates collected from scientific studies conducted in limited places to a theoretical 'population at risk' of leprosy is also likely to lead to over-estimates. Moreover, information on the incidence of disabilities without intervention and before, during and after treatment is very limited. It is expected that the combination of methods described in this article will give some idea of the complexity of the problem, and will stimulate further work on the collection of reliable data relating to the incidence of disabilities.

Conclusions

Since the introduction of MDT in 1982, about 6·7 million patients have been cured with MDT; this includes about 2·5 million old cases (backlog) and about 4·2 million new cases detected during the last 12 years. Assuming that 10% to 30% of them already presented disabilities before starting treatment, one could estimate that MDT intervention has so far prevented between 1 and 2 million persons from suffering new disabilities attributable to leprosy.

A list of references is available on request from the Action Programme for the Elimination of Leprosy, World Health Organization, CH-1211 Geneva 27.

WHO: The Model List of Essential Drugs and Estimating Drug Requirements

Model List of Essential Drugs (Seventh List). Fifth Report of the WHO Expert Committee

Presents and explains the seventh model list of essential drugs issued by WHO as part of its efforts to extend the benefits of modern drugs to the world's population. Intended to guide the selection of drugs in countries where the need is great and the resources are small, the list identifies a core group of prophylactic and therapeutic substances judged capable of meeting the vast majority of health needs and thus deserving priority in purchasing decisions and procurement schemes.

The first part of the report provides updated information on several components of national drug policy necessary to assure that essential drugs, corresponding to essential health needs, are available at all times in adequate amounts and in the proper dosage. The seventh WHO model list of essential drugs is then presented, together with an explanation of changes made when revising the list. Organized according to therapeutic group, the list includes information on route of administration, dosage forms, and strengths for each of 286 essential drugs. For the first time, the list includes a selection of essential drugs needed for the palliative care of cancer patients. A final section presents guiding principles intended to help small national drug regulatory authorities develop a system of legislative and administrative procedures that can assure quality, efficacy and safety, even when resources are limited.

Technical Report Series, No. 825, 1992, 76 pp, ISBN 92 4 120825 2. Sw.Fr 10/US $9·00. In developing countries: Sw.fr 7. Order No. 1100825.

Estimating drug requirements

A task-oriented manual covering the full range of decisions, procedures, and calculations needed to formulate accurate estimates of drug requirements at national or regional levels. Designed for use in courses or for self-tuition, the book uses texts, tables, examples, and exercises to help readers learn how to acquire data on the actual or projected use of health services and then use these data to calculate requirements for each essential drug or vaccine.

The manual consists of eight training modules presented in three main parts. Modules in the first part are intended to help readers understand the evaluations and decisions that must be made before quantification can begin. The second part provides a step-by-step explanation of the patient morbidity-standard treatment method of quantification. Modules provide illustrative standard

drug treatment schedules for quantification based on average doses, an explanation of methods for data acquisition, and full details on calculation procedures. Similar information is then presented for the adjusted consumption method.

Document issued by the WHO Programme on Essential Drugs and Vaccines, 1988, 136 pp. Sw.fr 15; US $13·50. In developing countries: Sw.fr 10·50. Order No. 1930006.

Apply: WHO Publications, Distribution and Sales, 1211 Geneva 27, Switzerland.