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REPORT ON SECOND MEETING OF THE WHO TECHNICAL ADVISORY GROUP ON ELIMINATION OF LEPROSY

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World Health Organization

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1. REPORT ON SECOND MEETING OF WHO TECHNICAL ADVISORY GROUP ON ELIMINATION OF LEPROSY (TAG)

1.1 Introduction

Dr N. Zagaria welcomed all participants and introduced the background to the role of TAG and the purpose of this meeting.

The report of the first TAG meeting had previously been approved and widely disseminated. Dr M. D. Gupte, Chairman, had presented it to participants during the first meeting of the Global Alliance for Elimination of Leprosy, which had been held in New Delhi on 30 and 31 January 2001.

Matters arising from the report and feedback from the GAEL meeting were discussed in detail. A number of important points were raised as follows:

- The elimination plan and strategy had created some confusion for senior health service managers, ministers of health and administrators who were new to leprosy. The confusion was mainly about the objectives and outcome of the elimination programme. It was important that the strategy was presented clearly and explicitly to avoid future misunderstanding of the expected outcome of elimination.
- The challenge for countries with high prevalence rates at the beginning of the programme was noted where, although substantial reduction in prevalence had been achieved, the levels were above the elimination target. This had consequences for the planning of sustainable activities beyond the target date of 2005.

1.2 Status Report 2000

The current status of the elimination programme was presented, supported by the published document *Status Report 2000*. Detailed discussion focused on issues of monitoring and evaluation, and integration, as follows:

- Monitoring and evaluation was discussed and the continuing use of the prevalence indicator was supported. However, this indicator required careful interpretation based on assessment of the accuracy of measurement, estimates of programme coverage, accessibility (particularly for marginalized communities), and independent validation. Further discussion on monitoring and evaluation, including supplementary indicators, was referred to the subgroup described below.
- Effective integration of leprosy programme activities was identified as a high priority. It was recommended that an advisory document on planning, implementation and evaluation of the integration process be prepared for national programme managers. The advice should recognize that integration varied between countries and that the process should provide explicit details on diagnosis and treatment by appropriately trained staff. The advice should be developed in collaboration with GAEL partners and should be based on current experience, as well as lessons learned from the integration process of other disease-specific programmes. Effective integration is essential for sustaining activities after the prevalence target has been attained.

1.3 Research and development

A report of the revised TDR strategy was presented. This strategy was more focused and responsive to the needs of critical programmes, and the portfolio had been extended to include tuberculosis and dengue. This logical approach was based on the burden of disease, control strategies and research potential. Development of the strategy would be managed by steering committees and informed by scientific working groups (SWGs). A SWG on leprosy was planned for November 2001 which would inform research funding bodies, as well as TDR.

Further field-based research initiatives were discussed, such as documenting the effectiveness of strategies, improved chemotherapy, studies on implementation and long-term studies. The report of the first TAG meeting had also identified research priorities. It was agreed that research issues should be referred to a research subgroup, as described below.

1.4 Evaluation of national leprosy elimination programme (NLEP) in India

A presentation on an independent evaluation of the national leprosy elimination programme, in India, was made in collaboration with the World Bank and proposals for future data evaluation were outlined.

1.5 ILEP studies

Current activities of the ILEP Medico-Social Commission were presented. Much of the work shared similar priorities with TAG, such as development of effective integration. Continued close collaboration was to be encouraged. Current research activities in chemoprophylaxis and in nerve damage reactions were presented.

1.6 Subgroup on monitoring and evaluation

It was noted that a TAG subgroup had been established to consider the issues of monitoring with the following terms of reference:

- To discuss evaluation tools, strategies and procedures and set priorities in the development of evaluation methods.
- To propose evaluation tools and design them to be tested in the field.
- To review the results of field testing of evaluation tools.

1.7 Subgroup on field studies for strengthening implementation of the elimination strategy

It was also noted that a subgroup had been constituted to consider research issues with the following terms of reference:

- To identify priority areas for field studies.
- To prepare standard protocols.
- To invite submission of proposals.
- To review proposals for funding.
- To review progress of field studies.
- To publish findings.

1.8 Recommendations

- Detailed considerations and documentation of the various scenarios in different countries was required to assist in planning for the sustainability of antileprosy activities after the elimination goal had been reached or after the year 2005. This should take account of the lessons learned from LEM exercises conducted in countries which had achieved the elimination target for the previous three years. Such LEM-like exercises were recommended.
- To develop advice on integration, including its planning, process, framework, time-scale and evaluation, in collaboration with GAEL partners, using current experiences and examples from integration efforts for other disease-specific programmes. This advice would contribute to effective sustainability and should be produced within 12 months.
- The subgroup on monitoring should address the issues of monitoring and should report to TAG.
- The subgroup on field research should also report to TAG.
- TAG would meet in 2002 at the time of the second GAEL meeting. However, members of the group would continue to communicate by E-mail and would follow up recommendations prior to the next meeting.

2. REPORT OF TAG SUBGROUP ON MONITORING AND EVALUATION

2.1 *Background*

In 1991, WHO and its Member States had committed themselves to eliminate leprosy as a public health problem by the year 2000, elimination being defined as a prevalence rate of below one case per 10 000 population. At the beginning of the year 2000, the prevalence rate at the global level was around 1.25 and the number of countries in which leprosy was still a public health problem had been reduced from 122 in 1985 to 24 in 1999. It was expected that leprosy elimination would be achieved at the global level by the end of the year 2000, and almost all countries were expected to eliminate leprosy at the country level by the end of 2003.

Elimination, as a time-bound goal, had been a strong drive to accelerate leprosy programme activities with more financial resources and stronger political commitment at both international and national levels.

2.2 *Terms of reference*

The terms of reference of the group were defined as follows:

- To discuss evaluation tools, strategies and procedures and set priorities in the development of evaluation tools.
- To propose evaluation tools and design them to be tested in the field.
- To review the results of field testing of evaluation tools.

2.3 *Main issues*

Population: The elimination target of a prevalence rate below one per 10 000 at the global level would most likely be achieved by the end of the year 2000 as far as the reported number of cases registered was concerned. The current elimination strategy was shifting its focus from global level to the national level and wherever this level had been achieved, countries would be encouraged to target elimination at the subnational level. Leprosy elimination would be evaluated at the national level in principle. However, whether it should be evaluated at the national level in all countries or whether this should be different from one country to another based on several pre-defined factors needed discussion. The size of population and geographical area could be such potential factors. For instance, one state in India was the size of one country both in terms of population and surface area. Whether a state in India should be treated as a country or a state would probably depend upon the evaluation methods to be used. Another potential factor was the level of endemicity. Protocols could be developed in such a way that high endemic countries would be evaluated at country level and low endemic countries would be evaluated at subnational level. However, evaluation exercises and priority setting in leprosy elimination activities should be clearly separated.

Diagnosis of leprosy: The lack of a robust diagnostic tool for leprosy had always been a stumbling block in understanding the disease. Specificity of diagnosis and recycling of cases¹ required careful attention in interpreting data collected from the field. Many attempts had been made to standardise diagnosis, but there was no gold standard tool to assess the specificity of diagnosis. This would pose a question in evaluating elimination. One potential solution to this was to count all cases except those confirmed as “not leprosy”. However, this would increase the number of cases and evaluation of elimination might not be sufficiently accurate.

Surveillance and reporting systems: Many programmes that have had eradication or elimination as their goal (polio, dracunculiasis, neonatal tetanus) had criteria to assess the quality of surveillance and reporting systems in addition to epidemiological criteria. The criteria for good surveillance systems was an end point by itself, but, at the same time, they were also indicators for programmes to assess and strengthen their surveillance and reporting systems and to measure progress. Strengthening the surveillance systems, instead of creating a parallel or additional system, was a practical and realistic approach that would benefit programmes and which was worth pursuing for leprosy. Reliability of reported data had been questioned because of the possibility of over-diagnosis, wrong diagnosis and recycling of cases. In developing indicators for evaluation of elimination, a standardized assessment methodology for the specificity of diagnosis needed to be included.

2.4 Presentations

An overview of monitoring and evaluation and certification in other eradication and elimination programmes was presented by Dr Nevio Zagaria (see Table 1). The process of certification was essential for eradication programmes but was not necessary for elimination programmes.

A detailed presentation on the monitoring, evaluation and certification process in the polio eradication programme was made by Dr Brenton Burkholder. The principles of the time-period for adequate surveillance to a specified standard were emphasized. Short presentations on measles and neonatal tetanus were also made. Again the issue of adequate standards of monitoring and surveillance was discussed.

An overview of the key issues in leprosy monitoring was presented by Dr D. Daumerie. Three key points were the use of routine information systems, standard assessment of data, and methods for rapid assessment.

2.5 Conclusions and recommendations

- The eradication of infectious diseases had a very clear operational reason to be certified. For instance, once poliomyelitis had been eradicated, immunization could be stopped, which would have a huge impact on the international community. Certifying its achievement by a credible system was therefore imperative. Leprosy elimination would not, however, have such an impact and certification was therefore not relevant.

¹ Defined as cases already on treatment or cases having completed treatment who were re-registered as new cases or who appear on the register more than once.

Table 1

Elimination Initiatives		WHA Resolution	Target date	Criteria for evaluation	Certification
Disease	Objectives				
Infectious diseases					
Leprosy	Elimination as a public health problem defined as prevalence rate below 1/10 000	WHA 44.9('91)	2000(global) 2005(country)	Under development	?
Chagas	Interruption of vector and serological transmission in all endemic countries in Latin America	WHA 51.14('98)	2010	Available in Spanish	Required(Available in Spanish) International Certification Committee
Lymphatic filariasis	1) Elimination as a public health problem defined, 2) the interruption of transmission *	WHA.50.29 EM/RC 47/R.11	2020	Annex	Annex
Measles(PAHO, EURO, EMRO)	Interruption of indigenous transmission of wild measles virus	1. PAHO ('94)** 2. EURO('97)*** 3. EMRO(96)*****	1. 2000 2. 2007 3. 2010	a. Quality of surveillance:annex b. Criteria for certification of elimination: under development	Currently not required (TAG/Region are monitoring progress towards elimination, including external review of programmes)
Neonatal tetanus	Elimination as a public health problem defined as below 1 case per 1000 live births	1989	2000	Annex	None (Based on country report as part of EPI progress report)
Onchocerciasis (Elimination for the Americas)	1. Elimination as a public health problem defined as elimination of morbidity in the six countries in the Americas 2. Eliminate parasite transmission in those countries or foci where feasible	PAHO 14.35('91) WHA 47.32('94)	1. 2007 2. No target date	WHO/CDS/2001.18b	Required in the future.
Onchocerciasis Control Programme in West Africa(OCF)	Elimination of the disease as a public health problem and an obstacle to socio-economic development(defined as 1) maintaining the annual biting rate below 1 000 per person per year, 2) Annual Transmission Potential***** below 100)	WHA 47.32('94)	2002	Case by case basis	Not required(Impact assessment as part of activities of Expert Advisory Group)
Onchocerciasis-African Programme for Onchocerciasis Control(APOC)	Elimination of onchocerciasis as a disease of public health and socio-economic importance throughout Africa.	WHA 47.32('94)	2007	(Technical Consultative Committee)	Not required(Impact assessment as part of activities of Technical Consultative Committee)
Schistosomiasis	Being developed (for low transmission areas)	To be presented to WHA. 53(2001)	Not defined	Under development	None(Will be based on the country report)

Trachoma	The elimination of trachoma as blinding disease, or elimination of blindness and visual loss due to trachoma	WHA 51.11('98)	2020	Under development	Under developed(planned to be finalised by end 2001)
Micronutrient deficiency					
Iodine deficiency disorders	Elimination of iodine deficiency as a public health problem	1990	2000	Annex	Currently none(External body consists of UNICEF, International NGO and WHO will visit and verify)
Vitamin A Deficiency	Elimination of vitamin A deficiency as a public health problem	None(The World Summit for Children, New York, 1990)	Not defined	Under development(Annex)	None(Based on country report)

*Current working goal is 5 year cumulative incidence of less than 1 per 1000 in children 6-10 years old born after mass drug administration initiated and continued at least for 5 years

**Pan-American Sanitary Conference

***Regional Committee

****Regional Committee

*****the number of larvae potentially transmitted to one person per year at a given point of geographica area

Table 2



STRATEGY DEVELOPMENT AND MONITORING FOR ELIMINATION AND ERADICATION
LEPROSY ELIMINATION GROUP

COUNTRY:		YEAR:	
NEW CASES DETECTED DURING THE YEAR			
MB	PB	PB SSL¹	TOTAL
CASES REGISTERED AT THE END OF YEAR		NEW CASES DETECTED DURING THE YEAR	
		FEMALE	CHILDREN UNDER 15 YEARS OF AGE
			WITH GRADE 2 DISABILITY
ACCESS TO MDT BLISTER PACKS			
Total number of health facilities²		Number of health facilities having MDT blister packs	

¹ Only for countries collecting single lesion PB data
² Health facilities as defined by the national authority

- Surveillance of leprosy and monitoring of elimination should continue to be based on the previously-defined essential indicators collected through routine information systems (see Table 2).
- Validation of essential indicators was considered to be very important. Leprosy elimination monitoring (LEM) was an exercise to collect information that could be used in monitoring progress towards leprosy elimination. LEM should be used to validate data and evaluate programmes. LEM should be conducted on an annual basis for Group 1² countries and on a selected basis for Group 2 and Group 3 countries. Group 2³ and 3⁴ countries could conduct internal assessment exercises using LEM methods. LEM would be conducted at country level except in Brazil and India, where it would be conducted at state level because of population size and geographic area.
- Completeness of reporting was considered to be very important. Countries should be encouraged to provide complete data to WHO, who should then give appropriate feedback to countries.
- LEM should be conducted in some Group 2 and Group 3 countries to gain understanding of the situations which occur following elimination, based on which, advice should be given to other countries in those groups.
- Routine data provided by Group 2 and Group 3 countries over a period of five years or more should be critically reviewed by WHO and programme managers with independent input. Such a review should identify problems that these countries are facing and the results be used to select countries to conduct LEM.
- LEM should be conducted in countries where the reported prevalence rate has reached below one per 10 000 recently but where further information was needed to confirm the situation, such as Bangladesh, Indonesia and Sudan.
- LEM should be conducted by independent monitors. WHO assumed the responsibility of ensuring the independence of monitors, including drawing samples and collection of information.
- It was agreed that there was no role for the sentinel system or sample surveys for estimating prevalence. The organization of sample surveys for leprosy was not cost-effective.
- It was agreed that pilot studies using Lot Quality Assurance Sampling (LQAS) should be conducted to assess their value. The protocol for such pilot studies was circulated to the subgroup for comments. Comments were to be sent to Dr Gupte by the end of February 2001. The results of these pilots would be circulated to the subgroup when they were available. Snowball sampling methods would also be piloted on a similar basis.

² Angola, Brazil, Central African Republic, Democratic Republic of Congo, Guinea, India, Indonesia, Madagascar, Mozambique, Myanmar, Nepal, Niger.

³ Cameroon, Chad, Congo, Ethiopia, Gabon, Gambia, Guinea Bissau, Ivory Coast, Mali, Nigeria, Papua New Guinea, Paraguay, Sierra Leone, Sudan.

⁴ Afghanistan, Argentina, Bangladesh, Benin, Burkina Faso, Cambodia, Colombia, Cuba, Egypt, Ghana, Haiti, Laos, Liberia, Malaysia, Maldives, Nigeria, Pakistan, Philippines, Senegal, Sri Lanka, Tanzania, Thailand, Togo, Uganda, Venezuela, Viet Nam, Yemen, Zambia.

3. REPORT OF TAG SUBGROUP ON FIELD STUDIES FOR STRENGTHENING IMPLEMENTATION OF THE ELIMINATION STRATEGY

Dr D. Daumerie welcomed participants on behalf of the Director, Department of Control, Prevention and Eradication. Dr S. K. Noordeen was appointed Chairman and the terms of reference of the subgroup were explained to members.

3.1 Field studies for improving the leprosy elimination strategy

Dr S. K. Noordeen presented the background paper. The importance of field studies was well recognized and management training initiatives had been developed to strengthen the capacity of local programme managers to undertake them. At present, two types of field studies could be considered. The first type of study is the problem-solving variety where the programme manager conducts studies to solve local issues and which, by nature, were usually small and area specific. The second type of study was related to generic issues which needed to be carried out in a systematic way in several locations as the results would have implications for both the technical and operational aspects of elimination activities.

3.2 Needs in chemotherapy

Professor Baohong Ji presented the paper on needs in chemotherapy. It was pointed out that the quality of leprosy elimination campaigns needed to be improved in order to minimize over/under diagnosis as well as treatment outcomes. More appropriate training of health workers would facilitate this. Patients' compliance to MDT blister packs should be looked into for both self-administered daily intake of dapsone and clofazimine as well as monthly rifampicin. With regard to implementation of *Accompanied MDT*, conditions for its use, the type of information to be given to the person supervising treatment, and the role of health workers in supervising treatment needed to be studied further. Ongoing chemotherapy studies also needed to be strengthened, especially in areas where follow-up rates are low. Further follow-up of the outcome of single-dose treatment with ROM and 12-month MDT for MB cases is needed. The possible existence of a subgroup of MDT patients who were at greater risk of relapse following a course of treatment needed to be studied as different referral centres were reporting different relapse rates. Monitoring of rifampicin resistance was also an important area of study as there was the potential threat of *Mycobacterium leprae* becoming resistant to this important drug. Systematic follow-up and review of cases in the field in order to identify suitable cases for study was needed.

With regard to issues related to chemotherapy, the following points were discussed:

- the need for newer generation MDT;
- development of a common PB/MB regimen, both in composition and duration of treatment;
- strengthening the efficacy of fully-supervised monthly administration of MDT regimens such as rifampicin, ofloxacin and minocycline (ROM);
- testing a combination of rifapentine, moxifloxacin and minocycline (PMM) for all PB cases;
- continued screening of new drugs;
- research capacity building, especially in endemic countries;

3.3 Technical problems faced in the field: lessons learned from leprosy elimination monitoring

Dr A. O. Awe made a presentation on lessons learned from leprosy elimination monitoring (LEM). It was noted that integration of MDT services in most of the countries in Africa in which LEM had been carried out had not been complete or effective. The delivery of services was still in the hands of specialized leprosy staff and clinics were usually held at the health centre on fixed days of the month. Flexible MDT delivery to patients was still not practised.

Regarding the availability of manuals and guidelines, it was found that only a small number of health workers had received manuals and guidelines in the field and that existing manuals had not been updated to include new guidelines. In some countries, therefore, the 12-months' MDT regimen for MB patients had not been followed. LEM had also identified areas in countries where MDT services were still not available owing to insecurity and difficult geographical terrain. Regarding awareness creation efforts in the community, it had been observed that very few information materials were available at health-centre level and that most IEC activities were carried out only as part of leprosy elimination campaigns or when celebrating Leprosy Day. The management of MDT drugs was also observed to be weak as some expired drugs had been found and in some instances the rifampicin capsules had been removed from MDT blister packs to treat tuberculosis patients.

The reporting format was considered rather complicated, especially for general health workers and some programmes were still using old classifications. In some health centres registers were found to be inflated and the health workers were not clear about the definitions of a case of leprosy, defaulter, relapse and the denominators used in calculating the rates.

LEM had revealed reduced commitment on the part of both governmental and nongovernmental organizations once the elimination goal had been reached. Measures to ensure sustainability after elimination should be developed in consultation with all partners, especially in programmes that had relied mainly upon donor support for elimination activities in the past.

3.4 Issues related to urban and peri-urban areas

Dr S. K. Mohanty made a presentation on issues related to leprosy in urban and peri-urban areas. Integration of leprosy care into the mainstream of general health care services was one of the key elements of the elimination strategy. Although there had been a varying degree of success in achieving integration in India, this was largely limited to health services in rural areas. The complexity of urban health care systems offers such a difficult matrix for the integration process that it would be likely to push the elimination goal beyond the target date.

The health care service delivery system in rural India had been structured more or less on a uniform pattern that was non-existent in urban areas. The urban health care infrastructures had developed themselves into a very complex system. These differ from state to state and even within states, which made the implementation/coordination process much more difficult than it appeared to be.

Examples of some of the challenges related to implementing the elimination strategy in urban areas are given below:

- Multiplicity of service providers (i.e. government, local bodies, ESIS, railways, armed forces, industrial health services, nongovernmental organizations, private service providers, philanthropic organizations, etc) was likely to result in duplication of efforts and resources, and even to contribute publicly to the conflicting views on the disease, its cure and care.
- Multiplicity of health-care service management and administrative structures within the same geographical areas without a permanent disease surveillance, reporting and coordination mechanism. Case reporting was hardly a systematic or regular process. For example, teaching hospitals, municipalities/municipal corporations, cantonment areas, railway authorities, industrial corporate authorities, etc, had different priorities, resources and management structures.
- Multiplicity of systems (i.e. allopathic, homeopathy, indigenous system of medicine, unani, faith healers, etc) compounded the issue.
- Unlike rural communities, the urban population consisted of various social, cultural and economic groups. Different economic groups with varying degrees of affordability and choices of access to health facilities influenced treatment-seeking behaviour, leading to different treatment regimens and non-registration of cases.
- Migration and frequent change of residence within the same urban area, leading to under-coverage or non-coverage by NLEP. Peri-urban agglomeration and unregulated growth resulted in these areas being beyond the coverage of the rural health-care system and left uncovered by the local bodies (except through SAPEL).

In urban areas, therefore, successful integration of leprosy services to facilitate elimination would depend on a deep understanding of the complexity of urban systems and the development of appropriate (area-specific) strategies to ensure the positive participation of all players.

Point for consideration: To develop and implement an appropriate process in selected high-endemic urban areas of different sizes to address the complex urban issues for strengthening implementation of the leprosy elimination strategy.

3.5 Identifying priorities for field studies

Members of the subgroup identified the following topics for field studies:

Accompanied MDT (A-MDT): Studies on accompanied MDT should address the issue of which patients should take this kind of treatment, who supervises it, how it is supervised, and how compliance should be monitored. Studies would be conducted on the following:

- clinical outcome of *Accompanied MDT* in areas where it had already been introduced;
- clinical outcome of *Accompanied MDT* in areas where it was to be newly introduced with comparison of outcome to a control area.

Integration: Studies on integration should look into the following areas:

- ownership of leprosy control activities by general health services;

- the role of specialized leprosy services in an integrated set-up – what level and degree of support will general health services need from specialized services ?
- capacity of general health workers to provide MDT services;
- training curricula for general health workers;
- outcome measures should include case detection and cure rates, coverage and accessibility indicators.

Studies on 12-month MDT: Studies should be carried out looking at relapse rates in areas where 12 months' MDT regimen was being used in endemic countries.

Studies on single-dose treatment with rifampicin, ofloxacin and minocycline (ROM): Studies should be carried out on relapse rates in areas where ROM had been used widely.

Impact of IEC activities: Progress with the development of a protocol for evaluation of the impact of IEC activities carried out in endemic countries was to be reported at the next subgroup meeting.

Reaching marginalized population groups: Information regarding special action projects for elimination of leprosy (SAPEL) should be compiled and distributed so that national programmes could adapt some of the approaches for local use.

Leprosy in the urban and peri-urban areas: Studies that have been carried out regarding the involvement of private practitioners for leprosy in urban and peri-urban areas should be analyzed. Documentation on the outcome of ongoing projects in urban and peri-urban areas should also be produced.

Evaluation of prednipsacs in the field: Studies should be carried out in areas where prednipsacs have been introduced to find out how they were used in the field.

Chemotherapy: The subgroup agreed that the duration of treatment needs to be further shortened and that the ultimate goal would be a single-dose treatment for all types of leprosy.

Monitoring rifampicin resistance: Data was to be collected from national programmes regarding how many patients have failed to respond to re-treatment after relapse with MDT. This data was to be analyzed before making a decision about whether the development of a test for rifampicin resistance was a priority.

Simulation models for epidemiology: The subgroup was not able to comment on this issue as it was not related to field studies. Ongoing studies associated with the simulation model were to be continued.

Other studies: A study comparing classification based on clinical criteria and skin smears should be carried out.

3.6 Conclusion

The subgroup agreed that the Secretariat should initiate the above activities identified for field studies and report back to the next meeting.

Annex 1

WHO TECHNICAL ADVISORY GROUP ON ELIMINATION OF LEPROSY (TAG)
New Delhi, 1 February 2001

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Annex 2

WHO TECHNICAL ADVISORY GROUP ON ELIMINATION OF LEPROSY (TAG)

**SUBGROUP ON MONITORING AND EVALUATION OF LEPROSY
ELIMINATION AS A PUBLIC HEALTH PROBLEM**

New Delhi, 2 February 2001

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WHO TECHNICAL ADVISORY GROUP ON ELIMINATION OF LEPROSY (TAG)

**SUBGROUP ON FIELD STUDIES FOR STRENGTHENING
IMPLEMENTATION OF THE ELIMINATION STRATEGY**

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