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Indicators for use in leprosy control programmes

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The leprosy control measures currently being undertaken in almost all the control programmes in the world are based on the two main strategies of case-finding and treatment. These two measures have been the cornerstone of leprosy control activities since the era of chemotherapy with dapsone. Unless a major breakthrough occurs in the development of a vaccine, these two measures will be the main strategy used in the elimination of leprosy as a public health problem by the year 2000.

Most of the leprosy control programmes operating in endemic countries are to be monitored and evaluated using these two activities. Depending on the type of the health care delivery system and availability of resources, each country or even each region in a country have developed their own unique case-finding and treatment activities. Indicators to be used for either monitoring or evaluation are going to differ from programme to programme, depending upon the type of control programme (specialized vertical or integrated), nature of activities undertaken and the availability of resources.

Generally it is felt that as leprosy control measures are integrated into the primary health care services (which means that less specialized persons are to be used) the amount of data routinely to be collected needs to be reduced as well as simplified. Certain information that was routinely available during the years when leprosy control was a specialized service activity will no longer be routinely available. A trade-off between information that is thought to be essential and that which is not essential must be made. The operational and epidemiologic indicators to be used for the monitoring or evaluation of a leprosy control programme will also differ between that of a central or intermediate level programme manager and a peripheral programme manager. Some of the indicators intended for use by the peripheral programme managers may not be of use for the central planners.

Since the programme managers at the peripheral levels are the ones who are mainly involved in the day to day implementation of the case-finding and treatment activities it is important that a set of minimum indicators be identified which could be routinely collected and used by the personnel at the peripheral level. Indicators are to be divided into two categories. One set of indicators are intended for the peripheral programme managers and the second set for the central or intermediate level programme managers. Each set of indicators is then to be subdivided into operational and epidemiologic indicators.

The formula for the calculation of each indicator is as shown in the OMSLEP,

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Recording and Reporting Systems for Leprosy Patients, edition 3.[1] The list of indicators recommended for use in integrated leprosy control programmes is as follows.

REGISTERED PREVALENCE

The registered prevalence is a very useful indicator and has been used by almost all control programmes. It is also easy to calculate since almost all control programmes have the total number of registered cases. Usually the registered prevalence is calculated as a point prevalence. Since the treatment duration for paucibacillary (PB) patients is now much shorter under the MDT regimen, in programmes where MDT treatment activity is efficient the registered number of cases may be comprised of only multibacillary (MB) cases. If the true magnitude of the problem of leprosy in an area is to be estimated, the period prevalence may be more appropriate.

With the introduction of MDT in most control programmes the registered prevalence has drastically declined in a very short period and it may no longer reflect the true situation in areas where the detection rates do not approximate the incidence rate.

PROPORTION OF REGISTERED CASES AMONG ESTIMATED CASES

This is a very useful indicator for central or intermediate level programme managers, especially if one aims at cutting the transmission through MDT. As pointed out in the OMSLEP, the problem is finding the denominator for this indicator which is the total number of estimated leprosy cases. If future leprosy control programmes are to have a specific time frame target, this indicator will highlight the success of the control measures in an area. It is possible that an area may report a very low registered prevalence but the present registered caseload could be only a small fraction of the total estimated cases as a result of poor case-finding activities.

TOTAL NUMBER OF SCHOOLCHILDREN SCREENED FOR LEPROSY, SCHOOL DETECTION RATE, TOTAL CONTACTS EXAMINED, CONTACT DETECTION RATE, TOTAL POPULATION MASS SURVEYED, MASS SURVEY DETECTION RATE AND ACTIVE CASE-FINDING PROPORTION

The indicators concerned with the operational aspect of the active case-finding activity are the total numbers of schoolchildren screened for leprosy, the school detection rate, total contacts examined, the contact detection rate, the total population mass surveyed, the mass survey detection rate and the active case-finding proportion. In programmes where the registered cases are almost equal to the number of estimated cases or if the incidence of leprosy is too low the active case-finding measures may be very inefficient and costly. In such programmes these indicators need not be used on a routine basis. In programmes where the proportion of registered cases is still low compared to the estimated number of cases, these indicators are helpful in monitoring the operational aspect of the case-finding activities with the aim to increase them.

PROPORTION OF REGISTERED CASES ON MDT

This indicator is useful in monitoring the MDT coverage of an area. The proportion of

registered cases on MDT will become obsolete as the MDT coverage expands in an area and reaches 100%. This indicator is useful during the transition period from dapsone monotherapy to MDT in assessing the operational coverage of MDT, especially in programmes introducing MDT on a phase-by-phase basis.

The numerator for this indicator is the total number of cases obtaining treatment during a given period. The denominator is the total number of cases registered for treatment in that specific area during the same period. This is a kind of period prevalence, where the total number of prevalence cases at the start of the period of reporting is added to the total number of cases that are newly treated during the same reporting period.

PROPORTION OF CASES ON REGULAR MDT

This indicator could be calculated for all cases on MDT or separately for PB and MB cases. Regularity of treatment is to be taken as those who receive at least two-thirds of the recommended number of MDT doses during the year as defined in OMSLEP. Though this information is important for assessing whether patients are receiving sufficient treatment, this information could not be collected routinely through monthly reports and should only be calculated on a yearly basis.

NEW CASE MB PROPORTION AND NEW CASE UNDER 14 YEARS PROPORTION

These two indicators are useful in assessing the transmission of the disease when incidence could not be calculated easily. As stated in OMSLEP, when the MB proportion stabilizes the detection rate approaches the incidence rates.

These two indicators could be influenced by the mode of case-finding activities conducted in a specific area. A programme which stresses school surveys will have a high proportion of new cases under 14 years of age. Programmes with only passive case-finding activity may be picking up relatively more MBs than PBs and so in such areas the new case MB proportion will be high.

Assuming that no drastic change in the mode of case-finding has occurred in the past, these two indicators are useful in assessing the transmission of the disease.

PROPORTION OF GRADE II DISABILITY AMONG NEW CASES

This indicator reflects the effectiveness of the case-finding activity. It is a good operational indicator, especially when used together with other case-finding indicators. Since the numerator of this indicator includes only visible disability (grade II) this indicator will approach zero as cases are being detected at an early stage as a result of a good case-finding programme.

TOTAL CASES COMPLETING MDT DURING THE YEAR

The total number of cases completing MDT during the year is to be used as a crude indicator to measure the efficiency of the MDT activity. This figure is easy to obtain and though it reflects MDT activities carried out in the past it nevertheless gives a rough estimate of the outcome of the MDT activity in an area. Assuming that the regularity of

Table 1. Indicators for use in control programmes

Indicators	Peripheral programme managers		Central/ intermediate programme managers	
	Op:	Epi:	Op:	Epi:
1 Registered leprosy prevalence	++	++	++	++
2 Proportion of registered cases among estimated cases	+		++	+
3 Total schoolchildren screened for leprosy	++		+	
4 School detection rate	++		+	
5 Total contacts screened	++		+	
6 Contact detection rate	++		+	
7 Total population mass surveyed	++		+	
8 Mass survey detection rate	++		+	
9 Active case-finding proportion among new cases	+		++	
10 Proportion of registered cases on MDT	+		+	
11 Proportion of cases on regular MDT during the calendar year	+		+	
12 New case MB (proportion)	+	+	+	++
13 New case under 14 years (proportion)	+	+	+	++
14 Proportion of grade II disability among new cases		+		++
15 Total cases completing MDT during the year	+		+	
16 Relapse rate (MDT)	+		+	

treatment has not changed during the period under study, it could be assumed that this indicator reflects the MDT activity carried out in the past.

RELAPSE RATE

The relapse rate to be estimated is based on the clinical relapses detected. As pointed out in the OMSLEP, the problem with this indicator lies in the validity of the denominator. The total accumulated discharged cases are difficult to review during a given year, especially in programmes where the on-going MDT caseload is still high. The majority of the relapses will be self-reported and the denominator will be made of all discharged cases. This makes the interpretation of the relapse rate a little difficult since a cohort analysis of the discharged cases will be impossible to calculate from routine data collection forms, especially in an integrated leprosy control programme. The programme managers will have to use this as a rough measure to assess the effectiveness of the MDT in an area.

Reference

[1] OMSLEP, *Recording and Reporting Systems for Leprosy Patients*, edition 3.