

CHAPTER 3

Evaluating health activities

Learning objectives

After studying this chapter and doing Exercises 70–73 on pages 379–388, the health worker should be able to evaluate:

- **the achievements of a health team in services delivered and their impact in reducing the priority health problems of the community**
- **the progress of a health team's work**
- **the performance of the individual members of a health team**
- **the efficient use of the health team's resources**
- **the management of the health team.**

Introduction: The evaluation function

As has been noted in Part I, evaluation is an essential part of management by objectives and learning from experience. Evaluation is also related to the principle of management by exception.

'To evaluate' is simply defined as *to judge the value of*. The term is often used incorrectly in the sense of 'to examine' or 'to measure' or 'to assess'. However, evaluation *depends* on examination or measurement or assessment, which must be carried out to obtain the information that will allow an evaluation to be made. Generally, the term 'evaluation' is used to include the whole process of examination or measurement and the ultimate judgement of value.

In this context, the term 'assessment', sometimes used as a synonym for evaluation, is normally used in relation to the observation of performance of students as they demonstrate clinical skills or competence in carrying

out a health care activity or of health workers as they undertake a health care task.

Assessment of performance of staff is an essential part of evaluation of a health programme and is a direct means of measuring quality of health care.

The term 'appraisal' is normally used instead of 'evaluation' in relation to a supervisor's annual review of performance of individual health care staff.

The purpose of management (improving achievement and performance) and the nature of management decisions were discussed in Part I. Management decisions concerned with evaluation are those that deal with the health team's:

- effectiveness, or achievement of results
- performance of activities
- efficiency, or economic use of resources.

As evaluation is concerned in the first instance with *effectiveness*, or the achievement of results, the following questions are asked first:

- Are the results as intended?
- Are the results of value?

When the answer to both questions is 'yes', the most likely decision will be to carry on as planned. If the answer to either question is 'no', the ensuing decision will usually be to revise the objectives or the activities or both.

With regard to *performance*, the evaluator asks the following questions:

- Are the results as good as they could be?
- If not, why not?

When the results are as good as they could be, the decision will usually be to make no change. When results are less good than expected, however, the likely decision will be to change the design of activities or the use of staff or of other resources.

Finally, with regard to *efficiency*, the evaluator asks the questions:

- Could the same results have been achieved more cheaply?
- If so, by substituting what resources for those that were used?

If the results could have been achieved more cheaply, the ensuing decision would be to use resources more economically. This kind of typical ‘control’ decision might be taken, for instance, in preparing yearly operating budgets.

Before going on to a review of management functions in evaluation, it is worth emphasizing that evaluation can be undertaken at different times and in various ways, but that it follows certain general principles.

The general approach in evaluation is as follows:

- *measurement* of observed achievement
- *comparison* with previously stated norms¹, standards² or intended results
- *judgement* of the extent to which certain values are satisfied
- *analysis* of causes of failure
- *decision* (feedback).

For instance:

According to its records, a health team has achieved an 80% coverage with postnatal visits in its health area. The target it had set itself was 75% coverage. Achievement therefore appears to be more than satisfactory. However, by looking at the distribution of the women who were visited, it appears that none belongs to any of three distant villages. This does not satisfy the community’s demand for ‘equal access to services’. A decision is therefore required.

This example illustrates an important difficulty in evaluating effectiveness. In the example, is effectiveness best measured as coverage, equal access to services, or both? Is the health team more successful if it exceeds its coverage target by concentrating its efforts on nearby villages than if it provides services equally to all the villages at the cost of lower coverage? Effectiveness is not a simple matter of success or failure.

In practice, a health team tries to meet the many and varied *needs* of the community and to satisfy its more pressing *demands*. It also has to pay attention to problems that have national priority, and therefore sets itself

¹ Norm: standard quantity to be produced or amount of work to be done.

² Standard: measure by which accuracy or quality is judged.

operational targets in a variety of programme areas (such as nutrition, water supply, communicable diseases, family health), as well as *time-frames* for their achievement. Effectiveness is about all of these aspects of the team's functions, and its evaluation should be concerned with all of them, provided that it is possible to obtain, from records or by measurement or assessment at reasonable cost and with reasonable effort, the necessary valid and relevant information.

The means of measuring effectiveness must therefore be carefully selected. Before the measurement of effectiveness for purposes of programme evaluation is begun, the following questions should be asked:

- What planning or implementation decisions will be affected by the findings?
- How will the findings be used in making those decisions?
- How, and to what extent, will implementation of the decisions improve effectiveness?

For instance:

After the evaluation of the effectiveness of the health team in the above example, the following implementation decisions must be made:

- Ought the team to provide services to the three distant villages? If so, when? What proportion of the staff and resources should be reallocated for the purpose?
- Where could services in other villages be reduced and how could resources thus saved be used for the villages not yet covered? Information on the postnatal coverage of women in each village will show this.
- Should, say, 10% of staff time and other resources be transferred to the three distant villages? This would probably not reduce coverage to less than 75% in any of the other villages, but would raise coverage from 0 to 50% in the three distant ones, which would be a significant improvement in effectiveness.

From this example it can be concluded that 'coverage' and 'distribution' are suitable aspects of effectiveness to measure since they point to necessary implementation decisions, contribute to making such decisions, and support the decisions. However, there are other difficulties with evaluation.

For instance:

A health team evaluates its effectiveness in providing clean water to the households in an area where the ratio of pumps to households was 1 to 45. The target was one pump to every 20 households. At the midpoint of the plan period the ratio is only one pump to every 40 households. It seems that the team is failing to achieve the target.

The pump:households ratio is a valid but insufficient measure of the team's effectiveness; it tells nothing about the possible cause of failure. To learn from experience (which is one of the principal purposes of evaluation) something more must be done. It is essential to analyse what factors are preventing successful implementation.

This implies looking at the entire chain of events that would normally have resulted in success, and discovering what are the obstacles and limitations that are preventing success, as well as the positive factors that would lead to success if the team were to take them into account. In the above example such analysis might include:

- estimating the community's demand for water
- examining community acceptance of the type of pump proposed
- finding out whether the community can pay for maintenance of the water supply system
- checking whether all the required parts are available in stock
- testing the drilling rig
- appraising the technical ability of those who prepared the detailed plans for the project
- finding out whether the rural water scheme is assured of adequate funds for reaching the target and maintaining the service.

This is a continuation of the evaluation, but in depth. Although evaluation may be concerned primarily with effectiveness, it will often reveal inefficiency, or uneconomical use of scarce resources, as a cause of failure to reach a target.

Sometimes the evaluation in depth can turn towards management itself, asking the question "How efficient is the management?". This self-evaluation of management is usually referred to as *management audit*.

Obviously management needs information to be able to discuss seriously such points as those raised in the example above. In Chapter 2, on implementation, reference was made to the monitoring function of management as the mechanism for getting the right kind of information, where

and when it is needed, for evaluation purposes as well as for more immediate control purposes. In this sense, monitoring is part of the evaluation function of management.

Finally, *feedback* is necessary for learning from experience. When a health team undertakes an evaluation, with all members contributing, the feedback is immediate, in as much as every staff member learns from the discussion. However, evaluation findings and their interpretation must also be communicated to decision-makers at other levels, especially if their participation in improving the situation is expected. Feedback may be made available to the community, to its representatives and leaders, and to higher levels of administration.

Evaluation, particularly when it requires an analysis of causes of underachievement, is the best way to ensure that management focuses attention on what matters most: it helps in making *big decisions first*.

3.1 Evaluating achievement

To evaluate a programme for its effectiveness is to judge the value of results achieved by the health team. It necessitates measuring the extent to which people get the services that were planned to meet their needs, and assessing how much they benefited from the services. The information thus obtained is used to improve the quantity, quality, accessibility, efficiency, etc. of services.

Two broad questions must be asked:

- Are the results those that were intended?
- Are they of value?

The general approach to evaluation (in this case, for effectiveness) consists of the following five steps:

- deciding what aspects of the programme are to be evaluated and how effectiveness is to be measured
- collecting the information needed to provide the evidence
- comparing the results with the targets or objectives
- judging whether and to what extent the targets and objectives have been met
- deciding whether to continue the programme unchanged, to change it, or to stop it.

Evaluation is often described as a continuous function, but in this chapter the evaluation of a single programme within a limited time period (e.g. in preparation for an annual report) is described. The evaluation is performed by health staff, who will be expected to collect and analyse the information needed as a basis for evaluation.

Decide what is to be evaluated and how effectiveness is to be measured

In principle, a plan should specify how each programme or activity it contains is to be evaluated and what will be accepted as evidence of satisfactory achievement. For instance, if the plan contains the following targets:

“By the end of 1996, the incidence of neonatal tetanus in the 21 villages of Jaya District will be reduced to 1 per 1000 live births from the present (1992) incidence of 5 per 1000.”

and

“By 1996 all the people in the district will have adequate access to preventive services (according to predetermined criteria of accessibility).”

it should provide also for the achievement of the targets to be measured by (a) the yearly incidence (i.e. number of cases) of neonatal tetanus per 1000 live births; (b) the rate at which the incidence falls from one year to another; and (c) the distribution of new cases among the 21 villages. The variables (a), (b) and (c) are therefore direct measures of the effectiveness of the programme.

Use of these measures during the plan period will show the progress being made in reducing the incidence of neonatal tetanus (i.e. monitoring). At the end of the period it will show whether the target has been achieved or what still remains to be done.

If interim targets have not been set during planning, those responsible for monitoring and evaluation should decide at the start of the programme what information must be collected to monitor and evaluate the programme. Ideally, baseline information (e.g. the yearly incidence and the distribution of neonatal tetanus before the target is set) should be obtained. However, it may be necessary to obtain or confirm this information

at an early stage of the programme, and to change the target accordingly. Otherwise, it will be impossible to determine with certainty whether incidence is falling or whether any fall in incidence is a result of the programme.

Collect the necessary information

Evaluation requires that the information needed to monitor and evaluate progress is made continuously available throughout the plan period. Thus, for the purposes of this example, *every case* of neonatal tetanus must be reported to the monitoring and evaluation group, and reliable arrangements must be made to obtain the information at regular intervals (e.g. once a week, or on a fixed date each month).

There must be someone (e.g. a health volunteer) in each village who is responsible for recording and reporting the information, and a health-centre staff member (e.g. the public health nurse-midwife) who is responsible for collecting and processing the information at the end of every 3-month period.

Compare results with targets or objectives

At each monitoring point (e.g. every 3 months or at the end of each year), the information obtained must be compared with the targets set for that period or time and for each place. It is helpful if the information is laid out in a table that shows data by year (or other specified period) and place (e.g. each village in a district). The figures recorded in the table must be changed into rates (per cent or per thousand) to enable comparisons to be made, unless the targets themselves are expressed in figures rather than rates.

Continuing with the example of neonatal tetanus, three simple figures would enable the results achieved to be compared with the targets:

- the yearly total number of cases of neonatal tetanus occurring in the entire district compared with the target for that year
- the yearly number of cases of neonatal tetanus occurring in each village compared with the number that occurred in the previous year
- as calculated at the end of the plan period, the mean annual incidence of neonatal tetanus in each village (i.e. the total number of cases in each village during the 5-year plan period, divided by 5).

Comparing these figures on a year-to-year basis will show whether the district totals decrease in line with the targeted trend; whether any

village has more cases of neonatal tetanus than previously and should therefore receive greater attention; and, at the end of the period, whether any village has always had a higher incidence of neonatal tetanus than others, which would suggest unequal accessibility, distribution or quality of services.

The time to make this comparison might be in the last quarter of each financial year, to allow for budgetary changes to be made for the following year. The task would fall on, say, the district nurse-midwife in charge of neonatal tetanus; the findings should be made available to the district management, preferably in the form of tables and written conclusions.

Judge the degree to which the results achieved have been of value

Once the measurements and comparisons have been made, the evaluation group must judge the value to the community of what has been achieved. In the example used here, this is a simple matter of whether the annual and total incidence of neonatal tetanus has been reduced to the targeted figure, and whether the distribution norm (e.g. no more than one case in each village) has been met. There may therefore be little more to discuss if the principle of 'management by exception' (see Part I, Chapter 1) is applied. However, it is usually advisable to hold a meeting of those who planned and produced the services and of members of the concerned communities to discuss the results and how they were obtained, even when an objective or target has been achieved. For instance, it might have been possible to achieve the target sooner with no additional effort, or to achieve better results with the same effort. The experience gained in achieving a target or objective is likely to be valuable for other programmes.

When results fall below what was expected, the reasons must be explored and analysed. The analysis should take place before the annual report is made, so that remedial action may be proposed to the higher or supervising level. Discussions should involve a member of the health team, a health volunteer from the villages or areas where the shortfalls occurred, and a representative of the community concerned.

Decide what to do next

On the principle of 'management by exception', no new decisions are needed when targets and objectives have been satisfactorily achieved,

except to continue as before. Of course, the objectives and targets may have been set at too low a level, and this should be considered when they have proved easy to achieve. When achievement has not been satisfactory, however, one type of decision may be to investigate thoroughly the causes of the shortfall by means of assessment, appraisal of staff performance, management audit (see Section 3.5) or otherwise. A different kind of decision might be to reassign staff or resources to strengthen the effort where needed. These decisions are for the team leader to make; they should be made promptly and communicated to all concerned for immediate action.

3.2 Evaluating work progress

Work progress is evaluated in order to measure the efficiency of the health team, i.e. to find out whether the team completed the work that was assigned to it in order to reach its targets (quantity), whether the work was of the expected quality and was carried out on time, and whether the budget was overspent or not.

The basic questions to be asked are:

- Are the results those that were intended?
- If not, why not?

Evaluation for efficiency covers the same five steps as were discussed in Section 3.1:

- deciding what aspects of the programme to evaluate for efficiency, and how to measure or assess efficiency
- collecting the information needed to measure the achievements
- comparing the results with the norms and targets
- judging the value of the work achieved
- deciding what to do next.

Decide what to evaluate and select measures of operational efficiency

Normally, a plan of action outlines the work of the health team. It lists the necessary activities (services to be delivered, development work, and support tasks), indicates what they should achieve, who should perform

them and when each should take place, and shows how each activity would relate to the others.

If this has been done, it will not be difficult to monitor and evaluate the team's efficiency. The questions to be asked are:

- Were the planned activities completed?
- Did they achieve their targets?
- Did they do so on time and with the assigned staff and other resources?

If the plan of action did not specify the team's activities, and much of the work has been completed, the team leader must decide whether there is a valid reason for attempting to evaluate the team's performance for efficiency. If there is such a reason, those responsible for evaluation should list all the activities that should have been carried out and what they should have achieved. This is a useful exercise only if it enables the evaluators to determine which resources were critical for the success of the activities or, if the activities did not achieve their targets, which critical resources were lacking. Since it will be possible to examine only a few activities among many, they must be carefully chosen. The criterion for choosing the activities would be, for example, that they must be completed before many later activities can begin, or that they must use a large amount of critical resources.

For instance:

To control neonatal tetanus in Jaya District, the three critically important preceding activities are: TBAs to be retrained in sterile handling of the umbilical cord (a development activity); mothers to be immunized at antenatal clinics (a service activity); messages on prevention of neonatal tetanus to be spread to the people (a support activity). The first is selected because retraining is critical and trainers are a critical resource in short supply, and the second and third because mothers must be motivated before they demand immunization and choose to be delivered by retrained TBAs.

The activities to be evaluated should be selected from among those listed at least one year before a report is due. They should be selected by the staff member in charge of neonatal tetanus — probably the public health nurse-midwife. The selected activities should be reviewed with those who will later take part in collecting information about them and analysing it, to ensure that it will be possible to obtain the necessary information from the field.

Collect the necessary information

The results of activities (operational outputs) may be measured in many ways. Thus, in the above example, 'retrained TBAs' may be measured as the number trained per month, the total number available in each village, or the number who have passed some qualifying test. The operational output 'mothers immunized' may be expressed as a number or as a percentage of pregnant women in each village or in the district. The operational output 'message spread' may be measured at the source (newspapers, radio, etc.), at the receiving end (individual mothers reached) or at some intermediate point (village heads transmitting the information). Achievements should normally be measured in the same terms as those in which the targets were set, or at least in terms that can be related to the set targets. When there is a choice, the achievements to be measured should be those that can be more easily (or more cheaply) measured, provided that ease of measurement does not result in unreliable information.

For instance:

In Jaya District, it was decided to use three variables for measuring the work progress of a health team: (a) the yearly number of immunized pregnant women, expressed as a percentage of the total number of pregnant women; (b) the yearly *additional* number of TBAs retrained, as a percentage of the total practising; and (c) the proportion of village heads transmitting five or more messages. This entails the continuous monitoring of immunizations at all antenatal clinics and estimating the total number of pregnancies in one year; recording newly retrained TBAs at each successive course; estimating the number of TBAs practising at some point in time; and surveying all the village heads once a year.

This example deals with the information to be collected. The three tasks of collecting, recording, and reporting and processing would be assigned to the staff in charge of services, training and support activities respectively. The timing would be, for example, monthly collection and reporting, quarterly processing and yearly summing-up.

Compare achievements with norms and targets

So that achievements may be compared with norms and targets, the available or collected information should be tabulated, to show the results of training, immunization and communication activities against the corresponding norms and targets. Assuming yearly evaluation, such tables

should present results for the completed year. Moreover, to keep track of where activities took place, results should be presented for each village or area.

If the norms and targets have been expressed as rates or ratios, the tables must show the denominators as well as the numerators. In the above example the denominators are the numbers of pregnant women in the villages and the numbers of registered or practising TBAs, and the numerators are the numbers of women immunized and the numbers of TBAs retrained. Then it will be possible to express the rate of immunization coverage and the proportion of TBAs retrained.

To monitor the progress of activities that must be carried out before certain specified dates, it may be necessary to prepare tables each month to show the position at the end of each month or quarter.

For instance:

For Jaya District, such tables might show whether the TBA retraining programme had achieved its target in the district as a whole, in which villages the training of practising TBAs had been completed, in which it was still continuing, and where it had yet to start. Similarly, for immunization, successive tables should show the district coverage, the coverage of each village, where the targets had been reached, where they had not been reached, and where activities had yet to begin. The communication of messages to the public should also be presented in a table showing which villages had been well covered, which poorly covered and which not yet covered.

On the basis of such tables, the results can also be recorded on maps to show the geographical pattern of work progress and of target achievement. This can help reveal factors that assist or hinder the team's performance.

Judge the degree to which norms have been met

If information has been analysed and presented in tables as described above, each target can be reviewed both separately and in relation to the others. The recording of results on maps helps the evaluators to determine how far norms and targets have been met in the district as a whole. Successive monthly or quarterly tables can show to what extent targets are being achieved within the time specified for them.

It may be found that one of the activities being measured appears satisfactory in relation to the corresponding target, but that the other activities have lagged behind.

For instance:

In some villages of Jaya District, it is found that the training of TBAs and the spread of messages by village heads are up to expectation (targeted level), but that the immunization coverage is far below the district average.

Here it may be useful to study the relation between these three activities in other villages. Such a study may show that a group of villages, all close to each other, have the same kind of results.

For instance:

A number of villages in north-east Jaya present the same picture: good message-spread, satisfactory immunization coverage, but no training activities.

This suggests that something is interfering with or taking the place of retraining of TBAs. The situation should be investigated in discussion with the health workers concerned and with the people of the villages. It should then be possible to judge the results on the basis of a clear understanding of the local situation.

In judging work progress and operational output it is also helpful to take into account the results of the programme (i.e. its effectiveness), as discussed in Section 3.1 above. Operational outputs are not ends in themselves but rather means towards successful results, e.g. no cases of neonatal tetanus. Analysis and discussion should show whether good results are necessarily the outcome of good achievement and, conversely, whether good work progress automatically means good results. It might also show whether one activity (say, immunization) is more frequently associated with good results than others.

This kind of analysis is extremely important: adequate staff and time should be assigned to it. When the information provided in the tables is reliable and valid, the time spent on interpreting and understanding it is well spent. Participants in the analysis will learn from it (See Part II, Chapter 3, Section 3.6, "Training staff"), and the whole health team should study it. Conclusions should be communicated to the decision-makers who control the programme at higher level, and to participating

staff and village heads or health committees, in preparation for the next and final step.

Decide what to do next

Two types of decision are required at this stage — whether performance must be further assessed, and whether the programme needs to be improved.

For further in-depth assessment of performance, the team leader may assign one staff member to study the available material as a means of appraising staff performance (see Section 3.3 below). As regards improving the programme, the team leader may await the results of appraisal of staff performance, or may judge it right to introduce certain changes in the programme.

For instance:

In Jaya District, the team leader may:

- schedule work in such a way that the three component activities (training, information and immunization) are coordinated, i.e. ensure that, in villages where one component has been achieved (e.g. TBA training), the others are also carried out and vice versa.
- change some of the TBA's work instructions, and redesign the corresponding retraining curriculum, so that immunization of pregnant women receives the necessary attention, or offer some incentives to the TBAs to increase the demand for immunization.

3.3 Appraising staff performance

It will be recalled that the main purpose of evaluation is to learn from experience and thus to improve the programme. Staff performance is appraised in order that staff may learn from experience and therefore improve or maintain satisfactory levels of performance.

One specific purpose of appraisal of staff performance should be to enable decisions to be made about the learning needs of staff. The two basic questions to be asked are very similar to those involved in evaluating achievements and work progress, but are concerned here with staff performance:

- Are the results as good as they could be?
- If not, why not?

The appraisal process also involves the following five steps:

- deciding what aspects of performance to appraise
- collecting the information needed to measure performance
- comparing the results with relevant norms
- judging the degree to which norms are met
- deciding what to do next.

It should be emphasized, both to the appraiser and to the staff member whose performance is to be appraised, that performance appraisal is not intended to find fault with staff, even when results fall short of what was intended. Rather, appraisal should be understood and appreciated as *the* way to help each staff member perform efficiently and to feel gratified when he or she achieves the intended results.

As with other evaluation activities, there must be rules that state who is responsible for making the appraisal, the date when the appraisal is due, the period covered by the appraisal, the information needed to make the appraisal, and the information needed from the appraisal (e.g. a performance *appraisal report*).

Decide what to appraise and select indicators of performance

Three documents should normally specify all the functions, tasks or activities that should be the subject of performance appraisal. These are:

- the job description
- a work plan (or work assignment, work schedule, or work instructions)
- technical procedure manuals.

The job description, discussed in Part II, Chapter 3:

- lists the functions that a staff member is expected to perform (e.g. providing services, conducting research, undertaking surveys, training students, maintaining equipment, keeping accounts)
- states to whom (the supervisor) the staff member is accountable for the performance of these functions
- states for whom (subordinates) the staff member is responsible in the performance of their functions

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- indicates with whom (peers, partners) the staff member is to coordinate in the performance of joint functions.

The work plan (described in Part III, Chapter 4):

- assigns the staff member's activities and tasks
- describes in detail the services a staff member has to deliver
- specifies the extent of the services to be provided (and often the people who should receive them)
- states where these services have to be delivered
- states when the services are to be delivered.

Technical procedure manuals usually describe in some detail how particular tasks with a high technical content are to be performed; examples of such tasks include immunizing, conducting workshops, writing health educational materials.

When job descriptions, work plans and technical procedure manuals have been properly prepared, are up to date and are followed correctly, performance appraisal is straightforward. When they have not been prepared in detail, however, performance appraisal begins with ascertaining the description of staff functions, activities and tasks from management, staff, subordinates or users of the services, as appropriate.

It will be rare to find complete understanding and agreement between those directly concerned, and this makes performance appraisal difficult and its conclusions indefinite.

In either case, the appraiser should select a limited number of tasks and activities (up to five, say) as a basis for the appraisal of staff performance. These should be tasks and activities that make the greatest contribution to the health team's efficiency and effectiveness, such as organizing, coordinating, monitoring and controlling.

For instance:

In the case of the nurse-midwife in charge of controlling neonatal tetanus in Jaya District, the functions, activities and tasks she performs in that programme are:

- organization
- coordination
- monitoring
- control.

Her performance should be appraised against:

- (a) the results achieved
- (b) the services delivered
- (c) the TBAs retrained
- (d) the messages reaching the community.

Thus, her performance would be appraised as follows:

For organization	against (c) and (d), the timely completion of planned courses for TBAs and the diffusion of messages.
For coordination	against (b), (c) and (d), the proportion of villages reaching the targets for services, retraining of TBAs, and diffusion of messages.
For monitoring	against (a) and (b), the availability of up-to-date statistics on incidence of neonatal tetanus and on immunizations, from all parts of the district.
For control	against management of resources and supplies, so that work is not impeded by shortages of funds or vaccine, for instance.

As is clear from this example, it is assumed that the management functions of the nurse-midwife are critical to programme success. In other situations and programmes, the technical or public-relations functions might be more suitable for performance appraisal.

On appointment of a staff member, and annually as part of the planning process, the team leader and other team members should together agree on norms and targets so that there is no doubt about the performance expected of both the team as a whole and its individual members.

Collect the necessary information

The information required to measure performance may be available from routine records or may need to be collected. Thus, in the above example, the necessary information would include dates of completion of planned courses and of diffusion of messages, the proportion of pregnant women immunized and the number of cases of neonatal tetanus occurring in the period under review, and the number of villages where targets for services, training and the diffusion of messages had and had not been reached.

For instance:

There would be routine records of dates of completion of TBA retraining courses, of villages reaching the target levels for services, and of how far the statistics lag behind, but a special enquiry might be needed to obtain details of diffusion of messages by village heads, on work stoppages, and on shortages of funds or vaccine, which may not be automatically recorded.

This kind of special task is best performed by the staff themselves, as part of the regular monitoring of service and other activities for which they are primarily responsible. In delegating this task to them, management enables staff to be the first to learn of their own successes and failures, and to adjust their performance when necessary.

Compare observations with norms and standards

In most instances, performance is appraised in relation to operational or time targets, and appraisal relies primarily on the routine monitoring of programme activities; comparison of intended and actual performance does not therefore cause special difficulties.

For instance:

Excerpt from the 1992 performance appraisal for the public health nurse in Jaya District:

“Organizational performance: All four courses for TBAs in her health area were completed as scheduled and with the target number of trainees.

Coordination performance: In 1992, three villages reached target levels of the three activities that she coordinates, against an expected six.

Monitoring performance: Operational statistics are up to date, but statistics on births and deaths are one month behind.

Control performance: No work stoppages occurred during the year in her health area.”

It is usually argued that, to avoid bias, this task should be performed by management and not by the staff member. However, when the management functions are shared by all staff, and when norms of performance and targets have been agreed upon by the staff concerned and the team leader, a staff member's performance appraisal may be entrusted to the staff

member (subject to review and approval by the responsible officer). The timing should satisfy the regulations of the national administration.

Judge the degree to which staff performance meets required standards

The comparison of performance with norms and targets needs interpretation for two reasons. First, not all aspects of staff performance are equally important and, second, success in one area must be balanced against failure in another. The evaluator needs to exercise careful judgement here and may need additional information and results of tests of knowledge and skill before reaching a conclusion.

For instance:

Subject: Performance of the public health nurse

Conclusions of team leader: The public health nurse has proved to be a good organizer; she has kept herself informed of work progress, thus exercising firm control over the programme. She would benefit from support in coordination tasks, based on her own assessment (on attached questionnaire) of her:

- oral communication ability
- problem-solving ability
- ability to conduct meetings
- ability to resolve conflict.

To make this judgement, the team leader must have considered some of the possible causes of the apparently poor coordination performance of the staff member, obtained some informal explanation for this shortcoming, and concluded that her coordinating ability could be improved by training. However, the team leader wants the staff member to identify her priority needs.

It is evident from this example that judgement is a team leader's responsibility. However, such judgement should be made in open discussion with the staff.

Decide what to do next

As seen above, one possible decision following an appraisal of staff performance concerns further training. This might require further analysis of events or of the range of ability of the staff member. Such a decision,

however, would often affect programme activities as well, for instance in re-assigning certain tasks to other staff with the requisite skills or abilities, strengthening some coordination or control mechanism, or simply communicating certain information to the concerned people. The important thing that any decision must show is that appraisal of staff performance is not intended to work *against* staff but rather to *promote* the team's efficiency, effectiveness and, ultimately, job satisfaction.

The responsibility for such decisions rests with the team leader, but the wise team leader will always make sure that the staff concerned take part in reaching the decisions.

3.4 Evaluating use of resources

Elsewhere in this guide the concept and methods of monitoring and control have been introduced as management tools for reaching day-to-day decisions about the allocation of resources. What, then, is the purpose of evaluating, as opposed to monitoring and controlling, the use of resources? In this context, evaluation differs from monitoring in being concerned with *how* the resources used relate to results achieved over a period of, say, one year, with the aim of answering the following questions:

- Could some resources achieve better results or outputs?
- Could some results be achieved with fewer resources?

The questions are actually two sides of the same coin: in management terms, the first deals with 'cost-effectiveness' and the second with 'cost-efficiency'.

Some practical aspects of these concepts are considered in this section, following the same five steps as were used in the preceding sections:

- deciding what aspects of resource use to evaluate
- collecting the necessary information
- comparing resource use with norms and standards
- judging the degree to which norms have been met
- deciding what to do next.

Decide what aspects of resource use to evaluate

One of the most useful measures of resource use is the 'amount of a specified resource used to deliver some unit of work or achieve some unit

of result'. This is less complicated than it sounds, and could be equated with saying "My motorcycle runs for 100 kilometres on 2 litres of petrol", which is an example of 'unit cost' in terms of petrol consumption.

To select 'unit costs' for evaluating the use of resources in relation to results and outputs, it is necessary to identify critical results or outputs and the resources consumed in achieving or producing them. This, again, is the application of the principle of 'management by exception': looking for the most important of the things that need doing and doing it first.

For instance:

In Jaya District, control of neonatal tetanus is measured by the number of cases prevented; the most immediately relevant operational output is immunization of pregnant women; money is the scarcest of the resources available to the health team. Thus, the cost of preventing one case of neonatal tetanus and the cost of one immunization would be suitable measures of cost-efficiency.

In principle, the plan should specify that the programme would be monitored and evaluated for cost-efficiency on this basis.

Collect the necessary information

Previous chapters have discussed the monitoring and reporting of results and operational outputs, and management of funds has been described in Part III. Certain difficulties may be encountered in putting these methods into practice, however. For instance, with reference to the example that has now been used many times, TBAs may be trained in some places but not in others; in some places fewer than five messages may be diffused and in others more; immunization coverage may be low in some places and high in others. For these reasons, the cost — and effectiveness — of the programme will vary from village to village, and it will therefore be of no value to estimate unit costs for the district as a whole. Measurement of resources used (expressed here in terms of cost) should take full account of these variations; it is to be hoped that the extra effort this will entail will yield extra information.

For instance:

In Jaya District, unit costs of immunization should be measured:

- by incorporating the costs of TBA training and the costs of message diffusion, where these activities occur
- by excluding these costs where they do not.

Collecting information about costs in this way will allow more valid comparisons to be made. Cost measurement, however, is an accountancy task, for which few, if any, health staff will be trained. Where it is intended from the outset to evaluate resource use, accountancy skills should be brought into the team on a more or less continuous basis throughout the implementation of the programme.

Compare resource use with norms and standards

Norms and standards for the use of resources cannot be laid down in advance; they will emerge as a result of the evaluation. In answering the question “Can more be done with these resources?”, the highest observed output per unit of resource will become the norm; conversely, the question “Could we do as well with fewer resources?” will yield a norm equal to the lowest cost per unit of output.

For instance:

In Jaya District, the unit cost of immunization in villages where TBAs are trained and messages are diffused is \$2.50, and coverage is 75%. Where only immunization is provided, the unit cost varies from \$2.10 to \$2.30 according to the coverage achieved, but coverage never exceeds 60%.

Costs and coverages are compared, and careful judgement must be used by the evaluator. The task requires time, and skills and information that are not easily acquired; evaluation of this kind would normally require support from the health administration.

Judge the degree to which norms have been met

When the cheapest approach to achieving a particular result has been determined, a basis is created for examining other approaches. Similarly, when the highest output possible within stated resource limits has been determined, it is possible to discuss how lower outputs were achieved. Considerations of this sort are essential for improving programme strategy, but who undertakes them, where and when, will depend on an individual country's administrative structure.

Decide on future use of resources

Of the decisions that are likely to result from such considerations, one might be to drop a particular component of the programme if it proved to

be adding a lot to costs in relation to what it achieved. A second type of decision might be to set less ambitious coverage targets for the future if no extra resources could be provided. Yet a third type of decision would be to try to persuade authorities to increase the budget to enable the health team to meet its targets.

Decisions of this kind are usually made at levels higher than that of the health team, but health teams should be aware of the usefulness of the evaluation to the decision-making process and should be encouraged to ask relevant questions.

3.5 The management audit

A management audit is a method of reviewing management activities; it is a checklist of questions relating to management. Management audit can be used as a tool by health workers with management functions to examine their own successes and failures, or it can be used by supervisors to assess the management efficiency of an organization. The process can be highly complex, covering every aspect of management organization, or very simple, asking only a few carefully constructed questions to reveal the general standard of organization and efficiency.

A management audit is a summary of all operational control processes. When the management audit is repeated, the results of action taken after the previous audit are noted.

An example of a simple management audit for a rural health unit can be found below. This covers some of the management functions described in Parts I, II, III and IV.

Example: Management audit for a rural health unit

Under the date of audit, write Y (yes) or N (no) opposite each statement.

	<i>Date</i>	<i>Action</i>	<i>Date</i>	<i>Action</i>
1) Planning and organization				
The health centre has one or more defined objectives	2.1.93 Y	Immunize 400 children	3.1.94 Y	Completed
These objectives are known to the health team				
Regular staff meetings are held				
A year-plan has been written and displayed				
There is a weekly timetable				
Staff duties are listed on a roster				
District activities are scheduled in advance				
Changes in rosters, schedules or other events are clearly communicated to the health team				
2) Personnel				
Each member of the team has a written job description				
Each staff member knows to whom to report and from whom to receive instructions				
The team leader delegates work whenever possible				
On-the-job training is aided in different ways — by supervision, discussion, books or demonstrations				
The team leader acknowledges good work				
The work provides opportunities for initiative and responsibility				
Supervision takes the form of educating and helping rather than criticizing				
Workers are using the skills for which they were trained				
Team members show concern for the welfare of patients				
3) Resources				
The account ledgers are in order and up to date				
The petty-cash balance sheet is correct				
There is sufficient equipment				
The stock ledger is balanced and corresponds to the store shelves and inventories				
Drug issues are recorded and reviewed				
The 'A/B' shelf system is used for vital drugs				
There are minimum queues and 'bottlenecks' in the outpatient clinic				
There are adequate and clearly marked maps of the district				
The transport system is well maintained				

	<i>Date</i>	<i>Action</i>	<i>Date</i>	<i>Action</i>
<p>4) District and public</p> <p>There is a health-centre committee of people within the area</p> <p>Efforts are made to educate the public in health</p> <p>The health needs of the public are identified and discussed</p> <p>Health goals and activities relate to public health needs</p> <p>The following health activities are expanding:</p> <ul style="list-style-type: none"> — maternal and child clinics — immunization — nutrition programme — sanitation programme 				
<p>5) Control system</p> <p>There are monthly statistical reports</p> <p>There is an annual report</p> <p>The patient registers are clear and up to date</p> <p>Patient records can be found when necessary</p> <p>Copies of letters are made and filed</p> <p>There is an index of files and registers</p> <p>There is a well-kept log in the transport vehicle</p> <p>There is a method for discovering discrepancies in drug usage</p>				

Exercises

Exercise 60 (IV.1) Household health survey

Objective: To be able to collect, analyse and use baseline information for planning primary health care.

Individual work

List the information needed for planning a primary health care service, and adapt a household health survey form from the example shown on pages 275–278, to suit your requirements.

Group work

Review the information requirements specified by the health workers, and the household survey forms they designed, and finalize a single form that satisfies the more important requirements. Decide on the survey population and method, and assign areas to each health worker.

Individual work

Survey the households assigned to you, interview heads of households, and record the information collected.

Group work

Compile *demographic* information, such as:

- total population in surveyed area
- distribution by age and sex
- distribution by household size
- birth rates (live, still)
- death rates (by age and sex if sufficient numbers)

Compile *health* information, such as:

- mean height, weight, arm circumference of children at age 5 years
- mean number of episodes of illness recalled over past year, and frequency of main symptoms (as percentages of all episodes)
- mean number of disabilities at time of survey, and frequency by type and duration

- important health problems, as stated by heads of households
- care practices (percentage of people using formal health services, other health services, no outside help)
- health-care expenditure (on services, drugs, transport).

Classify the demographic and health information according to head-of-household status, recorded environmental factors, etc.

Exercise 61 (IV.1) Priority health problems of communities

Objective: To be able to recognize and select priority health problems of the community for planning primary health care services.

Individual work

Review the list of selection criteria shown on pages 284–285 and adapt it to local needs if necessary. List community health problems, including those stated by heads of households in the household survey (Exercise 60). Then check each important health problem against the criteria, and assign a priority ranking according to how many criteria each problem satisfies (the more criteria satisfied, the higher the priority).

Group work

Review the proposed selection criteria, discuss their implications and agree on a common list. Then check the priority problems, as listed by the health workers or stated by the surveyed heads of households, against the agreed criteria.

Assign a common priority ranking of community health problems. Compare the priority list with official health policy statements, note points of agreement, and discuss and decide what should be done about points of divergence.

Exercise 62 (IV.1) Selecting a strategy

Objective: To be able to analyse possible obstacles to the achievement of objectives, and to select a feasible strategy for implementation.

Many targets may be set, but they are not all equally likely to be reached. The health team must analyse possible obstacles so as to retain the strategy most likely to succeed.

This exercise is about alternative maternal and child health (MCH) actions, and the related operational targets, designed to reduce infant and maternal mortality over a period of 5 years in a community of 5000 inhabitants with a birth rate of 40/1000.

Individual work

Study the actions and service targets listed below, which have been prepared for achieving the objective.

<i>Action</i>	<i>Targets</i>	<i>No. of services/year</i>
(a) One antenatal visit to the health centre by	100% of pregnant women	= 2000 visits
(b) Three antenatal visits in villages to	50% of pregnant women	= 3000 visits
(c) Supervised home delivery of	80% of pregnant women	= 1600 deliveries
(d) Contraception practised in	25% of households	= 1000 visits
(e) Nutritional education sessions in villages for	60% of pregnant women	= 120 sessions

What are the obstacles to each action? List the obstacles in order of importance. When you have studied all the actions, judge which of the 10 possible combinations of two actions is most feasible. Indicate what steps will be necessary to carry out the two actions you select.

Group work

Review and tabulate the lists of obstacles to each action, and the estimated importance of each. Agree on a common list in order of relative importance for each action.

From the list, compare the feasibility of the possible sets of two actions, and retain the most feasible.

Exercise 63 (IV.1) Scheduling primary health care activities

Objective: To be able to plan the activities necessary to reach strategy targets and to overcome the anticipated obstacles.

Individual work

An MCH strategy selected for one community (as in Exercise 62) consists of:

- one antenatal visit to the health centre before the fifth month of pregnancy for 100% of pregnant women in the villages = 2000 visits a year
- home delivery supervised by 100 trained TBAs in 80% of cases = 16 deliveries a year by each TBA
- monthly nutrition education sessions in all villages, for 60% of the women = 120 sessions a year

Review the list of possible obstacles to the implementation of this strategy (from Exercise 62), and write down all the *activities* the health team will have to undertake to achieve the targets *and* overcome the obstacles. Number the activities.

Take one or several activities; assign a responsible staff member to each activity, state how *frequently* the staff member must perform the activity in a month, and *how much time* (in hours) the staff member will have to spend on the activity.

Think how you should present this information to show the sequence and interdependence of staff activities.

Group work

Review the lists of activities suggested by health workers and agree on a common list.

Decide which activities are required once only (e.g. development activities) and which need to be repeated (e.g. service activities), and agree on the frequency of each activity.

Discuss and agree on assignments among the various members of the team, then review the estimates of staff time required for each activity.

Discuss how to present the information on activities and finalize a schedule containing the essentials of the information.

Exercise 64 (IV.1) Estimating costs

Objective: To be able to estimate the various costs of a strategy so as to assess the adequacy of the resources available to implement it.

Cost is the amount of a given resource consumed.¹ This exercise focuses on a component (c) of the strategy outlined in Exercise 62, namely *supervised home delivery of 1600 women in 10 villages*.

Individual work

List the five principal resources used in health work, and show in a table which resources are required for each activity related to home delivery attended by a midwife or TBA (see Exercise 63).

Focus on one resource, namely the staff time required. Assume that one health centre midwife and 100 TBAs are the only staff involved, and that the frequency of each activity, and the estimates of staff time required for each activity, are as shown in the solution to Exercise 63. Calculate the total midwife and TBA time required.

Is there sufficient staff time available to implement the strategy?

Group work

Review the proposed lists of resources consumed in health work, and agree on a short list of five. Review which resources are used in each activity, and discuss the significance of staff time as a resource.

Review how the health workers calculated the total staff time required to implement supervised home delivery. Select by discussion the 'best' method and record it for further reference.

Compare the results obtained by the health workers and find a common answer by using the 'best' method.

Discuss the feasibility of supervised home delivery on the basis of staff time used compared with staff time available.

¹ Money is only one resource (see page 300).

Discuss what could, and ought to, be done when it is concluded that some strategy component is not feasible within the available staff time.

Note: Repeat this exercise for other types of resources, until feasibility can be assessed with regard to funds.

Exercise 65 (IV.2) Coordinating

Objective: To be able to name, design and use simple ways to coordinate health work.

Individual work

Activities have been scheduled for the achievement of strategy targets (Exercise 63). Now study the following example of a monthly MCH activity schedule.

Activity schedule	Staff	Frequency (per month)	Time/unit activity	Resources
<i>Service</i>				
(1) Antenatal home visit	Midwife	125–175	15 min	MCH kit
(2) Supervised home delivery	TBA	15	8 hours	Sterile delivery kit
(3) Nutrition education for pregnant women	Midwife	10 sessions	2 hours	Transport Charts Demonstration equipment
<i>Development</i>				
(4) Write educational material	Midwife	1 session	2 hours	Nutrition literature
(5) Train TBAs	Midwife TBAs	1 session	2 hours	Learning materials Transport
<i>Support</i>				
(6) Maintain TBA kits	Midwife TBAs	1	15 min	Expendable supplies
<i>Information</i>				
(7) Update family records	Midwife	30	15 min	Family health cards
<i>Management</i>				
(8) Supervision visit	Midwife TBA	10	30 min	Checklist

Total time per month Midwife: 73 hours
TBA: 127 hours

As coordinator of these activities, indicate:

- which activities take place only in the villages, which only at the health centre and which in both places;
- which activities can be performed together during one visit to a village;
- other activities that need to be coordinated.

If you could add *one* activity to this schedule to make it more complete and responsive to health needs, what would it be?

Group work

Review the statements of the health workers, discuss any differences between them, and agree on a common solution to the exercise.

Review the list of coordination mechanisms for generating and communicating decisions and for achieving agreement of the *who, what, how, when* and *where* of coordination.

Review the list of coordination instruments — written documents — that help to achieve coordination, clarify who is responsible for issuing them and to whom each should be addressed. (Check where each of these documents is referred to in this book.)

Exercise 66 (IV.2) Monitoring work progress

Objective: To be able to say what needs to be monitored in the work, and to design and use simple methods of monitoring work progress.

To *monitor* is, simply, to watch for what is on or behind schedule and what is or is not progressing as expected.

Individual work

In the situation described and analysed in Exercise 65, you wish to keep yourself informed about how well work proceeds against the schedule.

What needs monitoring? Suggest a few aspects of the work you believe should be watched carefully (say, one aspect per activity). For each item of

information state *who* should:

- obtain it
- compile and analyse it
- record findings
- report findings (and to whom).

Then explain *how* monitoring takes place in respect of two items chosen from the above list.

Group work

Review what health workers have chosen for monitoring, activity by activity, and agree on a common checklist of what needs to be monitored.

Where necessary, discuss the reasons *why* these aspects of the work should be monitored. Record the agreed reasons.

Review the assignment of responsibility for monitoring, step by step — collection, recording, compilation, and reporting. Discuss the current assignments at the health centre, and make suggestions for improvement.

Finally, review how the monitoring process should take place at the health centre, critically discussing the current situation with a view to suggesting improvements.

Note: This exercise may be repeated for one or more aspects of primary health care work.

Exercise 67 (IV.2) Monitoring performance

Objective: To be able to say what activities and tasks need monitoring in staff performance and to assign simple ways of monitoring.

Individual work

Review your job description and the service work you are doing. For each service activity and task you perform, certain norms of performance may have been set; write down those you are aware of (e.g. technical norms, behaviour norms, management norms).

Then check which activities and tasks are routinely monitored, either by yourself or by someone else. Are these the same activities and tasks for which norms or standards of performance have been set? Prepare yourself to discuss this topic.

Group work

Review the health workers' activities and tasks for which there are norms/standards of performance and record them. (Whenever possible, refer to a written document.) Then check all activities and tasks that are routinely monitored, and record who does the monitoring.

Discuss how performance is monitored at present — for example, are valid norms of performance used and are staff members clear about the purpose of monitoring performance. Determine activities and tasks for which norms, or new norms, should be set, and which should be routinely monitored. Record the conclusions reached and submit them to the supervisor for consideration.

Exercise 68 (IV.2) Monitoring achievement

Objective: To be able to state the targets that have been set for the team and to monitor individual programmes directed towards meeting them.

The monitoring of work progress and performance helps ensure that targets are met. The monitoring of achievement shows the extent to which targets are being met.

Individual work

Refer to the activity schedule proposed in Exercise 63.

List the specific information you would need in order to monitor achievement in all relevant activities in the situation described. Check that each item of information can be matched with the stated targets.

Name the staff member responsible for collecting each item of information. Suggest the frequency with which each item should be collected (daily, weekly, monthly, etc.).

State to which staff member each collected item of information should be sent in the described situation.

Then list the targets towards which your own work is directed, and repeat the above steps in respect of the different activities. Review your current practice in monitoring your own achievement against what should be done, and prepare yourself to discuss this topic.

Group work

Invite one individual to describe the monitoring of achievement in the MCH situation under consideration.

Review the health workers' descriptions of the process of monitoring achievement in their different work areas.

Discuss the gap — if any — between current practice and desired procedure. Consolidate a list of the additional information that should be collected, who should collect it, and to whom it should be directed, so as to perform a useful monitoring of achievement.

Exercise 69 (IV.2) Controlling deficiencies

Objective: To be able to name the control decisions that follow monitoring, to explain how they are made, and to execute them.

Observing work progress and how the health team functions, and monitoring how health workers perform, do not automatically improve effectiveness or efficiency. This requires knowing what needs to be improved and deciding to do it — in other words, controlling deficiencies.

Individual work

Consider the following findings obtained from monitoring the work described in Exercise 65:

Activity 1	75 pregnant women attended the antenatal clinic last month
Activity 2	20 TBAs attended fewer than 10 deliveries each last year. 30 TBAs attended more than 15 deliveries each last year. 50 TBAs attended between 10 and 15 deliveries each. No complications were reported by any TBA.
Activity 3	In four villages very few women attend nutrition education sessions.

Activity 4	Preparation of educational materials is one month behind schedule.
Activity 5	10% of TBAs have not attended any learning session.
Activity 6	Information on the cost of supplies is not available at the health centre.
Activity 7	Deliveries are not usually recorded in family health records until the subsequent pregnancy. Birth weights of babies are unknown.
Activity 8	A midwife has made supervision visits to TBAs in nine villages in each of the past three months.

Note the deficiencies in the work monitored, and list what you would do to rectify them. Review your list of proposed remedial actions to decide *who* would take the necessary action. Are those who monitor work progress, staff performance, and achievement also responsible for taking remedial action?

Group work

Review the health workers' lists of deficiencies, discuss differences in interpretation, and agree on a common list.

Discuss and record who monitors the work and decides what the deficiencies are.

Review the suggestions for remedying the deficiencies and agree on the best possible action.

Assign responsibility for deciding on and implementing remedial action, and compare the lists of those who are responsible for monitoring and those who should take the remedial action. In each case, discuss whether any outside decision is required and, if so, from whom.

Conclude by recording all the control decisions and subsequent remedial actions that can be taken by the staff concerned without the need for outside intervention.

Exercise 70 (IV.3) Supervision

Objective: To be able to state what to expect from supervision during a field visit and to prepare for such a visit.

Supervision should help those who are supervised to perform better. Staff should be ready to acknowledge their need for help, just as the supervisor should recognize that giving help is a part of the supervision function.

Individual work

Read the checklist given below and decide which statements truly apply to the existing situation in the health facility.

For those statements that are not true of your situation, ask yourself whether or not you feel concerned. If you do feel concern about particular deficiencies, try to decide what could be done to remedy the problem. Record in a few words what you would expect from a supervisor's visit to enable you to cope better with specific problems.

Group your needs in a few suitable categories and prepare yourself for a discussion on this topic.

Group work

Review each statement in the checklist to discover the health workers' perception of the functioning of their health facilities and the extent to which they agree with one another. Record the results.

Record those areas in which health workers express concern about deficiencies and the extent to which all or most of them share common concerns.

Then review and discuss individual needs for help, and as far as possible agree upon the most important. As needs for help are repeated, group them in a few categories as suggested by the health workers.

Prepare a detailed statement of needs as perceived by staff for submission to supervisors as a basis for discussing future supervision programmes in a staff meeting.

Checklist for supervision of managerial activities

1) *Planning and organization*

- The health centre has one or more identified objectives.
- These objectives are known to the health team.
- Regular staff meetings are held.

A year-plan has been written and displayed.
There is a weekly timetable.
Staff duties are listed on a roster.
District activities are scheduled in advance.
Changes in rosters, schedules or other events are clearly communicated to the health team.

2) *Personnel*

Each member of the team has a written job description.
Each staff member knows to whom to report and from whom to receive instructions.
The team leader delegates work wherever possible.
On-the-job training is aided in different ways — by discussion, books or demonstrations.
Good work is acknowledged by the team leader.
Opportunity exists for initiative and responsibility in the work.
Supervision takes the form of educating and helping, not criticizing.
Workers are using the skills for which they were trained.
Team members show concern for the welfare of patients.

3) *Resources*

The account ledgers are in order and up to date.
The petty-cash balance sheet is correct.
There is sufficient equipment.
The stock ledger is balanced and corresponds to the store shelves and inventories.
Drug issues are recorded and reviewed.
The A/B shelf system is used for vital drugs.
There are minimum queues and 'bottlenecks' in the outpatient clinic.
There are adequate and clearly marked maps of the district.
The transport system is well maintained.

4) *District and public*

There is a health centre committee made up of people living in the area.
Efforts are made to educate the public in health.
The health needs of the public are identified and discussed.
The health goals and activities relate to public health needs.
The following health activities are expanding:

- maternal and child health clinics
- immunization
- nutrition programme
- sanitation programme.

5) *Control system*

- There are monthly statistical reports.
- There is an annual report.
- The patient registers are clear and up to date.
- Patient records can be found when necessary.
- Carbon copies of letters are made and filed.
- There is an index of files and registers.
- There is a well-kept log in the transport vehicle.
- There is a method to identify discrepancies in drug usage.

Exercise 71 (IV.3) Supervision and problem-solving

Objective: To be able, as a supervisor, to manage specific problems of implementation.

Individual work

The chairman of the village health committee complains to you about the village pharmacy. It seems that several village women who had gone to the pharmacy were told that the drugs they needed were not available, but that men had been supplied with the medicines they wanted. You take the opportunity of a supervisory visit to the area to try to solve the problem. Note that the health worker who maintains the village pharmacy was appointed by the village health committee and is therefore answerable to the committee and not to the health centre.

What would you do as a supervisor in such a situation? List the ideas as they occur to you, then list them in proper sequence, i.e. what you would do in preparation for the visit, during the visit, and after the visit.

For each activity you list, state *who* is involved, and who is *responsible* (e.g. chairman of the health committee, the committee, the midwife) and note one or more results or findings (e.g. stock ledger found to be up to date/poorly maintained/missing).

Depending on the results or findings, the situation may call for various follow-up activities. From your findings what follow-up activities would you suggest?

13 cases were recorded (all in villages A to K) out of a total of 6500 births for the entire district — an incidence *rate* of 2 per 100 births.

Targets were set in 1990 for reducing the incidence rate of neonatal tetanus from 2 per 1000 births to 1 per 1000 in 1994. The expected number of births for 1995 is 7000. The target number of cases for that year is therefore 7 or less.

Comment on the fact that Table I shows no cases for villages L to AA in 1990. Why might this be?

Calculate the yearly total number of cases for the years 1991–1994. Is the observed trend what you expect?

Given the observed trend up to 1994, do you think that the target for 1995 will be met?

Study the yearly incidence of neonatal tetanus in villages A to K from 1990 to 1994. For each village calculate the mean yearly incidence (total number of recorded cases divided by 5) and name the three villages with the highest mean yearly incidence.

Comment on possible reasons for these three villages having a higher incidence.

What additional information would you need in order to decide whether the observed numbers represent a fall or a rise in incidence?

Table II shows the number of births registered in 1992 for each village. Calculate the mean yearly incidence *rate* of neonatal tetanus in villages A to K, dividing the mean number of cases by the number of registered births, and expressing the result per 1000 births. For instance in village J:

mean yearly incidence: 1
 registered births (1994): 330
 incidence rate 1:330 = 3 per 1000 births.

Table II. Births in villages of Jaya District, 1992

Village	A	B	C	D	E	F	G	H	I	J	K	L	M
Births	250	310	290	200	370	300	250	190	380	330	310	220	290
N	O	P	Q	R	S	T	U	V	W	X	Y	Z	AA
200	310	190	320	270	360	330	230	210	260	190	100	200	190

Pick out the three villages with the highest incidence rate. Are these the same as, or different from, the villages with the highest mean yearly incidence? Comment on why these villages have a higher incidence rate.

Study the incidence of neonatal tetanus in villages L to AA (where *no* cases were recorded in 1990). How many cases of neonatal tetanus occurred each year (1991–1994) in these villages compared with villages A to K? Comment on the difference observed; is it real, or is it perhaps the result of some statistical artefact?

Calculate the incidence rate per 1000 births in 1992, 1993 and 1994 for the two groups of villages, A to K and L to AA. Are the differences between the annual rates real or apparent?

In the light of this information about Jaya District, where would you expect cases of neonatal tetanus to occur in 1995? What action would you take with regard to this?

Exercise 73 (IV.3) Evaluating work progress

Objective: To be able to evaluate work progress.

Table III on page 386 represents the operational achievements for control of neonatal tetanus in the villages of Jaya District during 1991. It shows:

- the number of retrained TBAs
- the number of practising TBAs
- the percentage of practising TBAs who have been retrained
- the number of pregnant women who have been immunized
- the estimated total number of pregnant women
- immunization coverage of the district in terms of the percentage of pregnant women who have been immunized
- the number of messages diffused by village heads.

Assume that the 1991 targets were as follows:

- 20% of practising TBAs to be retrained
- 60% of pregnant women to be immunized
- 90% of village heads to have diffused 5 or more messages.

A. Calculate the percentage of retrained TBAs for the district as a whole and decide whether the retraining programme has achieved its target.

Table III. Operational outputs in the control of neonatal tetanus in Jaya District, 1991

Village	No. of retrained TBAs	No. of practising TBAs	Percentage of practising TBAs retrained	No. of pregnant women immunized	Estimated no. of pregnant women	Percentage of pregnant women immunized	Messages diffused by village chief
A	1	2	50	200	400	50	5
B	—	1	—	160	200	80	8
C	1	3	55	220	400	55	5
D	—	1	—	200	300	66	7
E	1	2	50	180	300	60	7
F	1	4	25	200	400	50	5
G	—	—	—	0	200	0	—
H	—	1	—	150	250	60	6
I	—	2	—	150	300	50	4
J	1	3	33	250	400	63	5
K	—	1	—	100	150	66	8
L	1	1	100	100	350	29	1
M	—	2	—	100	200	50	4
N	—	1	—	30	200	15	—
O	1	3	33	120	300	40	7
P	—	1	—	100	300	33	4
Q	—	2	—	30	200	15	4
R	1	1	100	80	100	80	6
S	—	1	—	100	400	25	—
T	—	1	—	100	250	40	3
U	1	2	50	160	200	80	5
V	—	1	—	30	200	15	5
W	—	1	—	100	300	33	2
X	—	2	—	90	200	45	4
Y	—	1	—	120	200	60	7
Z	—	1	—	130	250	52	5
AA	—	1	—	100	300	33	3
		Total:		Total:	Total:	Mean	
		3300		7250	46		

In how many individual villages has retraining been completed? In how many villages has retraining been started and in how many has it yet to start?

List the villages where immunization targets have been met. Using the data supplied in Exercise 72, compare immunization coverage with incidence of neonatal tetanus.

List the villages where communication targets have not been achieved; compare your findings with the data for incidence of tetanus. Calculate the percentages of villages in which 5 or more messages *have* been diffused.

- B. Concentrate on villages E, J and U; what do they have in common? Is any other village in the same situation? How many villages would you have expected to meet similar targets in 1991? (*Hint*: assume that all 27 villages will be fully covered by 1995.)
- C. Concentrate on villages B, D, H, K and Y; what common pattern do you find? How many cases of neonatal tetanus occurred in those villages in 1992 (refer to Table I in Exercise 72)? What common pattern can you find for villages A, C, F and O? How many cases of neonatal tetanus occurred in those villages in 1991 (again refer to Table I in Exercise 72)?

Comment on the results of the programme in these two groups of villages: are they different?

- D. There are 14 villages in which no activity or only one activity reached the targets set. Identify them. How many cases of neonatal tetanus occurred in these villages in 1992?

Is this experience different from that in the two groups of villages in Part C of this exercise? Is it different from that in the villages considered in Part B?

- E. Assume that the information in Tables I and II (Exercise 72) and Table III (opposite) are available to you to appraise the performance of two members of your staff, designated A and L. They are of equal seniority and have the same qualifications. Staff member A is responsible for the implementation of programmes in villages A to K, and staff member L has the same responsibility for villages L to AA.

Consider the target population in the two groups of villages and decide which staff member has the greater work-load. Then compare results and achievements in the two groups of villages for which these staff members are responsible:

	Staff member A Villages A–K	Staff member L Villages L–AA
Percentage of TBAs retrained		
Percentage of pregnant women immunized		
Number of messages diffused		
Number of villages reaching 2 or 3 targets		

On the basis of this comparison, comment on the performance of these two staff members.

Can you think of one factor — other than the work-loads of the two staff members — that might explain the different results and achievements in the two groups of villages?

- F. Assume that the difference observed between targets and achievements is not a result of work-loads but of differences in the two staff members' abilities. Think of three areas in which differences in ability could explain differences in performance. Identify the steps you would follow in determining whether one particular ability actually accounted for the difference in performance.

**NOW FILL IN
THE EVALUATION SHEET
THAT FOLLOWS**

Evaluation of Part IV

On the 0 to 5 scale, mark with a tick (✓) the extent of your agreement with the following statements:

Reading material is:

relevant to my work	0--/---/---/---/---5
useful for my work	0--/---/---/---/---5
difficult to understand	0--/---/---/---/---5
too time-consuming	0--/---/---/---/---5

Individual exercises are:

relevant to the subject	0--/---/---/---/---5
useful as means of learning	0--/---/---/---/---5
difficult to perform	0--/---/---/---/---5
too time-consuming	0--/---/---/---/---5

Group exercises are:

relevant to the team's work	0--/---/---/---/---5
useful for the team's work	0--/---/---/---/---5
difficult to perform	0--/---/---/---/---5
too time-consuming	0--/---/---/---/---5

I have acquired:

new knowledge	0--/---/---/---/---5
new attitudes	0--/---/---/---/---5
new skills	0--/---/---/---/---5

