Research/Recherche

Rapid evaluation methods (REM) of health services performance: methodological observations

M. Anker, R.J. Guidotti, S. Orzeszyna, S.A. Sapirie, & M.C. Thuriaux

The rapid evaluation method (REM) was developed by WHO in order to assess the performance and quality of health care services. It is a readily operational method, and assist in taking managerial action. It was tested in five developing countries (Botswana, Madagascar, Papua New Guinea, Uganda, and Zambia between 1988 and 1991. REM consists of a set of observation and survey-based diagnostic activities, carried out mainly in health care facilities. The article describes the various steps of REM methodological issues such as setting objectives and using an issue-information matrix, preparation of survey instruments, use of computer software (EP info), data quality control, feedback, and the use of data to produce useful information for decision-makers. REM aims at bringing prompt and relevant information to planners and decision-makers who need it for a specific purpose. In the present examples, REM provided information for preparing a programme proposal for external funding, for establishing baseline data for an analysis, and for assessing staff performance after an extensive training in order to improve the curriculum.

Introduction

The rapid evaluation method (REM) consists of a set of observation and survey-based diagnostic activities, carried out mainly in health care facilities, which provide a basis for identifying operational problems and taking managerial action. The method was initially developed by WHO's Family Health Division and tested in five developing countries (Botswana, Madagascar, Papua New Guinea, Uganda, and Zambia) between 1988 and 1991. The Division of Epidemiological Surveillance and Trend Assessment in WHO has now extended the method to other health problems, besides mother and child health care or family planning. This article describes the basic components of the method and discusses some of the methodological issues encountered when assessing the performance and quality of health care services. The article is particularly relevant to those elements of which experience has shown require improvement.

Background

Sound management of health services requires relevant and timely information on the health status of the population and on the performance of health care institutions and staff. Most health services require health personnel to record too many cases, and to forward these to higher levels of the system. The data are often not analysed or used to improve the health system or the overall health status of the population. Because filling in forms is seen as an unproductive burden by health care workers, the forms are often filled out carelessly, are subsequently criticized for being unreliable, and are not used for management purposes. One often proposed alternative when information is needed for management purposes is to "conduct a survey". Surveys, although indispensable in some cases, appear to be a major impediment to work and are generally (and often rightly) perceived as expensive.

From the Division of Epidemiological Surveillance and Health Situation and Trend Assessment, and the Division of Family Health, World Health Organization, Geneva, Switzerland.

Medical Officer, Maternal and Child Health, WHO, Geneva.


Medical Officer, Strengthening of Epidemiological and Statistical Services, WHO, Geneva.

Reprint No. 5350

usually provide too many data, and take a long time to process, they are thus rarely conducive to early and practical corrective action.

There is consequently an increasing need for methods that will accurately, quickly and economically assemble the necessary information for analysis and decision-making. The available literature on such methods for rapid assessment of performance in health care is relatively scarce. A series of facility-based assessments of child health activities, where the results were available to decision-makers within two weeks after the completion of the study, were described by Bryce et al. (2), while Vladoss & Tanner (12) have stressed the role of rapid assessment methods in allowing research results to be translated into disease control activities. Smith (11) described five broad types of rapid epidemiological assessment (REA) methods, screening and individual risk assessment, community indicators of risk or health status, and case-control methods for evaluation. Such assessments of childhood disabilities have been undertaken in Bangladesh, Jamaica and Pakistan to develop cost-effective procedures for providing information for policy assessment and programme monitoring (8). Rapid statistical and epidemiological methods have recently been reviewed by Anker at a WHO-sponsored consultation (1).

Programme review techniques based on cluster sampling have been developed from earlier experience with the expanded programme on immunization and primary health care reviews. These methods have the advantage of allowing rapid assessment procedures for primary health care and maternal and child health activities. Rapid assessment procedures have several characteristics in common, such as emphasizing the use of field observation in acquiring information from different levels of health care. Interviewing individuals (from ordinary members of the community to senior government officials), ensuring participation of professionals in multidisciplinary teams, using flexible methods for the identification and solution of problems, and providing the results to decision-makers in a timely fashion. Assessment is mainly problem-oriented, using views with key informants, group interviews, community meetings, and analysis of routine administrative and survey data. It provides findings that can be useful for mid-course adjustments of projects (9). The rapid evaluation method described here applies the techniques of rapid assessment to a functional analysis of the health care system.

**Methods**

The REM approach, as applied in a number of countries in recent years, has always entailed the participation of national programme managers in both control and implementation and in application of the design. The main role of external facilitators is to share methods, forms and analytical techniques in complementing the work done by national participants. REM is designed on the premise that health service managers already have basic service statistics. For example, a manager may already know the overall antenatal attendance level, but may wish to know where and why gaps in coverage occur or what variations exist in the quality of care provided. The first step in REM is for the national authorities to outline the main objectives, to identify those programmes and services that are likely to be involved, and to decide on the topics and issues that will be addressed and those that will not. At the same time, a "core group" is appointed by the national authorities to take responsibility for the REM. This includes listing the main issues for REM to address, specifying the types of information to be collected, identifying possible sources for this information, indicating the schedule according to which the results will be made available, and making the necessary logistical arrangements, including staff and budgetary matters.

**The issue-information matrix**

Acquiring information in REM is based on a framework, with three dimensions. The first dimension deals with issues reflecting specific health problems, rather than overall health care concerns. For example, an issue concerning maternal and child health can be further defined as a general obstetric problem, and subdivided into problems of obstructed labour, hypertensive disorders, anaemia, etc. The level of detail at which issues are defined depends on the objectives of each REM and on a consensus reached by the core group on the concerns of individual programmes.

Information sources (the second dimension) are identified from community, health staff and health care facilities. The table is usually specified further through the identification of the individuals in the community and the categories of health workers who should be interviewed. Inspection of health facilities provides information on policy and on the technical and managerial aspects of the programme, while observation of equipment and supplies is used to determine whether these necessary components of health care are available and functional.

The third dimension of the matrix describes the methods used to obtain the information. An example of a (hypothetical) issue-information matrix is presented in Table 1.

An appropriate and practical approach to data collection is thus determined for each information item. Because the REM provides a picture of the functioning of services at different levels and from different points of view, several data collection instruments are used. The instruments used in the five countries under consideration included: clinic exit interviews; health staff interviews; observation of task performance; community and staff focus group discussions; review of clinic records; checking of facilities, equipment and supplies; and household interviews (rarely).

A brief description and discussion of each type of data collection instrument follows.

(1) Clinic exit interviews. In order to assess the functioning of the health care facility from the point of view of the client, a random selection of patients was interviewed immediately after the consultation or contact with the health service. The interview provided an opportunity to find out how the clients perceived what happened during their visit to the clinic. Information included items on their satisfaction or dissatisfaction with the services rendered, and other problems encountered in seeking health care.

Through the use of questions about the patients' knowledge of health-related issues, the exit interview gave an opportunity to determine if clients were provided with appropriate health education messages. In one country, for instance, women leaving the antenatal clinic were asked to list some warning
can be collected quickly from the examination of a sample of clinic records. This review served two of the advantages and requirements of focus group perceive in carrying out their tasks. A critical review health problems, health care, and service perform-
about community perceptions on issues related to which cannot easily be obtained in a household inter-
useful for eliciting information on feelings, attitudes
completed information on the quality of care obtain-
that critical supplies
among districts, health facilities of each type-
ate treatment or referral was used as an indicator of the quality of care. Different types of record reviews were required for primary and higher levels of health care facilities: while referral of a high-risk pregnancy to hospital may be proper case manage-
ment for a primary facility, secondary or tertiary facility would have a different management strategy and would have to be assessed accordingly.
- Checking of facilities, equipment and supplies. This was done to check supplies and equipment were available and functioning properly and were adequate for the patients' health needs. The checklist included:
  - physical structure of the facility (e.g., waiting rooms, examination rooms, storage facilities);
  - equipment (e.g., refrigerator, examination couch capable of handling one patient; blood pressure apparatus; and
  - supplies (e.g., drugs, gloves, syringes, needles), and other items important for the quality of the type of care chosen for review. Both the avail-
able and adequacy of the items in the checklist and their condition (satisfactory or unsatisfactory) were noted and recorded.
- Household interviews: Household interviews were carried out in the catchment areas of the health facilities selected for the REM in two countries (Bosnia and Zambia). They provided a means of sounding the knowledge and practices of people who do not use the service. These interviews included questions on social and demographic status, the use of health facilities, specific problems encountered, and their knowledge and attitudes in family planning and AIDS. The use of household interviews in REM was optional because they are usually very time-consuming and very labor-intensive, and because REM is essentially a health-facility-centred procedure.

**Sampling**
REM is carried out within a geographical area which usually encompasses both rural and urban condi-
tions. Since REM is designed to meet the needs of different programme managers in a variety of set-
tings, the details of sample design varied from study to study. The minimum sample size required was determined by the level of precision needed for deci-
sions that would improve the quality of health care.

In most instances, the purpose of REM is to pro-
vide answers for administrative officials at the cen-
tral or provincial level. This is accomplished through the use of cluster samples, allowing for aggregation of data from several sampling units. Nevertheless, it may be advisable to take large enough samples at each level of care to allow analysis to be undertaken for an individual clinic or health centre. Furthermore, it is usually more efficient to take a small number of larger samples than several small samples.

Sampling follows a hierarchical pattern that reflects the administrative structure of the health ser-
vices: both primary and higher level facilities need to be included in the sample in order to provide an overall picture of the functioning of the health service system. Thus, depending on the administrative structure, provinces (or equivalent administrative units) are selected at the first stage, and districts (or equivalents) within selected provinces at the second stage. Districts of each type are selected at random with a probability proportional to the size of the population covered.

For focus group interviews and for household surveys, communities within the catchment area of selected facilities are chosen at random. It is possible to use a cluster (e.g., one country) where a household survey investigated access to health facilities, communities were stratified accord-
ing to their distance from the facility. Generally, sampling error is usually small, sacrificing some precision of measurement for savings in cost and staff time. When frequency and availability of survey teams weighs considerably on the number of facilities and villages visited. The survey work for the five REMs carried out was done in 6 to 10 days, employing up to ten teams. Each team consisted of 4 to 5 members. Generally, each team was able to visit 1 provincial health office, 1 district hospital, 2 to 4 health centres (or 1 health centre + other smaller units), and 4 to 8 villages.

**Discussion**
Several methodological issues were raised during the preparation and execution of the five REM country studies.

1. **Identification of issues and preparation of instruments.** The participation of national health staff as diverse as ministry officials, physicians, mid-
wives, training tutors, and nurses in charge of a health centre was an important aspect in conducting a national REM. This participation strengthened the identification of national authorities and staff with the REM. It also provided input for the development of pertinent questions for data collection.

2. **Data quality control.** Rapid surveys are sometimes thought to be less reliable than large-scale research of longer duration; it is therefore essential that adequate care be given to the reliability of the results. Data collection errors should be detected and corrected in the field as early as possible. This should be done by checking the forms and completed questionnaires and checks for consistency and completeness. Computers can also be used to control the quality of data. The data entered into a laptop computer can be quickly checked for errors, and, if needed, the necessary data collection can be repeated.

3. **Training of interviewers.** The participation of national health staff in the REM; it also ensured that the instruments developed were relevant.

4. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.

5. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.

6. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.

7. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.

8. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.

9. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.

10. **Sampling and sample sizes.** The REM; it also ensured that the instruments developed were relevant.
Zambia, where this comparison was made, the concordance between information obtained from exit interviews and antenatal records was high. The preparation of "dummy tables" early in the process assists in organizing the data into logical matrices and in writing the report.

Conclusion

REM aims at bringing prompts and relevant information to planners and decision-makers who need it for a specific purpose. In the present examples the REM has provided information for preparing a programme proposal for external funding, establishing baseline data for a situation analysis, or assessing staff performance after extensive training in order to make adjustments in the curricula.

In one country the results of REM were presented at a meeting of provincial health authorities and served as a basis for policy recommendations. The application of REM to areas other than maternal and child health has potential benefits. The output of REM could be used in the development of a national health information system, and we should welcome the indications that such an outcome has effectively occurred.

Acknowledgements

We are grateful to a number of national officers and WHO staff who helped develop and implement the Rapid Evaluation Method. They are too many to be listed here. However, five persons should be given special credit: Dr Mark Belsey, Programme Manager, Maternal and Child Health, Division of Family Health, World Health Organization, Geneva, who was the originator of the concept of nationally designed rapid evaluations; Mr Norbert Rejeb, Maternal and Child Health, Division of Family Health, World Health Organization, Geneva, who helped develop and implement the Rapid Evaluation Method; Ms Karen Oller, WHO Family Health, Division of Family Health, World Health Organization, Geneva, who was responsible for the logistical or time constraints, another nearby clinic of similar size was used.

(4) Computer support. Laptop or notebook computers are increasingly used in collecting and analysing data from health surveys (4, 5). Epi Info (3) was the software used in most studies described here, and proved to be an effective tool for an initial analysis of results and for the preparation of questionnaires. The latter, however, is still relatively lengthy and laborious process, even with Epi Info, for those who are not experienced users.

(5) Use of data to produce information. The quantitative information produced by REM was designed to be the basis for policy formulation. This was done in order to present the preliminary results to programme managers immediately after the fieldwork. The qualitative information produced through the use of focus group discussions, on the other hand, requires more time for analysis, and is employed at a later date. Experience of focus group discussion has underlined that the training of discussion leaders is essential both for leading the sessions and in interpreting the results. In one country, the high quality of training in those areas contributed to the understanding of community perception of the health services. In another country, lack of suitable preparation of discussion leaders resulted in a vague expression of concern that was difficult to interpret.

Résumé

Méthodes d'évaluation rapide des performances des services de santé: observations méthodologiques

La méthode d'évaluation rapide (Rapid Evaluation Method - REM), élaborée initialement par l'Organisation mondiale de la Santé, est destinée à fournir une description rapide des aspects tant quantitatifs que qualitatifs des services de santé, à identifier les problèmes opérationnels et à permettre la prise de décisions en matière de gestion sanitaire.

References


