WHO–EM/RSR/047–E

HEALTH SYSTEMS RESEARCH

A TRAINER'S GUIDE TO DISCUSSION OF THE CASE STUDIES

John Bishop, MD
and
Abdul Wahid Sajid, EdD

WORLD HEALTH ORGANIZATION
Eastern Mediterranean Region
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Printed by APTC, Alexandria, Egypt

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CASE STUDIES

CASE 1. THE PERFORMANCE OF COMMUNITY HEALTH WORKERS

General

1 The case allows discussion of what research is, establishing that it comprises health services research as well as research carried out in laboratories Whether this issue is emphasized will depend in part on the composition of the workshop members and their experience, and also on whether the case is used early or later in the workshop programme

2 We seek comment on the grossly uneven distribution of physicians and nurses and the heavy concentration around the capital

3 We would expect comment on the problems of training community health workers by several agencies, apparently without much regard for the views of the Ministry, without reference to the national plan for health care delivery, and not according to agreed natio nal standards

Question 1

Here we are trying to develop the idea that immediate decisive action is not always the best or most effective procedure to follow Research can provide a more secure base for decisions, and it can be done quickly and cheaply if carefully planned

Question 2

1 Here we are looking for questions that are well formulated, and identifying what makes then good questions We would compare those to which useful answers can be obtained by research, with those that are either unanswerable or only answerable to a limited extent Some questions are essentially not researchable at all We need also to consider whether the questions if answered, could form the basis for useful action

2 We would select some questions designed to discover what the community health workers who have been trained are now doing, and what factors in selection, training and subsequent employment were important in determining success or failure in the work situation

Question 3

1 Here we would hope that participants would come up with the idea that they should take a sample of trained community health workers and try to discover where they now are and what they are doing They would try to find out what were the factors

associated with a successful outcome, having regard to selection, basic education, position in village society, and the pattern and place of training They would explore the manner of subsequent work to include whether community health workers were paid in money or other kind, were supervised, were supplied with basic drugs and equipment, and were supported by community and its leaders We would expect the design especially to exploit the regional variations in many of these factors, in the full knowledge that the differences were unplanned

2 Success is to be judged not only by whether the community health worker is still in the post and working, but also by the quality of his work as measured by observation It would also be important to learn the opinions of members and leaders of the community as to how the community health worker performs his duties

3 It will also be essential to interview community health workers who are not working in the role in order to establish why they dropped out Some will still be in their village, while others will have left but may be located with the help of local inquiries

4 Here we are not only asking them to construct a set of data items to which they want answers, but also we want them to conclude that they need to make some preliminary inquiries and have discussions with people closely concerned in the issues before finalizing the data sets

5 They will need to make field visits to training institutions and villages in order to interview members of the community, working community health workers and those who have dropped out. Decisions cannot be based purely on impressions gained at a distance

6 Always they should have in mind the usefulness of any data item they may collect, and not add to the list unless the item really seems likely to be useful rather than just interesting

Question 4

1 Discuss what would be the cost of this project that has been designed, in terms of money for staff and other resources How much time should be allowed for its completion?

2 Consider who will be in charge and who will do the work including the data collection and analysis The merits and disadvantages of instructing or trying to persuade a member of staff to do the work, of commissioning someone from the University to do it, or using some other method, should be discussed

3 How can full use of the results be ensured? This vitally important issue will require consideration of the need for full involvement of health service managers at all

stages of the work, if they are to have sufficient confidence in the results to make the considerable effort to apply them

4 Would the results be more reliable, and therefore more useful, if the research design was more elaborate? Discussion should elicit reasons for and against a more elaborate approach

CASE 2. UTILIZATION OF MCH CLINICS

Question 1

1 Here we might elicit the suggestion that he should not proceed on his own, but should at this stage consult with service planners and managers Probably we will not get this suggestion, and we should not press the issue at this stage of the exercise, but return to it later We would hope to have indications about the general form that the research should take

2 This part of the question concerns how to formulate questions and hypotheses for the research We need to make a list of suggested questions and then to have the group examine each to decide whether it is answerable, relevant and sufficiently precise

Question 2

1 Here we are looking for a wide ranging critique, touching not only on the experimental design itself, but also such issues as the time it will take, the cost and the potential value of the results Is the study too broad and generalized, or is it too narrow and restrictive? Would it have been better to concentrate on fewer issues, or to have widened it? Has the right choice of data collectors been made? Can we rely on the quality of the data? What are the limitations of data based on a 10-year recall period?

2 We can modify and structure the experimental plan to allow us to bring out particular points As an example, the present version lacks properly formulated objectives or hypotheses

3 For some workshops, particularly short ones or those for more senior participants, it will not be appropriate to spend the time needed for a detailed critique of the plan In such instances the facilitator can briefly take the group through the plan in a plenary session, highlighting some of the important issues

Question 3

1 This is an exercise in interpretation of results which we should conduct in two parts This first part asks them to interpret the results from the viewpoint of the research worker, and so arrive at a set of conclusions

Question 4

1 This second part of the interpretation of results is from the viewpoint of the service planner It is concerned especially with how conclusions can be drawn from results

It asks them to judge whether the conclusions reached by the reseach worker are justified Are the results of this research project sufficiently reliable and conclusive to justify taking action to change the pattern of service provision, in order to improve the utilization of the MCH services? Are the conclusions justified by the results? Were the right questions asked, and the correct data collected? If the answer is in the negative, why was this? What questions should have been asked?

Question 5

1 We should encourage a critical consideration of possible reasons Attention should be given to whether the research was relevant, whether it asked the right questions, whether it was well conducted and the data reliable Did the research take too long to conduct, and was publication of the results delayed, so that the results were out of date by the time they were published? Was there a failure to distribute the results in a suitable form widely enough to all of those concerned?

2 After consideration of these possibilities, we hope that it will be concluded that none fully explains the failure of utilization We would develop the idea that it failed because the research was conceived, planned and conducted by a research worker who, although fully competent, did not consult with, or in any way involve service planners and managers in the formulation of the research questions He presented the results and conclusions and suggested it was now the responsibility of the planners and managers to take the necessary action. They, having no involvement in the work, felt no obligation to act upon the conclusions They sheltered behind claims, neither of which was really justified, that the wrong questions had been asked and that some of the data were suspect.

CASE 3. MATERNAL MORTALITY

Question 1

1 The early discussion should focus on the need for information about the extent and causes of maternal death, and the reasons why deaths are not prevented We should consider the relative merits of prompt new measures on the one hand, and an investigation to answer questions and establish facts, on the other Hasty actions in the absence of information are likely to prove ineffective, and in the longer view will delay progress

Question 2

1 The first data required would be the maternal mortality rates for the country We provide figures for both maternal and infant mortality and ask for them to be discussed We would expect to be asked for comparable figures for other countries and provide these

2 The published figures show a very wide range, and the relationship between maternal and infant mortality varies a great deal, but countries with high infant mortality tend to have high maternal mortality rates also Can the local figures be trusted, and can we assume that the country really has quite a low maternal mortality? Can we reassure the Minister that there is no major problem after all? This should lead to a discussion of possible under-reporting of deaths and their causes, and establish a link between poor health indices and under-reporting

3 There is much to be learned from a study of the literature in this case It can point in directions of useful enquiry and suggest how necessary information can be obtained quickly It is a research activity that may provide answers to some of the questions without having to research them further

Question 3

1 We need to consider first whether the report's data on the preventable factors in maternal mortality are applicable and useful to another country Second, some consideration should be given to whether the methods are suitable for use in another study in this country

2 It is important to take care when deciding what information to collect, that each data item is potentially useful Data collection can be expensive and time consuming and must be balanced against the value and timeliness of the information One should avoid collecting more data just because they may prove interesting

3 In this particular example, it is essential to take a long-term view despite the political and other pressures The best prospects may lie in better education, better nutrition and general social and economic development. Actions directed at today's children will reduce mortality when they become mothers These are probably more important considerations than the development of specialist medical services

4 This is not an issue to be considered in isolation from other health problems such as infant mortality Some of the causative influences are common to all. Finding solutions demands intersectoral action

CASE 4. HYPERTENSION: A NATIONAL PLAN OF ACTION

General

The point should be made that the decision that hypertension deserves to be treated as a priority issue has not been taken at the highest level in the Ministry of Health, nor as part of a general setting of health priorities A discussion as to whether this is a proper approach would be helpful

Question 1

1 We can assume that the Director will conclude that high blood pressure is a serious problem and action is needed He would be wise to consider carefully how best to approach the problem, with regard for local conditions and the experiences of other countries He will also keep in mind that this is not an acute problem, but one with a long time scale Making the best plan is more important than speed in this case

2 In considering further research he needs to examine issues such as the prevalence of HBP at various ages, which is probably not known with sufficient accuracy to estimate the numbers of patients who need to be treated It would be necessary to get information about the knowledge, attitudes, relevant skills and practices of the doctors and other health workers, and about the knowledge and attitudes of members of the community towards HBP

Question 2

1 Review of the literature would be valuable in gathering together the experiences of different approaches to the problem and their relative success We would want to know exactly what aspects of the vast literature on HBP would be searched We would be interested in how the field of search would be narrowed, and how the questions are formulated upon which the search would be based What technical methods would be used in the research?

Question 3

1 A plan of action would begin with a policy decision to implement a control programme for HBP and this decision should be taken at the national level Depending on the size of the problem this would most likely need to be a phased plan It would have to be monitored carefully as to its effectiveness, acceptability, cost and practicality amongst other factors The plan would specify who does the screening and when, how case management decisions are made, what educational interventions are to be implemented, and monitoring and evaluation procedures

2 The effectiveness of the procedures could be measured by the number of individuals detected with HBP, the number treated, the number with BP controlled at specified levels, and the number of deaths due to HBP and its complications Acceptability would be measured by the regularity of attendance, compliance with treatment and frequency of complaints about side effects The cost of the scheme could be assessed as the cost of operating the clinics, including staff salaries and drugs A general evaluation of the practicality of the scheme and its effectiveness would be made, and the possibility of incorporating it into the pattern of clinical care, and especially into primary health care might then be considered

CASE 5. ANAEMIA: A STUDY AT THE VILLAGE

Question 1

1 It is important at the beginning to consider the possibility that the apparently high prevalence of anaemia may be due to laboratory error This should be checked by making sure that quality control measurements are regularly made at the laboratory concerned This could avoid a great waste of time and effort in pursuing a public health problem that does not exist

2 If there is no laboratory error, anaemia is a public health problem in this village because of its very high prevalence The treatment only of those individuals who present with symptoms would mean that large numbers will probably suffer from chronic ill health due to undetected disease Furthermore, the causes of anaemia may lie in factors which require communal action for their elimination

3 The fact that relatively few people complain of symptoms directly referrable to anaemia, is also worthy of note The reasons could be discussed, and may include the insidious nature of the condition, low expectations of health, lack of health facilities, lack of money to pay for health care

Question 2

1 The question is whether the DMO should try to tackle such a problem or whether it is so large, complex and widespread, that it needs to be handled centrally It is quite possible for him to begin studying the matter, dealing with those aspects for which he has the required resources The challenge to the DMO is to identify which aspects of the problem are suitable for investigation, and to formulate the questions which need to be answered by research

2 Probably the first step is to repeat the study in other villages, and in different parts of towns and cities in order to discover if anaemia is as common as it appears Then it will be necessary to search for its cause If, as seems likely, it has a nutritional cause, a study of dietary histories may help to clarify the situation

Question 3

1 With regard to the decision trees of Ben Essex, we would expect some favourable comment on their general utility, but criticism of the content and the criteria for the decisions This will be chiefly because they were prepared in Tanzania and were based on the conditions prevailing there Such decision trees have to be based on facts and epidemiological factors identified by local studies, and are then very useful

Question 4

1 A plan of action will be complex It will first be necessary to identify the causes of anaemia, and then to develop actions to remedy each of these Probably the most important factor will prove to be nutritional deficiency.

2 Nutritional problems are complex interrelated issues and action outside the health sector at both central and local levels will be needed It should therefore, prove a useful exercise for drawing attention to the importance of intersectoral action for health For instance, in this village, it appears that families produce vegetables and eggs, but sell them rather than include them in their diet. Is this a problem for education of mothers or children? Are other changes in food production and distribution required?

3 This is an instance of a chronic rather than an acute problem, where the condition has a high prevalence, and the control measures are complex and difficult to apply. It will be important to find sound solutions even if this takes a fairly long time. In this respect, the situation differs from most other HSR studies where there is a need for quick answers, rather than answers which have the greatest precision and reliability

CASE 6. RELUCTANCE OF PHYSICIANS TO WORK IN RURAL AREAS

Question 1

1 It must be emphasized that the reluctance to work in rural areas is a common feature in many countries and is not peculiar to physicians The reasons in different countries have much in common and are generally understood Their relative importance probably varies from one country to another, and it is unsafe to guess at their ranking

2 The purpose of this research is to identify the most common factors and those which most powerfully cause physician reluctance It is especially important to recognize those factors which can be corrected or modified The objective is to identify issues where action can be taken with the best prospect of overcoming the reluctance of at least some physicians We are therefore looking for negative factors which can be removed or modified and for positive factors which could be introduced or strengthened as inducements

3 In responding to the Minister's declared preference for immediate action, the above points would be made In addition, the risks of taking "blunderbuss" action based upon hunches and suppositions must be emphasized It is likely to be less effective than more selective action based upon established facts

Question 2

1 The research must be carefully designed to answer specific questions which would then permit decisions to be taken, or which offer a choice of options for such actions The research should enquire more deeply into those issues which are capable of modification than those which are relatively intractable For instance, improved career structures which are almost entirely under Ministry of Health control, capable of being changed fairly readily and carrying only limited cost implications, would deserve priority in the research By contrast, although a relevant factor, the possibility of providing secondary schools in rural districts should receive less attention Important as this latter matter is, it is not under the control of the Ministry and must in any case be a longer term aim

2 How should a balance be drawn in this research between completeness and reliability, and the need for reasonably quick results? This is a very important matter which deserves full consideration Aspects for discussion include the need for judgement when taking managerial action based upon limited information, and the feasibility of designing phases in the research, so that action is not unnecessarily delayed and the reliability of results is progressively strengthened

Question 3

1 The attached handout is an outline of a research design prepared for this purpose Among points for discussion are whether the question posed is relevant, and capable of being answered in a way that could lead to action Are the data proposed for collection relevant to the question? Are any items redundant? Are there serious omissions? Is the proposed sampling method sound? Do you approve the general plan or would you recommend another approach?

2 The plan must state who will be in charge of the investigation, how it will be managed and who will be responsible for the practical work The merits of retaining control within the Ministry need to be balanced against the probable lack of experienced staff If the work is to be contracted to staff of a medical college or a research council, how will control be maintained?

Question 4

1 We need to emphasize that health research fails, unless the results are applied Utilization will be favoured by full involvement of the Ministry from the beginning in the planning, formulation of the research design, the management of the project and collection of the data. This commitment to the investigation and consequent feeling of "ownership" of the results, should offer the stronger motivation to use them Other organizational aspects may need discussion

CASE 7. HEALTH SERVICE UTILIZATION PATTERNS

Question 1

It is important to highlight the consequences of a hasty solution without fully defining the nature of the problem The reduction in budgetary resources to the existing programme of PHC may further aggravate the situation in the following manner

1 There may be an increase in the number of complaints by the public especially those who had been satisifed or who were not heard before

2 It will send a message that primary health care will be given lower priority (against the national priority by the Government which committed itself to the Alma-Ata Declaration)

3 The hospital will not be able to handle effectively the additional patients with minor undifferentiated illness The hospital services are not designed to deal with common conditions, but with more serious and better defined problems

4 The Director should urge the Undersecretary to order a full scale investigation before any action is taken because hasty actions may bring further political embarrassments to the minister

Question 2

1 Developing an appropriate brief is critical to formulating an overall plan of action for study For example, the Undersecretary should have outlined

   - specific issues which would warrant investigation,
   - how the information should be organized,
   - a listing of possible recommendations for action (short-term and long-term)

2 Dr A 's approach will not help to illuminate what the real problems are in the use of health centres by the public It fails to accomplish the following

   - identification of specific issues concerning the existing perceptions of the public as well as health care providers on the role of health centres and tertiary care centres,
   - clarification of how the reallocation of resources to tertiary care centres and health centres might alleviate present concerns being expressed on the use of these services,

- presentation of a balanced comparison between health centres and tertiary care centres utilization

3 Limitations of the study

- Failure to state the problem and study objectives,
- poor sampling procedures,
- poor use of statistics, meaningless tables for comparative analyses poor choice of methods to determine public perceptions and the attitudes of health care providers,
- information obtained is biased by the non-randomized sample of public and health care providers

Question 3

1 The abstract clearly lays out the major and related issues to be investigated The investigator selected a variety of methods to collect information from various sources He excelled in the organization of data and the clarity of presentation The most significant part of the study is the list of practical recommendations for action

2 The problem posed is quite amenable to a formal study It calls for investigating general impressions on the use of health centres Given the background, it is possible to formulate a list of either directional or non-directional hypotheses

3 This problem is suitable for a descriptive study It can deploy the following techniques

- questionnaire,
- documentary analysis,
- observational techniques to gather attitudinal responses revealing public perceptions,
- interviews

Each technique may be discussed in terms of strengths and limitations and compared to experimental research methods In developing the design it is important to note that the utilization of tertiary care centres is as important as the primary health care centres

CASE 8. FAILURE OF A TUBERCULOSIS CONTROL PROGRAMME

Question 1

1 Here the first issue is whether the Director of Health Services (DHS) believes that he has enough evidence upon which to base a series of actions The principal steps in controlling tuberculosis are generally known and well established They can be studied in the literature, and have probably been emphasized in the particular setting of the country by visiting consultants in the past The major steps will be improved case finding by raising the level of suspicion in PHC workers, sputum testing of suspicious cases, well supervised treatment with antibiotics of proven cases, examination of family and other close contacts and vaccination of infants and children with BCG Improved nutrition and better housing are also important, but are obviously not measures that are specific for tuberculosis

2 Presumably these activities are all in progress to some extent, but without the desired success The DOHs need to know why Are the PHC staff failing to recognize possible cases? Is laboratory examination of sputum inefficient? Is the wrong treatment regime being used? Has treatment been taken unreliably because of poor understanding by patients, or has supervision been poor? Is there a high rate of drop-out patients under treatment? Has bacterial resistance developed in consequence? These and other questions may be in the mind of the DOHs, and without answers any action may be ineffective

3 What we are looking for is a discussion of whether to proceed straight away to do something for improving actions by staff at all points in the system, or to make some inquiries that would allow more specific and focused action Which would be more effective? Could he afford the added cost and delays associated with an investigation? Does he realize that focused action might actually save money, as well as producing a better effect?

Question 2

1 Here we need to examine the questions that have been prepared It will be found that some cannot be answered and others, even if answered, would not lead to useful activity We may also find some questions that are important, and can be answered from available information that is "on the files '

2 There are several questions which could be posed and they include

- Do primary health care workers recognize the possibility of the disease, and so permit early diagnosis?

- Are there adequate diagnostic facilities, in the form of a microscope and a trained microscopist, in the places where they are needed?
- Do the microscopists recognize *mycobacteria* when they are present?
- Is the correct treatment being prescribed?
- Is treatment being properly supervised?
- What is the rate of drop-out in patients under treatment?
- Have drug-resistant bacteria appeared?
- Are there beliefs and attitudes about tuberculosis amongst the population that impede diagnosis or make effective treatment difficult?

3 It is important to decide which of these or other questions, when answered, would lead to the most effective action It is not possible to study all of the questions at once and priorities must be set

Question 3

1 We do not seek here a detailed research design, but rather an outline which indicates the methods of enquiry that might be used

2 A discussion of the needed resources and the time required for the study should occur here Since it is to be done at the district level, data collection activities should be fairly simple and economical It is important to demonstrate that simplicity and economy are quite compatible with obtaining valuable and relevant information

CASE 9. ADOPTION OF HEALTH EDUCATION FOR CONTROL OF CORONARY HEART DISEASE

Question 1

Over the last three decades epidemiologic methods have contributed a great deal to the understanding of heart disease in many ways Also clinical research has given us new insights on a number of factors which are associated with death from coronary heart disease In the North American and the Western countries where coronary heart disease is the leading cause of death, there is an increasing cooperation between the curative and preventive services in addressing this disease By 1985, the death rate had fallen from its maximun in the USA, Canada and Australia, by at least 30% This accomplishment can be attributed not only to therapeutic and surgical developments, but also to preventive measures which reduce risk factors (inappropriate diet, high blood pressure, and harmful life styles, etc) This is supported by evidence from famous studies such as the Framlingham Heart Study, and those in North Karelia (Finland) and California Therefore, it is critical that the two services develop joint efforts in planning a comprehensive approach From the hospital side it is important to determine the following

- What are the epidemiological characteristics of the patient using hospital services? Are they typical of the population living in the city being served versus any national trends already available?
- What is the role of the health professional in educating patients about diet, life style changes, family support, etc , in reducing the risk of coronary heart disease? Does this hospital have information on the practice of its staff concerning recommendations for prevention?
- Are health providers effective in achieving patient compliance?
- How can the hospital link with the community physician and other services?

In contrast, the Public Health Sector needs to concentrate on the following?

- What is the community profile on dietary habits, beliefs and attitudes about food, physical fitness, and healthy behaviour?
- What are appropriate strategies to initiate (e g , screening programmes on high blood pressure, cholesterol control, physical fitness, etc ,) in collaboration with the on-going health services extended to the community?
- What lessons have been learned from successful public health campaigns (locally based and from other communities in the country) in reducing

unhealthy risk factors such as smoking, poor hygiene, or from mass campaigns to promote childhood immunization? Can some of these experiences be applied to formulating a comprehensive health education campaign around cardiovascular diseases?

- How can public media, schools, city government (and other related social agencies) be involved with the initial effort to formulate a plan of action?

Exploration of the above outlined questions collectively by hospital and public health service directors would help overcome initial barriers and misperceptions that are generally present between the two sectors

Question 2

1 It seems that the city (and/or the country) has no prior data on national norms for any of the known risk factors associated with coronary heart disease The first step should be to establish a list of priorities for which the magnitude of the problem needs to be identified Given the general socioeconomic development over the last two decades, it would seem obvious to concentrate on the following recognized risk factors

   - level of smoking among male population (adolescent to middle age)
   - Typical dietary intake of fats in family and a history of shifts in diets with economic boom
   - Life-style changes due to modifications in living conditions (housing, transportation and leisure time activities especially physical activity)
   - Blood pressure norms

Baseline data on the above requires use of existing records in health clinics and the district hospital, review of census data on demographic shifts, establishment of community profiles using anthropological methods, and formulation of screening procedures to determine blood pressure readings and serum cholesterol. Pros and cons of each method should be discussed prior to final selection

Question 3

1 The study by Farquhar *et al* is an excellent sample of a very comprehensive approach to developing a long term project This study applies sound principles of selecting and isolating sample populations and then targeting treatment procedures on very specific outcome measures Thus, the approach is quite applicable to almost any community in the world In terms of developing a strategy for reducing risk factors, this design offers an excellent opportunity for an intersectoral collaboration (i e , district hospital staff and the public health service)

2 The major difference will be the design of intervention strategies It will be important to determine the functional literacy level of the population and to be mindful of the role of media in people's lives in this industrial city Furthermore, given the close knit structure of families and neighbourhoods, it may be difficult to identify a comparison group An attempt may be made to select a comparison group from another city with similar population characteristics

As far as the logistics are concerned, such a study might be administered by a joint team comprising an epidemiologist, a health educator, a cardiologist, and an anthropologist. In order to carry out the study at least one year is required for preplanning, two years for implementation, and a full year for data analysis and report writing This type of research can only be successful if the overall design is fully endorsed by the district hospital and the public health officials with budgetary commitments. Furthermore, the findings of the study must then be submitted to the Ministry of Health and related ministries for action

CASE 10. THE DILEMMA IN THE ROLE OF A DOCTOR IN PRIMARY HEALTH CARE

Question 1

The role of any health practitioner is directly related to the health needs and priorities of the communities being served This logical connection is usually ignored in formulating expectations for practice Unfortunately other agendas such as professional rivalries among various disciplines, the overall interests of the profession, institutional bases for training, and economics become the major considerations for regulating the mode of practice

Policies pertaining to the goals of "Health for All by the Year 2000" have given a new orientation to the role definition of the health professional These policies demand that the role definition be derived from the national agenda on primary health care Therefore, the general practitioner becomes the central figure within the whole system of health care The following questions are the key to defining that role:

- What are the nation's priorities for primary health care?
- What categories of health personnel are deployed to address these priorities?
- Which segments of the population are receiving adequate primary health care given the present pool of health manpower? Which are inadequately served?
- Have the educational institutions defined 'professional competency' for graduates in the context of national health needs?
- Do health professionals subscribe to the philosophy of primary health care being promoted?

It is critical to obtain baseline information on the above questions prior to jumping into the task of describing the role of a practitioner

Question 2

The desirable attributes of a health professional are determined by many factors Expert opinion, the practice setting, the types of health care problems to be encountered, the nature of discipline/speciality, the stage of economic development of community or nation (present as well as future), all deserve consideration Sometimes the best strategy is to analyse the existing role of the practitioner, keeping all of the above factors in mind

Documentation of doctors' activities can provide insight into how time is spent and into the critical elements of performance that provide the most effective (or ineffective)

patient care These insights can help shape the desirable role for a practitioner in a variety of settings. The following is a listing of various methods used in documenting the role of a health practitioner It must be noted that no one single method is adequate to capture the overall role, a combination of methods to produce the full picture may be required

(a) Self-reports

Self-reports are the most direct way to collect functional data, but this may be the most difficult method since they require busy practitioners to take on yet another task that cannot contribute directly to the care of their patients Nonetheless, this technique is worth considering, not only for the information it provides to health planners, but also as a means of involving physicians in the analysis of their own performance

The methods that can be employed are of varying sophistication and reliability The simplest is a daily narrative diary which allows each physician to carry out the task in an independent and unconstrained fashion This advantage in recording is a disadvantage in analysis, since the lack of standardization in terminology and content makes summarization virtually impossible without an immense investment of time and effort However, such narratives can provide enlightment about problems, opportunities, frustrations, and achievements that might not otherwise be revealed to outsiders There are techniques to simplify self-reporting and to improve the reliability of such information However, self-reports are only useful to determine how individuals view their performance and their role in the practice setting

(b) Observation

It is obviously easier for an individual physician to have the task of recording his activities carried out by someone else This approach may also provide more reliable data since trained observers, using an observational guide and checklist, are less likely to disregard small but potentially important bits of information that doctors may consider trivial Busy physicians are also subject to significant error in reporting what they do if the recording is not made at regular and frequent intervals While the presence of an observer may have some influence upon a practitioner's behaviour the gain in reliability of what is described is probably worth the small potential loss in validity If the data are to achieve the desired degree of accuracy and completeness, the observer must not only be trained in use of the observation instrument, but also have some familiarity with medicine One way in which this has been accomplished in several studies is by employing peers, experts, and potential consumers

(c) Task analysis

The meticulous dissection and description of what a physician does may also be drawn from the combined opinions of experts rather than from direct observation and analysis While this approach has the disadvantage of being more an intellectual than an

empirical exercise, it has the advantage of generating consensus, and is thus less subject to criticisms often directed at generalizations about physician behaviour derived from observational or self-report methods This technique has been reported widely in the literature to document practice by paediatricians, internal medicine physicians, and allied health personnel The major limitation of this methodology is that it only captures the present situation and fails to give any information about the futrue role of a practitioner

(d) Critical incidents

One of the most sophisticated methods for collecting behavioural data about the ingredients of professional competence is the critical incident technique Here qualified individuals are asked to describe incidents of medical care which they have observed and judged to reflect superior or poor performance The judgement requested is of the incident, not of the individual, since even outstanding professionals occasionally falter and even beginners sometimes perform superbly Each description includes the setting in which the event took place, exactly what occurred, and account of the outcome, and why it was judged to be effective or ineffective As their number grows, individually described incidents begin to fall into natural clusters and detailed descriptions of competence begin to emerge Ideally the collection of incidents continues until the addition of 100 new events fails to add more than one new category of behaviour One of the early applications to medicine of this technique was conductd for the National Board of Medical Examiners in the USA to describe the competences expected of a physician at the conclusion of an internship This methodology also centres on documenting the performance for the present situation

(e) Expert judgement

The judgement of experts has traditionally been the principal mechanism for identifying the professional behaviour towards which educational programmes are aimed These descriptions may emerge from authoritative statements by acknowledged medical leaders on 'what needs to be learned in the field,' from carefully or casually designed opinion polls, or from systematic surveys of the professional literature Yet, whatever the method, the final determination of what a competent doctor must know, the skills to be acquired, and the desired dimensions of professional attitudes and values come chiefly from the teaching staff These conclusions vary in usefulness depending on the quality of the search and the nature of the sampling

(f) Public health statistics

Public health statistics represent one major clue to the knowledge and skills medical graduates must acquire In virtually all developed nations, as well as in a steadily growing number of those still developing, mortality and morbidity data are available and periodically updated Even in countries that have not yet established a systematic process of monitoring public health, the experience of health personnel may

be drawn upon to establish crude estimates of the major problems they encounter To whatever extent this information can be assembled, it should influence the delineation If, for example, malnutrition and diarrhoeal disease produce the highest morbidity and mortality, then proficiency in managing these problems must be of the highest priority even at the expense of other topics that may be a greater intellectual challenge to the teaching faculty

(g) Medical records

Medical records from hospitals, health centres, or individual physician practices represent another potential source of information about needs that can guide role delineation Regrettably, careful and systematic record-keeping is not uniformly carried out Even the best kept records may be in a form that is virtually useless for analysis aimed at documenting the nature of health problems seen However, simple record-keeping can be done to provide information which is useful in defining the role of a practitioner

For example, in a rural hospital in an African country a modest punch card system was employed to record such standard items as individual patient identification, diagnosis, length of hospital confinement (if any), and therapeutic procedures for obstetrical cases Simple statistical analysis of these data was carried out easily and provided such helpful information as

> " In the six years 1957–1962 there were 6 848 confinements Of these, 422 were twin confinements, an incidence of 1 16 Of the 6 426 singleton confinements, 307 were delivered Casearean section (4% of primigravidae, 5 1% of multigravidae) One hundred and seventy-one patients were delivered by forceps (2 7%), 9 patients underwent symphisiotomy, and in 28 patients a destructive operation was required It is rare to find heart disease, thrombophlebitis, embolism or varicose veins in pregnancy, and we have never had a case of diabetes "

Such information can be extremely useful in defining an appropriate role for a general practitioner involved in maternal care

(h) Delphi method

This method is designed to obtain some estimates of future trends from a multidisciplinary team of experts The process of gathering information can be in the form of a structural group interview and a follow-up with a detailed questionnaire It must be noted that the data obtained are more projections based upon past practices and present discoveries in the field being investigated In some situations the outcome is a description of trends and/or a description of multiple scenarios

(i) Surveys of public opinion

Another important source of information is the public which would be served by a practitioner The views of the public can be obtained through written surveys, personal

interviews, and/or selected group interviews with various community groups The scope of survey is dependent upon the literacy level of the population and the communication media available in a given society

(j) Social/economic considerations

The role of a practitioner is also determined based upon the socioeconomic realities of the society For example, the competence a physician may acquire to be successful in a nation with one doctor for 20 000 people and which can afford only US$ 3 00 per capita for health services, is obviously very different from where there is one physician for every 2000 people Such a situation may demand diversifying the role or distributing it to other levels of health care professionals such as community health workers, public nurse practitioners, etc

Question 3

Merits The proposed written examination for licensure would enable policy-makers to establish common standards for practice in the country Every applicant would be treated equally because he/she would be scrutinized by a common and a standard examination Thus, the entry to practice would not be solely based on where someone received training, instead, it would be based upon performance in a national examination

Another very important spin-off from such an examination would be the possibility of launching comparative studies among various groups of physicians entering the practice of primary health care

Limitations The proposed written examination would be solely limited to measuring knowledge and would not be able to predict competent performance on professional behaviour deemed critical for general practice Such measures fail to look at attitudes as well as technical skills and rely on the ability to recall facts and information on content that may at times not be relevant to prevailing health conditions Moreover, if this exam was adopted as a condition for entry into primary care practice, it could be received negatively by those who are already in the field Another critical point is that written examinations could result in perpetuating an academic orientation to primary care and in sending a signal that issues related to health promotion/disease prevention and community orientation are of lower priority This approach also completely ignores the issues around distributing primary health care functions among the various members of health teams

Question 4

The following steps are important in developing a research study to determine the validity of licensure examinations

1 The notion of validity has to go beyond content validity to include the notion of predictive validity for the licensure examination In other words, individuals who

do well in the exam should be able to perform well as practitioners in situations that reflect primary health care needs Thus, the research design should start with a comprehensive definition of performance with an explicit set of professional behaviours for a variety of tasks encompassing primary health care

2 Assessment tools such as clinical examinations, practice review analysis, and protocols for observation of community practice should be developed to conduct the predictive validity aspects of the study

3 A pilot study establishing norms for general practice should precede a comparative analysis between the national group and the group trained overseas

4 A National Advisory Group should be established to review, plan and to monitor such a study Perhaps linkage with an international organization for advice and consultation would counter tendencies to politicize such studies

5 The findings of the study should be translated into concrete recommendations for change in national policy based upon thorough review with provisions made for time limits on further review

CASE 11. THE USE AND MISUSE OF PHARMACEUTICAL DRUGS

Question 1

This question addresses two important points. first, the need to obtain information to determine if a problem actually exists, second, the need to determine how the information obtained can be used in formulating a plan of action

Initially, discussion should focus on collection of available information on the use and misuse of drugs within the country Usage is related to so many levels of a health care system that initial information gathering must utilize a variety of sources Special emphasis should be put on the importance of information from the published literature on the status of the problem and its consequences as reported by investigators in other countries, on research of the knowledge, attitudes and practices of consumers and providers, and on policy assessment of rules, regulations, and laws

Additionally, the question provides an opportunity to examine issues related to the problem Each issue should be evaluated for its appropriateness as a research question, for example Is the proposed question going to contribute to the preparation of a plan of action? Can the question be answered by research at reasonable cost in terms of time and available resources?

The feasibility of conducting a survey of the knowledge, attitudes and practices of providers (physicians, pharmacists, local healers, CHW and consumers should specifically be discussed here, with awareness of differences in practices between urban/rural areas of the country If the surveyed groups are fairly representative of the nation's diverse population groups, the survey need not be large nor expensive (See reference 3 for a description of mini-surveys)

Examples of pertinent questions to be researched include

1 What are the pharmaceuticals currently on the national market, their sources, the geographic patterns of their distribution, and their cost? Which of these pharmaceuticals require prescriptions?

2 What is the current status of policy governing distribution of these pharmaceuticals? What can be done to influence policy of the multinational companies involved? Is additional legislation required? What is needed for effective enforcement of legislation and regulations?

3 What is the extent of drug usage by individuals in different social classes, in urban and rural settings?

4 What information exists on specific hazards, risk of harmful interactions and reactions, and contraindications of specific drugs? What are other possible consequences of misuse of drugs, such as unnecessary costs to government services and individuals, dangers from antibiotic resistance, dangers from reliance on drugs, such as the psychoactive groups?

Question 2

With a problem of such potentially high magnitude and wide-ranging impact, negotiating a solution would require a public policy approach This question requires discussion of the possible routes to be taken when a problem is beyond the scope of the activities of the country's health sector

Effective action would focus not only on providers and consumers, but also would include efforts to influence policy of national and international health bureaux and multinational drug companies, involving legislation and enforcement bodies

Careful documentation of data acquired through survey of knowledge, attitudes, and practice and through policy assessment might simultaneously be presented to (a) a leading multinational subsidiary in the country, (b) the WHO/EMRO Essential Drugs Bureau, (c) the various associations of health care providers, and (d) the national media. The assumption is that simultaneous awareness of the results of tight, well conducted research into the problems and policies of pharmaceutical drug use and misuse would bring pressure to bear on all affected parties to modify a condition that can only grow increasingly out of control, if not addressed Reference 1 provides examples of how industry, government and providers might work together to effect change in current practices

CASE 12. EVALUATION OF A HEALTH EDUCATION CAMPAIGN TO PROMOTE THE USAGE OF ORAL REHYDRATION THERAPY

Question 1

The first stage in a health education campaign is determining the level of public acceptance This requires research in the target population as to their knowledge, attitude and practice (KAP) concerning the product or intervention which the campaign proposes It also requires background knowledge of the resources available to the target population

The question uses oral rehydration treatment (ORT) as an example of an intervention promoted by a campaign Although important issues specific to ORT can be discussed as illustration, the discussion should not lose sight of the general issues relevant to any campaign's pre- and post-evaluation Some of the general questions that must be answered before decisions can be made about the content of the educational messages and the ways by which they can be communicated are the following

(a) What are the current practices in the target population? Who makes the decisions and influences the choice of practice?

For example, in this case what are the ways in which diarrhoeal disease in general and dehydration in particular, is currently being treated? Which are the favoured treatments? and do they differ regionally or between urban and rural environments? Who dictates the course of treatment when diarrhoea occurs – mothers, family and friends, community health workers, physicians?

(b) What does the target population already know of the proposed product/intervention? What is the extent of their misinformation ?

For example, is diarrhoea recognized as an abnormal state that requires special attention? Do mothers know where oral rehydration salts (ORS) can be obtained? Is it expected to cure diarrhoea?

(c) What is the attitude of mothers, doctors, nurses and pharmacists towards the product/intervention?

For example, is ORT considered to be too simple an intervention to be of any value? Are there prejudices against ORT due to traditional beliefs of illness and treatment?

(d) How should the new product/intervention be presented so as to maximize acceptance and utilization?

For example, should prepackaged ORS or a home prepared solution be promoted? If the former, consider their cost and distribution, if the latter, consider the availability in the home of the basic materials (e g sugar, salt and clean water) Should ORT promotion target mothers alone or couples? Can mothers be educated to mix ORS appropriately?

The first three sets of questions can be answered by surveys of the population, participant observation, focus group discussion, and key informant interview While probability sample survey interviews have been the method of choice in traditional research, the more qualitative methods provide a format that often improves the validity of information, especially in sensitive subject areas For the final set of questions although preliminary KAP research may provide some insights, practical answers to the questions can only come through conduct of a pre-campaign trial or a pilot study (for example, of mothers' willingness to be educated about correct mixture of ORS)

Question 2

Selection of indicators is a key step in planning an effective evaluation This question provides the opportunity to develop a clear understanding of how crucial it is that evaluation indicators be well defined, and that definition of indicators occur when the programme or intervention is mutually planned It also allows discussion of the factors to be considered in selection of indicators

Appropriateness of an indicator for use as an evaluation measure is influenced by many factors, both inherent and external The following list contains some of the characteristics of appropriate indicators that could guide selection of indicators for evaluating the impact of the ORS campaign

(a) **Measurability.** Can the indicator be stated in concrete terms and assessed with an appropriate procedure, or is it an abstract concept not easily defined or measured? Many of the terms by which "impact" could be measured are, at face value, abstractions, they do not serve well in quantitative evaluation and unless there is among evaluators a common understanding of a culturally appropriate definition, they create ambiguity in qualitative evaluation

In this case, for example, it would be desirable to quantitatively evaluate impact of the campaign in terms of "acceptance" of ORT in the population, but the concept of "acceptance" per se is not measurable, unless programme planners agree upon a workable definition to serve as a symbol for the abstract concept of "acceptance"

(b) **Accessibility:** Do data on the indicator exist and can they readily be obtained? If the data must be collected, can this be done with available resources of time, manpower, and finance?

For example, programme designers may wish to evaluate the campaign's impact in terms of cost effectiveness However one essential denominator in the cost

effectiveness calculation, the population in need, may be unobtainable in an exact figure, and estimates may be too imprecise to produce a meaningful cost effectiveness figure "Cost effectiveness", while valuable, may not be accessible as an indicator

(c) **Validity** How well does the indicator represent a change specifically attributable to the intervention? For example, the impact of the campaign could be evaluated in terms of "reduction of number of visits to clinics for treatment of severe diarrhoeal dehydration " However, a reduction in number of visits in a given population could be due to reasons other than use of ORS, perhaps the reduction coincides with a typical seasonal variation in incidence of diarrhoeal disease, or with drilling of a town well If reduction of the number of visits is the only indicator used in evaluation of the campaign, it may not be a valid representation of the campaign's impact

(d) **Utility** Does the indicator have any usefulness in terms of the larger picture? Will data collected represent an important impact of the intervention or simply a by-product? For example, it would be possible to evaluate the campaign's impact in terms of "number of packets of ORS purchased per household " Information on this indicator is easily obtained, but is it important? What does it represent? Purchase of ORS does not signify use of ORS A village in which a high average number of packets are purchased may represent a village with high incidence of diarrhoeal disease, a village with a large ORS supply available for purchase, a village with families that are able to purchase ORS supplies, or a village in which the campaign has enabled people to recognize the need to purchase and use ORS The indicator does not, at face value, signify important information on the impact of the campaign, and its ambiguity renders it useless as a measure for other concepts

Additionally, indicators can be either short-term or long-term Both must be measured at different times during the course of the evaluation Short-term indicators of campaign strategies that can be quantitatively measured through surveys are

(a) Exposure to campaign messages

(b) Comprehension of the message Message content would require pre-testing for appropriateness and clarity and may differ between urban and rural environments Periodic monitoring of message comprehension throughout the compaign is also required in order to identify subtle confusions or to revise a message that is being increasingly misinterpreted

(c) Change in practices, e g usage of ORS Interview questions may be formulated to reflect as accurately as possible how frequently ORS is prescribed, sold and used, if used, how early it is begun, how long it is continued and how it is prepared

Monitoring of local health centre diarrhoea case loads is also a good indicator of home usage

Long-term indicators of the success of an intervention usually represent the goal of reduction in mortality and morbidity In the case of ORS, long-term indicators of usage are measures of diarrhoeal disease-related mortality and serious morbidity that can be obtained from clinic, hospital or other vital statistics records

Question 3

(a) This question should generate discussion of the pros and cons of small scale surveys and group interviews that may be carried out in several weeks time with limited resources Despite methodological shortcomings of the quick small sample approach in quantitative research, patterns and magnitude of findings obtained in this manner in other settings have correlated well with the large scale evaluations that are best provided by an external agency and conducted with greater precision On the other hand, the use of small scale, well-focused research techniques often yields the qualitative information necessary for making sense of quantitative evaluation results

(b) In-depth interviews with 20-30 health workers using mostly open-ended questions to elicit opinions and reactions to campaign activities and impact and identification of perceived problems, e g

- In your opinion, is ORS the best treatment for dehydration? If no, please explain why
- What do you think are the reasons why some women prefer other forms of treatment?
- How do you think the campaign can be improved?

(c) Focus group interviews with 3–5 groups of mothers in different locations to probe perceptions of and experience with the practices promoted by the campaign e g questions that might be addressed in a small group of neighbourhood women and a CHW or other health providers might concern the frequency with which women in the neighbourhood are exposed to the message, how do their husbands and other family members feel about it, has the message created confusion or clarity, could the message be communicated in a better way?

CASE 13. REDUCTION OF DEATHS FROM ACUTE RESPIRATORY INFECTION IN INFANTS

Question 1

This question is intended to prompt general discussion of a plan of action for the investigation necessary in the early stages of programme development The process of information gathering, through which the problem is defined and workable programme objectives are delineated, should be stressed. Discussion should address the necessity of collecting background information, and should introduce and evaluate potential sources of data for defining the magnitude of the problem, for example

(a) Should the national statistics centre be asked to provide all relevant morbidity/mortality data collected within the past five years?

(b) Is it feasible to survey admission records of all, or a sample of all, hospitals and outpatient clinics located in differing parts of the nation in order to learn the frequency of ARI admissions and associated mortality within the past year?

(c) What are the consequences in terms of representativeness of data when data is only accessible or obtainable from a sample of hospitals and clinics?

Question 2

Discussion should debate the advisability of supporting research only if it adresses priority health problems, finds solutions to existing problems in the minimum time possible and provides results which could be immediately utilizable in the control programme With regard to the research proposed by the Professor of Paediatrics, the arguments should include these points

Advantages	Disadvantages
(a) Is necessary for potential vaccine development.	(a) Requires a long time for labs to build quality control capabilities that yield reliable bacteriologic and virologic data
(b) Is necessary for establishing and monitoring pathogen sensitivity to antibiotics used in treatment of ARI	(b) Is very expensive to build these capabilities
	(c) How many more deaths would be likely to occur before the research data could be translated into action?

A point to be introduced here is that it is often possible to obtain enough information to initiate effective programme action through a careful review of extant data For example, inexpensive and functional estimates of the magnitude of a problem can be obtained by a survey of existing health care facility admissions, diagnosis, and discharge records, and from mortality records

Moreover, while aetiology-based research would contribute useful specific information to future intervention programmes, the drive for biomedical research must be balanced against the demand for immediate intervention action

Question 3

Previous questions have stressed that a review of existing data, literature, and technology guides the development of a programme plan of action in such a way that maximizes utilization of accessible, available resources, and facilitates action, implementation and intervention This question introduces the point that there will still be specific issues requiring research before the plan of action can be applied to solving the problem and during its implementation For example, topics in the ARI control programme that would benefit from research are listed

- Monitoring the coverage of EPI programme activities,
- the application of an algorithm for treatment will need to be continuously monitored and evaluated for utilization and effectiveness, as will antimicrobial usage and treatment outcome,
- research questions related to optimal case management policy which may be answered in a hospital setting at greatly reduced cost than if answered in the population-based study the Professor hopes to do,
- some key case management questions, including who should serve as managers (physician, health worker, mother), whether and when to use antimicrobials and when to refer patients to a higher level of care, the availability of appropriate antimicrobial treatment at the community level, and an efficient referral system for severe cases, must be researched,
- evaluation of the effectiveness of health education strategies will be necessary

The question also points out the need for establishing morbidity and mortality data appropriate to serve as baseline data early in the intervention Hence, elements of evaluation must be considered at the onset of programme design

A further general issue the question raises for debate Are literature review and extant data collection research? This leads to a useful summary clarification of the relative values of biomedical and health systems research, the contrast in how the two can be used, and the different requirements they make of users

CASE 14. CARE OF THE ELDERLY

Questions 1 and 2

1 It would be unwise to plan such an important aspect of service without more information

2 Information needed includes facts about family size and structure, the nature of the disabilities from which the elderly persons suffer, and about the homes in which they live and their suitability for disabled living Facts about the resources and personal help currently available at different times of day and night are needed Information about the felt needs of the elderly, their wishes and attitudes and those of other family members would be important

3 We are dealing with a long-term problem where it is important to make wise decisions at the beginning, even if this takes some time A plan should include provision for monitoring the consequences of action, so that the plan can be modified as necessary and not be inflexible In these respects the approach to this particular problem will differ from some others where the prime requirement is for prompt action

4 It must be recognized that this is not a purely medical matter, and that other sectors are very much involved Social security, housing and public transport are some of the other relevant aspects Research should be intersectoral in design, conduct and interpretation

5 Full use should be made of all data available within the country, utilizing all possible resources It is likely that quite a lot of data exist, but they have never been gathered together We should emphasize that this type of desk analysis may be a valuable component of the research plan

6 It will be necessary to discuss whether the experience of other countries as published in the world literature would be helpful It may be suggested that the matter is so much bound to cultural issues that the situation in each country is unique Other countries have accumulated much experience however, often by learning from mistakes, and this source of knowledge should not be ignored A thorough review of the literature, perhaps followed by a planned study tour, should be undertaken This should be regarded as an important preparatory phase, but an integral part of the research

7 One possible approach might be the use of an at-risk register of all vulnerable elderly persons, so that they may all be kept under regular review in order to assess their current disabilities and needs

8 The questions should be reviewed for relevance and feasiblity of obtaining answers The emphasis should be upon "What do you need to know for preparing a national plan for the service of the elderly?'

Question 3

1 Here we are faced with the problem of being pushed to adopt a strategy for care, and a pattern of facilities for care that may not correspond to the needs or the wishes of the elderly or their families. Should we accept the benefaction gratefully, or try to persuade the donor to use the money for the same objectives, but in a different way?

2 We must consider whether research is still appropriate. In such an important matter with growing and long-term implications, and where important choices have to be made between different patterns of care, it is essential to reach a carefully considered solution which has the best prospect of success Action which is unduly hasty will produce an unsatisfactory outcome, so initial research is essential

3 The topics for enquiry have already been outlined, and it is important to obtain answers that are reliable and in some detail The cost will be substantial and the work cannot be done quickly This is therefore an instance where research in depth is the better choice rather than a quick superficial assessment of the situation

4 It would be sensible to explain these matters to the benefactor and seek his agreement in the more systematic analytical approach

CASE 15. SETTING NATIONAL PRIORITIES FOR HEALTH

Question 1

1 The strategy will state the goals and objectives in the health sector for a defined period of time It will indicate the order of priorities and clarify the balance to be struck between the various objectives The plan is derived from the strategy and describes the actions to be taken in order to achieve the objectives, and the sequences of these actions

2 It will be essential to have good information about the present and future demographic composition of the population Much data will be required not only about mortality from various causes, but also on morbidity and disability It will also be important to study past trends, and to attempt future projections

3 Planning in response to a variety of pressure goups must be resisted

Question 2

1 In addition to information about mortality and morbidity, it will be necessary to understand as much as possible about the causation of diseases and the effectiveness of measures to prevent them The information should be quantitative wherever possible, in order to estimate the benefits to be expected from both therapeutic and preventive activities

2 Some of the information can be gathered from the published world literature and from consultation with experts either in correspondence or in person on the occasion of visits

Question 3

1 It is likely to be concluded that current health statistics within the country are not adequate for the purpose and that additional data must be collected

2 The importance of precisely and appropriately formulated questions needs emphasis This should be done by the responsible individual, in this case the Director-General It is important to discuss who should conduct the study and analyse the results

3 It is vital to ensure that the Director-General has full confidence in the validity of the findings This can be achieved if he is fully involved in all stages, and consequently feels that he "owns" the research The limitations of research conducted by outside bodies and visiting experts deserves to be considered

Question 4

1 It is anticipated that the attempt to construct a strategy will bring out the difficulties of reconciling community needs with what is demanded on its behalf by the medical establishment and the public

2 It will probably become evident that some important action towards disease prevention and health promotion are outside the control of the health sector The strategy should refer to the need for intersectoral action for health

3 Economic and financial considerations will have to be considered when setting priorities within the national strategy for health

4 The place that health will have in a broader national plan for development is just one of the political decisions to taken outside the health sector Sound recommendations based on well documented opinions supported by valid evidence have the best chance of achieving the desired result for health

CASE 16. VARIATIONS IN INFANT MORTALITY WITHIN A LARGE CITY

Question 1

1 First we want to see the reaction to sets of data Do they agree between themselves as to what can be concluded?

2 The fact that infant mortality is related to social and economic factors is important It will then be recognized that the health authorities alone cannot effect changes and that intersectoral action will be needed to improve the situation

Question 2

1 The data themselves are of great interest and may create fresh ideas in the minds of some participants They do not provide enough justification for specific action

2 With regard to further research, we may receive suggestions for different kinds of additional analyses to be made from the available data This could certainly be done provided we have the original basic data to work with

3 Questions proposed as the basis for future research should be examined for relevance and feasibility for obtaining answers (as well as their suitability for research)

4 There may be suggestions for making a specific intervention in one community and observing the effects while using the other communities as controls This approach should be discussed so as to establish the limitations of this experimental "agricultural patch" approach

Question 3

1 We need to establish that the use of available data is a good place to begin Desk research can often be productive, because it leads to conceptual thought and formulation of valid relevant questions which, in time, will lead to new research projects

2 The problem of making use of research carried out by another party should be discussed Would it be preferable to do the research within the Director's own department? Does he have the staff with the necessary skills and experience? Is it better to try to form a partnership with the Department of Community Medicine or similar research institutions which do have the skills and experience? How can the relevance of the research be ensured under these conditions? These are some of the questions to which there are no ready answers, but which deserve to be discussed at some length

CASE 17. BILATERALLY INITIATED RESEARCH: WHO BENEFITS?

Question 1

Since the pathogens of interest were known to be present and thought to be associated with disease in the selected population, one might have asked whether further research of the pathogens' interaction with the host environment was really needed, or if research into how the pathogens might be eliminated from the environment would be more useful

Relative to this, basic information about community knowledge, attitudes and practices related to diarrhoeal diseases would certainly be very helpful in understanding why pathogen reservoirs exist and how they are transmitted from reservoirs to humans

One would also want to know how the population is expected to benefit from the results of the investigation

Question 2

Discussion should focus on the absence of provision for utilization of the results of the investigation (your remaining major objection) While the information obtained would indeed be important to the design of a programme for environmental control of the problem, if persons appropriate to the utilization of that information were not identified and consulted before the project began (and throughout its conduct), the probability of subsequent action taken to control the problem in that community would be fairly low, and slow, if taken at all

Question 3

This question should explore the ideals and the realities of commitment to HSR Ideally, there should be bilateral understanding of the importance of the goals of HSR, research projects can then be designed, from their inception, with collaboration between foreign research teams and country managers Then the research is more likely to address problems of local concern, and local politicians and health system managers are more likely to feel an ownership of the work and a commitment to application of its results

However, this case study deals with a situation that is far from ideal Participants are expected to explore pragmatic approaches to the problem of influencing both the Ministry and the foreign research team, so that the project will be modified to include active efforts to benefit the population being studied

The discussion should point out that the host country in which this type of research is conducted provides the two most essential components to such projects – prevalence of the agent of disease to be studied and a human population in which to do it. The host country, therefore, is in a powerful bargaining position to make demands appropriate to HSR concepts and methods that will assure benefit to the population under study

One option to be discussed the case study suggests that a system to modify this traditional approach to research is possible at the "approval-to-proceed" stage granted by a country MOH Such an agency as the fictional office of health research, with a staff of highly trained specialists in HSR research methodology, could provide meticulous proposal evaluations and viable recommendations for maximum application to community needs

CASE 18. CHILDHOOD MALNUTRITION

Question 1

1 It would be easy for the director or responsible manager to take a line which discounts one or the other report, for non-scientific reasons The official may feel a commitment to the national survey having been involved in its planning He may suspect the village study and regard it as "academic" and see the investigators as interfering in business which is not theirs On the other hand, he may have strong local or academic connections, and may take the opposite view These two points of view should be discussed openly

2 The discussion should then conclude that both reports could be valid and that the results are not incompatible

Question 3

1 The quickest response might be to send emergency supplies to the villages concerned However, the reports do not give evidence of a shortage of supply of food, so this measure would at best provide only short-term benefit

2 Another possible cause of malnutrition is practice based on false beliefs and prejudice about the value of individual dietary components The most useful approach would therefore be to investigate those food habits and beliefs

3 Research into the practices of food intake and the beliefs and customs which underline them would provide the basis for a programme of education of the public This would seem to be the most effective line of action This research does not need to be nationally organized, but must take into account local variations in customs and perhaps make allowance for ethnic differences

4 Subsequent action to alter attitudes and practices will need intersectoral cooperation involving education and agriculture as well as health sectors

Question 3

1 We do not want a detailed research design

2 The research would be looking at practices and the underlying beliefs Additionally, it requires close and continuous observation using anthropological methods

3 Since subsequent action based on the results will need to be intersectorally conducted, the research should also be planned and carried out with help of representatives from the other sectors

4 The questions proposed to be addressed by the research should be reviewed in order to identify those which are answerable by research from those that are not, and those which if answered, will provide information upon which action can be taken

Question 4

1 The emphasis has to be on education – directed at both adults and children, and provided in schools, health centres, mothers' clubs and other suitable places It would be organized on an intersectoral basis with major contributions from agriculture and education as well as health

2 It may require mass media as well as local efforts

3 Whichever approaches are selected, it would be essential to monitor effects on practice by repeating the observations already undertaken

CASE 19. THE IMPACT OF EXPATRIATE NURSES ON A NATIONAL HEALTH SYSTEM

Question 1

A shortage of nurses is a complex problem faced by many of the countries in the Eastern Mediterranean Region The barriers to attracting individuals to careers in nursing include working conditions, wages, lack of career mobility, and social taboos Viewed as a woman's profession, nursing has had those problems associated with the notion of women as breadwinners For cultural and religious reasons, in some societies this issue is so sensitive that rational analysis and a search for solutions is almost impossible The economic boom experienced by some countries allowed a few health planners and policy-makers to import expatriate labour, thereby postponing both discussion and the search for long-term solutions The problem never disappeared, however, and now it has become critical As the public has raised its nursing care expectations, the demand to find solutions has become louder At the same time there is no evidence that interest in joining the nursing profession has increased, on the contrary, there is a global trend toward shortages in the profession

At the national level, educational institutions have failed miserably to attract students to the nursing profession This problem cannot be tackled exclusively by educators, and it demands an intersectoral approach The group of deans must join with social scientists, health planners, and the private sector to develop the plan of action the Minister of Health has requested

Question 2

National nurses should be studied to determine their reasons for choosing their profession Research should focus on the two questions why did they opt for this profession, and how did they overcome some of the cultural and social barriers to it? A survey plus interviews of a randomly selected sample of nursing nationals would be used to collect data. Interviews with open questions may reveal insights which are at times difficult to capture through surveys and standardized career choice inventories A similar set of questions would be posed both to national nurses who dropped out of the profession and to persons who would never consider joining the profession This information should reveal some of the underlying biases against the profession as well as perceived problems in nursing services

Based on information derived from this data collection, a promotive campaign to attract nursing trainees would be launched within parent groups, high schools, colleges and community leaders (religious, political and civic leaders) This campaign would entail developing strategies to counteract prejudices against the nursing profession and

to highlight the profession's contributions towards improving society's health The successes (and failures, if they occur) of these strategies, would be systematically documented to build a long-term plan for a national campaign

A study of the nursing service nationwide would also be required to determine the changes needed to make nursing attractive to potential applicants The targets for this study would include all health professionals at major hospitals and health centres Research would examine shift hours, services rendered on the wards and in health centres, and the health team's interpersonal skills One creative aspect of the study would be the pilot testing of innovations for their effectiveness, prior to making extensive changes in nursing services

CASE 20. REHABILITATION FOR THE PHYSICALLY DISABLED

Question 1

1 It would be unrealistic to begin without having further information To make plans in the absence of information would be to ensure that scarce resources would be misdirected and used ineffectively

2 The sort of information needed includes

(a) The numbers of people affected by sex, age, location, nature and extent of disability and cause (in broad terms – trauma, poliomyelitis, birth defect, etc)

(b) Resources available, most importantly staff such as physiotherapists and other experts, relevant equipment, etc

(c) Who provides support at present? Family or some other grouping?

3 Examine the questions proposed to see whether they are relevant in the sense that the information provided by the answer will be useful in deciding what is needed or how a service can be provided Also determine whether the question is capable of being answered Have any important questions needed to obtain essential information been omitted?

Question 2

1 This is an invitation to consider various possibilities Information could be extracted from hospital and clinic records Would it be feasible to get a response from a health worker in a local health centre or health post? Alternatively, will it be necessary to conduct a survey based upon personal visits by trained observers?

Almost certainly such a survey would be needed

2 Probably this survey should be carried out by visiting all households in a sample of villages and urban districts Some statistical advice would be needed It would be necessary to recruit and train a group of data gatherers since consistency is most important.

3 The questionnaire to be used would need to be constructed with care and given a pilot trial in the field before the data collection begins

4 Who would be in charge of the study? Would it be the responsible officer himself? He is probably busy and has little experience with such work. Instead, he might

commission someone from the university to lead the investigation, but if so, how can it be assured that the investigation at all stages meets the needs of the Ministry? The responsible officer must be closely involved throughout from the stage of identification of the population and the specification of data items to the methods of data collection, analysis and report preparation

Question 3

1 This is an exercise in deciding what resources will be needed not just in terms of money, but of staff, time, transport, equipment and technical support

2 It should be noted that some of the resources may have to be taken away from activities forming part of direct patient care, and it may be questioned whether this is justifiable

Question 4

1 We should consider the merits and disadvantages of a larger more ambitious study which would give information in greater detail Because it would be based upon a larger sample, one would have greater confidence in the findings It would need more highly trained staff, would be more costly and take longer

2 While there may be gains in precision and reliability of the answers, these gains may in practical terms be of little value in planning action The costs and delays may be unacceptable

3 We want a discussion about the need to balance these advantages and disadvantages when designing a study, and the criteria according to which a decision should be reached In this case a small quick investigation seems indicated, but still one that is based on a sound sampling frame It would not be justified to expend more resources at present, but more detail may be needed in the future, as the rehabilitation service develops, when the situation could be reconsidered