REPORT
WESTERN PACIFIC ADVISORY COMMITTEE
ON MEDICAL RESEARCH
SUB-COMMITTEE ON HEALTH SYSTEMS RESEARCH
FOURTH SESSION
Manila, Philippines
6-8 March 1986

Manila, Philippines
June 1986
REPORT

WESTERN PACIFIC ADVISORY COMMITTEE ON MEDICAL RESEARCH

SUB-COMMITTEE ON HEALTH SYSTEMS RESEARCH

FOURTH SESSION

Convened by the

WORLD HEALTH ORGANIZATION REGIONAL OFFICE FOR THE WESTERN PACIFIC

Manila, Philippines
6-8 March 1986

Not for sale

Printed and distributed

by the

Regional Office for the Western Pacific of the
World Health Organization
Manila, Philippines
June 1986
NOTE

The views expressed in this report are those of the members of the Sub-Committee on Health Systems Research of the Western Pacific Advisory Committee on Medical Research and do not necessarily reflect the policies of the Organization.

This report has been prepared by the Regional Office for the Western Pacific of the World Health Organization for the governments of Member States in the Region and for the members and secretariat of the Sub-Committee on Health Systems Research of the Western Pacific Advisory Committee on Medical Research, held in Manila, Philippines, on 6-8 March 1986.
CONTENTS

1. INTRODUCTION ................................................................. 1

2. OBJECTIVES OF THE FOURTH SESSION ............................. 1

3. REPORT OF THE MEETING

   3.1 Review of HSR programme activities .............................. 1
   3.2 Planned activities for 1986-1987 ............................... 3
   3.3 Assessment of WHO-funded health systems research projects conducted in the Western Pacific Region
   3.4 Methodology for implementing research and development in primary health care
   3.5 Role of health systems research in improving link between educational institutions and the health care delivery system
   3.6 Training in health systems research methodology ............ 5

4. RECOMMENDATIONS

   4.1 Support to Member States in health systems research development
   4.2 Information exchange .................................................... 6
   4.3 Promotion and conduct of training ................................. 6

ANNEX 1 - OPENING ADDRESS BY THE REGIONAL DIRECTOR ..... 7/8

ANNEX 2 - LIST OF MEMBERS OF THE SUB-COMMITTEE AND SECRETARIAT

ANNEX 3 - MEETING AGENDA .................................................. 11/12

ANNEX 4 - SUMMARY OF HSR PROGRAMME ACTIVITIES ............ 13

ANNEX 5 - SUMMARY OF PLANNED ACTIVITIES FOR 1986-1987 ... 21

ANNEX 6 - REPORT ON ASSESSMENT OF WHO FUNDED HEALTH SYSTEMS RESEARCH PROJECT CONDUCTED IN THE WESTERN PACIFIC REGION

ANNEX 7 - REVIEW OF METHODOLOGY FOR IMPLEMENTING RESEARCH AND DEVELOPMENT IN PRIMARY HEALTH CARE 59
1. INTRODUCTION

The fourth session of the WPACMR Sub-Committee on Health Systems Research was held in Manila from 6-8 March 1968. The session was opened by the Regional Director, Dr Hiroshi Nakajima. The Regional Director, who, in his opening address, emphasized that the health-for-all movement had also expanded the scope of health systems research (HSR). He noted that, as a result of the 1985 regional evaluation on progress in implementing the health-for-all policies and strategies, the emphasis of health systems research should be on those issues which constrained the development and management of health systems. The Regional Director further recommended that the Sub-Committee's discussions should focus on how the health systems research programme could more effectively support the priority health development issues facing the Region. A full text of the Regional Director's address is given in Annex 1.

Professor Lawrence Malcolm, as Chairman of the Sub-Committee on health systems research, presided over the meeting. The list of members of the Sub-Committee and Secretariat is given in Annex 2.

2. OBJECTIVES OF THE FOURTH SESSION

The objectives of the fourth session of the Sub-Committee on Health Systems Research were as follows:

(1) to review health systems research activities undertaken during the period 1984-1985, including achievements, problems and constraints in relation thereto;

(2) to exchange experience gained in carrying out research and development in primary health care studies conducted in the Region;

(3) to consider future plans for developing health systems research in the Region.

The meeting agenda is given in Annex 3.

3. REPORT OF THE MEETING

3.1 Review of HSR programme activities

The Secretariat presented a brief outline of the regional evaluation of health for all, indicating the potential role of health systems research to provide information on some of the constraints encountered in achieving national health for all goals. This was followed by a review of the current health systems research activities in the Region (Annex 4).
The Sub-Committee noted that, in providing direction for specific health systems research activities, it was important to use the regional health-for-all evaluation as the basis for determining priorities. It was agreed that the issues surrounding the development of future health systems provided a useful frame of reference for assessing the potential relevance of health systems research projects. In this regard, it was noted that a fundamental concern in health systems development was the issue of equity, which underlay most of the concerns emerging from the health-for-all evaluation, namely:

- improved information and analysis with respect to the underserved parts of society;
- equitable distribution of resources and services;
- research on social factors affecting health;
- better ways to select appropriate technology (including traditional medicine);
- more decentralization of decision making in the health services;
- optimal use of existing and additional financial resources;
- wider base of participation in decision making and the delivery of services;
- selecting an appropriate balance of services with emphasis on primary health care.

In reviewing of recent health systems research activities, the Sub-Committee noted with pleasure the initiatives that were being taken by some countries to strengthen the link between health systems research and the specific needs of management. It was noted that the criteria for assessing the potential value of health systems research were not limited to management initiatives. However, a health systems research activity - in most cases - should have as its basis the requirement to provide information for a specific policy or operational decision-making process; for example, it was noted that significant gaps still existed in the area of practical national policies in support of primary health care development. In addition, it was felt that there were many topics in the area of health care financing which, in general, were fundamental to effective planning and management.

The Sub-Committee took particular interest in the concern to ensure the usefulness of the results of health systems research. It was agreed that the use of such results was undoubtedly a function of the initial planning, although the Sub-Committee felt that more emphasis by the programme on following up on projects would be beneficial. It was suggested that such follow-up could also be enhanced through more effective use of collaborating centres. In this respect the Sub-Committee was particularly interested in the recently initiated project to undertake a comparative study of health care and hospital systems of countries or areas in the Region.
3.2 Planned activities for 1986-1987

The Sub-Committee reviewed the planned health systems research programme activities for 1986-1987 (Annex 5).

It was noted that the programme development activity to promote computer modeling as a tool of health systems research was a needed initiative. The Sub-Committee indicated that, since computer modeling was not widely used at this point, the initial emphasis should be on training rather than direct support of operational decision making.

In noting that additional national workshops to promote health have been planned, it was indicated that these workshops should as far as possible be linked with management training. In this regard, it was proposed that all management training supported by WHO should be reviewed for the possible incorporation of sessions on health.

3.3 Assessment of WHO-funded health systems research projects conducted in the Western Pacific Region

A report on the assessment of WHO-funded health systems research projects conducted in the Region over the past years was presented to the Sub-Committee for review (Annex 6). The aim of the report was to highlight the direction of research supported by WHO as well as areas that were not addressed. Since the study only covered projects funded by WHO, it did not present a total picture of the health system research undertaken in the Region.

The Sub-Committee noted that, in terms of meeting the health systems research programme objectives, the report showed that most of the areas indicated as priority fields of study had been addressed, with the exception of health care financing. However, the Sub-Committee indicated that the results of the study were inclusive in terms of assessing the programme's objective of increasing national capabilities to conduct health systems research.

The report highlighted a number of potential concerns: (1) difficulty in determining how health systems research results were used; (2) obtaining the total picture of health systems research activities in a particular country; (3) minimal sharing of health systems research results both within countries and between countries. It was noted, however, that these concerns could be simply a matter of poor documentation of health systems research activities.

3.4 Methodology for implementing research and development in primary health care

The Sub-Committee reviewed a paper which focused on a methodology for implementing research and development in primary health care at the community level (see Annex 7). The methodology was the result of ten years of regional experience of collaboration with countries in applying and expanding the understanding of research and development in implementing primary health care. The paper indicated that, although the approach was
more time-consuming as a research method, its application had resulted in some significant insights about the translation of primary health care as a policy into an operational system. The methodology had shown how information could be provided to make organizational, managerial and technical changes to redirect and realign health care systems which could support primary health care as an approach to achieving health for all.

The Sub-Committee expressed its interest in the accomplishments that had been made in this complex area. It was agreed that the positive results achieved through the application of this methodology warranted its active promotion as an effective means of implementing primary health care.

The Sub-Committee, however, felt that the methodology should not be generalized for application to the wider scope of health systems research activities. It was necessary to use a variety of health systems research methodologies since there was a wide range of information needs, and a specific health application was a function of unique situational needs in each problem setting. On the other hand, a generalization could be made in respect of the concern that any methodology must be sensitive to the information requirements of its intended users.

3.5 Role of health systems research in improving link between educational institutions and the health care delivery system

The Sub-Committee recognized that, in many countries of the Region, the skilled expertise on health systems research was located in universities and that, for this expertise to have a greater impact on health service decision making, mechanisms should be promoted to forge a closer link between these two entities.

A number of experiences were discussed, which illustrated how university capabilities in health were applied to the specific needs of the health care delivery system. One such mechanism was through the funding of research projects. When the funding was controlled by the health services, the health services had a direct input to the specific projects undertaken. The same type of control could be exerted through a research council, with Ministry of Health membership, which had the authority to direct funds to specific purposes.

Other examples cited of the linkage between universities and the health services included the involvement of university professors in teaching health systems research through a government training institution. In formal educational programmes - such as a diploma in public health - the organization of health systems research projects as a course or degree requirement, could be a mechanism for initiating a link which was often continued upon completion of formal training.

The Sub-Committee pointed out that additional measures were needed to increase the awareness of educational institutions and make them more sensitive to current health service needs in formulating their research programmes.
3.6 Training in health systems research methodology

The Sub-Committee agreed that the issue of improving the capabilities and effectiveness of health systems research was not simply a matter of developing the "right" methodology. From previous discussions, the conclusion had been reached that there was a need for a variety of methods to meet the requirements of unique situations. Therefore, the concern for developing and subsequently conducting training on "the" health systems research methodology was not a significant issue.

The Sub-Committee reiterated that the fundamental methodological issue was to provide information on matters that were of real concern to specific user groups. In this context it was emphasized that the priority area for training was the orientation of management on the utility of health systems research and on the basic skills of health systems research that could be performed by health workers during and as part of their routine work. This brought out the need for specialized back-up skills and the role that educational institutions could play in providing this support. It was noted that one of the ways to develop training materials was to use existing health systems research projects as reference material and as a training ground. It was also agreed that a significant amount of health systems research training could be accomplished through the learning-by-doing approach, recognizing, however, that this approach necessitated that special attention be given to supervision and technical back-up.

4. RECOMMENDATIONS

4.1 Support to Member States in health systems research development

The Sub-Committee noted the emphasis that the health systems research programme has placed on supporting the development of health systems research capabilities and in particular the stress given to the integration of health systems research with general management development.

Recommendation

(a) Support should be extended to Member States in further strengthening the link between health systems research capabilities and management decision making.

(b) The application of health systems research to priority health development issues should be encouraged and supported.

(c) Efforts should be made to improve the design of health systems research protocols by emphasizing that the information to be produced must meet the needs of end users.
(d) There is a need to expand the role of planning and management collaborating centre(s) in promoting and conducting health systems research on both a country and regional basis. Consideration should be given to the establishment of a collaborating centre for health systems research in the South Pacific area.

(e) Continued efforts should be made to promote national workshops which bring together health service managers and health system research workers.

4.2 Information exchange

The Sub-Committee noted that the project information base started by the Regional Office was a useful initial step towards improving the assessment of health systems research-supported projects and facilitating the exchange of information.

Recommendation

(a) Efforts should be made to improve the documentation of WHO-supported projects, particularly those concerned with developing capabilities and those with a regionwide application.

(b) Attention should be given to improving the regional dissemination of health systems research information.

4.3 Promotion and conduct of training

The Sub-Committee was pleased to note the comprehensive training materials that had been completed by WHO Geneva. However, it was observed that it was not easy to gain access to specific parts of these materials for a particular purpose. It was also noted that the promotion of health training should be exploited through a variety of mechanisms.

Recommendation

(a) WHO Geneva should be requested to prepare an index for the global training materials.

(b) Copies of the new training materials should be distributed to selected individuals and institutions for evaluation of their usefulness and possible adaptations and a report should be submitted on their experience.

(c) Proposals should be prepared for using the materials in specific training situations.

(d) An inventory should be made of all regional educational and institutional training activities on health systems research. This will form the basis for further development of both the formal and informal health systems research training programmes.

(e) The inservice training approach should be encouraged as a means of promoting and developing health systems research capabilities, consideration being given to the possible use of WHO fellowships in support of this approach.
Distinguished Members and Colleagues,

It is a real pleasure for me to welcome you to the fourth session of the WPACMR Sub-Committee on Health Systems Research. Our special greetings go to Dr Sharma of Fiji, Dr Han of the Republic of Korea and Dr Segall from WHO Headquarters, who have kindly agreed to participate in this meeting. Allow me also to express my deep appreciation to those colleagues who have participated in previous Sub-Committee meetings, as this forum has made significant contributions to the regional health systems research programme.

As in the past, the purpose of this meeting is to provide guidance and recommendations for the continued development of the regional health systems research programme. As you well know, the purpose of this programme is to support research in ways to improve the organization and functioning of national health systems in line with health-for-all strategies.

Traditionally, health services research was mainly concerned with improving the application of medical technology in a health care delivery system. However, from the inception of the health-for-all movement, which recognized that in today's world the constraints on improving the quality of life include issues that go beyond the application of medical technology, the scope of activities in this field has greatly expanded. This phenomenon was acknowledged - a few years back - in the change of name for this discipline from services research to health systems research. The situation has in turn necessitated that more emphasis be placed on the issues of development and management of a health system.

Member States, within the framework of health for all, have invested considerable energy in the last few years in attempting to define more appropriate health development strategies. It should not be surprising that this exercise has uncovered more questions than answers. And herein lies the challenge for health systems research.

I specifically would like to bring to your attention a document in your materials entitled "Regional evaluation of the health-for-all strategies by the year 2000". This document is a summary of the status of health for all in the Region. And with this as a context, I would in turn recommend that your discussions focus on how the regional health systems research programme can more effectively support the priority health development issues that are facing this Region.

I am very impressed with the wealth of knowledge and experience gathered here to meet this challenge and I wish you all a successful meeting and a pleasant stay in Manila.
LIST OF MEMBERS OF THE SUB-COMMITTEE
AND SECRETARIAT

1. MEMBERS OF THE SUB-COMMITTEE

Dr Dal Sun Han
Director, Hallym University
Institute for Health Services
and Management
Seoul
Republic of Korea

Professor Jong Huh
Graduate School of Public Health
Seoul National University
Seoul
Republic of Korea

Professor Lawrence A. Malcolm
Department of Community Medicine
Wellington Clinical School
Wellington Hospital
Wellington
New Zealand

Dr Alberto Romualdez
Executive Director
Philippine Council for Health
Research and Development
National Science and Technology Authority
Bicutan, Taguig
Philippines

Dr Kesho Dutt Sharma
Director of Hospital Services
Ministry of Health and Social Welfare
Suva
Fiji

1Coopted member
## Annex 2

### 2. SECRETARIAT

**WHO HEADQUARTERS**

Dr Ascher Segall  
HMD/HMR/HQ  
Geneva

**WHO/WPRO**

Dr R.D. Mercado  
Director  
Health Services Development and Planning  
Manila

Dr H.J. Park  
Regional Adviser  
Health Manpower Development  
Manila

Dr Bernard P. Kean  
Regional Adviser  
Health-For-All  
Manila

Dr Gunawan Nugroho  
Medical Officer  
Primary Health Care  
Manila

Dr K.S. Lee  
Scientist  
Primary Health Care  
Manila

Mr M.J. Anderson (Operational Officer)  
Management and Research Support Officer  
Manila
AGENDA

1. INTRODUCTORY REMARKS BY THE REGIONAL DIRECTOR
2. NOMINATION OF CHAIRMAN AND RAPPORTEUR
3. REVIEW OF HSR PROGRAMME FOR 1984-85 AND PLANNED ACTIVITIES
4. REVIEW OF REPORT ON ASSESSMENT OF HSR PROJECTS SUPPORTED BY WPRO
5. DISCUSSION OF METHODOLOGY FOR IMPLEMENTING RESEARCH AND DEVELOPMENT IN PRIMARY HEALTH CARE
8. CONSIDERATION AND APPROVAL OF THE REPORT OF THE HSR SUB-COMMITTEE
9. CLOSING
1. INTRODUCTION

While there have been many advances in health technology over the past decade, most countries have been unable to effectively bring these new developments within the reach of the majority of their populations, particularly those who are in greatest need. This application gap has stimulated renewed interest in approaches that can facilitate the selection and utilization of health technology and the provision of health services appropriate to prevailing needs and conditions.

The adoption of health-for-all has provided a framework to guide the application of health technology within an equitable and just social system. However, the implications of the health-for-all strategies for existing health system structures and managerial processes necessitate that new and innovative ways be explored to translate these ideas into operational practices.

Health systems research is a tool to support both the managerial processes for national health development and the development of health technology. A key feature of health systems research is its methodology for searching out, understanding and describing as many factors as possible that affect the issue that is under study.

As a tool to support the development of managerial processes, health systems research has two purposes. The first is to improve the management capabilities of individuals and organizations; the second is to assist in the analysis and identification of solutions to priority health development issues.

As a tool to support the development of health technology, health systems research is used to examine the appropriateness and effectiveness of the technology. It is also used to examine the most effective ways to apply technology in a health delivery system.

The developmental objective of the regional health systems research programme is to collaborate with countries or areas in supporting the reorientation of health systems by developing capabilities to conduct health systems research on priority health development issues.
Annex 4

The approaches of the health systems research programme are:

(1) to collaborate with countries in the design, conduct and evaluation of health systems research studies;

(2) to support the conduct of individual research studies;

(3) to facilitate the exchange of information;

(4) to coordinate a network of supporting institutions and individuals; and

(5) to support training in health systems research.

2. SUMMARY OF PROGRAMME ACTIVITIES

The Sub-Committee on Health Systems Research, at its April 1984 meeting, outlined a series of recommendations for the regional health systems research programme. The following paragraphs review progress in relation to the recommendations of the Sub-Committee.

2.1 Support to countries in health systems research development

2.1.1 Recommendation

(a) Countries should be supported in further strengthening manpower to develop health systems research activities.

(b) Well-designed health systems research studies on priority health development issues should be encouraged and supported.

(c) Greater contact and understanding between research workers and users of health systems research should be facilitated.

These recommendations were further supported by the tenth session of the Western Pacific Advisory Committee on Medical Research in April 1985, which recommended that efforts should be made to further support countries in expanding the use of health systems research to address priority issues in health systems development, through

(a) developing national capabilities to carry out health systems research, commencing with small research studies to gain experience and confidence,

(b) stressing the importance of health systems research as an integral part of management.
2.1.2 Activities

The Ministry of Health, Malaysia, accords great importance to strengthening health management. Recognizing the value of health systems research in supporting decision-making in the management process, the Ministry had, during the 1970s and early 1980s, initiated a number of health systems research projects. Realizing that these initial efforts needed to be augmented so that managers at various levels could acquire an understanding of health systems research and its use in management, the Ministry organized in February 1985 a national workshop on the integration of health systems research and management. The aim of the workshop was to promote health systems research as a routine management tool for decision-making. It was also used to increase the sensitivity among researchers in order to focus research efforts on priority problems of management. This workshop was followed by a consultant assignment in July-September 1985. The purpose of this assignment was to assist managers in the design and conduct of projects that were identified during the workshop as priority areas for study. In October/November 1985, another consultant was used to develop and conduct a management workshop to improve the effectiveness of hospital management teams. The focus of this workshop was on problem-solving and decision-making processes utilizing the findings of health systems research.

Fiji, in February 1985, started a health systems research project aimed at improving management capabilities in the Ministry of Health. The purpose of this project is to test whether a manpower analysis technique - similar to a work study analysis - can be applied by unit supervisors of the central referral hospital to generate information for a revised manpower establishment. Progress to date indicates that unit supervisors can apply this technique to the study of their unit. The results have shown that some units are overstaffed. However, of more long-term impact has been the contribution from simply using the tools: supervisors have gained a better understanding of the operations of their unit. This study has brought to light the significance of other factors which are contributing to the way the hospital operates and consequently how the hospital is staffed. The initial results of this study are now under review by senior management.

The Ministry of Health in the Republic of Korea is expanding the use of doctors - as part of their military service - to serve in health subcentres. The Ministry has identified a number of issues to be studied in order to make this programme effective. The first study - started in mid-1985 - aims to develop guiding principles for health services at health subcentre level using public health doctors. A comprehensive survey has been made of 32 health subcentres and approximately 800 doctors. This information is now being analyzed and recommendations prepared on administrative and technical changes needed to improve operations at the health subcentre.
Annex 4

The programme helped the Institute of Hospital Services, Seoul National University, to develop a health resources allocation model for the Republic of Korea. The purpose of the model is to define optimum health service catchment areas, and to provide information on long-term trends for health facilities and manpower. The information provided by the model has been used by the Ministry of Health to address various policy and operational issues.

The hospital utilization study conducted in the Philippines has been completed. The report of this study includes a number of recommendations on how to improve the effectiveness of hospital services at the district level. A protocol to test interventions for improving district level services is under study.

Three new research grants were recently approved. The Korea Advanced Institute of Science and Technology is working on a study to document the health manpower mix and distribution of manpower by job classification for the Republic of Korea. The study will analyse this information and attempt to define the determinants of manpower mix using the economic models of supply and demand for labour. The data collection phase of this study has been completed. The Department of Economics, Inha University was awarded a research grant to build a simulation model to analyse the financial position of hospitals, patients and insurance carriers under different price schedules for health services in the Republic of Korea. The School of Public Health, Seoul National University, has begun a benchmark study on a comprehensive health demonstration project. The study will attempt to develop an operational index for community involvement that can be used for further improvement of rural services in the country. Plans have been completed to conduct a survey starting in second quarter 1986.

The health systems research programme has supported a number of training activities during the last two years. Two individuals from the Republic of Korea are on one-year fellowships and two individuals from Malaysia received three-month fellowships to study health systems research. A statistics training course for participants from 18 medical colleges and other organizations was held at Beijing Medical College in February 1984. A consultant provided a three-week course in Malaysia on the use of computers to support health systems research analysis. Three individuals from the Region (Japan, Philippines and Republic of Korea) in July 1984 attended the Third International Conference on Systems Science in Health Care held at Munich. The objective of the Conference was to bring together the results of research in the many disciplines devoted to improving and developing health systems.

The Korea Institute for Population and Health was redesignated in October 1985 as a WHO Collaborating Centre for Research and Health Development for a further period of four years.
2.2 Information exchange

2.2.1 Recommendation

Efforts should be made to enable countries or areas in the Region to develop a guide on health systems research which provides information on national policies, plans for health systems research, and the organizational framework, including an inventory of research projects.

Until such time as the national guides are developed, efforts should continue to improve and update the regional inventory of health systems research studies.

These recommendations were further supported by the tenth session of the Western Pacific Advisory Committee on Medical Research which recommended that:

- the Secretariat should expand the opportunities for exchange of information on health systems research through exchanges of national staff among countries in the Region,

- the Secretariat should prepare a report on the status of all completed and ongoing health systems research projects supported by the Regional Office.

2.2.2 Activities

The inventory of health systems research in selected countries of the Region - published March 1984 - continues to be distributed. A few additional health systems research summary reports have been received. The Guide to health systems research in New Zealand has been distributed to countries for their consideration as of possible use in developing their own national guides.

A comprehensive study has been made of completed and ongoing health systems research projects supported by the Regional Office. The report on this study will be reviewed at the fourth session of the WPACMR Sub-Committee on Health Systems Research.

The principle of exchanging national staff to facilitate development activities has received wide regional endorsement. The first attempt to significantly use the TCDC approach in a health systems research project will be made during implementation of the recently started project at the Institute of Hospital Services, Seoul National University (see section 2.4.2).
Annex 4

2.3 Development of guidelines for training in health systems research

2.3.1 Recommendations

The Sub-Committee recommended that a meeting be held to examine training packages and to develop regional guidelines for their use.

2.3.2 Activities

Regional persons (Malaysia and Republic of Korea) were invited to participate in the consultation at Yaounde, Cameroon, July 1984, organized by WHO/Geneva, to review the draft health systems research training package developed by Headquarters and to discuss possibilities for the implementation of health systems research training in countries.

The role of training has taken on a new scope in recent years and the subject will be addressed at the fourth meeting of the Sub-Committee on Health Systems Research.

2.4 Hospital utilization studies

2.4.1 Recommendations

(a) Countries should be encouraged to publish reports on studies and to share the results.

(b) Countries should be encouraged, with WHO support, to recruit, train, deploy and employ a core of experienced people to take leadership in health systems research studies.

(c) Efforts should be continued to improve the planning and operational efficiency of hospital services since these services will continue to absorb a large proportion of health care resources.

2.4.2 Activities

The Institute of Hospital Services, Seoul National University, has begun work on a comprehensive project to make a comparative study of health care and hospital systems of countries in the Region. The purpose of this study is to examine ways to improve the organization and use of information that is needed for policy decisions on the reorientation of health systems in support of national health-for-all strategies. This study will attempt to provide additional insights on ways to define the role of hospitals that is consistent with health-for-all goals. The strategy of the project includes the use of counterparts from countries around the Region.

The results from the hospital utilization study conducted in Malaysia are being used in their management and health systems research development activities (see section 2.1.2).
Many countries of the Region have recognized that hospital utilization and efficient utilization of resources in general are influenced by many factors in their health systems. This issue is now being addressed through comprehensive health sector financing studies and plans. Malaysia has completed such a study. Vanuatu, Solomon Islands, Papua New Guinea and the Philippines have initiated various activities to improve their health sector financial planning. WHO is placing a high priority on collaboration with countries or areas in this field.

2.5 Links between education, service and research

2.5.1 Recommendation

WPACMR should discuss the role that health systems research could play in forging closer links between the education aspects and the service delivery aspects of health care.

2.5.2 Activities

This subject will be a topic on the agenda of the fourth meeting of the Sub-Committee.

3. Issues and direction for the future

The programme will continue to support individuals in conducting health systems research studies. This is the most effective way to improve individual research skills. Efforts will be made, however, to ensure that these studies are related to priority problems or development issues of the country.

The priority objective for the programme is to improve organizational capabilities to use health systems research as part of management systems. A constraint on achieving this goal is simply the organizational difficulty in defining a researchable problem. This dilemma is partly related to the generalizations that are used to express development issues in national health-for-all strategies. Consequently, it is anticipated that, through collaborative efforts with countries in clarifying priority development problems, this constraint can be minimized.

The solution to most development issues involves an approach which encourages the participation of all parties that are affected by the issue. Another constraint on developing organizational capabilities in health systems research is the generally poor internal communications of many management systems. Governments are generally aware of this problem and through various management schemes are attempting to improve the situation. For example, the Malaysia management programme provides for the development of management teams. Carefully planned and managed health systems research projects can also contribute to improved management practices.
As previously stated, the most effective way to develop health systems research capabilities is through practice. This process can be enhanced through sharing of information and training. The programme will attempt to significantly improve its methods of collection, analysis and dissemination of health systems research materials. The exchange of staff among countries will also be promoted at every opportunity.

WHO Geneva is working on a health systems research training package. This package will be reviewed for regional application. The priority emphasis in the area of formal training will be on national workshops and individual fellowships. Every attempt will be made to use national staff from the Region to support training, and specifically to develop a group of regional health systems research training facilitators.
HEALTH SYSTEMS RESEARCH PROGRAMME

Summary of Planned Activities

<table>
<thead>
<tr>
<th>Activity</th>
<th>Place</th>
<th>Time Schedule</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. HSR programme development</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. Fourth session of HSR Sub-Committee Meeting - PHC</td>
<td>Manila</td>
<td>March 1986</td>
</tr>
<tr>
<td></td>
<td></td>
<td>R&amp;D activities reviewed</td>
</tr>
<tr>
<td>2. Adapt global HSR training package for regional use</td>
<td>Manila</td>
<td>3rd Qtr. 1986</td>
</tr>
<tr>
<td>3. Incorporate computer modeling in HSR methodology</td>
<td>Manila</td>
<td>End 1987</td>
</tr>
<tr>
<td>B. Development of national capability in HSR</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1. National workshop on integration of HSR and management, development of problem solving skills through HSR methodology</td>
<td>Malaysia</td>
<td>Feb.-Nov. 1985</td>
</tr>
<tr>
<td>2. Follow-up support to (1)</td>
<td>Malaysia</td>
<td>Mid 1986</td>
</tr>
<tr>
<td>3. Intercountry workshop on methodology</td>
<td>South</td>
<td>Mid 1986</td>
</tr>
<tr>
<td></td>
<td>Pacific</td>
<td></td>
</tr>
<tr>
<td>4. National workshop on HSR methodology</td>
<td>PNG</td>
<td>End 1986</td>
</tr>
</tbody>
</table>
Annex 5

5. Intercountry workshop on computer modeling techniques  
   Manila  Mid 1987

6. National HSR workshop  
   Viet Nam  End 1987

7. Review of HSR activities  
   Korea  Mid 1986

C. Support to HSR Studies

1. Manpower requirements for referral facilities  
   Fiji  End 1985

2. Manpower requirements for divisional health facilities  
   Fiji  End 1986

3. Second phase of hospital utilization study  
   Philippines  End 1986

4. HSR/management integration  
   Malaysia  Mid 1986

5. Model provincial health sector financial plan  
   Philippines  Mid 1987

6. Comparative study of health care and hospital systems (IHS)  
   Region  End 1987

7. Functions of health subcentre  
   Korea  End 1986

8. Individual research projects  
   Region  continuous

D. Information exchange

1. Inventory and analysis of regional research projects  
   Manila  1st Qtr 1986

2. Inventory of regional HSR resources  
   Manila  Mid 1987

3. Improved information exchange among regional groups  
   Region  End 1987
1.1 Background

The adoption of health for all through primary health care has provided nations with the guiding framework for the attainment by all the people of the world of a level of health that will permit them to lead a socially and economically productive life. The specific policies, strategies and plans of action were left to each country to formulate and implement. The Declaration of Alma Ata likewise emphasized that enough is known about primary health care for governments to initiate or expand its implementation. It also recognized, however, that many long-range and complex issues need to be resolved.

The health systems research programme was established to develop national and regional capability to plan, implement and evaluate studies related to health systems development and management. The programme strategy to achieve this aim is to promote the use of health systems research as a means to improve the managerial processes for national health development. The priority activities of the programme have been focused on: (i) strengthening national capabilities (both individual and institutional) to undertake health systems research studies, (ii) providing support to health systems research studies, and (iii) sharing among countries, institutions and individuals experiences and information on applying health systems research.

At the tenth session of WPACMR in April 1985, the observation was made that health systems research had developed slowly in the past decade in comparison with biomedical research. It was pointed out that much of the information was unpublished or unpublishable; much of the research had been divorced from health services management; and managers needed to be convinced of its value. As a result, one of the resolutions approved by the committee was –

"Requested the secretariat to include a list showing the status of all health system research projects supported by the Regional Office, whether completed or on-going, in the report of the Sub-Committee on Health Systems Research, for review by WPACMR."

1.2 Objective

The term of reference for this study were to review and analyse the WHO-funded health systems research projects in the Western Pacific Region.
Annex 6

1.3 Scope

The research projects to be included in the study were health systems research projects funded by the WHO from whatever programme source, undertaken in the Western Pacific Region from the most recent times to as far back as information is available. The study was to include and build on previously prepared compilations of research project information.

Excluded were biomedical and behavioural research or health systems research funded from outside WHO sources.

2. METHODOLOGY

A listing of health systems research project titles was generated from available documents and arranged according to the starting year of the project (Appendix A). Two definitions of health systems research were used as criteria for the inclusion or exclusion of a project. The first is the WPR definition as formulated by the WPACMR Task Force in 1976 -

"Any group of activities that involve the generation of information or the application of knowledge on a scientific basis with a view to providing more effective, efficient, and equitable health care for defined populations."

and that formulated by the Global ACMR Sub-Committee on Health Service Research -

"Health service research is the systematic study of the means by which biomedical and other relevant knowledge is brought to bear on the health of individuals and countries under a given set of conditions."

Final report documents were sought and reviewed. Where a report document was not available, secondary source documents - abstracts, progress reports, project protocol, and other reports - were reviewed. The data obtained were transferred to a project information sheet (Appendix B).

The data were classified according to the classification in Appendices C to F. Double entry in the classification was done when indicated, but this was limited to a maximum of two entries.

The data were then grouped to facilitate analysis.
Annex 6

3. FINDINGS

(1) A total of 77 research projects are listed (Table 1). The Republic of Korea with 27 projects and the Philippines with 25 projects had the most, accounting for 67.5% of the total. Papua New Guinea had 10 projects (13.0%) while Malaysia had 7 projects (9.1%). The rest was accounted for by China (4), Fiji (2) and Japan (2).

Of the listed projects, reports were available for 13 projects (16.9%); an abstract for 13 projects (16.9%); and protocols for 26 projects (33.8%). The data available on 25 projects (32.5%) were insufficient for inclusion in the analysis. Of those with insufficient data, the starting date of 17 projects (22.1%) could not be ascertained.

The listed projects span the period from 1969 to 1986. Seven projects were listed as having been started before 1979; 12 projects for 1979; 4 projects for 1980; 5 projects for 1981; 7 projects for 1982; 3 projects for 1983; 6 projects for 1984; 14 projects for 1985; and 2 projects for 1986.

Table 1

Sample distribution

<table>
<thead>
<tr>
<th>Country</th>
<th>Listed</th>
<th>Report</th>
<th>Abstract</th>
<th>Protocol</th>
<th>Incomplete data</th>
</tr>
</thead>
<tbody>
<tr>
<td>China</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Fiji</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Japan</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Republic of Korea</td>
<td>27</td>
<td>5</td>
<td>3</td>
<td>15</td>
<td>4</td>
</tr>
<tr>
<td>Malaysia</td>
<td>7</td>
<td>3</td>
<td>2</td>
<td>2</td>
<td>0</td>
</tr>
<tr>
<td>Papua New Guinea</td>
<td>10</td>
<td>4</td>
<td>6</td>
<td>3</td>
<td>12</td>
</tr>
<tr>
<td>Philippines</td>
<td>25</td>
<td>13</td>
<td>13</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>Total</td>
<td>77</td>
<td>13</td>
<td>13</td>
<td>26</td>
<td>25</td>
</tr>
<tr>
<td>Per cent</td>
<td>16.9</td>
<td>16.9</td>
<td>33.8</td>
<td>32.5</td>
<td></td>
</tr>
</tbody>
</table>

(2) Table 2 shows the distribution by project classification. Studies on the delivery of health services (22 projects) accounted for 38.6%; production and distribution of resources (9 projects) for 15.8%; and relationship between health services and social setting (7 projects) for 12.3%. There was only one project on economic analysis (1.7%); two on administration of health services (3.5%); three on determination of health needs/demands of the population (5.3%); and four each on programme evaluation and on community participation in health services (7.0%). On organizational structure/components of the health system, there were 5 projects (8.8%)
Annex 6

Table 2

Distribution by project classification

<table>
<thead>
<tr>
<th>Project Classification</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relationship between health services and social setting</td>
<td>7</td>
<td>12.3%</td>
</tr>
<tr>
<td>Determination of health needs/demands of the population</td>
<td>3</td>
<td>5.3%</td>
</tr>
<tr>
<td>Production and distribution of resources</td>
<td>9</td>
<td>15.8%</td>
</tr>
<tr>
<td>Organizational structure/components of the health system</td>
<td>5</td>
<td>8.8%</td>
</tr>
<tr>
<td>Studies of the delivery of health services</td>
<td>22</td>
<td>38.6%</td>
</tr>
<tr>
<td>Administration of health services</td>
<td>2</td>
<td>3.5%</td>
</tr>
<tr>
<td>Economic analysis</td>
<td>1</td>
<td>1.7%</td>
</tr>
<tr>
<td>Programme evaluation</td>
<td>4</td>
<td>7.0%</td>
</tr>
<tr>
<td>Community participation in health services</td>
<td>4</td>
<td>7.0%</td>
</tr>
</tbody>
</table>

(Note: Excess is due to multiple classification)

Projects were sometimes classified under more than one classification category. Some studies would incorporate determination of health needs/demands of the population as a preliminary stage, then proceed with the study of another classification area. Others would start with a programme evaluation then move on to another area. These projects were classified under more than one project area.

(3) The majority of the research projects utilized analytical analysis (19 projects) or evaluative analysis (18 projects), comprising 74% of the projects. Only three projects (6%) used a descriptive analysis and ten projects (20%) used a developmental analysis (Table 3).

Table 3

Distribution by research methodology analysis

<table>
<thead>
<tr>
<th>Methodology</th>
<th>N</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Descriptive</td>
<td>3</td>
<td>6%</td>
</tr>
<tr>
<td>2. Analytical</td>
<td>19</td>
<td>38%</td>
</tr>
<tr>
<td>3. Evaluative</td>
<td>18</td>
<td>36%</td>
</tr>
<tr>
<td>4. Developmental</td>
<td>10</td>
<td>20%</td>
</tr>
</tbody>
</table>

(4) Table 4 shows the distribution by concern. Several projects were classified under more than one classification. It was not easy to dissociate operation and manpower from primary health care implementation. Thus, there was a preponderance of concern for primary health care implementation (27 projects) accounting for 40.1% of the projects. Equally significant was the concern for operation (20 projects) and manpower (11 projects), accounting for 30.3% and 16.7%, respectively.
Minimal attention was given to technology, policy, and methods. Management was addressed by 5 projects (7.7%) and cost and financing by 2 projects (3.0%).

Table 4
Distribution by Concern

<table>
<thead>
<tr>
<th>Concern</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Operation</td>
<td>20</td>
<td>30.3%</td>
</tr>
<tr>
<td>Technology</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Manpower</td>
<td>11</td>
<td>16.7%</td>
</tr>
<tr>
<td>Management</td>
<td>5</td>
<td>7.7%</td>
</tr>
<tr>
<td>Cost and financing</td>
<td>2</td>
<td>3.0%</td>
</tr>
<tr>
<td>Policy</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Methods</td>
<td>1</td>
<td>1.5%</td>
</tr>
<tr>
<td>Primary health care implementation</td>
<td>27</td>
<td>40.9%</td>
</tr>
<tr>
<td>Others</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

(5) By programme, majority of the projects were classified under the programmes of health system development (21 projects), organization of health systems based on primary health care (18 projects), and health manpower (10 projects). These account for 84.5% of the projects. The finding is not unexpected since the sample was biased for health system research projects.

Some projects were classified under more than one programme classification (Table 5).

Table 5
Distribution by programmes

<table>
<thead>
<tr>
<th>Programme</th>
<th>Count</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health system development</td>
<td>21</td>
<td>36.2%</td>
</tr>
<tr>
<td>Organization of health systems based on primary health care</td>
<td>18</td>
<td>31.0%</td>
</tr>
<tr>
<td>Health manpower</td>
<td>10</td>
<td>17.2%</td>
</tr>
<tr>
<td>Public information and education for health</td>
<td>1</td>
<td>1.7%</td>
</tr>
<tr>
<td>Research promotion and development</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>General health protection and promotion</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Protection and promotion of the health of specific population groups</td>
<td>4</td>
<td>6.9%</td>
</tr>
<tr>
<td>Protection and promotion of mental health</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Promotion of environmental health</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Diagnostic, therapeutic and rehabilitative technology</td>
<td>0</td>
<td>-</td>
</tr>
<tr>
<td>Disease prevention and control</td>
<td>4</td>
<td>6.9%</td>
</tr>
<tr>
<td>Health information support</td>
<td>0</td>
<td>-</td>
</tr>
</tbody>
</table>

(Note: Excess is due to multiple classification)
a. Relationship with health services and social setting area with technology and policy concern;

b. Promotion and distribution of resource area with technology and cost and financing concern;

c. Organizational structure/components of the health system area with manpower and policy;

d. Studies of the delivery of health service area with cost and financing;

e. Administration of health services area with operation and policy.

(6) Table 6 attempts to correlate project classification and analysis methodology. Zeroing in on the first three project classification areas, which comprise 66.7% of the projects, note is taken of the following:

(a) Of 22 projects on studies of the delivery of health services, 12 or 54.5% utilized analytical analysis; 7 or 31.8% used evaluation analysis; and only 3 or 13.6% utilized developmental analysis.

(b) For the 9 projects on promotion and distribution of resources, 6 or 66.7% utilized evaluation analysis, while 3 or 33.3% used developmental analysis.

(c) On the project classification of relationship between health services and social setting, the method of analysis was well distributed among the four analysis methods, with a slight leaning towards the analytical and developmental methods.

(7) Table 7 attempts to correlate project classification and concern. The following positive correlation are noteworthy:

(a) The relationship between health services and social setting projects with primary health care implementation;

(b) The determination of health needs/demands of the population projects with primary health care implementation;

(c) The production and distribution of resources projects with manpower;

(d) The studies on the delivery of health services projects with operation, primary health care implementation, and manpower;

(e) The programme evaluation projects with operation and primary health care implementation;
(f) The community participation in health service projects with the primary health care implementation.

Also noteworthy are the negative correlations, such as the following:

(a) Relationship between health services and social setting area with technology and policy concern;

(b) Production and distribution of resources area with technology and cost and financing concern;

(c) Organizational structure/components of the health system area with manpower and policy;

(d) Studies of the delivery of health service area with cost and financing;

(e) Administration of health services area with operation and policy.

(8) How has the WHO supported health service research projects contributed to the HSR programme? The aim of the WHO HSR programme is to develop national and regional capability to plan, implement, and evaluate studies
**Table 6**

Distribution by project classification & methodology analysis

<table>
<thead>
<tr>
<th>Classification</th>
<th>Methodology Analysis</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>3</td>
<td>0</td>
</tr>
<tr>
<td>4</td>
<td>0</td>
</tr>
<tr>
<td>5</td>
<td>0</td>
</tr>
<tr>
<td>6</td>
<td>0</td>
</tr>
<tr>
<td>7</td>
<td>0</td>
</tr>
<tr>
<td>8</td>
<td>0</td>
</tr>
<tr>
<td>9</td>
<td>0</td>
</tr>
</tbody>
</table>

(Note: Excess is due to multiple classification)

**Project classification**

1. Relationship between health services and social setting
2. Determination of health needs/demands of the population
3. Production and distribution of resources
4. Organizational structure/components of the health system
5. Studies of the delivery of health services
6. Administration of health services
7. Economic analysis
8. Programme evaluation
9. Community participation in health services

**Methodology analysis**

1. Descriptive
2. Analytical
3. Evaluative
4. Developmental
Table 7
Distribution by Project classification & Concerns

<table>
<thead>
<tr>
<th>Project classification</th>
<th>Concerns</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1 : 2 : 3 : 4 : 5 : 6 : 7 : 8 :</td>
</tr>
<tr>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>5</td>
<td>15</td>
</tr>
<tr>
<td>6</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>3</td>
</tr>
<tr>
<td>9</td>
<td>1</td>
</tr>
</tbody>
</table>

(Note: Excess is due to multiple classification)

Project classification
1. Relationship between health services and social setting
2. Determination of health needs/demands of the population
3. Production and distribution of resources
4. Organizational structure/components of the health system
5. Studies of the delivery of health services
6. Administration of health services
7. Economic analysis
8. Programme evaluation
9. Community participation in health services

Concerns
1. Operation
2. Technology
3. Manpower
4. Management
5. Cost and financing
6. Policy
7. Methods
8. Primary health care implementation
related to health systems development and management. The programme strategy is to promote the use of health system research as a means of improving the managerial processes for national health development.

The HSR programme envisages achievement of its objective through the following approaches:

- strengthening national capabilities (both individual and institutional) to undertake health system research studies;
- providing support to health systems research studies;
- sharing among countries, institutions and individuals experiences and information on applying the health system approach

Table 8 shows the distribution of the agencies responsible for undertaking the WHO-funded projects. The Republic of Korea has the largest number of institutions assisted (8) with Seoul National University undertaking 40.9% of the projects. The Ministry of Health has undertaken only one project.

For Malaysia, the University of Malaysia undertook 50.0% of the projects, while the Ministry of Health only did one project. Projects in Papua New Guinea was undertaken equally by the Papua New Guinea Institute of Medical Research and the Ministry of Health. In the Philippines, the lead agencies were the University of the Philippines and the Ministry of Health.

The monetary cost to WHO for supporting the HSR projects cannot be accurately quantified due to inadequate data. In addition to the actual project funding, other costs to the project, such as workshops, consultancy and assignment reports, were also incurred.

The sharing of information on project experiences, both within countries and between countries, was not apparent from the documentation of the projects reviewed. It is known that for some projects there has in fact been a considerable sharing of information; however, project reporting has not been able to document these activities.

(9) What has been the effect/impact of the WHO funded HSR research projects on the health system of the target countries - The Republic of Korea, Malaysia, Papua New Guinea and Philippines? The answer cannot be really ascertained owing to the absence of documentation on how the research findings and recommendations of the various projects have been utilized. Previous mention has been made of the lack of reference in the funded projects to previous research projects already completed. This could imply a lack of build up or progression in the studies being undertaken, and indicate a need to improve the dissemination of the project results. However, it could also indicate a need for improved ways to document the projects.

Perhaps another way of appreciating the impact of the funded projects is to look at the projects according to the health system components, (Figure 1) using the basic systems paradigm (Figure 2).
### Republic of Korea
- Ministry of Health .................................. 1
- Seoul National Univ. ................................. 9
- Chonnam National Univ. ............................. 2
- Kyungpook National Univ. ......................... 2
- Korean Inst. for Population & Health ........... 1
- Inst. of Population & Community Health ....... 1
- Dongduck Women's University ...................... 1
- INHA University ...................................... 1
- No data ............................................... 4

### Malaysia
- Ministry of Health .................................. 1
- University of Malaysia ............................. 3
- Public Health Institute ............................ 1
- No data ............................................... 1

### Papua New Guinea
- Ministry of Health .................................. 2
- PNG Institute of Medical Research .............. 2
- No data ............................................... 2

### Philippines
- Ministry of Health .................................. 5
- University of the Philippines .................... 6
- Inst. of Community & Family Health ........... 1
- No data ............................................... 1
Fig. 1
Health Systems Framework

Community services - includes all activities taking place in the community, whether they be health or health-related. The sub-system encompasses the activities of the community health workers, community participation, environmental sanitation, food production, etc.

Health services - includes all activities taking place in a community health center facility.

Hospital sub-system - includes all activities taking place in a hospital, be this a small hospital or a medical center.

Fig. 2
Systems Paradigm

Management information

Structure

Process

Structure - refers to the various input components, such as number, qualification and quality of personnel, infrastructure, technology, financial resources, and policies.

Process - refers to how the resources are organized, how the organism is functioning, and how it proposes to grow and develop.

Management information - refers to internal information data on resources and process, plus information on needs, demands and utilization.
Tables 9a to 9D show the distribution of the projects for four countries according to a health system framework. Among the observations that can be made are the following:

(a) There is an uneven distribution of the projects.

(b) Urban primary health care received the least attention.

(c) Attention to hospital services varied from country to country - moderate attention in some, to minimal attention to others.

(d) Rural primary health care received the most attention with varying proportion between community services and health services, and between structure, process and management information.

(e) Certain blocks showed a number of studies undertaken. Whether these projects were complementary to each other is undetermined.

Table 9
Health System Framework Distribution

9A REPUBLIC OF KOREA

<table>
<thead>
<tr>
<th></th>
<th>Structure</th>
<th>Process</th>
<th>Mgmt. Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban PHC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Health service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rural PHC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community service</td>
<td>3</td>
<td></td>
<td>4</td>
</tr>
<tr>
<td>Health service</td>
<td>4</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td><strong>Hospital services</strong></td>
<td>3</td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>
### Annex 7

#### 9B MALAYSIA

<table>
<thead>
<tr>
<th></th>
<th>Structure</th>
<th>Process</th>
<th>Mgt Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban PHC</strong></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rural PHC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Health service</td>
<td></td>
<td></td>
<td>4</td>
</tr>
<tr>
<td><strong>Hospital services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 9C PAPUA NEW GUINEA

<table>
<thead>
<tr>
<th></th>
<th>Structure</th>
<th>Process</th>
<th>Mgt Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban PHC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health services</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rural PHC</strong></td>
<td></td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health service</td>
<td></td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td><strong>Hospital services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### 9D PHILIPPINES

<table>
<thead>
<tr>
<th></th>
<th>Structure</th>
<th>Process</th>
<th>Mgt Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Urban PHC</strong></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Health service</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Rural PHC</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community service</td>
<td></td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Health service</td>
<td></td>
<td>1</td>
<td>3</td>
</tr>
<tr>
<td><strong>Hospital services</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>
4. CONCLUSIONS AND RECOMMENDATIONS

This report attempts to describe the WHO funded health system research. It does not profess to be judgemental. Its main aim is to highlight the thrust and direction of the research that were funded by WHO, as well as areas that were not addressed. Since the study only covered projects funded by WHO, it does not present a total picture of the health system research undertaken by a country. It is very possible that supposedly neglected areas were studied utilizing local funds or funds from other sources.

(1) The difficulty experienced in generating the list of health system research projects shows some deficiency in the record management of research projects. This is further evidenced by the number of projects with incomplete data and the absence of project reports.

There are signs that this deficiency is being corrected. A listing of funded projects is being incorporated in the WPACHR report and the sub-committee reports. The programme file on the projects is fairly complete and includes the project protocol, the evaluation of the consultants, the action of the evaluation panel and the contract agreement. What was missed in the file were progress reports and cross-reference of projects across programmes.

Perhaps a common research project information sheet can be evolved, accomplished by each programme, and then computerized, thereby making the information readily accessible to all.

(2) Tables 2 to 4 show the uneven distribution of the projects according to various categories – project classification, research methodology analysis and concern. This uneven distribution may be intentional or unintentional. It is however evident that regard for previous studies in the same area is not given much weight. This is shown by the lack of reference to previous studies in the research protocols. This state of affairs may be due to: (a) deficiency in the records of research projects, both WHO and non-WHO funded; (b) absence of reports for completed projects; (c) inaccessibility or poor dissemination of project reports; and/or (d) short organizational memory.

The suggested computerization of research records previously mentioned could be partly a solution to this observation. Ideally, if non-WHO funded projects could also be an input in the data bank, then a more complete picture of previous studies in a particular area would be available.

(3) Table 3 shows that only a minority of the projects utilized developmental analysis as the research methodology. It is suggested that a systems approach to research should be more inclined to use the developmental approach.
Descriptive analysis is of course necessary to identify the facts of a problem. Analytical analysis is a logical next step to identify the problem. Functional specification and generation of alternative designs should follow. Only then should the most promising alternative be tried out and evaluated. Thus, a developmental approach involves several component steps: problem definition, functional specification, alternative generation and evaluation, and design implementation.

(4) Tables 6 to 9 show the distribution of the projects from a variety of perspectives. The tables attempt to more specifically describe the areas of concentration of the projects, as well as highlight the neglected areas. This does not imply that there is something amiss with the distribution, for reasons previously mentioned.

(5) The information sheet calls for data on the application of the findings and recommendations of the projects. The observation can be made that documentation on the utilization of the research findings is not available. Personal communication reports indicate that some of the research findings and recommendations have indeed been utilized. However, unless a more definitive mechanism for documenting this is set up, the utilization value of the research studies remains conjectural.

(6) In summary, this report only provides part of the data which will be necessary for proper problem identification. A review and analysis of non-WHO health system research will be necessary to complete the picture. Only then can the strengths, weaknesses and problems be properly defined. A functional specification for each Member State can then be evolved and used as a guide for the direction and thrust of future research projects.
LIST OF HSR RESEARCH PROJECTS

CHINA
1985 Preparation of case study on urban primary health care development in Shanghai
? Smoking survey of the general adult population, students, and health professionals
? Blindness survey in ten brigades using outreach services from the health services
? Collaborative study on the risk approach in MCH in Shinyi country

FIJI
1983 Evaluation of PHC in Fiji
1985 Management development through HSR

JAPAN
1979 Research on the effect on health of inhabitants of a rural community expected to be brought by transformation of their living habits
1984 Development of urban primary health care (retrospective study) in community health development in Japan

KOREA
1976 Operation research study on basic health in Yongin Gun Gyeonggi Province
1979 Pattern of utilization of health care by the Korean Urban poor
Strengthening primary health care through effective supervision in rural Korea
1980 Bed capacity change in community hospital: A population ecological analysis of organizations
A sociological and operational study of case finding and treatment services in the tuberculosis control program
1981 Development of health resource allocation model in Republic of Korea
### Appendix A

**LIST OF HSR RESEARCH PROJECTS**

<table>
<thead>
<tr>
<th>Year</th>
<th>Description</th>
<th>Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1982</td>
<td>Service research on family planning and family health in rural Korea: Baseline studies and evaluation of health benefits attributable to an integrated family planning and maternal/infant care service</td>
<td>Protocol</td>
</tr>
<tr>
<td></td>
<td>Research and development project for the integration of primary health care in Saemaul Undong in Chollanando Province</td>
<td>Protocol/</td>
</tr>
<tr>
<td></td>
<td>Relative effect of the volume and mix of health services and other factors on the health status</td>
<td>on-going</td>
</tr>
<tr>
<td></td>
<td>Basic health survey in urban low income area</td>
<td>Abstract</td>
</tr>
<tr>
<td></td>
<td>Community partnership model in primary health care in Korea</td>
<td></td>
</tr>
<tr>
<td>1983</td>
<td>Evaluation of community health practitioners' program in Korea</td>
<td>Protocol/</td>
</tr>
<tr>
<td></td>
<td>Modification of health personnel allocation model in Korea</td>
<td>on-going</td>
</tr>
<tr>
<td></td>
<td>A study of how to improve infant feeding practices</td>
<td>Protocol</td>
</tr>
<tr>
<td></td>
<td>Morbidity study on the urban poor of Kwangju City, Chollanamdo Province</td>
<td>Protocol/</td>
</tr>
<tr>
<td></td>
<td>Development of management information system for the urban primary health care demonstration project</td>
<td>on-going</td>
</tr>
<tr>
<td>1985</td>
<td>Simulation models of financial positions of hospitals, patients and insurance carriers</td>
<td>Protocol</td>
</tr>
<tr>
<td></td>
<td>Determination of health manpower mix and geographical distribution in Korea</td>
<td>Protocol/</td>
</tr>
<tr>
<td></td>
<td>Physician distribution and health manpower policy in Korea</td>
<td>on-going</td>
</tr>
<tr>
<td></td>
<td>A benchmark study of the Nammyon comprehensive health demonstration project</td>
<td>Protocol</td>
</tr>
<tr>
<td></td>
<td>Preparation of a case study on urban primary health care development in the Republic of Korea</td>
<td>Report</td>
</tr>
<tr>
<td></td>
<td>Study and development of health services of health sub-centers</td>
<td>Protocol</td>
</tr>
<tr>
<td></td>
<td>Research and development project for school primary health care in Korea</td>
<td>Protocol/</td>
</tr>
<tr>
<td></td>
<td>Health care and hospital systems: A comparative study in the member states of WPRO</td>
<td>on-going</td>
</tr>
<tr>
<td></td>
<td>Research and development in the integration of community health practitioners' training in basic nursing curriculum in Korea</td>
<td>Protocol/</td>
</tr>
<tr>
<td></td>
<td></td>
<td>on-going</td>
</tr>
</tbody>
</table>
LIST OF HSR RESEARCH PROJECTS

- An experimental study for village health services through village health workers
- Cost analysis of hospital care in Seoul

MALAYSIA

1969 A study of local health services in Malaysia
1978 Epidemiology study on the risk approach in MCH
1979 Primary health care: Action oriented research to establish PHC in Iban community of Sarawak, Malaysia
  To train the Iban Manangs as a community health worker for primary health care
1981 Study of hospital utilization in Peninsular Malaysia
1982 A socio-health action oriented study to increase case finding and case holding in the leprosy control programme of Sarawak, Malaysia
1985 National health and morbidity survey in Peninsular Malaysia

PAPUA NEW GUINEA

1979 Operational research into the primary health care management of acute respiratory infection in the Asaro Valley, EHP, PNG
1980 Research and development project in New Ireland Province, PNG
  Operation research study on peripheral health services in PNG
1981 Health service research in the pneumonia research programme of the PNG Institute of Medical Research
  Rural health service project, PNG
1982 Operations research into aid posts and rural health services
  In-depth study on hospital expenditure
  Demographic denomination and epidemiology in Rigo District, PNG
  Analysis of expenditure patterns for provincial health services in four selected provinces
  Patient cost analysis at health facilities
Appendix A

LIST OF HSR RESEARCH PROJECTS

PHILIPPINES

1973  A study to increase efficiency of health services in the province of Rizal, Philippines : Report
1977  Research and development project Carigara catchment area, Leyte, Philippines : Report
1978  Rural-urban doctors in southern Tagalog area: A social psychological comparison
      Study of the health knowledge, attitudes and practices of schistosomiasis of the people of Leyte : Abstract
1979  Utilization of mothers, teachers and school children for some aspects of primary health care in Philippine barangay
      A study of the effectiveness of the community based health education programme in Ae. Aegypti larval control
      Community wide study on provision of water sealed toilets and water pumps
      Establishment of a mortality reporting system at the village level
      WHO collaborative study on strategies for extending mental health care
      Mobilization and re-structuring of health manpower : 
1982  Study of hospital utilization in the Philippines : Report
1983  The expansion of urban primary health care in Manila : Abstract
1984  Utilization of a volunteer UP-IHS community health worker as a full time schistosomiasis control worker employing the primary health care approach and relentless leadership : Protocol
1985  Strengthening the efficiency and effectiveness of emergency hospitals in the Phil.: A demonstration project
      Development of urban primary health care in Manila : 
      The community based rehabilitation programme in the Visayas area : 
      Feasibility studies on PHC in the work place in the Philippines : 
      Study on the smoking habits of physicians : 
      Survey on hypertension : 
      Feasibility study on multi-drug therapy in leprosy : 

Appendix A

43/44

? Cost analysis of immunization in rural and urban areas

? Evaluation on the use of traditional healers as primary suppliers of oral rehydration mixtures

? Pattern of financing health services at the local level in the Philippine rural setting

? Evaluation of barangay health workers project in Tanay, Rizal

? Evaluation of referral and follow-up system of a government tertiary medical center
WORLD HEALTH ORGANIZATION/WPRO
Health System Research
Project Information Sheet

Record No.
Data prepared by:
Name:
Address:
Date:

1. Country

2. Title of study

3. Present status:
   1. completed, report available
   2. completed, report in preparation
   3. completed, no documentation
   4. ongoing
   5. protocol submitted for funding
   6. protocol being prepared
   7. initial outline prepared

4. Duration (in months)
   Date started/expected start:________________________
   Date completed/expected completion:__________________

5. Classification of project:
   1. Relations between health services and social setting
   2. Determination of health needs/demands of the population
   3. Production and distribution of resources
   4. Organizational structure/components of the health system
   5. Studies of the delivery of health services
   6. Administration of health services
   7. Economic analysis
   8. Programme evaluation
   9. Community participation in health services

6. Project objectives:

7. Research methodology analysis
   1. Descriptive
   2. Analytical
   3. Evaluative
   4. Developmental
8. Approach to be used:
   1. Operations research
   2. Systems analysis/simulation
   3. Functional analysis
   4. Information systems
   5. Cost analysis
   6. Financing mechanism
   7. Economic analysis
   8. Anthropology
   9. Sociology
   10. Social psychology
   11. Statistics
   12. Mathematical modeling
   13. Epidemiological analysis
   14. Development of measurement indicators
   15. Survey

9. Expected contribution of study:
   9.1 By programme
      (See Annex 1 - Classified List of WHO Programmes)
   9.2 By concern
      1. Operation (service delivery)
      2. Technology
      3. Manpower
      4. Management
      5. Cost and financing
      6. Policy
      7. Methods
      8. Primary health care implementation
      9. Others

10. Responsibility for the study
    10.1 Agency
        Address
    10.2 Person
        Address

11. Study generated by
    1. Institutional initiative
    2. National institution other than the one executing project
    3. Initiative of a foreign organization
    4. Initiative of the principal investigator
    5. Other

12. Institution responsible for study execution
    1. Ministry of Health
    2. Other Ministries
    3. Research Institute
    4. Educational Institution
    5. Other
WORLD HEALTH ORGANIZATION
Health System Research
Project Information Sheet

13. Type of institution executing the project
   1. Public
   2. Private

14. Coverage of the project
   1. National level
   2. Regional level
   3. Of a locality
   4. Of a hospital
   5. Of an outpatient service or center
   6. Others

15. Total number of technical and scientific personnel collaborating in the project

16. Professional involved in the development of the project (0=no; 1=yes)
   - Physician
   - Physician - specialist
   - Physician - specialist in Public Health
   - Dentist
   - Nurse
   - Engineer
   - Administrator
   - Economist
   - Social scientist
   - Educator
   - Others

17. Funding source and amount
   - National public fund
   - National private fund
   - International organization
   - Foreign government funds
   - Foreign private agency funds
   - Others
Appendix B

WORLD HEALTH ORGANIZATION
Health System Research
Project Information Sheet

18. Manner in which research results have been or are being presented
   __1. Confidential report only
   __2. Public document
   __3. Publication of article(s)
   __4. Publication of book(s)
   __5. Thesis
   __6. Combination of all of the above
   __7. Others

19. List the most important publications resulting from the project

   1.

   2.

   3.

20. Findings (for completed study only)

21. Application of findings
### Classification of Research Projects

<table>
<thead>
<tr>
<th>1. Relations between health services and the social setting</th>
<th>1.1 economic and social structure</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>- economic sectors</td>
</tr>
<tr>
<td></td>
<td>- living conditions</td>
</tr>
<tr>
<td></td>
<td>- education</td>
</tr>
<tr>
<td></td>
<td>1.2 national policies for health and other sectors</td>
</tr>
<tr>
<td></td>
<td>1.3 laws and regulations</td>
</tr>
<tr>
<td>2. Determination of the health needs/demands of the population</td>
<td>2.1 morbidity studies</td>
</tr>
<tr>
<td></td>
<td>2.2 mortality studies</td>
</tr>
<tr>
<td></td>
<td>2.3 disability studies</td>
</tr>
<tr>
<td></td>
<td>2.4 risk studies</td>
</tr>
<tr>
<td></td>
<td>2.5 others</td>
</tr>
<tr>
<td>3. Production and distribution of resources</td>
<td>3.1 analysis of human resources training</td>
</tr>
<tr>
<td></td>
<td>- development</td>
</tr>
<tr>
<td></td>
<td>- utilization</td>
</tr>
<tr>
<td></td>
<td>- distribution</td>
</tr>
<tr>
<td></td>
<td>3.2 physical installation</td>
</tr>
<tr>
<td></td>
<td>- development</td>
</tr>
<tr>
<td></td>
<td>- utilization</td>
</tr>
<tr>
<td></td>
<td>- distribution</td>
</tr>
<tr>
<td></td>
<td>- regulation</td>
</tr>
<tr>
<td></td>
<td>3.3 supplies (incl medicine)</td>
</tr>
<tr>
<td></td>
<td>- sources</td>
</tr>
<tr>
<td></td>
<td>- cost</td>
</tr>
<tr>
<td></td>
<td>- production</td>
</tr>
<tr>
<td></td>
<td>- distribution</td>
</tr>
<tr>
<td></td>
<td>- consumption</td>
</tr>
<tr>
<td></td>
<td>- regulation</td>
</tr>
<tr>
<td></td>
<td>- legislation</td>
</tr>
<tr>
<td></td>
<td>3.4 technology</td>
</tr>
<tr>
<td></td>
<td>- evaluation</td>
</tr>
<tr>
<td></td>
<td>- regulation</td>
</tr>
<tr>
<td></td>
<td>- utilization</td>
</tr>
<tr>
<td></td>
<td>3.5 knowledge</td>
</tr>
<tr>
<td></td>
<td>- production</td>
</tr>
<tr>
<td></td>
<td>- education resources</td>
</tr>
<tr>
<td></td>
<td>- means of dissemination</td>
</tr>
<tr>
<td>4. Organizational structure and components of the health system</td>
<td>4.1 organized medicine</td>
</tr>
<tr>
<td></td>
<td>- public</td>
</tr>
<tr>
<td></td>
<td>- social security</td>
</tr>
<tr>
<td></td>
<td>- private</td>
</tr>
<tr>
<td></td>
<td>- voluntary</td>
</tr>
</tbody>
</table>
Appendix C

5. Delivery of health services

5.1 accessibility
5.2 coverage
5.3 primary care
   - impact of prevention/early detection of health problems
   - analysis of the activities of independent health workers
   - effectiveness of new types of health workers
5.4 secondary and tertiary care
   - hospital costs
   - quality of care
   - hospital stay
   - efficiency, utilization of external services
   - regularization
   - patient turn-over
   - manpower productivity
   - utilization of the different levels

6. Administration of health services

6.1 health service planning
6.2 supervision and leadership styles
6.3 decision making
6.4 supervision process
6.5 delegation of functions
6.6 coordination and integration of programs
6.7 information system
6.8 supply system
6.9 cost system

7. Economic analysis

7.1 sources from which the costs of health systems have been funded:
   - costs as proportion of GNP
   - sources of funding
     - public sector
     - social security
     - private sector
8. Program evaluation

9. Community participation in its relationship to health services

7.2 cost items
- capital (equipment & installation)
- maintenance
- levels of care
  - primary
  - secondary
  - tertiary
- prevention levels
- programs
- multiplicity of supply of services and coverage

7.3 economic and social impact of diseases
- costs for treatment of preventable disease
- in relation to the individual
- in relation to the environment
- occupational accidents & diseases
- economic loss
- others

8.1 evaluation of the process
- operational standardization
- technical scientific standardization

8.2 evaluation of results
- efficiency (cost benefit)
- effectiveness (impact)
- effectualness (production)
METHODOLOGY FOR THE ANALYSIS OF RESEARCH

1. Descriptive - involving a simple description of a particular health situation. Example - basic statistical data on a population, a description of a health program.

2. Analytical - the exploration of relationships between variables. Example - statistical studies relating age to utilization of services.

3. Evaluative - establishes cause-and-effect relationships by a careful comparison of two or more situations. Typically requires deliberate selection of a situation that covers all the different aspects of the system. A specific intervention is then introduced, observations are made, and cause and effect relationships are established. These may be quasi-experimental or experimental comparative studies.

4. Developmental - process of evolving a theoretical model or an interventional action programme based on accumulated data. The research project is open ended at the start, but after the evaluation of the data, alternative action programmes are generated, the best alternative is tried, and the results are evaluated.
<table>
<thead>
<tr>
<th>CLASSIFICATION BY PROGRAMME</th>
<th>APPENDIX E</th>
</tr>
</thead>
<tbody>
<tr>
<td>03 Health system development</td>
<td>03.1 Health situation and trend assessment</td>
</tr>
<tr>
<td></td>
<td>03.2 Managerial process for national health development</td>
</tr>
<tr>
<td></td>
<td>03.3 Health systems research</td>
</tr>
<tr>
<td></td>
<td>03.4 Health legislation</td>
</tr>
<tr>
<td>04 Organization of health systems based on primary health care</td>
<td>08 General health protection and promotion</td>
</tr>
<tr>
<td>05 Health manpower</td>
<td>08.1 Nutrition</td>
</tr>
<tr>
<td>06 Public information and education for health</td>
<td>08.2 Oral health</td>
</tr>
<tr>
<td>07 Research promotion and development</td>
<td>08.3 Accident prevention</td>
</tr>
<tr>
<td>08 General health protection and promotion</td>
<td>09 Protection and promotion of the health of specific population groups</td>
</tr>
<tr>
<td>09 Protection and promotion of the health of specific population groups</td>
<td>09.1 Maternal and child health, including family planning</td>
</tr>
<tr>
<td></td>
<td>09.2 Human reproduction research</td>
</tr>
<tr>
<td></td>
<td>09.3 Workers' health</td>
</tr>
<tr>
<td></td>
<td>09.4 Health of the elderly</td>
</tr>
<tr>
<td>10 Protection and promotion of mental health</td>
<td>10 Protection and promotion of mental health</td>
</tr>
<tr>
<td></td>
<td>10.1 Psychosocial factors in the promotion of health and human development</td>
</tr>
<tr>
<td></td>
<td>10.2 Prevention and control of alcohol and drug abuse</td>
</tr>
<tr>
<td></td>
<td>10.3 Prevention and treatment of mental and neurological disorders</td>
</tr>
<tr>
<td>11 Promotion of environmental health</td>
<td>11 Promotion of environmental health</td>
</tr>
<tr>
<td></td>
<td>11.1 Community water supply and sanitation</td>
</tr>
<tr>
<td></td>
<td>11.2 Environmental health in rural and urban development &amp; housing</td>
</tr>
<tr>
<td></td>
<td>11.3 Control of environmental health hazards</td>
</tr>
<tr>
<td></td>
<td>11.4 Food safety</td>
</tr>
</tbody>
</table>
Appendix E

12 Diagnostic, therapeutic and rehabilitative technology
12.1 Clinical laboratory and radiological technology for health systems based on PHC
12.2 Essential drugs and vaccines
12.3 Drug, vaccine quality, safety and efficacy
12.4 Traditional medicine
12.5 Rehabilitation

13 Disease prevention and control
13.1 Immunization
13.2 Disease vector control
13.3 Malaria
13.4 Parasitic diseases
13.5 Tropical disease research
13.6 Diarrheal diseases
13.7 Acute respiratory infections
13.8 Tuberculosis
13.9 Leprosy
13.10 Zoonoses
13.11 Sexually transmitted diseases
13.12 Smallpox eradication & surveillance
13.13 Other communicable disease prevention & control activities
13.14 Blindness
13.15 Cancer
13.16 Cardiovascular diseases
13.17 Other non-communicable disease prevention & control activities

14 Health information support
CLASSIFICATION BY CONCERNS

1. Operation
   1.1 Defining operational procedures
   1.2 Evaluation of operational procedures
   1.3 Preparation of manual or other operational documentation

2. Technology
   2.1 Development and evaluation of appropriate technology
   2.2 Management/use of technology

3. Manpower
   3.1 Function/task analysis
   3.2 Management of manpower
   3.3 Training methodology
   3.4 Development of new categories of health workers

4. Management
   4.1 Planning
   4.2 Supervision
   4.3 Logistics
   4.4 Resource allocation
   4.5 Information requirements

5. Cost and financing
   5.1 Budgeting
   5.2 Cost analysis
   5.3 Cost effectiveness

6. Policy
   6.1 Policy identification
   6.2 Policy promotion

7. Methods
   7.1 Identification and testing of new methods

8. PHC implementation
   8.1 Community involvement
   8.2 Involvement of other sectors
   8.3 Awareness and health behavior
   8.4 Provision of basic services

9. Others
1. Introduction

The literature in health services research covers a wide variety of methods for generating information about existing problems in a health service and for recommending alternative solutions. However, the majority of these methods which include, among others, evaluative research, operational research, field trials, comparative research, longitudinal studies, case studies, etc. assume the need to maintain and improve the functioning of existing decision-making structures and processes in the health system.

As a policy, Primary Health Care establishes an approach which, from a public health perspective, conforms with that profession's values, norms and desired practices. Yet, the operational interpretation or translation of this approach requires fundamental changes in the structure and management processes of health care systems existing today. The reason for these changes is that there has been a fundamental shift in the synergy of the determinants of health in any given community. The continuously changing socio-economic environment - even in rural villages - affects not only the health status of the population but the effectiveness, efficiency and equity with which health technologies are allocated and used. These conditions have given rise to growing numbers of uncontrollable variables whose effects on potentially vulnerable population groups must be recognized. If these are recognized and the PHC approach implemented as a means of attaining the Goal of HFA 2000, then there is a need to develop organizational structures and managerial processes in the health care system which respond to these contingencies.

It follows therefore, that in a continuously changing and dynamic environment, there is a need to select a methodology for research and development (R&D) which will enable its proponents to design and develop health systems which are organizationally adaptive. The R&D experience in PHC in the Western Pacific Region of WHO provides both a framework and a method for attaining this end.

---

1. Regional Adviser in Primary Health Care, WHO/WPRO.
2. Technical Officer, Management Training Support, WHO/WPRO.
2. A Framework for Health Systems Development based on Primary Health Care

Changing any large and complex system must be undertaken in small incremental steps. Research and development in Primary Health Care is an incremental approach to develop practical solutions to operational problems. Realigning the entire health care delivery system towards a PHC approach requires that even the initial R&D activities be undertaken in the context of an overall framework for health systems development. Implemented in the context of this framework the findings of the R&D can be more effectively interpreted and more widely adapted and applied to realign the system.

The goal of HFA 2000 requires that all peoples should be able to maintain a socially and economically productive life by the year 2000. It does not preclude the existence of diseases but is based on the assumption that its attainment can only be realized through a partnership between communities and the health care delivery system. In this interdependency there is an implied need for specific interventions to develop both entities so that they can relate effectively as partners. See figs. 1, 2 and 3.

The realignment of the health system will occur through three interrelated but separate interventions. The first is research and development to generate and monitor information about changing health and socio-economic conditions in the community. The second is the strengthening of health services, particularly the realignment of structures and management processes for decision making at all levels, and the third is through intersectoral action to support health development activities in the communities.

A parallel effort in the community requires interventions, which establish a functioning community organization for health development, mobilize local resources and provide a context for community education programmes.

The essential link in the developmental process of both these entities is the R&D. It is a joint activity between the health care system and the community it serves.
3. The Design and Implementation of R&D

R&D for PHC is a scientific method to identify operational problems and develop appropriate solutions for improving effectiveness of health care delivery in the context of a dynamic social and economic environment. It is a participative process which includes the researchers, the decision makers, the health services personnel and the community where it is being undertaken. Its objective is to develop appropriate interventions which respond to the changing situation in the community. In the end, its ultimate aim is to change the way its practitioners think about problems and interventions in health care and health development.

R&D is also an approach to research which is holistic and systemic. In examining the causes of health problems in a community, it embraces the interrelationship between health care issues and socio-economic factors which affect health. It allows cultural and political values to be integrated in the situations which are developed. As a result, these solutions provide a clearly defined role for the technical support required from government and funded agencies. See fig. 4.

The procedure for implementing R&D should be seen as a continuous cycle which is divided in stages.

Stage 1 is the definition of the problem. This usually consists of collecting information about the situation and comparing the findings to what is desirable to achieve. The gap between "what is" and "what should be" is the problem to be solved.

Stage 2 is the setting of one or more hypotheses about how the problem(s) can be solved. Writing hypothesis requires a classification of assumptions and descriptions of conceptual frameworks or models which could be used to generate alternative solutions to the problem(s).
Annex 7

Stage 3 is the design of alternative solutions. This stage requires that concepts and assumptions be translated into systems and procedures which can be used by operational people or individuals who are concerned with the problem(s) identified. Design criteria and performance indicators for workable solutions should be established at this stage.

Stage 4 is the testing of alternative solutions. This requires all participants to use the methods and procedures and/or technologies developed to solve the problem and assess their effectiveness and suitability according to hypothesis, criteria and indicators established in stages 2 and 3. This is also the stage in which participants in the R&D process modify solutions at the time of testing based on the immediate feedback they receive.

Stage 5 is the consolidation of the solutions developed which become part of the health system's routine methods and procedures to address the continuing health development issues or health care problems in the community.

Stage 6 is once again redefining the problem. The introduction of any new methods and procedures in the health system or in the organization and management of community health development projects inevitably creates "secondary" problems. For instance, the optimum effectiveness of a revised information system may well require changes in the approaches and methods of supervision and the methods of continuing education of community leaders or health workers. These issues then, form the basis of the next R&D problem related to the realignment of the health care system.
All six stages can be viewed as a cycle, as illustrated below:

In practice, there are some practical steps which should be followed to initiate the R&D. The first is to identify an "R&D area". Usually this should consist of a geographic location which has a health system consisting of one hospital and a number of health centres which serve a population of approx. 100,000 depending on the size of the country. This area could either be in a rural or urban setting.

The second step would be to identify one or two communities where health workers can conduct a quick survey of the health situation. The workers must be trained, not only in the conduct of the survey but in how to interpret their findings in health development terms.
Annex 7

The third step is for the health workers to reach a consensus on the problems they have identified and prepare a plan of action to include community organization and participation in the R&D process.

The fourth step is to engage selected communities by presenting the problems for discussion and clarification.

The fifth step is to prepare a plan of action with the community to initiate health development activities as part of the R&D.

These five steps usually take approximately two to three weeks to accomplish if preliminary discussions and agreements have been reached with higher level authorities in the health system. However, once initiated the focus shifts to the maintenance and expansion of the R&D process.

The management of the R&D process requires the support of a small core team usually composed of an epidemiologist, a health planner, a senior public health administrator and a public health nurse. Since one of the major goals of the R&D is to generate information to monitor the health status of the communities and the effectiveness or responsiveness of the health care system, a small computer is required. This essential tool calls for the support of a programmer analyst who can ensure its effective use. Together with the other team members, the role of this group is to facilitate the R&D activities being implemented by the health services staff and the communities. This facilitation extends developing and monitoring group process, supporting group consensus and decision making, providing technical materials or references as required and conducting training in various aspects of the R&D method. At a higher level, the work of the core group is to act as an assessment centre, identifying problems and opportunities for expanding the applications of R&D solutions or findings to other parts of the health system. Another important work of this group is to act as liaison between other sectors including universities, educational institutions and interested institutions which could provide support to the R&D.
Expanding the R&D is, in part, accomplished through the assessment and monitoring of the core group. However, due to the experiential learning approach used in the R&D, a systematic effort must be organized to reorient health workers in other parts and at other levels of the health system. This reorientation towards an R&D approach to problem solving creates a readiness and an ability to adapt R&D findings to other situations. This process of reorientation can be achieved through a series of learning experiences which are called the technical and the management series.

The technical series can be organized as a scheduled sequence of informal meetings among health workers for the purpose of examining and discussing medical and public health problems of the communities they serve. During these meetings they identify the determinants of the problem(s) and relate these and other issues to available technical knowledge on the subject.

The management series, on the other hand, is designed to reinforce a team approach to problem solving in health care delivery and its support to community health development projects. The management series can be conducted with health centre teams, hospital teams or combinations of both. The issues discussed relate to constraints on the effectiveness and efficiency of the system. Topics like intersectoral coordination, referral systems, reporting systems, supervisory methods, drugs and medical supplies, health care financing are usually discussed in the context of the actual functioning of the health services of that area.

Each of these series not only provides a basis for reorientation but also identifies potential areas for R&D activities. To sustain these series requires the involvement and support of the training arm of the health services.

Initiating and managing R&D requires a clear plan of action for each year of operation and sufficient resources to acquire and maintain essential support staff, equipment and supplies. In the past, the cost of R&D has been around US$.50 per capita in rural and urban areas depending on the size of the population served.
Annex 7

4. WPRO Experiences in R&D

- Philippines
- People's Republic of China
- Malaysia
- Republic of Korea
- Papua New Guinea

5. Epilogue

WHO/WPR, in collaboration with Member Governments, has spent the past 10 years in applying and expanding its understanding of a Research and Development methodology for implementing Primary Health Care. Although it is more time consuming as a research method, its application has resulted in some significant insights about the translation of PHC as a policy into an operational system. Because it is a method which relies on a non-formal educational approach for its implementation, it has had significant impact on the professional skills of health workers who have been intimately involved in its use. Finally, its expanding use is providing sufficient information to develop the necessary organizational, managerial and technical frameworks to guide the future efforts to redirect and realign health care systems which can support primary health care as an approach to achieving Health for All by the year 2000.
Development of Health Systems based on Primary Health Care

- Village Network
- Village Development Committee
- Organizing Mass Campaign
- Organizing Educational Activities
- Contribution to Community Development project
- Provide manpower for community action
- Community Organization

- Mass Education
- Mobilizing Local Resources

- Partnership

- Health Manpower Development
- Intrasectoral Coordination
- Strengthening Support Systems
- Basic needs development
- Environmental Protection
- Health Information monitoring change
- Generation of Health related Information
- Community Organization/participation

- Strengthening Health Services
- Intersectoral Coordination
- Research and Development

- Community Health Development
- Community Development
- Community Development project

Fig 1
Strengthening health services

- Health Manpower Development
  - Training/reorientation to PHC and community work
  - Continuing education
- Intrasectoral coordination
  - Joint planning exercise technical programmes
- Intrasectoral supportive system
  - Management and technical series
  - Improvement planning processes
  - Improvement logistics/referral system
- Basic needs development (food/water/shelter)
  - Income generating activities
  - Improvement of food/water/housing facilities
- Environment
  - Human and solid waste disposal
  - Improvement of living condition
- Health information
  - Development of 1st reporting system on health and development
- Monitoring change
- Generation of Health related information
  - Interrelationship of health/disease and other factors: social, cultural, economic and seasonal
- Community organization/participation
  - Development of community network, community diagnosis. Understanding community dynamics
Community Input in Primary Health Care

Communication channel
Coordination existing structure

Village health development committee
Intersectoral coordination

Child weighing
Nutrition campaign
Environmental sanitation campaign etc.

Sewing/cooking
Income generating activities

In kind
Manpower
Fund raising

Selection of VHW
Election of village network members

Community organization

Village Network

Village Development Committee

Organizing Mass Campaign

Organizing Educational Activities

Contribution to Community development proj

Mobilizing Local Resources

Provide manpower for community action

Fig 3
Design for R&D at Community Level

Problem area 3
Technical support
Referrals
Monitoring

Problem area 2

Problem area 1

Community
Wellbeing
Health status

Primary healthcare

Community
Development

Government and
Private Agencies

Government and
Private Agencies

Healthcare

Content

Delivery

Environment

Socio-economic factors