Health Systems Research Institute Plan

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EXECUTIVE SUMMARY

INTRODUCTION

Health Systems Research (HSR) is a branch of research which investigates health-affecting factors in health systems and applies this knowledge to solve health problems of the people. Included among the factors are several economic, social, political and cultural variables along with health services. In principle, main users of HSR are public health executives and policy makers. Therefore, HSR needs to be developed with users' inputs as well as from various disciplines (e.g., epidemiology, population science, social and behavioral sciences, and health economics) on an integrated and team-approach basis.

The World Health Organization (WHO) states that HSR is an essential component to achieve the Health for All (HFA) goal. Because of fundamental differences in economic, social, political and cultural systems within countries, experiences in HSR of one country may not be readily transferable to another. In other words, HSR data should be developed locally. For Thailand, recent rapid changes in the economy, politics and society emphasize the need for such local development. For example:

- An increase in the Thai people's real personal income is reflected in an increasing demand for quality health care, which, in turn, fosters a rapid expansion of the private health care industry. However, the private sector is not available and accessible to all groups and is causing a serious brain drain problem for the public sector.

- Although health insurance in industrial sectors is relatively well-developed in Thailand, people in agricultural sectors, which are less formalized, are mostly left uninsured or under-insured. In addition, few initiatives have been made on how to provide health insurance to these people. There is an urgent need to propose and test potential models to serve the purpose of universal health insurance coverage.

- Recent rapid economic growth and development has led to significant alterations in the Thai people's lifestyles, production and consumption patterns. This has resulted in many environmentally-related problems which affect people's health directly or indirectly. There are currently no effective mechanisms to deal with such problems.

Establishment of the Health Systems Research Institute (HSRI) is therefore considered a key step in the history of Thailand's public health development. It is hoped that this development will lead us to a more efficient way to improve the Thai people's health status and, at the same time, serve as a model for other countries.

MISSIONS

HSRI is mandated to carry out three main missions:

- generating and accumulating data and knowledge needed by public health executives and policy makers;
- establishing a network between the Institute and other research and academic institutions to promote quality HSR in a continuing fashion; and
- encouraging rational utilization of HSR data and findings by public health executives and policy makers in order to formulate sound health policies, develop appropriate health strategies and programmes, and modify existing curricula for health and medical professionals to better suit the needs of the country, as well as for allowing the Thai people to make better decisions for their own health.

STRATEGIES

The aforementioned missions can be accomplished through the following four strategies:

- forming a direction for future HSR in Thailand involving various institutions;
- collaborating with other research and academic institutions to form a network of organizations or personnel for HSR;
- developing research capability in health systems and establishing HSR databases; and
- close communication with public health executives and policy makers.

MAIN ACTIVITIES

In order to attain the goals of establishing networks of organizations working in the same direction, encouraging use of local HSR to solve area-specific health problems, and effectively communicating knowledge, data and information to and with public health executives and policy makers, the HSRI has defined its main activities as follows:

- setting up HSR policy and direction in accordance with Thailand's Five-Year National Health Development Plan;
- serving as a funding agency for HSR questions of high priority;
- providing technical supports to local health services units through its collaborative network with other in-country and foreign institutes in the form of consultations or joint research activities;
- conducting research studies on questions that need immediate answers,
- organizing forums for presentation of important study findings to public health executives and policy makers;
- establishing HSR databases and an HSR network;
- convening expert groups to develop a body of knowledge and improve the quality of HSR; and,

- raising funds from within and outside the country to support HSR activities.

FIRST FOUR-YEAR PLAN (1993-1996)

In the first four years, six different programmes have been proposed by the HSRI.

1. Programme on HSRI Network Development

This plan is to coordinate with other research and academic institutions from within and outside the country to form a network. Discussions at top levels will be done with at least six universities, namely, Chulalongkorn, Thammasart, Chiang Mai, Khon Kaen, Prince Songkhla's, and Mahidol. The network will be expected to set the direction for future HSR in Thailand, to share limited resources and personnel, and to establish coordinating mechanisms for HSR in the future.

2. Programme on Identification of National HSR Priorities

With this plan, the direction for future HSR in Thailand will be established. This direction will be made clear to other concerned organizations, either funding or research and academic, so that all parties can coordinate with one another properly.

3. Programme on HSR Research and Support

Through coordinating mechanisms with other experts and institutes, HSR will be encouraged and supported in the set direction. Research conducted by the HSRI will be limited to only problems needing an urgent answer.

4. Programme on Promotion of Area-based HSR Application for Local Health Development

In addition to existing health information, recording and reporting systems, local development and utilization of HSR will be promoted at every step of the public health programme, namely, planning, implementation, monitoring and evaluation. This will ensure that information relevant to the locality would be generated to support the decision making process.

5. Programme on HSR Capacity Development

Personnel from various services units, research and academic institutions, and other agencies will be developed to increase their capacity to conduct quality HSR.

6. Programme on Promoting the Utilization of HSR Findings

As appropriate for each issue or problem, the use of HSR findings in policy formulation, public health administration, technical development, and health behavior modification will be encouraged.

INTRODUCTION

SITUATION

The World Health Organization (WHO) states that in order for a country to achieve the Health For All (HFA) goal, it must use Health Systems Research (HSR) as one of its means. Further, HSR must be developed locally since experiences from other countries may not be entirely applicable to local situations due to differences in economic, social, political and cultural conditions.

Both developed and developing countries need HSR to obtain necessary information for rational health policy formulation as well as efficient public health program planning and implementation. For example, the United States has used HSR to develop appropriate payment schemes for medical and health professionals as well as to extend health insurance coverage to the uninsured and the under-insured. In several other countries, however, HSR has had limited success due to various constraints. It is hoped that establishment of the HSRI in Thailand will be a more effective strategy, an important step in the history of public health development, and serve as a model for other countries.

Thailand's need for systematic HSR and a coordinating body like the HSRI has arisen due to rapid economic and social changes which have had significant impacts on health services and people's health status. For example, rapid economic growth has caused an increase in real personal income, and people with high incomes tend to pay more attention to their health and demand more and better-quality services. This demand accelerated the private sector in getting into the health care business. However, private health services are not accessible to low-income people who still turn for services to the governmental sector. In addition, expansion of the private sector is a strong pull factor for medical and health professionals to move from public to private and/or from rural to urban areas. This brain drain problem is a serious threat to the survival of public health sector services.

Second, while the Social Security Act of 1990 established a relatively good health insurance scheme for workers in industrial sectors, most of those working in agricultural sectors are still uninsured or under-insured. To achieve universal health insurance coverage for all Thais, it is necessary to find appropriate ways to extend the scheme to those people. Simultaneously, the overuse or abuse of health services must be prevented since national spending for health has been rising astronomically. Specifically, about 99,000 million Baht per annum is spent for health with a yearly rate of increase of 11% which is higher than the average growth rate of the Gross National Product (GNP).

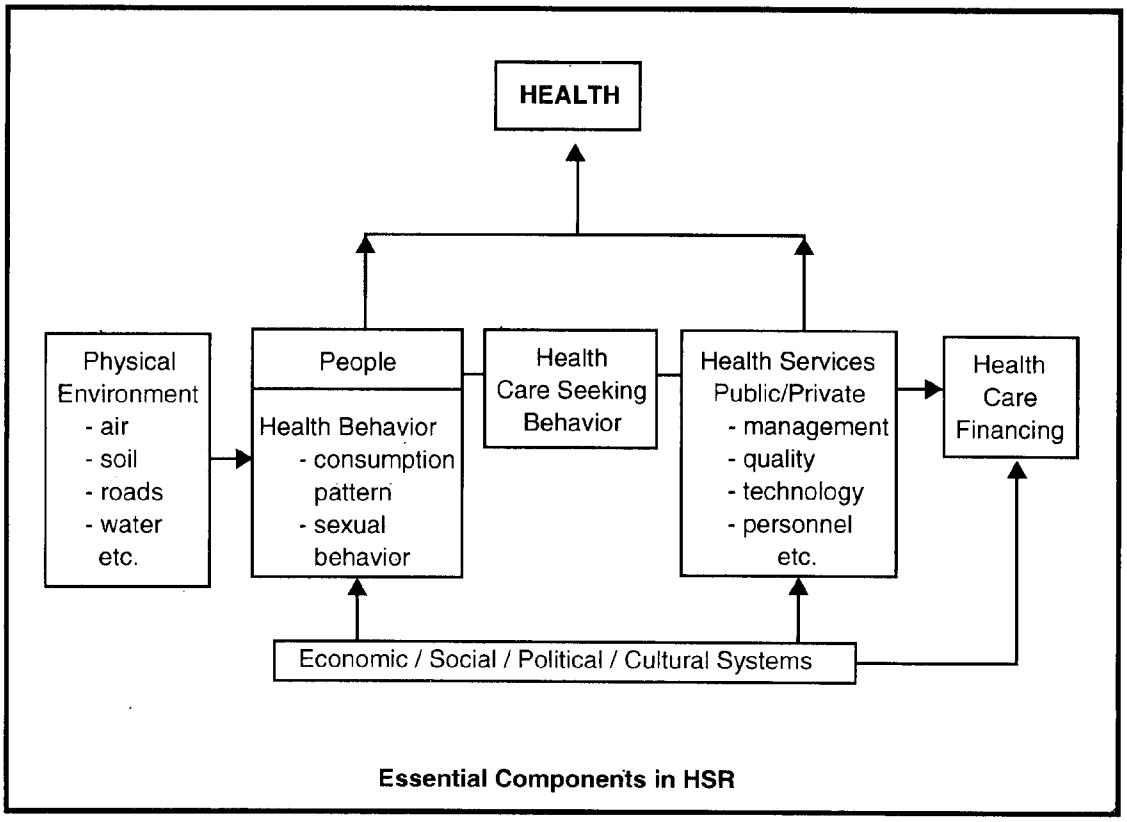
Further, private health services sectors have grown rapidly in recent years. However, expansion is largely concentrated in Bangkok suburbs and major cities, and services are predominantly curative. We need to develop appropriate policies and measures to ensure that services are extended to people on a wider scale and that preventive and promotive

services are also provided.

Rapid national development is also accompanied by several dramatic changes in people's lifestyles, production and consumption patterns, and environmental degradation. Such changes affect health directly or indirectly. If we are to deal with these problems more efficiently, we need to understand the problems and muster efforts from various organizations to solve them.

The cases illustrated above demonstrate a clear need for Health Systems Research (HSR). Currently, HSR activities in Thailand are limited to a group of small circles of academicians who do not or barely coordinate with one another. HSR's role thus needs to be expanded so that it can be of wider use for policy formulation and implementation.

Moreover, HSR is different in nature from other health research in that it mainly serves public health executives and policy makers. Therefore, HSR has to be based on real problems of the country, meet users' needs, and have policy linkages.



Essential Components in HSR

MISSIONS AND STRATEGIES

MISSIONS

The HSRI is mandated to accomplish three main missions, namely:

- generating and accumulating data and knowledge needed by public health executives and policy makers;
- establishing a network between the Institute and other research and academic institutions to promote quality HSR in a continuing fashion; and
- encouraging rational utilization of HSR data and findings by public health executives and policy makers in order to formulate sound health policies, develop appropriate health strategies and programmes, and modify existing curricula for health and medical professionals to better suit the needs of the country, as well as for allowing the Thai people to make better decisions for their own health.

STRATEGIES

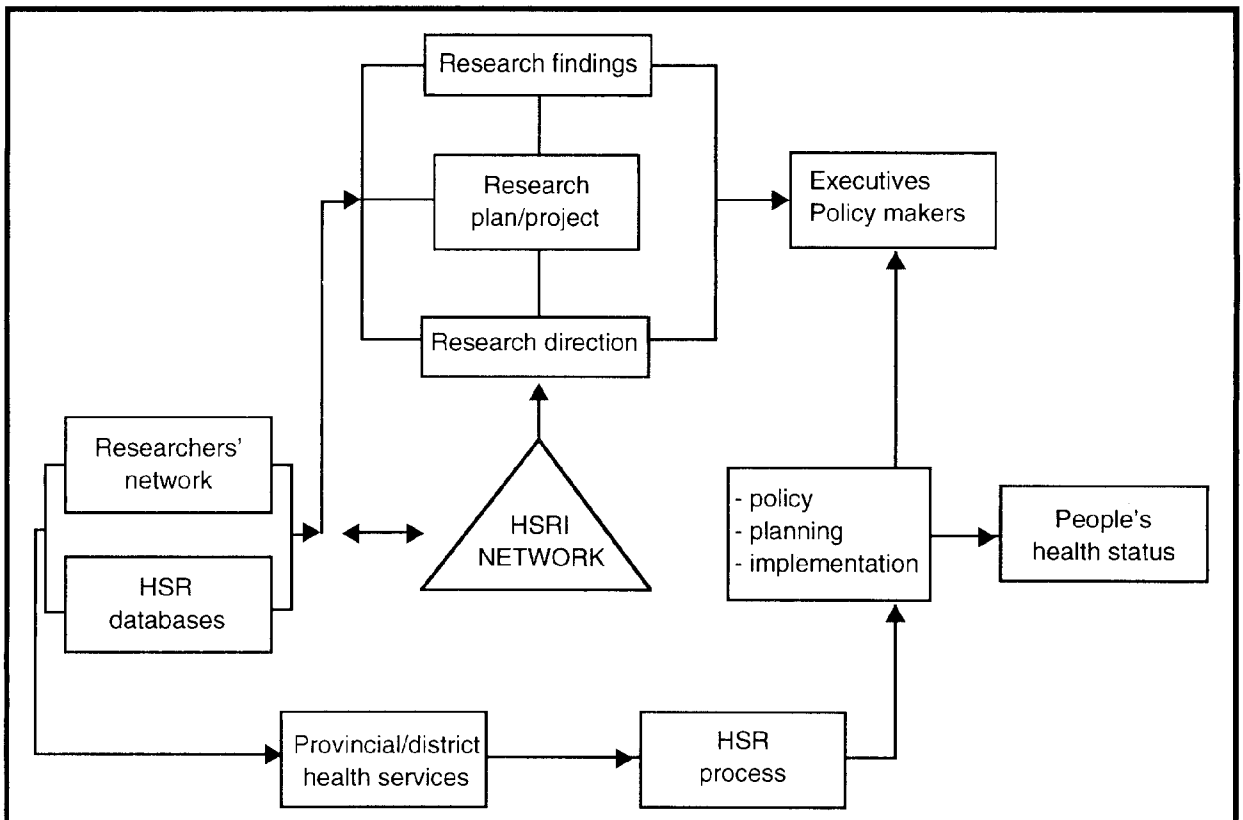
The aforementioned missions can be accomplished through the following four strategies:

- forming a direction for future HSR in Thailand involving various institutions;
- collaborating with other research and academic institutions to form a network of organizations or personnel for HSR;
- developing research capability in health systems and establishing HSR databases; and
- close communication with public health executives and policy makers.

Following are details which elaborate the strategies outlined above.

Forming a Direction for Future HSR in Thailand Involving Various Institutions

One main weak point of previous health-related research in Thailand is the under-utilization of study results for policy making. This may be in part because studies were done without a clear and systematic approach to the problems being researched, an awareness of their relationship to the policy making process and/or the way results need to be meaningfully communicated to policy makers. In other words, there is a need for a clear



Network and Strategies for Health Systems Research Development

HSR direction which is highlighted even more by Thailand's rapid economic, social and political changes. To be most effective, this direction should be established with contributions from experts in various fields to ensure that it is comprehensively well-outlined and has taken into consideration the multi-faceted nature of health. The HSRI fully realizes the importance of this direction forming and has ranked this strategy as its top priority.

Collaborating with Other Research and Academic Institutions to Form a Network of Organizations or Personnel for HSR

The HSRI considers this strategy as another important step for its short- and long-term operations. Involvement of other institutions will be instrumental in the Institute's success in terms of institutional policy making, research direction setting, project implementation and monitoring, and project quality control. The HSRI recognizes that advantages of such a collaboration over the Institute's self-sufficiency are astronomical. First, such collaboration will help set up a more comprehensive direction for future HSR. Furthermore, the collaboration will encourage the exchange of research knowledge, data and experiences between the Institute and the other institutions. Third, the collaboration will facilitate the Institute in accomplishing its mission in generating and accumulating knowledge needed for further investigation. Moreover, without such collaboration, the Institute would not be in a position to draw from its own boundary the

expertise needed from other fields. Fifth, collaborating institutions can also provide technical consultation to local HSR investigators as a means to improve their research capabilities in the field of health systems. Lastly, such collaboration will allow the Institute to stay small but remain efficient, which will save tremendously on administrative expenses.

The HSRI also realizes that some conditions need to be met if it is to fully benefit from collaborating with other institutions. Firstly, the Institute's staff must be well-trained and have sufficient understanding about HSR. The Institute must also develop its own capability in fund raising to support HSR. Third, the Institute must have an efficient plan to use funds wisely to achieve the its goals. Fourth, the Institute must establish and maintain mechanisms for close contact with the collaborating institutions. Finally, the Institute must make its missions, strategies and plans clear to collaborating institutions and funding agencies.

Although collaboration with in-country institutions is the focus of this strategy, the HSRI also would like to collaborate with and assist foreign institutions. The nature of such collaborations can come in various forms including research funding support. However, the Institute views its fund raising activities as a way to serve its missions, not as a way to compete with other similar research institutes.

Developing Research Capability in Health Systems and Establishing HSR Databases

The needs and justifications for this strategy are reflected in HSR's complex and multidisciplinary nature which involves not only medical and health professionals, but also other scientists. Currently, there is a severe shortage of capable health system researchers and databases for HSR are virtually non-existent. Therefore, the HSRI proposes to develop and implement activities in three areas to overcome these limitations and to achieve Institute goals.

Researcher Development

Researchers from within and outside of the HSRI will be the targets for development. Despite the collaborative nature of the Institute as mentioned above, it is still necessary for the Institute to have a capable staff to act as good coordinators or liaisons with other institutions and to be able to conduct quick research as occasionally needed. The training methods to develop these staff members can be either formal or informal. Informal training includes professional conference attendance and an exchange program with other in-country or foreign research institutions.

The focus of researcher development lies, however, in potential investigators outside the Institute. Most of them are from research and academic institutions and already have some background knowledge in research methodology. Certain development strategies are useful to these people; for instance, inviting them to participate in some policy-linked HSR projects as a part of a multidisciplinary team, and providing them with research fellowships to increase their knowledge and experiences. The research fellowship may be used for non-degree study, in-country or abroad, as well as for conducting research on a topic related to Thailand's health systems. Personnel in health services units also need to be developed. They may be invited to take part in some HSR projects, granted research funds for their own study, or awarded research fellowships for in-country training.

Building a Body of Knowledge

There are several essential components for HSR including health economics, management science, evaluation methods, personnel development, and behavioral science. However, methodologies and techniques in these disciplines as applied to HSR are scattered and not adequately evaluated. It is one of the Institute's intentions to compile, analyze and synthesize this knowledge in a systematic fashion. Such compilation will benefit not only established but also prospective researchers in the fields of health systems. For example, it can be used extensively for training new health systems researchers. The body of HSR knowledge can be built up through several academic activities such as critiques of research findings, synthesis or meta-analysis of results from related studies, and research presentation and small group discussion. These activities will also serve as an important step to improve the quality of research before it is presented to public health executives and policy makers for further use.

Establishing HSR Databases

Existing HSR databases are very limited and under-utilized. The HSRI sees its role in motivating and coordinating with other libraries and technical information support centers to establish or improve databases for HSR in Thailand. The Institute will also serve as a liaison in seeking assistance from other in-country and foreign institutions for these activities.

One of the strategies to develop HSR databases is to be a part of a network of institutions where some of these databases already exist. By so doing, the Institute will be able to share with the other institutions facilities and personnel involved in HSR databases development.

Close Communication with Public Health Executives and Policy Makers

For any HSR findings to be useful for policy decision-making, they must be valid, reliable and timely as well as reflecting users' needs. In addition, they have to be easily understandable, readily usable and properly presented. This fact highlights the importance of developing strategies and establishing mechanisms for researchers to closely communicate and regularly coordinate with the users.

OBJECTIVES AND TARGETS

The HSRI's objectives and targets have been set to accomplish the above-stated missions as follows:

- setting up HSR policy and direction in accordance with the Five-Year National Health Development Plan,
- serving as a funding agency for important HSR questions,
- providing technical supports to local health services units through its collaborative network with other in-country and foreign institutes in the forms of consultation or joint research activities,
- conducting studies on research questions that require immediate answers,
- organizing forums for presenting important study findings to public health executives and policy makers,
- establishing databases and the network thereof for HSR,
- convening expert groups to develop a body of knowledge and improve HSR quality,
- raising funds from within and outside the country to support HSR activities.

FIRST FOUR-YEAR HSRI PLAN (1993-1996)

Since the HSRI was established one year after the beginning of the Seventh National Health Development Plan (1992-1996), the first plan of the Institute will last only four years so that it corresponds with the timing of this National Plan. There are six major programmes for the Institute's first four years of operation:

- Programme on HSRI Network Development,
- Programme on Identification of National HSR Priorities,
- Programme on HSR Conduction and Support,
- Programme on Plan for Promotion of Area-based Application of HSR for Local Health Development,
- Programme on HSR Capacity Development, and
- Programme on Promoting the Utilization of HSR Findings.

The objectives and operational activities of these programmes are outlined as follows; further details can be found in the appendices.

PROGRAMME ON HSRI NETWORK DEVELOPMENT

The HSRI will collaborate with other in-country and foreign research and academic institutions to set up the HSR network. The network will determine the future direction of HSR in Thailand, resource sharing and other collaborative activities. In the beginning, at least six universities in Thailand will be contacted to form the network: Chulalongkorn, Thammasart, Chiang Mai, Khon Kaen, Prince Songkhla's and Mahidol. In addition, collaboration with foreign institutions will serve as another channel for technical support, researcher exchange and research funding. With such collaboration, the HSRI can limit its size and keep the number of staff to a minimum. It is expected that this strategy will ensure the Institute with maximum flexibility in its operation.

PROGRAMME ON IDENTIFICATION OF NATIONAL HSR PRIORITIES

The direction for future HSR to be formed will serve as a guideline for the Institute's operations in collaborating with other research and academic institutions and funding agencies. The direction will reflect people's health problems and the needs of public health executives, policy makers and academicians.

PROGRAMME ON HSR CONDUCTION AND SUPPORT

To encourage research in the direction set forth above, the HSRI has listed at least six major research areas for its first four years of operation.

Health Insurance and Health Financing. This agenda focuses on developing an appropriate health care financing mechanism and health insurance, especially for the poor.

National Health Systems Development. This agenda addresses various issues of top priority in the development of the country's health system such as the roles of public and private sectors in National Health Systems development as well as production and provision of health services needed by the underprivileged.

Quality Improvement of Health Services. This agenda centers on how to improve the quality of health services (promotion, prevention and curative) and with efficient use of resources.

Health Behaviors and Practices. This agenda concentrates on gaining a better understanding of health behaviors and practices necessary for reorienting health services systems and behavioral modification programmes to meet the demands of the people and without the inappropriate use of resources and technologies.

Development of Human Resources for Health. This agenda focuses on optimising human resources for health aimed at achieving health for all through appropriate quantity, quality, distribution and categorical mix of human resources.

Health Situation and Future Trend. This agenda aims at developing a better view towards the future on various health problems and scenarios.

PROGRAMME ON PROMOTION OF AREA-BASED APPLICATION OF HSR FOR LOCAL HEALTH DEVELOPMENT

This plan's objective is to promote the local use of data and information in planning, monitoring and evaluating health services systems. Data and information can be obtained from routine recording and reporting systems as well as through HSR. Expertise from various local, regional and central research and academic institutions will be drawn to take part in this regard with the HSRI serving as the coordinating body. The Institute hopes this approach will lay the groundwork for future decentralization of public health administration. This would ensure that information relevant to the locality would be generated to support the decision-making process.

PROGRAMME ON HSR CAPACITY DEVELOPMENT

This plan is aimed at developing HSR investigators at various levels from both inside and outside of the HSRI. Several methods will be used such as the delineation of methodologies commonly used in HSR, providing research fellowships and arranging exchange programs on HSR knowledge and experiences. Research fellowships will allow grantees to further their study in the field of HSR as well as to conduct their own research.

PROGRAMME ON PROMOTING THE UTILIZATION OF HSR FINDINGS

This plan will promote the use of HSR findings for policy making, public health administration, technical development and people's decision-making in health. The extent of such use will depend on the nature of the problems. Research findings will be selected, evaluated, synthesized and tailored to the needs of public health executives and policy makers. Special attention will be paid to effective presentation and communication of the results. Newsletter, scientific journal and professional conferences are examples of media for regular dissemination of the findings to be used to accomplish this plan.

BUDGET

In the first four years of the Institute's operation, 208 million Baht has been requested as detailed below.

Unit: Thousand Baht

Plan	1993	1994	1995	1996
1. Programme on HSRI Network Development				
- wage and salary	3,687	6,086	7,414	8,395
- construction and equipment	1,650	1,709	1,162	355
- operating costs	500	1,000	1,000	1,200
- meetings	100	200	250	300
Subtotal	*5,937*	*8,995*	*9,826*	*10,250*
2. Programme on Identification of National HSR Priorities				
- 1993-1996 HSR Plan Documentation Project	500	-	500	-
- reports and meetings	200	500	700	800
- research presentation	120	300	300	400
Subtotal	*820*	*800*	*1,500*	*1,200*
3. Programme on HSR Conduction and Support Plan				
- Health Insurance and Financing	1,000	3,000	3,000	3,000
- National Health Systems Development	1,000	3,000	3,000	3,000
- Quality Improvement of Health Services	1,000	3,000	3,000	3,000
- Health Behaviors and Practices	1,000	3,000	3,000	3,000
- Environment and Health	1,000	3,000	3,000	3,000
- Other research agenda	5,000	10,000	10,000	15,000
Subtotal	*10,000*	*25,000*	*25,000*	*30,000*
4. Programme on Promotion of Area-Based Application of HSR for Local Health Development	5,000	10,000	15,000	20,000
Subtotal	*5,000*	*10,000*	*15,000*	*20,000*

Plan	1993	1994	1995	1996
5. Programme on HSR Capacity Development				
- document on HSR	400	-	400	-
- research fellowship	2,000	3,000	3,000	4,000
- research quality improvement	500	1,000	1,000	1,000
Subtotal	*2,900*	*4,000*	*4,400*	*5,000*
6. Programme on Promoting the Utilization of HSR Findings				
- research presentation to executives and policy makers	200	400	400	500
- technical reports	500	1,500	2,000	2,000
- newsletter	120	200	250	300
- journal	200	500	500	500
- conference	250	500	500	500
Subtotal	*820*	*800*	*1,500*	*1,200*
GRAND TOTAL	**25,927***	**51,895**	**59,376**	**70,250**

* Only 16.4 million Baht is actually allocated for the first year.

Appendix 1

Details of Programme on HSRI Network Development

General Objective

To establish a network between the HSRI and other in-country and foreign research academic institutions.

Specific Objectives

- to establish an agreement between the HSRI and the other institutions to form the network
- to promote coordination and participation from the other institutions in forming the direction for future HSR
- to recruit personnel and procure equipment and facilities needed by the HSRI in support of the network
- to raise funds for HSR
- to administer resources and personnel so that the HSRI can function properly and efficiently

Implementation Strategy

- forming a network with in-country and foreign institutions
- developing HSRI infrastructures

In the beginning, the Institute will collaborate with at least six universities which have experienced and have been active in HSR will be contacted:

1) Chulalongkorn University,

2) Thammasart University,

3) Chiang Mai University,

4) Khon Kaen University,

5) Prince of Songkhla University, and

6) Mahidol University.

High-level agreements between the HSRI and these universities will be made and coordinating mechanisms within the network will be established. Guidelines on resource sharing will be formulated. Collaborative activities include, but are not limited to, forming the HSR direction, conducting research, improving research quality and building body of knowledge, disseminating and presenting study findings, and providing technical support to health services units in HSR.

For foreign institutions, greater considerations will be made. However, included among several possibilities are joint research projects of mutual interest and benefit, and an exchange program for researchers, documents and research data.

In terms of developing the HSRI's infrastructures, the Institute will proceed on the basis of operating through the network. The following premises have been set as guiding principles for the Institute.

- The Institute should have a flexible structure which renders itself to respond rapidly to continuously changing health problems.
- The Institute should maintain a high degree of freedom within its own boundary. This will allow the Institute to produce independent and high-quality research works.
- The size of the Institute should commensurate with the degree of collaboration.
- Staff recruitment should be made through coordinating mechanisms. The staff can be from within the Ministry of Public Health or from universities.
- The staff should be regularly evaluated for their performance.
- Salary and job advancement should depend on work quality and be competitive. The pyramidal personnel management currently used in the governmental sector should not be honored.

Budget

Wage and salary	25,582,000 Baht
Construction and equipment	4,876,000 Baht
Operating costs	3,700,000 Baht
Meetings	850,000 Baht
Total	*35,008,000 Baht*

Appendix 2

Details of Programme on Identification of National HSR Priorities

General Objective

To form a direction for HSR which has implications for policy making and program administration.

Specific Objectives

- to form a direction and prepare strategic plans for important HSR agenda :
- to communicate and establish good understanding about the direction with other research and academic institutions and funding agencies
- to communicate about the direction with public health executives and policy makers as well as other academicians who may benefit from HSR

Implementation Strategy

1993-1996 HSR Plan Documentation Project

Objectives

- to gain cooperation from experts working in various fields as well as concerned parties that affect or are affected by public health development
- to prepare the First Four-Year HSR Plan
- to outline and prioritize HSR projects

The following activities are proposed to fulfill the strategy:

- studying knowledge, attitudes and needs of various community groups affected by public health program implementation and use of the study results in the policy making process;
- gathering knowledge and experiences from experts and academicians from various fields to set priority research areas and agenda;

- employing a network of institutions interested in HSR for future collaboration;
- obtaining inputs from and learning about the needs of public health executives at national and provincial levels for HSR agenda;
- organizing periodic meetings as a forum for discussion, criticism, and synthesis of research findings;
- setting up a multidisciplinary team of experts to elaborate on the details of priority research agenda.

Project on Setting Document Clearinghouse and Organizing Meetings

This part of the plan will serve as a main mechanism for communicating the HSRI's direction and plans with other research and academic institutions, funding agencies and academicians.

Project on Preparing and Presenting Research Findings

Before being communicated to public health executives and policy makers, research findings will be reviewed, discussed, critiqued and synthesized in such a way that they are understandable and meaningful to users. Additional research agenda may also be generated out of this approach.

Budget

1993-1996 HSR Plan Documentation Project	1,000,000 Baht
Reports and meetings	2,200,000 Baht
Research presentation	1,120,000 Baht
Total	*4,320,000 Baht*

Appendix 3

Details of Programme on HSR Conduction and Support

General Objective

To generate HSR for solving health problems and improving the health status of the Thai people.

Implementation Strategy

- Assistance and cooperation from outside researchers will be sought and used as a major addition to that from the Institute's researchers.
- Topics or issues to be researched will correspond to health problems indicated in the National Health Development Plan and financial support will be provided through the Institute's research fund.
- In the first four years, additional research areas may also be identified and proposed by public health executives and policy makers.

Following are some of the possible research agenda:

- development of health insurance schemes, both employment-based and voluntary;
- development of national health systems focusing on health care financing, public/private mix in provision of health services, and special groups needing attention;
- quality and efficiency improvement of health services systems with a focus on efficient resource use and management, and quality assurance mechanisms;
- health care seeking behaviors and other behaviors that may positively or negatively affect people's health;
- environment and health with special attention to magnitude and severity of environmental impacts on health, potential prevention and control measures, and approaches and systems to improve environmental quality;

- development of human resources for health in terms of production, distribution and continuous development in the realm of rapid economic and social changes;

- health situation and future trend in the aspects of potential use of forecasting, prediction, projection and other futurological methodologies in planning and implementing health programs.

Appendix 4

Details of Programme on Promotion of Area-Based Application of HSR for Local Health Development

General Objective

To encourage the appropriate use of HSR in local health programs.

Specific Objectives

- to develop mechanisms and train local personnel to use HSR in decision-making and planning at various levels
- to get regional research and academic institutions to participate in technical consultations for local health services units in order to handle health problems in a continuous and systematic way
- to stimulate use of HSR among local health executives and administrators

Implementation Strategy

This plan seeks to establish local use of data as a culture in dealing with health problems. Various problems can be approached with such data use including high staff mobility, non-achievable work goals, lack of public trust in health services, and poor or no people's participation in health programmes. Besides routine recording and reporting systems, certain forms and degrees of HSR are needed to generate data for such use. Moreover, local health personnel are also enthusiastic to be involved in such a process, however lack of knowledge and experiences has prohibited them from doing so. To improve utilization of HSR in health decision-making and planning by these personnel, linkages will be made with personnel from appropriate regional or local research or academic institutes who will act as technical supervisors. It is envisioned that this approach will also support the concept of decentralization of power in health. The following steps of implementation are proposed for the strategy:

- contacting health administrators at provincial and district levels to learn the extent of local interest in HSR, feasibility of the strategy, infrastructures and supporting facilities, availability of personnel, local needs for health systems development and potential implications of HSR;

- selecting certain provinces and linking them with appropriate regional or central research and academic institutions;
- with inputs from the supervising institutions, assisting local teams in preparing HSR plans;
- evaluating the plans in terms of feasibility, quality, implications and potential for financial support.

Implications

- Health executives and administrators at provincial and district levels realize the importance of HSR in generating necessary data and information for improving health programs.
- Local technical staff are trained in HSR.
- Academicians and experts from the institutions have a firm linkage and ongoing contact with local health authority and staff, which may be useful for future cooperation.

Target

Two to five provinces will be selected per year.

Budget

50,000,000 Baht

Appendix 5

Details of Programme on HSR Capacity Development

General Objectives

To develop a good body of knowledge in HSR in Thailand for future use

To improve the quality of health systems researchers in Thailand

Specific Objectives

- to outline implementation guidelines for HSR in Thailand
- to develop HSR researchers
- to gather experiences in HSR from various sources and institutions for future use

Implementation Strategy

Project on Preparation of a Document, "Health Systems Research and Important Research Methodologies"

Objective

- to gather knowledge in HSR with an emphasis on the multidisciplinary and application nature of HSR

Project Implementation Strategy

- reviewing body of knowledge of HSR in the aspects of evolution, structure, methodology, and case study
- convening expert groups from within and outside the country to detail the outline
- supporting the groups of experts in preparing contents for the document
- producing and disseminating the document

Research Fellowship

Objective

- to avail potential health systems researchers, technical staff and other mid-level health administrators with an opportunity to increase their HSR capability through further study and actual conduction of research

Project Implementation Strategy

The fellowship can be divided into two types: in-country fellowship and out-of-country fellowship.

In-country fellowship will allow grantees to have an uninterrupted duration of time to fulfill their knowledge needs for HSR. In-country transportation expenses, stipends, training costs and other research expenses will be covered by the fellowship. The duration of fellowship is usually 10-12 months. Potential candidates must meet eligibility criteria set by a committee and propose a research topic of their interest as well as a brief research protocol, further training needs, and potential training institutions. Those who are selected will work as the Institute's researchers for the duration and at the place specified in the protocol and approved by the committee. The research part of the protocol can be carried out at the original place of work of the grantees with technical supervision from some research and academic institutions provided through the Institute.

Out-of-country fellowship is limited to researchers who, to a certain extent, have established themselves in the fields of HSR. The details of the fellowship are similar to the in-country one. However, priority will be given to training institutions which have a linkage with the Institute. Research can be conducted in-country or abroad as long as it is related to Thailand's health systems.

Implications

It is hoped that, after completing their fellowship, researchers will return to their previous organization and become a key player in improving their institution's technical capacity for HSR. Generally speaking, this approach is expected to be more effective than formal degree education or ad-hoc short-course training. However, it is possible that some of the researchers may later turn to and be benefit from degree study.

Target

One or two fellowships will be awarded each year.

Research Quality Improvement Project

Objective

- to provide health systems researchers with a forum for exchanging HSR knowledge and experiences in asking the right research questions, using appropriate methodologies and drawing meaningful conclusions from their studies.

Implementation Strategy

- Every research project under the auspices of the HSRI will be scrutinized by independent researchers who have experience and show interests in similar topics. The supervising researchers will get involved at every step of the project through the coordination of the Institute.

- Forums will be provided for health systems researchers to present their study findings. Small group discussions among researchers with the same research interests may also be held. In addition, technical reports can be prepared with the financial support from the Institute.

The HSRI which takes the overall responsibility of this project will set up several technical working groups to function on its behalf. Supporting staff at the Institute will assist in coordinating tasks under the supervision of the working groups. Through the working groups, experiences in operating this HSR plan will be gathered and summarized. This will serve as a means to document the knowledge body associated with real HSR plan implementation for future use and for other similar institutes.

Budget

Document on HSR	800,000 Baht
Research fellowship	12,000,000 Baht
Research quality improvement	3,500,000 Baht
Total	*16,300,000 Baht*

Appendix 6

Details of Programme on Promoting the Utilization of HSR Findings

General Objective

To encourage the use of HSR at various levels.

Specific Objectives

- to communicate with various target groups, research users, academicians and health services providers about the importance of HSR
- to present relevant study findings to public health executives and policy makers in an effective way on a regular basis
- to disseminate study results to other interested academicians and researchers
- to establish a network for HSR data and information exchange
- to communicate appropriate study findings to general public to encourage good understanding and participation in health development

Implementation Strategy

Data and information to be presented to public health executives and policy makers need to be prepared in an appropriate format and highlighted for its potential use in decision-making. Regular dissemination and efficient presentation are essential features of communication with users. Assistance from media and information specialists can help improve the quality of communication.

Data and information dissemination to circles of academicians may take different formats such as reports or other documents. However, the documents have to meet high standards and should be widely available.

Other forms of communication between researchers and academicians on the one hand, and public health executives and policy makers on the other also exist. Newsletter, scientific journal and professional conferences are some of the examples.

Information to be disseminated to the general public should have appropriate content and be communicated through appropriate channels. Such dissemination can occur in conjunction with that for public health executives and policy-makers but with different levels of details, analyses and emphases.

Other means to encourage the utilization of HSR findings are paper writing and publication, technical reports, panel discussions, scientific meetings organized to address the needs of various target groups, etc. Whatever the means, emphasis should be made on the importance of HSR as a continuous process to improve people's health status.

Budget

Research presentation to executives and policy makers	1,500,000 Baht
Technical reports	6,000,000 Baht
Newsletter	870,000 Baht
Scientific journal	1,700,000 Baht
Conference	1,750,000 Baht
Total	*11,820,000 Baht*

Appendix 7: Research Agenda

Research Agenda on Health Insurance and Health Financing

Rationale

Recent rapid changes in economic, social, political, and cultural systems affect health systems in several ways. Some past problems persist, while new ones are only just emerging. Many of these problems are related directly and indirectly with health insurance and health financing such as the following.

The National Account Division of the National Economic and Social Development Board (NESDB) of Thailand was designated to be responsible for compilation of data on national income and expenditure by public and private sectors, including health expenses. According to one report, private household expenditure has already accounted for 80% of total health expenses with decreasing public spending over time.

Investigation of the methodology employed by the National Account Division to estimate health expenditure posed several questions on reliability and validity of results. Health expenditure was very indirectly estimated based on some cross-sectional surveys and several out-dated assumptions which do not hold true nowadays. Scepticism on the health expenditure estimation has called for development of a more valid and reliable estimation methodology.

The major source of health financing in Thailand is household out-of-pocket payments for services provided by public and private sectors on a fee-for-service basis. Revenues generated through user fees play a vital role in operating hospitals under budget limitations. There is an increasing pressure to use hospital revenues to compensate personnel to alleviate the current 'brain-drain problem. However, this approach has received mixed reactions from the general public.

By nature, hospital managers are inclined to increase user fees. On the one hand, raising fees generates more revenue and deters unnecessary demand. On the other hand, detrimental effects to the poor are plausible if an exemption mechanism does not work properly. This issue is particularly acute when the financing mechanism of public hospitals is considered. Several questions need to be addressed including: To what extent should one increase user charges? What is the effect of differential fees (by level of care) on consumer behavior? How can we improve hospital technical efficiency?

Expenditures for drugs is one of the biggest shares in hospital spending and household out-of-pocket payments. Information from the Drug Control Division of the Food and Drug Administration is notoriously under-reported. Greater understanding is needed in pharmaceutical financing to shed light on appropriate policy directions to improve efficiency.

Public sources of health financing consist of spending by the Ministry of Public Health (MOPH), Ministry of University Affairs, Ministry of Defence, Ministry of Interior, and the Bangkok Metropolitan Administration. Unfortunately, the level of public spending by different types of services (curative, promotive, preventive, rehabilitative) and by levels of care (primary, secondary, tertiary) is not clearly known. These types of information are vital, however, for investigating allocative efficiency.

Several basic questions regarding spending according to national health development plans remain unanswered. Particularly, for the Fifth and Sixth National Health Development Plans (1982-1991), how much public financing was spent by level of care, geographical area, type of care, and others.

Social insurance is another promising source of finance in many developing countries provided that the payment mechanism leads to efficiency and has a strong influence over professional and consumer behaviors. The Social Security Act was introduced in Thailand in 1990. Capitation payment was adopted because of its virtue for cost containment given that the quality control mechanism is strong. The 1993 Traffic Victim Protection Act was recently initiated. The scheme is financed through compulsory motor vehicle premiums managed by private insurance companies. Fee-for-service based on an agreed itemized price list was temporarily adopted. The listed prices, though, are overly high and could induce over-investigation and over-treatment. Research should address the efficiency of these insurance schemes.

Thailand is facing a serious AIDS epidemic, and sentinel serosurveillance results are painting a gloomy picture for the present and future. Economic impacts, particularly on demand for health resources, is immense. According to a forecast from the Institute for Population and Social Research, Mahidol University, without radical changes in fertility and sexual behaviors among Thai adults during 1992 and 2000, the AIDS epidemic can reverse the trends of infant and child mortality. In addition, social costs such as the AIDS orphan problem are enormous.

Objectives

Key words: *health expenditure, allocative efficiency, technical efficiency, equity, resource allocation, pharmaceutical economics, hospital financing, AIDS, health insurance.*

The broad research objectives for health care financing are:

- to increase understanding about the health care financing mechanism and its trend over the last decade;
- to develop a better methodology for health expenditure estimation to provide valid and reliable data;
- to obtain greater insights into hospital financing, cost of production, revenue and cost recovery, and the prospect of differential user charges on consumption behavior;
- to provide a better understanding concerning pharmaceutical economics, drug consumption and expenditure patterns and trends;

- to elicit greater knowledge on resource allocation and related policy issues;
- to provide greater understanding and information on the economic and financial impacts of AIDS so that proper solutions can be formulated; and
- to provide a higher level of understanding concerning several health insurance implementation problems and to improve efficiency.

Priority Research Areas

Based on existing knowledge and the prominent questions gaps in this knowledge raise, the following areas for research are suggested:

Area 1: Financing Health Sectors in Thailand: An Update and Overview

Since 1985, no subsequent updated works or projections have been systematically conducted. Nonetheless, the health financing situation has substantially changed as other important sources of financing schemes (e.g., Social Security Act, Traffic Victim Protection Act) have recently emerged. As a result, it is proposed to conduct work involving documentary research and the development of a simple computer program for updating information and using a budget apportionment based on consensus opinion. An immediate output of this work is health expenditure as percent of GDP, per capita expenditure, trend and forecast of expenditure, and breakdown of expenditure by public and private sources.

Approach: *documentary research, development of reliable information regarding medical care consumer price index, relevant policy formulation*

Area 2: Development of a Better Methodology for Health Expenditure Estimation

To carry out this work, researchers should work closely with the National Account Division of the NESDB. The interactive process with the NESDB and a realistic recommendation is the important final output. This methodology development is a basic research on which most future health financing will heavily rely.

Approach: *basic research, consensus agreement, built-in for annual estimation, retrospective amendment of figures*

Area 3: Hospital Financing

As hospital care consumes the lion's share of resources, it is vital to document the financing mechanisms of both public and private hospital care in terms of:

- cost of production,
- revenue generation,
- cost recovery,
- organizational structure,
- management and technical efficiency,
- impacts of differential user charges on service utilization by level of care.

Considering these issue's sensitivity and complexity, problems are anticipated in accessing data from private hospitals. However, this topic's importance should outweigh any difficulty researchers may face.

Approach: *participatory operations research, hospital financial information system development, research and development*

Area 4: Pharmaceutical Economics

Data on annual drug consumption from the Drug Control Division of the MOPH is far from adequate due to under-reporting. Figures from the National Account Division are also suffering because estimation is very indirect. To date, there is no reliable source of data on drug consumption in Thailand. Hence, a fundamental need exists to develop the methodology to accurately estimate drug consumption on wholesale and retail price lines using all available data. Actions should be taken to remedy current weaknesses in the system.

Approach: *development of information system at various levels, primary survey-hospital-based, primary survey-community-based*

Area 5: Resource Allocation

It is suggested that total health spending by the MOPH and health sectors outside the MOPH be compiled and broken down by region, group of recipients, level of care, type of care, type of program and others. Results of this study are expected to reflect the allocative efficiency and identify room for improvement. Specifically, the past decade (the Fifth and Sixth Health Development Plan, 1982-1991) budget should be analyzed.

Approach: *documentary research, built-in computer program for the breakdown of program budget by activity, type of care, and region, relevant policy formulation on equitable allocation of resources*

Area 6: Economic and Financial Impacts of AIDS

This area will entail a background study to gain increased understanding on the economic impacts of AIDS, cost of treatment, cost of control programs, and others. It is proposed that researchers be working with implementing governmental and non-governmental organizations within and outside the MOPH. These several pieces of research are fertile soil for appropriate policy formulation and resource planning for the epidemic.

Approach: *cost analysis - hospital-based, program-based, and community-based, model development and financial evaluation.*

Area 7: Health Insurance Study

Different health insurance schemes differ in terms of sources of finance, payment mechanisms, benefit packages and co-payments, access to care, and government budget subsidies which can create inequity among beneficiaries. How to remedy the situation and prevent further gaps in social division is a major challenge for health financing reform. Empirical evidence on a scheme evaluation prompted us to propose studies on improvement of efficiency and feasibility to integration of the various schemes, particularly payment mechanisms, fee-for-service versus capitation, and itemized bill versus diagnostic related group (DRG). Special focus should rest on implementation evaluation of the 1993 Traffic Victim Protection Act, as providers are paid on itemized bill and unnecessary use of resources is not unexpected. As a consequence, medical expenditures are expected to soar.

Approach: Several approaches are listed under this area: development of DRG particularly for traffic accident group using hospital-based data provides a good ground for changing payment mechanism under the scheme; policy formulation regarding the reform of Civil Servant Medical Benefit Scheme towards efficiency and cost containment; evaluation of the Social Security Scheme implementation: insured worker health seeking behavior, co-payment level for maternity, emergency care; policy development on voluntary health insurance.

Research Agenda on National Health Systems Research Development

Definition

National Health System is defined here as the combination of resource allocation, organization, planning, financing, and management that culminates in the delivery of health services, curative, promotive, preventive and rehabilitative, to the national population. Since the HSRI considers health care financing as a very critical component, it 7 assigns a specific program for that subject. This National Health Systems (NHS) research agenda is a complementary part of the one on health care financing and contains other components of the same research gamut. Occasionally, overlapping between the two programs will therefore be unavoidable.

Rationale

The Seventh National Health Development Plan (1992-1996) has pointed out some critical weaknesses in Thailand's health system and the need for steering its development coherently with rapid changes in the economy and people's lives. To enhance such progress, the NHS Development Program will provide funding, consultation and facilitation for studies in identified research areas.

Globally, national health systems show a trend of convergent development. The rising medical expenditure turns sour among the entrepreneurial models. The United States, for instance, has engaged in a "health care reform" as a remedy. On the other extreme, the fully socialized systems such as those in some European countries commonly struggle with internal inefficiency and low consumer satisfaction. Current developments comprising public interventions often aim towards: a) better management and managed competition by the public, rather than direct public provision of services; b) separation of financing from delivery schemes; and, c) explicit use of market-type incentives. Recently, globalization of economic activities has become another drive for comparable health facilities.

Although international experiences are instructive, they cannot be taken indiscriminantly as blueprints. The dualistic nature of the Thai economy, capitalistic and socialistic, calls for a compromise in the planning of national health systems. Pluralism existing in ways of life of the Thai people, urban and rural, reflect diverse public health programs. In particular, the rural lifestyle has undergone gradual changes over time together with an evolving new population structure and disease pattern. It is necessary that health systems meet the needs and expectations of these people. However, previous experiences indicate inflexibility, non-

adaptability, and inefficiency of the health services systems resulting in poor consumer satisfaction. The unmet needs of these people should be specifically addressed.

Urban society, on the other hand, is much more complicated and has different disease patterns than rural society. With a mixture of formal and informal economic sectors, there is huge seasonal circulation of the labor force. These migrants are found to be at-risk of poor health and should be one of the targets for urban health programs. In addition, complicated relationships between the workers and their employers indicate that a special arrangement of health programs may be needed for these people.

Because urban and rural sectors are intricately related, changes in one sector, mostly in the urban, affect the other. As a matter of fact, resources are pulled from the rural sector to supplement the already advantaged urban sector. Therefore, a clear need exists to set an appropriate direction for urban health development.

Laws, rules and regulations are some important suprastructures governing economic, social and health systems. Since some health problems can be rooted in the use, non-use and abuse of certain laws, promotion of research into health laws should be further encouraged.

Other non-health governmental policies can also impact on people's health status; for example, fiscal policy in taxation can reduce smoking and drinking habits of the people. In addition, earmarking tax money from tobacco and alcohol and channelling it to health programs is another example of how to finance health. These policy measures can be very effective if used properly and should be further studied.

Although the process of health policy formulation is mainly the responsibility of the Ministry of Public Health (MOPH), other organizations (governmental, non-governmental and other interest groups) are almost always involved. In other words, the process usually involves multi-party decision-making. It is high time that these important processes (i.e., national health policy formulation and public health program planning) were studied in-depth. Development of supporting systems to the process (e.g., health information systems) should also be further strengthened.

Objectives

The broad objective of this NHS agenda is to promote research to develop appropriate models, organization and management for health services as well as to develop basic tools for policy decision-making. It is hoped that research in this area can lead to efficient and equitable health systems. Data from these studies may also be utilized for the Eight National Economic and Social Development Plan. The following specific objectives are components of the broad objective:

- to address unmet health needs of the rural sector, and determine potential remedies, complementarities and roles of public and private sectors in satisfying these needs;

- to investigate the effects of modernization, urbanization, industrialization and precipitous growth of urban health facilities on the demand for and supply of health services of high- and low-growth areas as well as to study urban-rural relationships in health services;

- to compile and study relevant health laws and find ways to further develop them;
- to promote use of fiscal policy to foster health and encourage the fair distribution of health services;
- to address the adequacy of the current approach to planning for national health systems;
- to improve the existing databases needed for national health policy formulation, public health programs planning and NHS administration.

Eligibility

Researchers who show strong interest in the identified subjects and commitment to the proposed projects are welcome to apply for HSRI support. Experienced researchers working for universities and public health agencies are among common candidates. Graduate students are also eligible; however, a demonstration of strong support from the academic advisor and/or committee is recommended.

Related fields include public health, sociology, economics, medical science, political science, management science, information science, and public administration.

In all cases, a quality study is expected and should be demonstrated to the greatest extent in the proposal. However, proposal development could start from a draft proposal and interactive consultation with the HSRI to best meet the Institute's concerns.

Priority Research Areas

The following project areas describe HSRI's main interest during the 1993-1994 period. Proposals requesting HSRI funding and/or facilitation should include, but not be restricted to, the following contents.

Area 1: Assessment of Rural Health Services

According to the National Statistical Office, in 1990, about 70 percent of the Thai population resided in rural areas. Basic Minimum Needs (BMN) indicators, density of physicians and hospital beds, and services coverage are usually used to indicate the level of health care provided. These indicators could portray a facet of health profiles, but are inadequate to illustrate the level of needs unmet by existing facilities. Furthermore, their use becomes problematic when a comparison between sectors is made. For example, health personnel mix is considerably different between the city and the hinterland; and hospital bed density may give a distorted picture of available services because it may not say anything about bed utilization. In summary, health effects and impacts are inadequately represented through these indicators.

Although several economic evaluation methods are available, such as cost-benefit and cost-effectiveness analyses, they are not widely utilized in health fields. Consequences of this phenomenon are reductions in resource allocations for health promotion and disease prevention programs which are usually very cost-effective, and low incentives to contain costs in health programs.

Assessment to close the gap between needed services and that provided is encouraged. Level of substitution among categories of health resources should be addressed, since such a translation is essential for sensible resource allocation. Moreover, explicit estimation of health services (such as number and characteristics of providers) to meet rural needs should contribute significantly to health resources planning. Special groups such as women, youth, elderly and migrants need special attention. Appropriate health services models need to be developed and tested.

The roles of rural private health care providers have been rarely considered. However, public funding of private services for certain programs (such as maternal and child health, environmental protection, nutrition, and accident control) could have potential complementarities. Such possibilities are urged to be explored. In addition, the potential use of the market mechanism in providing promotive and primary care services should also be investigated.

An effective referral system is a major way to reduce inequity and can be achieved relatively quickly. Previously, the system dealt mainly with medical and transactional transfers. Less emphasis was placed on facilities transfer which could be more cost-effective than building more larger facilities. Indirect costs of transfers usually saddled by the patient should be considered. Transfers between the public and private sectors are not yet well-addressed. Hence, studies to improve the referral system as a means towards equitable care are encouraged.

Area 2: Urbanization, Industrialization and Health Services

The Thailand Development Research Institute (TDRI) has estimated that the Thai population will increase by about 15 million (26 percent) over the next twenty years, from 56.1 million in 1990 to 71.1 million by the year 2010. Expectedly, 14.8 million will be added to the present urban population, while the rural sector will increase by only 0.3 million. Urbanization and industrialization will be growing in Bangkok, its neighboring provinces, Eastern Seaboard areas, and some major cities. Moreover, more than 10,000 million Baht per year will be channelled to health insurance-like programs, and most will be used for curative services in urban areas.

Hence, huge demands for urban health care facilities are not beyond anticipation. Planning for those facilities and minimizing their adverse effects on the rural sector are urgently needed. Projections, moreover, on health care facilities should be added to the policy framework on urban development. To address this issue on the grounds of the public-private mix is a more-than-welcome approach. Competitions among health care providers are encouraged to promote cost-effective services.

Urbanization and industrialization also affect disease patterns. Substance abuse, sexually transmitted diseases, psychoneurotic diseases, accidents and teenage pregnancy among factory workers are among newly-emerging health problems. Public health measures to deal with these problems are still in abstraction and need more development. The private sector's roles in such development should be explored.

The following are some important issues for research:

- competition among health care providers in health insurance programs;

- standard and subsidized prices for services provided by the public sector;
- overlapping, non-coverage, and inequity among different health insurance schemes;
- appropriate model(s) for family doctors and specialists in public health services;
- models on health promotion and disease prevention for major non-communicable health problems;
- appropriate health services model(s) for industrial workers and the urban poor;
- accident reduction on highways and appropriate medical services;
- sharing of high-cost technology between public and private sectors;
- impacts of medical industry for export.

Area 3: Impacts of Medical School Expansion in Bangkok on National Health Systems

The founding of new medical schools and the building-up of a greater services capacity among existing ones in Bangkok have been issues for heated debate. Consequences of such establishments are immense. On the one hand, it enlarges recruitment capacity, while on the other it siphons in physical and human resources from less affluent sectors - the rural in particular. However, the endorsement is often done for political reasons and less with empirical evidence.

Demand for physicians is expected to continue to be substantial. Medical schools feature the double role of teaching and providing high-end medical services. This issue should be objectively addressed, not only in terms of overall training capacity but also the proper location of those facilities. Studies could affirm that the issue is one of critical importance worth stating in the National Health Development Plan.

Area 4: Health Law for Promotion of Efficient and Equitable Services

Public health officials interested in health laws are of limited supply; therefore, studies thereof are also scarce. Literature reviews and compilation of knowledge in this field should be encouraged. Other aspects needing attention include amendment and enforcement of the laws. The following topics are important research areas:

- review of health laws and codes;
- legal responsibility of health care providers;

- use of certification and recertification of health professional practices for proper health services;
- prohibition of products endangering health;
- legal power of consumer's health protection institutions;
- health insurance and legal mechanisms.

Area 5: Use of Fiscal Policy for Health Promotion Investment and Equitable Distribution of Health Services

Canada, New Zealand and some European countries are among the ones that use cigarette tax as an important means to reduce tobacco consumption in their countries. This is only an example of uses of fiscal policy for health promotion. Furthermore, in Thailand tax privileges granted by the Board of Investment are a strong accelerator for the rapid growth of private hospitals, as high as 15% in Bangkok. The inequitable distribution of private hospitals has also resulted from this policy. Hence, the policy needs to be re-evaluated.

Area 6: Improvement of Major Surveys

The National Statistical Office has provided a wealth of national survey data for public health planning. The Health and Welfare Survey and the Household Socio-economic Survey are the major ones among others. The Epidemiology Division and the Health Statistics Section of the Bureau of Health Policy and Planning also produce reports on epidemiological data, health facilities and utilization. However, data are usually descriptive and with insufficient reliability.

An analytical study could be generated to some extent based on existing databases and is encouraged. Another possibility is to improve the survey data structure so that study of the relationship between critical attributes is possible. Estimation of health services demands among different groups is an example of the results to be yielded by this improvement. Relationships between type of illness, utilization, facility, substitute services, income, and socio-demographics are among other information of relevance. Data systems for monitoring and evaluation for target populations and for public-funded health programs are needed.

Research to develop national databases as an important infrastructure for health policy formulation and planning will also be supported by the HSRI. Some important topics are:

- improvement of the Health and Welfare Survey;
- development of surveys on consumer opinions, utilization patterns, cost and health impacts among risk groups;
- management and technology for national health database development;
- appropriate organizational structure for national health insurance databases;

- mechanism for using data in national health policy formulation and planning.

Area 7: Planning for the National Health Systems

At present, health care planning is considered organizational (or functional) rather than national. Neither a sectoral approach nor a territorial approach to planning is commonly practiced. The functional approach, furthermore, is widely argued to be inadequate in dealing with complex problems and when regional diversity is sizable.

Accordingly, assessment of planning adequacy and potential alternatives is thus encouraged and could pave the way for recommending a structural change. The assessment could be conducted either at the national or program level or both. For example, a comparison could be made among programs using different approaches such as those on AIDS, tobacco, alcohol, accidents, and drug abuse. Decisional analysis of critical incidents is another methodological possibility.

Furthermore, more parties are being involved in the provision of and funding for health care. Neither the private nor the public sector is composed of a single faction. Moreover, contemporary legislation has conferred a variety of services programs, of which the implementation requires multi-party negotiation. Hence, to examine those public-funded programs and/or to strengthen the database for negotiation should be an appreciable contribution.

Research Agenda on Quality Improvement of Health Services

Rationale

Quality and Quality Assessment

Quality of health care can be considered at different levels such as curative, promotive, preventive and rehabilitative, and in various scopes: 1) appropriateness of technical performance according to current knowledge and technology, 2) interpersonal interaction between providers and customers which ranges from information exchange to active collaboration, 3) amenities of care that include convenience, quietness and privacy, 4) participation in the caring process by patients and families, and 5) care received by the community or social distribution of quality care.

Quality may be assessed on the basis of structure, process or outcome. By structure, it means attributes of settings, i.e., material resources, human resources, and organizational structure. Process means what is actually done in care giving and receiving, while outcome refers to the effect of care on health status, knowledge, behavior, and patient satisfaction. Assessment of any single component has its own weaknesses. For instance, the relationship between structural characteristics and the process of care is rather weak. The relationship between process and outcome may be sometimes uncertain. Direct assessment of outcome can be misleading because it may be influenced by a multitude of factors. Therefore, it is best to include structure, process and outcome components in the assessment to allow supplementation of weaknesses of one approach with strengths of another.

The epidemiology of quality is the study of the distribution of quality at any given time and of changes in its distribution over time. Time, place and person concept is as equally applicable to the study of the quality of medical care as in any other classical epidemiological study. However, two population sets are involved in this field: providers and clients.

Knowledge about the distribution of quality among providers demonstrates the relationship between structure and performance. Questionable practices are known to be highly concentrated or localized. The determinants of performance let us design a more effective system of health care.

Inclusion of consumer satisfaction affirms the importance of patient judgements in its own right rather than as a surrogate measure of other dimensions of quality. This emphasis counteracts the usual approach

which relies solely on providers' value judgements as to quality of health care. Patient satisfaction is a judgement on the quality of care in all aspects, particularly in interpersonal relationship.

Most patient satisfaction surveys revealed higher dissatisfaction rates in public hospitals than in private ones, especially with respect to interpersonal relationship and amenity aspects. It is not known what are really the underlying causes and what should be the optimal policy options.

Attempts for Quality Improvement

Many hospitals try to set up activities for quality improvement. Most private hospitals have started with good amenities and interpersonal relationships. Some hospitals began with improving physical facilities and environments. Other hospitals proceeded to excellence of services. Quality Control Circle (QCC) activities were initiated and sustained in a few hospitals, most of which were done by nurses. Organizational Development (OD) activities began to be popular in a few other hospitals.

Although most physicians recognize the importance of teamwork and participation in the problem-solving process for quality improvement and use such an approach in their daily clinical practices, few have chances to apply their experience to solve problems of the system. Professional autonomy is the main reason both administrators and physicians raise to reject any attempt to evaluate quality of medical performance.

Quality Assurance (QA) activities have been undertaken in several industrial sectors in the United States for over two decades, and the concept is now evolving into so-called Total Quality Management (TQM) or Continuous Quality Improvement (CQI). One main difference is that TQM/CQI focuses on the process rather than the outcome and realizes the importance of organizational behavior. TQM/CQI is quite new for health services in Thailand and its roles should be further explored.

The Thai Medical Council developed a first draft of the guiding manual on hospital accreditation. It was later adapted by the Medical Committee of the Social Security Office and adopted for use with main-contractor hospitals. The process of redefining standards and criteria is still going on.

Pharmacy is another field where quality control and improvement is active. Advice on appropriate drug use and monitoring of drug side effects are a few examples of clinical pharmacological activities that have been initiated recently.

Objectives

- to study the epidemiology of quality of health care, both from providers' and consumers' sides
- to elucidate any inequity in quality of health care received by different population groups
- to review attempts for quality improvement at all levels of health care provision, their impacts and appropriate strategies for Thailand

- to apply the concept of Total Quality Management (TQM) and Continuous Quality Improvement (CQI) in health care
- to evaluate the accreditation standard
- to evaluate the quality of care for accident victims
- to fund mechanisms to promote appropriate medical practice
- to assess medical technology
- to establish auditing and quality assurance mechanism
- to evaluate quality of health services

Priority Research Areas

Area 1: ***Epidemiology of Quality of Health Care: Provider's Side***

What are the determinants of good performance in health care on the provider's side?

- training, experience, specialization, and age of practitioners;
- effects of training and extracurricular activities in medical schools on performance and attitudes towards quality management of physicians;
- office environments, e.g., equipment, assistants, workload;
- financing and organization of health care;
- hospital characteristics: affiliation with medical schools, residency training, facilities and equipment, organizational control: public versus private.

Area 2: ***Epidemiology of Quality of Health Care: Consumer's Side***

What are the differences in the quality of care by different groups of population:

- type of health insurance or health welfare;
- occupation;
- place of residence;
- socio-economic status;
- age.

The differences should be considered in terms of:

- access;

- technical care received for some common diseases as a tracer;

- patient participation and compliance;

Policy options to reduce any inequality in the quality of care should be explored.

Area 3: Attempts in Quality Improvement

The main objective is to review quality improvement attempts and their impacts from past to present. Attitudes of health personnel and administrators towards TQM/CQI and supporting and constraining conditions should also be examined. The strategies for encouraging quality improvement at both national and local levels should be explored.

Area 4: Action Research on Application of TQM/CQI in Health Care

The concept of TQM/CQI should be properly applied with hospitals on a voluntary basis. Training on technical and behavioral aspects of the activities will be necessary. Evaluation should be made on whether it works, under what circumstances and how to maintain the success and promote wider use.

Area 5: Accreditation Standard

Appropriateness of the guiding manual for hospitals under the Social Security Act and for residency training programs is to be determined. This can be done by evaluating attitudes of the organizations and other concerned parties including the general public towards this manual. The relationship between the standard and quality of care should also be studied using objective indicators.

Area 6: Quality of Care for Accident Victims

Are there any good ambulatory services available to all accident victims? If not, what are the impacts on victims' quality of life and how can the services be improved? Various alternatives should be evaluated on economic and medical grounds. For example, the choice of training existing non-governmental services and encouraging private enterprise should be investigated.

The quality of care for accident victims should be evaluated in terms of structure, process and output. There are many questions need to be answered. Structurally, how ready are the facilities and equipment for delivery of medical care in the emergency room, operating theatre, intensive care unit, and other auxiliary services? What is the distribution of high-cost technology? Are competent personnel such as neurosurgeons available to provide needed care? What should be the appropriate incentive(s) for these personnel? In case of shortage, are

there any other choices to maximize use of the limited resources, e.g., concentrating specialists in certain institutes and resource sharing between private and public sectors?

In terms of process, are current services appropriate and do they meet the standard of care? What is the referral process between hospitals and is it appropriate? How can communication between hospitals be improved?

Regarding outcome, how many deaths and disabilities can be prevented? What are appropriate prevention strategies? What are the impacts of these measures on economy and people's quality of life?

Area 7: Promotion of Appropriate Medical Practice

This area investigates variations in medical practice under various conditions, e.g., type of providers, location of health services, and type of customers. Mechanism(s) to encourage appropriate medical practice should be explored.

Area 8: Medical Technology Assessment

High-cost, high-volume and high-impact medical technologies are the immediate target for assessment. Techniques to be used for evaluation include performance, economy, distribution and impact on medical practice and people's health status.

Area 9: Medical Audit and Quality Assurance

This area focuses on appropriate models for medical auditing and quality assurance, as well as acceptability thereof and other necessary supporting facilities such as health information systems and their impact on health status.

Area 10: Hospital Accreditation

Three aspects of hospitals and health services units will be evaluated, i.e., structure, process and output, according to the following:

Structure: *substandard hospitals, hospital fire safety system, hospital licensing, hospital accreditation in the Social Security Scheme, and education, training and quality of personnel in private hospitals;*

Process: *medical records in public and private hospitals, admission standard and criteria for private hospitals, academic activities in hospitals, pathological examination of surgical specimens, and home health care programs;*

Outcome: *customer satisfaction, hospital-acquired infection, and hospital mortality of preventable diseases.*

Research Agenda on Health Behaviors and Practices

Rationale

People are the central concern of health development. They are not only the target but also an active component to achieve better health. The conventional professional view towards health held that people were customers or users of the health services delivery system. It was also believed that health services were the most crucial part of improving people's health. With the global adoption of "Health For All by the Year 2000" goal and primary health care as the main strategy to achieve the goal, the concept of active people's participation has received more attention from health professionals and policy-makers. The focus in Thailand was on how to mobilize the collective efforts of people to improve their own health, especially through community development. The use of health volunteers to assist their neighbors has also been another major emphasis in people's participation in health.

Maintaining good health starts with each individual. It is also clear that certain types of behaviors are hazardous to health. Understanding the spectrum of human behaviors from the healthy to the unhealthy may help us to better employ the concept of health promotion through active individual action as well as group movements rather than professionally-directed health promotional programs. It is as important to also learn and understand different socio-cultural factors and contexts that influence people's behaviors in order to avoid conflicting or ineffective approaches to "modify" people's behaviors.

Another important aspect of behaviors related to health is the choice of health care or health services utilization. It is undeniable that people have to seek help from various types of health services outlets when they are sick. How they respond to their illnesses and select the course of actions to regain a healthy status has been one of the concerns of policy-makers. However, those concerns have been mostly narrowed to efforts of bringing more health services to the people. Three surveys on health services utilization patterns of the population in 1970, 1979 and 1985 showed a decreasing trend of self-medication and greater use of professional health services, in health centers, public hospitals and private services outlets. There were also studies showing that people tended to bypass lower levels of health services to higher and more sophisticated health facilities. However, there are very few studies trying to better understand why people chose to do so. Failing to understand the phenomenon and the tendency to assume that the best for people is to come for professional health care whenever they are sick could give rise to an inappropriate policy on expansion of health services infrastructures. A greater understanding would lead to a more balanced

example on self-care and professional care, a better balance between various levels of health services infrastructures, and lastly a balance between the role of private and public sectors as providers of health care.

On the other hand, people's behaviors in seeking health care are determined in part by professional practices which also affect patients' and the country's economy. With the present trend of favorable economic growth and availability of high-cost technologies in health care, it is important to better understand how such factors and conditions affect practitioners' behaviors. It may seem that the country's economy is good and we are in a position to consume more health care for the betterment of our life. The crucial concern should be on how we can best manage and use the available resources in the most cost-effective way. It is important to be fully aware that people's needs for health care are unlimited and no matter how good the economy is, it has been well proven by the more developed countries that spending for health has to be carefully planned for and possible wasteful utilization be identified and prevented well in advance. The very fact that the main decision-makers in health care are health professionals makes it imperative to try to see and understand how they make use of the available resources. Two main concerns could be on drugs and new high-cost technologies.

Objectives

- to review and consolidate various studies pertaining to health behaviors and practices done in Thailand
- to better understand health behaviors of various population groups, by socio-economic status, geographical location and rural and urban settings
- to learn about socio-cultural as well as economic influences affecting people choices in health care
- to study professional practices with regards to the use of drugs and new high-cost health technologies
- to study the interaction and communication between public and private health care providers on the one hand, and patients and people on the other in the process of health care
- to develop certain models or approaches to bring about rational use of health services and technologies and to explore the role of self-care as an alternative.

Priority Research Areas

Area 1: Situation Review on Health Behaviors and Practices

This area aims to collate and consolidate the known situation about various aspects of people's behaviors and professional practices in health. Different possible topics include reviews of the following.

- Lay health and illness practices, e.g., practices of pregnant and post-partum women, child rearing and feeding, self-medication, behaviors and activities of public and private health care providers, and health behaviors of the elderly.

- Health services utilization patterns and trends. This would take a look at various studies done on how people make health care choices. It should cover the differentiation between the choices of traditional versus modern sectors, choices of self versus professional care, choices of various levels of health delivery system, choices on private or public sector or even choices for generalists versus specialists.

- Practices of professionals. The use of different types of drugs, responses to the introduction of essential drugs, and promotional efforts with regards to new technologies and the decision to make use of such technologies by practitioners are some of the possible areas that might have been studied and could be reviewed before proceeding to do more studies.

Area 2: Behavioral Surveillance

Rapid changes in people's lifestyles in urban and rural societies and significant increases in behavior-related illnesses mandate us to have a surveillance system on people's behaviors. Data generated out of this system are essential for formulating appropriate health policies. This activity can be built upon existing collaboration between technical organizations in the Ministry of Public Health, i.e., the Zonal Health Promotion Centers of the Department of Health and the Zonal Centers for Coordinating Communicable Diseases Control of the Department of Communicable Disease Control. The following topics are appropriate for surveillance:

- behaviors in sickness and health including self care and health care seeking behaviors;

- risk behaviors, e.g., smoking, drinking, sexual and driving;

- consumption behaviors, e.g., foods and drinks.

The main focuses should be made on models and indicators of development, feasibility of the system, and clear target groups.

Area 3: People's Participation in Health

Emphasis on people's participation has been a part of Thai health policy since 1980. The emphasis on health volunteers has been viewed with caution especially under the present trend of increasing urbanization and loss of community bonding in big cities. It is therefore important to better understand how changes have affected and led to the evolution of the volunteer concept. At the same time, it is essential to identify or suggest how people could be expected to play an active role in health under changing environments. Possible topics include:

- evaluating the health volunteers system and other models taking place in different provinces with regards to people participation in health with the view of finding alternative effective ways of involving people in health under changing

socio-economic environments;

- model development to improve self-care and strengthen coping mechanisms of the people under different socio-economic conditions. It is obvious that there is a need to better understand the various backgrounds of population groups as determined by their economic, educational and other psycho-social factors in order to find effective means of promoting self-care among these different groups.

Area 4: Care Seeking Behaviors

An overall picture about health .services utilization is available through periodic surveys. However, a need exists to better understand why individuals make different choices for health care under various conditions. It is also well known that the free society concept has given rise to a pattern of shopping around for health services. With the introduction of compulsory health insurance and the lessons learnt from more developed countries, allowing unlimited access to health services would be one of the factors contributing to ineffective use of health resources. It is therefore also important to understand how people would react to the limitation of access in various schemes such as the Social Security Fund and Health Card Project. This may help us to better introduce hierarchical services utilization into the population. Moreover, the present trend of changing health problems gives rise to various conditions that may post a challenge for the modern health services system and it would be important to know how people make use of the various types of health services. Such conditions include AIDS, mental health problems, chronic diseases and problems faced by the elderly population. The presence of various types of services and supports available in the Thai society may play key roles in the care for people with such problems.

Possible topics or areas of studies include:

- demand for private health sectors by various population groups as well as reasons behind people's choices and health promoting roles of the sectors;

- uses and perceptions towards health services units in different parts of the country;

- care seeking patterns of persons with HIV infection;

- family supports and home health care for the elderly, the chronically ill and the disabled;

- care seeking behaviors of people with chronic diseases such as hypertension, diabetes, cancers (especially the terminal cases);

- preferences for specialists felt to be present among the urban population but have not been systematically assessed neither among the high-income nor low-income groups.

Area 5: Lifestyle and Health

Certain behaviors are well-documented to be health hazardous and self-destructive such as smoking, drunk driving, sexual promiscuity, and lack of physical exercise. Some of these behaviors have been systematically monitored at a macro level. The best known are smoking and alcohol consumptions. In order to promote healthy lifestyles, there is a need to understand these behaviors in more specific contexts and in more detail. In other words, we need to understand the perceptions, attitudes and motives towards different types of behaviors under different circumstances. Possible study topics include:

- *People's attitudes towards life, sickness and disability and willingness to pay for better health*

- *Smoking among teenagers as well as women.* Recent surveys have shown a resurgence of smoking prevalence especially among teenagers and women. It is important to explore the various factors involved in motivating these two important population groups to smoke and to devise effective means of promoting a more healthy behavior among them as well as preventing the non-smoking portion from adopting such behaviors.

- *Drinking and driving.* There have been various suggestions as to how drunk driving could be controlled. Basic research in more depth about drinking behavior especially with regards to driving and drinking may shed light on the control programs. It might also be interesting to introduce certain models to identify effective approaches to the problem.

- *Studies about sexual behaviors among Thai population, especially with regards to visiting brothels and buying sex services from prostitutes and other types of polygamous practices of populations in various regions of the country.* This would hopefully give us more information about encouraging healthier sexual behaviors which are important to the effectiveness of AIDS control programs.

- *Utilization of various types of health services alternatives or care seeking for people with different types of health problems which are becoming higher priorities for the country.* This includes people with HIV infection, mental health problems, chronic illnesses, and terminal diseases. The presence of religious establishments, traditional healers, family supports, informal caregivers, and various types of alternative medicines may play a significant role in these types of patients. Better understanding definitely leads to a more rational policy for health services organization in the future.

Area 6: Professional Practices and Communication Gaps Between Providers and Clients

The two groups of health technologies that deserve prime attention are drugs and high-cost equipment. Certain groups of drugs need to be monitored closely, especially the more commonly used and quite costly such as antibiotics, and the new drugs for cancers and HIV infection. Medical technologies that need greater attention on their use include Magnetic Resonance Imaging (MRI) and Computer-Assisted Tomography (CAT) scan and other more recent high-cost diagnostic equipment. Certain therapeutic technologies such as Extracorporeal Shock Wave Lithotripsy (ESWL) and certain procedures like cardiac bypass and organ transplantation also should receive more attention. Studies in this area may cover the attempt to assess the present practices and utilization pattern, trying to understand the perceptions and rationale behind practitioners' decision or even introducing certain models to try to encourage a more rational use.

Another aspect of professional practices that needs to be better understood is their interaction with the people that may lead to the creation of unnecessary demand. This may take the form of implicit and explicit advertisement, and educational approaches based on negative fear tactics. It is quite obvious that practitioners do not have the intention to create demand but to give information to the people. However, the ways the messages are relayed definitely play an important role in determining the responses of the people towards each message received.

Area 7: Communication to Reduce Risk Behaviors and Promote Healthy Behaviors

Reduction in risk behaviors and promotion of healthy behaviors require high public awareness and knowledge, since people are the main change agents. Only effective communication can be used to achieve these two behavioral modification goals. Topics relevant to this area include:

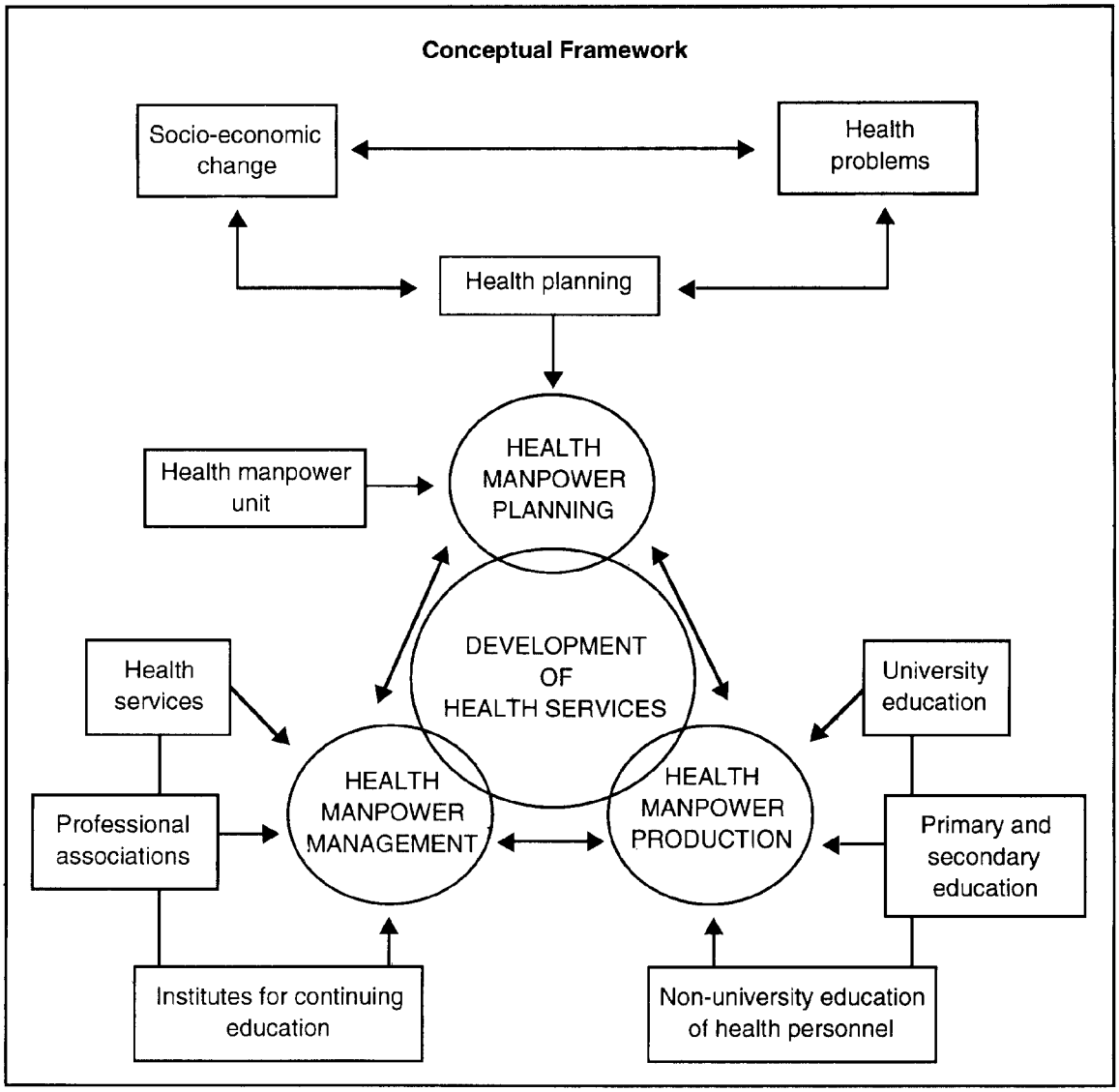
- evaluation of the health education/communication process and public relations in health and medicine;
- development of appropriate models in communication with regards to channel, messages and conditions facilitating behavioral changes;
- behavior forming in children with proper use of media;
- appropriate feedback mechanism in health communication in Thai society.

Research Agenda on Development of Human Resources for Health

Rationale

Because of its labor-intensive nature, provision of health services needs "Human Resources for Health" (HRH) as one of its critical components. Not only developing but also developed countries are suffering HSR problems. In Thailand, the following issues highlight some of the problems:

- urban-rural inequitable distribution of health personnel;
- brain drain of health personnel, e.g., physicians, dentists, and pharmacists, mostly due to marked discrepancies in level of income;
- policy of increasing high-level personnel production conflicting with the concept of encouraging fair distribution and increasing operation-level personnel production;
- over-specialization of medical practice resulting in expensive services available only to high-income people;
- shortage of health personnel working in the rural area;
- poor performance, morale and motivation of government health personnel working in the periphery;
- lack of adequate review and long-range and comprehensive national planning of health manpower development in accordance with economic and social conditions;
- training of health personnel which is content-oriented, rather than problem-oriented, and uses more of a biomedical than a social approach;
- shortage of health personnel in certain fields, i.e., medical sociologists, occupational health specialists, and physical therapists;
- lack of an appropriate conceptual framework and good monitoring system for health manpower development in Thailand.



These problems are complicated in and of themselves and need Health Systems Research as a means to deal with them.

Objectives

General Objective

To promote Human Resources for Health (HRH) by using Health Systems Research (HSR) to achieve the Health For All (HFA) goal, i.e., HRH via HSR for HFA

Specific Objectives

- to review the situation of sub-district health officials in every relevant aspect to better prepare for "the Decade of Subdistrict Health Centers Development;"

- to comprehensively and systematically study brain drain policy to propose short-, medium- and long-term solutions;
- to find a better system to recruit and train persons who can potentially work in the rural area continuously for a long period;
- to promote collaboration between producers and users of health manpower development;
- to support institutes responsible for producing health personnel to work in the rural area;
- to promote an appropriate model of general medical practice in Thailand;
- to promote cooperation between public and private sectors in health manpower development as a mechanism for HRH planning;
- to encourage study to establish a conceptual framework and a mechanism to monitor HRH development situations in Thailand;
- to promote other aspects of HRH development as needed.

Priority Research Areas

Review of the appropriateness of health personnel working at health centers level and how to enhance it (macro and micro levels). The following issues need to be taken into consideration for this area:

- type of personnel;
- expected and actual quantity of personnel;
- qualification and performance of personnel (should all have a bachelor's degree?);
- advantages and disadvantages of current continuing education and training systems;
- feasibility of on-the-job training;
- job advancement and personnel transfer;
- effects of morale, dignity, lifestyle, and ways of living and earning on job performance;
- work environment, e.g., resources, system, and rules and regulations;
- other issues: advantages of having dental officers working in health centers, etc.

This study should not only be conducted in general rural areas but also at specific locations, e.g. industrial areas, tourists' spots, highlands, islands, and border areas, especially in the south.

Real situation of the brain drain problem (macro level) as per the following issues:

- work conditions in public and private health sectors;
- welfare, incentive, dignity, morale, way of living and value on happiness of health personnel;
- factors and conditions affecting the brain drain problem;
- specialties most seriously affected;
- different impacts on young and old staff;
- private demands for personnel;
- effects of corrective measures on the situation;
- other possible alternative measures.

Evaluation of impacts of special projects aiming at encouraging officers to remain in the rural areas. There are special projects of many universities providing quota to students from rural areas to be enrolled in their medical and other health schools. The Ministry of Public Health (MOPH) also provides fellowships to rural students to be enrolled in its colleges and expects that these students will return to their hometown or other rural areas after graduation to work as nurses, laboratory technicians, dental officers, and other health officers. These projects should be evaluated whether graduates really return to work in the rural area longer than those recruited through regular systems. In other words, what are the advantages and disadvantages of these special projects?

In addition, should the MOPH's policy on allocating newly-graduated dentists and pharmacists be made according to their hometown in order to keep them in the system for a long period? (Evaluation research, Macro level).

Action research to test the idea of having users take part in the production process of health manpower at all levels including health administrators (Multi-site study).

Research to evaluate current situations of institutes responsible for health manpower development, e.g., the MOPH's colleges of public health, and nursing, to address their strengths and weaknesses and the ways to improve them.

Operational and action research to develop an appropriate model for general medical practice in Thailand in terms of training, work system, responsibility, incentive, morale, dignity, acceptance, continuing education, and others. Emphasis should be put on doctors working in community hospitals. Study results may also be useful for development of dentists and pharmacists (Micro level).

Research to develop and test mechanisms between public and private sectors in the production and utilization of health personnel including the role of private sectors to subsidize public sectors for the personnel who are produced by public sectors but work for private. The study may lead to national policy formulation on appropriate health manpower development (Micro level).

Research to develop an appropriate conceptual framework for health manpower development and monitoring mechanisms thereof in Thailand (Macro level).

Other research areas:

- distribution of health personnel, geographical areas, and health services units;
- actual and expected roles of health personnel;
- production plan to solve the shortage problem of health personnel;
- efficiency of health services systems and their use of health personnel;
- impacts on health personnel production and development of health policy and other important health programs, e.g., social security, health insurance, and traffic accident victim protection, and increased incentives to health personnel;
- costs, impacts, advantages and disadvantages of continuing personnel development activities: professional conference attendance, observership, and study tour;
- development and testing of an appropriate model for continuing health personnel development emphasizing development of analytical, synthetic, self-evaluation, and self-learning skills;
- development of a model for health administrators development to have good knowledge and attitudes in health administration as well as to study the possibility of power delegation and decentralization to the administrators;
- economics of health manpower production: cost, subsidization, etc.;

- analysis of over-specialization problems and potential solutions;
- development of an appropriate model to increase the capacity of health personnel in dealing with newly emerging or urgent problems, e.g., AIDS, accidents and others;
- analysis of current situations of team-approach working style and how to improve it;
- study of how to integrate health personnel development strategies from various plans in the direction that they can have a real impact on operation;
- micro-level action research on health personnel and services development in special parts of the country;
- development of HRH planning and administration by using health systems research at provincial level.

Research Agenda on Health Situation and Future Trend

Rationale

Health information systems have existed in Thailand for several years and can be used to reflect the Thai population's health problems to a certain extent. Vital statistics, morbidity, mortality patterns and 68 communicable and notifiable diseases are major components of the systems. Each system has its own characteristics, advantages and disadvantages.

Vital statistics are the responsibility of the Office of Civil Registration of the Ministry of Interior, where data are computerized. Births and deaths are recorded in this system. Mortality data are provided in greater detail in cases where death certificates are issued, especially when deaths occur in hospitals or health services units. Although such data can be analyzed to address various variables (e.g. age, sex, region, disease group), they are not perfect because births and deaths among the rural and urban poor are not well captured by the registration system.

Morbidity data come mainly from governmental health services units such as health centers to regional hospitals of the Ministry of Public Health as well as university hospitals. Although the data are aggregate and analysis at the individual level is not possible, they are useful in reflecting services workloads and hospitalizations in relation to service unit capacity.

Notifiable diseases in the surveillance system are mainly communicable diseases. Other major non-communicable diseases which are of growing importance are not included in the system. This fact prompts us to consider the addition of other health problems to the system and improvements of the system so it is useful for public health development.

Other socio-economic problems and changes in population structure which impact upon people's health status are largely limited in their existence and use. Several examples of such health problems can be cited: chronic diseases, mental health problems, factory workers' health, and health of the under-privileged in urban and rural areas. Current databases do not permit us to analyze in-depth the real situations of these problems.

Data in the health services system regarding institutes, personnel, budget and other resources have not been fully collected, analyzed, and utilized, especially for the private sector. In particular, even basic information about service loads and disease patterns in private clinics and hospitals is not available. The rapid expansion of the private health sector makes this an important component of national health systems and

cannot be ignored.

In addition, not only data on current situations but also the future trend are important, especially in rapidly changing situations like in Thailand. With regards to the future trend, only data on population quantity and structure have been projected, for example, the numbers of children, working adults and elderly. These data are necessary for economic, educational and health planning. On the supply side, the future trend of health problems, changing patterns of health services, and levels of physical and human resources for health will also be used in health policy and planning.

Objectives

- to elucidate the actual situations of important health problems such as chronic diseases, communicable diseases, mental health, environmental health, and occupational health
- to analyze and improve existing health information systems so that they can be used to better indicate health problems of the people
- to study health problems among certain vulnerable groups, e.g., elderly, children of 0-12 years, and the urban and rural poor
- to analyze the future trend of health problems, health resources, population and other important factors for long-term policy formulation and planning for efficient public health development in Thailand

Priority Research Areas

Emerging Health Problems

It is clear that non-communicable diseases are becoming more important and these diseases are behavior-directed. Understanding distributions of the diseases by age, sex, income, social status and geographical location is important for planning of effective prevention, control and treatment strategies of the diseases.

Previous data related to mental health are mainly from records in health services units and reflect only the tip of iceberg. Industrialization and urbanization lead to stressful life problems which need more attention. Both quantitative and qualitative studies on mental health problems are needed to shape the direction of national policy.

Environmental and occupational health problems are enormous and deserve more attention; however, studies in these fields are not systematically evaluated. Risks of people exposed to environmental hazards have not been fully assessed and a definite policy on these issues has not been set.

Examples of research topics in this area are:

- national and regional surveys of major non-communicable diseases;
- study of accidents, e.g., traffic, domestic, and work-related, and their determinants;

- assessment of mental health status of various population groups for long-term planning;

- assessment of the health status of people living in polluted and non-polluted areas in terms of general and specific morbidity and mortality;

- study of the opportunity for exposure to chemicals and food contaminants in people relying on prepacked foods.

Health Problems in Specific Groups

Knowledge of health problems in specific groups is also essential for formulating policy, planning programs and allocating resources for more efficient health promotion and disease prevention and control programs. For example,

General living condition, economic status, educational level and opportunity to receive information affect the physical and mental health status of the elderly. Problems of the elderly are becoming more acute because of the increasing proportion of the old-age population. We need to fully understand their problems before efficient measures can be improved. Appropriate services mechanisms also need to be prepared for this group. The following are topics needing research:

- study of physical and functional conditions of the supporting systems for urban and rural elderly;

- study of mental status and health impacts thereof in the elderly population in different living environments;

- study of an appropriate (efficacious, effective and efficient) model for promoting health in the elderly;

The urban and rural poor are another specific group that needs public attention. The extent of health problems, access to health care and factors affecting their underprivileged status should be the focus of the study, and along the following lines:

- people holding a free medical card in urban and rural areas;

- population living in urban congested areas;

- migratory groups in big cities;

- children of 0-12 years in poverty;

- adult and child prostitutes;

- construction workers;

- neglected and unattended people.

Development of Databases

A health information system is needed for health problem identification, policy formulation and program planning. Several new features are necessary for improving current health databases, e.g., collecting individual instead of group data, adding data from private sectors, and linking different databases together.

Analysis of current and upcoming databases may help us improve the databases themselves, such as decreasing the quantity of data in the system, specifying proper data flow, and presenting and encouraging appropriate use of data. The following are some sample areas for analysis:

- analysis of birth and death data leading to improvement of birth and death indicators;
- analysis of death certificates leading to more specific and accurate reporting of the causes of death;
- analysis of job performance to evaluate reliability of performance reports;
- use of rapid appraisal techniques for improving existing databases;
- study of current health recording and reporting systems in private sectors for further improvement;
- analysis of mortality from certain important diseases, e.g., diarrhea, and vaccine-preventable diseases, by linking surveillance and death databases.

Future Trend Analysis

Existing data are to be analyzed using several methodologies to forecast the future trend of health problems and health impacts related to economic and social changes. The following are important trend analyses:

- mortality trend in population;
- impact of the AIDS trend on the population structure;
- long-term economic impacts of the problems associated with the elderly;
- trend and distribution of important chronic and non-communicable diseases, e.g., diabetes, hypertension, heart diseases, and cancer, by age, sex, economic status, geographical location and urban/rural;
- trend in service utilization of people in both public and private sectors and for both basic and advanced levels and trend of expansion of the services;

- trends in services utilization and costs of some insurance schemes, i.e., civil servants', social security, and accident victim protection;

- future trend of health problems affected by past and present policies as well as national and international technical development and cooperation in health.