THAILAND HEALTH MANAGEMENT SCENARIOS
IN THE NEXT TWO DECADES (2020)

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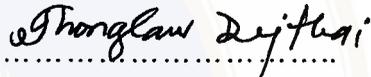
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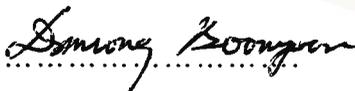
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Futures research in health management is very new in Thailand even though it has been around for over 50 years. The main objectives of this research was to study strengths, weaknesses, opportunities, and threats of present Thailand health management, and identify future scenarios of Thailand health management in the next two decades (2020) in terms of missions and roles, structures, resources, and managerial processes as well as functions of various related agencies. The Ethnographic Delphi Futures Research (EDFR) was utilized for data collection. A total of 67 informants including health administrators from central, regional, and local levels, related agencies, and academicians were purposively selected according to research criteria and interviewed. The Delphi questionnaire was designed to identify future trends of Thailand health management in 2020. Median, a different score between mode and median, and interquartile range were used to interpret the results.

It was found that the major strength of present Thailand health management was the structure. There were service facilities covering all levels throughout the country. The overall system was staffed with highly qualified personnel. The Provincial Chief Medical Officers were authorized to administer all health activities in provinces. However, this pattern was also viewed to present some weaknesses in such a way that health care service and facilities were inappropriate and overutilized due to an easy access. Many health care facilities were concentrated in Bangkok and big cities, especially private hospitals and clinics. The other weaknesses were poor coordination between the Ministry of Public Health and other health partners, weak control and monitoring mechanism on private sector, incapable of producing high technological applications, and mainly dependent on foreign technologies. The economic crisis and political interference were the major threats to health management. However, there were some opportunities that health care reform could be accepted without strong resistance. Delegation of authority and decentralization were also stipulated according to the new constitution. There were chances that national orders and society could be revitalized through community participation. Special interests in health of the Royal Family had contributed a great deal to the success of health management in Thailand.

By 2020, different local bodies would be responsible for health care management according to national health policy and plans established by a national board of health that consisted of all involved parties including public and private sectors as well as people's representatives. The ministry of public health would link between national and local levels. Provincial Health and District Health Offices would coordinate, monitor, and consult at local level for technical matters. Some of health care facilities from Tambon level and higher would be transferred to be under the jurisdiction of strong and high income local administrative bodies or become the independent public organizations run by local administrative bodies and people share holders. Provincial and district health administrators as well as hospital directors must be trained in special courses before appointments. They would not necessary be physicians. There would be committee and system for administrator selection in each level. Health plans include short-range (2-3 years) and long-range (5-10 years) plans. Program plan focuses on quality of life, good living conditions, health promotion and disease prevention, and the enhancement of equity in health services through health insurance system.

การวิจัยอนาคตด้านการบริหารจัดการสาธารณสุขนับว่าเป็นเรื่องใหม่สำหรับประเทศไทย การวิจัยนี้จึงมีวัตถุประสงค์เพื่อ ศึกษาจุดแข็ง จุดอ่อน โอกาส และภาวะคุกคามของการบริหารจัดการสาธารณสุขของประเทศไทยในปัจจุบัน และหาอนาคตภาพการบริหารจัดการสาธารณสุขของประเทศไทยในสองทศวรรษหน้า (พ.ศ. 2563) ด้านภารกิจบทบาทหน้าที่ โครงสร้าง ทรัพยากรการบริหาร และกระบวนการบริหารจัดการ รวมทั้งบทบาทหน้าที่ของหน่วยงานอื่นที่เกี่ยวข้อง ด้วยวิธี Ethnographic Delphi Futures Research (EDFR) สัมภาษณ์กลุ่มผู้บริหารงานสาธารณสุขส่วนกลาง ส่วนภูมิภาค ส่วนท้องถิ่น หน่วยงานที่เกี่ยวข้อง และนักวิชาการ จำนวน 67 คน ซึ่งคัดเลือกแบบเจาะจงตามเกณฑ์การวิจัย และการใช้แบบสอบถามเดลฟายที่สร้างจากผลการสัมภาษณ์ ค่าสถิติที่ใช้พิจารณาตัดสินแนวโน้มที่เป็นอนาคตภาพ คือ ค่ามัธยฐาน ค่าความแตกต่างระหว่างฐานนิยมกับมัธยฐาน และผลต่างระหว่างควอไทล์ที่ 3 และควอไทล์ที่ 1

ผลการศึกษาพบว่า จุดแข็งของการบริหารจัดการสาธารณสุขของประเทศไทยในปัจจุบันคือ โครงสร้างสถานบริการที่มีอยู่ครอบคลุมทุกระดับตั้งแต่จังหวัดลงมาถึงตำบลและหมู่บ้าน การมอบอำนาจให้สาธารณสุขจังหวัดเป็นผู้รับผิดชอบงานสาธารณสุขทั้งหมดในจังหวัด และมีบุคลากรระดับมันสมองจำนวนมาก ขณะเดียวกันก็เป็นจุดอ่อนทำให้ประชาชนเลือกใช้บริการอย่างเสรีข้ามระดับการรักษาเป็นการใช้ทรัพยากรไม่เหมาะสม มีการกระจุกตัวของสถานบริการอยู่ในกรุงเทพมหานครและเมืองใหญ่โดยเฉพาะอย่างยิ่งภาคเอกชน การประสานงานของกระทรวงสาธารณสุขกับหน่วยงานภาคนอกยังไม่มีประสิทธิภาพ การควบคุมกำกับภาคเอกชนไม่เข้มแข็งพอ ไม่สามารถผลิตเทคโนโลยีชั้นสูงได้เอง ต้องพึ่งพาต่างประเทศเป็นส่วนใหญ่ ภาวะวิกฤตเศรษฐกิจและการแทรกแซงทางการเมืองเป็นสิ่งคุกคามที่สำคัญ แต่เป็นโอกาสให้การปฏิรูปบริการสุขภาพเป็นที่ยอมรับและไม่ถูกคัดค้านรุนแรง การมอบและกระจายอำนาจตามรัฐธรรมนูญ การปรับระเบียบประเทศและสังคมไทยใหม่ ความร่วมมือของประชาชนและชุมชน และความสนใจของพระราชวงศ์ เป็นโอกาสที่ดีของการบริหารจัดการสาธารณสุข

ภายในปี พ.ศ. 2563 ส่วนท้องถิ่นระดับต่างๆ จะรับผิดชอบบริหารจัดการสาธารณสุขในท้องถิ่นของตนเอง ตามทิศทางนโยบายและแผนสาธารณสุขของประเทศ ซึ่งคณะกรรมการสาธารณสุขแห่งชาติที่ประกอบด้วยทุกส่วนที่เกี่ยวข้องทั้งภาครัฐ เอกชน และองค์กรประชาชน เป็นผู้กำหนดแยกแต่ละด้าน โดยกระทรวงสาธารณสุขเป็นตัวเชื่อมระหว่างคณะกรรมการระดับชาติกับคณะผู้ปฏิบัติในส่วนท้องถิ่น สำนักงานสาธารณสุขจังหวัดและอำเภอทำหน้าที่ประสานงาน ติดตามกำกับ และเป็นที่ปรึกษาวิชาการให้กับส่วนท้องถิ่นระดับต่างๆ สถานบริการระดับตำบลขึ้นไปบางแห่งจะโอนเป็นขององค์การบริหารส่วนท้องถิ่นที่เข้มแข็งและมีรายได้มาก หรือแยกเป็นองค์การอิสระที่มีส่วนท้องถิ่นและประชาชนถือหุ้น บริหารในรูปคณะกรรมการ สำหรับผู้บริหารสาธารณสุขระดับจังหวัด อำเภอ และผู้อำนวยการโรงพยาบาลต้องผ่านการอบรมหลักสูตรเฉพาะตำแหน่ง ก่อนดำรงตำแหน่งไม่จำเป็นต้องเป็นแพทย์ มีคณะกรรมการและระบบการคัดเลือกเข้าสู่ตำแหน่งในทุกระดับ

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DCHO	District Chief Health Officer
DHO	District Health Office
EDFR	Ethnography Delphi Futures Research
EFR	Ethnography Futures Research
HFA	Health for All
IQR	Interquartile Range
MOI	Ministry of Interior
MoPH	Ministry of Public Health
NESDB	National Economic and Social Development Board
NGOs	Non-Governmental Organizations
PCMO	Provincial Chief Medical Officer
PPHO	Provincial Public Health Officer
SEARO	South East Asia Regional Office
SWOT	Strengths, Weaknesses, Opportunities, and Threats
TAO	Tambon Administrative Organizations
WHO	World Health Organization

CHAPTER I

INTRODUCTION

1. Background and Statements of Problems:

Today world is the world of change. All related aspects are changing dramatically and radically which drive individuals and countries to cope with this New World Order. We will be left behind if we can not compete with the outside world. Individuals and countries are forced to look ahead to the future both short and long terms as well as able to assess the future more accurate and greater distance. Therefore, this era is the era that futures has been mentioned more often and continuously. Most countries have agreed that looking ahead and future goal setting are necessary for national policy and plan formulation. Not only an economical, scientific and technological aspects but also social, cultural, political, educational, and environmental aspects are required to be continuously determined.

In moving toward the future, Thailand needs to be prepared for rapid changes ahead, both from forces within Thai society itself, and from global changes toward closer integration, free trade and greater competition (The Royal Thai Government, 1996: 1). However, it was found that most policy and decision-makers in many countries have not been aware of the importance of long-range future aspects including health as well (Garrett, 1996:xii). Thailand has no long-range plan (Bintason, in Institute of Futures Study for Development: 11, and Keratinunt: 13) but only 5 - year national socio-economic development plans which translate into annual plans. Thai government so far has never had any long-range plans to deal with future development. Most decisions are made based on solving existing problems and short-term approaches. There are currently no 10 – year, 20 – year, or 30 – year plans available in Thailand. It is therefore necessary for the Thai government to formulate

long-range plans for future national development to meet the requirements of our changing world based upon futures research data.

With the belief that futures can be systematically studied and human beliefs have influences on their decision making and behaviors. This means that man can create and control his futures. Futures studies and research have been around and in existence for over 50 years (Garrett, 1996:1). Futures research is not meant to focus on correct prediction but to explore plausible futures both desirable and undesirable so that the undesirable events can be prevented. If not possible at least we could be prepared to face efficiently with undesirable events. Futures research is then to control the future and focus on creating future with the belief that "the future is now". Therefore, the information from futures research are very useful for policy and plan formulation, decision making as well as setting strategies and tactics to bring about desirable future (Poolpatarachewin, 1987: 34 – 35, and Bezold, 1995:921). On the other hand, the futures field involves systematic consideration of what might happen (exploring plausible futures), the identification of what we want to create (visions), and assisting in the development of strategies and tactics directed towards achieving the vision, in light of the plausible environments we face. Futures work includes research and studies as well as participation processes often aimed at defining and creating preferred futures or visions (Bezold, 1995:921).

Futures research has been going on for 50 years, and health-futures activities have already been carried out in some countries for over a decade ago. Nevertheless, 'futures' is still unfamiliar concept to most health professionals around the world (Garrett (b), 1996: 1). Consideration of the longer-term future has remained a low priority item for most national decision-makers, including those in the health sector. Health officials may realize the potential benefits of a futures approach but feel they cannot afford to give the future significant attention when so many serious problems demand immediate action. They may also hesitate to become involved in what seems to be a new and untested field, unless they are aware that futures techniques have been used in many corporations, organizations, and governments since the 1950s (Garrett (a), 1996:1). Therefore, health futures study is a fairly new and rapidly evolving field

(Blackman, 1995:919). The information gained from futures research have been utilized for national policy and plan formulation since 1980. Since then, health future study has been conducted in many nations around the world. However most of the studies are focussed only on one aspect like economic and environment. Some other studies have put in the form of integrated sciences. The UN Educational and Scientific office has compiled and printed a document entitled "Studies for the 21 St Century". For national integrated science studies in health and related fields have been focussed on the socioeconomic of nutritional and environmental status. (Garrett, 1996:2). There were also some studies have been done specifically in the field of health. For instance, had analyzed the health trends for national development plan formulation. Malaysia used the futures technique to study the opinions of experts to create scenarios for the Malaysian National Health Plan formulation. Japan applied futures study approach to identify the needs for health care services. Republic of Wales launched health futures study to seek for desirable social and health care services and the possibility of achieving desirable goals. Netherlands had futures study program to analyze long-range trends and scenarios of important diseases. Nicaragua used health futures study for setting national long-range objectives in health. Many drug companies and health maintenance organizations in the United States of America have also applied health futures studies as one of the techniques for priority setting and strategic planning.

The World Health Organization and regional offices have played an important role in health futures studies by encouraging health futures researchers to share and disseminate information on their methods of study and findings. In 1991, the World Health Organization along with the WHO Regional Office for Europe (EURO) and the Pan American Health Organization (PAHO) have become the first group members of an International Health Futures Network. Later on in 1993, the World Health Organization has established an International Health Future Advisory Committee consisting of members from EURO, PAHO and SEARO (South East Asia Regional Office). Since then, the World Health Organization has published a proceeding report from the consultation, as well as a special issue of World Health Statistics Quarterly. In 1995, the World Health Organization and Pan American Health Organization

(PAHO) had published articles on health futures in the Futures Journal as a special issue.

The World Health Organization recently printed the first health futures handbook as a guideline for the study in this field. In addition the futures study has been used for launching WHO healthy cities in many countries and primary health care programs in some regions. European WHO Regional Office has also introduced selected methods of futures study as strategies for bringing about health for all (HFA) in Europe. In April of 1996 the African WHO Regional office launched a conference on the utilization of health futures studies as a strategy for HFA for member countries. (Garrett (b), 1996).

Health futures study has firstly started in Thailand in 1996 as parts of the SEARO Project for Health-Futures Studies under the Research Program and the Supplementary Intercountry Programme on Standard Settings and Innovation within the Health Situation and Trend Assessment Programme of SEARO. There were three countries included in this project namely Myanmar, Sri Langka, and Thailand. The main objective of this project was to introduce member countries the concepts and research methodologies for health futures study. The data gained from this study would enhance the decision making process for appropriate policy setting and planning. The results of research findings could also serve as a base line information for other member countries in the South East Asia Region to plan for their futures studies (WHO, 1996:1).

Each participated country was allowed to design the health-futures study based up on the country's interests and readiness under technical guidance from WHO consultants. The Thai Ministry of Public Health (MOPH) by the Division of Health Policy and Planning had appointed 6 subcommittees to carry out the study in six different areas namely Epidemiology, Demography, Health Economics, Community Participation, Health Services, and Health Management. Later on the community participation area was dropped out from the project due to some technical reasons. Thailand Health Management Scenarios in the Next Two Decades (2020) was a part

of the Health Management area designated by the MOPH Division of Health Policy and Planning. This macro study would be an initial step for collecting base line information and creating awareness among health administrators, academicians, and related policy makers.

2. Research Problems:

The research problems of this study are as follows.

1. What are the strengths, weaknesses, opportunities, and threats of present Thailand health management situations?

2. What are the probable trends of Thailand health management in terms of mission/roles/functions, administrative structure, managerial resources, and managerial processes in 2020?

3. What are the probable scenarios of Thailand health management in terms of mission/roles/functions, administrative structure, managerial resources, and managerial processes in 2020?

4. What is the desirable scenario of Thailand health management in terms of mission/roles/functions, administrative structure, managerial resources, and managerial processes in 2020?

3. Objectives of the Study:

General Objectives

The general objective of this study was to identify Thailand health management scenarios in the next two decades (2020).

Specific Objectives

There were four specific objectives as follows:

1. To analyze existing strengths, weaknesses, opportunities, and threats (SWOT analysis) of Thailand health management in terms of missions/roles/function, administrative structure, managerial resources, and managerial processes;

2. To forecast the trends of Thailand health management in terms of mission/roles/functions, administrative structure, managerial resources, and managerial processes in 2020;

3. To identify probable scenarios of Thailand health management in terms of mission/roles/functions, administrative structure, managerial resources, and managerial processes in 2020; and

4. To define the desirable future of Thailand health management in terms of mission/roles/functions, administrative structure, managerial resources, and managerial processes in 2020.

4. Conceptual Framework of the Study:

The conceptual framework of the study had been formulated from related textbooks and research documents on the national health system and general administrative patterns. It was found from the study that Thai public enterprises have been facing with four major problem areas namely goal and policy, structure, personnel administration, and regulations (Smutawanich, 1988:69, Chuito 1991:3). From the National Health Systems and Their Reorientation Towards Health For All (Kleczkoski et al., 1984:14) and Health Systems of the World (Roemer, 1991: 31-33), five major elements of national health system were identified including health resource production and development, organizations for resource utilization, health service delivery, economic supports, and management. Since this study was focused mainly on health management, selected variables had been drawn and categorized into four groups as mission/roles/functions, structures, managerial resources, and managerial processes. Please see Figure 1.1 for detailed of conceptual framework and outline of the study.

Five categories of detailed variables of the study were spelled out as follows:

1. Mission/Roles/Functions

   1.1 National level

   1.2 Central level

   1.3 Regional level

   1.4 Local level

   1.5 Private sector

2. Administrative Structure

   2.1 National and Central level

   2.2 Regional level

   2.3 Local level

3. Managerial Resources (Qualitative study)

   3.1 Administrators at different levels (Qualifications and Sources)

   3.2 Information for health management

   3.3 Laws and regulations for health management

   3.4 Policy and plans (Characters and Important Issues)

4. Managerial Process

   4.1 Policy formulation and planning

   4.2 Decision-making and coordination

   4.3 Monitoring and control

   4.4 Evaluation

5. Related Agencies

   5.1 Office of the Civil Service Committee

   5.2 Budget Bureau

   5.3 National Economic and Social Development Board (NESDB)

   5.4 Social Security Office

   5.5 Non Governmental Organizations

   5.6 Private health business

   5.7 Professional Agencies

   5.8 Ministry of University Affairs and Educational Institutions

   5.9 Ministry of Defense

5. Scope of the study:

This study was a qualitative future research with a middle range forecasting time frame of 20-25 years by using the Ethnographic Delphi Futures Research (EDFR) technique as a research methodology. There were three phases for the study as follows.

Phase 1 Situation Analysis and Informants Preparation

This first phase was to prepare background information documents for informants.   They were included futures research concept, health management analyzing concept, a summary of the present Thailand health management.

Informants were also provided with strengths and weaknesses on Thailand health management prepared for the Eight 5-year National Health Development Plan along with interview questions before a direct interview.

Phase 2 Forecasting

This second phase of the study was the forecasting of Thailand health management in 2020 through Ethnographic interview. A total of 67 purposive selected informants were interviewed by using an Ethnographic interview technique. Semi-structured interview questions with non-directive and open-ended questions were applied during the interview along with cumulative summarization technique and tape recorder to collect data.

Phase 3 Foresight

The third phase of the study was the foresight Thailand health management in the next two decades (2020) through Delphi Survey.

All interviewed data were analyzed and synthesized to construct a Delphi questionnaire, which was sent to each of the 67 informants to evaluate the possibility of each trend. After two rounds of Delphi survey, all justified future trends were then write up a desirable scenario of Thailand health management in 2020.

6. Limitation of the Study

This study was a qualitative future research using purposive sampling of informants. The findings of this research were drawn from a specific group of informants. Although informants were all stakeholder but most of them were highly concentrated government officials who were mainly physicians from the Ministry of Public Health. Their opinions might be reflecting their long experiences as government officials. Most of them have been in administrative positions with full power and authorities. Their opinions might not represent the nation-wide health authorities.

7. Operational Definitions

1. **HEALTH MANAGEMENT:** Meant to include mission/roles/functions, structure, managerial resources, and managerial processes of health and health related agencies to ensure satisfactory performance and attain national health development goals.

2. **FUTURES:** A term referring to the time yet to come. It is plural because one of the fundamental beliefs of futurists is that the future is not predetermined, or

pre-ordained, rather it is created by each of us. Therefore, there is no single, certain future, but alternative futures.

3. TREND: A continuous list of social, technological, economical, political or administrative characteristics that are anticipated as possible by experts. It is the statement about the direction of changes that are predicted to happen in the futures by the informants.

4. SCENARIOS: Compilations of trends projecting images of the anticipated futures. They may be desirable (optimistic/ realistic) or undesirable (pessimistic/ realistic) trends that are anticipated by experts.

5. SOCIOECONOMIC ENVIRONMENT: General conditions that have direct and/or indirect effects on national health management including society, environment, education, population, economic status, and general public health.

6. MISSION, ROLES and FUNCTIONS: General and specific duties or scope of work established by laws and regulations for organizations to perform in order to facilitate health management.

7. ADMINISTRATIVE STRUCTURE: The skeleton components of health organizations at the macro level that are responsible for managing health activities in Thailand. It consists of national or central, regional (province and district), and local (municipality , Tambon, Bangkok Metropolis) levels.

8. MANAGERIAL RESOURCES: Procurement and utilization of health administrators, information, laws and regulations, and policy and plans (Characters & important issues).

9. MANAGERIAL PROCESSES: The process of managing health administration that include setting health policy and plans, making decision and

coordination, monitoring & control, and evaluation the overall national health management.

10. LOCAL ADMINISTRATIVE ORGANIZATIONS: Local autonomous agencies including provincial, district, Tambon administrative organizations that are administered by local representatives elected from that areas.

Socioeconomic Environment

Society and Environment, Education, Population,

Political and Governing, Economic Status

SWOT Analysis on
Existing Conditions
- National / Central Level
- Regional Level
- Local Level
- Private Sector

Mission /Roles / Functions

-National/Central Level

- Regional Level

- Local Level

- Private Sector

Administrative Structure

- National / Central Level

- Regional Level

- Local Level

Managerial Resources

-Administrators (Qualification & Sources)

-Laws & Regulations

-Information

-Policy /Plans

Managerial Process
- Policy Formulation and planning

- Decision - Making & Coordinating

- Monitoring & Control

- Evaluation

Futures Scenario of Thailand Health Management in 2020

Figure 1.1   Conceptual Framework of the Study.

CHAPTER II

LITERATURE REVIEW

This futures study on Thailand's health management had been carried out by using the Ethnographic Delphi Futures Research (EDFR) technique. The scope of the study covered the whole spectrum of system and national health system according to the model of Professor Roemer I. Milton were related concepts, theories, and researches were discussed in 4 sections as follows.

1. Concepts on general and health systems

2. Management and health management concepts

3. Thai bureaucratic system and Thailand health management

4. Futures research and the Ethnographic Delphi Futures Research (EDFR) concepts

Section 1. Concepts on General and Health Systems

1. General System

Most of the problems at present are complicated and involved with many factors that are directly and indirectly related. Therefore, in trying to find ways to solve those problems, a system approach must be used. A system approach will help involved authority understand different components and their interaction that affect the system. (Gisch cited in Ellencweig, 1992: 5)

General systems theory has been in existence for more than four decades. Darwin defined his "whole" as being a system of nature. Keynes defined his "whole" as being

the entire economic system. Both Darwin and Keynes conceptualized their systems as being as large in size as one could imagine, provided that the individual components could still be identified and integrated into a systematic whole (Kerzner, 1995: 69).

A system may be defined literally as "an organized or complex whole, an assemblage or combination of things or parts forming a complex or on system thinking. A system approach may be defined as logically consistent method of reducing a complex problem to simple components that can be used by decision makers in conjunction with other considerations to arrive at a best solution. In simple terms, system thinking enables magnifier to get the "big picture" in proper perspective and helps than to avoid excessive attention to relatively minor aspects of the total system (Cleland and King cited in Duncan et al., 1992: 12)

A system can also be defined as a combination of subsystems that are interrelates for an achievement of a single shared purpose (Forrester, W.Jay cited in Fuengchantra S., 1994: 89 and Roemer, 1991: 3). A system is a combination of two elements or more in which each element affects the overall performance or qualification but has no independent affect on them; and those combined elements can not be separated from each others (Piyaratana P. & King, 1995: 6).

In summary, a system consists of small elements more than one element that are interacted working together to affect the overall performance.

A system consists of 4 elements namely inputs or structures, processes, outputs or end results, and outcomes or impacts (Donabedian cited in Ellencweig, 1992:5) as shown in Figure 2-1

Professor Boulding (in Kerzner, 1995: 70-71) further postulated that all areas of scientific interest could be categorized according to their level of development. The universe, for example, can be viewed as a hierarchy of system levels where all things exist at some level within the structure. Boulding's classification model looks like this:

1. The first level is that of static structure. It might be called the level of frameworks; for example, the anatomy of the universe.
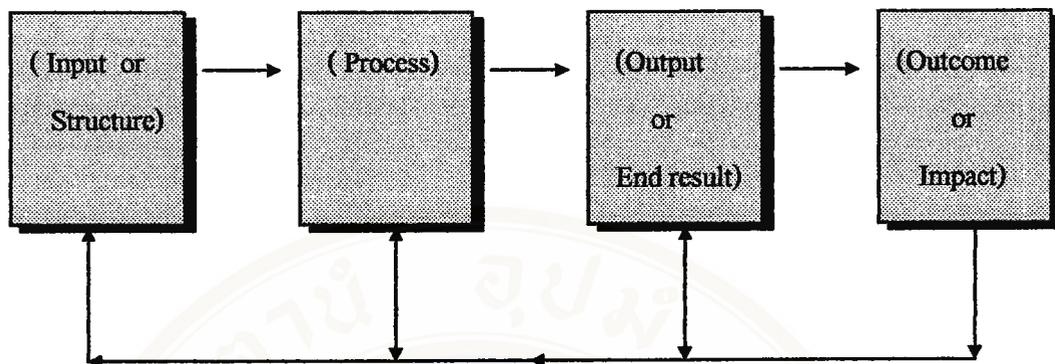
Figure 2.1   Elements of System

Source : Ellencweig, Yacar Avi. Analyzing Health System : A Modular Approach, 1992 : 6 Levey, Samuel

and Loomba, N. Paul. Health Care Administration. Philadelphia: J.B. Lippincott Company, 1984.

2. The next level is that of the simple dynamic system with predetermined, necessary motions. This might be called the level clockworks.

3. The third level is the control mechanism, or cybernetic system is self-regulating in maintaining equilibrium.

4. The fourth level is that of the "open system" or self-maintaining structure. This is the level at which life begins to differentiate from not-life; it might be called the cell.

5. The next level might be called the genetic-societal level; it is typified by the plant, and it dominates the empirical world of the botanist.

6. The animal system level is characterized by mobility, teleological behavior, and self-awareness.

7. The next level is the "human" level, that is, of the individual human being considered as a system with self-awareness and the ability to utilize language and symbolism.

8. The social system or systems of human organization constitute the next level with the consideration of the content and meaning of messages, the nature and

dimensions of value systems, the transcription of images into historical record, the symbolizations of art, music, and poetry, and the complex gamut of human emotion.

9. Transcendental systems complete the classification of levels. These are the ultimates and absolutes and the inescapables and unknowables, and they also exhibit systematic structure and relationship.

The first three levels can be classified as the mechanical or physical sciences and provide knowledge for the physical sciences, astronomy, physics, and chemistry. The next three levels describe the biological sciences and deal with such subjects as biology, zoology, and botany. The last three levels describe the arts and (social) sciences and consider such disciplines as the social sciences, arts and sciences, religion, and humanities.

Our society is a system consisting of three characteristics including interdependence, complexity, and dynamic change. Each element of the system is interdependence (Cleland and King, 1983:4) and related to each other both internally and externally. The products of social system will affect the environmental process and the environment will also act as it's inputs (Miller cited in Ellencweig, 1992: 5). The above three characteristics of social system are always seen in transportation, education, politics, health care, and poverty etc (Cleaned and King, 1983:4).

The business organization is a man-made system which has a dynamic interplay with its environment—customers, competitors, labor organizations, suppliers, government and many other agencies. Furthermore, the business organization is a system of interrelated parts working in conjunction with each other in order to accomplish a number of goals, both those of the organization and those of individual participants (Johnson, Kast, and Rosenzweig in Kerzner, 1995: 71).

2. Health System Concepts

Each and every human being is concerned with the concept of health directly or indirectly, individually or collectively, consciously or unconsciously. A "state of good health" is the most basic prerequisite for performing the tasks and duties associated with the diverse roles that individuals assume at different stages in their lives. The concept of health is intimately related to the idea of quality of life, and is used to refer to the functioning abilities not only of individuals, but also of organizations, societies, and nations (Levey and Loomba, 1984:3)

Health issues are multidimensional because they influence and are affected by economic, social, political, physical, cultures and individual factors. Even the most basic parts of the health care system, providers and consumers reveal multidimensional and complex aspects. In exploring the issues and boundaries of health and health care, it is useful to recognize that (1) people need health care and their needs are formed by multitude of individual cultural, social, and biological forces; (2) professionals and institutions provide health care services and the quantity and quality of services are determined by a host of social, regulatory, economic, and political forces; and (3) patterns of interaction in both private and public sectors, flow of information, and allocation of resources must be managed and coordinated (Levey and Loomba, 1984:4).

In summary there are three major perspectives of health including the individual, the health professions, and the health care manager. For the individual, health refers to optimal functioning and absence of disease and injury. The health professions represent "special" points of view toward the organization, financing, and delivery of health services. In order to be effective, the health care manager must understand individual and professional outlooks, as well as variety of other perspectives, and balance their respective interests while interaction with many components of the health system (Levey and Loomba, 1984: 6-9).

Health care system is an element or a subsystem of the social system. This health care system has relationships with other subsystems to bring about some changes in the health status goal set by the society (Dever cited in Ellencweig, 1992:6 and Kleczkowski, Roemer and Van der Werff, 1984:1). Also health care is an open system whose behavior depends on an interaction with its external environment. This is true in even the most basic ways: the patient, before admission, is outside the system. Similarly, technological, economic, political, and other forces continually interact with the health care system (Levey and Loomba, 1984:10) Another word, the health care system is the social mechanism that transforms resources or inputs into products in terms of heath services with the focus on solving health problems in society (Field cited in Ellencweig, 1992:7). Therefore, the health care system such as environment, life styles, agriculture, and education are related to each others (Dever cited in Ellencweig, 1992:6 and Kleczkowski, Roemer and Werff, 1984:1)

An analysis, of the national health system is the same as in other systems in which each system must be separately studied to understand the impact of various factors on the system performance (Roemer, 1991:3). In summary the health care system is a combination of health resources, organizing resources, economic support, and management to delivery health services to the people as shown in Figure 2.2.

From Figure 2.2, it can be summarized that interrelated National Health System is consisted of 5 factors including (1) the development of health resources, (2) organized arrangement of resources, (3) economic support, (4) management and (5) delivery of health care. Besides the national health system components (infrastructure) shown inside the dotted-line square, direct and indirect physical and social environments are also present to reflect expected missions and target population groups to be served.

Target areas and people

Output functions

Health system infrastructure
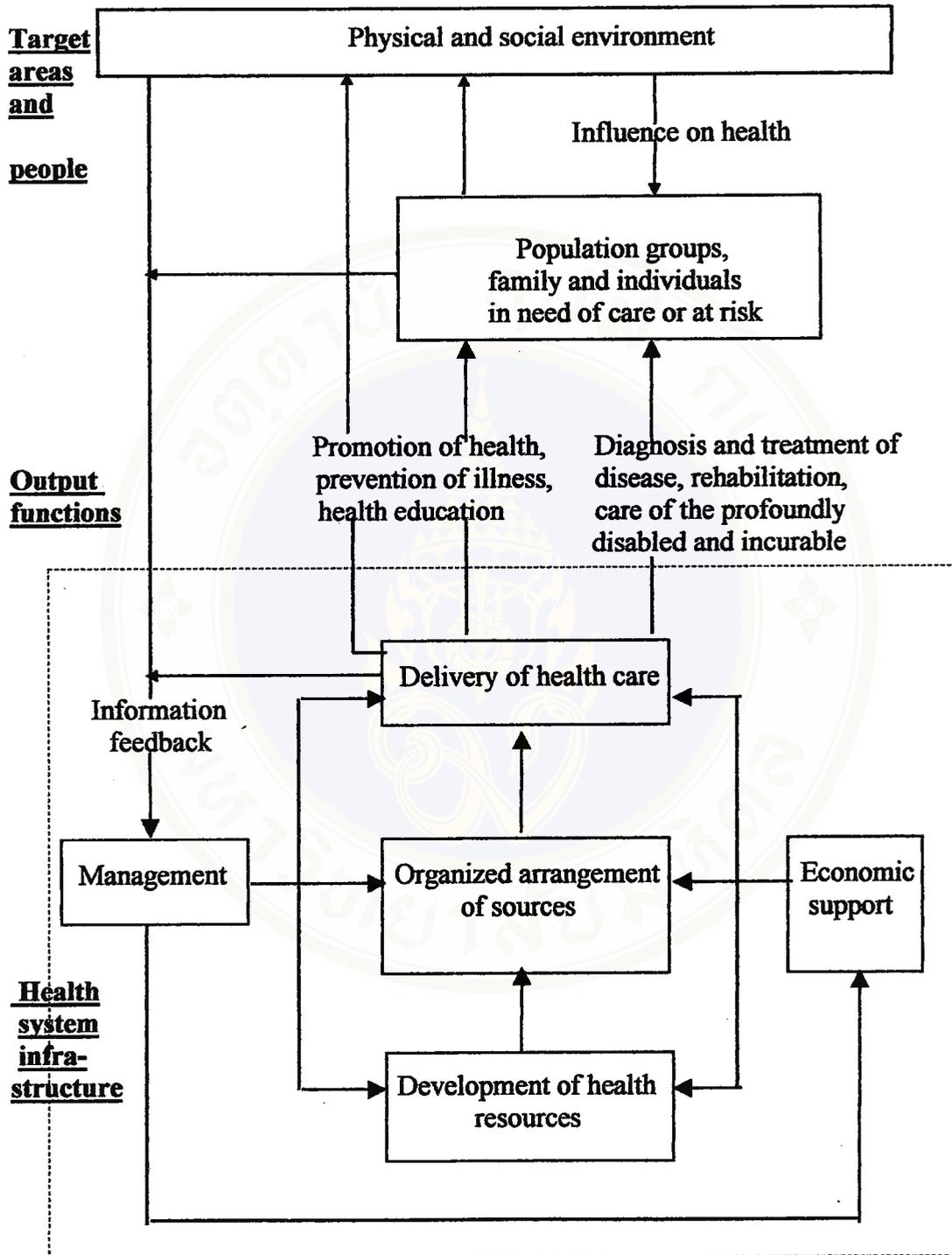
Figure 2.2 A Model of National Health System: Structure and its Function Relationships.

Source: Kleczkowski , Roemer and Van Der Werff . National Health Systems and Their Reorientation Towards Health for All. WHO Geneva, 1984 : 14

Kleczkowski, Roemer and Van der Werff (1984:13-31) have explained the details of each component of the national health system as follows.

1. Development of Health Resources – resources are including health manpower, health facilities, health equipment and supplies, and health knowledge. It may be noted that financing (or "money") is not regarded as a resource because it is a basic medium of social exchange or nonspecific instrument of "value" which must be transformed into certain resources or services in order to become part of the health system.

2. Organized Arrangement of Resources – the major grouping or organized arrangements of health resources may be classified in five categories: national health authorities, health insurance programmes (public), other government agencies, nongovernmental agencies (voluntary), and independent private sector.

3. Delivery of Health care — health care delivery may be classified in different ways. Most often it is categorized according to the objective of the service delivered. This separates health activities into promotional, preventive, curative, rehabilitative, and the sociomedical care of profoundly disabled and incurable.

4. Economic Support — A WHO Study Group on the Financing of Health Services classified the sources of finance as follows.

(1) Public (all levels of government, including ministries of health, health insurance schemes, and other ministries

(2) Employers (industrial and agricultural enterprises)

(3) Organized voluntary agencies (charity, voluntary insurance, etc.)

(4) Local community efforts (financial contributions and unremunerated services)

(5) Foreign aid (both governmental and philanthropic, and latter often from religious agencies)

(6) Private households (both for payments to organized programmes and for purely private purchases)

(7) Other possible sources (such as lotteries and donations)

5. Management — Management has important roles for proper functioning of a health system. It is so great that, together, they are regarded as a distinct factor in effective organization and operation. There are three crucial aspects of health system management including (1) leadership; (2) decision-making which has four crucial aspects including planning, implementation and realization, monitoring and evaluation, and information support; (3) regulation.

From the above major basic structure of the national health system components, their relationships are shown in Figure 2.3.

Roemer (1991:67-73) has summarized that the National Health System Management had four major components including planning, administration, regulation, and legislation.

Health system planning may be carried out with very different degrees of thoroughness. It may be fully centralized and govern practice in every facet of the system, or it may apply only to the ministry of health. It may be done by the planning unit of the ministry of health itself. The object of planning may be limited to the production of human and physical resources, or it may also include detailed standards for the performance of all health services- personal and environmental.

Administration is meant to include the decision making of program leaders and the supervision, controls, and other actions necessary to ensure satisfactory performance and to attain certain goals. The administration of health program involves at least eight processes including organization, staffing and Budgeting, supervision, consultation, procurement and logistics, records and reporting, coordination, and evaluation.

Regulation is commonly regarded as applying to the surveillance of private activities by governmental authorities. However, it also applies to the inspection of
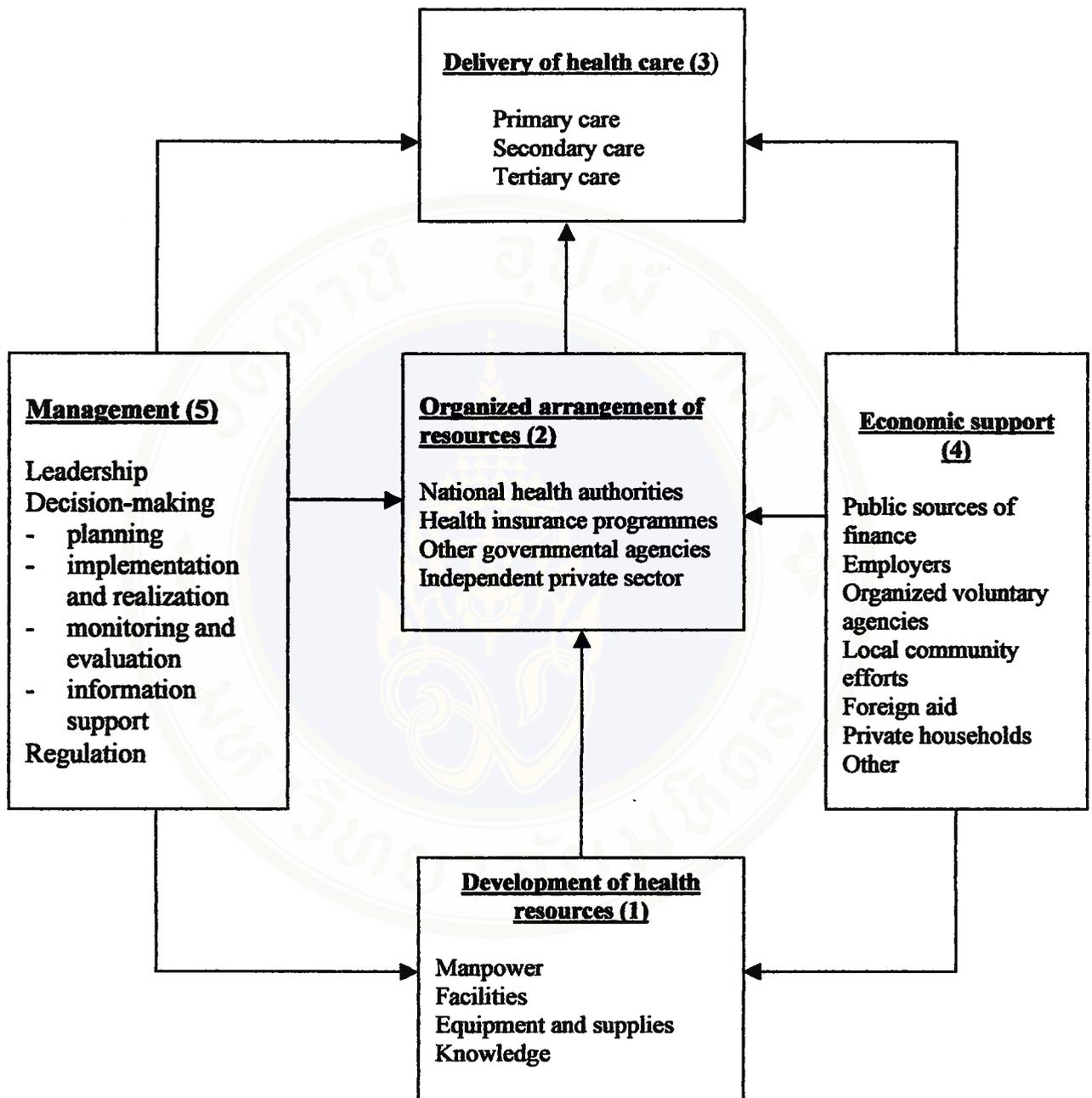
Figure 2.3   Major components of national health system infrastructures

governmental performance at one level by some higher level of authority or by some government body from another sector. We consider the chief objects of regulation within four principal categories including environmental conditions, pharmaceuticals, health personnel and facilities, and personal health services.

Legislation: a body of legislation supports every health system, directly or indirectly. Laws permeate all five components of health system, whether they are explicitly evident or not. Law supports health system functions in at least six principal ways. There are facilitating resource production, authorization of programs, social financing of health care, quality surveillance, prohibiting injurious behavior, and protecting individual right.

In order to analyze and compare various national health systems, Yacar Ellencweig has suggested a Macro Model of Health System shown in Figure 2.4 (Avi Yacar Ellencweig, 1992:38). The model has depicted four main components including inputs, the process of delivery, health system outcomes, and health outcomes that are interrelated and influenced by a variety of internal and external factors. Input of the health system include manpower and others physical resources both qualitative and quantitative which are influenced by population needs and health care organization as well as direct and indirect effects from socioeconomic development. Population needs are influenced by environment, life style, and human biology, which help determine for the health outcomes. The health care organization is considered by its classification, centralization, professional teams, coordination, equity, appropriateness, and accountability.

The process of health delivery is affected by population needs, health care organization, accessibility, utilization, and other indirect effects. Through this process, health system and health outcomes in terms of equity, effectiveness, efficiency, and quality are determined to evaluate the performance of the health system.
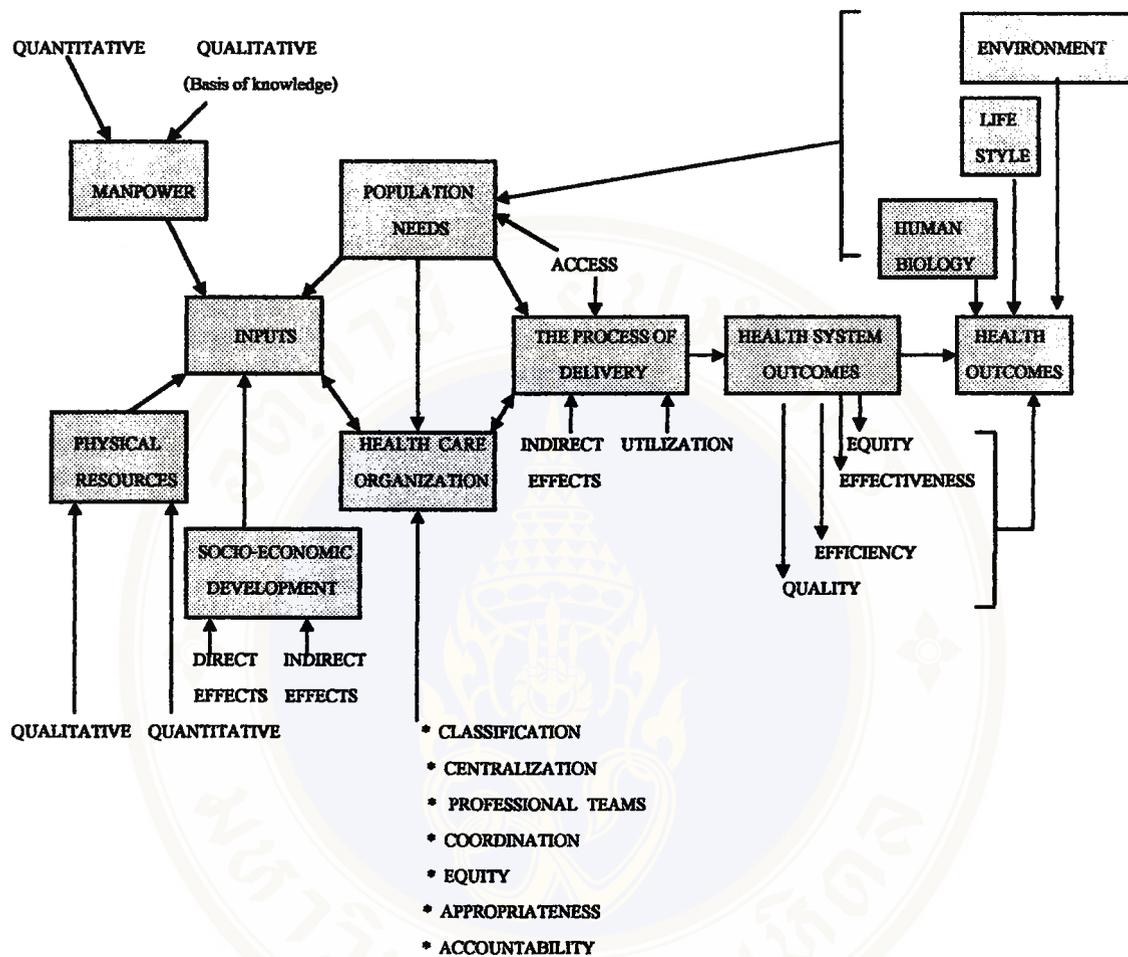
Figure 2.4   A Macro Model of a Health System
Source : Ellencweig, Avi Yacar. Analysing Health Systems : A Modular Approach. 1992, p.38

The right side of the above figure next to the process of service delivery is the health system outcomes that are measured in terms of equity, effectiveness, efficiency, and quality. The health system outcomes will then have effects on the health outcomes or health status of the people that can be reflected by human biology, life style, and environment. Those health outcomes are in turn put forces as inputs through population needs.

The concept of this Macro Model of a Health System of Ellencweig has included

in it the social and economic situations. This concept is consistent with Professor Prawes Wasi (1996:1) who gave the meaning of a health system as the linkage of various elements including social, economic, environment, and politics that affect health status of the people.

Types of Health System

The economic dimension of the national health systems can be scaled according to the annual GNP per capita into four levels. There are (1) the affluent, (2) the transitional, and (3) the very poor, plus the exceptional developing countries that are (4) resource-rich. Another dimension is political or health policy dimension. The national health systems in the world may be scaled into four main types according to the political or health policy dimension (Roemer, M. in Institute of Health Systems Research, 1995: 1-12). Going from the least market intervention to the most, these Health system types are (1) entrepreneurial, (2) welfare-oriented, (3) comprehensive, and (4) socialist. This scaling may be applied, furthermore, to countries at high, middle and low levels of economic development.

Entrepreneurial Health Systems (Roemer, M. 1991: 95-96)

In entrepreneurial-type health systems, the private market is very strong. Intervention by government or other organized entities has been minimal. When economic data on the total health system are available, it is usually found that high percentage of expenditures- typically more than half-derives from private sources (individual and family outlays). Private medical practice is strong, and a substantial Proportion of hospital beds are usually sponsored by private bodies. Government health programs tend to be weak, meeting only a fraction of the population's needs. Health planning may exist in theory, but it is ineffective in practice. Regulation of drugs, health personnel, and other resources is meager. In spite of frequent use of political rhetoric

about "health as a right," accessibility to health care is uncertain and largely an indivisual responsibility.

An entrepreneurial health system in a highly industrialized country is best illustrated by that in the United States (Roemer, M. in Institute of Health Systems Research, 1995: 2). About two-thirds of hospital beds are in non-governmental institutions, and 10 percent of the total are operated for profit. There are local public health authorities engaged in environmental sanitation, communicable disease control, preventive service for mothers and infants, and certain other functions. The largest channel for providing health care, however, is the private market of thousands of independent medical practitioners, pharmacies, laboratories, and so on. Economic support comes predominantly from private sources. The public sector is derived partly from social insurance (social security legislation) and partly from federal, state, and local tax revenues. The largest governmentally sponsored programs of medical care provide for the elderly and totally disabled, and for the poor Roemer, M. 1991: 95.

The entrepreneurial type of health systems in the middle-income developing countries are that found in the Philippine Republic, and South Africa etc. In the low-income or very poor developing countries are that found in Kenya, Ghana, Bangladesh, and Nepal (Roemer, M. in Institute of Health Systems Research, 1995: 2, Roemer, M. 1991: 97).

Welfare-Oriented Health System (Roemer, M. in Institute of Health Systems Research, 1995: 4)

In welfare-oriented health systems, government and certain other entities have intervened in the private health care market in many ways. Many health systems of Western Europe are welfare-oriented, as are the systems of Canada, Japan, and Australia. The health system of the Federal Republic of Germany has mobilized economic support, to make health service available to practically all its people, so that it may well serve to illustrate this system type in an industrialized country. Economic support comes

predominantly from public sector. Most of the public sector funds came from the social insurance, administered by the sickness funds.

The welfare-oriented health systems of Australia and Canada are more fully under the umbrella of government, without use of intermediary insurance agencies. In Australia, health insurance is managed by a single national government authority. In Canada the key administrative bodies are the provincial governments, with partial funding by grants from federal government. In both countries, funds come mainly from general revenues, rather than earmarked employer/employee contributions. Most of the health services are still provided by private doctors, who are paid by negotiated fee, and hospitals are paid by perspective global budgets. In Australia, most hospitals are sponsored by local governments, and in Canada the majorities are controlled by churches or other voluntary bodies.

Among developing countries, there are many with welfare-oriented health systems. At the middle income level, many are in Latin America, Egypt, Malaysia. India is a very low-income country with a welfare-oriented health system.

Comprehensive Health Systems

Comprehensive health systems has meant that 100 percent of the national population has become entitled to complete health service, and financial support has shifted almost entirely to general tax revenues. Larger proportions of doctors and other health personnel have come to work in organized frameworks on salary. Almost all health facilities have come under the direct control of government (Roemer, M. in Institute of Health Systems Research, 1995: 7). The affluent industrialized countries that are comprehensive-type health systems including Great Britain, New Zealand, Norway (Roemer, M. 1991: 97). Among developing countries, there are very few that have achieved comprehensive health systems. Some of middle-income level countries are including Israel, Costa Rica, and Nicaragua (Roemer, M. 1991: 97). The very poor countries are including Sri Lanka and Tanzania. Some of the resource-rich that have

achieved comprehensive health systems are including Kuwait, and Saudi Arabia (Roemer, M. 1991: 97).

Socialist Health Systems

In countries that have had a revolution install a socialist economic order, the health systems have become socialist in structure and function. This has meant that practically all physical and human resources have been taken over by government, and health services have theoretically become available to everyone (Roemer, M. in Institute of Health Systems Research, 1995: 8). In practice, they have all found it necessary to retain certain free market operations within their overall socialist health systems. The countries with a socialist health system include Cuba, North Korea, China, and Vietnam (Roemer, M. 1991: 97).

National health care systems vary from highly centralized to highly decentralized in their organization and financing of health care. Canada's public health insurance plan and the United Kingdom's National Health Service (NHS) anchor the centralized end, while the U.S. mixture of fee-for-service care, managed care, Medicare/Medicaid, Veterans Hospital Administration, and charity care anchors the decentralized end (Wolper, 1999: 4). Management of the United States health services system also includes the functions of planning, administration, legislation, and regulation that occur in both the public and private sectors (Barton, 1999:6). However, the U.S. health services system is the most costly, and one of the most advanced in the world but there is growing recognition that it is unbalanced and, in the view of some, out of control (Barton, 1999: 14). Health management in Thailand is similar to the U.S. system known as the entrepreneurial or free market that both the public and private sectors are playing major roles.

Section 2   Management and Health Management Concepts

1. Management Concepts

Management is a process, a profession, and an elite or class of people. Management is both an art and a science. Management can also be recognized as a resource.

Management as a process is a series of systemic, sequential, or overlapping steps directed toward the achievement of organizational goals and objectives. Management is the process of effectively integrating the efforts of members of a purposeful group.

Management refers to an elite or class of people – group within an organization that has the legal authority to direct and control the organization.

Management can be seen as the art of getting things done through people. It is an art because management problems are often amendable to individual styles based on creativity, judgement, intuition, and experience rather than on the systemic methods of science.

Management is a science adopts the view that a substantial portion of management can be accomplished through the scientific method.

Management in Kreitner's definition (Kreitner, 1995: 4) is the process of working with and through others to achieve organizational objectives in a changing environment.

In summary, management is a process that gets things done effectiveness and efficiency through people (Robbins and Coultar, 1996: 8). Griffin (1993: 5) explained that management as a set of activities (including planning and decision making, organizing, leading and controlling) directed at an organization's resources (human, financial, physical, and information), with the aim of achieving organizational goals in an efficient and effective manner. As show in Figure 2.5.
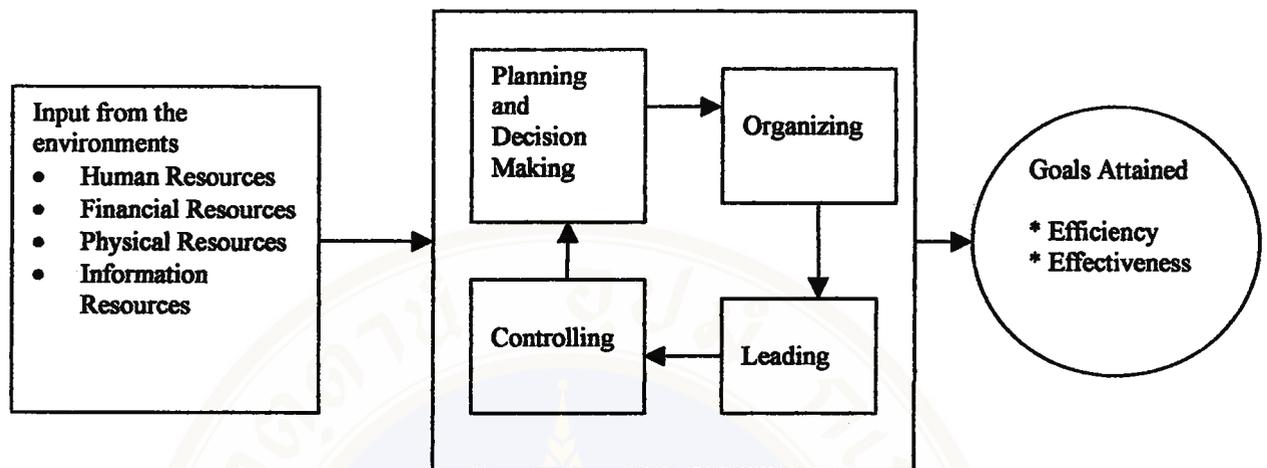
Figure 2.5   Management

Source: Griffin, Ricky W. Management. Fourth Edition. 1993: 6

As describe above, management has five components including

1. Working with and through others

2. Achieving organizational objectives

3. Balancing effectiveness and efficiency

4. Making the most of limited resources

5. Coping with a changing environment.

There are many managerial functions such as planning, organizing, staffing, coordinating, and controlling but these functions tell little of what managers really do. The words plan, organize, staff, coordinate, and control are vague objectives of management – they do not shred sufficient light on the actual activities of managers.

The managerial process consists of much more than a methodology: it is a systematic, continuous national planning and programming process. It includes policy formulation and the definition of priorities. It involves the preferential allocation of

budgets to them, and the integration of the different programmes and services and institutions for delivering them, as well as with their monitoring and evaluation, with a view to modifying existing plans or preparing new ones as required, as part of a continuous cycle. Finally, it outlines the information support required throughout. (WHO, 1984: 163)

For most of this century, the most popular of management function or process is divided to 4 main functions including planning, organizing, leading, and controlling (Robbins and Coultar, 1996: 9, Hellriegel and Slocum, 1996: 5-6, Moorhead and Griffin, 1995: 29-30, Robbins and De Cenzo, 1995: 6, Dubrin, 1994:13, and Griffin, 1993: 7). As shown in Figure 2.6.

Planning is the process of determining the desirable future position and deciding how best to get there. It includes defining goals, establishing strategy, and developing plans to coordinate activities.

Organizing is the process of designing jobs, grouping jobs into manageable units, and establishing patterns of authority among jobs and groups of jobs. This process designs the basic structure and determines what tasks are to be done, who is to do them how the task are to be grouped, who reports to whom decisions are to be made.

Leading is the process of motivating subordinates, directing others, selecting the most effective communication channels and resolving conflicts.

Controlling is the process of monitoring activities to ensure that they are being accomplished as planned and correcting any significant deviations.

However, Mintzberg (cited in Levey and Loomba) offers the idea of 10 basic managerial roles that highlight actual managerial work as follows (Levey and Loomba, 1984: 60-61).

Leadership Roles:
- The Figurehead – performance of ceremonial duties.
- The Leader – direct involvement to approve decisions, and chooses.

Figure 2.6   The Management Process

- The Liaison – a management team dealing with outside people.

Informational Roles:

- The Monitor – receipt and sending of information for control purposes.

- The Disseminator – sharing of information, collected as monitor, with subordinate.

- The Spokesman – Speaks for his/her department.

Decisional Roles:

- The Entrepreneur – involvement with constant addition of new projects.

- The Disturbance Handler – attention to problems arising out of strikes, bankruptcies, and interference.

- The Resource allocator – Allocation of budgets, time, and information.

- The Negotiator – Ranges from negotiation of an argument to negotiation of a labor contract.

2. Managerial Situations Analysis by SWOT Analysis

A situation analysis is a review of the organization's present state and evaluation of the external and internal factors that can influence future prospects. One part of an overall analysis is a SWOT analysis. A SWOT analysis is an assessment of the organization's strengths (S) and weaknesses (W) as well as its opportunities (O) and threats (T).

Strength is an organizational capacity that enables it to meet customer needs more effectively than competitors. In contrast, a weakness is an internal factor that can keep an organization from exceeding competitors in customer satisfaction. An opportunity is an external situation that offers the potential to improve the organization's ability to satisfy customers.

A threat is also some external problems that have the potential to impair your ability to provide customer satisfaction. Threats can come from competitors, government actions, or other factors outside the organization (Nickels and Wood, 1997: 38)

Ultimate goals of a SWOT analysis include, on the one hand, the matching of vital operational strengths with major environmental opportunities. On the other hand, a SWOT analysis provides a basis for eliminating our weaknesses or at least minimizing them and avoiding or managing environmental threats to our operations. Ideally, a

SWOT study helps identify a distinctive competence that can be used to tap an important opportunity in our healthcare organizations environment, allowing us to effectively fulfill our strategic objectives and our ongoing mission as an organization (Williamson et. al., 1997: 66)

Every organization will be affected by four major environmental forces including political, economical, social (education, demography, transportation, religion, value, belief, culture, and living style) and physical and technological environments. These forces may be in the forms of laws and regulations through research and development, as well as new technologies or changes in society. They are usually uncontrollable so that they may become threats or limitations or even opportunities for the organization.

2.1 Environmental Analytical Framework (Sontiwongse T., 1990: 127-131)

Analytical framework is an important tool that helps analysts to understand the environments which have four parts including levels of environment, models of broad environment, elements that explain an evolution of environment, and linkages to organizations.

Levels of environment in business are divided into 3 levels including task environment, competitive or industry environment, and general environment or macro-environment.

The task environment will cover all activities that are routine and direct involvement without any relation to competitors. **The competitive** or industry environment consists of activities or business units or competitors within the same line of business or industry. This competitive environment analysis focuses mainly on the overall picture of collective business groups with special attentions on existing resources available in the environment. **General environment** or macro environment is referred to

economical, social, political, and technological environments. At this level, any changes will have impacts on every industry but differences in types and severity of the impacts.

There are three models of environmental analysis including (1) considering the type of changes either partially or totally, (2) assessing driving forces in depth and specific for each force to identify their effects on each other antagonistically and/or synergistically, and (3) forecasting future trends of change or directions from present situations and effects on program implementation or organizations.

There are two patterns of linkage between the general environmental analysis framework and a business, indirect and direct linkages. The indirect linkage is the change in general environment that has effects on the industrial environment before having impacts on the job or organizational performance. The direct linkage is the change that has direct impacts on the job or organizational performance.

Besides dividing the environment into various levels, the environment can also be divided into different types based on specific dimension, static-dynamic dimension, and impact dimension. However in this study, the environment is divided according to specific and impact dimensions, which include national and international environments.

2.1.1 International or External Country Environment

Due to rapid, intense, and wide spread changes in the present and future world situations, most of the countries including Thailand are necessary to move towards more international pattern of development. Changes in economical, political, and social environments always have a great deal of impacts on all aspects of national management. Some important international environmental changes that affect overall national development are summarized as follows.

1. Changes in the world society from the cold war between economic cooperative and competitive worlds toward a New World of business without political separation.

Since communism in Eastern European Countries had been vanished in 1989 followed by the Soviet Union, that was the end of an old system but the beginning of a New World. The New World system is a world of multi-polarism. It is the world of an economic expansion through collaboration and competition. It is a business world that is free from political polarization. In this New World, the main focus is on globalization, and communication and information technology which results in changes in many other aspects like a chain (Somchai Pakapasvivat, 1996: 18). Especially in the countries with limited capital and technology, the impact of changes will be more prominent due to severe, intense, and continuous competition in business. This competitiveness in business is more complex than war and powerful weapon conflict (Smuthavanich C., 1996: 116).

2. Globalization is a new world order that causes changes in society and living styles brought about by linkages in trading, investment, financing, and services among countries around the world (Office of the Civil Service Commission, Program on Public Sector Adjustment Towards Globalization (1), 1996: 17).

A number of specific characters of international society caused by globalization can be summarized as follows.

(1) **The Era of Expression**

People want to participate more in public activities. Openness and aggressive in expressing their feelings and demands are more pronounced.

(2) **The Era of Information Technology**

There are more advanced information technology linking the world closed together. Information can be disseminated as fast as blinking the

eyes. There are also high demands for information with fast communication.

(3) The Era of Materialism and Consumerism

Man is seeking for convenient means of living with special focuses on high material value preference. Culture, values, and mentality are declining. Customerism makes people focus more on the importance of luxurious life styles.

(4) International Economic and Social Orders

Powerful countries set international criteria and rules for other countries to follow. This will create conditions that a group of powerful countries exercises their power in negotiation for business advantage, trading, and investment.

3. Border-less World

Border-less World is the result of expanded and continuous changes in international environment. Tariff and non-tariff barriers from trading, service, investment, and other activities are vanished or declined to allow more freedoms in marketing among nations. Imports and exports of products and services are made with less unfair rules and regulations.

4. Business Cooperation

Alliance in trading and investment become a preference strategy for a group of powerful countries to gain more negotiation power over other countries. This will create some difficulties for small countries with less power to grow. Discrimination in trading will be in the forms of child labour movement, environmental and resources protection, and human right propaganda.

5. International Forces

Current changes will create three major forces that can be used as tools for getting involved in neighboring nation internal affairs. These include democracy, human right, and environmentalism, which can be elaborated as follows.

(1) Democracy

Democracy has forced the world leaders to be compliance with the concepts and principles set by some powerful Western countries. The government of a particular nation must adopt democratic ways of running the country with freedoms and representative election system.

(2) Human Right

After the dissolution of the Soviet Union, the demand for human right movement has been in the rise under the leadership of the United States of America along with some non-governmental organizations.

(3) Environmentalism

The current destruction of national resources and environment without sustainable development measures have created the high needs and demands for trying to conserve the world environment.

2.1.2 Environmental Situations in Thailand

The dynamic changes in various aspects of environment will cause some changes in Thailand in 2000 and the next decade as follows (Pakapasviwatana S., 1996: 202-207).

1. Political Situations

There will be some expansion of democratization, which can be seen from current political and constitutional reforms. The state enterprises are

transformed. Authority is being delegated to local levels. Environmental protection becomes more prominent. Thai political system will be more a check and balance pattern with less beneficiary groups.

2. Socio-economic Dimension

There are many different aspects of socio-economic dimensions that can be summarized as follows.

2.1 **Economic structure change** -- the economic structure will change from agriculture to industry and services.

2.2 **Thai economic opens wide to external world** -- open wide to external world of Thai economy is the results of globalization and border-less world but the intensity will be confine to Southeast Asian countries under leaderships of an Asian countries group.

2.3 **Income and purchasing power of Thai people** in average will increase with higher speed than in the past.

2.4 **Demographic change** -- Thai population will increase to 70.51 millions in 2020. The proportions of population in different age groups are changed. Children and young kid groups are declining while middle and old age groups are increasing. Especially for over 60 years old population will increase to 10,777,000 in 2020 (with 15.28 percent growth rate) (Susangkarn C., 1996: 1-2).

2.5 **Educational structure change** -- the educational level of Thai people continuously increases. The rate of middle level education and undergraduate level in 2020 will increase equal to those in developed countries.

2.6 **Social and technological change** -- the Thai society structure changes from extended to nuclear family with smaller in size. The dependent rates among family members are changing from inside to outside services. There will be an increasing trend for a service provision business. Rural community will be replaced by urban community. Life styles of Thai people will change to depend more on modern technologies, and advanced information technologies.

2. Health Management Concepts

2.1 Principles of Good Management

World Health Organization (WHO, 1992: 13-25) proposed the 9 principles of good management. There were including as follows.

1. Management by objectives (MBO)

Deciding and saying what is to be accomplished is setting an objective (a goal, a purpose, an end, and a target). The objectives should state:

- what is to be done
- how much is to be done
- where it is to be done
- when it is to be completed
- the standard by which it will be possible to tell whether, or the extent to which, it has been achieved.

A clear statement of objectives is essential for effectiveness. Effectiveness is the degree to which an objective is being, or has been achieved; it is something that management tries to improve.

2. Learning from Experience

This principle is applied when there is a gap between objectives and results (or achievement), management analyses why only the observed result were achieved, and why they fell short of the set objectives. Somecauses can be easily remedied, and action is taken accordingly. Others cannot be removed in the short term and are then called constraints. Management learns from this process and uses what it has learned in its further decisions for achieving its objectives. This process is sometimes called "feedback" (of information from experience to decision for action).

3. Division of Labour

Almost any work involves more than one person. As soon as two or more people are involved in work or activity, work is divided, or distributed, among members of a group, and the work is directed and coordinated, the group becomes a team. In a team, and generally when there is specialization and division of labour, with each category of staff exercising its own skill towards achieving the objectives, management consisting a balanced proportion of each kind of staff to the work to be done.

4. Convergence of Work

Convergence of work means that the activities of the various people who do the work come together in the achievement of objectives. The activities should be designed, assigned and directed in such a way that they support each other in moving towards a common goal. It also implies that working relations (the ways in which the members of a team interact with one another) should contribute to the success of each activity, and thus to general effectiveness.

5. Substitution of Resources

It is well recognized in health work, as in other kinds of activity, that the different types of resources used for achieving objectives must be carefully balanced. Use of the team approach to bring about balance among the different people (human resources) concerned has already been mentioned. One particular type of substitution of resource is labour substitution (e.g. using trained auxiliary personnel or volunteers for tasks formerly undertaken by professionals). However, other resources must also be managed to achieve objectives. There are materials (equipment and supplies), money, time, and information, which the health team must also have. These other types of resources must also be kept in balance.

6. Functions Determine Structure

The working relations between people are usually described as functional and structural. Functional relations derive directly from the technical nature of the work, and where, when, and in what sequence it is done. Structural relations pertain to administrative rules and standards and in particular to the authority and responsibility assigned to individuals. The management principle that derives directly from the need to associate responsibility and authority may be state as function determine structure. When work is clearly defined, the function and duties of individual members of the team are clearly defined and know to all; the working relations (the structure) follow.

The authority of a member of the health team, then, may be defined simply as the decisions, which that member may make. A common failing of management is that no one is clearly responsible for some urgently needed decision, or that someone is responsible but has not been given the necessary authority to act.

7. Delegation

Delegation takes place when someone with authority "lends" the authority to another person, conditionally or not, so as to enable that person to take responsibility when the need arises. This management principle has been stated with a humorous twist in the words: "Never do yourself what another can do for you as well as you would". This advice is for the busy manager, but it could well apply in the performance of the tasks of any member of a health team.

8. Management by Exception (MBE)

Management by exception means two things:

First: be selective. Do not become overloaded with routine and unnecessary information. Keep your mind available for critical information, on which you will be required to act.

Second: make big decisions first. To be overloaded with petty decision may result in more important ones being neglected, or what has been called " postponing

decisions until they become unnecessary".

In short, management by exception means selectivity in information and priority in decision.

9. Shortest Decision-Path

The shortest decision-path deals with the issue: who should make which decision? Applying this principle means that decisions are made as close as possible in time and place to object of the decision and to those affected by it. This saves time and work, and also ensures that decisions can take full account of the circumstances which make the decisions necessary and in which they are put into effect.

2.2 The Main Functions of Health Management

A function may be defined as a group of activities with a common purpose. A health team has three main management functions: **planning, implementation, and evaluation** (WHO, 1992: 26-27).

The principle of management is to be done, and where and when it is to be done. Each of these four questions needs one or more planning decisions. The sum of the planning decisions constitutes the **planning** function of management in a health team.

The principle of delegation is concerned with authority and responsibility, with functional relations between people working together to achieve some purpose. The types of decision involved are concerned with the organization of working relations so as to ensure effective and efficient work. Organization decisions are part of the **implementation** function of management.

Applying the principle of learning from experience requires the analysis of gaps between desired results and actual results, or achievement, and the use in decision-making of the information obtained from the analysis. This is, in other words, a measurement and a judgement of performance, or the **evaluation** function of

management, a function that contributes greatly to the success of a health team.

These three broad functions of management (planning, implementation, and evaluation) are linked to emphasize the continuous cycle of management.

Blum (1974: 400) suggests a model addressing the allocation of resources for planning. In the model are identified four essential components of the planning process: (1) organizational structure (or system structures); (2) purposes (or system goals and objectives); (3) the roles of participants in the planning process (in macro context, roles are essentially institutional or agency rather than individual); (4) functions (functions represent the necessary means for achieving the desired outcomes).

Figure 2.7 illustrates the three possible patterns of the sequential relationships between the four components (Ellencweig, 1992:99-100). Pattern I, pre-imposed structures tend to shape purposes and roles resulting in inappropriate functioning of the entire system. The 'centralized planning process' in socialist economics is a typical Pattern I system. Due to inadequate sequential order, the system focuses on the build up of hierarchical structures whose survival becomes the health system' major function. This emphasis is obviously at the expense of the problems associated with the health needs of the population.

Pattern II is an example of another departure from an optimal sequence. Roles and functions are of prime importance in the planning process. This can lead to an inadequate structure and to an imbalanced setting of priorities. This pattern is typical of power struggles in the health systems of several Western societies. Power lobbies may exercise pressure on decision-makers in shaping the health sector to meet their needs.

Pattern III reflects the preferred logic for setting up a health system. Purposes and objectives are formulated first and then roles and their functions are appropriately defined. Only then is the system structured along these lines. The British NHS is perhaps the best example of pattern III planning.

Purposes ————————►Roles

↑   │

│   ▼

Structure   Functions
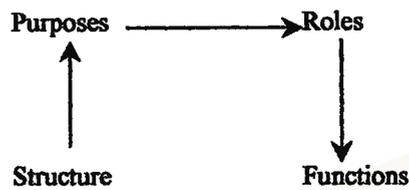
PATTERN I
Structure has commonly been set up as the first step in creating a new institution such as comprehensive health planning. Structure tends to shape Purpose, which are then seen as calling for certain roles. This pattern seems to be the result of 'needing' the security of an edifice before defining its utility.

Roles ————————► Purposes

↑   │

│   ▼

Functions   Structure

PATTERN II
Others see Roles and Functions as the starting point and proceed to Structure. Purposes tend to be rationalized from this set of structured and functional influences and are likely to remain unclear. As a result, the choice of Roles and Functions may be illogical or inconsistent and the Structure inadequate to do more than the initial comprehension called for.

Purposes ————————►Roles

                                     │

                                     ▼

Structure◄———————— Functions
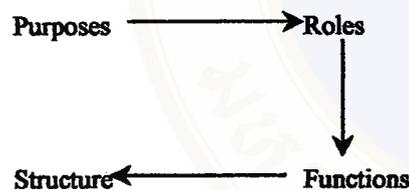
PATTERN III
Purposes visualized as the starting point are then seen as the determiners of Roles. Roles require that certain Functions be performed. Functions, then, place demands on the structure of the planning body. This is the logic of setting up a planning body to which we subscribe. Once a structure is conceived in this way, the probabilities will be performed. This in turn should contribute to Role success and lead to the fulfilment of the Purposes which gave rise to the planning body in the first place.

Figure 2.7 Sequential relationships between Purposes, Roles, Function and Structure.
Source   Ellencweig. (1992). Analysing Health Systems: A Modular Approach. P.100

2.3 Changing Health System Management

Beside the concepts and components of health system mentioned above, Kleczkowski, Roemer and Van der Werff have suggested that some changes be

considered as the focus point as follows.

Community participation must be used for decision-making process to meet the communication real needs and improve the coordination-effectiveness.

Democratic decision-making process is always needed to carry out health project activities.

Concept of intersectoral collaboration is necessary for achieving the ultimate goal of health services.

Health management training is always required for health personnel at all levels in order to evaluate for the coverage, effectiveness, and efficiency of health care services.

2.4 Recommendations to National Governments

The WHO had put out their recommendations during an Interregional Meeting on "New Challenges for Public Health " in Geneva, 27-30 November 1995 to national governments as follows (WHO, 1996: 83).

- Resource allocation for therapeutic medicine and for public health must be more equitable, and new resources should be mobilized for public health.

- Government should promote, facilitate and support voluntary public health action and community participation in policy development.

- Governments should promote and facilitate intersectoral cooperation in public health. In order to achieve an effective and coherent public health policy, health ministries must recruit the partnership of other departments such as trade, industry, agriculture, housing, public works and so on, all of which have key roles in the development of the new public health.

- Governments should find ways and means to enhance the status and image of public health care professionals consistent with their crucial role in the health of a nation; such status and image should not be less than that of professionals offering predominantly curative care.

- Governments must seek an integrated approach to health, the environment and

socioeconomic development and, in the words of the Saitama Declaration, "improve solidarity in a global approach to generate, distribute and utilize public resources for sustainable development, promotion of health and protection of the environment".

Part 3. Thai Bureaucratic System Management and Thailand's Health Management

1. Thai Bureaucratic (Administrative) System Management

Bureaucratic system had been developed by Max Weber who believed that the efficient organizations must have at least 4 characteristics including (1) division of labor, (2) hierarchy of authority, (3) a framework of rules, and (4) impersonality (Thonglaw Dejthai, 1997:45) However, later on "bureaucratic" has been blamed for its inefficiency, red tape, and wastage due to rigidity and inappropriateness for the modern world. The Thai administrative system over time has somewhat adopted the concept of Max Weber for governmental work operation. Undoubtedly, many problems have been embedded in the Thai administrative system based on bureaucratic concepts.

From the past, bureaucrat in the Thai administrative system had been recognized as the most applicable mechanism for national peace keeping, maintaining democratic climate, shaping society, and bringing about continuous national development. A number of roles and functions have been modified overtime to fit political, economical, and social environments. At present, the bureaucratic system becomes an important mean for translating government policy into practice. Due to a broad and wide range of missions covering the whole areas of the country, the system is so big and more complex (Office of the Civil Service Committee (A), 1996: 3-4)

1.1 Thailand Administrative Structure

Thailand's administrative system, according to the Country's Administration Act, B.E. 2534 (1991), comprises three major administrative categories, namely central, provincial, and local administrations which can be briefly elaborated as follows.

1.1.1 Central Administration

The Central Administration has the King as the head of State, exercises the legislative power through the parliament, the administrative or executive power through the cabinet, and the judicial power through the courts. The Cabinet or Council of Ministers is the government body responsible for administrative or governmental functions, under the parliamentary system. According to the constitution, the government requires a majority vote in the parliament as checked and balanced by the parliament. The Central Administrative system consists of 15 ministries. In each ministry, there are several departments or agencies equivalent to a department. Totally, there are 173 departments in all ministries.

1.1.2 Provincial Administration

The Provincial Administration is a rural administration that functions on behalf of various ministries and departments as delegated regional or provincial authorities under the supervision of a governor with assigned officials from related central administrative agencies. Certain provincial administrative functions only are carried out by provincial level officials with delegations from the central administration. Such functions, however, are subject to the scrutiny and revision by the central level agencies who have the final decision-making authority.

1.1.3 Local Administration

The Local Administration is an autonomous administrative authority of the people in each administrative locality, under the law, with at least four characteristics as follows.

1. Being a juristic person.

2. Local administrators or local council members are all or partially

elected by the people.

 3. Having their own revenue or budget.

 4. Having administrative autonomy under the laws.

There are four types of local administrative bodies, namely Provincial Administrative Organizations (PAO), Municipalities, Sanitary Districts, and other types of local authorities as designated by laws such as Bangkok Metropolitan Administration (BMA), Pataya City, and Tambon Administrative Organizations (TAO) (Bureau of Health Policy and Planning, MoPH, 1997:7)

1.2 Major Problems of Thai Administrative System

The Thai administrative system is operating under six contextual and environmental stimuli including (1) external challenges, (2) external governmental forces, (3) political interferences, (4) changes toward international system, (5) people demands on services, and (6) economic expansion. There are constantly high competition in trading and investment that have major impacts on the country (Chuto S., 1991:32). In addition, a uniqueness of the Thai society also has considerable influences on the Thai administrative system, especially a spoil pattern, paternalism, praise for high position officials, receptive attitudes, comfortable with present situations, and never been colonized nation (Chareonwongsuk K., 1996: 10)

However, the main problems of the Thai administrative system can be categorized into four groups including (1) policy and goals, (2) structure, (3) personnel administration, and (4) regulations (Smutavanich C., 1988: 69-95, and Chuto S., 1991: 3). Furthermore, it can be summarized into two major issues including the system and officials (Susanggarn C. & Puntasen A., 1996: 40) and as well as external persons (Chareonwongsuk K., 1996: 4).

From the above citations, the major problems of the Thai Bureaucratic system can be concluded as follows.

1. Political overrided problem has put the national administrative system into some difficulties. Politicians often interfere with the work of government officials causing some distresses in decision-making and conflicts. Frequently changes in government and coalition parties in power also bring about instability and political turmoils. Many projects are put on hold and postponed or cancelled without decent reasons. Benefits gained for political parties are far more important than serving the needs of people and society.

2. Organizational expansion problem is always present due to the desires to compete for resources and to increase negotiating power. Building up the territory and creating more positions are the main concerns of officials instead of trying to solve existing problems. This creates lots of burden on the national budget allocation as well as work duplication. A major portion of budget has been spent for personnel instead of an investment and projects operation.

3. Personnel administration problem has been a major defect for all governmental agencies, especially for improper recruitment, favorite appointment, unfair promotion, and no definite development plan. Low salary and limited opportunity to grow are the main causes for poor morale and job dissatisfaction. Misconduct, brain drain, and benefits seeking are very common among government officials.

4. Structural problem in terms of size and too many layers of administrative hierarchy bring about inefficient coordination and poor performance. Lacks of collaboration and work duplication are commonly found.

5. Laws and regulations are quite obsolete and inappropriate for present situations. Red tape and slow progress are the main causes for poor competitive opportunities and development barriers.

6. Corruptions and misconducts among government officials are commonly found at all levels of administration. Many disciplinary actions have been taken against government officials with increasing trends.

7. Inefficient performance among government officials is a long-standing problem that needs urgent consideration and special measurements. Traditional way of working with the focus on chasing resources and checking processes are no longer appropriated for present situations.

1.4 Principal System for National Organizing Pattern

The principal system for national organizing pattern is in the form of unitary state consisting of three major principles, namely centralization, deconcentration, and decentralization. The practice of above principles, however, depends on a degree of closeness and levels of relationships between central and local agencies. It is possible that local levels are allowed to govern their own actions with minimal monitoring and control from the central level (Karnjanadul P. cited in Chayabutra C., 1996: 5). It may also depend upon the country situations, especially the political climate and bodies of knowledge, and the ability of people.

A. The Principle of Centralization (Chayabutra C., 1996: 5-6) is a method of organizing work procedures by keeping all governed authority at the central level such as ministries, departments, and equivalent bodies under hierarchical chains of command throughout the nation. Administrative staffs at the central level are to maintain its governing autonomy and national security executes all authorities. Centralization has three specific characteristics as follows.

1. All soldiers and policemen are completely under the control of central government in order to have absolute power for national security.

2. All decision-making and delegation of authority are made at the central level.

3. There is a definite hierarchy of command with full authority for rewards and punishments.

B. The Principle of Deconcentration is a method of dividing and delegating partial authority from the central level to representatives in the provincial level to make

decisions on matters that do not have benefits (Karnjanadul P. cited in Chayabutra C., 1996: 8). In this regard, the central level is required to set general rules and regulations as guidelines with the same reserved ultimate decisions (Chayabutra C., 1996: 8).

C. The Principle of Decentralization is a method of delegating partial authority from the central level to other organizations that are not under the same jurisdiction to manage public activities with some extents of autonomy. It seems like transferring some responsibilities from the central level to other organizations to carry out with limited degree of control.

2. National Health Management

2.1 History of Health Sector

Public health in Thailand had been recognized since the era of Ayuthaya City through the early period of King Rama III of Rattanakosin City. For about 317 years, there were no official bodies directly responsible for this action. Thai people in those days when getting sick would use traditional medicine and other old beliefs or superstitious rituals. Until 1928, the 5th year in the reign of King Rama III, Western medicine was introduced and began to play an important role in the Thai medical and public health system by an American missionary physician named Dr. Dan Beach Bradley. Dr. Bradley had initiated a disease prevention program in Thailand with smallpox vaccination. Later on several other doctors came to Thailand to provide modern medical services to Thai people.

Since then, modern medicine has evolved and gradually replaced traditional medicine. In 1886, King Rama V established Siriraj Hospital to provide curative care to patients. In 1888, a Nursing Department was established under the Ministry of Education (Dharmakarn) responsible for public health programs and management of Siriraj Hospital. In addition, the nursing Department was also in charge of medical education, supervision of other hospitals, and provision of free smallpox vaccination to the people.

In 1889, the Nursing Department undertook a number of health initiatives including establishment of a Midwifery School, a smallpox vaccine production institute, and city medical offices in some cities, production of low-priced simple household drugs, and establishment of governmental health centers (Osoth Sala), and a Medical Division responsible for epidemic control (Bureau of Health Policy and Planning, MoPH, 1997: 159-160).

In 1905, the Nursing Department was abolished and all hospitals were transferred to the Ministry of City Affairs (Nakhon Ban), except that Siriraj Hospital was transferred to the Department of Education, and that the Divisions of Vaccine Production, Pharmacy, Preventive Medicine, and City Medical Officers remained under the Ministry of Education.

In 1908, at the request of the Ministry of Interior (Mahad Thai), the Divisions of Vaccine Production and Pharmacy were transferred from the ministry of Education to the Department of Local Administration (Phalampang), Ministry of Interior.

In 1912, a new Department of Nursing was established, independent from the Department of Local Administration composed of six divisions, namely Administration, Medical Services, Epidemic Prevention, Pasteur Council, Sanitation, and Government Pharmacy.

In 1916, the Nursing Department was renamed as Public Protection (Prachaphiban) department under the Ministry of Interior, comprising four divisions, namely Administration, Sanitation, Nursing, and Medical Supplies.

In 1918, the Department of Public Protection was renamed as Department of Public Health under the Ministry of Interior.

In 1925, the Department of Public Health was reorganized, comprising six divisions, namely Population, Health Education, Public Health, Narcotics, Government Pharmacy, and Sanitation. At the provincial level, there were regional inspector general, regional public health officers, provincial public health officers, local royal medical officers, assistant medical officers, sanitary inspectors, smallpox inspectors, sanitary medical officers, and Tambon (commune) medical officers.

In 1942, the Ministry of Public Health Affairs was established according to the Ministry and Department Reorganization Act (Amendment No. 3), B.E. 2485 (1942) comprising seven departments, namely Office of the Secretary to the Minister, Office of the Permanent Secretary, Department of Medical Services, Department of Public Welfare, department of medical Sciences University, Department of Medical Sciences, and Department of Public Health.

In 1952, the Ministry of Public Health Affairs was renamed as Ministry of Public Health (MoPH). The Department of Public Welfare was transferred to the Ministry of Interior, and the Department of Public Health was renamed as Department of Health. Until 1959, the Department of Medical Sciences University was transferred to the Prime Minister's Office.

There were three major reorganizations undertaken for the Ministry of Public Health. The first one in 1972, the Department of Health and the Department of Medical Services were merged. The second reorganization was made in 1974, separating the Department of Medical Services and the Department of Health, expanding the jurisdiction of the Permanent Secretary's Office, and establishing the Department of Communicable Disease Control, and the Food and Drug Administration. The third reorganization was made in 1992, establishing the current administrative structure and establishing the Department of Mental Health and the Health Systems Research Institute (Bureau of Policy and Planning, MoPH, 1997: 160-161).

2.2 Missions and Functions of Ministry of Public Health:

Thailand health care system reflects the entrepreneurial market-driven nature of its economy. It has a pluralistic public and private mixed system of both health financing and in the provision of health services. Overall resources devoted to health care have increased markedly in the recent past. The national expenditure has increased gradually, at a faster rate than that of the gross domestic product (GDP), from 3.5 to 6.3 percent in 1979 and 1991 respectively. Households compared to public health expenditure cover most of the expenditure. A greater proportion of expenditure is spent on curative care, rather than promotive and preventive care.

Presently, health care in Thailand is organized and provided by public and private sectors. The MoPH is the major responsible organization. The private sector is rapidly expanding particularly in Bangkok and other urban areas. The fragmented funding and provision of health care makes it difficult to provide equitable services, and contributes to inefficiencies and variable levels of quality of care. The implications of reform of the Thai health care system are under consideration with regard to financing, delivery of services and consumer rights (Bureau of Health Policy and Planning, MoPH, 1998:3).

Eventhough the MoPH is the major provider of public health services, there are other health service providers such as medical school hospitals under the Ministry of University Affairs, other general hospitals under Ministry of Interior, Ministry of Defense, and state enterprises. There are also many private hospitals both for-profit and not-for-profit as well as clinics, pharmacies, and drugstores that provide health services to general population.

According to the Ministry and Department Reorganization Act of B.E. 2543 (1991), the MoPH has authorities and functions related to medical care, public health,

health promotion and development, food and drug control, anything toxic or hazardous to the public health, and the Red Cross supervision and support. The major functions include the promotion, support, control and coordination of all activities related to physical and mental health including well-being of the people, and the provision of health services with four principal objectives as follows (Bureau of Health Policy and Planning, MoPH, 1997: 163).

      1. To make Thai people healthy, physically mind live happily in society.

      2. To make Thai people free of illnesses that will cause suffering, labor loss or physical disability (by providing services related to disease prevention, early diagnosis, prompt treatment, disability limitation, and rehabilitation).

      3. To make Thai people have a long life expectancy, without premature death.

      4. To protect the people's well being from misfortunes (environmental pollution, food or drug poisoning, etc.).

2.3 Administrative Structure of the MoPH

The administrative structure of the MoPH is divided into two major parts, namely central administration and provincial (regional) administration.

2.3.1 Central Administration

The Central Administration is composed of nine departments and offices, namely the Office of the Minister's Secretary, Office of the Permanent Secretary for Public Health, Department of Health, Department of Communicable Disease Control, Department of Medical Sciences, Department of Medical Services, Department of Mental Health, and Food and Drug Administration, whose functions are as follows.

1. **Office of the Minister's Secretary** is responsible for general administration of the Minister's office regarding inspection, political issues and policy coordination. There are three divisions including General Administration, Issues Inspection, and Politic and Policy Coordination.

2. **Office of the Permanent Secretary** performs functions related to the formulation of health policies and plans, monitoring and evaluation of the operations of MoPH's agencies, enforcement of laws on medical registrations and practices, production and development of health personnel, and promotion and development of health management and technical matters. There are 16 official divisions and equivalent units including (1) Central Division, (2) Finance Division, (3) Personnel Division, (4) Practices Licensing Division, (5) Nursing Division, (6) International Health Division, (7) Maintenance Division, (8) Laws Division, (9) Designing Division, (10) Epidemiological Division, (11) Rural Hospital Division, (12) Rural Health Division, (13) Health Education Division, (14) Office of Primary Health Care, (15) Bureau of Health Policy and Plan, and (16) Health Manpower Development Institution (later on changed to Praboromrachanok Institution) (Royal Gazette, Vol. 110, Section 22, Special issue, 1993: 22-23).

In addition, there are 7 internal units within the Office of the Permanent Secretary including (1) Ministerial Funeral Welfare Office, (2) Office of Rural Health and Service Institutions Development Committee, (3) Internal Audit Unit, (4) Health Insurance Office, (5) Information and Public Relation Office, (6) Health Technical office, and (7) Ministerial Inspection Office (MoPH, 1997: 188).

3. **Department of Health** is a technical department, performs functions mainly related to research on and development of technical matters, technologies, strategies, and models for health promotion, health behavior development, sanitation, occupational health, and environmental health. There are 12 divisions including (1) Secretariate

Office, (2) Finance Division, (3) Personnel Division, (4) Dental Health Division, (5) Rural Water Supply Division, (6) Nutrition Division, (7) Sanitation Division, (8) Food Sanitation Division, (9) Family health Division, (10) School Health Division, (11) Environmental Health Division, and (12) Occupational Health (Royal Gazette, Vol. 110, Sect. 22, Special Issue, 1993: 48-49).

4. **Department of Communicable Disease Control** is a technical department, performs functions mainly related research on and development of technical matters, technologies, strategies, and models for the control of disease and enforcement of laws on communicable diseases. There are 13 divisions and equivalent units including (1) Secretariate Office, (2) Finance Division, (3) Personnel Division, (4) Venereal Disease Division, (5) Malaria Division, (6) General Communicable Disease Division, (7) Elephantiasis Division, (8) Leprosy Division, (9) AIDS Division, (10) Tuberculosis Division, (11) Bumrajnaradura Hospital, (12) Prapradaeng hospital, and (13) Thoracic Diseases Hospital (Royal Gazette, Vol. 110, Sect. 22, Special Issue, 1993: 32).

5. **Department of Medical Sciences** is a technical department, performs functions mainly related to research on and development of control measures for food, drugs, narcotics, and medical equipment, so that they conform to international and export standards; traditional medicine; medical sciences; laboratory diagnostic services; laboratory standards; and enforcement of laws on infectious agents and zoonatic toxins. There are 23 divisions and equivalent units including (1) Secretariat Office, (2) Medical Entomology Division, (3) Bio-material Division, (4) X-ray Prevention Division, (5) Clinical Parasitology Division, (6) Toxicology Division, (7) Public Health Standards Division, (8) Drug Analysis Division, (9) Addicted Substances Analysis Division, (10) Food Analysis Division, (11) Export Analysis Division, (12) Herbal Research and Development Division, (13) Health Sciences Research Institution, (14) Virus Research Institution, (15) Kon-khan Medical Science Center, (16) Chonburi Medical Science Center, (17) Cheingrai Medical Science Center, (18) Cheingmai Medical Science Center,

(19) Trung Medical Science Center, (20) Nakonrachasima Medical Science Center, (21) Pitsanulok Medical Science Center,(22) Songkla Medical Science Center, and (23) Ubonrachatani Medical Science Center (Royal Gazette, Vol. 110, Sect. 22, Special Issue, 1993: 39-40).

6. **Department of Medical Services** is a technical department, performs functions related to research on and development of technical aspects of medical (physical) services; provision of diagnostic, curative, and rehabilitative services at the tertiary level; and provision of specialized medical care for development purposes. There are 21 divisions and equivalent units including (1) Secretariate Office, (2) Finance Division, (3) Personnel Division, (4) Addicts and Addicted Substances Treatment Coordination Division, (5) Planning Division, (6) Children Hospital, (7) Tanya-rak Hospital, (8) Noparatrachatani Hospital, (9) Metta Pracharak Hospital (Wat Raikhing), (10) Rachavithi Hospital, (11) Lerdsin Hospital, (12) Priest Hospital, (13) Sirinthorn National Center for Medical Rehabilitation, (14) Medical Technical Development Office, (15) Medical Institution for Accident and Disaster, (16) Dental Institution, (17) Institution of Neurology, (18) Institution of Parasitology, (19) National Cancer Institution, (20) Institution of Skin Diseases, and (21) Medical Institution for Elderly (Royal Gazette, Vol.111, Sect. 21 A, June 3,1994, Office of the Civil Service Committee 1995: 253).

7. **Department of Mental Health** is a technical department, performs functions related to development of technical aspects and systems of services for mental health and mental retardation, with respect to mental health promotion, and prevention, therapy and rehabilitation of mental disorders.

There are 10 divisions and equivalent units including (1) Secretariate Office, (2) Planning Division, (3) Bureau of Mental Health Development, (4) Ra-cha-nukul Hospital, (5) Srithanya Hospital, (6) Somdej Chaopraya Hospital, (7) Mental Health Center 1, (8) Mental Health Center 2, (9) Mental Health Center 3, (10) Mental Health Center 4. (MoPH, 1998:6).

8. **Food and Drug Administration** is a technical department, performs functions mainly related to quality control and manufacturing standards, imports and distribution of food, drugs, cosmetics, medical equipment, and solvents. FDA's operations include licensing for business undertakings and use of product and active ingredients in production, in accordance with laws (six Acts), on the aforementioned matters and five international conventions and agreements. There are 10 divisions and equivalent units.

In addition, the MoPH has under its supervision two agencies: the Government Pharmaceutical Organization, and the Health Systems Research Institute.

The Government Pharmaceutical Organization is a state enterprise responsible mainly for the production of drugs and medical supplies, and research on drug and medical supplies production as well as on raw materials for the production.

The Health Systems Research Institute is an autonomous agency responsible mainly for research in a multidisciplinary fashion and in association with other sciences including social sciences, economics, anthropology, and psychology so as to further developed health programs systematically and to solve health problems more effectively.

2.3.2 The Provincial (Regional) Health Administration

The provincial health administration is under the direct command of the Provincial Governor who is a civil servant appointed by the Ministry of Interior and under of the supervision of the Office of the Permanent Secretary for Public Health (See figure 2.8 and 2.9 for details). The Permanent Secretary is in charge of monitoring and controlling all provincial level health activities so that they are implemented in accordance with MoPH's policies and programs. Agencies under the provincial health

administration are Provincial Public Health Offices, District/Sub-district Health Offices, and Health Centers.

The Provincial Public Health Office (PPHO) in each province reports to the Office of the Permanent Secretary and headed by the Provincial Chief Medical Officer PCMO), who is in charge of all health activities at the provincial level and below, under the direct command of the Provincial Governor. Under each PPHO, there are a regional hospital (only in some big provinces), a general hospital(s), and community (district) hospitals reporting to the PCMO.

The District / Sub-district Health Office in each district reports to the District Chief Officer and headed by the District/Sub-district Health Officer who is taking charge of management, support, promotion, monitoring and evaluation of activities implemented by health centers. The District/Sub-district Health Office is under the direct command of the Chief District Officer, and supervised and supported, technically and administratively, by the PPHO.

Health Centers provide integrated health services, at the commune (Tambon) or village (Muban) level, to the people in their designated areas, each covering a population of approximately 1,000 to 5,000. Each health center is generally staffed by a health worker, a midwife, and a technical nurse. Currently, the MoPH is in the process of assigning a dental auxiliary, a professional nurse, and health specialist to work at each of the health centers throughout the country.

The organizational structure and operational systems of the MoPH have been revised from time to time according to the needs of the situations. The reorganization undertaken in 1974 was a significant one and has become the foundation of the present health system with four key feature as follows:

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                          ┌─────────────────────────┐
                          │  Ministry of Public Health │
                          └─────────────────────────┘
                                      │
  ┌──────────────────────┐ ┌─────────────────────────┐
  │ Office of the Secretary to│- - - -│ Minister of Public Health │
  │      the Minister         │       │  and Deputy Ministers     │
  └──────────────────────┘ └─────────────────────────┘
                                      │
  ┌──────────────────────┐ ┌─────────────────────┐ ┌──────────────────────┐
  │ Health Systems Research│- - -│ Permanent Secretary of │- - -│ Government Pharmaceutical│
  │       Institute        │     │    Public Health       │     │      Organization        │
  └──────────────────────┘ └─────────────────────┘ └──────────────────────┘
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| Dept. of Medical Services 1 Bureau 20 Divisions | Dept. Of communicable Disease Control 15 Div. 12 Control Regional Offices 5 Control Offices | Office of the Permanent Secretary 2 Bureau 16 Divisions | Dept. Of Medical Sciences 16 Divisions 12 Regional Centers | Dept. Of Health 2 Bureaus 13 Division 27 Centers | Food and Drug Administration 10 Divisions 1 Work Group | Dept. Of Mental Health 1 Bureau 9 Divisions |

Central Administration
- -
Regional (Provincial) Administration

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                  ┌──────────────────────────────┐
                  │ Provincial Public Health Office (75) │
                  └──────────────────────────────┘
                                  │
  ┌──────────────────┐ ┌──────────────────────────────┐ ┌──────────────────┐
  │ Regional          │ │ 10 Provincial Section (5 Work Groups) │ │ Community Hospital │
  │ Hospital (17)     │ └──────────────────────────────┘ │      (708)         │
  │                   │                 │                 └──────────────────┘
  │ General           │ ┌──────────────────────────────┐
  │ Hospital (75)     │ │ District / Sub-district Health Office │
  └──────────────────┘ │              (868)              │
                       └──────────────────────────────┘
                                      │
                       ┌──────────────────────────────┐
                       │       Health Center (9,239)    │
                       └──────────────────────────────┘
                                      │
                       ┌──────────────────────────────┐
                       │ Community Primary Health Care Center │
                       │            (61.432)             │
                       └──────────────────────────────┘
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Figure 2.8   Structure of Ministry of Public Health Administration
Source: Ministry of Public Health. (1997) 10 March 1997: 55-year Anniversary of Ministry of
                  Public Health Establishment. P. 172
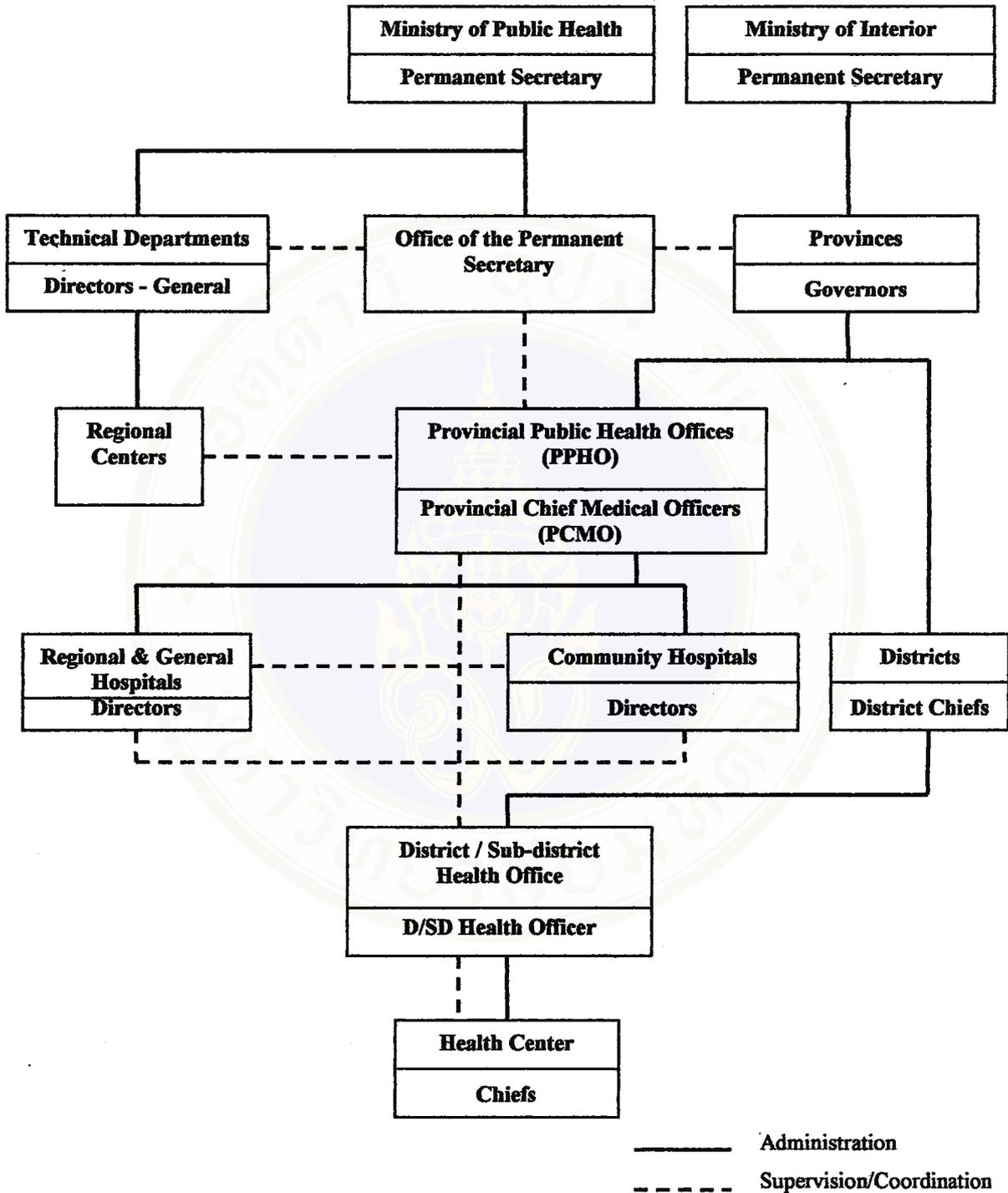
Figure 2.9   Regional (Provincial) Health Administration

Source: Ministry of Public Health. (1997). 55 years of Ministry of Public Health. P.173

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1. The Office of the Permanent Secretary is the sole agency of the MoPH that oversees all principal health services units at the provincial level. In coordination with other MoPH technical departments, the Office of the Permanent Secretary supports such services units.

2. All agencies under the MoPH, at both departmental and divisional levels, are collaboratively implementing their respective functions with the same objective, using their programs as an important tool. Thus, operational outcomes are not a result of any particular agency; rather, they are MoPH's achievements.

3. The MoPH structure has been designed so as to cover all geographical areas at all levels and to provide curative, promotive, preventive, and rehabilitative care in an integrated manner.

4. The MoPH's provincial health administration has solidarity as only the Office of the Permanent Secretary can have provincial health agencies, Provincial Public Health Offices, and major health service facilities, under its jurisdiction. Such health facilities are responsible to the PCMO while other departments only have technical offices in various regions, providing technical support to provincial health agencies (Bureau of Health Policy and Plan, MoPH, 1997: 164-168).

2.3.3 Local Level Health Management

Health services at the local level are under responsibilities of local administrative bodies including municipalities (also Bangkok Metropolitan Administration and Pattaya City), sanitary districts, and Tambon Administrative Organizations (TAOs).

The municipality is responsible for health functions within the municipal areas in terms of cleanliness and health services provision including communicable disease prevention and control (Dej-Amornthan C. in Local Magazine, 35(6), 1991: 23). The Medical Division/Department is assigned to be responsible for medical management and curative, dental care, and other designated services. These functions are performed incorporated with the Health and Environmental Division/Department which is responsible for sanitation and environment, cleanliness, information dissemination and training, health promotion, communicable disease prevention and control, veterinary service, and other designated services.

The sanitary district, according to Decree 25 of the Sanitation Act, Vol. 1, B.E. 2495(1952) amended by Decree 3 of the Sanitation Act, Vol. 2, B.E. 2511(1968) (Governing Department, 1994: 59) is responsible for garbage and waste disposal (Item 4), communicable disease prevention and control (Item 5), and work place improvement and patients care under the administrative authority of the Health division. The Health Division has four major tasks including sanitation and environmental health, veterinary service, communicable disease prevention and control, and curative (Governing Department, 1994: 239).

Health activities of the Tambon Administrative Organization (TAO) are carried out based on the Tambon Council and TAO Act B.E. 2537(1994) (Governing Department, 1995: 67). Item 2 of the functions is to keep roads, water sources, footpaths, and public places cleaned as well as to dispose garbage and waste. Item 3 is to prevent and control of communicable diseases. Item 7 is to monitor and control as well as to improve natural and environmental resources.

For the Bangkok Metropolitan Administration (BMA), health activities are carried out based on the Bangkok Metropolis Development Plan under responsibilities of Health Department and Medical Department. The scope of work also covers health

activities of the district offices as well. All authorities are executed through the Deputy Governor for health and Environment in the areas of policy making and coordinating of administrative functions.

The Health Department has functions in administering health activities and related regulations, conducting research, and developing bodies of knowledge and health service models. Its scope of work includes setting standards for health promotion, developing of health behaviors, sanitation, occupational health, and environmental health in order to bring about a complete state of physical, mental and social well being. The Department is also responsible for disseminating knowledge and technology for health promotion, disease prevention, environmental and health behavior control within Bangkok Metropolis. Other responsibilities are to promote and support for providing health promotion, disease prevention, and health behavior development services.

In addition, the Department formulates and coordinates implementation plans within the department according to policies and the BMA master plan as well as collaborates with other governmental and private organizations for health promotion, disease prevention, environmental development, and curative services.

The Health Department structure consists of the Secretariat Office, Public Health Promotion Division, Environmental Division, Public Health Veterinary Division, Health Promotion Division, Dental Health Division, Public Health Nurse Division, Disease Control Division, Drug Addiction Prevention and Treatment Division, Pharmaceutical Division, AIDS Control Division, and Public Health Service Centers and Sub-centers under an overall executive authority of the Health Department Director (Health Department, BMA, 1996: 6).

The Medical Department has functions in providing medical, health promotion, and disease prevention services to general population in BMA, conducting

training programs in medical and health for health personnel and general population, producing medical and nursing personnel to work according to the BMA policies.

The Medical Department structure consists of the Secretariat Office, Technical Division, Medical College, Keugarun Nursing College, Vachira Hospital, Klang Hospital, Taksin Hospital, Chareonkrung Pracharuk Hospital, Luang-por-Taweesuk Hospital, Nongchok Hospital, Lad-Krabang Hospital, and Sirinthorn Hospital under an overall executive authority of the Medical Department Director (Medical Department, BMA, 1996: 1-2).

It can be concluded from the above that health management practices at the local level focus mainly on the health promotion, and disease prevention rather than curative services except for the BMA.

2.4 Other Ministerial Health Partners

There are many other ministerial health partners available to provide health services to general population beside the MoPH, the major ministries are as follows:

The **Ministry of University Affairs** is responsible for administering and providing health services, conducting researches, and producing medical and health personnel through many university hospitals and academic institutions in Bangkok Metropolis and some other provinces.

The **Ministry of Interior** has a number of institutions and agencies responsible for administering and providing health services through various local administrative bodies such as BMA, municipality, sanitation district, and TAO. Its Police Hospital also

provides health services to policemen and their families as well as the general population while its Nursing College produces nurses.

The Ministry of Education is responsible for school health programs, health promotion, and disease prevention jointly with the MoPH.

The Ministry of Defense has many hospitals located in Bangkok Metropolis and in some other provinces to provide health services to soldiers and their families as well as the general population.

The Ministry of Labour and Social Welfare has a Social Security Office responsible for administering social security funds that can be reimbursed to cover the cost of treatment for insured persons sickness and injury jointly with the MoPH. There are also other institutions and agencies designated to provide treatment for drug addicted persons, control drug addiction and substances, and provide welfare and rehabilitative services for handicap, elderly, and the poor.

The other 4 ministerial organizations that are involved in providing health services to their officials and general population through designated health service institutions include the Office of the Prime Minister, Ministry of Agriculture and Cooperatives, and Ministry of Justice, and Ministry of Finance.

Sections 4. Futures Research Concepts and the Ethnographic Delphi Futures Research Concepts

1. Futures Research Concepts

Future refers to time period that has not yet arrived. Future, in this sense, is not

existed in the present time or even in the future because the future after all becomes present. It has been said that "today is the tomorrow of yesterday that you were concerned." So, the main characteristic of future is that future is not fact and independent phenomena. When we talk about future, we mean some things that would happen later on. Therefore, trying to understand future that has not yet arrived is quite importance (Piluntananont N., 1983:57). Due to the fact that future is not yet existed, so we can not study the future as fact. We can only study the perspectives how the future world will be likely from present situations. Therefore, the futures study is the study of perspectives about the future conditions and how changes we believe it is likely to occur.

Even though the future world is still not existed but we can create the future as we wanted by changing our present courses of actions for the world tomorrow (Piluntananont N, 1983:58). Furthermore, thinking about the future can be fun. As a student once said to me, " I like thinking about the future, because that's where I expect to live the rest of my life. In fact, several scholars have remarked that the ability to think about the future is a distinctly human quality that sets us apart from all other species. This ability enables us to act not just in response to an actual physical stimulus, as all other animals do, but also to images of future worlds that exist only in the mind. However, there is a strong belief that future can be developed. In thinking about future developments, it may be helpful to become familiar with some of the forecasts of professional futurists, people who earn their living studying likely future trends and developments (Nanus B., 1992:82-83).

With the belief that futures can be systematically studied, futurism has been in existence for over 50 years. Human behaviors and decisions are affected by their beliefs about the future and can be controlled and influenced to create the future (Poolpatarachewin C. in Sirisamphant T. editor, 1994:76)

1.1 Definition of Futures Research

1.1.1 Futures studies (FS) and Futures research are sometimes used without distinct differences. Both are similar for focussing on many possible and probable

futures but differences in methodologies. Futures studies are based on individuals and more intuitive than futures research. Future studies are the study of ideas (analysis-synthesis) developed from unorganized existing data without any new data while futures research is data-oriented method. Futures research relies on some research design with appropriate research techniques for data collection. Therefore, futures research is far more suitable for studying the future as compared to futures studies. (Poolpatrachewin C., 1986:24)

1.1.2 Futures research is, therefore, defined as a systematically method of study on possible and probable futures from a group of people or society (Poolpatrachewin C., 1996:3-4) in order to look at the possible situations or behaviors in the future as well as their relationships and impacts (Keranunt T., 1986:130)

1.2 Basic Concepts of Futures studies and Research

Poolpatrachewin C. (1996:3-4) has summarized 4Ps basic concepts of futures studies and research as follows.

Projection is the attempt to explain various alternatives or choices that may be possible in the future. This process is called scenario building.

Preparation is getting ready to face with the future such as trying to identify strategy and tactics for achieving desirable future and facing with undesirable ones.

Protection is thinking of various alternatives and choices in order to be aware of opportunities that are undesirable in the futures and identify protective mechanisms in advance

Preservation is the attempt to maintain the desirable futures by identifying ways to make things happen.

1.3 Purposes of Futures Research

The main purpose of futures research is not to correctly predict but to survey and study the possible or plausible trends of the study subject both desirable and undesirable in order to ensure the desirable ones and protect the undesirable ones. Therefore, the information gained from futures research are directly useful to planning, policy setting, and decision making as well as establishing strategies and tactics for achieving desirable futures and protecting undesirable conditions (Poolpatrachewin C., 1994:76):

The general purposes or objectives of the futures research can be categorized into five categories. To represent future scenarios as follows (Garrett, 1996:12)

Prediction: describing what one aspect of future is expected to be.

Forecasting: describing several feasible or plausible futures with rather high degrees of probability.

Foresight: looking at a wider range of possible futures, among with may be probable and improbable ones, desirable and non-desirable ones, 'mixed' futures, and ones reflecting major trends or events.

Envisioning: imaging one or more future that is desirable.

Testing opinion: determining futures likely to result from alternative policy choices and other options.

1.4 Types of Future

The future can be classified into different types as follows (Pilunthanamont N, 1983:63-64)

1.4.1 Possible future or "What May Be" – includes building images and imaginations found and explaining various alternatives options. This type of future can be in different areas of subjects such as arts, history and anthropology they help provide

information for our imagination and selection of possible future in the form of theoretical explanation.

   1.4.2 Preferable Future or "What Should Be" – Consists of suggestions on human imagination and future which are developed from philosophy, theology, social criticism, and utopian world and dreams. This type of future helps create awareness on values, aims, and principles that guide our directions and responsibilities to focus on targets and strategies by setting up standards for practice in the form of theoretical explanation.

   In the other hand, the preferable future is the one future we would like to have happen and is sometimes called prescriptive futurism, or normative forecasting (Henchey in Bezold & Hancock, 1993:73).

   1.4.3 Probable Future or "What Likely Be" – involves with planning and creating or making possible trends as a product of social and historical knowledge on forecasting. This type of future helps us to forecast and understand present situations by pointing out how present situations lead to future situations in the form of practical analysis.

   1.4.4 Plausible Future or "What Could Be" – involves with policies setting from theoretical systems, planning of activities, and operation research. This type of future has influences on policies and plans that lead to practice. It helps users the feasibility, evaluates the results, and suggest strategies to be implemented in the form of operations explanation.

1.5 Time Dimension of Futures Research

   Most of the research methods from the past to present time have tendencies to overlook time dimension while futures research puts more focus on it. Therefore, understanding about time dimension and time period is a major concern for futurists. Cornish (cited in Piluntananont N., 1983:59-60) noted about time dimension that futurists were well aware that present problems were products of the past due to incremental

changes of time frame from 5 to 50 years. The reason behind this time frame is that any period less than 5 years is within concerns of everyone in the present time and in fact is too short to make any changes.

Futurists have divided time frame for predicting or planning into four periods as follows.

(1) 5-year period is considered to be a closest future prediction or planning cycle. If for solving problems, it is called an immediate problem solving or immediate forecasting or immediate planning period. Futurists are not in favor of this time frame due to too short of a time to pull away from the present and future.

(2) 5-10 years (or up to 15 years) period is considered to be a short future research called short range prediction or short range planning.

(3) 10 – 15 years (or up to 20 – 25 years) period is considered to be middle range prediction or middle range planning. Most futurists are in favor of this time frame with the belief that the results can be put into real implementation to make the differences.

(4) 20 – 25 years (and over) period is considered to be a long-range futures research and favored by some researchers. However, some researchers think is too long especially if they have to choose a period of 50 to 100 years.

2. Ethnographic Delphi Futures Research (EDFR)

The Ethnographic Delphi Futures Research (EDFR) has been developed by Dr. Chumpol Poolpatarachewin since 1979 during his doctoral study at the University of Minnesota. This EDFR is a combination of the Ethnographic Futures Research (EFR) and the Delphi technique in order to increase the reliability of collected data. This method has the strengths of both EFR and Delphi technique and limits the weaknesses. (Passig, 1997:54) There are two major steps for EDFR as follows.

2.1 The Ethnographic Futures Research (EFR)

This technique has been developed from anthropological study called ethnographic research or ethnography by Professor Dr. Robert B. Texter from Stanford University, USA. This EFR uses specific interview method to collect data from experts' opinions. Future scenarios are then prepared from most consistent opinions. One of the weaknesses of this method is that some opinions may be disregarded due to inconsistency. However, there are some strengths for this method as follows (Poolpatarachewin C. cited in Sirisamphan T., editor 1994: 78 –79). It is a non-directive open-ended interview with some structured questionnaires. Interviewees are totally free and mastering the interview. A cumulative summarization technique is used periodically throughout the interview to increase the validity and reliability of data.

The EFR is consisted of three alternative scenarios, namely optimistic-realistic (O-R), pessimistic-realistic (P-R), and most-probable (M-O). Each scenario will include possible and probable trends that are realistic in nature.

2.2 The Delphi Technique

The Rand Corporation researchers named Olaf Helmer and Norman Dalkey since 1950 have developed this technique. At present, the Delphi Technique has been widely recognized in every industry as a forecasting technique or probable future through experts' consensus. The results of consensus can be used for making decisions in many areas including academic and management (Ragpolameung C. cited in Sirisamphan T., Ed, 1994: 59). In addition, the Delphi was also a communication technique for and between groups of experts in which they can share their expertise without direct contacts (Poolpatarachewin C. cited in Sirisamphan T.ed., 1994: 77, Linstone, 1987: 274). Therefore, each expert can express opinions without any domination from others.

However, there must be at least one of the following characteristics in trying to identify problems for research using Delphi technique.

1. A Research problem that does not have any certain answer but can be studied by using subjective judgements from experts in that area; or

2. A research problem that needs opinions from experienced or knowledgeable experts in that area; or

3. Researchers do not want to see that opinions of one expert interfere with others for any decisions; or

4. It is inconvenience to call a group meeting due to geographical difficulty, high cost and time consuming; or

5. Do not want to reveal names of experts due to some conflicts of opinions; or

6. When researchers want to see some consistency between target and objective or to identify consistent values.

Later on, the Delphi technique has been used for others purposes such as:

1. Policy Delphi (PD) – does not focus on group consensus but utilizes feedback without specified sources to gain more opinions and alternatives for policy maker in decision-making (Passig, 1997: 53)

2. Decision Delphi (DD) – another form of Policy Delphi that does not rely on experts but groups of authorities who are responsible for making decision according to line of command (Ranch cited in Passig, 1997: 53-54). Names of all informants are known but not their opinions as a quasi-anonymity pattern.

3. Imen Delphi (ID) – a process for acquiring ideas and screening opinions about the future from non-experts. It is a communication process for facing with problems by creating scenarios and missions together.

2.2.1 Delphi Technique Process

Delphi Technique Process has three major steps as follows.

2.2.1.1. Selection of Experts

The step after choosing problem issues is to select experts who are believed to provide most related information better than ordinary people. This step is very importance because most of the changes occurred in society or organizations are from experts including administrators, authorities, leaders, and knowledgeable persons (Poolpatarachewin C., 1983:37).

One of the requirements for selecting experts is that researchers establish specific selection criteria or ask involved authorities for suitable persons to be included in an expert group (Ragpolamueng C. cited in Sirisamphan T., Ed: 1994:62). Therefore, the selection of experts for futures research depends mainly on a purposive method. In order to make the differences, administrators and decision-makers are purposively selected as experts. The next group of persons is academicians in related area due to their independent opinions and creativity. The ratios between experts and academicians are varied depended upon the focus of researchers. (Poolpatarachewin C., 1987: 38-39)

A number of total experts and academicians will depend upon the problem issues, research purposes, topic complexity, time, and budget (Poolpatarachewin C., 1994: 77). If the expert group is homogeneous, only 10 – 15 persons are sufficient for data collection. If the expert group is heterogeneous, more persons may be needed. However, Thomas T. Macmillan (cited by Ragpolameung C. in Sirisamphant T., ed., 1994:63) mentioned that seventeen or more persons participated in this kind of research, the error rates are minimized and constant as the number as persons increases as shown in Table 2.1

Table 2.1   Panel Size and Error Reduction Rates for Delphi Technique

Panel Size	Error Reduction	Net Change
1 – 5	1.20 – 0.70	0.50
5 – 9	0.70 – 0.58	0.12
9 – 13	0.58 – 0.54	0.04
13 – 17	0.54 – 0.50	0.04
17 – 21	0.50 – 0.48	0.02
21 – 25	0.48 – 0.46	0.02
25 – 29	0.46 – 0.44	0.02

Source: Ragpolameung C., Delphi Research cited in Sirisamphant T., Ed., 1994: 63

2.2.1.2 Selection of Problem Issues and Questions

Another key point for the Delphi research is the questionnaire which will be used repeatedly with some modifications after the first round survey. It is also necessary for researchers to establish a research frame which is very often quite broad in nature. The research frame is usually established from reviewing related literatures or interviewing selected authorities. This first round questionnaire is usually open ended and more general in contents than the latter sets.

The second round survey is most important and difficult step for the Delphi technique. Researchers have to analyze all open ended questions from the first round survey to eliminate repeated questions, and modify them to fit the research frames by using appropriate scales such as 1 – 5 or 1 – 6 or 1 – 7. All questions are then prioritized and sequenced according to its frequency of references. In this round, all questions must be short and simple to avoid controversy or misunderstanding.

The third round survey, the questionnaire is normally consisted of same questions

asked in the second round but include with it the results of group's opinions using mode or median and interquartile range for each question. This aims to provide experts opportunities to assess and compare his or her opinions with the group's opinions, and to confirm or change with his or her reasons.

The forth round survey, the questionnaire is the same as in the third round plus the results of the third round analysis. This round of survey may not be needed if there is not much changes in expert answers which can be judged from a narrow range of interquartile.

2.2.1.3 Collection and Analysis of Data

This step begins from asking for a cooperation from experts to make sure that they can participate in all rounds of the survey throughout the study. It is commonly found that there are some drop-outs after the first round survey. Time interval between each round of survey is also found to be an important factor for drop-outs. The most appropriate time interval between each round of survey should be within 3 weeks (Jitt-aree T., 1994:7). The statistics needed to analyze the data are mode, median or mean to show the rank of opinions as well as interquartile range for each question. Final summary and discussion are normally made from consensus of experts in the third round survey.

2.3 Ethnographic Delphi Futures Research (EDFR)

EDFR is one of the most recognized techniques used for futures research. It is the technique that picks up all the good points of the Ethnographic Futures Research (EFR) and Delphi technique. Therefore, the EDFR is a combined technique that is quite flexible and appropriated for futures studies. With this technique, the first round survey will be an interview using the EFR technique. At this step, the interview is purposively done according to the objective, time, budget, and conditions. The interview may cover all

three scenarios (optimistic, pessimistic, and most probable) or any specific trends that experts believe to be possible and probable futures with no respect for desirable (positive) nor undesirable (negative). The second and third round surveys, some spaces will be provided on the questionnaire for expert to give their opinions toward the directions using the Delphi technique. After that the results of those surveys will be summarized to make possible future scenarios based on experts opinions that are most consistency.

The same statistics including mode, median or mean, and interquartile range are applied to analyze the data in every round of survey. The most likely trends will be drawn for conclusion.

However, one of the important points for the EDFR is the preparation of experts in advance before the interview by providing some background information on the issues so that experts can assess the situations and get ready before hands.

The EDFR models may be modified to fit the research objectives, time, and budget as follows (Poolpatarachewin C., 1987:54-55)

Normal Model starts with an interview and followed by 2-3 rounds of survey in order to screen experts consensus on their prediction.

Mini EDFR starts with an interview and followed by only one round survey.

Full EDFR starts with an interview and followed by the second and third rounds of survey like the normal model. The difference is that questionnaires are modified and condense by using rating. Only the most likely trends in the third round results will be used to discuss and create the scenarios.

3. Examples of Research Projects using EDFR Technique

There were a number of researches that used the EDFR technique at the national level and institutions as follows.

Thailand's Sciences and Technology in 5 and 20 Years Submitted for Long-term

Sciences and Technology Planning. (Technical Service office, Chulalongkorn University, 1991) – a one year project done by using the Futures Research technique to identify the short-term (5 years: 1992) and long-turn (20 years: 2010) scenarios for Thailand's Sciences and Technology. A total of 50 experts from different areas including agriculture, public health, economics, industry, energy, communication and transportation and academic were selected to give opinions on probable trends. The scope of research focussed on infrastructure, manpower, research and development, technology transfer, etc.

Roles of the Civil Service Commission Office in the Next Decade (Civil Service Commission Office, 1986) – a study to draw the scenarios of the Civil Service Commission Office and its roles and functions. A total of 42 politicians, and top authorities and academicians were purposively selected to participate in the EDFR. The data from the last round survey were analyzed in terms of mean, mode, and interquartile range to summarize and prepare the scenarios.

Thai Public Administrators in the Future (Sripadoong C., 1996)—a study using the EDFR technique to identify managerial skills, characteristics, and enabling factors for their achievements. The results were used as background information to design manpower development programs for future administrators in the next 10 years. A total of successful director general, deputy director general, divisional director, and academicians were interviewed in the first round. Questionnaires were sent to 25-deputy director general in the second round and 74 top executives including director general and deputy director general or equivalent.

An Implementation Model of Home Health Care for Hospitals Under Regional Hospital Division, Ministry of public Health in the Next Decade (1996-2006) (Gayuranont P., 1996), a study to identify different models of home health care. A total of 39 experts administrators in medicine and public health, technical. personnel,

operational personnel, and academicians were included in the study

Although, the EDFR technique has been developed for futures studies but it can be applied for non-futures studies such as surveys on opinions, problem issues to set policy and standards or identify problem solving methods. At present, futures research techniques including EFR and Delphi are widely used in many sectors and agencies for future planning, present situations analysis and problem- solving as will as past situation analysis. Most futures research techniques, especially Delphi and EDFR help researchers gain data that are more systematic and reliable (Poolpatarachewin C., 1994: 83-84; 185).

4. Future Changes Affecting Managerial Development

Alvin Toffler (cited in Tin Prudchayapreut, 1992: 78-79) mentioned that the environment of the United States of America and the world would change very rapidly in quantity, direction, and speed. However, the rates of change would have more impacts on the society and people than the quantity and direction. If people have been experienced with forces of environmental change for a long period of time and sudden, they would be in the most frighten state, which could be called "Future Shock" (Toffler, 1971: 2-3, 35). This most frighten state could be cure by a Futures Study in order to understand the present situations and make some adjustments to fit with surrounding environment.

Never get too much attached to anything or temporary or transient view of things was an example for an adjustment. Traditional basic factors like religion, family, community, professional association, and national institute are currently facing with changes that cause people unable to cope with their most frighten feelings.

In addition, Toffler wrote in his book on "Toward a Third Wave Civilization" that our world passed and is passing three types of waves (or historical civilization). The first

wave was an agricultural practice, about 10,000 years ago. The second wave was an industrial practice, about 300 years ago. At present, we are in the third wave and facing with an industrial destruction that affects values, political institutions, economics, and family structure in Western countries. However, this third wave does not have only bad effects if people can adjust themselves to the new environment, but instead they may gain benefits from it as well. All behaviors, technologies, and work procedures in this third wave will have less duplication and help reduce tiredness. Less specific skills are needed with flexible hours of work. Besides, workers should be able to establish their own working speed and always ready for a new job at all time. They are completely responsible for changing productions or system improvement. Meanings and incentives are equally more valued, important, and concerned by all workers.

John Naisbitt (cited in Tin Prudchayapreut, 1992: 79-80) mentioned about some important trends in his book on "Megatrends: Ten New Directions Transforming Our Lives" in 1984 that the environment in the United States of America and developed countries would face with ten changes in the 21st century as follows:

1. Industrial society changed to information society. Focus would be made on broad, not specialized knowledge or changing pattern from labour dependent to knowledge dependent.

2. Forced technology changed to high tech/high touch.

3. National economy changed to world economy. Eventhough Japan would take place the USA for a number one economic leader of the world, but Japan would be a new champion for an obsolete sport. Singapore, South Korea, Hong Kong, and Taiwan (or even Thailand) would be challenges for Japan because of its high living and labour costs.

4. Short term planning changed to long term planning. There would be more valuable to have long term planning skills than short term planning ones.

5. Centralization changed to decentralization. Another words, most of development activities would occur more at the county, city, and local administrative bodies than at the capital level.

6. Institutional-help changed to self-help.

7. Representative democracy changed to participatory democracy. Political parties would have only names, people would not pay any attention to them.

8. Line of command changed from hierarchies to networking. People would believe in information received by individual for exchanging of information and concepts rather than information from the government.

9.American would migrate from Northern or Eastern regions to Southern or Western regions along with economic growth and security.

10. The choices would change from "either or" to multiple options. Different and flexible working hours was the example for this change.

Later on in 1990, Naisbitt and Aburdene wrote in the book titled "Megatrends 2000: Ten New Directions for The 1990's" concerning The Millennial Megatrends: Gateways to the 21st Century that while we are entering the new century, there are important trends that affect our ways of living as follows:

1. The booming global economy of the 1990's

2. A renaissance in the arts

3. The emergence of free-market socialism

4. Global lifestyles and cultural nationalism

5. The privatization of the welfare state

6. The rise of the Pacific Rim

7. The decade of women in leadership

8. The age of biology

9. The religious revival of the new millennium

10. The triumph of the individual

And in 1995, Naisbitt (Naisbitt, 1995: xii-xiii) mentioned about eight major transformations in Asia during 1990 and the 21st century as follows:

1. Changing from nation states to network.

2. Changing from export-led to consumer driven.

3. Changing from Western influence to Asian way.

4. Changing from government-driven to market-driven.

5. Changing from villages to super cities.

6. Changing from labour-intensive to high technology.

7. Changing from male dominance to emergence of women.

8. Changing from west to east.

The number "8" is believed by Chineses to be a lucky number. Therefore, the year 2000 is called the year of the dragon. It is the beginning of the Dragon Century for all Chineses.

5. World and Thailand Situations Based on Thai Experts

In the 21st century, the world situations have changed tremendously in terms of advanced technology and information. The world after cold war seems to be good due to its peacefulness but under this peaceful situation, there is high competition in business. This business competition is more severe, frequent, and prolonged than the war that has less frequency and less complexity (Smuthavanich, C. 1996: 116). This world is changing towards more freedoms in expressing ideas with the focus on diversity. The democratic practice becomes a New World Order that puts more emphasis on human right, decentralization, participation, good governance, and efficiency. In addition, it focuses also on reducing weapons and soldiers, conserving environment, and promoting

free-market business (Smuthavanich, C. 1996: 116-117). This New World Order provides collective values for countries with limited capital and technology in such a way that forces the nations to think and act toward internal and external societal responsibilities. Not a single country can stay in isolation but instead be prepared for this New World Order in competing with capitalized countries.

Military Technical Officers views Thailand in 2030 or in the next three decades that Thailand has fully imbedded in globalization world (Ministry of Defense, 1997: 43-48). The business competition among countries around the world is more intense. There will be an alliance business group among Asian countries that brings about an ASEAN Union (AU).

The ASEAN Union consists of some loosely involved governments responsible for managing international politics and economics as well as keeping regional coalition security system. Citizens of member countries will receive a special immigration privilege and are allowed to run a business in member countries under the same rules. International marketing system is somewhat free using the same currency. The communication and information technology system is more advanced and modern, and widely used under the same standards throughout the Union. English is used as a common international mean for communication.

Thailand is governed under a complete democratic system headed by the King. Democratic authorities consist of court authority, administrative authority, and legislative authority. There is a well-designed check and balance system. The national administrative system consists of two levels, namely central and local levels by having Tambon Administrative Organizations as the lowest units.

The legislative system is responsible for enacting laws consistent with real societal situations and people's needs. The court system is independent with an efficient

check and balance system. Policemen are locally appointed to serve the public and perform the first level of justice action.

Agriculture is still a major economic mean for Thailand, which will be developed towards agricultural industries without destroying environment and quality of life. The economic system is innovative growth with strong production bases. It is a freely competitive market that can compete internationally.

Thailand will be a center for telecommunication and transportation in Indochinese region and ASEAN countries as well as the economic center for the Union. There will be collaborative efforts among countries in the region for financing system in order to assist for expansion and compete with other regions.

More than 50% of Thai people will have vocational and college education. The TAOs will be more efficient in educational management. Thai people will put more interest in sciences and be able to apply scientific knowledge in resources management very efficiently. Public and private sectors will be collaborated for research and development to build up a "Scientific Town" that can provide scientific services to several groups of people. Thai people will be capable of making investigation and producing more new products for internal assumption and exports.

Thailand will be a center for agricultural technology and management for the region and the world. Existing natural sources of energy are being utilized very widely. Nuclear energy is used for generating electricity and being reused efficiently.

Communication is fast and punctual by widely utilizing of advanced information technology.

Thai people are healthy and wealthy with more convenient in commuting and communicating. Everyone has an ability and opportunity to learn with analytical skills. They are fully responsible for themselves, family, and community with a sense of belonging and protecting public resources. They are well aware of their functions and rights as well as willing to participate in governing and developing activities. Everyone is concerned for a better environment and quality of life by adopting religious principles and ethics.

The environment in Thailand is visibly clean and balances suitable for good living conditions and sustainable utilization. Culture, norms, customs, artistic objects, and archeological materials are properly preserved and maintained to reflect happy life styles of Thai people.

From literature reviews, the major elements of health management to be studied are including mission / roles/ functions, administrative structure, managerial resources (administrators, laws and regulations, information, policy and plans), and managerial processes (policy formulation and planning, decision-making and coordinating, monitoring and control, and evaluation). The socioeconomic factors that are also significantly related to the Thailand health management include society and environment, education, population, political and governing, economic status, and general public health. All elements were summarized in Figure 1.1.

CHAPTER III

MATERIALS AND METHODS

This qualitative research on Thailand Health Management Scenarios in the Next Two Decades (2020) was conducted by using the Ethnographic Delphi Futures Research technique. The main purpose was to study the possible and probable trends of health management in Thailand by the year 2020. The research method was described as follows.

1 Research Population

Key informants including administrators from the Ministry of Public Health and other ministries responsible for policy formulation and health activities monitoring and control were purposively chosen along with academicians from various universities and other related agencies.

A total of 67 informants including 18 central level administrators, 19 regional level administrators, 12 local level administrators, 1 private hospital director, 1 NGOs administrator, 10 related agency administrators, and 6 academicians were directly interviewed during the ethnographic study.

There were thirty-three informants including 8 central level administrators, 14 regional level administrators, 2 local level administrators, 1 private hospital director, 5 related agency administrators, and 3 academicians were participated in the first round Delphi.

Twenty-eight informants including 6 central level administrators, 14 regional level administrators, 1 local level administrators, 1 private hospital director, 4 related agency administrators, and 2 academicians were participated in the second round Delphi.

2. Selection of Key Informants

Purposive sampling was applied to select key informants in order to cover all managerial levels and related fields both in public and private sectors. Positions and selection criteria were identified as follows.

2.1 Selection Criteria

A. Informants directly responsible for health management at central, regional (provincial), and local levels

1. Central Level Administrators

Administrators who were directly responsible for health management and policy making were chosen and contacted by phone and letter for their willingness to participate in the study. All of them had received invitation letters describing about research methods and data collection procedures. A total of 18 central level administrators from Ministry of Public Health were included in the study as follow.

- The Permanent Secretary for Public Health
- Three Deputies Permanent Secretary for Public Health
- Three Assistants Permanent Secretary (Administration, Health Policy and Plan, Health service and secretary of Physician Council)
- Three Director - Generals
- Head of the MoPH Inspector Office
- Director of Bureau of Health Policy and Planning
- Director of Health System Research Institute
- Deputy Director of Praboromrajchanok Institute
- Director of Office of Health Insurance
- Director of Primary Health Care Office
- Director of Medical Registration Division

o   Director of Personnel Division (Office of the Permanent
Secretary for Public Health)

2. Regional (Provincial) Health Administrators

A total of 19 regional health administrators including 5 Provincial Chief
Medical Officers, 6 District Chief Health Officers, 1 Regional, 2 General, and 4
Community Hospital Directors were selected for this study.   The selection criteria for
each position were as follows.

Provincial Chief Medical Officer who has been in the post for more than
5 years from at least two provinces with 3 published articles in management.

District Chief Health Officer who has been in the post for more than 10
years from at least two districts and at least bachelor educational level

Director of Regional Hospital who has been in the post for more than 5
years from at least two regional hospitals.

Director of General Hospital who has been in the post for more than 3
years from at least two general hospitals.

Director of Community Hospital who has been in the post for more than
10 years from at least two community hospitals.

3. Local Health Administrators

A total of 12 local health administrators including 4 from the Bangkok
Metropolitan Administration, 3 from municipalities, and 5 from Tambon Administrative
Organizations were included in the study.   The selection criteria were as follows.

Bangkok Metropolitan Administration:
o   Director of Health Department
o   Director of Medical Department
o   Heads of District Environmental and Sanitation (Health) section with

more than 10 years experience for at least two districts.

Municipality: mayors who have recognition for the best performance in keeping order and cleanness with more than 10 years expirence in the post.

Tambon Administrative Organization (TAO) : chair-persons of the TAO model who are the head of administrative body with at least 2 years experience as the TAO administrator after the Tambon administrative councils.

4. Private Hospital Director and Non Governmental Organization

One of not-for-profit hospital director with at least 3 years experience, and one of non-governmental organization director with at least 5 years experience in public health projects were included in the study.

B. Other Related Authorities

- o Deputy Secretary-General of the National Economic and Social Development Board (NESDB)
- o Deputy of the Office of Civil Service Commission
- o Academician of the Budget Bureau
- o Director-General of Administrative Department, Ministry of Interior
- o Director of Bureau of Local Administrative, Ministry of Interior
- o Head of Tambon Administrative Division, Ministry of Interior
- o Head of Local Development Planing Section, Ministry of Inferior
- o Director-General of The Army Medical Department, Royal Thai Army.
- o Chairman of Parliamentary Board of Public Health

C. Academicians

Six academicians with doctorate degree and have at least 5 years experience in teaching political science, economics, general management, education, or

health.

2. Selection Method

A. Regional Health Administrators

Due to the Personnel Division of the Office of the Permanent Secretary for Public Health had no completely computerized information on personal history and tenure of health administrators working in various provinces, a survey was then done by mail as follows.

1. A total of 75 Provincial Chief Medical Officers (PCMO) and 17 Regional Hospital Directors were sent with a survey form and requesting for their experiences and convenient contact means (telephone and E-mail). They were also asked for their willingness to participate in the study and 3 names of appropriate administrators working at the same level with them. All names were then tally for popularity and priority.

There were 48 (64.0 %) survey forms returned for PCMOs for an analysis. Only 2 provincial health administrators met the research criteria. Therefore, another 3 administrators were included in the study by prioritization.

For Regional Hospital Directors, there were 9 survey forms (52.9 %) were returned for an analysis. However, it was found that there was no one who met the criteria of 5 years as Regional Hospital Directors for two hospitals. So, 3 years of experiences were applied to select the informants.

2. Survey forms were sent by mail to Heads of Administrative Support Sections of 75 Provincial Health Offices requesting for information on names, work experiences, education and age of district health officer as well as General and Community Hospital Directors. There were 51 survey forms (68.0 %) returned for an analysis.

After checking their qualifications against the criteria, survey forms were again mailed directly to those who met the criteria asking for their willingness to participate in the study. There were 23 District Health officers, 6 General Hospital Directors, and 26

Community Hospital Directors who meet the criteria and willingness to participate.

B. Local Health Administrators

1. Municipality

The Bureau of Local Administration, Ministry of Interior was contacted to provide the names of municipals that lately win the prize for cleanliness and orders. The mayors were then directly contacted to invite to participate in the study. Three municipals were included for interviews.

2. Tambon Administrative Organizations (TAOs)

Division of Tambon Administration, Ministry of Interior was contacted to provide the names of model TAOs since 1995-1996. Ten Chiefs of Executives of model TAOs were invited to participate in the study. There were 5 TAOs included for interviews.

3. Heads of Environment and Sanitation Section, District Administrative Office, Bangkok Metropolis

There were 38 districts in Bangkok Metropolis contacted for identifying appropriate informants by mail. Two Heads of Environment and Sanitation Section of Districts who met the criteria were chosen for interviews.

C. Central Level Health Administrators, Related Organizations and Academicians

Health administrators at the MoPH and from other related organizations and academicians were approached by personal contacts and phones to explain about the research procedures and ask for willingness to participate in the study.

A total of 37 informants in the central level, related organizations and academicians were purposively selected for interviews. However, 9 of them were agreed

to give interviews but not willing to participate in the Delphi due to their time constraints.

All participant who met the criteria and were willing to participate in this study, were approached by personal contacts or phones to explain about the research background and procedures for data collection, understanding, and cooperation. See summary of informants selection procedures in Figure 3.1.

3. Research Tools

The Ethnographic Delphi Futures Research (EDFR) consisting of two major steps including interview and Delphi were employed for the study. There were various research tools, which could be described as follows.

3.1 Basic Background Information

All available documents and literatures on the health system were reviewed along with related information on the present socioeconomic status of the country. Various sources of data both primary and secondary are chosen as follows.

The sources of data were including Royal Gazette, national administrative legislation, ministerial reform legislation, national socioeconomic development plans, health development plans, action plans on health activities, statistics and health information. Books, research papers, seminar materials, and other related documents were reviewed.

The following basic background information was provided to informants before the interview.

A. Framework of Thailand Health Management Futures Research

B. Summary on important on the SWOT analysis of current health management in Thailand
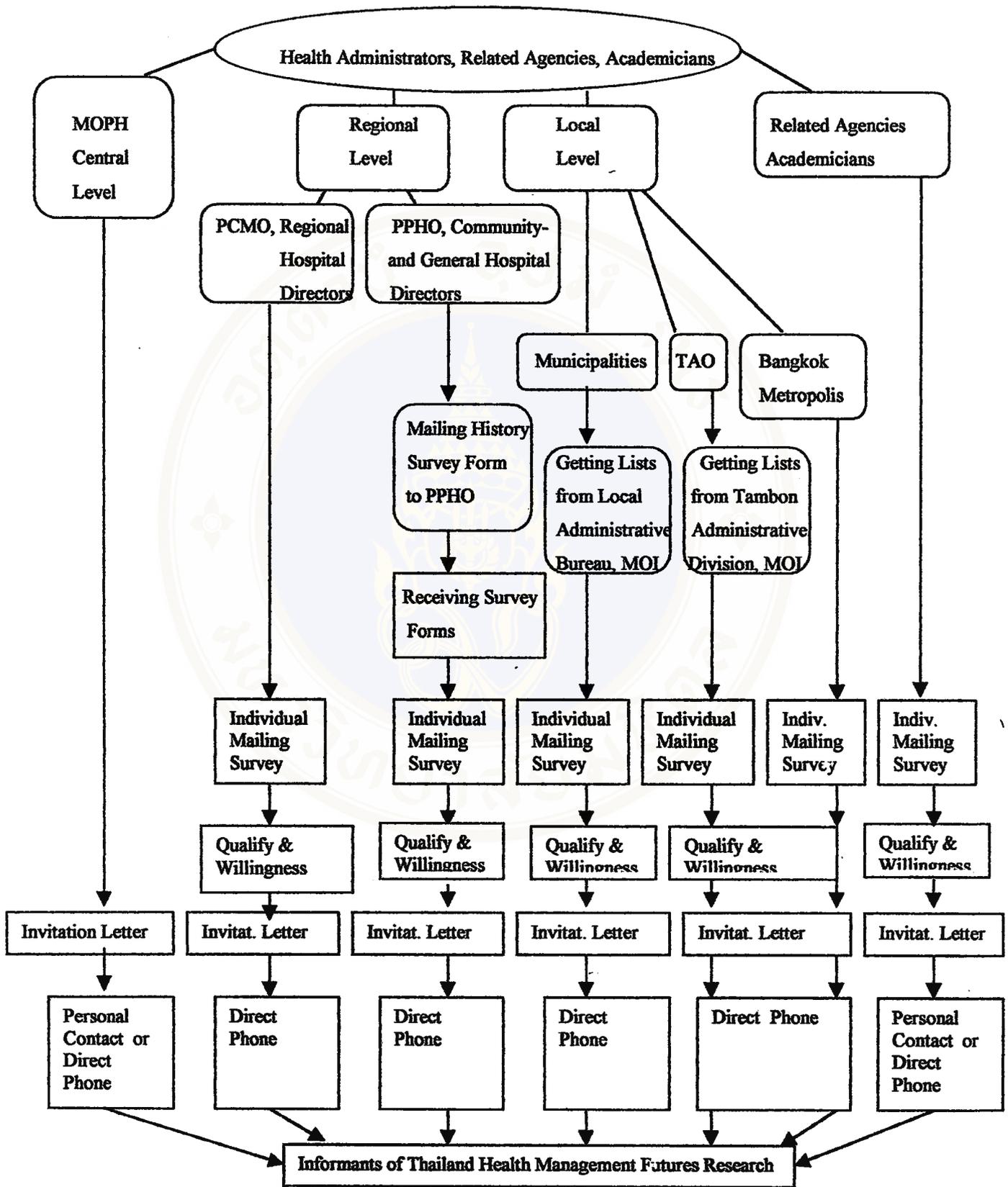
Figure 3.1   Informants Selection Procedures

C. Administrative structures of various levels health system

D. Summary on important issues of the Eight 5-year Health Development Plan (1997-2001)

3.2 Interviewing Question

All selected key informants and experts were contacted and provided with basic background information on existing health management and the scope of face-to-face interview. An open-ended and semi-structured questionnaire was designed for the interview covering the research framework.

An outline of the interview was centered on the following framework.

1. How are the Strengths, Weaknesses, Opportunities, and Threats of the present Thailand Health Management.

2. How will the social, economic and political conditions of Thailand and the world be like by the year 2020?

3. How will such conditions affect the Thailand health management in terms of:

o Missions, roles and authorities of health management at different levels including national (central), region (provincial) and local

o The structure of health management that can facilitate for future health development in 2020

o Acquiring health management resources

o The qualifications and requirements of health administrator at different levels

o The administrative tools such as law and regulations including specific information characteristics.

o Specific characters of policy and plans for manpower, money, and activities as well as the most important issues

o Methods of policy formulation and planning for manpower,

money, and activities

    o   Decision making and coordination within and between sectors

    o   Methods and mechanisms for monitoring and control of health program activities at all levels

    o   Methods of policy, plan, and project evaluation as well as the performance assessment

4. Roles, authorities, and functions of related organizations including the National Economic and Social Development Board (NESDB), Office of Civil Service Committee, Budget Bureau, Social Security, professional agencies, academic institutions, and others.

5. Other interested issues and trends mentioned by informants

3.3 Equipment

Tape recorder was used during the interview in order to check and confirm for answers from informants.

3.4 Delphi Questionnaires

A. Questionnaire for First Round Delphi

An extensive questionnaire was designed from results of the analysis and synthesis of interview data. All possible trends were proposed to informants for expressing their opinions. A rating scale of 1–5 was used to assess the chances or potentials of occurrence. The meaning of score was shown as follows.

    5   means highest chance to occur

    4   means high chance to occur

    3   means medium chance to occur

    2   means low chance to occur

    1   means lowest chance to occur

A choice of desirable, undesirable, and unable to decide was also available for the informants to make assessment.

The first round questionnaire was consisted of two parts.

Part 1 was general characteristics of informants including age, present position, organization, years in present position, former position, organization, years in former position, and highest educational level.

Part 2 was statements on trends of Thailand Health Management in the next Two Decades (2020). A rating scale of 1-5 was used to determine the probable chance of each trends / statement. There were 6 sections consisting of 1,403 statements which could be summarized as follows. (See Table 3.1)

Section A had 407 statements concerning general environmental information. There were 113 statements on society and environment, 52 statements on economics, 98 statements on political and governing, 49 statements on education, 8 statements on population, and 87 statements on general public health.

Section B had 153 statements concerning missions, roles, and functions of 3 different administrative levels. There were 78 statements on central level, 27 statements on regional level, 32 statements on local level, and 16 statements on private sector.

Section C had 148 statements concerning different levels of administrative structures. There were 11 statements on national and international level, 66 statements on central level, and 69 statements on regional, local and others.

Section D had 345 statements concerning administrative resources. There were 185 statements on health administrator qualifications and sources, 56 statements on laws and regulations, 40 statements on administrative information, and 64 statements on health policies, plans and programs.

Section E had 168 statements concerning managerial processes. There were 39 statements on policy formulation and planning, 29 statements on decision making and coordination, 50 statements on monitoring and control, and 50 statements on evaluation.

Section F had 182 statements concerning important roles of related agencies. There were 20 statements for the Civil Service Committee, 17 statements for Budget Bureau, 32 statements for Social Security Office, 23 statements for National Economic and Social Development Board, 10 statements for NGOs and mass media, 10 statements for private businesses, 27 statements for professional agencies, 29 statements for Ministry of University Affairs and educational institutions, and 14 statements for Ministry of Defense.

Different colors of paper were used to separate section and underline among each statement was applied to reduce tiresome of informants due to a lengthy questionnaire.

B. Questionnaires for Second Round Delphi

The same pattern of questionnaire used in the first round survey was redefined and sent to informants for their final assessment. In this rounds only the trends that were highest and high chances of occurrence (median of 3.5 and above), except for rated section C and D because most statements were having a median of 3.0. The statistical values on median and interquartile range of each statements were added and sent along with results answered from the first round questionnaire for comparison and rating. A space was also provided on the questionnaire for informants to write their reasons if the answer was different from the group. There were 6 sections consisting of 1,043 statements that were summarized as follows (See Table 3.1 for details).

Section A had 210 statements concerning general environmental information. There were 70 statements on society and environment, 29 statements on economics, 33 statements on political and governing, 22 statements on education, 5 statements on population, and 51 statements on general public health.

Section B had 126 statements concerning missions, roles, and functions of 3 different administrative levels. There were 68 statements on central level, 25 statements on regional level, 23 statements on local level, and 10 statements on

private sector.

Section C had 110 statement concerning different levels of administrative structures. There were 10 statements on national and international level, 50 statements on central level, and 50 statements on regional, local and others.

Section D had 328 statements concerning administrative resources. There were 185 statements on health administrator qualifications and sources, 46 statements on laws and regulations, 36 statements on administrative information, and 61 statements on health policies, plans and programs.

Section E had 144 statements concerning managerial process. There were 33 statements on policy formulation and planning, 28 statements on decision making and coordination, 41 statements on monitoring and control, and 42 statements on evaluation.

Section F had 125 statements concerning important roles of related agencies. There were 5 statements for the Civil Service Committee, 14 statements for Budget Bureau, 17 statements for Social Security Office, 16 statements for National Economic and Social Development Board, 7 statements for NGOs and mass media, 8 statements for private businesses, 21 statements for professional agencies, 25 statements for Ministry of University Affairs and educational institutions, and 12 statements for Ministry of Defense.

In addition, there were also spaces provided for additional opinion and suggestions at the end of the questionnaire for informants to help build complete future scenarios of Thailand health management in 2020.

4. Quality Control on Research Tools

Content validity and reliability are often questioned for every research. However, the main purpose of futures research, especially EDFR is different from other research techniques. Futures research is not aimed to correctly predict but to survey most probable

Table 3.1   Number of Statements in Each Section and Rounds of Delphi Questionnaires

Section and Category of Statements	1st Round	2nd Round	Final Result
Section A. Socioeconomic and General Public Health			
1. Society and Environment	113	70	65
2. Economical Status	52	29	28
3. Political and Governing Issues	98	33	29
4. Educational Issues	49	22	22
5. Demographic Issues	8	5	5
6. General Public Health	87	51	50
Total	**407**	**210**	**149**
Section B. Mission, Roles and Functions			
1. Central Level	78	68	34
2. Regional Level	27	25	20
3. Local Level	32	23	17
4. Private Sector	16	10	10
Total	**153**	**126**	**81**
Section C. Managerial Structure			
1. National and International Level	11	10	10
2. Central Level	66	50	25
3. Regional and Local Level	69	50	17
Total	**148**	**110**	**52**
Section D. Managerial resources			
1. Administrators (Qualification and Sources)	185	185	68
2. Laws and Regulations	56	46	40
3. Administrative Information	40	36	29
4. Policies, Plan, Program	64	61	50
Total	**345**	**328**	**187**

Table 3.1   The Number of Statements in Each Section and Rounds of Delphi
Questionnaires (cont.)

Section and Category of Statements	1st Round	2nd Round	Final Result
Section E. Managerial Process			
1. Policy Formulation and Planning	39	33	27
2. Decision Making and Coordination	29	28	26
3. Monitoring and Controlling	50	41	35
4. Evaluating	50	42	40
Total	**168**	**144**	**128**
Section F. Roles and Functions of Related agencies			
1. Office of Civil Service Commission	20	5	5
2. Budget Bureau	17	14	13
3. National Economic and Social Development Board (NESDB)	23	16	12
4. Social Security Office	32	17	14
5. Non-Government Organizations (NGOs)	10	7	6
6. Private Business	10	8	3
7. Professional Organizations	27	21	12
8. Ministry of University Affairs and Educational Institutions	29	25	23
9. Ministry of Defense	14	12	6
Total	**182**	**125**	**74**
Grand Total	**1,403**	**1,043**	**721**

trends as many as possible. Therefore, the concept of validity and reliability is completely different from other researches (Poolpatarachewin, C., 1987: 51).

In this study, content validity was guaranteed from interview techniques used during the ethnographic study, especially a cumulative summarization technique (Poolpatarachewin, C., 1987: 51).

The questionnaire for Delphi was designed from interview information that were highly valid for its contents due to periodically used of cumulative summarization technique and tape record. The contents from interviews were also transcribing to confirm for its validity as well. The same informants repeatedly assessed the same contents until reaching consensus. Therefore, the questionnaire was also guaranteed for its validity and reliability (Poolpatarachewin, C., 1987: 45).

5.   Data Collection

There were two techniques used for data collection, namely Ethnographic and Delphi. The steps and related activities of each technique were explained as follows.

A. Ethnographic Interview

1. Informant Panel Preparation

1.1 Basic information on current situations of Thailand health management and futures health research concepts as well as the health management study concepts were prepared from literature reviews.

1.2 All selected informants were explained about research objectives and methodology along with making appointments for face-to-face interview.

1.3 Basic information and interview questions were sent to informants two weeks before the interview in order to make informants aware of information needed in advance.

2. Interviewing informants

2.1 Two to three days before the interview, the informants were reminded about basic information and reconfirmed for the appointment by phone.

2.2 After building a rapport, informants were asked for a permission to tape-record the interview. Informants were interviewed according to the outline of questions, which were open-end and semi-structured questions. Interviewer recorded the interviewed answers. Accumulative summarization was applied every 10-15 minutes or at the end of each issue.

2.3 At the end of the interviews, informants were thank you for their cooperation and reminded for the next two rounds of Delphi.

B. Delphi Data Collection

1. All tape recorded data were transcribed in order to combine with written records.

2. All data were content analyzed according to the research conceptual framework to design the 5 rating scale questionnaire for the first round Delphi.

3. The first round Delphi questionnaires were sent to all interviewed informants by registered mail and by person along with letter requesting for returning completed questionnaires using registered return envelops. The letter was also specified that "informants return blank questionnaires if they are unable to answer. Please do not give to anyone else to answer on your behalf". Two to three weeks were allowed to complete and return the questionnaires.

4. Thank you cards were sent to all informants about one week after sending the Delphi questionnaire. Telephone follow-ups were also done at least 2 times to confirm for their receiving of questionnaire and requesting for the return.

5. All questionnaires were analyzed by calculating median, mode, and interquartile range on each statement in order to construct the second round Delphi. A median value of 3.5 was used as a criterion to include the trends in the second round Delphi.

6.   The second round Delphi questionnaire was sent back to informants within 3-4 weeks after receiving the first round questionnaire along with the analysed results. A period of two-three weeks was allowed to complete and return the questionnaires by registered envelops.

7.   Thank you cards were again sent to all informants about one week after sending the Delphi questionnaire. Telephone follow-ups were also done at least 2 times to confirm for their receiving of questionnaire and requesting for the return.

8.   All returned questionnaires were analyzed in terms of mode, median, and interquartile range for each statement in order to justify the results.

9.   Only trends that met the criteria were chosen to build future scenarios of Thailand health management in 2020.

Summary of the steps for data collection could be summarized as Figure 3.2

6.   Data Analysis

There were three sets of data collected by the EDFR Technique including ethnographic interview, round 1 Delphi, and round 2 Delphi.

6.1 Ethnographic Interview Data Analysis

Data from tape recorder were transcribed and combined with researcher personal records. The content analysis was performed on collected data to prepare statement or trends and construct a Delphi questionnaire. All trends or statements were short and concise but maintaining the original meaning, and arranged and categorized into six sections (see research tools for details). All 1403 statements were constructed to the first round Delphi questionnaire with a rating scale of 1-5 levels of chance to occur, and desirable and undesirable scenario columns.

Step 1

Compile and analyze current
health management
situations

Step 2, 3

Construct problem issues for
ethnographic interview

Select informants

Step 4

Prepare informants and make appointment

Step 5

Interview informants

Step 6

Analyze and synthesize interview data to
construct Delphi questionnaire

Step 7

Delphi survey round 1

Step 8

Send thank you card and reminded phone

Step 9

Analyze round 1 Delphi data to construct
round 2 Delphi questionnaire

Step 10

Delphi survey round 2

Step 11

Send thank you card and phone to remind the informants

Step 12

Analyze and synthesize round 2 Delphi data

Figure 3.2   The steps for data collection

6.2 The First Round Delphi Data Analysis

Each of the 1,403 statements was analyzes for chances of occurrence from a rating scale of 1-5 in terms of mode, median, and interquartile range along with the percentage of desirable, undesirable, and unable-to-decide scenarios. The criteria for median interpretation were shown as follows.

4.50 and above	=	highest chance to occur
3.50 – 4.49	=	high chance to occur
2.50 – 3.49	=	medium chance to occur
1.50 – 2.49	=	low chance to occur
1.00 - 1.49	=	lowest chance to occur

Interquartile range was calculated from the difference between the third and first quartiles.

At this stage, the high and highest chances to occur (3.50 and above) statements were selected to construct the second round Delphi questionnaire except section C administrative structure and section D administrators. For section C (administrative structure), most informant opinions were fell within the medium chance to occur (2.50 – 3.49), which were selected for informants to reconsider in the second round Delphi. For section D (health administrators), all statements were selected to include in the second round Delphi questionnaire because of their low score for consensus. There were 1,043 statements chosen for constructing the second round Delphi questionnaire.

6.3   Second Round Delphi Data Analysis

6.3.1 Each of the 1,043 statements from the second round Delphi survey was analyzed to identify highest and high chances of occurrence. Mode, median, and interquartile range with specific criteria the same as in the first round Delphi survey evaluated informant opinion.

6.3.2. Mode minus median was performed to determine the consistency of opinions by comparing the highest frequency on mode and median of each statement. If the difference was not more than 1.00 , it meant that the opinions of informants were consistent.

6.3.3. Interquartile range was calculated from the difference between the third and first quartiles. If the difference was 1.50 and lower , it meant that the informants had consistent opinions on that particular statement or trend. If the difference was higher than 1.50 , it meant that the informants did not have consistent opinions on that particular statement.

6.3.4. Determination of Opinions Consistency

The consistency of informants' opinions was considered by having an interquartile range of not more than 1.50 and the difference between mode and median of not more than 1.00. If the interquartile range was over 1.50 or the difference between mode and median was over 1.00, it meant that informant opinions were not consistent on that particular statement or trend. Any discrepancy from the above criteria was considered to be inconsistent.

6.3.5. Determination of Trend Direction.

The percentages of informants' opinions on desirable (optimistic) or undesirable (pessimistic) were used to summarize for future trends. The differences of at least 20 percent between informants' opinions toward desirable and undesirable scenarios was the criteria for judging future trend directions.

6.3.6. Determination for Most-probable Scenarios

High and highest chances to occur on respondents' opinions were

considered as the end result of the most probable trends along with the following statistical criteria.

        1. The trend that had a median of 3.5 and above;

        2. The differences between mode and median of not over 1.00; and

        3. Interquartile range of 1.50 or less.

        The desirable scenarios were finally summarized from most-probable scenarios with high and highest chances to occur were drawn to be the results of this research.
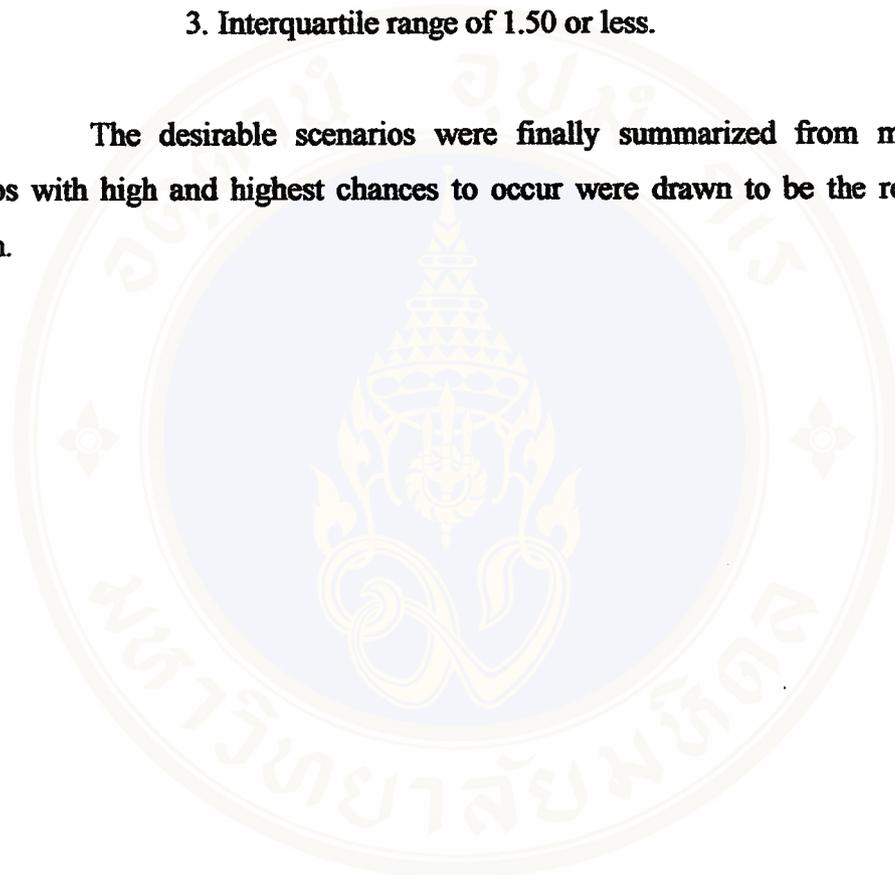
CHAPTER IV

RESULTS

The results of this qualitative research on Thailand Health Management in the Next Two Decades (2020) were present in three parts as follows

1. Characteristics of Informants
2. Thailand Health Management Situation Analysis
3. Trends of Thailand Health Management in the Next Two Decades (2020)
4. The Scenario of Thailand Health Management in 2020

Part 1 Characteristics of Informants

1.1 Age, Sex, Educational Levels, and Sources of Informants

A total of 67 informants including 18 (26.9 %) central level health administrators, 19 (28.4 %) regional level health administrators, 12 (17.9 %) local level administrators, 1 (1.5 %) private hospital director, 1 (1.5 %) NGOs administrator, 10 (14.9 %) health related agencies administrators, and 6 (8.9 %) academicians from various institutions were purposively selected for an Ethnographic study.

All informants were drawn from Bangkok Metropolis, Nontaburi province, and other 17 provinces (25 districts). See details in Appendix A. They were 66 males and 1 female with an average age of 53.6 years (53.6 ± 6.8, Max 69, Min 36). Thirty-three (49.3 %) out of 67 informants were holding a MD degree. Nineteen of them (28.4 %) had Master or Doctorate degree. Another 8 (11.9 %) and 7 (10.4 %) informants were holding bachelor degree and lower respectively.

During the second round of the study or the first round Delphi, thirty-three informants were participated.   There were 8 (24.2 %) central level health administrators, 14 (42.4 %) regional level health administrators, 2 (6.1 %) local level administrators, 1 (3.0 %) private hospital director, 5 (15.2 %) health related agencies administrators, and 3 (9.1 %) academicians. They were all males with an average age of 52.0 years (52.0 ± 6.6, Max 69, Min 36). Fifteen out of 33 informants (45.4 %) were holding a MD degree.   Twelve of them (36.4 %) had Master or Doctorate degree. Another 5 (15.2 %) and 1 (3.0 %) informants were holding bachelor degree and lower respectively.

For the third round of the study or the second round Delphi, 28 informants were participated. There were 6 (21.4 %) central level health administrators, 14 (50.0%) regional level health administrators, 1 (3.6 %) local level administrators, 1 (3.6 %) private hospital director, 4 (14.3 %) health related agencies administrators, and 2 (7.1 %) academicians. They were all males with an average age of 52.1 years (52.1 ± 7.1, Max 69, Min 36). Thirteen out of 28 informants (46.4 %) were holding a MD degree. Nine of them (32.1 %) had Master or Doctorate. Another 5 (17.9 %) and 1 (3.6 %) informants were holding bachelor degree and lower respectively.   See details in Table 4.1.

1.2 Duration of Interview

The duration of interviewing was varied from 45 minutes to three hours and a half with an average of 96.8 minutes (96.8 ± 32.4). However, there were 20 persons spent one and a half hours (90 minutes) for an interview while the other 20 and 27 persons spent less and more than one and a half hours respectively. (Table 4.2)

Table 4.1 Distribution of Informant Characteristics among Three Rounds of Data
Collection.

Characters	Ethnography Number (%) (n = 67)	Delphi 1 Number (%) (n = 33)	Delphi 2 Number (%) (n = 28)
Gender			
Male	66 (98.5 %)	33 (100.0 %)	28 (100.0 %)
Female	1 (1.5 %)	0 (0.0 %)	0 (0.0 %)
Age			
31 – 40	2 (3.0 %)	1 (3.0 %)	1 (3.6 %)
41 – 50	20 (29.9 %)	16 (48.5 %)	13 (46.4 %)
51 – 60	38 (56.7 %)	12 (36.4 %)	10 (35.7 %)
61 - 70	7 (10.4 %)	4 (12.1 %)	4 (14.3 %)
Mean + S.D.	53.6 $\pm$ 6.8	52.0 $\pm$ 6.6	52.1 $\pm$ 7.1
Min - Max	36 - 69	36 - 69	36 - 69
Education			
M.D.	33 (49.3 %)	15 (45.4 %)	13 (46.4 %)
Masters, Doctorate	19 (28.4 %)	12 (36.4 %)	9 (32.1 %)
Bachelor	8 (11.9 %)	5 (15.2 %)	5 (17.9 %)
Lower than Bachelor	7 (10.4 %)	1 (3.0 %)	1 (3.6 %)
Sources			
Central (MOPH)	18 (26.9 %)	8 (24.2 %)	6 (21.4 %)
Regional	19 (28.4 %)	14 (42.4 %)	14 (50.0 %)
Local	12 (17.9 %)	2 (6.1 %)	1 (3.6 %)
Private	1 (1.5 %)	1 (3.0 %)	1 (3.6 %)
NGOs	1 (1.5 %)	0 (0.0 %)	0 (0.0 %)
Related Agencies	10 (14.9 %)	5 (15.2 %)	4 (14.3 %)
Academic Institutions	6 (8.9 %)	3 (9.1 %)	2 (7.1 %)
Total	**67 (100.0 %)**	**33 (100.0 %)**	**28 (100.0 %)**

Table 4.2   Number and Percentage of Informants by Minutes of Interview

Interview Time (min.)	Number	Percent
<90	20	30.0
90	20	30.0
>90	27	40.0
Total	**67**	**100.0**

Part 2 Present Thailand Health Management Situation Analysis

All informants were face to face interviewed by using an ethnographic study technique. At the beginning, they were asked to elaborate the strengths, weaknesses, opportunities, and threats of the present health management in Thailand. The contents of an interview were focused within four major areas including (1) mission, roles, and functions, (2) structures, (3) managerial resources, and (4) managerial processes. The results were discussed according to administrative levels as follows.

2.1 National or Central Level

The main issue identified by informants regarding the strengths of health management was concentrated on the structure of health facilities. Most of them agreed that the MoPH had health facilities to cover all urban and rural areas, from tertiary health facilities in large cities and Bangkok Metropolis to health centers at Tambon or commune/village levels throughout Thailand. However, the contrary was made against the structure in such a way that this present setting could create some weaknesses as well. With an easy access under a free market system, much duplication of services had been observed. The failure of existing referral system had contributed a great deal of wastage on resources utilization. Specialized care facilities

had been inappropriately utilized because of customers' free choice. Most of the services and resources were concentrated mainly in Bangkok Metropolis and other big city especially private hospitals and clinics. This created a large gap for resources distribution and utilization between urban and rural areas.

The Office of the Permanent Secretary for Public Health had nearly sole responsibilities in making policy, planning of programs, giving orders, and monitoring health management and health care activities in every provinces. This pattern seemed to be perfect for having a unity of command but it could present a negative feedback for its more centralized actions. The office size of about 80 percent of over all ministerial staff and 70 percent of ministerial budget could present some weaknesses in coordination, red tape, and imbalance power. Although authorities on budget had been delegated through regional health inspectors, some weaknesses were still remaining due to an old pattern of assigning roles and functions. Decisions were mainly made at the central level without proper delegation. There was no preparation for the staff to carry out new assignments. Top executives had no real interests in health inspection activities. Personnel management was difficult and ineffective because it had been performed through the Civil Service Committee. A zero growth policy on personnel also put a lot of burdens on the organization. However, this was an opportunity to reform or reinvent the government in order to improve managerial situations and efficiency. Health care reform was also in progress along with political reform resulting from our new constitution. Delegation of authority to local levels should be focus on Tambon Administrative Organizations and municipalities in order to improve local health management.

In addition, the new constitution stated clearly that "health is the basic right in which every citizen must have available the quality services". Therefore, every government should put special interests on budget allocation for health care services to general public and communities. The politicians were also more interested in health care services even though it might not be included in the agenda of every political party. Even the government policy had not really put any distinct emphasis on people health. Allocated budget amount was still small and in consistent with

existing health problems. Top administrators appointed from political parties to the Ministry of Public Health were mostly lacking specific characters (knowledge and understanding) in the health field. They could not strengthen the health policy nor initiate appropriate national health policy. Sometimes, they exercised their power to change predetermined policies, programs and projects just to satisfy their own interests. An appointment of health administrators was not consistent with real needs or competencies. Political system and politicians were still not fully developed. They often interfered with internal management, especially personnel administration, which created some weaknesses and became threats for health management success. However, some health administrators were able to work well with politicians, which would be the strength of health management.

Regional, general, and community hospitals were supposed to collaboratively working together within the same referral system but were under the jurisdiction of different divisions. The divisions were also trying to manage the hospitals instead of providing technical services and supports causing some confusion.

Another area of the strengths of Thailand health management was focused on highly qualified health manpower, especially physicians, whom many of them were intelligent and good thinker with high competence. Over all pictures of health manpower, most of them had social awareness and good morale. They were always trying to develop service standards for various services, and introduce new technique and innovations or modern managerial styles for improving management and service quality. Most of the administrators were physicians who had gained knowledge and experiences from the field before appointments. However, an opposite view was also expressed on this issue as a weakness because most of those physicians were young, not specifically trained, and not really interested in health promotion and prevention activities. Many of them were engaged in private practice, and not fully committed their efforts to serve their organizations. The staff at lower level was still not responsible for their job performance. The majority of staff at an operational level were lacking knowledge and understanding on related fields. Administrators provided only policy without proper guidance to get things done. Some officials only

worked in response to politician's policy, which was temporary, specific and short-term plan that often conflicted with the national policy and health development plan. Physicians were focused mainly on income generation but not interested in public or social services. The attitudes of new physicians were not so devoted, less tolerance, and not for patients because of inappropriate selection system that focused mainly on high IQ without other suitable characters. The majority of medical students were coming from upper class families. Individuals from middle class and poor families had limited chance to get into medical schools.

The weaknesses were still persisted because most organizations appointed physicians as heads of all sectors including curative, preventive, rehabilitative, investigative, and health promotive. Most of the time, those physicians were not capable of working towards achieving goals due to limited prior training in those areas. They might not like nor commit themselves to do the job and become tiresome. Work was not progress as compared to assigning some other experienced personnel to handle such specific programs. In order to be more effective and efficient, appointments should not be limited to some specific position specifications. Opportunities should be open to everyone who is capable of performing their duties. Inequity of various technical positions was partly created by the Civil Service Committee Office. Professional diversity was also contributed as weaknesses for coordination. An absence of position stability and career ladder as well as poor evaluation and reward system was one of major weaknesses. In addition, neither definite nor long-term development plan for health personnel was available, especially continuing education programs.

At least, health management and implementation were continuously progressed with some levels of satisfaction. The health development plan was also developed as parts of the national economic and social development plan. There was a good planning system clearly designed to include necessary related plans and projects. A strong planing team was often appointed to perform specific designated activities. Planning team and physician administrators were well trained to make plans for their organizations. Operational staff was also knowledgeable to perform

their duties and influenced administrative staff to participate in an implementation process. But implicit national health policy could be one of the weaknesses along with an absence of continuous long-term plan. Planning was receptively done using only morbidity and mortality rates without progressive data on wellness. The national health plan was not reflecting overall health aspects but the Ministry of Public Health. Other health related ministries and institutions were still not getting involved fully in the planning process. Besides, planning and policy formulation was still a top down process and inappropriate for local problems and situations.

The other strength of Thailand health management was an existing of a number of international organizations like World Health Organization and other agencies that could bring about some technology exchanges and transfers. New technology and technical knowledge were utilized to meet the challenge of globalization movements. At the same time, some weaknesses of our system were stemmed from poor management that inhibited the efficient use of available technologies as well as the ability to develop our own technologies. Most of the time, we had to depend mainly on imported technologies and foreign aids.

Even though there have been an operational department such as the Office of Food and Drug Administration Committee in the central level structure, but only few public organizations adopted modern management applications with some innovations. A mechanism for consumer protection on drugs, foods and cosmetics was still inefficient. The office was weak for drug patents so that could not compete with foreign nations. There were some internal units dealing specifically with inspection and supervision. Internal coordination committee was also available at each level to present some strength for the office. However, some weaknesses were observed from the diversity of units that could not work together. The Ministry of Public Health was also facing with coordination problems due to many layers of administrative structure. There were no reliable mechanisms for monitoring service standards of private institutions in terms of service quality and pricing.

Another area of strengths was the health budget. It had been increased every year so that the scope of work could be expanded. However, the budget was insufficient when compared with health needs. There were some delegations of authority in budgeting through regional health offices. However, some weaknesses were identified as inflexible budgeting system, inappropriate budget allocation, fail to follow correct procedures, unfair, and loosely consideration. Some budgets were cut due to declined economy, which put a burden on management. Most of the budget and manpower were utilized mainly on curative, which created a contrary between real practice and policy.

Economic crisis as well as Baht devalued brought about high price of imported medicine, medical supplies and equipment. To decrease purchasing power among people was a major driving force for increasing use of public health services. Budget cut without advanced alternative plans was a threat for Thailand health management. However, the economic crisis could present an opportunity for Thailand to redirect the economic and social systems towards internationalization and improving health management. Reinventing or reforming the government as well as the health care system could be done without strong resistance. A new form of medical cares for government officers could be introduced along with health insurance scheme. As the results, an insurance system would increase its roles. Thai people would accept social security and health insurance schemes that insured persons shared responsibility more than other countries. Although changing Thai bureaucratic system was quite difficult, Thailand health care reform concept was not yet clear, and health budget was limited due to an economic crisis but health activities were still catching interests of foreign countries in providing supports continuously.

Social and economic changes caused more people to migrate to big cities to work for industries. Disease control, as the results, became complex and difficult to perform. Illegal migration from neighboring countries also created more severe recurrent epidemics of some past vanished diseases in Thailand. This would increase the burdens on Thailand health management but in the other hands, it provided an

opportunity for the Ministry of Public Health to seriously study and investigate for new scientific approaches.

Besides the above situations, another weakness of present Thailand health management was in the area of health manpower. The production of health manpower was more focussed on the curative side than prevention and promotion. However, one of the strengths related to the health manpower production was that the MoPH could produce health manpower as needed in terms of quantity and qualifications.

Other weaknesses of Thailand health management were problem solving, decision making, and evaluation. The majority of health administrators had not used basic information for their problem-solving nor applied health economic concept. Therefore, resources and investments had been much wasted. Decision-makings had been made centrally by top executives. An organizational culture in the MoPH was highly authoritarian. The quality of reports and health information was poor and unreliable. There were lots of data needed from different jurisdictional institutions that could not be completely collected and analyzed. An evaluation was irregularly performed and not based on technical principles. It focussed mainly on processes rather than outputs and outcomes.

In addition, living conditions of the population were still below the standards and unhealthy. Social and environmental conditions caused some changes in behaviors and attitudes of the people as regard to health promotion practices. The disease patterns had also changed faster than the ability gained to prepare themselves for those changes. The society was still not strong and the community could not take care their own health care. Laws and regulations were neither clear nor updated. Related organizations did not see the urgent needs for health care. The majority of rural people preferred materialism to health. However, it was still an opportunity for Thailand health management that the Royal Family took some exemplar roles in health practices. Mass media and private developmental agencies were stronger and more accountable than in the past for checking the performance of health

management.   Information technology had been developed and available to help improve the Thailand health management practices.

2.2 Regional (Provincial) Level

The major strengths of Thailand health management at the regional (provincial) level were stemmed from the decentralization practice of the Permanent Secretary for Public Health.   Provincial Chief Medical Officers (PCMOs) were representative of the MoPH in provinces.   They had autonomy in managing overall health activities within provinces comprehensively so that the same direction of implementation could be met.   However, some of PCMOs might take for grant and over exercise their authorities.   Some informants had different viewpoints that PCMOs were not able to really represent the MoPH because they had to depend on the authorities delegated by the Governors.   According to the provincial administrative structure, every organization in the province was under the governor line of command through the Ministry of Interior.   Therefore, the health management within provinces would depend mainly on the governor authorities.

Even though regional and general hospitals were under controls of the PCMOs but had more resources. So this could be another weakness that affected the health management practice of the PCMO. The coordination between regional / general hospitals and community hospitals was poor because they were under different divisions.   However, there was a good opportunity for better management when introducing a privatization policy for autonomous hospitals.

Another drawback was that the provincial and local levels did not appropriately participate in setting policy and formulating plans or projects within their areas.   The pattern of administration was mainly a top down process.   Even though a bottom up was sometimes allowed but top executives at the central level made final decisions.   All implementation budgets were also kept only at the province.   Therefore, budget allocation was still unfair and imbalance for solving local health problems.

At the district level, again the District Chief Health Officers (DCHO) were under a line of command of the Ministry of Interior. All health budget were approved for utilization by the District Officers (Nai-Amphor). The District Chief Health Officers (DCHO) could not really be representatives of the MoPH at the district level. Some DCHO have fixed their roles as heads of health centers, which created problems and difficulties for district wide management. Their attitudes were narrow and inappropriate for maintaining good level of coordination and cooperation with other divisions. They only worked according to PCMO's orders and had no initiatives.

A shortage of staff in district health offices, community hospitals, and health centers had been persisted, especially medical personnel for community hospitals in remote areas. A career ladder for physicians in community hospitals became a corner stone for their performance. The qualifications of health center personnel were still lower than bachelor degree and not sufficient for developing health activities in local areas. However, these different ministerial lines of command might be the strengths for health management in the district level in such a way that more staff from different ministries could be pooled to work in the district health offices.

In addition, the primary health care strategy could be counted as the strengths of health management that helped improve the people health status. But primary health care activities were usually over emphasized on competition and contest that could not create real sustainable development. Village health volunteer concept had been counted as the best innovation for our health care system. All village health volunteers were valuable resources for health activity implementations in local areas. They were real contributors for the availability of health information. Another opportunity for Thailand health management was the community participation that could contribute a great deal to successful operations. Mass media was also strongly involved in checking and balance of the performance and quality of public and private services.

2.3 Local level

Authorities were better top-down delegated from provincial to local level. The management of Tambon Administrative Organizations (TAO) had been developed to assist in health services provision in local areas. Most of village health volunteers were appointed as members of the TAOs and would be helpful in local health development. However, some weaknesses had been observed that health management model for each sub-district was still not clear. Health personnel in TAOs were not familiar with local health activity administrations. Top administrators came from an election, the health policy was often changed according to each administrative team. The same pattern was found in municipalities because they received administrative guidelines from the Ministry of Interior (MOI). All budget, programs, and manpower were to be approved by the MOI administrators, who might not view health activities as the major functions of their organizations. They often prioritized health care last as compared to other activities. In addition, they had limited knowledge on roles and functions of local health division. Unclear job description of local health personnel was also the weakness of health management at the local level.

Municipalities health services were still insufficient to cover overall municipal areas. Their staff had limited knowledge with some shortage in numbers, especially physicians and nurses. No progress in technical development and skills in modern technology applications were present in municipalities. The MoPH did not provide any budget for health activities in municipalities. The coordination between the MoPH and local organizations in implementing health policy and development plan was insufficient. The major threats of health management at the local level were illogical influences from politicians, dictators, and local powerful businessmen. However, there were still some rich people and private businessmen with exceptional leadership quality interested in supporting health center activities.

2.4 Private Health Management

Rapid growth in private health sector presented some threats to Thailand health management. Health resources had been drained out from the public sector to serve some groups of people and mainly concentrated in Bangkok Metropolis and other big city. Over utilization of resources in private sector had put burdens to health management. Sophisticated buildings and imported high technological equipment were the main causes of over charges for services. The MoPH was still lacking proper control mechanisms for private health providers in terms of service standards and pricing. However, there were some opportunities that private health resources could be utilized by public sector when introducing health care reform concept. Private sector should be allowed to join with public in providing services and investments. Expensive equipment could also be shared or rented instead of buying to save operation costs.

Part 3 Trends of Thailand Health Management in the Next Two Decades (2020)

After third round EDFR, there were 721 statements or trends that met the criteria for most-probable scenarios to show as trends of Thailand health management in 2020. There were 6 sections that were summarized as follows. (See Table 3.1for details).

Section A had 149 statements concerning general environmental information. There were 65 statements on society and environment, 28 statements on economics, 29 statements on political and governing, 22 statements on education, 5 statements on population, and 50 statements on general public health.

Section B had 81 statements concerning missions, roles, and functions of 3 different administrative levels. There were 34 statements on central level, 20 statements on regional level, 17 statements on local level, and 10 statements on private sector.

Section C had 52 statement concerning different levels of administrative structures. There were 10 statements on national and international level, 25 statements

on central level, and 17 statements on regional, local and others.

Section D had 187 statements concerning administrative resources. There were 68 statements on health administrator qualifications and sources, 40 statements on laws and regulations, 29 statements on administrative information, and 50 statements on health policies, plans and programs.

Section E had 128 statements concerning managerial process. There were 27 statements on policy formulation and planning, 26 statements on decision making and coordination, 35 statements on monitoring and control, and 40 statements on evaluation.

Section F had 74 statements concerning important roles of related agencies. There were 5 statements for the Civil Service Committee, 13 statements for Budget Bureau, 14 statements for Social Security Office, 12 statements for National Economic and Social Development Board, 6 statements for NGOs and mass media, 3 statements for private businesses, 12 statements for professional agencies, 23 statements for Ministry of University Affairs and educational institutions, and 6 statements for Ministry of Defense.

All of them had a median between 3.50 - 4.00 that were the high chance to occur. There were no statements that had a median equal to or more than 4.5 representing the highest chance to occur.

A. Society and Environment, Education, Population, Economic, Political and Governing Issues, and General Public Health Issues Affecting Thailand Health Management in the Next Two Decades

1. Society and Environment

1.1 Desirable Trends

Each Tambon will have facilities for aging, childcare, education, and health that belong to Tambon Administrative Organizations. Industries will be increasing especially agricultural industries. More rural people will commute to work

in cities and return home in evening because of better transportation and more convenient. Industries will play more roles in health care by having health service units available in their work sites.

Housing will be more permanent and stable. Bangkok Metropolitan will put more emphasis on town-plan.

State welfare compensation will be increasing and completed. The government will enforce the social security act as compulsory for general population. Public services and physical conditions were well established so that people will be more aware of health and education. Thai society becomes internationalized with ability to adapt, and also an information technology society that the quality of life depends on it. People will be ready for changes and better adaptable to development, and able to equally receive information and communicate with outside world. There will be more utilization of high technology. Individuals become more independent and use information net work to maintain their relationships. People's right will be more difficult to violate.

Communities will understand and take care of the environment, govern and provide services for local areas. People will be eager to cooperate for better environmental conditions. National authorities will be more aware of actions to protect environmental situations. People will act against environmental destruction activities. Policy on industrial safety management will bring about better environmental situations. There will be designated areas for specific purposes. Dwelling, forest, and industry will be more regulated. Specific law enforcement will be available to enforce payment for pollution contributors to community.

1.2 Undesirable Trends

Poverty will remain in Thai society with wider gap between urban and rural settings. Poor and under privileged groups will still be prominence. Migration of poor villagers to work in the city will be increased resulting in increasing dwellers

in big cities, which brings about congestion.   Very high competitive society will create difficulties for villagers to get jobs. So women and teenager prostitutes will be increasing. The increasing of illegal labor forces from neighboring countries will put burdens on the country. Legal and illegal aliens will be increasing due to an easy entry. Rural people will engage more in services and industries than agriculture.

High buildings will be increasing in Bangkok and big cities. Woman liberation for the right to make abortion decision will be increased. Thai society becomes less friendly and involvement.   People will be more aggressive and individualism.   Social conflicts and violent protests will be increasing.   Urban societies become more consumptive and luxurious. Thai culture will be influenced by other cultural styles through media.

Family size will be smaller and moving towards nuclear family. Children will leave home earlier to be independent. The distances between parents and children due to job requirements will be increasing. A number of orphans will be increasing due to parent death from AIDS as well as an old age problem due to the death of their kids from AIDS and accidents. Working group population will have to take care elderly and children whose parents die of AIDS. Homes for aged will be increasing due to lacking of caregivers.

Management becomes more complex with many dimensions. Drug addiction problem will be the most important issue for the country. Underprivileged, illiterates, and dependents will be increasing.

Pollution becomes the major problems in urban areas. Water pollution and waste problems will be more pronounced. Life styles of people will create difficulties for managing environmental situations. Garbage and waste disposal become a major environmental problem. New agricultural practices using more chemicals will be introduced. Natural resources depletion, especially water and forest will bring about natural disaster and resource competitive problems. There will be no real concern on re-forestation. High amount of expenses paid on pollution control

will be enforced. Pollution control and environmental maintenance will be for profit making.

1.3 Controversial Direction Trends

Rural communities will remain in remote areas. A number of factories and labour forces will be increasing.

2. Educational Issues

All trends were desirable trends that could be put together as follows.

2.1 Desirable Trends

Every Thai people will be literate and more knowledgeable, better educated, intelligent, and thinkable. Communities will express more demands on education. Educational opportunities will be equally access to. Distance learning becomes more important. Self - learning outside institutions will be increasing through electronic means. People will receive information faster with wider coverage. The development of net work system will bring about efficient administration. Education will focus on human resource development with equity. People will be skillful in receive and using data with ability to choose. Information will be very well disseminated through better communication channels. However education will focus more on ethics, culture and customs as well as information technology. Teaching of management will be done through satellite. Local administrative management will be included in an elementary level curriculum. Schools will have included in their curricula more contents on health. Teachers will have better knowledge on health. People will have more knowledge and awareness on health and correct practice and are able to live with better quality of life. There will be more activities for better consumer protection. Basic health services and self-care will be provided by public and private sectors through information technology.

3. Demographic Issues

3.1 Desirable Trends

Thai People will live longer. There will be a small family size due to less number of children in the family. The demographic structure will be changed with less number of children but more elderly.

3.2 Undesirable Trends

With an increasing rate of 1.2 – 2.0 percent, the population in Thailand will reach 80 millions in 2020.

3.3 Controversial Direction Trends

Increasing number of elderly will change demographic structure as compared to other age groups.

4. Economical Status

4.1 Desirable Trends

Thailand will adopted a free market system. Industries and services will be booming. Production of goods and services will match with world demands. All goods will be value added from creativity rather than physical exertion. Knowledge, qualification and high performance will be a more important aspect than physical strengths. Export and import activities will be increasing for physicians, nurses, medical equipment, traditional practice, herbs, and dental care. Trading relies mainly on international negotiation. Agricultural products will be the foundation of Thai economy that supplied to both industrial and service sectors. There will be

increasing health care industries, especially childcare and aging service institutions. Thai agricultural system will be a self sufficient one with special processing for value added. The government has clear policy for supporting and exporting medical technology and services from private sector. Living condition and income of Thai people will be increasing. But an income distribution will be still a problem. People will have better knowledge on economics and its importance. There will be better distribution of country budget. Central level budget will be decreased with fewer budgets on national defense but more for medical care compensation.

4.2 Undesirable Trends

Thailand economy will be mainly bound with foreign countries. Internal trading and investment on technological rights and trading services will be relied upon foreign countries. Thai businesses will be under control of foreigners. Everyone will focus on making more money, no matter right or wrong.

Expenses on treatment and rehabilitation for elderly will be increasing. Sales and advertisement of luxurious health care products will be more advanced and over consumption on luxurious health care services such as plastic surgery and weight reduction.

4.3 Controversial Direction Trends

Thai economy will be capitalism with high economic competition. The basis for Thai economy changes from agriculture to industry and services. There will be more money spent on communication due to a heavy use of high technology applications.

5. Political and Governing Issues

5.1 Desirable Trends

Political climate will be better due to knowledgeable and highly qualified politicians. Ministers will have better knowledge, high quality and broader viewpoints on administration . Politicians will be better due to performance measures according to the new constitution. The government will see the necessity of and focus on education and health. People will be interested in and participated on politics and national governing. People will be gatekeepers for political actions and checker for politicians. Politicians will have direct expertise in health so that problems will be technically solved.

People will be more interested in and understood about human rights and less considerate for government agencies and officials. Women will demand more for the right to be appointed in executive positions.

Only three local administrative models will be available including Tambon Administrative Organization, Municipality, and special administrative city or Metropolitan Administration.

The central level will provide budget for local level (provincial level and lower) to operate related activities.

Regional administration will remain the same but reduce in functions with different patterns. Province will be the link between central and local bodies. Regional bodies will be acting as central representatives who check local bodies for enacting appropriate laws and regulations. Provincial and district offices will be smaller with limited number of staff to give suggestions and coordinate between the central level and local level.

There will be efficient and clear delegations of authority at the provincial level. Administrative authorities are delegated from provincial level to local level. Villages will be bigger and become self-managed unit. Community and local administrative bodies will demand more for resource distribution data to handle their own problems. Local bodies will collect all taxes and give some parts of it to the government. Local administrative bodies become strong and highly developed. Local bodies will be able to collect all taxes and keep for local operational budget. Community will have more autonomy to handle problems. Local administration will gain more interests from politicians. Tambon administrative bodies will collect and have more income to manage their own health care activities. Some local administrative bodies will be strong enough to become municipality. Rural areas will have people governing bodies that will be strong with sufficient knowledge and income to operate programs in response to people's needs.

5.2 Undesirable Trends

Politicians will unscrupulously compete each other for governing power.

6. Thailand General Health Issues

6.1 Desirable Trends

Health status will improve with more non-communicable diseases than communicable diseases. Medicines for AIDS treatment will be available. Health services will focus on teaching about diseases and behaviors rather than treatment. People will demand and claim for their rights to receive health care services. Rural people will demand for more health service like in urban areas, such as filling cavities, deformity and abnormal corrections. Traditional medicine and exercise for health will be alternative methods for health practices. There will be widely used of technology for medical practice. Diagnosis will be very reliable due to high

technology applications without physical exploration. Self care technology will be quite developed to facilitate for home care without physician direct contact. People will be able to take care themselves very well and only go to see physicians for serious sickness. There will be more availability of businesses for health care. People will have better access to health care and increase service utilization. Medical care system will focus more on home health care. Majority of population will have access to health insurance. National health care system becomes a full health insurance system. People with high income will buy health insurance from private sector. Health insurance systems will be a basic service provided by the government for everyone but people will pay extra money for additional services. Many hospitals will be sharing equipment and resources for health care. The government will provide clinical care for specific diseases such as AIDS, stress, and diabetes. There will be a very good referral system. Physicians become more specialists who treat complicated cases. There will be two levels of physicians; family doctors responsible for basic health insurance, and specialists responsible for sicknesses that need co-payment. There will be more production of specialized personnel according to community health needs. Qualifications of Thai health personnel will be higher than neighboring countries except Singapore. Private hospitals will offer more training for medical and health personnel. Position classification for health officials will be terminated.

6.2 Undesirable Trends

Health problems will be increasing and AIDS remains a nation-wide problem. There will be less simple diseases but more complicated or non-treated new diseases. Diseases with increasing trend are including disease from chemicals, epidemic diseases from migration workers, sickness from environmental factors, work-related diseases especially from industries, diseases from socioeconomic stress and mental health. Most important non-communicable diseases will be coronary heart disease and cancer. Minor sicknesses and accidents from agricultural equipment will be common. Environmental sanitation problems will increase.

Major problems will be child and elderly care. Health care needs for the poor will still be abundant. The poor will still be facing with accessibility to health care.

There will be more expensive health care costs. The budget for managing health care institutions is high. There will be widely used of high and expensive technology for additional treatment. There will be high capital spent for advertisement and business competition in health care industry.

Ethical issue related to human cloning and embryonic transplant will be increased. Physicians will have more professional ethical problems. Relationships between physicians and patients will be bad like machines. Physicians will use their special expertises for treatment as an exchange for service fee.

6.3 Controversial Direction Trends

Physicians will not get involved in health promotion, environmental sanitation or providing advice but leave on other health personnel to perform.

B. Missions, Roles and Functions of Health Organizations in 2020

All trends were desirable trends that could be put together as follows.

1. Central Level (Ministry of Public Health)

The National Board of Health Committee will formulate national health policy and control overall health programs and set health administrators' qualifications.

The National Board of Health will also appoint Permanent Secretary, Deputy Permanent Secretary for Public Health, and Director Generals.

The Ministry of Public Health will reduce in size and roles. The major roles will be mainly focused on the national (macro) level including setting goals and

directing national health development, developing, monitoring and controlling national health policy and vision. The MoPH will also set policy on health laws that affect safety of stakeholders and general population, and monitor activities according to the major policy. The detailed functions can be elaborated as follows.

- To monitor health activities as related to overall national security including environmental sanitation, occupational health, consumer protection, surveillance new health problems, and service institutions in private sector along with technical support and assisting in national programs.

- To support local level for implementing health initiative efforts focusing on hospital and medical care that the local level can not handle, and also on specific or advanced or high cost medical treatment. Specific concentration will be made on special services that need experts or high technology, and support or advice for personnel and materials utilization by emphasizing on specific diseases or conditions.

- To allocate comprehensive health budget for local level, screen, investigate, and suggest to the government on the budget needed for health along with resources based on local health problems by capitation. Role on health manpower production will be reduced but instead funding training institutions for medical and health personnel production. Knowledge and skill qualifications will be established for medical personnel.

- To influence the Ministry of Education and others to get involved in health care.

- To increase roles in international health by using international health linkages as tools for creating political and economic image to promote drug production technology, medical services, training center among international communities.

- To provide consultative services for regional and provincial levels by utilizing technical representatives from each department.

Department of Medical Science will develop and research for medical and health technologies.

Departments will establish technical and research themes for private sector or educational institutions to perform, except for some secret or national security matters.

Bureau of Health Policy and Planning will be responsible for setting national (major) policies and strategic plans along with national programs evaluation, and provincial planning and evaluation system support.

' Praboromrajchanok institute will collect related data, follow up, and analyze health personnel of the Ministry of Public Health and disseminate information.

One of the undesirable futures will be that the government sector has less concern on medical treatment for the poor or low and middle-income groups.

2. Roles and Functions at Regional Level

The regional level will transform policy into practice, set standards, and provide technical support to the local level as well as monitor and evaluate local health programs. Public health laws and epidemiological data collection will be additional functions of the regional level. Besides, the regional level will inspect and monitor public and private agencies for their services along with considering and choosing medical institutions for subcontracts. The regional level will also initiate and conduct researches to study new bodies of knowledge and technology appropriated for service provision in the local areas.

The provincial level will coordinate central and local levels, collect data and provide information for local level implementation. Provincial health officers will act as consultants for district health officers and Tambon Administrative Organizations. Provincial and district health officers will function mainly in health promotion and disease prevention.

Most of the treatment will be done at the district level. District health officer will be a technical consultant for Tambon Administrative Organizations (TAO) and responsible for monitoring local health activities at Tambon and Amphoe (district) levels.

Hospitals will have authorities to set policy and manage all activities. Hospital will act as consultants and seek for knowledge and technology in response to local needs. Regional Hospitals will provide only services that are required high technology.

3. Roles and Functions at Local Level

Local level will be solely responsible for the provision of health services including health promotion, disease prevention, and consumer protection by the budget allocated from the central level. All activities will be implemented according to policy and guidelines set by the central level. Local administrative organization will manage all local health activities and inspect for medical services and involve in monitoring and supporting all local health agencies. District level will provide overall medical services in local areas.

Tambon Administrative Organization and Municipality will be the major supportive organizations for health promotion and disaster prevention system. It will help provide general sickness treatment, health promotion and disease prevention services and be responsible for social security, health insurance for underprivileged groups in local areas.

The local administrative body will monitor social conditions, environment, and culture in consistent with health status of the population and build up health awareness among local population, control disguised goods and businesses that can be hazardous to environment and safety (such as slaughter house, chicken farm, and pig farm).

Tambon Administrative Organization will provide funds to support local health institutions of the Ministry of Public Health and establish local health personnel qualifications, prepare qualified and quantified local manpower by coordinating with training institutions to design curriculum and train according to local needs.

4. Roles and Functions of Private Sector

Private sector will play major roles in medical treatment by providing medical services for high and medium-high income groups. Provision of medical services using high technology will be available to meet international standards. It will conduct researches, develop technology, and produce health personnel, drugs, medical supplies, and materials for export.

Private sector will accept and manage work contracts from the government, local level especially for high costs, and social security office to provide medical services for insured persons.

There will be more roles expected for private sector in health programs management including health promotion, disease prevention, treatment, and rehabilitation.

C. Managerial Structure

All trends were desirable trends that could be put together as follows.

1. Managerial Structure at National and International Levels

There will be two trends specify by informants about international level as follows.

World Health Organization will remain and be recognized worldwide. There will be a Thai international organization that plays major roles and make decision at the international level.

At the national level, there will be a National Health Council consisting of experts from all involved parties as a national committee or independent organization that deals with health policy and implementation directions.

There will be a national health committee consisting of members from various related ministries as well as academicians, private businesses and non-governmental organizations with the Permanent Secretary for Public Health as a secretariate to set national health policy.

There will be special committee consisting of professional experts in health and other areas to set guidelines and national health administrative plans separately for medical service, environment, consumer protection, health promotion, disease prevention, and rehabilitation. The Ministry of Public Health will be coordinated and link between this national committee and local administrative bodies.

There will be a ministerial health coordination committee functions at the national level to set policy, follow up, make decision, and solve problems. Also an autonomous organization will be available to manage for establishing and controlling health services.

There will be a national multi-ministerial committee on safety in workplace and occupational health such as Public Health, Science and Environment, Industry, Labour and Social Welfare, Agriculture etc.

2. Central Level

The MoPH administrative structure will be clear and separated between administration dealing with policy and outcomes, and service provision. There will be some committees responsible for selecting the health administrators at different levels.

Many multi-sectoral committees consisting of representatives from other organizations will be available to deal with health and environmental problems.

Departments will be smaller in size and scope of work, and operate like a private sector. The Communicable Disease Control Department will change to the Disease Control Department.

Divisions that will become bureau include Epidemiological Division and International Health Division.

Central level will have only a few large technical institutions that have special emphasis on basic research to develop bodies of knowledge and technology in medicine and health. The MoPH line of command will end at the provincial level.

There will be specific government units established to coordinate between government policy and services provided by private sector. A special unit in the Ministry of Public Health to inspect the performance of private medical service institutions will be established. There will be a special unit in the Ministry of Public Health responsible for health financing to support local level.

Service provision departments will manage like a private sector. Service units in the Central level will be limited to only medical services that are highly required for experts. There will be additional mobile service units in remote areas that private services are not available.

There will be a number of national committees on drug policy and consumer protection. The Food and Drug Administration Office will be downsizing but increased in related activities for rural areas.

The Government Pharmaceutical Organization will be privatization as well as Praboromrajchanok Institute that will be smaller in size and scope of work. Various colleges of the Praboromrajchanok Institute will be independent and privatized or under local jurisdiction. Health insurance office of the Ministry of Public Health will be managed by a committee through the secretary general.

There will be technical representatives from all departments available at Central, Regional, and Provincial levels.

3. Regional and Local Levels

Local level will be growing with increased roles in health. There will be a specific section within a local office responsible for health insurance implementation in local areas. The Tambon Administrative Organization will staff with health personnel. Tambon Doctor (Phat-Prajam-Tambon) position of the Ministry of Interior will be terminated.

Provincial Health Office

Provincial health offices will be small. Most of the authorities will be delegated to district health offices and local level.

District Health Office

District health offices will remain staffed with policy and plan analysis as well as public health technical personnel.

Regional Hospital

Regional Hospitals become independent (autonomous public organization) but will be monitored and partially financed by the MoPH.

General Hospital

General hospitals will be the autonomous hospitals, semi-bureaucrat or foundation like hospital, or public organization run by all stakeholders along with the owner income.

Community Hospital

There will be two trends for community hospital in 2020 as follows.

1. Community hospitals will be networking with provincial hospitals (General Hospitals).

2. Community hospitals become independent public organizations (autonomous public organization) and will be administered by an executive committee consisting of all stakeholders, villagers, and local administrative organization representatives from both provincial and district levels.

Health Centers

Class 1 and class 2 Tambon Administrative Organizations (TAOs) will take over health centers from the MoPH while class 3-5 TAOs will provide some funds and equipment to health centers of the MoPH.

D. Administrative (Managerial) Resources

All trends were desirable trends that could be put together as follows.

1. Administrators (Qualifications and Sources)

1.1 Qualifications of Administrators (in General)

Health administrators will be all around (knowledgeable) with the ability to perceive and use communication technology, manage programs, take and utilize new foreign innovations for Thailand health management. They will also have teamwork ability with communication skills, proficiency in foreign language, computer, world situations, and management.

They will be health system administrators with international health system concepts. They are also able to see local health problems by linking with national health problems, well adjust concepts to Eastern life style, and management and utilize equipment appropriately with local intelligence.

There will have the concept of authority delegation, and be able to solve subordinate's problems with open mind and listen to all opinions. They will be good human relationships, compromise, and able to coordinate with other organizations.

All health administrators will be accomplished a specific training course for their levels of executive prior to appointment.

1.2 Qualifications of Health Administrators at the Central Level

Health administrators at the central level will have general knowledge and ability instead of any specific or specialized area. There will be professional administrators with political skills.

Policy level administrators will have vision, working knowledge, and be able to manage people and regulations.

The Permanent Secretary for Public Health and Director Generals will have technical knowledge, be able to translate national health policy into practices (implement health policy), and initiate health programs.

All health administrators who are lower than director-generals will be highly technical. Head of regional health office will have technical ability to coordinate with different levels.

1.3 Sources of Health Administrators at the Central Level

All levels of executives will be considered for selection, appointment, and transfer by the health administrators selection committees using screening criteria for the selection or progression through regular channel according to time frame and competence.

The Minister of Public Health will come from public election or party selection and be responsible for appointing the National Health Committee (Board).

The Permanent Secretary for Public Health will be appointed either by the Minister of Public Health or the National Board of Health.

Director Generals will be recruited and selected by the National Board of Health Committee or a specific selection committee.

The National Board of Health Committee appoints the Permanent Secretary, Deputy Permanent Secretary for Public Health, and Director Generals.

Personnel with PC of 8-9 will be able to move across departments.

At the international level, the health executives will come from nation-wide selections at the regional countries level.

1.4 Qualifications of Provincial Health Officers in 2020

Provincial Chief Health Officers (PCHO) in 2020 will be professional managers with optimal health knowledge as well as knowledgeable about his or her local situations. They are not necessary physicians. They will have good technical knowledge, human relationships, managerial skills, and be able to translate health policy into practices (policy implementation). Other qualifications that meet local needs and quality to work with local leaders with ability to link between the central and local levels as well as to coordinate local people cooperation are also needed.

In addition, all Provincial Chief Health Officers in 2020 will accomplish specific training from the Provincial Health Officer School.

1.5 Sources of Provincial Health Officer

The Provincial Health Officer in 2020 will be selected by the Selection Committee.

1.6 Qualifications of District Chief Health Officer

The District Chief Health Officer in 2020 will have all around knowledge besides health. They will have bodies of knowledge both technical and managerial skills, and ability to manage with at least a bachelor degree. They will

accomplish a specific training course for district health officers and be able to teach, advice, and consult concerning technical matters to various organizations in the district, especially supervise Tambon's health activities.

1.7 Sources of District Chief Health Officer

All district chief health officer in 2020 will be appointed from pre-enlistment examination scores upon finishing their specific training from the district health officer curriculum.

1.8 Qualifications of Local Health Officers

Local health administrators in 2020 will be health technical officers with managerial knowledge and skills. There will be wide ranges of knowledge, especially public health knowledge as well as viewpoints on health and planning ability. In addition, they will be knowledgeable and have the ability to utilize information for administering with computer application skills.

All local health administrators will have nursing or health qualifications, and Master degree for District (area) Health officer in Bangkok and other large size municipalities. Head of health center has good knowledge and ability in public health.

1.9 Sources of Local Health Administrators

Desirable sources of local health administrators in 2020 will be appointed by the selection committee consisting of members from community, the Ministry of Public Health, and involved parties. All local level division heads and directors will be selected and appointed from local personnel.

1.10 Qualifications of Hospital Administrators in 2020

Hospital directors will be professional managers or executives. They are not necessary physicians. Professional health services position will be separated from management.

1.11 Sources of Hospital Administrators

Hospital administrators in 2020 will be selected and appointed by hospital committee including representative people, local administrative bodies, and all stakeholders.

D. Administrative (Managerial) Resources (cont.)

All trends were desirable trends that could be put together as follows.

2. Laws and Regulations Related to Health Management

2.1 General Characteristics

Laws will be more open to public on enacting procedures with modern improvement to match changing situations. Specific laws will be available for protective actions toward changes. Regulations issued at the Central level will be for nation-wide guidelines. Regulations will be wide open, flexible, simple, and easy to follow. There will be only major and multipurpose regulations. Changing on regulations will be able to do upon request. Social punishment will have more strength in enforcement than laws.

2.2 Working Process Laws and Regulations

Administrative regulations will be concrete and practical. Civil service laws and regulations will be most appropriated as regard to promotion, appointment and evaluation. All regulations at various levels will be linked together between ministerial, provincial and district level to facilitate for work efficiency.

There will be specific laws that give provincial health officers the opportunity to directly exercise their authorities without governor's influences. The laws will give local level more authority in order to increase autonomy for health activities in local areas. Laws for consumer protection in health will authorize Amphoe and Tambon to perform duties more freely. Local agencies will be also given more authority for hiring, firing, and promotion with high flexibility so that, administrators will have full authorities to exercise their managerial techniques. Local regulations will be appropriately changed to match practical patterns. The laws will provide various local agencies some specific health practice criteria for better implementation and allow private sector and local level to work more freely but still preserve the consumer protection rights. Local agencies will be able to establish their health regulations.

Financial regulations will be the same at all levels. Health financing laws will allow all sectors including public, population, and various funds to share their responsibilities for co-payment.

Regulations will be available to enforce all agencies to provide health information to organizations responsible for national health information management.

2.3 Public Health Laws and Regulations

Laws will play more important roles in health to guarantee all citizens for equity. Public health and health related laws will be approved through public hearing process and disseminated by posting in public for easy access. Public Health

laws will be efficient and efficacious with severe punishment. Laws and regulations will be initiated for controlling social well being and health behaviors. Strong emphasize will be made on laws for disease prevention.

Good and clear health insurance act will be available. There will be a law for service institution aiming to control quality and cost of health care services. Public health laws and environment laws will be separately enacted. Public health laws will concern with health, health insurance, and national resources allocation. Environment laws will be readily available with special focus on refuse, wastewater, irrigation, and payment for pollutant production, cleanliness, and building. There will be laws focusing more on consumer protection rights and availability of human right protection for drug and medical supplies testing.

There will be also specific laws consistence with basic structure of Bangkok Metropolis concerning underground train and wastewater disposal plants.

3. Information for Health Management

Information for health management by the year 2020 will be disclosure, more reliable, up-date, modern, world class standards, and locally consistence. It will be a two-way communication with multiple sources and channels. Information system will be consistent with time frame and objectives of each activity.

Health information and technology will play important roles at all points. The utilization of health information will be increased. Priority in using information base system will be high with compiling and establishing indices for each level administrator to make decisions, and set policy and plan. More data will be collected for reverse (feed back) evaluation.

National health information system will be established. The information system on consumer protection in health will be available. There will be a network linked with experts for instant consultation and opinions.

The Health Information Network System will belong to the government but information will be available for other sectors. Health information system will be linked throughout the country by computerized network system that links with all levels from local (health center) to national level. The Ministry of Public Health will be a center for health information linkage, designing record forms and responsible for data analysis. Information based system will be generated from computerized personal health records throughout the country. Every unit will collect information and send to the central level along with checking and balance with each level. The central level will collect only some important data and disseminate international information to communities. Better network coordination will be established with Tambon Administrative Organizations (TAOs). There will be specific personnel designated for local data collection while the central level will provide budget for information system implementation.

4. Health Policy, Plan and Projects (Characters and Important Issues)

Health policy will become parts of an important political policy of the country. Policy will be divided according to regions. All policies will be horizontally and vertically consistent but national health policy will be short in nature. Every level will have health policy and plans. Utilizing evaluative result information on policy, plans, and projects to initiate new plans will be nationwide.

The main policy will focus on taking care of the poor for better service quality. Health insurance policy will cover one hundred percent of the population. Government investment policy will change, not focussing on building medical service institutions or buying expensive equipment but emphasizes on solving health problems.

Health policy, plan, program and project will be varied in models and methodologies. There will be different from areas to areas, and derived from completed local real data without strings from the central top authority policy. In addition, policy will be formulated from fundamental information systems on epidemiology, health economics, social epidemiology, and researches.

Plans will be flexible, easy, and practical with an evaluation plan included in all project planning. National plan will reflect broad picture of directions rather than practical actions. Health plans will include short-range (2-3 years) and long-range (5-10 years) plans. However, there will be an emergent short-range plan (one year or less) to deal with unexpected circumstances. Program plan will focus on quality of life, good living conditions, health promotion and disease prevention, and the enhancement of equity in health service through health insurance system.

Health plans will be realistic, practical, gear toward human development and linked with educational plans, and accepted by people. There will be two types of plan, local plan and national master plan proposed by the central level. The program or project plans at the central level will be limited. Plans of the MOPH will come from national plan translation and be designated to related units. Local health plans will be operational or action plans, which will have two types of health programs, specific ones using local level budget and programs that involve many areas using the central level budget. Health plans at the Tambon (local) level will be integrated with other plans within the same Tambon Administrative Organization (TAO).

Health Financial and Budget Plan

There will be a survey on the needs for budget utilization in order to formulate 5-year budgeting plan. The local level will generate their own income. There will be two types of financial plans including local budget plan and centrally subsidized budget plan for emergency. Local budgeting plans will be derived mainly from local authorities with general subsidy from the central level. Budget subsidized from the

central level will be in lump sum. Health budget plan will consist of two types, one from the MOPH and another from national health framework. Financial plan will be applicable with good control mechanism and focusing on income distribution to lower levels with short procedures. They will be realistic and practical budget plans that met the health needs.

Health Manpower Plans

Personnel and financial plans will be proposed together by local authorities. The central level will set standards on manpower for local level. Manpower production plans will spell out clearly the kind and number of personnel needed.

Manpower plans will focus on the importance of distribution and allocation according to needs. Personnel will be produced appropriately according to needs with quality and quantity due to cooperative efforts of users and producers. Local manpower plans will be formulated from needs, problems, work load, and budget availability.

Manpower production plans will focus on quality, appropriate technology utilization, multiple skills (not specific areas), the development of hard work values, industrious and a sense of organization belonging. There will be plans for professional administrators suitable for various positions and Thai traditional medicine production.

Manpower development plans will look into hierarchies of human needs, such as salary, job security and satisfaction for low level administrators, respect and popularity (status) for middle level administrators, and administrative authority for high level administrators.

E. Health Managerial Process

All trends were desirable trends that could be put together as follows.

1. Health Policy Formulation and Planning

Health policy and plans will be national concerns, and formulated according to changing situation of the world and regional environment. Health plans will come from brainstorming and using technologies in planning. Planning in every levels will involve all parties and be made two ways, bottom up and top down according to exiting problems. There will be a committee consisting of unit and section heads that meet with administrators to set policy and plans for each level. A chair of the committees will come from consensus agreement of all members. There will be a survey on local community problems and people acceptance before health policy and plans being formulated. Financial planning will be prepared together with proposed projects from below.

National health policy and implementation guidelines will be formulated by the National Board of Health Committee consisting of members from related government organizations including the National Economic and Social Development Board (NESDB), Ministry of Interior (MoI), academicians, all related parties, and 20% from private sector with the Permanent Secretary for Public Health as a secretariate. In addition, the parliamentary health commissioners will also involve in setting national health policy.

For long range health plans, the Prime Minister will coordinate the actions within the cabinet by considering plans from NESDB, Budget Bureau, and National Statistical Bureau.

The MoPH will be responsible for macro level planning. Ministerial level planning sections will reduce planning responsibility while local level planning units will increase their planning responsibility. Major policy and guidelines will be set by

the central government and distributed to provincial level to transfer to municipality for implementation.

Provincial levels will identify their own problems and formulate health plans to submit to the central level for a review. They will set targets, strategies, and technologies to solve their own problems. Planning, preparing and requesting for budget will be in consistent with real needs and problems of the province.

There will be two types of relationship between central level and local level in health planing. Firstly, TAOs and higher local levels will set their own policy and plans while the central level formulates broad/major policy and sets goals. Secondly, local levels will set their own health policy and plans while the central level considers and allocates budget, and assigns some specific tasks.

In addition, local levels will be involved in manpower planning and financial plan proposing along with manpower and project planing. Local health units will get involve as committee members for establishing policy, work, and financial plans for TAOs.

2. Decision Making and Coordination in Health Management

Line of command will have less significance and short but delegation or decentralization of authority will be more prominent. No more decision making from the central level exists because the federal government will have no authority to order local administrative bodies but only coordinate between central and local levels. Coordination will be faster and better than the past. There will be more horizontal coordination done mainly at the lower level. The linkage mechanism between the central and local levels for knowledge and information supports will be available along with policy clarification. Coordination mechanisms will be more concrete and practical by using committees as a key mechanism for coordination. There will be representatives from the central level at the provincial level to help control the policy and coordinate various activities.

There will be a specific center established for health coordination. The MoPH will coordinate more with international and regional agencies. There will be less vertical orders but more internal coordination within the MoPH. All internal sections will also be coordinated at provincial and district levels. Modern technologies will be used for decision making and coordinating internally and externally. Other related organizations will get more involved in health activities; for example the Ministry of Agriculture and Cooperative helps promote herb growing. The MoPH will have partnership with outside organizations on health issue by sharing information, and work benefits.

The MoPH coordinates the work with provincial and local levels. Technical coordination from various departments to service providers in local areas will be performed through regional representatives. TAO will have a representative appointed by the community joining the coordination committee along with representatives from other organizations. The committee will appoint health development team in all districts and Tambons to collaborate work for health at the district level. Coordination at the Tambon level will be handled by Tambon health coordination committee consisting of members from TAO staff, head of health center, and village health volunteer.

More emphasis will be made on coordination between government and private sectors. There will be an organization linking the government policy and service providers by private subcontractors.

3. Health Monitoring and Control

There will be two parts for monitoring and control actions including internal regulations and social accountability. People will control health policy through political mechanism. At the central level, the opposition parties will investigate the national health policy and plans. Governmental organizations will be

responsible for overall standards control and quality assurance in both public and private institutions. Delegation of authority will be under inspection of independent organizations authorized by laws. The central level will be responsible for local work inspection and control by using epidemiological techniques and information.

There will be less supervision from the central level but more follow up and monitoring on health activities will be made locally. Mutiple mechanisms will be involved in controlling health activities, especially for consumer protection. International standards calibration and quality control will be done for making the public aware of service institutions credibility. People will be more involved in health activities investigation and follow up local health activities.

The MoPH will be responsible for overall work follow up and monitoring. There will be a central unit consisting of health inspectors and experts responsible for monitoring and follow up health activities of regional and local levels. The Bureau (Office) of health inspection and supervision will be responsible for technical investigation to guarantee for service quality. Provincial Health Office will be the main organization responsible for inspection, follow up, monitoring, control, and supervision of local health activities. District health officer will monitor and follow up TAO activities. In the other hand, built-in follow up, monitoring and control will be established with some inspections from community agencies.

A reporting system will be available for work control. Work follow up and monitoring will be done through hierarchical line of command according to administrative levels. Data on funds utilization will be investigated by internal and central level auditors. All records will be compiled at the MoPH information center.

Monitoring will be done two ways through reporting system and direct visit. Central government will monitor private agencies and local health organizations performance. Regional representatives from the central level will monitor the work of local level and report to the central level. Investigation will be done more by mass media, customers, and general public with computerized technology. The governing

court will follow up and investigate health activities based on requests from customers and the public. The MoPH executives will be responsible for internal investigation at the central level.

An independent organization will be appointed by people, community, and society to monitor and control work performance. Policy setting and planning unit at each level will investigate and collect data for planning and evaluation purposes.

The central level will monitor project activities proposed by the provincial level. Follow up and monitoring and control will be performed by using communication technology for channeling the reporting from local to provincial to central levels.

Local governing bodies will monitor project results and administrative process of hospitals as owners or bosses.

4. Evaluation of Health Management

There will be accountable evaluation system with clearing evaluation standards and system.   Evaluation system will focus on quality and .standards assessment, mainly on project results instead of process or activities by using evaluative and information technologies. There will also be special units available to evaluate overall performance.

In addition, evaluation will focus on quality rather than quantity by using budget as a frame for evaluation as well as. The efficiency of budget utilization will also be measured by comparing the work quality and spending appropriateness. The hierarchical evaluation will be done for every level. Evaluation organizations will be available both at local and upper administrative levels. Local level will also evaluate its own activities.

There will be two types of evaluators including recognized professional evaluators and the MoPH appointed evaluators to perform the evaluation at each level.

The MoPH will be responsible for overall health policy and plan evaluation. The MoPH will have an evaluation team of her own. Provincial level will evaluate its own activities as well as the local activities. Local agencies will evaluate their own work by using tools developed from the central level. People and local community will be more involved in evaluating the performance of health administrators at each level. Evaluation will be done internally along with hiring outside evaluators from funding agencies. Health inspectors will send an evaluation report on problems of health and plans to the Ministry of Public Health as parts of an internal evaluation.

There will be multiple evaluation standards. Investigation and evaluation will be performed periodically and continuously. Overall policy and plan evaluation system will be established to evaluate the projects, and send information to the central level. Health policy and projects will be evaluated during and at the end of project implementation. Evaluation will be performed by using new technology for treatment along with health outcomes evaluation base on plan and objectives. Two models will be used for policy and projects evaluation, by comparing tasks and budget spent, and using an evaluation form as well as survey and interview. Service quality and equity(accessibility) will be the focus of the health service evaluation.

Health Personnel Evaluation

Performance evaluations will be done by outsiders, not supervisors. Staff performance evaluation will be done from periodical reports using performance evaluation tools according to established criteria and standards. Reward and punishment will be specified clearly in terms of economic incentives. Performance evaluation at village, Tambom, and Amphoe levels will be done in terms of service accessibility and customer satisfaction. Evaluation of district level performance will be done from annual reports sent to the provincial level.

F. Roles and Functions of Related Agencies

All trends were desirable trends that could be put together as follows.

1. Office of Civil Service Committee

The size (number of staff), tasks and roles of the Office of Civil Service Committee will be reduced by focusing on working skill development and set evaluation criteria for preventing unfair actions. The Office of Civil Service Committee willl also specify administrator qualifications for important or top executive positions.

2. Budget Bureau

The Budget Bureau will give more freedom to all organizations for budget utilization. Budget will be determined from the efficiency of budget utilization and allocated with lump sum amount.

The functions of Budget Bureau will be to allocate budget by considering objectives of projects, as well as out comes and impacts of projects. The Bureau will also specify project results expectation for subcontractor and analyze overall budget and allocate the amount according to government policy with special emphasis on education and health. The Budget Bureau will establish standards control mechanism for budget consideration and inspection to make sure that budget are allocated correctly and fair. The Budget Bureau will be also designated to follow up and monitor the budget utilization for goals and objectives consistency, and approve subsidized budget for local level according to MoPH requests. There will be two trends of health budget allocation. One is to allocate health budget for the MoPH to manage. Another is to give in lump sum amount for provincial and local levels to manage according to community needs.

3. National Economic and Social Development Board (NESDB)

The NESDB will act as a consulting council for the government to guide and recommend possible planning directions by focusing on long-range national development directions with reducing roles on detailed planning but broad policy.

The NESDB will be a secretariat for national planning committee responsible for establishing indicators for national development and linking information for national multi-sectors.

The NESDB will work collaboratively with the National Board of Health Committee in formulating national health policy and plans and get involved in environmental planning.

The NESDB will have specific roles on health policy guidance by summarizing changes in other areas besides to health. It will guide overall national health development actions for its consistency with other areas, and adjust national plans including the national health plan. Another roles of NESDB will be to follow up and investigate health development directions according to national criteria.

4. Social Security Office (SSO)

Social Security Office will combine with the health insurance office to become an autonomous public organization responsible for medical services benefit. Social security funds will be centrally maintained but managed through branches in local areas. There will be more branches of social security offices available in local areas at district level.

Social Security Office will be growing bigger in size with increasing roles in maintaining overall national benefits to provide security and get more involved in security provision for under privileged as regard to laborer's benefits. The SSO will

buy hospital services for insured persons and be designated to pay money for basic services and provide supports for basic hospital services in underdeveloped areas.

The Social Security Office will follow up and monitor governmental fringe benefit programs and investigate services received by insured persons.

If the Health Insurance Office of the MoPH is still remained, it will be responsible for policy formulation and information dissemination as well as establishing payment guidelines.

5. Non-Governmental Organizations (NGOs)

NGOs will be acting as people representatives and increasing roles in all aspects. They will play major roles in assisting the community to exercise power. Elected itelligent people from NGOs will be appointed as members of the National Board of Health Committee. NGOs will be responsible for making complaints and keeping benefits for customers as well as investigating public and private health care providers. Mass media will be also responsible for providing facts and information to society and community.

6. Private Business

Private health insurance companies will be growing in size and number, and increasing their roles in buying services for insured persons. Private agencies will have more roles in health products production.

7. Professional Agencies

Professional agencies will be acceptable in society, increasing their roles, and stronger. There will be representatives from people, community, or other professionals or local bodies participated in organizations. They will have strong intention and concern for general public instead of companions. The

professional agencies will be increasing their roles in controlling over member actions, investigating and controlling professional works, and consumer equity.

Agencies will establish standards for professional establishments, and investigate for professional ethics and practices. They will be responsible for professional establishments, issuing and renewal professional license and providing service.

Independent technical organizations will be increasing and managed by committees, not governmental organizations but under government directing.

8. Ministry of University Affairs and Educational Institutions

Ministry of University Affairs (or Ministry of Education in 2020) will be responsible for producing health manpower according to community needs, and coordinating policy of various universities without controlling functions.

There will be two trends about the status of the university and educational institutions. All universities will become independent under government monitoring, or they will be under a jurisdiction of local administrative organizations or private sector.

Educational institutions under a jurisdiction of the Ministry of Universities Affairs and private sector will be responsible for health personnel production.

Universities will be paid to produce personnel by users. Institutions in universities will produce bachelor degree nurses. Universities will become personnel producing units by using the same standards.

Capital investigation for the production of personnel will be performed in universities and the MoPH.

Educational institutions will focus on guiding society, and become mediators for service organizations and people. Educational institutions will help in service provision outside their territories.

Universities will cooperate with regional hospitals to produce physicians and provide consultation to other institutions for manpower production.

Production of physicians will be focused equally on health promotion, disease prevention, and treatment. Physician production will focus on general preventive medicine rather than specialized areas.

Universities will be responsible for international training and research as well as training of various graduate programs and dissemination of correct and up-to-date information to the public.

University training will focus on mainly the ability to analyze and research for undergraduates.

A group of professional experts will establish standards for training of professional medical and health personnel.

Ministry of University Affairs will establish personnel qualifications, and international standards as well as monitor medical and health standards.

Educational institutions or units will coordinate with local level and offer training programs for health personnel according to local demands in terms of qualifications and numbers.

9. Ministry of Defense

Medical Departments of the Ministry of Defense will increase roles in health and environmental development and coordinating with the MoPH, but produce fewer

medicals and health personnel. The main responsibility will be to link with national security issues such as border communicable diseases, disasters, accidents, chemical substances, and treatment of heat-generated unconsciousness. Ministry of Defense hospitals will still be operating to serve general population and participated in social security scheme or health funds.

Part 4 The Scenario of Thailand Health Management in 2020

The nation has been experiencing difficult economic circumstances for well over two decades since the late 1990s. Several years of government reinventing and private business downsizing in the early 2000 improved the short-term development and profitability but did little to improve long-term global competitiveness.

One of the most serious aspects of the weakened Thai economy was that real estate and stock prices fell. Thereby substantially reducing the real wealth of the average citizen. The economic stress also increased social pressures, making the nuclear family a vanished species and adding to already formidable problems of delinquency, drug addiction, homelessness, and other societal dysfunction. However, socioeconomic and political reforms have been taken into real consideration in order to ensure for the sustainability of national development.

By the year 2020, Thailand becomes an industrialized and internationalized nation with fast and convenient transportation and communication. People are better adaptable to changes and development but more aggressive and individualism. Drug addiction is more prominent due to distances between parents and children. Thai society becomes less friendly and involvement with increased social conflicts and violent. People are more concerned with quality of life and environmental destruction. Some Thai businesses and industries are under the control of foreigners. However, people become more interested in politics and human rights, and act as gate keepers for government actions. Education and health are among the most important issues for national development.

Health status of Thai people is improved with some changes of disease patterns. AIDS remains a major problem that keeps draining national resources. Non-communicable diseases are increasing due to inappropriate life styles. Accidents and work related injuries and diseases are more prominent those need special attention from the government. Traditional medicine and exercise for health are alternative methods for maintaining health status. Besides a very good referral system, medical practices depend mainly on high technological treatment.

The National Board of Health is responsible for the overall health management in Thailand with assistance and supports from a number of national level committees and the World Health Organization (WHO). The main issues needed national attentions are including safety in the workplace, occupational health, drug policy, and consumer protection. Experts and academicians from related ministries, and private organizations are appointed as members of the Board and national level committees. The main responsibilities of the Board and committees are focussed on developing policy and plans for national health development, and monitoring all health programs and activities throughout the country.

The MoPH is the core organization responsible for translating national health policy and plans into practices for provincial and local organizations. The MoPH becomes a lean organization responsible mainly for technical supports and programs implementation assistance. Most of the authorities are delegated to regional health offices to strengthen the deconcentration policy.

All departments are smaller in size and scope of work. They are responsible for providing technical services to regional and provincial levels through their representatives.

Besides various departments, there are others supporting units at the ministerial level that play major roles in health management. They are Bureau of International Health, Bureau of Epidemiology, Coordination Committee, Health

Information Center, Administrator Selection Committee, Special Mobile Clinic for Remote Areas, and High Technology and Special Service and Research Institutions. In addition, there are some autonomous units at the ministerial level including Praboromrajchanok Institute and Colleges, and Central Organization for Health Service Quality Assurance. The government Pharmaceutical Organization will be privatized.

The Regional Health Offices (RHOs) are responsible for monitoring health activities within the region through Provincial Public Health Offices (PPHOs), District Health Offices (DHOs), and Health Centers. In addition, the RHOs are also responsible for coordinating between the central level, and provincial and local levels.

University, Regional, General, and some Community Hospitals are privatized and autonomous responsible for providing health services to general population. But some General and Community Hospitals are run by Local Administrative Organizations.

Class 1 and 2 of Tambon Administrative Organizations (TAOs) of the Ministry of Interior (MoI) take over some health centers while Class 3-5 provide some finance and equipment to the rest of health centers.

All health administrators are qualified managers with conceptual, human, and technical skills, and not necessarily physicians. Everyone has a special training for their levels of administration prior to appointments. Every position is specified by specific criteria established by selection and appointment committees.

There are general and specific public health laws and regulations suitable for facilitating health management practice at every level of administration. Health equity of Thai citizen is achieved and guaranteed through social security and health insurance schemes with full supports from other health partners and related organizations.

WHO

Safety in Workplace and Occupational Health

National Board of Health Committee

Drug Policy and Consumer Protection

Ministry of Public Health

Administrator Selection Committee

International Health Agency (or Bureau)

Coordination Committee

Central Organization for Health Service Quality Assurance (or Accreditation)

National Health Information Center

1   2

Praboromrajachanok Institution

Special Mobile Clinic in Remote Areas

High Technology and Special Service and Research Institutions

Colleges

Disease Control Department

Departments

FDA

Bureau of Epidemiology

Pharmaceutical Organization

Regional Health Office

Regional Hospitals

Private Health Service Organizations

Provincial Public Health Office

Local Administrative Organizations

General or Provincial Hospitals

District Health Office

Community Hospitals

TAO

Health Insurance Implementation Unit

Health Center

Health Center

Village Health Officer

——— Line of Command

– – – Line of Technical Support

– · – Line of Cooperation (Legal or Business)

CHAPTER V

DISCUSSION

This chapter presents the discussion on research methodology and findings of the SWOT analysis on present Thailand health management, and future trends of Thailand health management in 2020 in terms of external environment and general public health, roles and functions, administrative structures, managerial resources, and managerial process as well as roles of related agencies.

Part 1 Research Methodology

1.1 The Study Design

This research was the first middle range (20 year) Thailand health management futures research at macro level as parts of the sub-project of Thailand Health Futures Studies sponsored by the World Health Organization under the responsibility of the Bureau of Health Policy and Planning, Ministry of Public Health. The scope of the study was practically broad covering all levels of the national administration. The Ethnographic Delphi Futures Research (EDFR) was recommended because it was the technique that could pick up all the strong points and eliminate weaknesses of the Ethnographic Futures Research (EFR) and Delphi techniques. Therefore, the EDFR is a combined technique that is flexible and appropriated for futures studies (Poolpatarachewin, C., 1987: 50). However, the Delphi's results depend mainly upon the conformity and consensus of the opinion of informant panel, so that it is time consuming and more expensive (Garette, 1996: 126). In addition, a loss of questionnaires and late return of a large number of questionnaires were the major weaknesses of the Delphi technique. For this study, the loss rate of questionnaires was

about 43.0 percent in the first round Delphi and 10.0 percent in the second round Delphi. It was better than some other researches done earlier in Thailand which was approximately 48.0 percent (Maikaew, 1997). The higher rate of response in the second round Delphi might be from a close communication between informants and researcher through multiple direct telephone contacts and personal thank you cards sending soon after the questionnaire.

However, this futures research had been facing with some major limitations including an economic crisis and conflicts on new constitution during the beginning phase of research. Several informants mostly central level administrators were frustrated and more concerned about the present situation at that time. Some of them had a hard time to forecast the future scenarios because they were overwhelmed trying to solve their present crisis. This is why futures study is unfamiliar in developing countries as well as a long term planning because the planners are preoccupied with the present situations. The second limitation is that futures research was different from other types of researches because it aims to identify various trends on health management and other related issues as many as possible. This is compliance with the futures research's concept that the more is the better (Poolpatarachewin, C., 1987: 34) in order to expand the breadth of related issues. Moreover, it did not intend to answer to any specific assumptions or areas. Also, the contents on overall management system of the country were broad and complicated for administrators who had time constraints. Therefore, researcher often received quite a number of criticisms for lengthy questionnaires. A number of experienced futures researchers in Thailand had mentioned that this type of complaint was common for futures studies.

In addition, the methodology of Ethnographic Delphi Futures Research (EDFR) put a lot of difficulties on a researcher because direct interviews are needed to complete the ethnographic part. The researcher had to travel to many remote provinces to interview selected informants. It consumed a considerable amount of time and expenses. However, there was a positive side of direct interviews that the face-to-face meeting with informants would create a better cooperation for Delphi survey.

Delphi, another part of the EDFR has been known to be a time consuming technique because it needs to refine consensus of informants (Cheuratanapongse, J.

1993: 175, Poolpatarachewin, C. 1987: 42). For this research, two rounds of Delphi were performed after the ethnographic round or interview to complete the EDFR research protocol. Because of the long questionnaire and time limitation of the informants, data collection was forced to terminate. However, the statistic Wilcoxon Matched-Pairs Signed-Ranks Test was applied to analyze the differences of the first and second round Delphi's results. It showed no statistical significant differences on most of the sections except for the Society and Environment (p = 0.018).

1.2 Informants Group and Selection

The EDFR research is consisted of qualitative and quantitative studies. The size of informant panel is not the most important issue but the selection and preparation. The reliability of futures research using the EDFR technique depends upon experiences, abilities, and knowledge of informants. Therefore, the selection of informants has to include informants who are knowledgeable, capable, willing, and seeing the importance of the futures research. If the research is done on policy and plans, informants with direct authorities should be included in the study (Ragsapolamuang, C. cited in Sirisamphan, T. (ed.), 1994: 59-73). In this study, work experience, present responsibility, and career ladder potential were the main criteria for informants' selection as well as the willingness to participate in the study. There were specific criteria established for each group of administrators and other panelist. However, a number of informants were not sufficient in some groups, the popular vote was applied by asking their colleagues to recommend. Quite a number of health administrators from the central level (18 persons or 27 %) were recruited as they were in the positions that played major roles in policy formulation and changes (Poolpatarachewin, C. 1987: 37). Most of them were very cooperative during the ethnographic study but only 6 (33%) out of 18 central health administrators were participated to complete the 2 rounds of Delphi. However, a very good cooperation was received during the ethnographic study because all informants were aware that it was part of the Bureau of Health Policy and Planning project on Thailand Health Futures study.

A purposive sampling was used to select informant panel by considering their work experiences and willingness according to predetermined criteria. Ethnographers have accepted this method of informant selection. Honigmann (cited in Johnson, T.C., 1990: 28), an ethnographic theorist stated that "I am stressing the deliberateness with any subjects are chosen. Informants selected by virtue of their status (age, sex, occupation) or previous experience, qualities with endow them with special knowledge that the ethnographer values, are chosen by a type of nonprobability sampling best call judgment sampling. The ethnographer uses his prior knowledge of the universe to draw representatives from it who posses distinctive qualifications".

Another important step of EDFR is the preparation of informants before the interview in order to make informants familiar with the scope and contents of research requirements. Informants were selected from different levels and positions with widely diversified backgrounds to cover the whole spectrum of national health management system. Different approaches were used to get to informants but mainly by direct personal contacts. It was found that clarifying research protocol, basic information, and building rapport with informants were contributing for the success of this research.

1.3 Data Collection

This EDFR on Thailand health management in the next two decades (2020) had three rounds of data collection namely ethnographic interview, Delphi round 1 and Delphi round 2. The discussion was divided in two parts as follows.

1.3.1 Ethnographic Interview

The subjects of this research were executives or experts so that it was very difficult and took a long time to contact and make appointment for the interview. Very often the interview was interrupted by urgent calls. Some of them took 2-3 reschedules to complete the interview. So, this method is a time consuming technique. Researcher must be prepared to face with unexpected circumstances and difficulties. The higher informants, the more time and efforts are needed.

One of the advantages of the Ethnographic Interview is the cumulative summarization technique that interview contents are summarized every 10- 15 minutes or at the end of each issue discussed. It was found that all informants made some changes or corrections when the researcher had summarized their answers. This technique is, therefore efficient for improving content validity of interviewed information that was used to construct a Delphi questionnaire. Another strength of this study is that the researcher personally interviews every informant so that bias from multiple interviewers can be reduced. In this study the principles of Ethnographic technique were strictly followed during the interviews. Therefore, collected data were reflecting the real opinion of informants.

1.3.2   Delphi Technique

One of the major important problem and difficulties of Delphi technique is that experts (informants) overlook or do not care much about the importance of data. Sometimes, they ask colleagues or someone else to answer the questionnaire on their behalf, especially top executives because of time constraints. For this research, informants were repeatedly requested for their cooperation starting from an initial contact through out the study. Even the cover letter sent with Delphi questionnaire also had put special emphasis on this point with a statement saying " If you really can not answer this questionnaire by your self, please don't assign any other persons to answer and return the blank questionnaire". As the results, some informants informed the researcher by phone that they could not answer the Delphi questionnaire because they did not have time to do it.

Another problem of Delphi technique was a lost of the questionnaire or the delay in returning. To secure for questionnaire loss, a registered or EMS mail was used along with telephone follow up. In Bangkok and Nonthaburi (the MoPH) areas informants were contacted in person. A thank you card with special designs and attractive envelope's color sent to every informant was proved to be very helpful. Many informants expressed their appreciation after receiving the thank you card that was sent after sending the Delphi questionnaire about one week. The card was in facts

serving as a reminder and showing appreciation for their cooperation in answering the questionnaire.

Informants also gave comments on the duration allowed for completing questionnaire that 2 weeks were too short because of a lengthy questionnaire. Many of them requested for more time to complete the questionnaire. However, it took more time to complete the questionnaire as expected, about 4 weeks for the first round and 6 weeks for the second round. However, there were 4 questionnaires received after the first round data analysis.

In addition, there were many important political and economical situations happened during the period of data collection. The main events were an economic crisis, new constitution, and drug scandal with the MoPH. Outcomes and impacts of these situations might affect informants' feelings, thinking, and opinions. However, these situations might help verify some new paradigms for the futures directions.

1.4 Research Tools

The important research tool of this EDFR was the Delphi Questionnaire constructed from the results of direct interviews of 67 informants from various disciplines and levels. There was lots of information because informants were allowed to speak freely on variety of aspects that they believed to relate to the Thailand health management system. Some informants expressed that they have never seen any questionnaire this long. Therefore, the researcher had to make the questionnaire attractive by using different color papers for each section of trends and separating each statement with lines and frames.

Another important tool for this EDFR was the basic information on the Thailand health management and research background that were sent to informants before direct interviews. This was found very effective for the study because informants were differences in levels and positions as well as knowledge and backgrounds. The basic background information would serve as inputs to adjust their levels of thought and initiate new ideas. Some of informants admitted that they had never thought about futures study or even long-term plans of 10-20 years. One of the informants, a director of a remote hospital mentioned that he had to start having a

future plan for his hospital. The researcher felt satisfied that at least this study could help trigger the concepts of futures study and long-term plans among health administrators.

1.5 Statistical Analysis

This futures research using the EDFR or Delphi technique was aiming to identify the consistency of opinions from informants because a consensus of opinions was the main objective of this technique. Therefore, the most popular statistic tests to select plausible trends from the degree of consensus are median, mode, and interquartile range. There were three criteria used for consensus judgement in this research including a median of 3.5, a difference of 1.0 and less between mode and median, and an interquartile range of not over than 1.50 (Office of the Civil Service Committee, 1986: 16; Chulalongkorn University, 1991: 11; Sripadung, C. 1994: 39; and Grayuranonta P.1995: 95).

This study was using the above three criteria to select consensus trends. However, a number of trends were excluded due to an inconsistency of interquartile range of not more than 1.50. For example, one excluded trend had a median of 4.0, a difference between mode and median of not more than 1.0, and an interquartile range (Q_3-Q_1) of 2.0 (5.00 - 3.00) with was over 1.50 but gained a high favor from about 25 percent of respondents (7 out of 28) who gave the highest rating of 5. This meant that a number of informants who had strong believe that this trend would be most likely to occur but it was eliminated from final result. While another accepted (included) one that had a median of 4.0, a difference between mode and median of not more than 1.0, and an interquartile range of 1.0 (4.00 – 3.00) which was not over 1.50. This trend gained a rating of 4 or 5 from only 7 respondents who generally believed that this trend had a chance ranging between more likely and most likely to happen. Please see Table 5.1 for informants rating on two trends that had equal median and mode of 4.0 but differences in interquartile ranges $(Q_3 - Q_1)$

Table 5.1 showed that there were 17 (16,1) informants gave rating of 4 and 5 (high and highest chance to occur) on the included trend (Trend1) while there were 20 (12,8) informants gave rating of 4 and 5 on the excluded trend (Trend2). Therefore,

there were quite a numbers of trends that were excluded or eliminated due to the interquartile range alone. It is worth notifying that further investigations on the validity of the interquartile range be made for its appropriate use in futures research. From the above criteria, the trends that had received a high frequency on the highest scales were excluded because of interquartile range. The trends that several informants gave the highest rating of 5 instead of 4 would be eliminated. This would create some questions for the logical thinking as related to futures research.

Table 5.1 Comparison on Descriptive Statistics between Included and Excluded Trends

Rating Scale	Frequency		Percent		Cumulative Percent	
	Trend 1	Trend 2	Trend 1	Trend 2	Trend 1	Trend 2
2	3	0	10.7	0.0	10.7	0.0
3	8	8	28.6	28.6	39.3	28.6
4	16	12	57.1	42.9	96.4	71.4
5	1	8	3.6	28.6	100.0	100.0

Note: Trend 1 had $Q_3 - Q_1 (4.00 - 3.00) = 1.00$, and was included

Trend 2 had $Q_3 - Q_1 (4.75 - 3.00) = 1.75$, but was excluded

Part 2 Research Findings

Before going on with the discussion, one major precautionary note on the findings of this research was that all the scenarios were drawn from a purposive sampling specific group of highly concentrated government officials who were mainly physicians and health administers from the MoPH. Their opinions on Thailand health management in 2020 might be reflecting their long experiences as government

officials. Most of them have been in administrative positions with full power and authorities. Therefore, it is necessary that readers be aware of this limitation.

The findings of this futures research on Thailand health management in the next two decades (2020) were discussed based on two major phases of research methodology including the Ethnographic and Delphi studies.

1. Ethnographic Study Results

The discussion of this direct interview results were divided into two parts including an analysis of strengths, weaknesses, opportunities, and threats of present health management in Thailand and forecasting of Thailand health management in the next two decades.

1.1 Present Thailand Health Management Situation Analysis (SWOT Analysis)

The results of present Thailand health management situation analysis were elaborated by combining all information gained from informants in terms strengths, weaknesses, opportunities, and threats in order to present the continuity of overall picture of Thailand health management, not separate pieces. However, the findings on the SWOT analysis just only to provide background included for Delphi questionnaire design because the main objective of Delphi was to forecast the futures. There were no frequencies only a narrative description on opinions. However, this is very common for qualitative research (Creswelll, J.W., 1994: 159-162). Moreover, the researcher also wants to reduce bias on numbering because informants were highly experienced in this field. Their opinions, even from one informant might prove to be very useful. The collected information during the ethnographic interview was real facts that might be very useful for administrators. The narrative summary on the SWOT analysis was interrelated with the overall health management system as follows.

1.1.1. Facilities Mal-distribution and Utilization

The Ministry of Public Health (MoPH) has been developed in all areas including management, technical and technology. But most of the high technologies are depended mainly upon foreign nations. The structure of health service facilities covers all levels from national, provincial, district, sub-district, and village levels. However, there are some problems of mal-distribution of health service facilities that have been concentrated in Bangkok Metropolis and big cities. This result was consistent with Supawongse C.(Supawongse, C., Kadkarnkai, Y., 1996: 269-279) and Bureau of Health Policy and Planning (MoPH, 1998: 35). Besides, insufficient number and poor quality of health care personnel at the district level in district health offices, community hospitals, and health centers, especially a shortage of physicians in community hospitals in remote areas. These findings are consistent with the half plan evaluation of the Eighth National Economic and Social Development Plan (NESDB, 2000: 9). The qualifications of health centers personnel are still lower than a bachelor degree. Their knowledge and skills are insufficient to develop health activities in local areas. Bypassing peripheral health service facilities is, therefore commonly found due to poor service quality provided by personnel. To solve this problem, the MoPH has been trying to allocate at least one professional nurse in every health centers. Nut some major problems are still unsolved.

Moreover, the contrary was made against the structure in such a way that this present setting could create some weaknesses as well. With an easy access under a free market system, many duplication of services have been observed. The failure of existing referral system had contributed a great deal of wastage on resources utilization. Specialized care facilities have been utilized inappropriately because of customers' free choice.

1.1.2. Imbalance Health Development

While the MoPH has been trying continuously to improve efficiency in all areas but health management and services at the local level, especially in municipalities and Tambon Administrative Organizations (TAOs) remain poor due to

lacking of resources and technical supports. Most of health budget is still misallocated by putting more budget for buildings and curative activities. The MoPH did not provide any budget or personnel to support local agencies for health development. The MoPH rarely coordinate and cooperate with the local level in developing technical skill of local health personnel. Therefore, due to an easy access, people prefer using health services provide by the MoPH settings in municipal areas to services provided by municipality settings. As the results, municipalities feel not obligated to provide health services in their areas. They view health care low in priority as compared to other activities of the Ministry of Interior (MOI) although monitoring and supporting for plan and policy implementation, and approving projects are under the MOI authorities. These findings are consistent with the study of Siriwanarangsun, P., et al. (Siriwanarangsun, P., et al., 1998: 78).

For TAOs, the scope of work and functions concerning health care of the local administrative organization, especially at TAOs are still not clear. The major threats of health management practice are political power, politicians, powerful persons, and businessman in local areas.

As described earlier, health management in all types of local administrative organizations (except Bangkok Metropolis) has been viewed as crucial weaknesses. According to the Master plan of Thailand public administration reform (1997-2001), there will be more decentralization to local administrative organizations. But so far, there have been lacking of practical mechanisms designed to support the actions of decentralization.

1.1.3. Inefficient Coordinating, Monitoring, and Controlling

Rapid growth in the private sector drains resources from the public sector to provide services to some groups of customers, which creates major difficulties for overall health management aspects. Moreover, most private hospitals were creating serious problems for over using high technology and becoming investment dependency of foreign countries. In this regard, the MoPH still does not have any effective measurement to monitor private sector activities in terms of service quality and pricing.

Therefore, it is very necessary that the MoPH develop effective mechanisms to check for service standards and pricing of private hospitals and clinics.

1.1.4. Centralization

The Office of the Permanent Secretary for Public Health has sole responsibilities in making policy, planning of programs, giving orders, and monitoring health management and health care activities in every provinces. This set up was just perfect for having a unity of command but it also presented a negative feedback for its more centralized pattern. The office size of about 80 percent of over all staff (Ministry of Public Health, 1999: 231) and 70 percent of ministerial budget (Ministry of Public Health, 1999: 235) could present its weaknesses in coordination, red tape, and imbalance power. In this regard, it is suggested that authorities be delegated to regional and provincial levels to effectively make decisions as related to personnel and financial plans and actions.

1.1.5. Inappropriate Health Development Goals

One of the strengths of health management was a good planning process with qualified planning team. But the problems remain due to unclear national health policy and using only morbidity and mortality rates without considering progressive data on wellness. This would in tern brought about inappropriate goals and directions. Other health related ministries and institutions were still not getting involved in the planning process. Besides, planning and policy formulation was still a top down process and inappropriate for solving local problems and situations. It is suggested from this research that health policy and plans in the future be focused on quality of life, good living conditions, health promotion and disease prevention, and the enhancement of equity in health service through health insurance system.

2. Delphi Study Results

It was worth noticing that the Delphi results of this study had no trends that the median equals to or higher than 4.5 representing highest chance to occur. All of them had medians between 3.50 - 4.00 representing the high chance to occur. Because there were many informants rated in the score of 3 (medium chance to occur) and some informants changed their second round answers from the score of 5 to 4, which were qualified for an interquartile range.

2.1 Socioeconomic Environment and General Public Health in the Next Two Decades (2020)

1. Society and Environment

1.1 Desirable Trends

Thai society will become internationalized with full ability to adapt, and an information technology society that life styles depend on it. Thai people will be ready for changes and better adaptable to development as well as more aware of health and education. There will be more utilization of high technology and information network. Individual right will be more difficult to violate.

State welfare compensation will be increasing and completed. Public services and physical conditions were well established. The government will enforce the social security act as a compulsory for general population. These findings are consistent with The Sub-Committee to Enhance Thailand's Role in the Global Economy (The Royal Thai Government, 1996: 33-34) study on Thailand Vision 2020. It is projected that Thailand's social welfare and social security system will cover almost the entire population by the year 2020 according to the present Social Security Act. The expenditures for social welfare are likely to be much larger than at present. The Thai insurance market will be highly competitive. The demand for private insurance will increase significantly. In the future, private insurance will play an effective role to complement the public social security and social welfare systems. It

is consistent with this research findings on roles of private business that private health insurance companies will be growing in size and number, and increasing their roles.

Industries will be increasing, especially agricultural industries. More rural people will commute to work in cities and return home in evening because of better transportation and more convenient. There will be health service units available in their work sites. Each Tambon will have facilities for aging, childcare, education, health and industrial services.

Environmental situations will be better due to policy on industrial safety and strongly specific enforced payment for pollution compensation laws. There will be more regulated and designated areas for specific purposes including dwelling, forestry, and industry. Communities and national authorities will be more aware of actions to protect environment. Thai people will be eager to cooperate for better environmental conditions. Communities will understand and take care of the environment as well as govern local services.

These findings are consistent with Punpuing, S. and Tangchonlatip, K., (1998: 4-12) study on Health Futures Program: Population and Social Aspects that was studied in the same period. The findings show that communities and Thai people will be more aware of environmental situations, and information technology society and its utilization, and also the same with the study on Vision 2030: Thailand in the Next Three Decades According to Soldiers Technocrat View Point (Ministry of Defense, 1998: 78, 145-146).

1.2 Undesirable Trends

Thai society becomes less friendly and involvement. People will be more aggressive and individualism. Social conflicts and violent protests will be increasing. Urban societies become more consumptive and luxurious. Thai culture will be influenced by other cultural styles through media.

Poverty will remain in Thai society with wider gap between urban and rural settings. Poor and under privileged groups will still be prominence. Migration of poor villagers to work in the city will be increased resulting in increasing dwellers in big cities, which brings about congestion. Very high competitive society will create

dificulties for villagers to get jobs. So women and teenager prostitutes will be increasing. Rural people will engage more in services and industries than agriculture.

The increasing of illegal labor forces from neighboring countries will put burdens on the country. Legal and illegal aliens will be increasing due to an easy entry.

Woman liberation for the right to make abortion decision will be increased.

Family size will be smaller and moving towards nuclear family. Children will leave home earlier to be independent. The distances between parents and children due to job requirements will be increasing.

A number of orphans will be increasing due to parent death from AIDS as well as an old age problem due to the death of their kids from AIDS and accidents. Working group population will have to take care elderly and children whose parents die of AIDS. Homes for aged will be increasing due to lacking of caregivers.

Drug addiction problem will be the most important issue for the country. Underprivileged, illiterates, and dependents will be increasing.

Pollution becomes the major problems in urban areas. Water pollution and waste problems will be more pronounced. Life styles of people will create difficulties for managing environmental situations. Garbage and waste disposal become a major environmental problem. New agricultural practices using more chemicals will be introduced. Natural resources depletion, especially water and forest will bring about natural disaster and resource competitive problems. There will be no real concern on re-forestation. High amount of expenses paid on pollution control will be enforced. Pollution control and environmental maintenance will be for profit making.

1.3 Controversial Direction Trends

There were two controversial direction trends. The first trend is rural communities will remain in remote areas (50 % of desirable and 46% of undesirable). Some informants gave the reason for desirable that good Thai life style will not disappear, and for undesirable was rural people will not access the service facilities. The second trend is a number of factories and labour forces will be increasing (39% of

desirable and 57% of undesirable). Some reasons were the poor would have more chance to get a job and earn family income; and factory working would change Thai rural life style and cause some social problems.

2. Educational Issues

The desirable trends are as follows. Every Thai people will be literate and more knowledgeable, better educated, intelligent, and thinkable. Communities will express more demands on education. Educational opportunities will be equally access to. Distance learning becomes more important. Self - learning outside institutions will be increasing through electronic means. People will receive information faster with wider coverage. The development of net work system will bring about efficient administration. Education will focus on human resource development with equity. People will be skillful in receive and using data with ability to choose. Information will be very well disseminated through better communication channels. However education will focus more on ethics, culture and customs as well as information technology. Teaching of management will be done through satellite. Local administrative management will be included in an elementary level curriculum. Schools will have included in their curricula more contents on health. Teachers will have better knowledge on health. People will have more knowledge and awareness on health and correct practice and are able to live with better quality of life. There will be more activities for better consumer protection. Basic health services and self-care will be provided by public and private sectors through information technology. Most of these findings are consistent with the study on Thailand Vision 2020 (The Royal Thai Government, 1996: 18, 20-21)

3. Demographic Issues

The demographic desirable trends are including the demographic structure will be changed with less number of children but more elderly because of family planning and Thai people are living longer. Moreover, there will be a small family size due to less number of children in the family. This finding was consistent with other researches (Bezold and Hancock, 1997, 28, Chen: 18, McRae, 1994: 104-107, and The Royal Thai Government, 1996: 17) that aging population would put burdens on health

expenditure and social aspects.   Aging raises concerns not only about the economic and social aspects of care for the elderly, but also about the ratio of elderly dependents to productive adults, whose caring responsibilities will shift increasingly from children to the elderly (Chen: 18).   It consistent with this research finding that increasing number of elderly will change demographic structure as compared to other age groups. However, Thailand's population change will have both positive and negative impacts on the ability to realize the proposed vision.   While the declining birth rates, leading to a decline in the number of school aged children, will enhance opportunities to upgrade the quality of population, a higher number and ratio of senior citizens will require effective resource mobilization and management to provide for old age care (The Royal Thai Government, 1996: 17).   Therefore, Thailand should be prepared to deal with this problem by having both short and long-range policy and plans, especially how to convince the policy-makers in big, established, professionally-run service industries like health and education to fully understand the impacts of demographic change.   The health industry will become aware the need for more nursing homes for the elderly.

4. The Scenario of Thailand Health Management in 2020:

The nation has been experiencing difficult economic circumstances for well over two decades since the late 1990s.   Several years of government reinventing and private business downsizing in the early 2000 improved the short-term development and profitability but did little to improve long-term global competitiveness.

One of the most serious aspects of the weakened Thai economy was that real estate and stock prices fell.   Thereby substantially reducing the real wealth of the average citizen.   The economic stress also increased social pressures, making the nuclear family a vanished species and adding to already formidable problems of delinquency, drug addiction, homelessness, and other societal dysfunction.   However, socioeconomic and political reforms have been taken into real consideration in order to ensure for the sustainability of national development.

By the year 2020, Thailand becomes an industrialized and internationalized nation with fast and convenient transportation and communication. People are better adaptable to changes and development but more aggressive and individualism. Drug addiction is more prominent due to distances between parents and children. Thai society becomes less friendly and involvement with increased social conflicts and violent. People are more concerned with quality of life and environmental destruction. Some Thai businesses and industries are under the control of foreigners. However, people become more interested in politics and human rights, and act as gate keepers for government actions. Education and health are among the most important issues for national development.

Health status of Thai people is improved with some changes of disease patterns. AIDS remains a major problem that keeps draining national resources. Non-communicable diseases are increasing due to inappropriate life styles. Accidents and work related injuries and diseases are more prominent those need special attention from the government. Traditional medicine and exercise for health are alternative methods for maintaining health status. Besides a very good referral system, medical practices depend mainly on high technological treatment.

The National Board of Health is responsible for the overall health management in Thailand with assistance and supports from a number of national level committees and the World Health Organization (WHO). The main issues needed national attentions are including safety in the workplace, occupational health, drug policy, and consumer protection. Experts and academicians from related ministries, and private organizations are appointed as members of the Board and national level committees. The main responsibilities of the Board and committees are focussed on developing policy and plans for national health development, and monitoring all health programs and activities throughout the country.

The MoPH is the core organization responsible for translating national health policy and plans into practices for provincial and local organizations. The MoPH becomes a lean organization responsible mainly for technical supports and programs

implementation assistance. Most of the authorities are delegated to regional health offices to strengthen the deconcentration policy.

All departments are smaller in size and scope of work. They are responsible for providing technical services to regional and provincial levels through their representatives.

Besides various departments, there are others supporting units at the ministerial level that play major roles in health management. They are Bureau of International Health, Bureau of Epidemiology, Coordination Committee, Health Information Center, Administrator Selection Committee, Special Mobile Clinic for Remote Areas, and High Technology and Special Service and Research Institutions. In addition, there are some autonomous units at the ministerial level including Praboromrajchanok Institute and Colleges, and Central Organization for Health Service Quality Assurance. The government Pharmaceutical Organization will be privatized.

The Regional Health Offices (RHOs) are responsible for monitoring health activities within the region through Provincial Public Health Offices (PPHOs), District Health Offices (DHOs), and Health Centers. In addition, the RHOs are also responsible for coordinating between the central level, and provincial and local levels.

University, Regional, General, and some Community Hospitals are privatized and autonomous responsible for providing health services to general population. But some General and Community Hospitals are run by Local Administrative Organizations.

Class 1 and 2 of Tambon Administrative Organizations (TAOs) of the Ministry of Interior (MoI) take over some health centers while Class 3-5 provide some finance and equipment to the rest of health centers.

All health administrators are qualified managers with conceptual, human, and technical skills, and not necessarily physicians. Everyone has a special training for

their levels of administration prior to appointments. Every position is specified by specific criteria established by selection and appointment committees.

There are general and specific public health laws and regulations suitable for facilitating health management practice at every level of administration. Health equity of Thai citizen is achieved and guaranteed through social security and health insurance schemes with full supports from other health partners and related organizations.

2.2 Interesting Excluded Trends

There were some interesting remarks and trends excluded after the first round Delphi, which could be discussed as follows.

2.2.1 Interesting Remark

It was observed that most undesirable trends had been rated at medium and low scales for the chance to occur as well as the extreme optimistic and extreme pessimistic trends. As the results, those trends were excluded (not included) after the first round Delphi. The main reasons for this pattern may relate to Thai society, which is built upon moderation and the precept of the "middle path", and foundation of peaceful (The Royal Thai Government, 1996: 7). Furthermore, most informants were over 50 years old who might represent as typical Thai people in trying to conserve the Thai culture. Besides, the futures research is very new to Thailand health management atmosphere, most informants are not familiar or comfortable with future forecasting in the next 20 years. Many of informants were surprised to hear that they were asked to give forecasting for that long period of time. For example, one informant said "Oh ho! It's too long, will I still be alive?" So, this pattern could be called an inherent bias in forecasting. Harold A. Linstone (in Fowles, J.(ed), 1978: 295) stated that "Inherent bias is the tendency to be pessimistic on the long-range estimates and optimistic on the short-range ones. In long-range situation, we assume that, if we do not know an answer to the problem, no answer exists. On the other hand, for near term items, we

do know the answer but make the optimistic assumption that implementation will be smooth and devoid of serious obstacles." Therefore, most pessimistic trends in this research were be excluded because they had low in score for plausible chance to occur. However, the column "can not give the opinion" in the first round Delphi was made for unknown items to informants but very few informants chose this column for answers.

Also for those trends that were controversial whether desirable or undesirable choices (50/50 chance or less than 20% differences) and barely passed the criteria in the first round Delphi but were excluded in the second round Delphi (only 7 trends passed). The reason was that all trends were selected after the first round Delphi by using only the median as a criterion. However, they were excluded in the second round Delphi when the interquartile range was applied for identifying the consensus.

2.2.2 Wildcard Scenarios:

Informants gave rating from medium to low chance of occurrence regarding the following wildcard scenarios. However, if these scenarios are to occur, the consequences will be very critical.

2.2.2.1. Society and Environment

Concerning social and environment issues, informants expressed that in the next two decades, Thai society will be declining in its uniqueness, some good traditional customs will be disappeared e.g. seniority and consideration. Thai people will have equal right. Society will be loosing disciplines and become chaos. Maturity and willingness to take responsibility for society and country activities will be declined. Therefore, it is suggested that the country take into consideration to protect unpleasant situations. At present, Thai people are deserting their learning process and not maintaining their beliefs and values as well as Thai lifestyles (Supornsilpachai, C., Sermsri,S., 1998: 59).

Thai people will have less awareness on environment because they think that they can protect themselves or avoid the law consequences. This may due mainly to lacking of effective and appropriate measures from the government. This will open opportunities for wise guys to take advantages on people and community, and put burdens on the government to correct it. In monitoring environment situations, Thailand will be reactive, can not catch up with developed countries, and exploited.

However, it is good that people will be able to stay within their territories because all villages will be well developed with technologies, education, and industries. Every factory will have day care units available within the factory for workers' child.

2.2.2.2. Economics

An investment within the country will be declined. The Thai economic will not be recovery. The rich will get richer with increase number of the poor. Agricultural sector will have less number of people involved. Income and productions will also be declined. Thai industries will be in the form of home industries and have minimal affect on environment. Every village will have machines and factories available within the village. All products will be sent outside to be compliance with present government policy that aims to promote medium and small enterprises.

2.2.2.3. Political and Governing Wildcard Scenarios

All administrative units will become independent with full autonomous authority and self-sufficiency. The MOI will not able to direct or control municipalities.

In the next two decades (2020), the picture of Thailand governing may be present in four provincial administrative trends as follows.

Trend 1:   The same model with the present regional administrative practice.

Trend 2:   A mixed model: Regional administration and provincial administration will become a local unit (like Bangkok) in some provinces (about 10 –30 percent).

Trend 3:   Full provincial administration as a local unit in all provinces without regional administration.

Trend 4:   Thailand will consist of many small states.

The trends about the sources of provincial governors that received low rating some and were excluded from the study in the first round Delphi are as follows.

Trends 1:   The governors in other provinces will be selected and appointed by the MOI as present time except for Bangkok Metropolis.

Trend 2:   The governors will come from both appointments and elections (about 10 – 30 percent will be by election).

Trend 3:   All governors will come from election.

The trends on District and District Chief Officer can be elaborated as follows.

Trend 1:   The present model will be still existing.

Trend 2:   There will be no district office but only central and local levels.The name of district will remain to be referred as geographical areas.

Trend 3:   District office will be autonomous and become District Administrative Organizations (DAOs).

The sources of District Chief Officers in the next two decades will be as follows.

Trend 1:   They will be appointed by the MOI as currently practiced.

Trend 2:   They will be selected and appointed by the provincial administrators from various officers within designated districts.

Trend 3:   They will be appointed according to their appropriate qualifications and abilities.

Trend 4:   They will all come from election.

Trend 5:   They will be no district officers by the year 2020.

Administrative models in local level will be two trends for the local level as follows.

Trend 1:   There will be 3 fully autonomous local administrative models namely Provincial Administrative Organizations, Municipalities, and Tambon Administrative Organizations (TAOs).

Trend 2:   There will be 3 models namely Special Administrative Organizations (like Bangkok Metropolitan Administration), Municipalities, and Tambon Administrative Organizations (TAOs).

The summarization of the wildcard scenarios of governing and sources of the administrators are shown in Figure 5.1.

Scenarios	Scenario I Conservative Decentralization	Scenario II Moderate Decentralization	Scenario III Full Decentralization
Governing	Regional administrative Model with Provincial Administrative Organization (unclear authority)	Regional administrative Model with 10-30 % Provincial Administrative Organization (full authority)	100 % Provincial Administrative Organization
Provincial Governor	100 % MOI appointment and Election in Bangkok	MOI appointment and 10 – 30 % Election	100 % Election
District Office	Same as present model (regional administrative)	1. Same as present , 2. Same as present and District Administrative-Organization	1. No District Chief 2. District Administrative Organization
District Chief Officer	MOI appointment 1. Same as present 2. Selected from various sectors in each district 3. Selection made from various ministries	I. MOI appointment 1. Same as present 2. Selected from various sectors in each district 3. Selection made from various ministries II. Election	1.No District Chief officer 2. Election

Figure 5.1   Summary of wildcard scenarios within the next two decades (2020)

CHAPTER VI

CONCLUSION AND RECOMMENDATIONS

This research was a middle range futures research. The main objectives of this research were to analyze the present situations of the Thailand health management in terms of strengths, weaknesses, opportunities, and threats (SWOT analysis) and to foresight probable and desirable future scenarios in the next two decades (2020) in terms of missions/ roles/ functions, administrative structure, managerial resources and processes by a group of informants.

A total of 67 informants consisting of health administrators, academicians, and involved authorities were purposively selected according to predetermined criteria for the Ethnographic Delphi Futures Research (EDFR). All of them were provided with summarized base line information on framework and concepts of Thailand health management futures research, administrative structures of various levels of health management, and important issues of the Eight 5-Year Health Development Plan (1997-2001) before ethnographic interview. A cumulative summarization technique was used during the interview. Interview data were analyzed to construct the Delphi questionnaire. Two rounds of Delphi survey were performed for final consensus. There were 33 and 28 informants participated in the first and second round Delphi, respectively. The median of 3.50 and over, a difference of mode and median of not more than 1.0, and an interquartile range of not more than 1.50 trends were considered for probable (most likely to happen) scenario of Thailand health management in 2020.

The major findings were as follows. The MoPH had health care facilities distributed to cover all urban and rural areas, for tertiary care in Bangkok Metropolis and large cities to primary health care in health centers at Tambon or commune/village level throughout Thailand. With an easy access under a free market system, much duplication of services had been observed. Specialized care facilities were inappropriately utilized because of customers' free choice. Most of the services and resources were concentrated mainly in Bangkok Metropolis and other big city especially private hospitals and clinics. This pattern created a larger gap for resources distribution between urban and rural areas.

The Office of the Permanent Secretary for Public Health had nearly sole responsibilities in formulating policy, planning of programs, giving orders, and monitoring health management and health care activities in every provinces. It was perfect for having a unity of command but presented a negative feedback for increasing centralized decision make up. Although the Provincial Chief Medical Officers were authorized to administer all health activities in provinces but final decisions on budget and personnel were still with the central level and the governor.

Some other weaknesses were poor coordination between the Ministry of Public Health and other health partner, weak control and monitoring mechanism on the private sector, incapable of producing high technological applications, and mainly dependent on foreign technologies. Health management and health care activities at the local level were poor due to inappropriated technologies and inefficient manpower.

Health programs and plans were focused on morbidity and mortality instead of well being of the people.

The economic crisis and political interference were recognized as the major threats of health management. However, there were some opportunities that health care reform and development could take place without strong resistance. Delegation of authority and decentralization also became clear according to the new constitution. There were chances that national orders and society could be revitalized through community participation. Special interests in health of the royal family had contributed a great deal to the success of health management in Thailand.

Social and economic changes caused more people to migrate to big cities to work for industries. Disease control, as the results, became complex and difficult to perform. Illegal migration from neighboring countries also created more severe recurrent epidemics of some past vanished diseases in Thailand. This would increase the burdens on Thailand health management. On the other hands, it provided an opportunity for the Ministry of Public Health to seriously study and investigate for new scientific approaches.

Besides the above situations, another weakness of present Thailand health management was in the area of health manpower. The production of health manpower was more emphasis on the curative services than prevention and promotion.

A shortage of staff in district health offices, community hospitals, and health centers had been persisted, especially medical staff for community hospitals in remote areas. A career ladder for physicians in community hospitals also became a corner stone for their performance. The qualifications of health center personnel were still below a bachelor degree and not sufficient to develop health activities in local areas. However, the different ministerial lines of command might be the strengths for health management in the district level that more staff from different ministries could be pooled to work in the district health offices.

Thailand Health Management Scenarios in the Next Two Decades (2020) are as followings.

A. Socioeconomic, Environment, and General Public Health

By the year 2020, Thailand will become an industrialized and internationalized nation with fast and convenient transportation and communication. People will be better adaptable to changes and development but more aggressive and individualism. Drug addiction will be more prominent due to distances between parents and children. Thai society becomes less friendly and involvement with increased social conflicts and violent. People will be more concerned with quality of life and environmental destruction. Some Thai businesses and industries will be

under the control of foreigners. However, people will become more interested in politics and human rights, and act as gate keepers for government actions. Education and health will be among the most important issues for national development.

Health status of Thai people will be improved with some changes of disease patterns. AIDS remains a major problem that will keep draining national resources. Non-communicable diseases will be increasing due to inappropriate life styles. Accidents and work related injuries and diseases would be more prominent those need special attention from the government. Traditional medicine and exercise for health will be alternative methods for maintaining health status. Besides a very good referral system, medical practices will depend mainly on high technological treatment.

B. Missions, Roles and Functions of Health Organizations in 2020

1. Central Level (Ministry of Public Health)

The National Board of Health will formulate national health policy and control overall health programs, establish health administrators' qualifications, and appoint Permanent Secretary and Deputies Permanent Secretary for Public Health, and Director Generals.

The Ministry of Public Health will reduce roles on health service provision. The major roles will focus mainly on the national (macro) level including setting goals and directions for national health development, developing, monitoring and controlling national health policy and vision. The MoPH will also set policy on health laws that affect safety of stakeholders and general population, and monitor activities according to the major policy.

The MoPH will increase roles in international health by using international health roles as tools for creating political and economic image to promote drug production technology, medical services, and training center among international communities. As well as the MoPH will influence the other ministries and others agencies to get involved in health planning and activities.

2. Roles and Functions at Regional Level

The regional level will transform policy into practical, provide technical support for local level, monitor, and evaluate local health programs as well as service institutions of public and private agencies that receive subcontracts for health services provision.

Provincial level will coordinate central and local levels. Provincial health officers will act as consultants for district health officers and Tambon Administrative Organizations. Provincial and district health officers will function mainly in health promotion and disease prevention.

Treatment will be concentrated at the district level. District health officer will be a technical consultant for Tambon Administrative Organizations (TAO) and responsible for monitoring local health activities at Tambon and Amphoe (district) levels.

Hospitals will have full authorities to set their own policy and manage all activities as well as to act as consultants seeking for new knowledge and technology in response to local needs.

Local administrative bodies will be solely responsible for the provision and monitoring of health services in local areas.

The private sector will provide medical services for high and medium high-income groups by using high technology that meets international standards.

C. Managerial Structure

The World Health Organization will be recognized worldwide and influence for the establishment of Thai international health organization.

The National Board of Health will be formulated to set a national health policy and plans for the overall health development.

Special committees consisting of professional experts in health and other related areas will be appointed to set national administrative guidelines and plans. There will be the ministerial level health coordination committee to coordinate all health planning.

There will also be a number of national multi-ministerial committees appointed concerning safety in workplace, occupational health, and environmental health.

The MoPH will reduce in size and scope of work. Most of the responsibilities will be delegated to Regional Health Offices and Provincial Health Offices.

The structure of the MoPH will be clearly separated between administration and service provision. Most departments will be smaller in size and scope of work, and operate like a private sector. The Communicable Disease Control Department will change its name to Disease Control Department. The Epidemiological and International Health Divisions will become bureaus with increasing roles and functions.

Some special units will be established in the MoPH to coordinate between government agencies and private providers as well as to inspect the performance of private medical service institutions.

A number of national committees on drug policy and consumer protection in health will be formulated to assist the Food and Drug Administration Office for increasing their activities in rural areas.

The Government Pharmaceutical Organization and Praboromrajchanok Institute will be privatized. The Praboromrajchanok Institute will reduce its size and scope of work. Various colleges will be independent and privatized or under local administrative bodies.

There will be a specific section within a local office responsible for health insurance activities in local areas. The Tambon Administrative Organizations will be staffed with health personnel. Phat-prajam-tambon (Tambon Traditional Doctor) of the MoI will be terminated.

Provincial Health Offices will be smaller in size and scope of work. More responsibilities will be delegated to district health offices and local administrative bodies.

Regional, General, and some Community hospitals will become autonomous and independent organizations partially financed by the MoPH and run by all involved stakeholders through networking.

Class 1 and 2 of Tambon Administrative Organizations (TAOs) will completely take over health centers from the MoPH while Class 3-5 of TAOs will provide some funds and equipment to health centers that still remain with the MoPH.

D. Managerial Resources`

Health administrators will be highly knowledgeable with the ability to perceive and use advanced communication technology, and manage health programs through teamwork and community participation. They will be proficiency in foreign languages and computer applications with concepts of authority delegation and human relations. All of them will be required to accomplish specific training courses for their levels of administration prior to their appointments.

All levels of executive will be selected, appointed, and transferred by the health administrators selection committee according to established criteria. The Minister of Public

Health will come from general election or party selection and be responsible for appointing the National Board of Health Committee. The Permanent Secretary for Public Health will come from appointment made by either the Minister of Public Health or the National Board of Health.

Director Generals will come from recruitment and selection made by either the National Board of Health or a special committee. Personnel with a position classification of 8-9 and above will be able to transfer across departments as appropriated.

Provincial Chief Health Officers (PCHO) will be professional managers with optimal health knowledge and not necessarily be physicians. They will have good technical knowledge, human relations, managerial skills, and be able to translate health policy into practice. They will also have other qualifications that meet local needs, and be able to work with local leaders and communities.

District Health Officers will have technical and managerial skills with at least a bachelor degree. They will be required to accomplish a specific training course for district health officers before their appointments and able to teach and advise concerning Tambon health activities.

Local health administrators will be health technical officers with managerial skills. They will have wide range of knowledge in public health, computer applications, and planning. Their basic background will be in nursing or other health related disciplines with at least a Master degree for Bangkok Metropolis and other big municipalities. A selection committee consisting of members from community, the MoPH, and other involved parties will do their appointments.

General characteristics of laws and regulations related to health management in 2020 will be subjected to public hearing. Specific laws will be available for protective actions toward changes. Regulations issued at the central level will be aimed for general nation-wide guidelines with enough flexibility, simple, and easy to follow. There will be only major and multipurpose regulations that can be changed upon requests. Social punishment will have more effects on people behaviors than laws and regulations.

Civil service laws and regulations will be more appropriated as regard to appointment, promotion, and performance evaluation. There will be laws that give health administrators authorities to exercise their power at every level.

Public health laws will be more efficient and efficacious in controlling social well being and health behaviors with severe punishment actions. A strong emphasis will be made on laws for disease prevention. A decent and clear health insurance act will be available to control the quality and cost of health care services. There will also be specific laws consistent with basic structure of Bangkok Metropolis concerning an underground train and waste water disposal plants.

Information for health management by the year 2020 will be disclosure, more reliable, and world class standards with a two-way communication from multiple sources and channels. The needs for health information will be increased with high priority and specific for each level administrator. The health information system in the MoPH will be computerized linking different levels together throughout the country. The MoPH will be a center for health information responsible for data collection and analysis.

The health policy will be divided by regions and become parts of an important political policy of the country. Every level will have specific health policy and plans consistent with the national health policy. The main policy will be emphasized on

special care for the poor to insure for better service quality. The health insurance policy will be available to cover everyone.

Health plans will be flexible, easy, and practical with well-defined evaluation plans. The national health plan will reflect a broad picture with appropriate short-range (2-3 years) and long-range (5-10 years) plans. Program planning will focus mainly on the quality of life, good living conditions, health promotion and disease prevention, and the enhancement of equity in health service through the health insurance system.

There will be two types of financial plans including regular local budget plans and centrally subsidized budget plans for an emergency. Health budget plans will also consist of two types including the MoPH budget plans and national health budget plans. All financial plans will be applicable and equipped with good control mechanisms. Most financial plans will focus mainly on income distribution to lower levels with short procedures, realistic, and practical corresponds to health needs.

Manpower plans will focus on the importance of distribution and allocation of personnel according to needs. Personnel will be produced according to needs in terms of quantity and quality. Local manpower plans will be formulated from needs, problems, workload, and budget availability.

E. Managerial Process

Health policy and plans correspond to national concerns, and be formulated according to changing situations of the world and regional environment. Health plans will come from brainstorming through modern planning techniques. Planning in every level will involve all parties and be made two ways (bottom up and top down) according to problem areas. There will be a committee consisting of unit and section heads that will meet with administrators to set policy and plans for each level.

National health policy and implementation guidelines will be formulated by the National Board of Health Committee. The MoPH will reduce planning responsibility and only be responsible for macro level planning. Local planning units will increase their planning responsibility. Major policy and guidelines will be set by the central government and distributed to provincial level and municipalities.

Provincial levels will identify their own problems and formulate health plans to submit to the central level. They will set targets and strategies to solve their own problems. Planning and budgeting will be consistent with real needs and problems of the province.

The line of command will be short and less significance but more focus on delegation or decentralization of authority. The central government will have no authority to order local administrative bodies but concentrate mainly on coordinating with local levels. Coordination will be faster and better with a special emphasis on horizontal coordination at the lower level.

The linkage mechanism between the central and local levels for knowledge and information supports will be distinctively clear. Coordination mechanisms will be more concrete and practical through various committees.

There will be a specific center for health coordination. The MoPH will coordinate more with international and regional agencies. There will be less vertical orders but more internal coordination with in the MoPH as well as at the provincial and district levels. Modern technologies will be used for decision making and coordinating internally and externally. Other related organizations will get more involved in health activities.

More emphasis will be made on coordination between government and private sectors. There will be a special organization linking the government policy and private service providers.

There will be two parts for monitoring and control including internal regulations and social accountability. People will control health policy through political mechanisms. At the central level, the opposition parties will investigate the national health policy and plans.

Governmental organizations will be responsible for overall standards control and quality assurance in both public and private institutions. Delegation of authority will be under inspection of independent organizations authorized by laws. The central level will be responsible for local work inspection and controlling of epidemiological techniques and information.

There will be less supervision from the central level but more follow up and monitoring on local health activities. Multiple mechanisms will be involved in

controlling health activities, especially for consumer protection. International standards calibration and quality control will be done to create the public awareness toward service institutions credibility. People will be more involved in health activities and participated in investigation and follow up local health activities.

The MoPH will be responsible for overall work follow up and monitoring. There will be a central unit consisting of health inspectors and experts responsible for monitoring and follow up health activities of regional and local levels. The Bureau (Office) of health inspection and supervision will be responsible for technical investigation to guarantee for service quality. Provincial Health Office will be the main organization responsible for inspection, follow up, monitoring, control, and supervision of local health activities. District health officer will monitor and follow up TAOs activities. Built-in follow up, monitoring and control procedures will be established with an inspection from community agencies.

A reporting system will be available for work monitoring and control through hierarchical line of command according to administrative levels. Data on funds utilization will be collected and investigated by internal and central level auditors, and compiled at the MoPH information center.

An independent organization will be established to monitor and control work performance of health personnel. Policy setting and planning unit at each level will investigate and collect data for planning and evaluation purposes.

There will be an accountable and reliable evaluation system with acceptable evaluation standards and procedures. The evaluation system will focus mainly on quality and standards assessment. Evaluative techniques and information technologies will be used to evaluate the results instead of processes or activities.

In addition, an evaluation will focus on quality rather than quantity. The efficiency of budget utilization will be measured by comparing the work quality and its appropriateness. The hierarchical evaluation will be done at every level by outside evaluators. Local bodies will evaluate their own activities. There will be also recognized professional evaluators appointed at each level. Outside evaluators will evaluate the staff performance from periodical report reviews and performance assessment results according to established criteria and standards.

Reward and punishment will be specified clearly in terms of economic incentives.

F. Roles and Functions of Related Agencies

The size in terms of a number of staffs, tasks, and roles of the Office of Civil Service Commission will be reduced with a special focus on working skill development, and setting evaluation criteria to prevent unfair actions. The Office of Civil Service Commission will also specify administrator qualifications for important or top executive positions.

The Budget Bureau will give more freedom to all organizations for budget utilization. Budget will be determined from the efficiency of budget utilization and allocated with lump sum amount. The functions of Budget Bureau will be to allocate budget according to project objectives, outcomes, and impacts. The Budget Bureau will specify project results for subcontractors, analyze overall budget, and allocate them according to the government policy with a special emphasis on education and health.

The Budget Bureau will establish standards control mechanism for budget consideration and inspection for an appropriate allocation. The Budget Bureau will also be a designated unit to follow up and monitor the budget utilization as well as to approve subsidized budget for local levels according to MoPH requests.

The National Economic and Social Development Board (NESDB) will act as a consulting council for the government to guide and recommend possible planning directions, focusing on long-range national development with reducing roles on detailed planning but broad policy. The NESDB will be a secretariat for the national planning committee responsible for establishing indicators for national development and linking information for national multi-sectors. The NESDB will work collaboratively with the National Board of Health in formulating national health policy and plans. The NESDB will also have specific roles on guiding health policy and following up the progress of overall national health development.

The Social Security Office will combine with health insurance office of the MoPH to become an autonomous public organization responsible for medical service benefits. Social security funds will be centrally maintained but managed through

branches in local areas. There will be more branches of social security offices available in local areas. The Social Security Office will follow up and monitor governmental fringe benefit programs and investigate services received by insured and underprivileged persons.

Non-governmental organizations (NGOs) will be acting as people representatives and increasing roles in all aspects in assisting the community to exercise power, investigating public and private health care providers, and providing facts and information to society and community.

Private health insurance companies will be growing in size and number, and increasing their roles in buying services for insured persons, and getting involved in health products production.

Professional agencies will be acceptable in society with increasing roles in controlling over member actions, investigating professional works, establishing standards for professional establishments, and maintaining professional ethics and practices.

The Ministry of University Affairs will become the Ministry of Education, an independent ministry or under control of a local administrative organization. The main functions will include producing health manpower according to community needs, and coordinating policy of various universities without controlling authorities.

All universities will be paid by users to produce personnel according to needs. The capital investigation for production of personnel will be performed in universities and the MoPH. The major aims of educational institutions will focus on guiding society, and acting as mediators for service organizations and people. Various universities will cooperate with regional hospitals to train physicians and consult other institutions for manpower production.

Physician production will focus on general preventive medicine rather than specialized areas with equal emphasis on health promotion, disease prevention, and treatment. University training programs will focus on the ability of undergraduates to analyze and conduct researches for new bodies of knowledge. A group of professional experts will be formulated to establish standards for professional medical and health personnel training.

The Ministry of University Affairs will establish personnel qualifications consistent with international standards and monitor for medical and health personnel production. Every educational institution will coordinate with local levels to design training curricula for health personnel according to local demands.

The Medical Department of the Ministry of Defense will increase roles in health and environmental development, and coordinating more with the MoPH, but reducing in medical and health personnel production. The main responsibility will focus on national security issues such as border communicable diseases, disasters, accidents, chemical substances, and treatment of heat stroke (heat-generated unconsciousness). Ministry of Defense hospitals will be still operating to serve general population and also participated in social security scheme and health funds.

Recommendations:

There are a number of consensus desirable and undesirable trends of Thailand health management in 2020 predicted by a unique group of mainly respectable governmental respondents through the EDFR technique. But due to a considerable broad scope of contents, only important and critical trends with high potentials in affecting the future management pattern are selected for feasible and possible courses of actions undertaken by involved authorities as follows.

Findings	Proposed
A. Socioeconomic and General Public Health in 2020	

1. Thai people will live longer. The demographic structure will be changed with less number of children but more elderly as compare to other age groups. Home for aged will be increasing due to lacking of caregivers.

1. The findings were in consistent with other researches that aging population would put burdens on health expenditure and social aspects. Therefore, Thailand should be prepared to deal with this problem by having a long-range policy and plans. Specific policy and plans on providing home for aging population should be formulated and put into implementation at both central and local levels. Moreover, human development for preparation of the health professional team for elderly care should be promoted especially the areas of self-care and elderly health promotion. All governmental and non-governmental organizations should be encouraged to participate in supporting this old age project. Tax exception for aging population and providing services for aged should also be worth consideration.

Findings	Proposed
2. AIDS remains a nation-wide problem. A number of orphans will be increasing due to parent death from AIDS and accidents. Working group population will have to take care elderly and children whose parents die of AIDS.	2. In order to avoid or lesson this pessimistic trend, there should be national AIDS policy and plans formulated by a National AIDS Committee consisting of representatives from all ministries, academician, NGO, private sector, and local administrative bodies. The national AIDS policy and plans should focus on prevention activities as well as community responsibility and participation in providing care for HIV infected persons and their family, especially orphans and aging. The central government should allocate a lump sum budget on housing and paying compensation for children whose parent die of AIDS as well as aging whose caregivers die of AIDS. Home management should be put under the responsibility of Local Administrative Organizations and people in their communities. All ministries should be collaborated in providing care for AIDS's orphans (including education, occupation, and health care) and paying aging compensation.

Findings	Proposed
	The Ministries of Education and University Affaires should play a leading role in educating the public for the protection and prevention of AIDS.
	Besides the national policy and plans for accident prevention, the public should be made aware of "safety first" practice throughout their life spans from childhood through educational curricula and media. The public sector should impose a crystal clear policy on the safety as regards to work places, traffic, and life styles. Related laws and regulations should be reviewed and revised to facilitate for effective enforcement, especially for safety masks, helmets, and safety belt. The issuance of driving licenses for public transports should be based on passing physical and - mental examinations along with the driving test. The screening for drug and substances abuse should be done for all public vehicle drivers for renewal their licenses every 6 months. Severe punishments for unqualified public vehicle drivers and their business administrators should be used as parts of effective measures to reducing traffic accidents.

Findings	Proposed
3. Poverty will remain in Thai society with wider gap between urban and rural settings. Poor and under privileged groups will still be prominence. Migration of poor villagers to work in the city will be increased resulting in increasing dwellers in big cities, which brings about congestion.	3. The government should have a definite plan to create job opportunities for villagers in rural areas. Specific designated areas for special kinds of industry and occupation should be enforced and implemented to facilitate for better city plans. A long-term plan for developing small cities and provinces with complete basic facilities should be formulated as parts of the National Development Plan. Special tax exception and / or reduction should also be proposed to encourage the establishments of some industries and factories in rural areas.
4. Thai society becomes internationalized with ability to adapt, and also an information technology society that the quality of life depends on it. People will be ready for changes and better adaptable to development, and able to equally receive information and communicate with outside world. There will be more utilization of high technology. Individual become more independent and use information net work to maintain their relationships. People's right will be more difficult to violate.	4. In order to avoid some of these pessimistic trends, both public and private sector should collaboratively work together to strengthen the society. The Ministry of Education, Ministry of Public Health, and academic institutions should jointly formulate the policy and plans, both short and long terms to educate children and teenagers on media consumption and selection, strong personality in solving problems and good life skills. A Thai style of tender loving and care society should be –

Findings	Proposed
Drug addiction problem will be the most important issue for the country. Thai society becomes less friendly and involvement. People will be more aggressive and individualism. Social conflicts and violent protests will be increasing. Urban societies become more consumptive and luxurious. Woman liberation for the right to make abortion decision will be increased.	continuously propagated to conserve a good typical Thai culture along with appropriate related laws and regulations enforcement.
5. State welfare compensation will be increasing and completed. The government will enforce the social security act as compulsory for general population. Public services and aware of health and education. Each Tambon will have facilities for aging, childcare, education, and health that belong to Tambon Administrative Organizations. Industries will play more roles in health care by having health service units available in their work sites.	5. In order to receive full cooperation from industries and factories on health care, the Social Security Office should provide some funds to support for running health service units in work sites. The government should propose the laws that enforce all kinds of establishments to provide basic care and continuing education opportunity for their workers and family. Special tax deduction and exception should also be considered as a strategy to promote and improve the health service units. The Ministry of Labour and Social Security should take a leading role in liaison with other involved ministries to implement this project.

Findings	Proposed
6. The general health issues of Thailand health management in 2020 will focus on problems of environmental sanitation and sicknesses caused by chemicals, migrant workers, and industries.	6. In order to be prepared for the above problems, the government should consider enacting laws and regulations on environmental protection and improvement. Harmful chemicals used in agriculture and industries should be monitored and controlled for proper used. People must be informed and educated about the appropriate use of those substances through various means. Illegal migrant workers should be stopped and under surveillance for emerging diseases. Specific national multi-ministerial committees on foreign workers and safety in work place and occupational health should be appointed to assess the situations and formulate appropriate policy and plans to check and manage the problems.
7. Health Services will focus on teaching about diseases and behaviors rather than treatment. Medical care system will focus more on home health care. Self care technology will be quite developed to facilitate for home care without physician direct contact. Traditional medicine and exercise will be alternatives for health services.	7. The MoPH should seriously start promoting researches on herbs and traditional medicine practices by providing funds and including it into the national health policy. Personal health practices should also be emphasized as parts of self care project by including it into school curriculum.

Findings	Proposed
8. There will be more expensive health care costs. There will be widely used of high and expensive technology for additional treatment. Accessibility for the poor will be the problem. Physicians will have more professional ethical problems. People will demand and claim for their rights to receive health care services. An autonomous organization will be available to manage for establishing and controlling health services.	8. The MoPH should seriously take into consideration the implementation of health care reforms by evaluating various health systems, conducting pilot project, and adopting the most appropriate approach. Fee-for-service and capitation should be considered as the strategy of choices for payment mechanisms. Importing High technological equipment should be controlled and limited by the National Board of Health, and used only for real complicated cases. An ethical issue and service mind should be emphasized all medical schools. Special care provision mechanisms should also be made available for the poor and underprivileged groups.
9. Thailand health management in 2020 will have a very good referral system with high-qualified personnel.	9. In order to achieve desirable goals, the MoPH should be prepared by designing a new referral protocol that spell out clearly the procedures and requirements to guarantee for effective actions. All health administrators and related staff in various levels should be reoriented about the new protocol. Private hospitals and clinics within the region

Findings	Proposed
	should be encouraged to participate in carrying out the national referral system. The MoPH should also have definite plans for human resource development that are consistent with national needs and international standards.

B. Mission, Roles and Functions of Health Organizations in 2020

10. The Ministry of Public Health will reduce roles on health service provision. The major roles will focus mainly on the national (macro) level including setting goals and directions for national health development, developing, monitoring of stakeholders and general population, be formulated for further actions and controlling national health policy and vision. The MoPH will also set policy on health laws that affect safety and monitor activities according to the major policy. Most departments of the MoPH will reduce in size and scope of and operate under direction of the National Board of Health.	10. The National Task Force for Reorganizing and Developing the MoPH should be appointed to analyze the situations and perform the feasibility study along with subsequence ad hoc committees at different levels. As the results, a comprehensive long-term plan should toward transferring and delegating authority from the central level to regional and local levels. Subsequently the National Board of health consisting of members from various related ministries, academicians, private businesses, and other non governmental organizations should be appointed with the Permanent Secretary for Public Health as a -

Findings	Proposed
	secretariat to set up nation-wide health policy and plans.
11. International health activities of Thailand in 2020 will be expanded to influence many countries in Southeast Asia and other regions through the International Health Bureau. International health roles will be used as tools for creating political and economic image to promote drug production technology, medical services, and training center among international communities	11. The MoPH should take initiative steps in upgrading the Division of International Health to become a center of excellence for medical and health technologies, supplies, and personnel in Southeast Asia. A long-term plan should be developed for reorganizing and developing the Division of International Health. A strong network of multi-ministries, national experts, and international organizations should be formulated to help draw the detailed plan and decision making strategies for national and international involvement.
12. The MoPH will delegate authorities and responsibilities to provincial and local levels through Regional Health Offices to carry out health programs in each region.	12. To achieve the goal of downsizing the MoPH at the central level, Regional Health Offices should be established to monitor and evaluate health programs implementation within the region as well as coordinate with other regional health offices. The staff of each regional health office should come from different departmental representatives. The Regional Health Offices will function like a miniature

Findings	Proposed
	MoPH but has smaller geographical areas of responsibilities. The MoPH should act as a coordinator and mentor for Regional Health Offices without health service provision responsibility.
13. Provincial level will coordinate central and local levels. Provincial health officers will act as consultants for district health officers and Tambon Administrative Organizations. Provincial and district health officers will function mainly in health promotion and disease prevention.	13. The delegation of authority to local level has long been a priority for health management without success due party to a parallel administrative structure of the MoPH and the MoI. However, the lack of facilitating laws and regulations for local health personnel management, additional specific laws and regulations should be made available for local health organizations in authorizing for hiring, promoting, and firing of their personnel.
14. Regional, General, and some Community hospitals will be independent ans have autonomy in decision making towards services, finance, and personnel while depending on partial funds from the MoPH.	14. The MoPH should conduct research studies and/or provide research funds for identifying appropriate models of autonomous hospitals and service quality assurance mechanisms. The Institute for Health System Research should be participated in conducting or coordinating research projects with various academic institutions.

Findings	Proposed

C. Health Administrative Structures in 2020

15. A number of national committees on drug policy and consumer protection in health will be formulated to assist the Food and Drug Administration Office for increasing their activities in rural areas.

15. The MoPH should reorganize the FDA office and reallocate resources accordingly. established through formal and networking with local authorities should be informal appointments. Related laws and regulations should be revised to facilitate for effective inspection and enforcement.

16. The Government Pharmaceutical Organization and Praboromrajchanok Institute will be privatized. The Praboromrajchanok Institute will reduce its size and scope of work. Various colleges will be independent and privatized or under local jurisdiction.

16. Nursing and Public Health Colleges of the Praboromrajanok Institute should be carefully studies for possible drawbacks before changing their status to autonomous colleges because the MoPH will reduce its roles in health personnel production. Therefore, merging with other educational institutions should be an alternative for solving this problem.

17. Provincial Health Offices will be smaller in size and scope of work. More responsibilities will be delegated to district health offices and local administrative bodies.

17. Different models on roles and functions of local administrative organizations are required to be tested for future responsibilities. Health personnel at the local level including municipalities, Tambon Administrative Organizations must be developed for

Findings	Proposed
Regional, General, and some Community hospitals will become autonomous and independent organizations partially financed by the MoPH and run by all involved stakeholders through networking.	health promotion and prevention skills. Technical and financial supports are urgently needed along with knowledge and competence development for administrators.
Class 1 and 2 of Tambon Administrative Organizations (TAOs) will completely take over health centers from the MoPH while Class 3-5 of TAOs will provide some funds and equipment to health centers that still remain with the MoPH.	Furthermore, evaluative researches on local health administrative models should be priority to the most efficiency health administrative model. The MoPH should coordinate with the Health Systems Research Institute and universities for conducting researches to test the models if health centers are run by the TAOs. During the transit period, some Universities and higher educational institutions should be requested to train all involved personnel to work under this innovation. A special task force consisting of members from Ministries of Interior, Public health, and University Affairs should be appointed to carry out the feasibility study.

Findings	Proposed

D. Managerial Resources`

18. The Provincial Chief Health Officers (PCHO) position will be changed to Provincial Chief Health Officer (PCHO) to facilitate for appointing professional managers with optimal health knowledge and managerial skills, not necessarily be physicians.

Not only PCHOs but also other level health administrators including District Health Officers and Hospital Directors are required to pass specific training courses for their levels before accepting official appointments. Selection committees appointed from the MoPH will also do the recruitment of health administrators in each level.

18. Since this position will not be limited only for physician but open to everyone who is qualified and equipped with technical, human, and managerial skills, the MoPH should work closely with the Office of Civil Service Committee to establish general and specific requirements for the PCHO. In addition, standard recruitment procedures should be designed along with career development plans. All PCHOs should be required to pass the specific PCHO training course before accepting official appointments. Therefore, specific training curricular should be developed to prepare Provincial Chief Medical Officer, District Health Officer and Hospital Director for their leaderships and managerial skills. This would help increase their efficiency in managing health activities in rural and urban areas. Academicians and experts from various organizations should be recruited to design appropriate curricula with the specific focus on practical experiences. However, existing training curricula for high and medium level executives

Findings	Proposed
	can be modified and developed for future training.
19. Local health administrators will be health technical officers with managerial skills. They will have wide range of knowledge in public health, computer applications, and planning. A selection committee consisting of members from community, the MoPH, and other involved parties will do their appointments.	19. The MoPH, Office of Civil Service Committee, Ministry of University Affairs, Ministry of Interior, and other related organizations should jointly develop and implement the specific curriculum for local health administrators Each training curriculum should also consist of two parts including theoretical and practical components. Selection committees consisting of members who have demonstrated superb administrative performance in related fields should be appointed.
20. General and public health laws and regulations related to health management in 2020 will be simple, flexible, easy to understand, and for benefits of health consumers. Specific laws will be available for protective actions toward changes. Regulations issued at Public health laws will be more efficient and efficacious in controlling social well being and health behaviors with severe punishment actions.	20. All public health laws and regulations should be reviewed and revised by knowledgeable groups of law maker, related health personnel, and stakeholders to meet the present situations and future demands. Politicians, academicians, and general public should be encouraged to participate in law making process. Public hearing should be enforced for enacting and approving the laws.

Findings	Proposed
21. Information for health management by the year 2020 will be absolute disclosure, more reliable, updated, modern, world class standards and locally consistent. The health information system in the MoPH will be computerized linking different levels together throughout the country. The MoPH will be a center for health information responsible for data collection and analysis.	21. The MoPH should establish a National Health Information Center to collect, analyze, and disseminate health and health related data and information to support nationwide policy setting and planning. Computerized linkage should available using the same protocol for all level administrators throughout the nation. Various forms of data collection should be reviewed and revised, and tested for their reliability and its congruency. Networking with different sources of data such as the National Statistical Bureau and National and Social Development Board should be established to share and exchange related information.
22. The health policy will be divided by regions and become parts of an important political policy of the country. Every level will have specific health policy and plans consistent with the national health policy. National health policy and plans will be formulated from real data-base system by the National Board of Health in response to national health problems and community needs. The main	22. The MoPH should analyze the overall situations of national health system to identify the strengths and weaknesses as well as opportunities and threats from various groups of stakeholders. Real data base information on epidemiological aspects, health statistics, environmental health, social and economic status and management should be made available to public from the conception period of

Findings	Proposed

policy will be emphasized on special care for the poor to insure for better service quality. The health insurance policy will be available to cover everyone.

planning process. National health plans should consist of both short and long term plans that are consistent with the National Economic and Social Development Plan. Public hearing should again be an approach of choice among other techniques used for civil societal participation.

23. Health manpower and financial plans will focus real needs and problem-base distribution and allocation with more flexibility. There will be two types of financial plans including regular local budget plans and centrally subsidized budget plans for an emergency. Health budget plans will also consist of two types including the MoPH budget plans and national health budget plans.

23. The MoPH should work closely with the Budget Bureau and Office of Civil Service Committee to review and revise rules and regulations that are found to be red tapes for effective actions. Needs assessment survey should be performed to provide base line information for the designing of appropriate plans for manpower development and budget utilization. Provincial and district health officers should be authorized to make decisions regarding manpower and financial actions.

Findings	Proposed

E. Managerial Process

24. Monitoring and evaluation of health programs and organizations will be done mainly by built-in auditing procedures and social accountability.

24. The MoPH should have an effective internal assessment protocol for service quality assurance. Recognized professional evaluators and concerned stakeholders should be invited to participate in the evaluation process. Every staff should be made aware and encouraged to regularly perform self-assessment based on established procedures. Profit and non-profit third party should also be used to evaluate the effectiveness and efficiency of the programs as well as the performance of administrators and health organizations.

Recommendation for Further Study

1. This study was the first macro futures study that attempted to identify some important elements in general health management issues. Some details might be over looked. A number of important issues must be separately studied in depth especially the structure of the Ministry of Public Health and the all local administrative bodies. Classifications, qualifications and sources of administrator should also be separately investigated.

2. Statistics criteria for considered the results by using interquartile range not more than 1.50 must be reviewed because of some controversial results. For example, the twenty five percent of informants rating the highest chance to occur will exclude because their answers did not fall within a central area.

3. Some controversial trends that informants group had different opinion for desirable or undesirable trends (not more than 20 percent differences) may be repeated to reconfirm the findings by using various groups of informants. One of the critical trends that relates to roles and functions of health personnel is "Physicians do not get involved in health promotion, environmental sanitation activities or providing advice but leave on other health personnel". Therefore, it is necessary that this trend be studied to establish appropriate duties for physicians and other health personnel.

4. Comparative futures studies on health or other fields are needed to confirm the pattern of answers among Thai informants concerning undesirable trends (negative consequences). Most of the negative trends were excluded in this study because informants rated low for a chance to occur in the future. It was also found that extreme good and extreme bad trends were also excluded. Therefore, it would be necessary to find out why Thai informants are so reluctance to express their opinion towards negative issues.

5. For more information about reason for desirable and undesirable direction trends, it should be defined in the instruction of the Delphi questionnaire for giving the reason in the controversial direction trends.

Outcomes and Benefits of This Study

1. The present strengths, weaknesses, opportunities, and threats as well as related major trends on Thailand health management were identified.

2. Health administrators of various levels and related authorities had opportunities to share their ideas and experiences on present situations and future desirable and undesirable scenarios.

3. The dissemination of Thailand health management scenarios would create awareness among policy makers and planners for positive and negative actions.

4. The Ethnographic Delphi Futures Research (EDFR) technique was introduced in the field of health futures study.

BIBLIOGRAPHY

Bangkok Metropolitan, Bureau of Health. (1996). Bureau of Health, Bangkok Metropolitan. (Copy).

Bangkok Metropolitan, Bureau of Medical Service. (1996).   Bureau of Medical Service, Bangkok Metropolitan. (copy).

Barton, Phoebe Linsey. (1999).   Understanding the U.S. Health Services System. Washington D.C.: AUPHA Press.

Bezold, C . (1994). Health care : thinking ahead. World Health Forum. Volome 15 , 189-192.

Bezold , C. (1995). The Futures of Health Futures. Futures. Vol. 27(No. 9/10), 921 - 925.

Bezold, C. (1995).   The Futures of Therapeutics in the North. FUTURES. Vol. 27 (No. 9/10), 993 -1003.

Bezold, C., Hancock, T. (1997).   Health Promotion Futures. World Health 2020: Global scenarios for Health Promotion.   Conference Working Paper, New Players for a New Era: Leading Health Promotion into 21st Century Fourth International Conference on Health Promotion. Jakata, Indonesia, 21-25 July 1997, WHO,Geneva.

Blackman , R. Colin. (1995). Our health, our future. FUTURES. Vol. 27(No. 9/10), 919 - 920 .

Blum, Henrik L. (1974).   Planning for Health : Development and Application of Social Change Theory. New York : Human Sciences Press.

Bornavawattana, P. (1995). Comparative Government Reform : Unite Kingdom, United States of America, Japan, and Thailand. Bangkok : Chulalongkorn University Press.

Chantarasorn, W., Yawapapas, S., Swangsak, C., Chotiyan, S., & Nuanboonrueng, W. (1998). Master Plan of Public System Reform (B.E. 2540 – B.E. 2546). Bangkok: Office of Public System Reform, Office of Civil Service Committee.

Chantarasorn, W. et al.(1991). Primary Health Care in Thai Provincial : An Administration study. Bangkok : The Paratana Printing.

Chantarasorn, W. (1989). Administration for MoPH Development. Bangkok : Pinkloa Printing Company Ltd.

Chareonmuang, T. (1996). 100 years of local Administration in Thailand 1857-1957 (No. 2) Political Science, Faculty of Social Science, Cheingmai University.

Chareonwongsukdi, K.(ed) (1996). Thailand in 2017 : Future of Thailand in the Next Two Decades. Bangkok : Success Media.

Chayabutara, C. (1996). Thai Local Governing. Bangkok: Administration Department.

Chooto, S., et al. (1991). Research Report on Government Administration Mechanism Improvement: Adjustment and Main Functions of Public Organization. Bangkok: Prapakan Foundation.

Chueratanapongse, J. (1993). Delphi Research Technique. In Complation of Educational Research. Vol.2 (pp. 175-179). N.p.

Chulalongkorn University, Technical Service Bureau. (1991). Thailand Science and Technology Scenarios in the next 5 year and 20 year for Science and Technology Long Term Master Plan Preparation. Bangkok: Chulalongkorn University Press.

Cleland, David I.., King, William R. (1983). Systems Analysis and Project Management. Third Edition. New York : McGraw-Hill, Inc.

David, Fred R. . (1995). Concepts of Strategic Management. Fifth Edition. New Jersey: Prentice Hall, Inc.

Dej-amorn, C. (1995). Municipal in Globalization. Tongthin. Vol.35(6), pp. 19-29.

Dejthai, T. (1996). Principles of Public Health Administration. Nakornpatum: Asean Institution of Public Heath Development.

Department of Local Administration, Tambon Administrative Division. (1995). Laws and Regulation of Tambon Council and Tambon Administrative Organization. Bangkok: Local administrative Press.

Department of Local Administration, Local Administrative Bureau, (1994). Laws and Regulation on Discipline and Competence of Officer. Bangkok: Local administrative Press.

Directing Committee for Health Development Plan. (1996). <u>Health Development</u>
<u>Plan: the 8th National Socio-economic Development Plans (1997-2001).</u>
Bangkok : Veteran Welfare Organization Press

Drucker, Petor F. (1994). <u>Managing For The Future.</u> London : Butterworth-
Heinemann Ltd.

Drucker, P. (a) (1995). <u>Management : Tasks , Responsibilities, Practices.</u> London :
Butterworth-Heinemann Ltd.

Drucker, P.(b) (1995). <u>The Practice of Management.</u> London : Butterworth-
Heinemann.

DuBrin, A. (1994). <u>Essentials of Management.</u> USA. : International Thomson
Publishing.

Ellencweig, Avi Yacar. (1992). <u>Analysing Health Systems : A Modular Approach.</u>
New York : Oxford University Press.

Fowles, J.(ed.). (1978). <u>Handbook of Futures Research.</u> London : Greenwood Press.

Fuengchan, S. Policy Analysis by System Dynamics Model. In <u>Policy Analysis</u>
<u>Technique.</u> Sirisumpun, T.,ed. Bangkok: Chulalongkorn University Press.
(pp.87-105).

Garrett, J. M. (a) (1996). Health Futures : An Introduction for SEARO's Health
Futures Core Group and National Health - Futures Task Forces in SEAR
Member States. Revised Version, May. (copy)

Garrett, J. M. (b) (1996). <u>Health Futures Handbook</u> (Revised Draft). Geneva :
World Health Organization.

Garrett , J. Martha. , Bezold, Clement. (Editors). (1995). Futures. <u>The Journal of</u>
<u>Forecasting, Planning and Policy.</u> Volume 27 (Number 9/10)
November/December.

Garrett , J. Martha. (1995). The Future of Health Futures : Another Perspective.
<u>FUTURES.</u> Vol. 27(No. 9/10), 927 -933.

Garrett, Martha. (1995). Information for Health Futures Research. Guide to
published and on-line resources. <u>FUTURES.</u> Vol. 27(No. 9/10), 1025 -1057.

Griffin, Ricky W. (1993). <u>Management.</u> Fourth Edition. International Student
Edition. Boston : Houghton Mifflin Company.

Hancock , Trevor. Garrett, Martha. (1995). Beyond Medicine: Health challenges and
     strategies in the 21st century. FUTURES. Vol. 27(No. 9/10), 935 -951.

Health Policy and Plan Bureau, Ministry of Public Health. MINISTRY OF
     PUBLIC HEALTH: Its administrative system and some salient background
     information.

Hellriegel, Don., Slocum, John W.(1996). Management. Seventh Edition. OHIO :
     South- Western College Publishing.

Institute of Health Systems Research. (1995).   Comparative Health Systems.
     Contemporary Health Issue. No 2/95. Thailand.

Institution of Futures Studies for Development. (n.d.). Institution of Futures Study for
     Development. Bangkok: n.p.

Jarusomboon, W. (1995).   Policy Making Process: A Case of Health Card and
     Voluntary Health Insurance. M.S. Thesis in Social Science(Medical Social
     Science and Public Health), Faculty of Graduate Studies, Mahidol University.

Jit-aree, T. (1994).   The Utilization of Delphi Technique for Higher Education
     Planning. Education Research News. Vol.17(6), (August-September), 3-8.

Johnson, E. Kathryn. (1995). The International Health Futures Network (IHFN).
     FUTURES. Vol. 27(No. 9/10), 1087 -1088.

Johnson, J.C. (1990). Selection Ethnographic Informants. California, USA: Sage
     Publications.

Keeratinuntana, T. (1985). Futures Research. Chulalongkorn Universitiy Research
     Journal. Vol. 10(Jan-June), 103-109.

Keeratinuntana, T. (1994). Economic on Human Resource: Health Development in
     Thailand. Bangkok: Chulalongkoen University Press.

Kerzner, Harold. (1995). Project Management: A Systems Approach to Planning,
     Scheduling, and Controlling. Fifth Edition. New York: Van Nostrand
     Reinhold.

Keyuranont, P. (1996). Home Health Care Models within the Next Decade for
     Hospitals under the Jurisdiction of the Rural Hospital Division, Minitry of
     Public Health (1996-2006). Doctoral dissertation in Public Health (Public
     Health Nursing), Faculty of Graduate Studies, Mahidol University.

Kleczkowski, M. Bogdan. , Roemer, I. Milton., Werff, Van Der Albert. (1984). National Health Systems and Their Reorientation Towards Health for All : Guidance for policy - making. GENEVA : World Health Organization.

Kreitner, Robert. (1995). Management. Sixth Edition. Boston : Houghton Miffin Company.

Linstone, Harold A. (1978). " The Delphi Technique : The Procedures of Futures Research. " Handbook of Futures Research. Fowles, Jib, Editor. London : Greenwood Press.

Longley, Marcus. , Riley, Christopher. , Warner, Morton.(1995). A Health Service Fit for 21st Century. The Welsh' Health and Social Care 2010' project. FUTURES. Vol. 27(No. 9/10), 967 - 978.

Maikaew, Somporn. (n.d.). Comparison of Futuristic Research Results of Ethnographic Futures Research and Delphi Techniques. M.Ed. Thesis in Research and Statistics in Education, Chiang Mai University.

Meksawan, A. (1996). Opinion on Decentralization to Local Level. Tongthin. Vol.35 (7), (pp.2-21).

McRae, Hamish. (1994). The World in 2020: Power, Culture and Prosperity: A Vision of the Future. Great Britain: HarperCollins Publishers.

Ministry of Defense, Committee for National Development Guidelines Consideration. (1998). Vision 2030: Thailand in the Next Three Decades According to Technical Soldiers View Point. Bangkok: n.p.

Ministry of Public Health, Faculty of Public Health Mahidol University, and WHO. (1992). Research Report on the Assessment of Health information Management Model. Bangkok : Samcharoenpanich (Bangkok) Ltd.

Ministry of Public Health, Division of Health Planning. (1992). Health Situations and Problems : Policy and Development Strategy in the 7th Health Development Plan (1992-1996). Bangkok : Thammasat Printer,

Ministry of Public Health, Health Planning Division. (1992). The Seventh Five - Year National Health Development Plan (1992 – 1996).

Ministry of Public Health, Bureau of Health Policy and Planning (1998). Ministry of Public Health and Health Development Plan in Thailand. Bangkok: Sam Charoen Panich.

Ministry of Public Health. Wibulpolprasert, S. (Ed.). (1999). <u>Public Health</u> <u>A.C.2540-2541</u>. Bangkok:

Moorhead, Gregory. and Griffin, Ricky W. (1995). <u>Organizational Behaviour :</u> <u>Managing People and Organizations.</u> Boston : Houghton Mifflin Company.

Naisbitt, John., and Aburdene, Patricia. (1990). <u>MEGATRENDS 2000 : Ten New</u> <u>Directions for the 1990's.</u> New York : William Morrow and company, Inc.

Naisbitt, John. (1995). <u>Megatrends Asia : the Eight Asian Megatrends That are</u> <u>Changing the World.</u> London : Nicholas Brealey Publishing.

National Committee on Epidemiology. (1992). <u>Ministry of Public Health Structure</u> <u>Reform.</u> Bangkok: Design Co.

Nicholson, Duncan. , Hadridge, Philip. , Royston, Geoff. (1995). Some practical hints for newcomers to health futures. <u>FUTURES.</u> Vol. 27(No. 9/10), 1059 - 1065.

Nitikripok, S. (1999). <u>Autonomous Public Organization: Concepts, Model, and</u> <u>Managerial Process.</u> Bangkok: Office of Public System Reform, Office of the Civil Service Committee.

Office of the Civil Service Committee. (1991). <u>Guidelines for Collaborative</u> <u>Management : Minister, Permanent Secretary, and Director General.</u> Bangkok : Tanscttakit Newspaper Press.

Office of Civil Service Committee, Division of Government Structure and Manpower Development. (1994). <u>Reengineering,</u> Technical Paper on Organization and Administration No.2.

Office of the Civil Service Committee, Technical Division. (1996). <u>Research Study</u> <u>Report on Roles of Office of the Civil Service Committee in the Next</u> <u>Decade,</u> Bangkok .

Office of the Civil Service Committee. (1996). <u>Research Report on Reinventing</u> <u>Government to Globalization (Number1),</u> Reinventing Government for Globalization Project, Bangkok : The Office of Civil Service Committee Press.

Office of the Civil Service Committee. (1996). <u>Research Report No.2 on</u> <u>Government Reform for Future.</u> "Reinventing Government for Globalization Project." Bangkok : Office of the Civil Service Committee.

Office of the Civil Service Committee., Office of the public System Reform. (1999). Autonomous Public Organization Act (B.E. 2542). Bangkok: Office of the Civil Service Committee.

Office of the Civil Service Committee. Piyaratana, P. (1989). Roles and Functions of Tambon Health Personnel. Project Research Report on Tambon Health Personnel Development, Nakornpathom : Research Institute for Social and Population, Mahidol University.

Office of the Government and Manpower Structure Development, Office of the Civil Service Committee. (1992). Manual for Identifying Authority of Government Organizations Specified in Royal Decree, Bangkok,

Office of the Permanent Secretary for Public Health, Bureau of Health Policy and Plans, National Institution of Developmental Administration, & Krerk University. (1996). Report Study on Status of Health Development Plan in the Past – Present and Direction of the Eighth National Economic and Social Development Plan (Public Health). N.P.

Office of the Permanent Secretary for Public Health, Bureau of Health Policy and Plan, First 2 years of Bureau of Health Policy and Plan. Bangkok : Veteran welfare Organization.,n.p.

Office of the Permanent Secretary for Public Health, Bureau of Health Policy and Plans, Important Contents Summary on Health Development Plan during the 8th National Socio-economic Development Plan (1997-2001). Bangkok: Veteran Welfare Organization, n.d.

Pakapaswiwatana, S. (1995). VISION THAILAND 2000. Edition 3. Bangkok: Matichon Press.

Pantasen, A. (1996). The Roles of Thai Government appropriate for National Development in the Future, Project Study Report on Reinventing Government for Globalization Bangkok : Research Institute Foundation for Development in Thailand.

Passig, David. (1997). Imen-Delphi : A Delphi Variant Procedure for Emergence. Human Organization. Vol. 56, No. 1(Spring), 53-63.

Pawabutara, P. (1994). "Look Ahead and Health Development." Health Magazine Vol.23 No.3 (May-June), 155-158.

Pilantananonta, N. (1983). Futurology. Bangkok: Odian Press.

Piyaratana, P. & King, S. (1995). Health System Reform for Health For All. Sukothaitummathiraj Journal. Vol.8 (3), pp. 5-17.

Pruchayaprueg, T. (1992). Development Administration : Definition, Centent, Guideline and Problem. 2nd ed. Bangkok : Chulalongkorn University Press.

Puentes-Marktdes, Cristina. (1995). What Future for Health Futures in Latin America and the Caribbian?. FUTURES. Vol. 27(No. 9/10), 1067 -1075.

Pulpatrachewin, Jumpol. (1976). "Futures Research". Journal of Research Methodology . Volome 1(No.1 Jan - April), 100 - 108.

Pulpatrachewin, Jumpol. (1987). "Future Research Technique : EDFR. " Journal of Social Science Research. Volume 3(No. 1 March), 34-57.

Pulpatrachewin, Jumpol.. (1994). "Future Research Technique : EDFR. " in Policy Analysis Technique, page 74-86. Thosaporn Sirisumpun, Editor. Bangkok : Chulalongorn University.

Punpuing, S., Tangchonlatip, K. (1998). Health Futures Program : Population and Social Aspects. Health Policy and Planning Journal (Thailand), 1(2), 4-12.

Ragpolamuang, C. (1994). Delphi Research Technique. In Policy Analysis Technique. (pp.59-73), Sirisumopan, T. (ed). Bangkok: Chulalongkorn University Press.

Research Institution Foundation for Thai Development. (1996). Thailand Economic, Social and Political Trends. Project Study Report on Reinventing Government for Globalization, Bangkok : Research Institution for Development in Thailand.

Research Institute Foundation for development in Thailand. (1996). Group Opinion Storming. Project Study Report on Reinventing Government for Globalization, Bangkok : Research Institute Foundation for Development in Thailand.

Research Institute Foundation for Development in Thailand. (1993). Government Reform Experience for National Development. Project Study Report on Reinventing Government for Globalization, Bangkok : Research Institute Foundation for Development in Thailand.

Robbins, Stephen P. and Coultar, Mary. (1996). Management. Fifth Edition. New Jersey : Prentice-Hall, Inc.

Robbins, Stephen P. , De Cenzo, David A. (1995). Fundamentals of Management : Essential Concepts and Applications. Third Edition. New Jersey : Prentice-Hall, Inc.

Roemer, I. Milton. (1991). National Health Systems of the World. Volume One : The Countries. New York : Oxford University Press.

Royal Gazette. (1992). Book 109 Section 45 April, 9. (pp. 1-5).

Royal Gazette. (1992). Book 110 Section 22 (special Issue) April, 9. (pp. 21-67).

Sapirie, A. Stephen. Orzeszyna, Stanislaw. (1995). WHO's health futures consultation. FUTURES. Vol. 27(No. 9/10), 1077 -1085.

Schreuder , R F. (1995). Health Scenarios and Policy Making: Lessons from the Netherlands. FUTURES. Vol. 27(No. 9/10), 953 - 958.

Siriwanarangsun, P., Gajeena, A., Kovindha, O., Sealim, S., and Ruangdej, K. (1998). Roles of Municipality in Health Development. Nontaburi: Bureau of Health Policy and Planning.

Sripadung, C. (1996). Research Report on Thai Government Officers in the Future. Bangkok: Office of the Civil Service Committee.

Sontiwongse, T. (1990). Strategic Management. Bangkok: Thaiwatanapanich.

Subcommittee on Internal Thai-economic support Project. (1996). Summary of Royal Highness Collaboration Seminar "Thailand Vision" Bangkok : Office the National Economic and Social Development Board.

Smuthawanich, C. (1989). Reform of Ministry, Bureau, Department. Bangkok: Master Press.

Smuthawanich, C. (1995). Democracy and Thai Political Future. Bangkok : Nam-Agsorn Printing.

45501

Supawongse, C. and Kardkarngrai, Y. (1996). Social Society and Health Development : Opinions on Thai Society. Reading Material of Technical Conference on Reform for Health : A New Strategy Towards System Development at Royal Orchid Sheraton Hotel, Bangkok, February 1-2, 1996.

Supornsilchai, C. & Sermsri, S. (1998). Transformation of Thai Culture for Social Health. Siminar Paper on Culture.. Thai People Health.. Life Style to Young Generation at Prijit Pawabudha, Department of Medicine, Nontaburi, September 7-8, 1998.

Susangaragarn, C. and Pantasen, A. (1996). Government Sector and National Development Future. Read : Materials for Seminar on Government Reform for Thailand in the Future, Ambassador Hotel, Chonburi ; 13-15 December.

Susangaragarn, C. (1996). Report on Thai Social and Economic Trends: Socio-economic Trend Data. Public Reform to Globalization Project. Bangkok: Office of the Civil Service Committee.

Suwandono, Agus. (1995). Health Trend Assessment in Indonesia. Futures studies at the provicial level. . FUTURES. Vol. 27(No. 9/10 , 1995) : 979 - 983.

Tanapornpandhu, R. (1996). Thai Socio-economic in Decade 2007: Development Strategy for Globalization. Reading Material on Annual Technical Conference in 1993, Research Institute for Thailand Development.

Temchawala, P. et. al. (1996). Research Report on Administrative Authority Delegation for Provincial and Local Levels. Bangkok : Consultative Institution on Efficiency Development for Public Organizations.

The Royal Thai Government, The Sub-Committee to Enhance Thailand's Role in the Global Economy. (1996). Thailand Vision 2020. Bangkok: n.p.

Valyasaewee, A., Jongudomsuk, P., Nitayarumphong, S., Porapakkham, Y., & Silarak, N. (1999). Health Care System Model Consistent to Thai Society in the Next Two Decades. Nontaburi: Health Care Reform Project.

Viesca, S. Angel. (1995). A Vision for Nicaragua. Health services in the new century. FUTURES. Vol. 27(No. 9/10), 985 -991.

Viboolpolprasert, S., Pengpaibool, P., Hemphisut, Thailand Health System in the Nest Two Decades. Mor.Pro.Por. (Umpublished Paper).

Watanabe , Yoshihisa. Tsubo, Takeshi. (1995) Forecasting Japanese Health Futures with the BFT : A demand-side approach. FUTURES. Vol. 27(No. 9/10), 959 - 966.

William, G. (1997). Marketing: Relationships, Quality, Value. New York: Worth Publishers, Inc.

Williamson, S., Stevens, R. E., Loudon, David L., and Migliore, R. (1997). Fundamentals of Strategic Planning for Healthcare Organizations. New York: The Haworth Press.

Wolper, Lawrence F. (1999). Health Care Administration. 3rd ed., Maryland: Aspen Publishers, Inc.

World Health Organization. (1996). New Challenges for Public Health. (Report of an International Meeting. (Geneva, 27-30 November 1995) Geneva : WHO Graphic.

World Health Organization. (1984). Health Planning And Management Glossary. SEARO Regional Health Papers No. 2. India : World Health Organization.

World Health Organization. (1993). Health Futures in Support of Health for All. Report of an International consultation Convened by the World Health Organization, Geneva, 19-23 July 1993. Geneva: WHO.

World Health Organization. (1992). On Being in Charge : A Guide To Management in Primary Health Care. Second Edition. Geneva : World Health Organization.

Wright, Peter. , Kroll, Mark J. , Parnall, John A. (1996). Strategic Management Concepts. Third Edition. New Jersey : Prentice Hall, Inc.
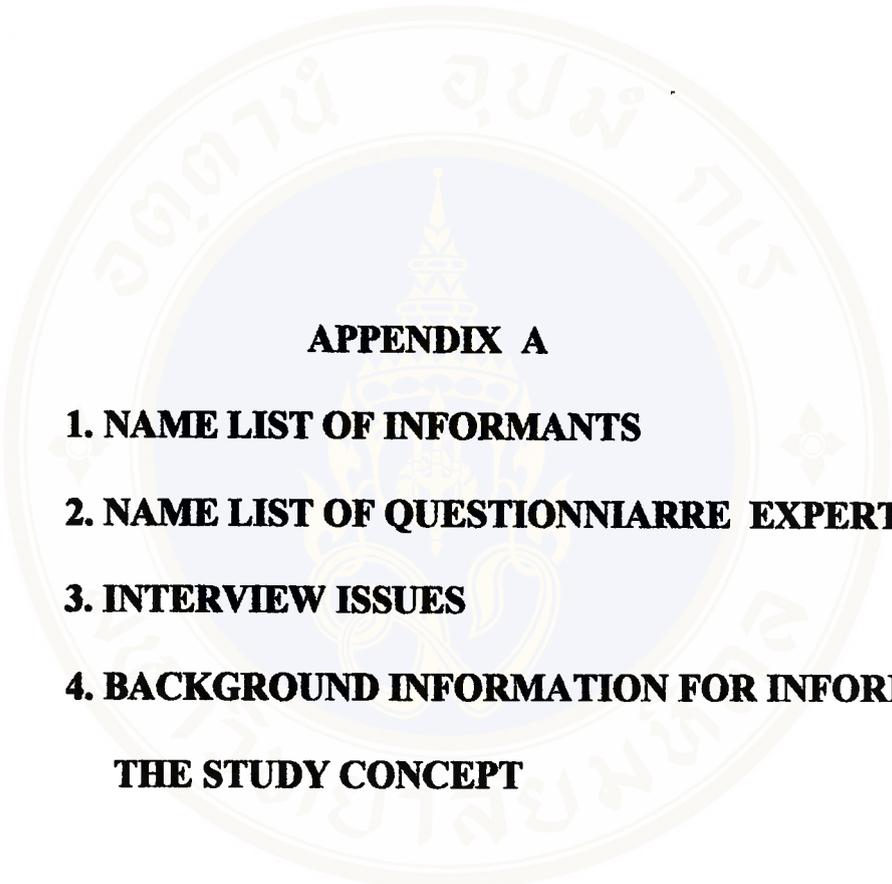
APPENDIX A

1. NAME LIST OF INFORMANTS

2. NAME LIST OF QUESTIONNIARRE EXPERTS

3. INTERVIEW ISSUES

4. BACKGROUND INFORMATION FOR INFORMANTS:

THE STUDY CONCEPT

Name List of Informants

Name	Position	Source
Ministry of Public Health		
Prakrom Vuthipongse M.D.	Permanent Secretary	Office of the Permanent Secretary for Public Health
Jumroon Meekanon M.D.**	Deputy Permanent Secretary	„ „
Narongsakdi Ungkasuwapala M.D.	Deputy Permanent Secretary	„ „
Winai Wiriyakijja M.D.**	Deputy Permanent Secretary	„ „
Prasert Krajangwongse M.D.	Head of Inspectors	„ „
Aroon Boonmarg **	Assistant Permanent Secretary (Management)	„ „
Supachai Kunaratanapreuk M.D.*	Assistant Permanent Secretary (Health Service) Secretary of	„ „
Suwit Wibulpolprasert M.D.	Assistant Permanent Secretary	„ „
Sanguan Nitayarumphong M.D.	Assistant Permanent Secretary, Director of Office of Health Care Reform	„ „
Dr.Porntep Siriwanarangsun M.D.	Director, Bureau of Health Policy and Plan	„ „
Ugrit Milintrangkura M.D.**	Deputy Director, Praborommarajanok Institute	„ „

Name		Position	Institution
Ministry of Public Health (cont.)			
Manoch	Wamanont**	Director, Office of Primary Health Care	Office of the Permanent Secretary for Public Health
Danuponse	Sakett *	Director, Personnel Division	,, ,,
Songyos	Chaichana M.D.**	Director, Medical Registration Division	,, ,,
Dr.Dumrong	Boonyeun M.D.	Director General	Department of Health
Dr.Pakdee	Pothisiri	Secretary	Food and Drug - Administration
Precha	Intho M.D.	Director General	Department of Mental Health
Somsakdi	Chunharas M.D.	Director	Health System Research Institute
Charnchai	Limprasertsiri M.D.	Provincial Chief Medical Officer	Nakhonpathom Provincial Public Health Office
Kowit	Engsiroratana M.D.	Provincial Chief Medical Officer	Udonthani Provincial Public Health Office
Manit	Teeratontiganont M.D.**	Provincial Chief Medical Officer	Khon Kaen Provincial Public Health Office
Piphat	Yingseree M.D.	Provincial Chief Medical Officer	Lampang Provincial Public Health Office
Supachai	Saisorn M.D.**	Provincial Chief Medical Officer	Chiang Rai Provincial Public Health Office
Aiy	Reunthon**	Chief District Health Officer	Sankamphaeng District Health Office, Chiang Mai
Somchai	Ngarmprajob**	Chief District Health Officer	Mae Taeng District Health Office, Chiang Mai
Sunthorn	Sittiyos**	Chief District Health Officer	Mae Sai District Health Office, Chiang Rai

Name		Position	Source

Ministry of Public Health (cont.)

Suwit	Paetayacheep**	Chief District Health Officer	Tha Muang District Health Office, Kanjanaburi
Teera	Tuphawanich**	Chief District Health Officer	Muang Samutprakan District Health Office, Samutprakan
Utis	Kem-anusook**	Chief District Health Officer	BangBan District Health Office, Phra Nakhon Si Ayutthaya
Kamol	Weerapradit M.D.**	Hospital Director	Hat Yai Hospital, Songkhal
Somchai	PinyopornpanichM.D.**	Hospital Director	Songkhal Hospital, Songkhal
Prasit	Kongkao-ropthamM.D.	Hospital Director	Tha Rua Hospital, Phra Nakhon Si Ayutthaya
Sompol	Namwongsa M.D.**	Hospital Director	Mae Taeng Hospital, Chiang Mai
Surat	Lek-Utai M.D.**	Hospital Director	DamnoenSaduak Hospital, Ratchaburi
Wisut	Chanasitti M.D.**	Hospital Director	Pong Namron Hospital, Chanthaburi
Witit	Untawejakoon M.D.	Hospital Director	Ban Phaeo Hospital, Samutsakhon
Methee	Chanjaruporn**	Director	Primary Health Care Office, Chonburi

Other Agencies

Piyamethi	Yodnane M.D.	Director	Medical Bureau, Bangkok Metropolitan
Suwanee	Ragtham M.D.	Director	Health Bureau, Bangkok Metropolitan

Name		Position	Source
Prachak	Jaicham*	Head	Environmental and Sanitation Division, HuaiKwang District Office, Bangkok Metropolitan
Wichit	Pewdum	Head	Environmental and Sanitation Division, PomParb District Office, Bangkok Metropolitan
Kreang	Suwanwongse	Governor	Hat Yai Municipality, Songkhal
Jira	Pongpaiboon	Governor	Hua Hin Municipality, Prajchuap KhiriKhan
Somchai	Khunpreum	Governor	SanSuk Municipality, Chonburi
Churamanee	Maneesawang	Chief Executive	Nhongpakrung Tambon Administrative Organization, Chiang Mai
Samphan	Jirundorn	Chief Executive	ThungWhang Tambon Administrative Organization, Songkhal
Sommitr	Senbsin**	Chief Executive	Cheung ThaLe Tambon Administrative Organization, Phuket
Somparn	Soonthronchai	Chief Executive	Photchai Tambon Administrative Organization, NongKhai
Sanong	Feungfoong	Chief Executive	Mae Mo Tambon Administrative - Organization, Lampang
Lt.-General Precha Mokkaves**		Director General	The Army Medical Department, Royal Thai Army
Boonphan	Kaewatana	Senator, Chief of the Public Health Senatorial Commission	Senate Council

Name		Position	Source
Pramaun	Rujanasare**	Director General	Administrative Department, Ministry of Interior
Punchai	Watanachai**	Director	Tambon Administrative Division, Administrative Department, Ministry of Interior
Suwatana	Tonprawati*	Director	Local Administrative Bureau, Administrative Department, Ministry of Interior
Wicharn	Padungwithi**	Director	Local Development Plan Sector, Administrative Department, Ministry of Interior
Sujint	Palakornkul**	Hospital Director	Hua Chiew Hospital
Boonyong	Vejmaneesri	Assist. Secretary	National Economic and Social Development Board
Narong	Sajjapanrojana		Budget Bureau
Somkeit	Chayasriwong	Deputy Secretary	Social Security Office
Teerayuth	Lorlerdratana	Deputy Secretary	Office of Civil Service Committee
Mechai	Viravaidya	President	Population and Community Development Association
Prof. Dr. Chai-Anant Samutawanich		Academician, Director Jury	Vajirawut College Constitution Court
Prof.Dr. Chitr SittiAmorn M.D.*		Dean	College of Public Health, Chulalongkorn University
Prof. Dr. Kaseam WatanachaiM.D.		Senator ,Rector	Hua Chew Chareamprakiet University.
Prof. Dr.Kreingsakdi Chareonwongsakdi**		Director Academician	Institute of Futures Study for Development

Name	Position	Source
Assoc.Prof.Dr.Somchai Sooksirisaereekul	Academician	Faculty of Economic, Thamasart University
Prof. Dr.Woradej Chantarasorn**	Academician	Faculty of Political Science, Institute of Graduate Development, Management Science

** Completed Two Round Delphi
* One Round Delphi

Name List of Questionnaire Experts

Associate Professor Dr. Wason   Silapasuwan

Department of Health Education
And Behavioral Science,
Faculty of Public Health,
Mahidol University

Assistant Professor Dr. Nirat   Imame

Department of Health Education
And Behavioral Science,
Faculty of Public Health,
Mahidol University

Lecturer Dr. Pusita   Intaraprasong

Department of Public Health
Administration,
Faculty of Public Health,
Mahidol University

Associate Professor Dr. Thonglaw   Dejthai

Department of Public Health
Administration,
Faculty of Public Health,
Mahidol University

Preliminary Document for Informants Group

Thailand Health Management in 2020 Futures Research

Interview Issues

An Open-ended and Semi-structured Questionnaire for the Interview

An outline of the interview was centered on the following framework.

1. How are the Strengths, Weaknesses, Opportunities, and Threats of the present Thailand Health Management.

2. How will the social, economical and political conditions of Thailand and the world be like by the year 2020?

3. How will such conditions affect the Thailand health management in terms of:

o Missions, roles and authorities of health management at different levels including national (central), region (provincial) and local

o The structure of health management that can facilitate for future health development in 2020

o Acquiring health management resources

o The qualifications and requirements of health administrator at different levels

o The administrative tools such as law and regulations including specific information characteristics.

o Specific characters of policy and plans for manpower, money, and activities as well as the most important issues

o Managerial Processes

o Methods of policy formulation and planning for manpower, money, and activities

o Decision making and coordination within and between

sectors

- Methods and mechanisms for monitoring and control of health program activities at all levels
- Methods of policy, plan, and project evaluation as well as the performance assessment

4. Roles, authorities, and functions of related organizations including

- the National Economic and Social Development Board (NESDB)
- Office of Civil Service Commission
- Budget Bureau
- Social Security Office
- Professional agencies
- Academic institutions
- Others.

Background Information for Informants

Futures Research on Thailand Health management in 2020

The Study Concept

The main purpose of the SWOT analysis is to identify strengths, weaknesses, opportunities, and threats of Thailand health management at national (central), regional (provincial), and local levels as related to both public and private sectors. The information gained from this analysis will be used for forecasting future scenarios of Thailand health management in 2020 based on the following areas.

1. Mission / Roles / Functions of health and health related agencies both in public and private sectors that are directly and indirectly involved in policy formulation and practice. Specific considerations are as follows.

   1.1 Division and importance of functions as well as that are consistence with / or controversial from major responsibilities.

   1.2 Roles and authorities of various organizations that are involved in health management at all levels of administration.

2. Health management structures at national (central), regional (provincial, district), and local (community) levels, which include:

   2.1 Administrative structure according to laws

   2.2 Administrative structure according to real practice (special arrangement)

The consideration is made on organizing that facilitates for major functions and structure as well as resources allocation.

3. Health management resources in terms of quality with special focus on sources and utilization.

3.1 Health administrators at all levels

3.2 Policy, plans, and strategies

3.3 Laws and regulations on health management with specific focus on establishments and models as well as the scope of general functions and authorities.

3.4 Organizations that are involved in health monitoring and control such as quality assurance and accreditation committees.

3.5 Information for health management

All level administrators are considered from basic qualifications and specific knowledge as well as budget and extra amount allocated for new projects. Additional resources also include foreign aid, sources, and administrative information in terms of validity and up-to-date as well as the reasons for requesting additional resources, and comparing resources allocation between primary and secondary sources.

The utilization of resources will be considered from specific plans and projects formulation, planning processes, plan coordination, budget plans, personnel plans as well as resources distribution and management efficiency of administrators at all levels.   Monitoring and evaluation procedures, resources development, and outcomes are also included for consideration.

4. Health Managerial Processes include:

4.1 Policy and plans formulation for health activities at all levels.

How policy and plans are formulated by central unit at the ministerial level or delegating authority to local or involved agencies (public, private, and community). They are separately working or joining together to plan for personnel, health services, health institutions, environment (physical and biological) and health needs of all levels. Are those plans consistent with each other? Are planners free to make decisions for resources allocation? Whether planning are done systematically with a specific line of control. They are centrally planned for a period of 3 and 5 years as a reference for provincial and local levels or delegating planning responsibility according to administrative levels. Is there any negotiation between health planners and top executives who are authorized to make decision on planning?

Besides, the ability of planning units to ensure for practice legal enforcement is also considered.

4.2 Decision-making and Coordination

How decision-makings are made or facilitated for completing major functions and how much is done at the local level? Different levels of coordination are also considered between various health organizations and with other related organizations.

4.3 Follow-up and Control of Health Management at Various Levels

Possible mechanisms for follow-up of health projects at all levels of administration, and authorities of the central level are examined along with available information used for follow-up to cover all aspects of work implementation. One-way

or two-way communication is practice and how is being done — top down or bottom up along with direct or indirect control.

4.4 Evaluation of Performance and Implementation according to Health Policy and Plans Development

Agencies or persons who are responsible for health activity evaluation at different levels are investigated along with evaluation methods and information utilized to improve work implementation, plan, and policy as well as timing for evaluation.

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APPENDIX B

1. **THE FIRST ROUND DELPHI QUESTIONNAIRE INSTRUCTION**

2. **THE SECOND ROUND DELPHI QUESTIONNAIRE INSTRUCTION**

3. **RESULTS OF THE THIRD ROUND EDFR**

4. **INFORMANTS INFORMATION SURVEY FORMS**

ID................

Future Research Questionnaire: Round 1

" Thailand Health Management in the Next two Decades (2020) "

Definitions of Words

Desirable scenarios mean positive or optimistic scenarios if they are really happen in the next two decades will be satisfied.

Undesirable scenarios mean negative or pessimistic scenarios if they are really happen in the next two decades will be dissatisfied.

Local Administrative Organizations mean local autonomous agencies including provincial, district, and Tumbon that are administrated by local representatives selected from those local areas.

Instruction

This questionnaire has 2 parts as follows.

Part 1 General Characteristics of respondents.

Part 2 Trends on Thailand health management in the next two decades (2020) They are divided into 6 sections as follows.

Section 1 (A) Social and environmental, economical, political, educational, demographically, and general health situations that affect Thailand health management

Section 2 (B) Mission/ Roles/ Functions of health administrative agencies in central, regional, and local levels as well as private sector in the next two decades (2020).

Section 3 (C) Administrative structures of central, regional, and local levels in the next two decades (2020).

Section 4 (D) Health administrative resources in the next two decades (2020) in terms of qualifications and sources of health administrators, laws and regulations related to health management, information for health management, and health policy and plans.

Section 5 (E) Health administrative process in the next two decades (2020) in terms of policy formulation, health project planning, decision making and coordination, monitoring and control, and evaluation.

Section 6 (F) Roles and functions of other related agencies that are involved with health management in the next two decades (2020).

Questionnaire on Trends of Thailand Health Management in the Next Two Decades (2020)

Part 1   General Information

Instruction: Please fill in space about yourself

1. Age.........year
2. Present Position:................ Organization:................ Years in Present Position: ....year
3. Former Post .... Organization:................ Year in Former Post:................year
4. Highest Educational level:................ Major................

Part 2   Trends of Thailand health management in the next two decades (2020)

Instruction

This part consists of statements on trends of Thailand health management in the next two decades (2020) that have been formulated from interviews. Please consider the statements and assess whether they will happen in 2020 by checking / on one of the 5 rating scale choices along with a desirable or undesirable future.

The criteria on 5 rating- scale choices are as follows.

1   means   lowest chance to occur

2   means   low chance to occur

3   means   medium chance to occur

4   means   high chance to occur

5   means   highest chance to occur

If you can not give any opinion on the chance to occur of statements, please check / in the column "Can not give opinion".

Under future scenarios, there are two columns including "Desirable" and "Undesirable" scenarios. Please check / in the column according to your assessment.

Sample:

Trends	Chance to occur					Can not Give opinion	Scenarios	
	Lowest 1	2	3	4	Highest 5		Desired	Undesired
1. Health service will be covered all Thai people.				/			/	

2

ID..............

(NAME)................

Futures Research Questionnaire: Round 2

" Trends on Thailand Health Management in the Next Two Decades (2020)"

Instructions:

This second round Delphi aims to let you know the opinion of informant panel from the first round Delphi as compared to your opinion. Please consider the statements again and compare your opinion with panelist answers before checking in appropriate column whether to **confirm** or **change** your opinion. There is an interquartile range calculated for each statement and shown by a "double arrow" sign ($\longleftrightarrow$) along with a median (M).

M is a median of opinions for each statement that has been calculated from a 5 rating- scale in the first round Delphi. The criteria of a median are shown as follows.

M (Median)	Meaning
4.50 and up	The statement is highest chance to occur
3.50 – 4.49	The statement is high chance to occur
2.50 – 3.49	The statement is medium chance to occur
1.50 – 2.49	The statement is low chance to occur
Lower than 1.50	The statement is lowest chance to occur

$\longleftrightarrow$ is an interquartile range of informant panel answers to each statement that falls between the third and first quartile range.

X (red-cross) is your answer in the first round Delphi.

A statement without a red-cross means that you did not answer that statement. However, you may give an opinion to such statements if you want to add in this round.

Only statements that are more likely and most likely to happen are included in this second round for consideration.

1

A number in "future scenarios" columns are the percentage of answers received in the first round Delphi.

To Answer To This Second Round Delphi

To answer to this second round Delphi, you are asked to consider answers from informant panel and your answer from the first round. Please confirm or change your answers for each statement by checking ✓ in appropriate columns, both on the change to happen and future scenarios by using the following criteria.

1. For the "change to happen" columns, please assess that each statement will be likely to happen for Thailand health management in the next two decades (2020) by using the criteria as follows.

1	means	lowest chance to occur
2	means	low chance to occur
3	means	medium chance to occur
4	means	high chance to occur
5	means	highest chance to occur

2. For the "future scenarios" columns, please assess that each statement will be desirable or undesirable for Thailand health management in the next two decades (2020) by checking the appropriate column.

If your answer in the first round and / or the new second round to each statement is different from the

majority of informants, and you want to reconfirm your answer, please give your reasons by writing then in the last column.

Sample 1

Trends	Chance to happen					Scenarios		Reason
	lowest				Highest	Desirable	undesirable	
	1	2	3	4	5	%	%	
1. Health Services focus on marketing mechanism			M x →			x34	50	

From sample 1 above, it means that the first round informant panel see that "health services focus on marketing mechanism" is medium chance to happen, the median is 3.50 and the 50 % of the answer of informants are between 3-4 scale. This also means that in in the next 20 years if health services really focus on marketing mechanism, 34 percent of informant view it as a desirable (optimistic) scenario, while another 50 percent of them see it as undesirable (pessimistic) scenario. However, the percentages from both columns do not add up to 100 percent due to some informants do not answer this question.

2

Definitions:

    <u>Desirable scenarios</u> mean positive or optimistic scenarios if they are really happen in the next two decades will be satisfied.

    <u>Undesirable scenarios</u> mean negative or pessimistic scenarios if they are really happen in the next two decades will be dissatisfied.

    <u>Local Administrative Organizations</u> mean local autonomous agencies including provincial, district, and Tambon that are administrated by local representatives selected from those local areas.

    If you want to reconfirm your answer to such a statement that the situation is high chance to occur (4) and desirable (optimistic), please check ✔ in appropriate columns along with reasoning as in the sample 2.

<u>Sample 2</u>

Trends	Chance to happen					Scenarios		Reason
	Lowest				Highest	Desirable %	undesirable %	
	1	2	3	4	5			
1. Health Services focus on marketing mechanism				Mx→		x34✔	50	Public service will be improved to compete with private sector

    From Sample 2, it mean that you want to reconfirm your answer that it is a desirable (optimistic) scenario, which is different from the majority. So a reason is given to reconfirm your stand.

3

Result of Third Round EDFR on: Trends of Thailand Health Management in the Next Two Decades

Thailand Health Management in the Next Two Decades	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
A. Society and Environment, Economic, Political, Education, Population, and General Public Health Issues Affecting Thailand Health Management in the next two Decades						
1. Society and Environment						
1.1 Increasing numbers of factories and labor forces	3.50	4	1.00	39	57	-18*
1.2 Poverty still remains in Thai society	4.00	4	1.00	14	86	-72
1.3 Increasing industries, especially agricultural industries	4.00	4	1.00	96	4	92
1.4 More rural people commute to work in cities and return home in evening	4.00	4	1.00	61	39	22
1.5 Women and teenager prostitutes are increasing	3.50	4	1.00	4	96	-92
1.6 Migration of poor villagers to work in the city will be increasing	4.00	4	1.00	7	93	-86
1.7 Very high competitive society creates difficulties for villagers to get jobs	4.00	4	0.00	11	89	-78
1.8 Illegal labor forces from neighboring countries are increasing which will put on burden	4.00	4	1.00	7	93	-86
1.9 Legal and illegal aliens are increasing due to an easy entry	4.00	4	0.75	7	89	-82
1.10 Rural people engage more in services and industries than agriculture	3.50	4	1.00	7	89	-82
1.12 Increasing dwellers in big cities brings about congestion	4.00	4	0.75	11	89	-78
1.13 Transportation is fast and more convenient	4.00	4	1.00	93	7	86
1.14 Housing is more permanent and stable	4.00	4	1.00	86	14	72
1.15 Poor and underprivileged groups still remain	4.00	4	1.00	11	89	-78

Thailand Health Management in the Next Two Decades	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Society and Environment (cont.)						
1.16 Wider gap between urban and rural situations	4.00	4	1.00	11	89	-78
1.17 Bangkok Metropolitan puts more emphasis on town-plan	4.00	4	1.00	93	7	86
1.18 Rural communities still remain in remote areas	4.00	4	1.00	50	46	4*
1.20 High buildings are increasing in capital and big cities	4.00	4	1.00	11	89	-78
1.21 Each Tambon has facilities for aging, child care, educational, and health that belong to Tumbon Administrative Office	4.00	4	1.00	100	0	100
1.22 Increase woman liberation on the right to make abortion decision	4.00	4	1.00	39	61	-22
1.23 People are ready for changes and better adaptable to development	4.00	4	1.00	93	4	89
1.24 Thai society becomes less friendly and involvement	4.00	4	1.00	4	96	-92
1.25 Getting harder to interfere with people's right	4.00	4	1.00	100	0	100
1.26 People are more aggressive and individualism	4.00	4	1.00	4	96	-92
1.28 Increase social conflicts and violent protests	4.00	4	1.00	4	96	-92
1.29 Urban societies become more consumptive and luxurious	4.00	4	0.00	4	96	-92
1.30 Thai culture will be influenced by cultural styles through media	4.00	4	1.00	36	61	-25
1.31 Children leave home earlier to be independent	4.00	4	1.00	14	82	-68
1.32 Smaller family size and moving towards nuclear family	4.00	4	1.00	32	64	-32
1.33 Increasing distances between parents and children due to job requirements	4.00	4	1.00	0	100	-100
1.34 Increasing number of orphans due to parents death from AIDS	4.00	4	1.00	0	100	-100
1.35 Increasing old age problem due to the death of kids from AIDS and accidents	4.00	4	1.00	0	100	-100

Thailand Health Management in the Next Two Decades	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Society and Environment (cont.)						
1.36 Working group population have to take care elderly and child whose - parents died of AIDS	4.00	4	1.00	0	100	-100
1.37 Increasing home for aged due to lacking of care givers	4.00	4	1.00	0	100	-100
1.38 Drug addiction problem is the most important for the country	4.00	4	0.75	0	100	-100
1.39 State welfare compensation is increasing and completed	4.00	4	1.00	100	0	100
1.40 The government enforces the social security act as compulsory for general population	4.00	4	0.75	89	7	82
1.41 Management becomes more complex with many dimensions	4.00	4	0.00	14	82	-68
1.42 Underprivileges, illiterates, and dependents are increasing	4.00	4	1.00	0	96	-96
1.43 Thai society becomes internationalized with ability to adapt	4.00	4	1.00	96	0	96
1.44 Public services and physical conditions are well established so that people are more aware of health and education	4.00	4	0.00	96	4	92
1.45 Industries play more roles in health care by having health service units available	4.00	4	1.00	96	4	92
1.46 Communities understand and take care of the environment, govern and provide services locally	4.00	4	1.00	96	4	92
1.47 Utilization of high technology	4.00	4	1.00	93	7	86
1.48 Individuals become more independent and use information network to maintain their relationships	4.00	4	0.00	96	4	92
1.49 Thai people are able to equally receive information and communicate with outside world	4.00	4	1.00	96	4	92

Thailand Health Management in the Next Two Decades	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Society and Environment (cont.)						
1.50 Thai society becomes an information technology society that the quality of life depends on it	4.00	4	0.75	100	0	100
1.51 Pollution is the major problems in urban areas	4.00	4	0.00	0	96	-96
1.52 Water pollution and waste problems are more pronounced	4.00	4	0.75	0	100	-100
1.53 New agricultural practice uses more chemicals	4.00	4	1.00	4	93	-89
1.54 Policy on industrial safety management brings about better environmental situations	4.00	4	1.00	96	4	92
1.55 People and national authorities are more aware of environmental situations	4.00	4	1.00	96	4	92
1.56 People are eager to cooperate for better environment conditions	4.00	4	1.00	96	4	92
1.57 Life styles of people create difficulties for managing environment	3.50	3	1.00	14	82	-68
1.58 Garbage and waste disposal become a major environment problem	4.00	5	1.00	11	86	-75
1.59 Natural resources depletion, especially water and forest, brings about – natural disaster and resource competing problems	4.00	4	0.75	0	100	-100
1.60 No real concern on re-forestation	3.50	4	1.00	4	96	-92
1.61 People will act against environment destruction	4.00	4	1.00	100	0	-100
1.62 High amount of expenses paid on pollution control	4.00	4	1.00	7	93	-86
1.63 Pollution control and environment maintenance are for profit making	4.00	4	1.00	0	100	-100
1.64 Designated areas for specific purpose include dwelling, forest, industry will be more regulated	4.00	4	1.00	100	0	100
1.65 Specific law enforcement available to enforce payment for pollution - contributors to community	4.00	4	1.00	100	0	100

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Economical Status						
2.1 Thai economy is capitalism	4.00	4	1.00	43	57	-14*
2.2 Thailand has a free market system	4.00	4	1.00	82	18	64
2.3 Industries and services are booming	4.00	4	0.75	100	0	100
2.4 Thailand economy is bound with foreign countries	4.00	4	1.00	18	79	-61
2.5 Internal trading and investment on technological rights and trading services are relied upon foreign countries	4.00	4	1.00	21	75	-54
2.6 Export and import physicians, nurses, medical equipment, traditional practice, herbs, and dental care are increasing	4.00	4	1.00	89	11	78
2.7 Thai businesses are under control of foreigners	4.00	4	1.00	0	96	-96
2.8 Production of goods and services matches with world demands	3.50	3	1.00	96	4	92
2.9 All goods are value added from human brain rather than physical exertion	4.00	4	0.00	89	7	82
2.10 Knowledge, qualification and high performance are far more important capital as compared to physical strengths	4.00	4	1.00	96	0	96
2.11 High economic competition	4.00	4	1.00	54	46	-8*
2.12 Trading relies mainly on international negotiation	4.00	4	1.00	77	21	56
2.13 Agricultural products supplied to both industries and services are foundation for Thai economy	4.00	4	0.00	96	0	96
2.14 Expenses on treatment and rehabilitation for elderly are increasing	4.00	4	1.00	36	64	-28
2.15 Sales and advertisement of luxurious health care products are more advanced	4.00	4	0.00	7	89	-82
2.16 Increasing health care industries, especially child care and aging service – institutions	4.00	4	1.00	82	18	64

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Economical Status (cont.)						
2.17 Over consumption on luxurious health care such as plastic surgery and weight reduction	4.00	4	0.75	11	86	-75
2.18 The basis for Thai economy changes from agriculture to industry and services	4.00	4	1.00	43	50	-7*
2.19 Thai agricultural system is a self sufficient one with some processing for value added	4.00	4	1.00	93	7	86
2.20 The government has clear policy for supporting and exporting medical – technology and services of private sector	4.00	4	1.00	96	0	96
2.21 Living condition and income of Thai people are increasing	3.50	3	1.00	93	4	89
2.22 Income distribution is still a problem	4.00	4	1.00	96	4	92
2.23 People have better knowledge on economic and its importance	4.00	4	1.00	96	4	92
2.24 Better distribution of country budget	4.00	4	1.00	100	0	100
2.25 Central level budget are decreased	4.00	4	1.00	82	11	71
2.26 Less budget on national defense but more for medical care compensation	4.00	4	1.00	93	4	89
2.27 Everyone focuses on making more money no matter right or wrong	4.00	4	1.00	4	96	-92
2.28 More money spent on communication due to high technology applications	4.00	4	0.00	39	57	-18*

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Political and Governing Issues						
3.1 Better politics due to knowledgeable and highly qualified politicians	4.00	4	1.00	100	0	100
3.2 Ministers have better knowledge, high quality and broader viewpoints on – administration	4.00	4	1.00	96	4	92
3.3 Politicians are good due to performance measures from new constitution	4.00	4	0.00	96	4	92
3.4 The government sees the necessity and focuses on education and health	4.00	4	1.00	100	0	100
3.5 People are interested and participated in politics and national governing	4.00	4	0.00	100	0	100
3.6 People are gate keepers for political actions and politicians	4.00	4	1.00	96	0	96
3.7 Politicians have direct experts in health so that problems can be technically – solved	4.00	4	1.00	100	0	100
3.8 Women request for the right to be appointed in executive position	4.00	4	0.75	89	7	82
3.9 Politicians unscrupulously complete each others for governing power	4.00	4	1.00	0	96	-96
3.10 Efficient and clear delegation of authority	4.00	4	1.00	96	4	92
3.11 Villages are bigger and become self-managed unit	4.00	4	1.00	89	4	85
3.12 Only three local administrative models are available including Tambon - Administrative Organization, Municipality, and special city or Metropolitan Administration	4.00	4	1.00	89	4	85
3.13 People are more interested and understood in human rights	4.00	4	1.00	100	0	100
3.14 People are less consideration for government agencies and officials	4.00	4	1.00	71	25	46
3.15 Community and local administrative bodies will demand for resource – distribution data to handle their own problems	4.00	4	0.75	96	0	96
3.16 Regional administration still remains but reduces in functions with different – patterns	4.00	4	1.00	89	7	82

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Political and Governing Issues (cont.)						
3.17 Province is the link between central and local bodies	4.00	4	1.00	89	4	85
3.18 Local bodies collect all taxes and give some parts of it to the government	4.00	4	1.00	82	11	71
3.19 Local administrative bodies become strong and highly developed	4.00	4	1.00	93	4	89
3.20 Regional bodies are central representatives who check local bodies for enacting appropriate laws and regulations	4.00	4	1.25	71	14	57
3.21 Local bodies can collect all taxes and keep for own local operation budget	4.00	4	1.00	89	4	85
3.22 Central level provides budget for local level (provincial level and lower) - operation	4.00	4	1.00	75	14	61
3.23 Community has more autonomy to handle problems	4.00	4	1.00	96	0	96
3.24 Local administration gains more interests from politicians	4.00	4	1.00	96	0	96
3.25 Tambon administrative bodies have more income to manage their own health care activities	4.00	4	1.00	96	0	96
3.26 Some local administrative bodies are strong to become municipality	4.00	4	1.25	86	0	86
3.27 Provincial and district offices are smaller with limited staff to give suggestions and coordinate between central level and local level	4.00	4	1.00	89	4	85
3.28 Rural areas have people governing bodies that are strong with sufficient - knowledge and income to operate programs in response to people's need	4.00	4	1.00	93	0	93
3.29 Administrative authorities are delegated from provincial level to local level	4.00	4	1.00	89	4	85

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4. Educational Issues						
4.1 Every Thai people is literate	4.00	4	1.00	96	0	96
4.2 More intelligent and thinkable	4.00	4	1.00	96	0	96
4.3 More knowledgeable and better educated	4.00	4	1.00	96	0	96
4.4 Equally access to educational opportunities	4.00	4	1.00	93	0	93
4.5 Distance learning becomes more important	4.00	4	1.00	93	0	93
4.6 Education focus more on ethics, culture and customs as well as information - technology	4.00	4	1.00	86	7	79
4.7 Communities express more demands on education	4.00	4	1.00	93	4	89
4.8 Teaching of management through satellite	4.00	4	1.00	93	4	89
4.9 Focus on human resource development with equity	4.00	4	1.00	96	0	96
4.10 Focus on skills to receive and use data with ability to choose	4.00	4	1.00	96	0	96
4.11 Local administrative management is included in an elementary level curriculum	4.00	4	1.00	93	0	93
4.12 Increasing self-learning outside institutions through electronic means	4.00	4	0.00	96	0	96
4.13 Teachers have better knowledge on health	4.00	4	0.25	89	0	89
4.14 People receive more knowledge on health	4.00	4	0.25	96	0	96
4.15 Schools have included in their curriculum more contents on health	4.00	4	1.00	96	0	96
4.16 People have more knowledge and awareness on health and correct practice	4.00	4	1.00	89	0	89
4.17 People are more educated and able to live with better quality of life	4.00	4	1.00	93	0	93
4.18 Better consumer protection	4.00	4	1.00	93	0	93
4.19 People receive information faster with better coverage	4.00	4	1.25	89	0	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction &
				Desired	Undesired	Difference
4. Educational Issues (cont.)						
4.20 Very well dissemination of information through better communication	4.00	4	0.25	93	0	93
4.21 The development of net work system brings about efficient administration	4.00	4	1.00	93	0	93
4.22 Basic health services and self care are provided by public and private sectors through information technology	4.00	4	1.00	93	0	93
5. Demographic Issues						
5.1 Fewer number of children in family due to small family size	4.00	4	1.00	93	0	93
5.2 Thai people will live longer (longevity)	4.00	4	1.00	93	0	93
5.3 Changing in demographic structure, less children but more elderly	4.00	4	1.00	69	29	39
5.4 With 1.2 – 2.0 percent of increase rate, population will reach 80 millions in 2020	4.00	4	1.00	21	71	-50
5.5 Increasing number of elderly will change demographic structure as compared to other age groups	4.00	4	0.00	57	38	19*

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
6. Thailand General Health Issues						
6.1 Medicine for AIDS treatment are available	4.00	4	1.00	96	0	96
6.2 AIDS remains a problem	4.00	4	1.00	4	93	-89
6.3 Health problems increase	4.00	4	1.00	0	96	-96
6.4 Disease from chemicals increase	4.00	4	1.00	0	96	-96
6.5 Epidemic diseases from migration workers increase	4.00	4	1.00	0	96	-96
6.6 Sicknesses from environmental factors increase	4.00	4	1.00	0	96	-96
6.7 Health status improves	4.00	4	1.00	96	0	96
6.8 More non communicable diseases than communicable diseases	4.00	4	1.00	57	36	21
6.9 Work related diseases increase, especially from industries	4.00	4	0.75	0	96	-96
6.10 Minor sicknesses and accidents from agricultural equipment are common	4.00	3	1.00	7	89	-82
6.11 Most important Non Communicable Diseases are Coronary Heart Disease and Cancer	4.00	4	1.00	4	93	-89
6.12 Diseases from socio-economic stress and mental health increase	4.00	4	1.00	4	93	-89
6.13 Less simple diseases but more complicated or non-treated new diseases	4.00	4	1.00	11	86	-75
6.14 Environmental sanitation problems increase	4.00	4	1.00	0	96	-96
6.15 Burden problems are child and elderly care	4.00	4	1.00	7	89	-82
6.16 Ethical issue related to human cloning will be increasing	4.00	4	1.00	0	96	-96
6.17 Health services focus on teaching about diseases and behaviors rather than treatment	4.00	4	0.75	93	4	89
6.18 People demand and claim for their rights to receive health care services	4.00	4	0.00	93	4	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
6. Thailand General Health Issues (cont.)						
6.19 People demand more for availability of urban health services, such as filling - cavities, deformity and abnormal corrections, in rural areas	4.00	4	0.00	93	4	89
6.20 Traditional medicine and exercise for health are alternative methods for health services	4.00	4	0.00	96	0	96
6.21 Widely used of technology for medical practice	4.00	4	0.75	96	0	96
6.22 Diagnosis is very reliable due to high technology applications without physical exploration	4.00	4	0.00	93	0	93
6.23 Self care technology is quite developed to facilitate ior home care without – physician direct contact	4.00	4	0.75	93	0	93
6.24 People can take care themselves very well and go to see physicians only for - serious sickness	4.00	4	1.00	89	4	85
6.25 Health care needs for the poor are still abundant	4.00	4	0.75	7	86	-79
6.26 Availability of businesses for health care	4.00	4	0.75	64	25	39
6.27 Expensive health care costs	4.00	4	1.00	4	93	-89
6.28 Budget for managing health care institutions are high	4.00	4	0.75	7	86	-79
6.29 Using high and expensive technology for additional treatment	4.00	4	0.75	32	61	-29
6.30 High capital spent for advertisement and business competition in health care	4.00	4	0.00	4	89	-85
6.31 The poor are still facing with accessibility to health care	4.00	4	1.00	4	93	-89
6.32 People have better access to health care and increase service utilization	3.50	4	1.00	93	0	93
6.33 Medical care system focuses more on home health care	4.00	4	1.00	93	0	93
6.34 Majority of population have access to health insurance	4.00	4	0.00	93	0	93
6.35 National health care system is a full health insurance system	3.50	3	1.00	89	4	85

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
6. Thailand General Health Issues (cont.)						
6.36 People with high income buy health insurance from private sector	4.00	4	1.00	82	14	68
6.37 Health insurance system is a basic service provided by the government for - everyone and people pay extra for additional services	4.00	4	1.00	89	7	81
6.38 Many hospitals are sharing equipment and resources for health care	4.00	4	1.00	89	4	85
6.39 The government provide clinical care for specific diseases such as AIDS, stress, diabetes	4.00	4	1.00	82	11	71
6.40 Very Good referred system	4.00	4	1.00	96	0	96
6.41 Physicians have more professional ethical problems	4.00	4	1.00	29	64	-39
6.42 Bad relationships between physicians and patients (like machines)	3.50	4	1.00	4	89	-85
6.43 Physicians are specialists who treat only complicated cases	4.00	4	1.00	82	14	68
6.44 Physicians do not get involved in health promotion, environmental sanitation or advice but leave on other health personnel	4.00	4	1.00	54	39	15*
6.45 Physicians use their special expertises for treatment as an exchange for care - costs	4.00	4	0.00	21	71	-50
6.46 There are two levels of physicians; family doctors responsible for basic health insurance, and specialists responsible for sicknesses that need co-payment	4.00	4	0.00	82	4	78
6.47 More Production of specialized personnel according to community health needs	4.00	4	1.00	93	0	93
6.48 Qualifications of Thai health personnel are higher than neighboring countries - except Singapore	4.00	4	1.00	93	0	93
6.49 Private hospitals offer more training for medical and health personnel	4.00	4	1.00	93	0	93
6.50 Position classification for health officials are terminated	4.00	3	1.25	82	4	78

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
B. Mission, Roles and Function of Health Organizations in 2020						
1. Central Level (Ministry of Public Health)						
1.1 Reduce roles	4.00	4	1.00	96	0	96
1.3 Set goals and directions of national health development	4.00	4	1.00	96	0	96
1.4 Monitor and develop national health policy	4.00	4	1.00	96	0	96
1.7 Control national macro level with focuses on setting and controlling national health policy, vision, and directions	4.00	5	1.00	96	0	96
1.8 Set Policy on health laws that affect safety of stakeholders and general population	4.00	4	1.00	96	4	92
1.9 National level committee makes national health policy and controls overall health programs	4.00	4	1.00	96	0	96
1.12 Allocate comprehensive health budget for local level	4.00	4	1.00	89	7	72
1.13 Screen, investigate, and suggest to the government the budget for health	4.00	4	1.00	96	0	96
1.18 Monitor activities according to major policy	4.00	4	1.00	96	0	96
1.19 Monitor health activities as related to overall national security	4.00	4	1.00	96	0	96
1.31 Provide specific or advanced or high cost medical treatment	4.00	4	1.00	82	11	71
1.32 The government sector has less concerns on medical treatment for the poor or low and middle income groups	4.00	4	1.00	74	22	62
1.34 Responsible for technical support or assisting in national programs	4.00	4	1.00	96	0	96
1.35 Support local level for implementing health initiative efforts (disease prevention)	4.00	4	1.00	93	0	93
1.36 Responsible for hospitals and medical care that the local level can not handle	4.00	4	1.00	89	7	82
1.37 Responsible for special services that need experts or high technology	4.00	4	1.00	93	0	93

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Central Level (Ministry of Public Health) (cont.)						
1.38 Monitor environmental sanitation, occupational health, consumer protection, and service institutions in private sector	4.00	4	1.00	85	11	74
1.39 Allocate resources based on local health problems by capitation for district to manage	4.00	4	1.00	85	11	74
1.40 Support or advice hospitals for personnel and materials utilization by – emphasizing on specific diseases or conditions	4.00	4	1.00	96	0	96
1.42 Reduce health manpower production role	4.00	4	1.00	82	18	64
1.43 Funding training institutions for medical and health personnel production	4.00	4	1.00	85	7	78
1.45 Establish knowledge and skill qualifications for medical personnel	4.00	4	1.00	93	4	89
1.46 Perform high technology tasks	4.00	4	1.00	89	4	85
1.47 Surveillance new health problems	4.00	4	1.00	96	0	96
1.48 Influencing the Ministry of Education to get involved in health care	4.00	4	1.00	93	4	89
1.49 A number of national committee on drug policy and consumer protection	4.00	4	1.00	96	0	96
1.50 Increasing roles in international health organizations	4.00	4	1.00	96	0	96
1.52 International health roles as tools for creating political and economic image to promote drug production technology, medical services, training center among international communities	4.00	4	1.00	93	0	93
1.54 Each department has technical representatives to provide consultancy service for regional and provincial levels	4.00	4	1.00	78	18	60
1.55 Departments establish technical and research themes for private sector or – educational institutions, except some secret or national security matters	4.00	4	1.00	89	4	85

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Central Level (Ministry of Public Health) (cont.)						
1.57 Bureau of Health Policy and planning has more technical responsibilities along with national programs evaluation	4.00	4	1.00	93	0	93
1.58 Bureau of Health Policy and Planning is responsible for national (major) policies and strategic plans	4.00	4	1.00	93	0	93
1.59 Bureau of Health Policy and Planning functions to support provincial planning and evaluation system	4.00	4	1.00	89	0	89
1.66 Praboromrajchanok institute functions to find data, follow up and analyze - health personnel of the Ministry of Public Health and information dissemination	4.00	4	1.00	82	7	75

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Roles and Functions at Regional Level (Provincial Level)						
2.1 Transform policy into practical	4.00	4	1.00	93	4	89
2.2 Technical support for local level	4.00	4	1.00	96	0	96
2.3 Increase functions in public health law	4.00	4	1.00	96	0	96
2.4 Monitor local level to follow up on established standards	4.00	4	1.00	96	0	96
2.5 Evaluate local health programs	4.00	4	1.00	93	0	93
2.6 Treatment will be concentrated at the district level	4.00	4	1.00	96	0	96
2.7 District health officer will be a technical consultant for Tambon Administrative Organizations	4.00	4	1.00	93	4	89
2.10 Provincial level coordinates between central and local levels	4.00	4	1.00	93	0	93
2.11 District health officer monitors local health activities at Tambon and Amphoe levels	4.00	4	1.00	93	0	93
2.12 Monitor service institutions of public and private, which receive subcontracts for health services	4.00	3	1.00	93	0	93
2.13 Provincial level collects data and provides information for local level – implementation	4.00	4	0.00	81	11	70
2.14 Inspect and monitor the work of local level according to proposed plan	4.00	4	1.00	89	7	82
2.15 Act on behalf of the central level to collect epidemiological data	4.00	4	1.00	89	4	85
2.17 Consider and choose medical institutions to provide services for local population	4.00	4	1.00	78	18	60
2.19 Plan and conduct researches for new knowledge and technology necessary for local services provision	4.00	4	1.00	93	0	93
2.20 Hospitals have authorities to set policy and manage all activities	4.00	5	1.00	89	0	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Roles and Functions at Regional Level (Provincial Level) (cont.)						
2.21 Act as consultant and seek for knowledge and technology in response to local needs	4.00	4	1.00	93	0	93
2.22 Provincial health officers act as consultants for district health officers and Tambon Administrative Organizations	4.00	4	1.00	96	4	92
2.23 Provincial and district health officers function mainly in health promotion and disease prevention	4.00	5	1.00	93	4	89
2.24 Regional Hospitals provide only services that are required high technology	4.00	4	1.00	89	4	85

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Roles and Functions at Local Level						
3.5 Build up health awareness among local population	4.00	4	1.00	89	4	85
3.6 Manage all local health activities	4.00	4	1.00	85	7	78
3.7 Inspect for local medical services	4.00	3	1.00	89	7	81
3.10 District level provides all own local medical services	4.00	4	1.00	93	0	93
3.11 Establish local health personnel qualifications	4.00	4	1.00	96	0	96
3.12 Implement according to policy and guidelines set by the central level	4.00	4	1.00	93	0	93
3.13 Involve in monitoring and supporting all local health agencies	4.00	4	1.00	93	0	93
3.14 Tambon Administrative Organization is the major supportive organization for health promotion and disaster prevention system	4.00	4	1.00	96	0	96
3.15 Responsible for health promotion and disease prevention locally	4.00	4	1.00	93	0	93
3.16 Responsible for social security and health insurance locally	4.00	4	1.00	93	0	93
3.17 Responsible for health promotion, disease prevention, and treatment of general sickness	4.00	4	1.00	96	0	96
3.18 Responsible for social security and health insurance among underprivileged groups locally	4.00	4	1.00	93	0	93
3.19 Monitor social conditions, environment, and culture in conpliance with health of population	4.00	4	1.00	96	0	96
3.20 Tambon Administrative Organization provides funds to local health institutions of the Ministry of Public Health	4.00	4	1.00	93	0	93
3.21 Control disguised goods and businesses that can be hazardous to environment and safety (such as slaughter house, chicken farm, pig farm)	4.00	4	1.00	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Roles and Functions at Local Level (cont.)						
3.22 Prepare qualified and quantified local manpower by coordinating with training institutions to design curriculum and train according to local needs	4.00	4	1.00	93	0	93
3.23 Local level can be solely responsible for the provision of health services - including health promotion, disease prevention, and consumer protection by the budget allocated from the central level	4.00	4	1.00	93	0	93
4. Roles and Functions of Private Sector						
4.1 Health personnel production	4.00	4	1.00	89	4	85
4.2 Accept work contracts from the government	4.00	4	1.00	96	0	96
4.3 Play roles in research and technology development	4.00	4	1.00	96	4	92
4.4 Play major roles in medical treatment	4.00	3	1.00	96	4	92
4.5 Production of drugs, medical supplies, and materials for export	4.00	4	0.00	89	4	85
4.6 Accept and manage work contracts from local level, especially for high costs	4.00	4	1.00	93	0	93
4.7 Provision of medical services by using high technology that meets international standards	4.00	4	1.00	96	0	96
4.8 Provide medical services for high and medium high income groups	4.00	4	1.00	82	11	71
4.9 Subcontractors for social security office to provide medical services for insurers	4.00	4	1.00	93	4	89
4.10 More roles in health management programs including health promotion, - disease prevention, treatment, and rehabilitation	4.00	3	1.00	96	4	92

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
C. Managerial Structure **1. Central Level**						
1.1 Departments are smaller	4.00	4	1.00	96	0	96
1.3 Epidemiological Division will become a department	4.00	3	1.00	67	15	52
1.13 International Health Division will become a bureau	4.00	4	1.00	56	18	38
1.14 Health Inspector Office will develop work standards	4.00	4	1.00	74	7	67
1.17 Service provision departments will manage like a private sector	4.00	4	1.00	82	0	82
1.18 The Food and Drug Administration Office is smaller but related activities increase in rural areas	4.00	4	1.00	89	0	89
1.25 Communicable Disease Control Department will change to Disease Control Department	4.00	4	1.00	85	7	78
1.29 Various Colleges of Praboromrajchanok Institute will be independent or under local jurisdiction	4.00	4	1.00	82	7	75
1.33 Service units in Central Level will provide only medical services that are highly requires for experts	4.00	4	1.00	74	15	59
1.38 Pharmaceutical Organization will be independent	4.00	4	1.00	82	4	78
1.39 Praboromrajchanok Institute is smaller	4.00	4	1.00	82	7	75
1.40 Praboromrajchanok Institute becomes a privatization institution	4.00	4	1.00	74	11	63
1.41 The Central Administrative Structure also included the provincial level	4.00	4	1.00	78	11	67
1.44 There are additional service unit in areas that private services are unavailable	4.00	4	1.00	70	5	55
1.46 Provincial health office has representatives from all departments	4.00	4	1.00	63	22	41
1.48 Has technical representatives from all departments at Central, Regional, and Provincial levels	4.00	4	1.00	70	15	55

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Central Level (cont.)						
1.50 Department of Medical Science develops and creates medical and health technologies	4.00	4	1.00	89	4	85
1.51 There are specific government units coordinating between government policy and services provided by private sector	4.00	3	1.00	82	7	75
1.53 Health insurance office of the Ministry of Public Health is managed by a specific committee	4.00	3	1.00	89	0	89
1.54 A national multi-ministerial committee on safety in workplace and occupational health is formulated consisting of members from related ministries (Public Health, Science and Environment, Industry, Labour and Social Welfare, and Agriculture)	4.00	4	1.00	85	0	85
1.57 There is a special unit in the ministry of Public Health responsible for health financing to support local level	4.00	4	1.00	85	4	81
1.58 Various colleges of Praboromrajchanok Institute are independent and privatized	4.00	4	1.00	89	4	85
1.59 Central level has only large technical institutions with special emphasis on basic research to develop bodies of knowledge and technology in medicine and health	4.00	4	1.00	89	0	89
1.64 There is a special unit in the Ministry of Public Health to inspect the performance of private medical service institutions	4.00	4	1.00	85	0	85
1.65 Many multi-sectoral committees consisting of representatives from other organizations available to deal with health and environmental problems	4.00	3	1.00	82	7	75

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Managerial Structure at National and International Levels						
2.1 World Health Organization still remains and is recognized world wide	4.00	5	1.00	96	0	96
2.2 There is a national health council consisting of experts from all involved parties	4.00	4	1.00	96	0	96
2.3 There is a central organization to manage for establishing and controlling health services	4.00	4	1.00	96	0	96
2.4 There is a national committee or independent organization that deals with health policy and implementation directions	4.00	4	1.00	89	4	85
2.5 There is a Thai international organization that plays major roles and makes decision at the international level	4.00	3	1.00	93	0	93
2.6 There is a ministerial health coordination committee functions at the national level to set policy, follow up, make decision, and solve problems	4.00	4	1.00	89	0	89
2.7 There is a Ministry of Public Health committee consisting of 20 percent of members from other related ministries and private sectors to set national health policy	4.00	4	1.00	89	0	89
2.8 Clear separate administrative structure between administration dealing with policy and outcomes; and service provision	4.00	3	1.00	85	0	85
2.9 There is a national health committee consisting of members from various related ministries as well as academicians, private businesses and non – governmental organizations for development with the Permanent Secretary for Public Health as a secretary – general to set national health policy	4.00	3	1.00	78	11	67
2.11 There is a committee consisting of Professional experts in health and other areas to set guidelines and national health administrative plans separately as medical service, environment, consumer protection, health promotion, disease prevention, and rehabilitation that coordinated by the Ministry of Public Health between the national committee and local personnel	4.00	4	1.00	93	0	93

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Health Managerial Structure at Regional and Local Levels						
3.2 Growing Local level with increased roles in health	4.00	4	1.00	96	0	96
3.4 Local level has a specific section responsible for health insurance implementation	4.00	4	1.00	96	4	92
3.12 Tambon doctor position of the Ministry of Interior is terminated	4.00	3	1.00	85	4	81
3.13 The Tambon Administrative Organization is staffed with health personnel	4.00	4	1.00	89	7	82
Health Centers						
3.21 Class 1 and 2 Tambon Administrative Organizations (TAOs) take over health center from the MOPH while class 3-5 TAOs provide some funds and equipment to health centers of the MOPH	4.00	5	1.00	89	7	82
Community Hospital						
3.24 Community hospitals are networking with provincial hospitals (General Hospitals)	4.00	4	1.00	78	15	63
3.26 Community hospitals become independent and privatized Institutions run by an executive committee consisting of all stakeholder, and local administrative organization representatives. Those may be both provincial and district hospitals.	4.00	4	1.00	85	7	78

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario Desired	Scenario Undesired	Direction & Difference
3. Health Managerial Structure at Regional and Local Levels (cont.)						
General Hospital						
3.41 General hospitals become autonomous hospital that are semi-bureaucrat or foundation hospital or public organization run by all stakeholder using own income	3.50	3	1.00	63	19	44
Regional Hospital						
3.47 Regional Hospitals become independent but are monitored and financed by the MOPH	4.00	3	1.00	78	7	71
District Health Office						
3.51 District health office still remains	4.00	4	1.00	78	7	71
3.57 Staffed with policy and plan analysis as well as public health technical personnel	4.00	4	1.00	85	4	81
Provincial Health Office						
3.63 Provincial health offices are smaller and delegate more authorities to district health offices and local level	4.00	4	1.00	89	0	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
D. Administrative Resource (Managerial Resources) **1. Qualifications of Administrators (in General)**						
1.1 They are all around knowledgeable	4.00	4	1.00	96	0	96
1.5 They have concepts of authority delegation	4.00	4	1.00	96	0	96
1.6 They are compromisers	4.00	4	1.00	96	0	96
1.7 They have ability to manage programs	4.00	4	1.00	96	0	96
1.12 They are able to solve subordinate's problems	4.00	4	1.00	96	0	96
1.13 They are professional administrators with political skills	4.00	3	1.00	72	21	51
1.12 Good human relationship and able to coordinate with other organizations	4.00	4	1.00	96	0	96
1.13 They have teamwork ability with communication skills	4.00	4	1.00	96	0	96
1.14 They can take and utilize new foreign innovations for Thailand	4.00	4	1.00	93	0	93
1.20 They are open mind and listen to all opinions	4.00	4	1.00	96	0	96
1.24 They are health system administrators with internal health system concepts	4.00	3	1.00	93	0	93
1.25 Their qualifications are set by the national health committee	4.00	4	1.00	93	0	93
1.26 Accomplish specific training course for executive prior to appointment	4.00	4	1.00	93	4	89
1.31 Proficiency in foreign language, computer, world situations, and management	4.00	4	1.00	93	4	89
1.34 Well adjust concepts to Eastern life style, management, and utilize equipment appropriately with local intelligence	4.00	4	1.00	89	0	89
1.39 Administrators lower than director-general are highly technical	4.00	3	1.00	79	11	68
1.42 Managers perceive and are able to use communication technology	4.00	4	1.00	89	0	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Qualifications of Administrators (in General) (cont.)						
1.43 The Permanent Secretary for Public Health and Director Generals must have technical knowledge	4.00	4	1.00	82	11	71
1.45 Head of regional health office has technical ability to coordinate with different levels	4.00	4	1.00	89	4	85
1.47 Able to see health problems by linking with national health problems	4.00	3	1.00	89	4	85
1.51 Policy level administrators must have vision and working knowledge able to manage people and regulations	4.00	4	1.00	96	0	96
1.56 There are general knowledge and ability instead of any specific or specialized area	4.00	4	1.00	93	0	93
1.57 The Permanent Secretary for Public Health and Director Generals are able to manage and initiate health programs	4.00	3	1.25	86	7	79
1.58 The Permanent Secretary for Public Health and Director Generals are able to translate the national health policy into practices and implement it	4.00	3	1.00	93	0	93

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
Sources of Health Executives at Central Level						
1.59 Minister of MoPH comes from election or party selection	4.00	4	1.00	82	4	78
1.60 Minister of MoPH still appoints the Permanent Secretary for Public Health	4.00	4	1.00	68	29	39
1.61 Minister of MoPH appoints the National Health Committee (Broad)	4.00	4	1.00	71	18	53
1.69 The National Health Committee (Broad) appoints Permanent Secretary, Deputy Permanent Secretary for Public Health, and Director Generals	4.00	4	1.00	82	7	75
1.71 Central Level Executives are from appointments using screening criteria for the selection	4.00	4	1.00	86	4	82
1.73 Personnel Class 8-9 are able to move across departments	4.00	4	1.00	79	11	68
1.77 There is a committee to recruit and select Director Generals	4.00	4	1.00	79	11	68
1.79 There is the health administrators selection committee	4.00	4	1.00	89	0	89
1.87 Position are progress through regular channel according to time frame	4.00	3	1.00	79	7	72
1.89 International health executives come from national selections from the regional level	4.00	4	1.00	71	14	57
1.95 All levels of executives are considered for selection, appointment, and transfer by a committee	4.00	4	1.00	71	7	64

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
Qualifications of Provincial Health Officers in 2020						
1.101 Good human relationships	4.00	4	1.00	89	0	89
1.104 Good technical knowledge	4.00	4	1.00	82	11	71
1.105 Good both technical and managerial skills	4.00	4	1.00	93	0	93
1.106 Accomplish specific training from Provincial Health Officer School	4.00	5	1.25	89	0	89
1.108 Qualifications meet local needs and able to work with local leader	3.50	3	1.00	79	11	68
1.109 Professional manager with optimal health knowledge and not necessarily to be physicians	4.00	3	1.25	68	11	57
1.111 Knowledgeable about his or her local situations	4.00	4	1.00	93	4	89
1.112 Able to link between the central and local levels	4.00	4	1.00	96	0	96
1.113 Able to coordinate local people cooperation	4.00	4	1.00	96	0	96
1.114 Able to translate health policy into practices (policy implementation)	4.00	4	1.00	93	0	93
Sources of Provincial Health Officer in 2020						
1.118 There is the Selection Committee	4.00	4	1.00	93	0	93

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
Qualifications of District Health Officer						
1.129 They have technical skills	4.00	4	1.00	79	7	72
1.130 They have both technical and managerial skills	4.00	4	1.25	89	4	85
1.131 Able to supervise Tambon's activities	4.00	4	1.50	86	0	86
1.132 Accomplish specific training for district health officers	4.00	4	0.50	86	0	86
1.134 All around knowledge besides health	4.00	4	1.50	89	0	89
1.135 They have knowledge and ability in management with at least a bachelor degree	4.00	4	0.50	86	0	86
1.136 Able to teach, advice, and consult concerning technical matters to various organizations in the district	4.00	4	1.50	86	4	82
Sources of District Health Officer in 2020						
1.141 From pre-enlistment exam scores upon finishing their training from the district health officer curriculum	4.00	4	1.50	57	29	28

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
Qualifications of Local Health Officers in 2020						
1.145 Master degree for District Health officer in Bangkok Municipality	4.00	4	1.00	71	14	57
1.146 Wide range of knowledge , viewpoints on health and planning ability	4.00	4	1.00	93	0	93
1.147 Knowledgeable in public health	4.00	3	1.50	89	0	89
1.150 There are nursing or health qualifications	4.00	4	1.00	75	14	61
1.151 They are health technical officers with managerial knowledge	4.00	4	1.00	86	0	86
1.153 Head of health center has good knowledge and ability in health activities	4.00	4	1.50	86	4	82
1.156 There are knowledge and ability in utilizing information for administering with computer application	4.00	4	1.00	82	4	78
Sources of Local Health Administrators in 2020						
1.159 Appointed by a selection committee	4.00	4	1.00	89	0	89
1.164 Community, Ministry of Public Health, and involved parties together select administrators	4.00	3	1.00	82	7	75
1.169 Local level division heads and directors are appointed from local personnel	4.00	4	1.00	64	18	46
Qualifications of Hospital Administrators in 2020						
1.174 They are professional manager or executives	4.00	4	1.50	89	0	89
1.178 Separate positions between professional health services and management	4.00	4	1.00	93	0	93
Sources of Hospital Administrators						
1.183 Selected and appointed by hospital committee consisting of representative people, local administrative bodies, and all stake-holders	3.50	3	1.00	82	4	78

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
D. Administrative Resources (Managerial Resources) (cont.)						
2. Laws and Regulations Related to Health Management						
2.1 More open to public on enacting laws	4.00	4	0.00	93	0	93
2.2 Modern improvement to match changing situations	4.00	4	1.00	96	0	96
2.3 Public health laws and environment laws are separately enacted	4.00	4	1.00	82	11	71
2.4 Health related laws have been through public hearing	4.00	4	1.00	89	4	85
2.5 The laws give local level an autonomy for health activities with more authority	4.00	4	0.00	96	0	96
2.6 Specific laws available for protective action toward changes	4.00	4	1.00	93	4	89
2.7 Give authority to Amphoe and Tambon for consumer protection in health activity	4.00	4	1.00	93	4	89
2.8 Availability of human right protection laws for drug and medical supplies testing	4.00	4	1.00	93	0	93
2.9 Public Health laws dissemination by posting in public for easy access	4.00	4	1.00	93	0	93
2.10 Provincial health officers directly exercise their authorities without governor's influences	4.00	4	1.00	86	11	75
2.11 The laws focus more on refuse, waste water, irrigation, payment for pollutant production, and cleanliness	4.00	4	0.00	93	0	93
2.12 Laws are consistent with basic structure of Bangkok Metropolis (underground train and waste water disposal plants)	4.00	4	1.00	96	0	96
2.14 Multipurpose regulations	4.00	4	1.00	96	0	96
2.15 Strong laws on disease prevention	4.00	4	1.00	93	0	93
2.16 Changing on acquisition regulations	4.00	4	1.00	93	4	89
2.17 Various regulations are simple and easy to follow	4.00	4	1.00	93	0	93
2.18 Financial regulations are the same at all levels	4.00	4	1.00	79	21	58

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Laws and Regulations Related to Health Management (cont.)						
2.19 Social punishment has more affects than regulations	4.00	4	1.00	89	4	85
2.20 Laws will protect all people for equity	4.00	4	1.00	89	4	85
2.21 Local regulations are appropriately changed to match practical patterns	4.00	4	1.00	86	4	82
2.22 Regulations are wide open and flexible with only major ones	4.00	4	1.00	93	4	89
2.23 Administrative regulations are concrete and practical	4.00	4	1.00	93	4	89
2.26 Health financing laws allow all sectors including public, population, and various funds for co-payment	4.00	4	1.00	93	0	93
2.27 Availability of environment laws concerning health, health insurance, and national resources allocation	4.00	4	0.00	96	0	96
2.28 Local agencies are given more authority for hiring, firing, and promotion	4.00	4	1.00	96	0	96
2.29 Local regulations are flexible that administrators can exercise their managerial techniques	4.00	4	1.00	86	4	82
2.30 Laws allow private sector and local level to work more freely but still preserve the consumer protection rights	4.00	4	0.00	96	0	96
2.32 Good and clear health insurance act is available	4.00	4	1.00	93	0	93
2.33 Laws play more roles in health	4.00	4	1.00	96	0	96
2.34 Regulations are facilitated for work efficiency	4.00	4	1.00	89	0	89
2.35 Laws focus more on consumer protection rights	4.00	4	0.00	93	4	89
2.36 Local agencies are able to design their health regulations	4.00	4	1.00	89	4	85
2.38 There is a service institution acting to control quality and cost of service	4.00	4	1.00	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Laws and Regulations Related to Health Management (cont.)						
2.39 All regulations at various levels are linked together from ministerial, provincial and district levels	4.00	4	1.00	96	0	96
2.40 Public Health laws are efficient and efficacious with severe punishment	4.00	4	1.00	82	11	71
2.41 the laws provide various local agencies health practice criteria for better-implementation	4.00	4	1.00	89	4	85
2.42 Laws and regulations are initiative for controlling social and health behaviors	4.00	3	1.00	89	4	85
2.43 Civil service laws and regulations are more appropriated as regard to promotion, appointment and evaluation	4.00	4	1.00	93	0	93
2.44 Public health laws focus on disciplines building	4.00	4	1.00	89	4	85
2.46 Regulations issued at the Central level are for nation-wide guidelines	4.00	4	1.00	86	7	79

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario Desired	Scenario Undesired	Direction & Difference
D. Administrative resources (Managerial resources) (cont.)						
3. Information for Health Management						
3.1 Two-way communication	4.00	4	1.00	89	4	85
3.2 More reliable	4.00	4	1.00	96	0	96
3.3 Collect data for reverse evaluation	4.00	4	1.00	93	0	93
3.4 Central level will disseminate international information to communities	4.00	4	0.00	96	4	92
3.5 Up-date, modern, meet world class situations, and local consistence	4.00	4	1.00	93	0	93
3.6 Information Network System belongs to the government but information are available for other sectors	4.00	4	1.00	93	4	89
3.7 The information system on consumer protection on health is available	4.00	4	1.00	93	0	93
3.8 Information are used for setting policy and planning	4.00	4	1.00	93	0	93
3.9 Every unit collects information and sends to the central level	4.00	4	1.00	93	4	89
3.10 Compile and establish indices for each level administrator to make decisions	4.00	4	0.00	93	4	89
3.12 Computerized network system links all levels from national to local (health center)	4.00	4	1.00	93	0	93
3.13 Information based system comes from computerized personal health records throughout the country	4.00	4	1.00	96	0	96
3.14 Information come from various channel	4.00	4	1.00	96	0	96
3.15 They are disclosure	4.00	4	1.00	93	0	93
3.16 There is a priority in using information-based system	4.00	4	1.00	93	4	89
3.20 Better network coordination with Tambon administrative Organizations(TAOs)	4.00	4	1.00	93	0	93
3.21 Complete check and balance within each level	4.00	4	1.00	89	7	82

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Information for Health Management (cont.)						
3.22 The Ministry of public Health is responsible for data analysis	4.00	4	1.00	96	0	96
3.24 Health information system is linked throughout the country	4.00	4	1.00	93	4	89
3.25 The central level collect only some important data	4.00	4	1.00	96	4	92
3.26 Information system is consistent with time frame and objectives	4.00	4	1.00	89	4	85
3.27 Network linked with experts for instant consultation and opinions	4.00	4	1.00	89	4	85
3.28 Health information and technology play important roles at all points	4.00	4	1.00	93	7	86
3.30 The Ministry of Public Health designs recording forms and is a center for information linkage	4.00	4	1.00	93	0	93
3.32 National information system is available	4.00	4	0.00	96	0	96
3.33 Increased use of health information	4.00	4	1.00	96	0	96
3.34 Specific personnel are designated for local data collection	4.00	4	1.00	96	0	96
3.35 The central level provides information system budget to the local level	4.00	4	1.00	96	0	96
3.36 Regulations are available to enforce all agencies to provide health information to organizations responsible for national health	4.00	4	1.00	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4. Health Policy, Plan and Projects (Characters and Important Issues)						
4.2 Policy is divided according to regions	4.00	4	1.00	79	11	68
4.4 All policies are horizontally and vertically consistence	4.00	4	1.00	89	0	89
4.5 Plans are flexible, easy, and practical	4.00	4	1.00	93	0	93
4.6 Evaluation is included in all project planning	4.00	4	1.00	93	0	93
4.8 Main important policy is taking care of the poor for better service quality	4.00	4	1.00	89	0	89
4.9 Utilizing evaluative result information on policy, plans, and projects for new plan	4.00	4	1.00	93	4	89
4.11 Integrated pattern joining with other units in the same Tambon Administrative Organization	4.00	4	1.00	93	0	93
4.12 Changes on government investment policy by not focussing on building medical service institutions or buying expensive equipment	4.00	4	1.00	89	0	89
4.13 There is a short-range plan to deal with unexpected circumstances	4.00	4	0.00	89	0	89
4.14 Every level has health policy and plans	4.00	4	0.25	93	0	93
4.15 Limited program or project plans at the central level	4.00	4	0.75	86	0	86
4.17 Local health plans are operational or action plans	4.00	4	1.00	86	0	86
4.18 National health policy is short in nature	4.00	4	1.50	86	4	82
4.19 Program or project plans are focussed on health promotion and disease - prevention	4.00	4	1.50	86	4	82
4.20 Health insurance policy covers one hundred percent of population	4.00	4	0.25	89	0	89
4.21 Health policy becomes parts of an important political policy of the country	4.00	4	1.25	89	0	89
4.22 Health plans include short-range (2-3 years) and long-range (5-10 years) plans	4.00	4	1.00	89	4	85
4.23 Program plan focuses on quality of life and good living conditions	4.00	4	1.00	93	4	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4. Health Policy, Plan and Projects (Characters and Important Issues) (cont.)						
4.24 National plan reflects broad picture of directions rather than practical actions	4.00	4	0.00	82	4	78
4.25 There are two types of plan, local plan and national master plan proposed by the central level	4.00	4	1.00	86	0	86
4.26 Plans are derived from completed local real data without strings from the central top authority policy	4.00	4	1.00	68	21*	47**
4.27 Health policy, plan, program and project are varied in models and methodologies different from areas to areas	4.00	4	1.00	89	0	89
4.28 Program plans focus the enhancement of equity in health service through health insurance system	4.00	4	0.50	86	0	86
4.29 Policy is formulated from fundamental information systems on epidemiology, health economics, social epidemiology, and researches	4.00	4	1.00	96	0	96
4.30 Health plans are realistic, practical, and accepted by people	4.00	4	0.25	89	0	89
4.31 Health plans are gear toward human development and linked with educational plans	4.00	4	1.00	93	0	93
4.32 Health plans are formulated along with budget plans 5 years in advance	4.00	4	1.00	86	4	82
4.33 Plans are formulated from advanced forecasting and preparation	4.00	4	1.00	86	0	86
4.34 Plans of the MOPH come from national plans translation and are designated to related units	4.00	4	1.00	82	7	75
4.35 There are two types of local health programs, specific ones using local budget and that involve many areas using the central level budget	4.00	4	0.25	89	0	89
4.38 There is a survey on the needs for budget utilization to formulate 5-year budgeting plan	4.00	4	1.00	89	4	85

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4. Health Policy, Plan and Projects (Characters and Important Issues) (cont.)						
4.39 Meet health need and realistic practical budget plans	4.00	4	1.00	86	4	82
4.40 Budget subsidized from the central level are in lump sum	4.00	4	1.00	86	4	82
4.41 Financial is applicable with good control mechanism	4.00	4	1.00	89	0	89
4.43 Local budgeting plans derive mainly from local authorities with general subsidy from the central level	4.00	4	1.00	89	0	89
4.44 Health budget plan consists of two types including the MOPH and national health framework	4.00	4	1.00	86	0	86
4.45 The local level generates their own income	4.00	4	1.00	93	0	93
4.46 Financial plan focuses on income distribution to lower levels with short procedures	4.00	4	0.00	89	4	85
4.47 Financial and personnel plans are proposed by local authorities	4.00	4	1.00	89	4	85
4.49 Financial plan has two types including local budget plan and centrally subsidized budget plan for emergency	4.00	4	1.25	89	0	89
4.51 There is a plan for Thai traditional medicine production	4.00	4	1.00	93	0	93
4.52 The central level sets standards on manpower for local level	4.00	4	1.00	82	11	71
4.53 Manpower production plans spell out the kind and number of personnel needed	4.00	4	1.00	86	7	79
4.54 There are plans for professional administrators suitable for various positions	4.00	4	1.25	93	0	93
4.55 Manpower plans focus on the importance of distribution and allocation according to needs	4.00	4	1.25	93	0	93
4.56 Manpower plans focus on the development of hard work values, industrious and sense of organizational belonging	4.00	4	1.00	89	0	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4. Health Policy, Plan and Projects (Characters and Important Issues) (cont.)						
4.57 Local manpower plans are formulated from needs, problems, work load, and budget availability	4.00	4	1.00	89	0	89
4.58 Manpower plans focus on quality, appropriate technology utilization, and general multiple skills	4.00	3	1.00	82	7	75
4.60 Manpower plans produce appropriate personnel according to needs with quality and quantity due to cooperative efforts between users and producers	4.00	4	1.25	89	0	89
4.61 Manpower development plans look into hierarchies of human needs, such as salary, job security and satisfaction for low level administrators, respect and popularity (status) for middle level administrators, and administrative authority for high level administrators	4.00	3	1.00	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
E. Health Managerial Process						
1. Health Policy Formulation and Planning						
1.1 Planning according to local problems	4.00	4	1.00	93	0	93
1.2 Using technologies in planning	4.00	4	1.00	93	0	93
1.3 Financial planning is done together with proposed projects from below	4.00	4	1.00	93	0	93
1.6 Planning is made two ways, bottom up and top down	4.00	4	1.00	79	11	68
1.7 Planning in every levels involves all parties	4.00	4	1.25	89	0	89
1.9 National health policy and plans involve academicians and all related parties	4.00	4	1.50	86	4	82
1.10 Health policy and plans are formulated according to changing situation of the world and regional environment	4.00	4	1.50	89	0	89
1.11 A committee consisting of unit and section heads meets with administrators to set policy and plans for each level	4.00	4	1.00	86	0	86
1.12 TAOs and higher levels are able to set their own policy and plans while the central level formulates broad/major policy and goals	4.00	4	1.50	89	0	89
1.13 Local levels set their own health policy and plans while the central level considers and allocates budget and assigns some specific tasks	4.00	4	1.00	89	0	89
1.15 Health plans come from brainstorming	4.00	4	1.25	89	0	89
1.16 Health policy and plans are the national concerns	4.00	4	1.25	93	0	93
1.17 Local levels are involved in manpower planning	4.00	4	1.00	93	0	93
1.18 The MoPH is responsible for macro level planning	4.00	4	1.00	89	0	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Health Policy Formulation and Planning (cont.)						
1.20 Local levels propose financial plan along with manpower and project plans	4.00	4	0.50	89	4	85
1.21 The National Economic and Social Development Board(NESDB) and Ministry of Interior (MoI) are involved in health policy formulation	4.00	4	1.00	89	0	89
1.22 The chair of committees comes from consensus agreement of all members	4.00	4	1.25	93	0	93
1.23 Budget planning, preparing and requesting are consistent with real needs and problems of the province	4.00	4	1.00	89	0	89
1.24 Local health units get involved as committee members for establishing policy, work, and financial plans for TAOs	4.00	4	1.00	93	0	93
1.25 MoPH and parliamentary health commissioners involve in formulating national health policy	4.00	4	1.25	93	0	93
1.26 Health policy and plans are formulated from surveying local community problems and acceptance	4.00	4	1.00	89	4	85
1.27 Ministerial planning sections reduce planning responsibility while local planning units increase their planning responsibility	4.00	4	0.50	89	0	89
1.28 Major policy and guidelines are set by the central government and distributed to provincial level and municipality for implementation	4.00	4	0.50	82	7	75
1.29 Provincial levels identify their own problems and formulate health plans to submit to the central level	4.00	4	0.00	75	14	61
1.30 Provincial levels set targets, strategies, and required technologies to solve their own problems	4.00	4	1.25	89	4	85

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
1. Health Policy Formulation and Planning (cont.)						
1.32 For long range plans, the Prime Minister coordinates within parliamentary committee by considering plans from NESDB, Budget Bureau, and National Statistical Bureau	4.00	4	1.00	86	11	75
1.33 National health policy and implementation guidelines are formulated by the National Board of Health consisting of members from related government organizations and 20% from private sector along with the Permanent Secretary for P. H. as a secretariate	4.00	4	1.00	86	4	82

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
E. Health Managerial Process (cont.)						
2. Decision Making and Coordination in Health						
2.1 Using committees as a mechanism for coordination	4.00	4	1.00	86	4	82
2.3 Representative from the central level at the provincial level must control the policy and coordinate various activities	4.00	4	1.00	86	4	82
2.4 Line of command has less significance and shorter but delegation or decentralization of authority will be more prominence	4.00	4	1.00	89	0	89
2.5 Has linkage mechanism between the central and local levels for knowledge and information supports along with policy clarification	4.00	4	1.25	93	0	93
2.6 Faster and better coordination	4.00	4	1.00	82	4	78
2.7 Coordination is done mainly at the lower level	4.00	4	1.00	86	0	86
2.8 More horizontal coordination	4.00	4	1.00	82	0	82
2.9 All sections are coordinated at provincial and district levels	4.00	4	1.00	86	0	86
2.10 Coordination mechanisms are more concrete and practical	4.00	4	1.00	82	4	78
2.11 More emphasis on coordination between government and private sector	4.00	4	0.00	79	4	75
2.12 Has a specific center for health coordination	4.00	4	1.00	75	11	64
2.13 Appoints health development teams in all districts and Tambons	4.00	4	1.00	79	4	75
2.14 Coordinate by sharing information with other organizations outside the MoPH	4.00	4	1.00	75	7	65
2.15 MoPH coordinates more with international and regional agencies	4.00	4	0.50	82	0	82
2.16 Less vertical orders but more internal coordination in MoPH	4.00	4	1.00	82	0	82
2.17 Partnership with outside organizations on health issue	4.00	4	1.00	79	0	79
2.18 Coordinate with outside organizations by sharing benefits	4.00	4	1.00	82	0	82

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
2. Decision Making and Coordination in Health (cont.)						
2.19 Modern technologies are used for decision making and coordinating internally and externally	4.00	4	1.00	82	0	82
2.20 No more decision making from the central level because the government has no authority to order local personnel but only coordinate between central and local levels	4.00	4	1.00	71	18	53
2.21 TAO has a representative appointed by the community joining the coordination committee along with representatives from other organizations	4.00	4	1.00	86	4	82
2.22 Has collaborative work for health at the district level	4.00	4	1.00	93	0	93
2.23 MoPH coordinates the work with provincial and local levels	4.00	4	1.00	82	7	75
2.25 There is an organization linking the government policy and services provided by private subcontractors	4.00	4	1.00	93	4	89
2.26 Technical coordination from various departments to service providers in local areas will pass through regional representatives	4.00	4	1.00	79	11	68
2.27 Coordination at Tambon level is handled by Tambon health coordination committee consisting of members from TAO staff, head of health center, and village health volunteer	4.00	4	0.00	89	0	89
2.28 Other related organizations get more involved in health activities, for example the Ministry of Agriculture and Cooperative helps promote herb growing	4.00	4	1.00	93	0	93

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Health Monitoring and Control						
3.1 Measures by laws	4.00	3	1.00	89	0	89
3.2 Using epidemiological techniques and information	4.00	4	1.00	93	0	93
3.3 The central level is responsible for local work inspection and control	4.00	4	1.00	86	4	82
3.5 Built-in follow up, monitoring and control mechanisms with an inspection from community agencies	4.00	4	1.00	89	0	89
3.6 Delegation of authority is under inspection of independent organizations	4.00	3	1.00	86	4	82
3.7 Provincial Health Office is the main organization responsible for inspection, follow up, monitoring, control, and supervision of local activities	4.00	4	1.00	93	0	93
3.8 More mechanisms are involved in controlling health activities, especially for consumer protection	4.00	4	1.00	96	0	96
3.10 More follow up and monitoring health activities	4.00	4	1.00	89	4	85
3.11 Less supervision from the central level	4.00	4	1.00	89	0	89
3.12 District health officer monitors and follow ups TAO activities	4.00	4	1.00	89	0	89
3.13 Investigation has been done by computerized technology	4.00	4	1.00	89	0	89
3.14 People control health policy through political mechanism	4.00	4	1.00	86	7	79
3.16 MoPH is responsible for overall work follow up and monitoring	4.00	5	1.00	93	0	93
3.18 Work follow up and monitoring are done through hierarchical line of command according to administrative levels	4.00	4	1.00	82	7	75
3.19 At the central level, the opposition parties investigate the national health policy and plans	3.50	4	1.00	86	4	82
3.20 Has a central unit consisting of health inspectors and experts responsible for monitoring and follow up health activities of regional and local levels	4.00	4	1.00	86	7	79

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Health Monitoring and Control (cont.)						
3.21 Governmental organizations are responsible for overall standards control and quality assurance in both public and private institutions	4.00	4	1.25	89	0	89
3.22 The Bureau (Office) of health inspection and supervision are responsible for technical investigation to guarantee for service quality	4.00	4	1.50	93	0	93
3.23 International standards and quality control is done for making the public aware of service institutions credibility	4.00	4	0.50	89	0	89
3.24 Data on funds utilization investigated by internal and central level auditors are compiled at the MoPH information center	4.00	4	1.00	82	7	75
3.25 A reporting system is available for work control	4.00	4	1.00	82	14	68
3.26 People are more involved in health activities investigation	4.00	4	1.25	89	4	85
3.27 Monitoring is done two ways through reporting system and direct visit	4.00	4	1.00	79	11	68
3.28 Investigation is done more by mass media, customers, and general public	4.00	4	0.00	93	0	93
3.29 People will follow up local health activities	4.00	4	1.00	93	0	93
3.31 Central government monitors private agencies and local health organizations performance	4.00	4	0.25	86	7	79
3.32 The governing court follow ups and investigates based on requests from customers and the public	4.00	4	1.00	89	4	85
3.33 MoPH executives are responsible for internal investigation at the central level	4.00	4	1.00	89	4	85
3.34 There are two parts for monitoring and control including internal regulations and social accountability	4.00	4	1.00	86	4	82
3.35 Regional representatives from the central level monitor the work of local level and report to the central level	4.00	4	1.00	82	11	71

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. Health Monitoring and Control (cont.)						
3.36 Policy setting and planning unit at each level investigates to collect data for planning and evaluation purposes	4.00	4	1.00	86	4	82
3.37 Local governing bodies monitor project results and administrative process of hospitals as owners or bosses	4.00	4	1.00	86	7	79
3.38 An independent organization appointed by people, community, and society monitors and controls work performance	4.00	4	1.00	86	7	79
3.40 Follow up and monitoring and control use communication technology to process for reporting from local to provincial to central levels	4.00	4	1.00	89	4	85
3.41 The central level monitors project activities proposed by the provincial level	4.00	4	1.00	86	4	81

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario Desired	Scenario Undesired	Direction & Difference
4. Evaluation						
4.1 Using more information technologies	4.00	4	1.00	89	0	89
4.2 Using evaluation technologies	4.00	4	1.00	89	0	89
4.3 Focus on quality and standards assessment	4.00	4	1.00	96	0	96
4.4 The provincial level evaluates the local activities	4.00	4	1.00	82	7	75
4.5 Clear evaluation standards and system	4.00	4	0.00	93	0	93
4.6 Provincial level evaluates its own activities	4.00	4	1.00	93	0	93
4.7 MoPH has an evaluation team of her own	4.00	4	0.25	86	4	82
4.8 Evaluation is performed by recognized professional evaluators	4.00	4	1.00	93	0	93
4.9 Local agencies evaluate their own work by using tools developed by the central level	4.00	4	1.00	79	7	72
4.11 Focus mainly on project results instead of process or activities	4.00	4	1.00	86	4	82
4.12 People and local community are more involved in evaluating the performance of health administrators at each level	4.00	4	1.00	86	4	82
4.13 Evaluate the efficiency of budget utilization by comparing the work quality and appropriateness	4.00	4	0.25	89	0	89
4.15 Take seriously about evaluation	4.00	4	1.00	96	0	96
4.16 Local level evaluates its own activities	4.00	4	1.00	89	4	85
4.17 Evaluation is hierarchically done for every level	4.00	4	1.00	89	0	89
4.18 Evaluate quality rather than quantity	4.00	4	0.25	93	0	93
4.19 Using budget as a frame for evaluation	4.00	4	1.00	79	11	68

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4.Evaluation (cont.)						
4.20 Has accountable evaluation system	4.00	4	1.00	89	0	89
4.21 Establishing policy and plan evaluation system for projects	4.00	4	1.00	86	4	82
4.22 Establishing overall policy and plan evaluation system and sending information to the central level	4.00	4	1.00	79	7	72
4.23 Evaluation organizations are available both at local and upper administrative levels	4.00	4	1.00	86	7	79
4.24 Investigation and evaluation are performed periodically and continuously	4.00	4	1.00	93	0	93
4.25 Evaluation is performed based on plan and objectives	4.00	4	1.00	89	0	89
4.26 MoPH is responsible for overall health policy and plan evaluation	4.00	4	0.00	89	4	85
4.27 Evaluation is performed on new technology used for treatment along with health outcomes evaluation	4.00	4	1.00	89	0	89
4.28 Evaluation of district level performance is done from annual reports sent to the provincial level	4.00	4	1.00	79	11	68
4.29 Two models are used for policy and projects evaluation, by comparing tasks and budget spent, and using an evaluation form	4.00	4	1.00	86	7	79
4.30 Health policy and projects are evaluated at the end of and during project - implementation	4.00	4	1.00	89	4	85
4.31 Performance evaluation tools are used	4.00	4	0.00	93	0	93
4.32 There are multiple evaluation standards	4.00	4	1.00	89	4	85
4.33 Survey and interview are used for an evaluation	4.00	4	1.00	89	0	89
4.34 Service quality and equity(accessibility) are the focus	4.00	4	1.00	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
4.Evaluation (cont.)						
4.35 Performance evaluation is done from periodical reports	4.00	4	1.00	75	14	61
4.36 Criteria and standards are used for staff performance evaluation	4.00	4	1.25	89	0	89
4.37 MoPH appoints evaluators at each level	4.00	4	1.00	89	4	85
4.38 Health inspectors send an evaluation report on problems of health and plans to the Ministry	4.00	4	1.00	89	4	85
4.39 Evaluation is done internally along with hiring outside evaluators from funding agencies	4.00	3	1.25	89	0	89
4.40 Performance evaluation at village, Tambom, and Amphur levels are done in terms of service accessibility and customer satisfaction	4.00	4	1.00	93	0	93
4.41 Performance evaluations are done by outsiders, not supervisors	4.00	4	1.00	89	0	89
4.42 Reward and punishment are specified clearly in terms of economic incentives	4.00	4	1.00	79	18	61

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
F. Roles and Functions of Related Organizations						
1. Office of Civil Service Committee						
1.1 Tasks and roles are reduced	4.00	4	1.00	86	7	77
1.2 Size(number of staff) is reduced	4.00	4	1.00	92	4	88
1.3 Emphasize on working skill development	4.00	4	1.00	96	0	96
1.4 Set evaluation criteria to prevent unfair actions	4.00	4	1.00	86	7	77
1.5 Specify administrator qualifications for important or top executive positions	4.00	4	1.00	86	7	77
2. Budget Bureau						
2.1 Give more freedom for budget utilization	4.00	4	1.50	96	0	96
2.2 Allocate budget according to objectives	4.00	4	1.00	92	4	88
2.4 Using lumpsum budget allocation	4.00	4	1.00	96	0	96
2.5 Comprehensive budget allocation according to projects	4.00	4	1.00	96	0	96
2.6 Specify project results for subcontractors	4.00	4	1.00	92	0	92
2.7 Budget are determined from the efficiency of budget utilization	4.00	4	1.00	86	7	79
2.8 Allocate budget according to outcomes and impact of projects	4.00	4	1.50	89	7	82
2.9 Granting subsidized budget for local level according to MoPH requests	4.00	4	1.00	86	7	79
2.10 Analyze overall budget and allocate them according to government policy with special emphasis on education and health	4.00	4	1.50	89	4	85
2.11 Allocate lumpsum budget for provincial and local levels to manage according to community needs	4.00	4	1.50	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
F. Roles and Functions of Related Organizations (cont.)						
2. Budget Bureau (cont.)						
2.12 Allocate budget for the MoPH to manage	4.00	4	1.00	86	7	79
2.13 Standards control for budget consideration and inspection to make sure that budget are allocated correctly and fair	4.00	4	1.00	89	4	85
2.14 Follow up and monitor the budget utilization for goals and objectives consistency	4.00	4	1.00	89	4	85
3.National Economic and Social Development Board(NESDB)						
3.1 Focus on long-range national development directions	4.00	4	1.50	96	0	96
3.3 Adjust national plans including national health plan	4.00	4	1.50	92	0	92
3.5 Information linking for national multisectorals	4.00	4	1.50	92	0	92
3.6 Reduce roles on detailed planning but broad policy	4.00	4	1.00	89	4	85
3.8 Acting as a consulting council for the government to guide and recommend possible planning directions	4.00	4	1.00	92	4	88
3.9 Guiding overall national health development and studying for its consistency with other areas	4.00	4	1.00	92	0	92
3.10 Has specific roles on health policy guidance by summarizing changes in other areas as compared to health	4.00	4	1.00	92	0	92
3.11 Getting involved in environmental plan	4.00	4	0.75	92	0	92
3.12 Establishing indicators for national development	4.00	4	1.00	96	0	96
3.14 Being a secretariate for national planning committee	4.00	4	0.50	92	0	92

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
3. National Economic and Social Development Board(NESDB) (cont.)						
3.15 Follow up and investigate health development directions according to establish national criteria	4.00	4	1.00	96	0	96
3.16 Working collaboratively with the national board of health in formulating national health policy and plans	4.00	4	1.50	92	0	92
4. Social Security Office						
4.1 Increasing roles	4.00	4	1.00	96	0	96
4.4 Follow up and monitor governmental fringe benefit program	4.00	4	1.00	96	0	96
4.5 Get more involved in security provision for underpriviledged	4.00	4	1.00	96	0	96
4.6 Buying hospital services for insured persons	4.00	4	1.00	96	0	96
4.7 Maintaining overall national benefits to provide security	4.00	4	1.00	96	0	96
4.10 Growing bigger with increasing roles	4.00	4	1.00	92	4	88
4.13 Paying money for basic services	4.00	4	1.00	96	0	96
4.16 Follow ups and investigates services received by insured persons	4.00	4	0.50	96	0	96
4.18 More social security offices are available in local areas	4.00	4	1.00	96	0	96
4.21 Giving supports for basic hospital services in poor areas	4.00	4	1.00	86	14	72
4.22 Social security funds are centrally maintained but managed through branches in local areas	4.00	4	1.00	89	14	75
4.26 Combine with health insurance office and become an independent public agency responsible for medical services provision	4.00	4	1.25	89	11	78
4.29 Responsible for labourer's benefits	4.00	4	1.25	96	0	96
4.32 Health insurance office of the MoPH is responsible for policy formulation and information dissemination as well as establishing payment guidelines	4.00	4	1.00	89	7	82

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
5. Non-Governmental Organizations (NGOs)						
5.1 People representative	4.00	4	1.00	96	4	92
5.2 Assist in community power building	4.00	4	0.25	96	4	92
5.3 Increasing roles in all aspects	4.00	4	0.50	96	0	96
5.5 Qualified persons from NGOs are members of the National Board of Health	4.00	4	1.00	96	0	96
5.6 Mass media are responsible for providing facts and information to society and community	4.00	4	1.25	93	4	89
5.7 Responsible for complaining and keeping benefits for customers as well as investigating public and private health care providers	4.00	4	1.25	96	0	96
6. Private Business						
6.1 Private insurance companies increase their roles	4.00	4	1.00	93	4	89
6.2 Private agencies get involved in health products and supplies	4.00	4	1.00	93	4	89
6.6 Private health insurance companies are growing, offering multiple health plans and buying services for insured persons	4.00	4	1.00	89	7	82
7. Professional Organizations						
7.1 Acceptable in society	4.00	4	0.00	96	0	96
7.3 Increasing roles and stronger	4.00	4	0.25	96	0	96
7.4 Increasing control over members	4.00	4	0.00	93	4	89
7.5 Responsible for professional establishments and service providers	4.00	4	1.00	93	4	89
7.9 Establish standards for professional establishments	4.00	4	1.00	96	0	96
7.10 Strongly intend for general public, not friends nor relatives	4.00	4	1.25	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
7. Professional Organizations (cont.)						
7.13 Increasing role in consumer equity	4.00	4	1.00	96	0	96
7.14 Investigate for professional ethics and practices	4.00	4	1.25	96	0	96
7.17 Responsible for issuing professional license and renewal	4.00	4	1.25	96	0	96
7.18 Increasing roles in investigating and controlling professional works	4.00	4	1.25	96	0	96
7.20 Have representatives from people, community, or other professionals or local bodies participated in organizations	4.00	4	1.00	96	0	96
7.21 Independent technical organizations are increasing and managed by committees, not governmental organizations but under government directing	4.00	4	1.00	93	4	89
8. Ministry of University Affairs and Educational Institutions						
8.1 Producing manpower according to community needs	4.00	4	1.00	96	0	96
8.2 Educational institutions help in outside services	4.00	4	1.25	79	18	61
8.3 Universities are independent but under government control	4.00	4	1.00	96	0	96
8.4 Mediators for service organizations and people	4.00	4	1.00	85	11	75
8.5 Universities are paid to produce personnel by users	4.00	4	1.00	96	0	96
8.6 Become personnel producing units using the same standards	4.00	4	0.25	96	0	96
8.7 Every university becomes independent under government monitoring	4.00	4	1.25	85	11	75
8.8 Institutions in universities produce bachelor degree nurses	4.00	4	1.00	89	7	82
8.10 Capital investigation for producing personnel is performed in universities and MoPH	4.00	4	0.25	96	0	96
8.11 Ministry of University Affairs is responsible for policy coordination among universities without controlling	4.00	4	1.00	93	4	89

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
8. Ministry of University Affairs and Educational Institutions (cont.)						
8.12 Educational institutions focus on guiding society	4.00	4	1.50	93	4	91
8.13 Universities and regional hospitals produce physicians	4.00	4	1.00	96	0	96
8.14 Consulting other institutions for manpower production	4.00	4	0.25	96	0	96
8.15 Universities are responsible for international training and research	4.00	5	1.00	96	0	96
8.16 Universities are responsible for dissemination of correct and up-to-date information to people	4.00	4	1.00	89	7	82
8.17 Universities are responsible for training of various graduate programs	4.00	5	1.00	93	4	89
8.18 Production of physicians is focused equally on health promotion, disease prevention, and treatment	4.00	4	1.00	85	7	78
8.20 University training focuses on the ability to analyze and research for undergraduates	4.00	4	0.50	93	4	89
8.21 Educational institutions under jurisdiction of universities and private sector are responsible for health personnel production	4.00	4	1.00	89	0	89
8.22 Physician production focuses on general preventive medicine rather than specialized areas	4.00	4	1.00	75	11	64
8.23 A group of professional experts establishes standards for training of professional medical and health personnel	4.00	4	1.25	86	11	75
8.24 Ministry of University Affairs establishes personnel qualifications, and international standards as well as monitors medical and health standards	4.00	4	1.00	89	4	85
8.25 Educational institutions or units coordinate with local level to offer training programs for health personnel according to local demands in terms of qualifications and numbers	4.00	4	1.25	96	0	96

Thailand Health Management in the Next Two Decades (2020)	Median	Mode	IQR	Scenario		Direction & Difference
				Desired	Undesired	
9. Ministry of Defense						
9.1 Increasing coordination with the MoPH	4.00	4	1.25	96	0	96
9.3 Ministry of Defense hospitals are still operating	4.00	4	1.00	71	18	53
9.4 Producing less medical and health personnel	3.50	3	1.00	82	14	68
9.5 Increasing roles in health and environmental development	4.00	4	1.00	86	11	75
9.11 Ministry of Defense hospitals are serving general population and participated in social security scheme or health funds	4.00	4	1.00	75	18	57
9.12 Responsible for linking with national security issues such as border communicable diseases, disasters, accidents, chemical substances, and treatment of heat-generated unconsciousness	4.00	4	1.00	86	7	79

Informants Information Survey Form

Futures Research on Thailand Health Management in 2020

****

Please give opinion and put a mark (X) in an appropriate bracket [ ] that reflects your opinion the most.

1. Name and Surname..

2. Age .... years   Holding a Provincial Chief Medical Officer position since ....

3. Education (Start with Bachelor degree) ....

    ....

    ....

4. Work Experience ....

    ....

    ....

5. Do you have experiences and performance as follows?

    1. Working as Provincial Chief Medical Officer at least 5 years (up to July 1, 1997)

    2. Working as Provincial Chief Medical Officer at least 2 provinces.

    3. There are published research papers on health management at least 3 papers (during working as PCMO, not include thesis)

    [ ] Yes   [ ] No   (please go to question No. 7)

6. If you have experiences and performance as specified in question No. 5, are you willing to participate in futures research on Thailand health management in 2020?

    [ ] Yes of all 3 rounds ; interview and 2 rounds questionnaire

    [ ] Yes: only some phases (specify) ....

    [ ] No: Not convenience

7. Address that can be easily contacted: ....

    .... Zip code: ....

    Telephone: .... Fax : ....

    E- mail address : ....

8. According to your opinion, who are the three most suitable informants for this study.

    Please list their names in the space below according to priority.

    1. ....

    2. ....

    3. ....

Thank you very much for your cooperation.

Informants Information Survey Form

Futures Research on Thailand Health Management in 2020

✱✱✱

Please give opinion and put a mark (X) in an appropriate bracket [ ] that reflects your opinion the most.

1. Name and Surname : .... Age : ....

2. Holding a Regional Hospital Director position since: ....

3. Education (Start with Bachelor degree) ....

    ....

    ....

4. Work Experience ....

   ....

   ....

   Name of Recent Hospital: .... Province : ....

5. Do you have the following qualifications?

    1. Working as Regional Hospital Director at least 5 years (up to July 1, 1997)

    2. Working as Regional Hospital Director at least 2 hospitals.

    [ ] Yes   [ ] No (please go to question No. 7)

6. If you have experiences and performance as specified in question No. 5, are you willing to

   participate in futures research on Thailand health management in 2020?

    [ ] Yes of all 3 rounds ; interview and 2 rounds questionnaire

    [ ] Yes: only some phases (specify) ....

    [ ] No: Not convenience

7. Address that can be easily contacted: ....

   .... Zip code: ....

   Telephone: .... Fax : ....

   E- mail address : ....

8. According to your opinion, who are the three most suitable informants for this study.

   Please list their names in the space below according to priority.

    1. ....

    2. ....

    3. ....

Thank you very much for your cooperation.

Informants Information Survey Form

Futures Research on Thailand Health Management in 2020

****

Please give opinion and put a mark (/) in an appropriate bracket [ ] that reflects your opinion the most.

1. Name and Surname: .... Age : ....

2. Holding a General Hospital Director position since: ....

3. Education (Start with Bachelor degree) ....

....

....

4. Work Experience ....

....

....

5. Name of Recent Hospital: .... Province: ....

6. Please put a mark (/) in an appropriate bracket [ ] that reflects your qualifications.

      [   ] Working as General Hospital Director at least 5 years (up to July 1, 1997)

      [   ] Working as General Hospital Director at least 2 hospitals (including recent one).

7. Are you willing to participate in futures research on Thailand health management in 2020?

      [   ] Yes of all 3 rounds ; interview and 2 rounds questionnaire

      [   ] Yes: only some phases (specify) ....

      [   ] No: Not convenience

8. Address that can be easily contacted: ....

.... Zip code: ....

   Telephone: .... Mobile Phone .... Fax : ....

   E- mail address : ....

9. According to your opinion, general hospital director who are the three most suitable informants for this study.

   Please list their names in the space below according to priority.

   1 .... Work Place ....

   2 .... Work Place ....

   3 .... Work Place ....

Thank you very much for your cooperation.

Informants Information Survey Form

Futures Research on Thailand Health Management in 2020

****

Please give opinion and put a mark (/) in an appropriate bracket [ ] that reflects your opinion the most.

1. Name and Surname : …... Age : …...............

2. Holding a Community Hospital Director position since: …....................................

3. Education (Start with Bachelor degree) …..

…..

…..

4. Work Experience …...

…..

…..

5. Name of Recent Hospital: ….................................... Province : …...................

6. Please put a mark (/) in an appropriate bracket [ ] that reflects your qualifications.

[   ] Working as Community Hospital Director at least 10 years (up to July 1, 1997)

[   ] Working as Community Hospital Director at least 2 hospitals (including recent one).

7. Are you willing to participate in futures research on Thailand health management in 2020?

[   ] Yes of all 3 rounds ; interview and 2 rounds questionnaire

[   ] Yes: only some phases (specify) …..

[   ] No: Not convenience

8. Address that can be easily contacted: …..

….. Zip code: …......................................

Telephone: …................................ Mobile Phone …..................... Fax : …................

E- mail address : …...

9. According to your opinion, community hospital director who are the three most suitable

   informants for this study.

   Please list their names in the space below according to priority.

   (1).. Work Place ....

   (2).. Work Place ....

   (3).. Work Place ....

Thank you very much for your cooperation.

BIOGRAPHY

NAME	Ms. Roongsiri Kamtrakul
DATE OF BIRTH	14 September 1958
PLACE OF BIRTH	Bangkok, Thailand

INSTITUTIONS ATTENDED

Mahidol University, 1981-1983:

Bachelor of Sciences (Nutrition & Dietetics)

Mahidol University, 1985-1988:

Master of Sciences (Nutrition)

Mahidol University, 1994-2000:

Doctor of Public Health (Health Administration)

FELLOWSHIP   Teaching Assistant, Mahidol University, 1997

POSITION & OFFICE

	1979-1994	Hua Chew Hospital, Bangkok, Thailand
		Position: Nurse
	1989-1993	Saint Louis Nursing College, Bangkok.
		Position: Lecturer
	1997-1999	Hua Chew Hospital, Bangkok, Thailand
		Position: Head of Planning and Nursing Technical Development Department