# DEVELOPMENT OF PRIMARY CARE MODEL IN THE COMMUNITY

SRISUDA RASSMEAPONG

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Thesis

entitled

# DEVELOPMENT OF PRIMARY CARE MODEL IN THE COMMUNITY


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**DEVELOPMENT OF PRIMARY CARE MODEL IN THE COMMUNITY**

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**ABSTRACT**

Health system reform and the policy of 'health insurance for all' focused on the development of co-operating primary care units (PCU's). However health personnel have not traditionally been accustomed to working together in a cooperative manner. Programs to strengthen various branches and organizations, and develop their capabilities have not been in place. The standard provisions for health services have not directly addressed the problems and socio-cultural contexts of the community. Therefore, a model of primary care in the community highlighting health care needs of the community as the basis was developed. Community-based action research, which emphasizes the participation of community health stakeholders in the learning, has been applied as the process for the development of this model. The process comprised 1) Look: community study, 2) Think: analyze and identify community problem; 3) Act: develop strategic planning (vision and mission of community health); implemention and evaluation. Results of this study were summarized below.

The characteristics of health care needs were identified through the analysis of factors related to illness and health risk behaviors; individuals and their living patterns; and characteristic of the community setting and environment. The findings of this study illustrated that behaviors and living patterns of people, as well as the condition of environment in the community were the factors that led to incidences of infectious disease requiring vigilant epidemiological surveillance, and chronic disease, among these people. Furthermore, the vision of community health development was established as *"good mind and body; Generosity; Pollution–free; and Catching up with all situations".*

Primary care delivery systems should correspond with health needs of the community as identified in outreach programs and should be comprehensive in their scope. Professional nurses should serve as principal service providers and should function as the managers of all health activities with collaboration from community health officers, community leaders, the public populace and the Tambon Administration Organization (TAO). The characteristics of health care servicing activities included (1) direct health care, which emphasized the care provided individually for each person in target groups, such as pregnant women, children under five years of age, and patients with chronic diseases/disabilities, etc. (2) community health servicing package and community strengthening activities, such as managing the environment to reduce health-risk factors; and working together with local organizations and networks to develop health programs in the community.

This new proposed health care delivery model, as demonstrated in the research project would create learning opportunities, would strengthen the community through a physical exercise program, and would mobilize the participation of various sectors to work cooperatively to implement community health development activities. Community resources including money, materials and manpower were sorted out and utilized. As a consequence, community leaders and people have been able to continue the project development further.

Recommendations were: 1) Regarding policy, the structure of the health care system must be modified to facilitate self-development of service providers within the context of the community; 2) Regarding health services, the servicing pattern should be designed differently to meet health needs of each individual community; 3) In regard to nursing education, health personnel should be prepared with sufficient competency to perform their work at the primary level. Such preparation should be achieved through changes made in the thinking and teaching learning methods in the nursing educational institutes, and 4) Regarding research a study should be conducted to identify approaches for the preparation of personnel, working methods, and tools necessary for primary care delivery.

KEY WORD : PRIMARY CARE / PARTICIPATION / COMMUNITY / ACTION RESEARCH

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**บทคัดย่อ**

การปฏิรูประบบสุขภาพและนโยบายการสร้างหลักประกันสุขภาพถ้วนหน้า ให้ความสำคัญกับการพัฒนาหน่วยบริการสุขภาพระดับปฐมภูมิ แต่จากการจัดบริการสุขภาพของหน่วยปฐมภูมิตามนโยบายการสร้างหลักประกันสุขภาพถ้วนหน้าพบว่า การทำงานของบุคลากรด้านสุขภาพยังไม่ประสานกลมกลืนกัน ขาดการสร้างความเข้มแข็งและการพัฒนาศักยภาพขององค์กรต่าง ๆ นอกจากนี้การจัดบริการสุขภาพไม่สอดรับกับสภาพปัญหาและสังคมวัฒนธรรมของชุมชน ดังนั้นผู้วิจัยจึงได้พัฒนารูปแบบการจัดบริการสุขภาพระดับปฐมภูมิในชุมชน โดยใช้ฐานความต้องการด้านบริการสุขภาพของชุมชนมาเป็นแนวทางในการจัดบริการสุขภาพ กระบวนการพัฒนาใช้รูปแบบการวิจัยเชิงปฏิบัติการที่ใช้ชุมชนเป็นฐาน (community-based action research) ซึ่งเป็นรูปแบบการวิจัยที่เน้นการมีส่วนร่วมในการเรียนรู้ของผู้มีส่วนได้ส่วนเสียในการพัฒนาสุขภาพชุมชน โดยมีขั้นตอนดังนี้ 1) Look ; community study , 2) Think; analyze and identify community problem , 3) Act ; develop strategic planning (vision and mission of community health); implemention and evaluation ผลการศึกษาสรุปได้ดังนี้

ลักษณะความต้องการด้านบริการสุขภาพของชุมชน ได้จากการวิเคราะห์ความสัมพันธ์ของการเจ็บป่วย/ พฤติกรรมเสี่ยง กับปัจจัยด้านบุคคลและสภาพการดำเนินชีวิต รวมทั้งปัจจัยลักษณะชุมชนและสิ่งแวดล้อม พบว่า ประชาชนเจ็บป่วยด้วยโรคติดเชื้อที่ต้องเฝ้าระวังทางระบาดวิทยาและโรคเรื้อรัง อันเนื่องมาจากพฤติกรรมเสี่ยงทางด้านสุขภาพ สภาพการดำเนินชีวิตและลักษณะสภาพแวดล้อมของชุมชน นอกจากนี้กลุ่มผู้มีส่วนได้ส่วนเสียทางด้านสุขภาพชุมชนได้กำหนดวิสัยทัศน์การพัฒนาสุขภาพ คือ “กาย จิต ดี มีน้ำใจ ไร้มลพิษ ตามติดสถานการณ์”

รูปแบบของการจัดบริการสุขภาพระดับปฐมภูมิที่สอดคล้องกับความต้องการด้านบริการสุขภาพของชุมชน คือ ต้องจัดบริการสุขภาพให้เข้าถึงประชาชนและมีความพอเพียงโดยมีพยาบาลวิชาชีพเป็นผู้ให้บริการหลัก ทำหน้าที่เป็นผู้จัดการในกิจกรรมเพื่อสุขภาพร่วมกับเจ้าหน้าที่สาธารณสุขชุมชน ผู้นำชุมชน ประชาชน และองค์การบริหารส่วนตำบล ลักษณะของกิจกรรมบริการสุขภาพคือ 1) การให้บริการสุขภาพโดยตรง คือเน้นการบริการรายบุคคลตามกลุ่มเป้าหมาย เช่น บริการการดูแลแก่สตรีมีครรภ์และเด็ก 0-5 ปี การดูแลผู้เจ็บป่วยโรคเรื้อรัง/ผู้พิการ เป็นต้น 2) กิจกรรมการบริการสุขภาพชุมชนและกิจกรรมที่สร้างความเข้มแข็งแก่ชุมชน เช่น การจัดการสิ่งแวดล้อมเพื่อลดปัจจัยเสี่ยงต่อสุขภาพของประชาชน การจัดกิจกรรมเพื่อส่งเสริมกระบวนการกลุ่มด้านสุขภาพต่างๆ การร่วมมือกับองค์กรส่วนท้องถิ่นและเครือข่ายในการจัดโครงการเพื่อสุขภาพในชุมชน

ผลจากการจัดบริการสุขภาพเพื่อสร้างการเรียนรู้และความเข้มแข็งในชุมชนโดยการจัดโครงการออกกำลังกายในชุมชน พบว่าสามารถสร้างการมีส่วนร่วมในการดำเนินการพัฒนาสุขภาพของชุมชนจากหลายภาคส่วนอย่างประสานกลมกลืนกัน มีการนำทรัพยากรของชุมชนมาใช้ให้เกิดประโยชน์ ทั้งในรูปของเงิน วัสดุสิ่งของ และกำลังคน ผลที่เกิดขึ้นผู้นำชุมชนและประชาชน สามารถดำเนินการพัฒนาโครงการได้อย่างต่อเนื่อง

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# CHAPTER I
# INTRODUCTION

## Background and Rationale

Public health system development in Thailand in the past was focused mainly on the delivery of curative services, and, consequently, while the amount spent on health services was high, the anticipated level of overall health care improvement was not achieved. In other words, the health system was able to address only some parts of people's health problems. As there have been changes in social aspects and people's ways of life, the nature of health problems of Thai people has become more complicated. The increasing trend of illnesses and deaths caused by chronic and preventable diseases is evident. At the same time, infectious diseases have remained persistent problems as a public health concern. As health-threatening factors have become more complicated, they have not been addressed successfully through the use of the old systems, methods, and knowledge. Therefore existing health care systems in both government and private sectors have been unable to meet the needs of people. There are still problems about accessibility, equity, efficiency and quality of health services (Ministry of Public Health, 1999: 211-218).

In order to address these issues successfully, health development must be focused on strengthening people to become self-reliant. Furthermore, in order that the health care system can be carried out in accordance with the intent of the Thai Constitution 2540 BE (1997) that: "Health care services must be delivered to people equally, efficiently and with standards, in a manner that local organizations and people can participate in the process." (National Health Bill B.E. _____, 2002: 1-2), health system reform has been introduced with the aim to change the paradigm of Thai society to ensure that efforts are concentrated on building good health and that every element of the society shares responsibilities for this goal. This is based on the fact that ***health development*** is an ***integrated social development***. The meaning of

the term “health” has become broader implying that “health” is humanity’s way of life that harmoniously unites the physical, mental, social and spiritual components of a person. In this regard, health service delivery under the new system must be focused on providing *proactive* services emphasizing on establishing the outreach of services to communities. The aim is to promote health, prevent illnesses, and strengthen communities so that they can handle the health problems of their own inhabitants. Therefore, the health care system that would serve as the key mechanism for addressing health needs efficiently in a manner that *right targets* are covered is ***primary care.*** By forging a closer relationship with and gaining better knowledge about communities in its responsible area (Improving beyond the other hospitals or specialized servicing units), each primary care unit is able to provide integrated, holistic and continuous care. Its services cover the time prior to sickness, the time of illness ( when basic care is provided), and the period of recuperation .(Yongyuth Pongsupap, 1999: 3; Heath Care Network Development Bureau, 2002: 1). Therefore, primary care development in a manner that maintains the balance between people’s self-reliance and their dependency on health care facilities would enhance efficiency of the health care system as a whole.

Currently, primary care is delivered to people consistent with the policy on *health care insurance for all*. Each health center has been defined as a Primary Care Unit (PCU) to serve as a health facility close to people’ s hearts and homes. PCU’s undertake the role of providing on-going health care to people in a way that people’s health is promoted and auxillary services are provided more efficiently (Heath Care Network Development Bureau, 2002: 3). However, during a transitional period, in order that the primary care service could be delivered rapidly and comprehensively, the government has defined principles and standards of primary care service to serve as a practical guide for all PCU’s to follow. Based on this initiative of the government, people have gained more access to health services, however, the goal of the health system to achieve good health for all people is insufficient by itself. The reason is that such delivery of health services is in the top-down pattern whereby polices and plans are defined at the level of central administration using the old management principles in the same manner for all. Therefore, in the delivery system of primary care, there is a problem with the coordination between the work at field

levels and the work at professional levels. In other words, working together harmoniously is absent. There is also the absence of mutual learning from experiences and from lessons learned from each field in order to make the primary care delivery become tangible. As a consequence, this dearth of harmonious interaction slows the progression of the national strategy development process. Furthermore, the strengthening of the health care system is carried out under the absence of linkages among different organizations, without the potentials of such organizations being pooled and utilized cooperatively in a clear manner. In this regard, the development of the primary care delivery system should focus on issues that are specific to each area; responsive to the health needs of people, respectful of their status as human beings; and consistent with their social and cultural aspects. Furthermore, this development should also focus on creating cooperation among organizations to establish health networks with the aim to generate 2 types of bodies of knowledge. Firstly, the bodies of knowledge about working patterns and working methods based on the facts obtained from the geographic service areas should be generated; and secondly, the bodies of *technical* knowledge; both bodies required to be tangible and practical (Khanitta Nunthaboot, 2002: 39-40).

All of the above reflects the necessity to develop the primary care delivery system in a manner that is consistent with the health needs of the community and the necessity to create cooperative learning among parties involved in health care management. The conclusions for the development in this study therefore may serve as a catalyst for the generation of bodies of knowledge about working patterns and working methods in a manner based on the facts obtained from the fields. Such bodies of knowledge can be made available for further use by involved participants. Underpinned by such development patterns, the cooperation among community health stakeholders can been developed. Such stakeholders are people and organizations in the community, local administration organizations, public health officers and educational institutions in the area. The latter is the Faculty of Nursing, Srinakharinwirot University, which has a policy to use the community as its base for teaching and learning activities and as a practice placement site for nursing students in providing health care to people. In the approach for promoting participation in learning among related persons, a strategy of wisdom called ”A Triangle That Moves

Mountains" is applied. This strategy was used successfully for the mobilization of participation in health system reform. This strategy comprises the following components (Prawes Wasi, 2000: 33; Wiput Poolcharoen et. al, 2000: 220-221):

1) *Technical task*: the generation of knowledge and understanding for community people and organizations about issues and problems of the community through a study about health needs and a systematical analysis of problems carried out by the researcher and instructors from Community Health Nursing Department;

2) *Social movement*: the action of taking technical knowledge to utilize in the creation of knowledge and understanding for people and organizations to raise their awareness and promote their participation in the development; and

3) *Pursuance of political involvement at local level*: which is the involvement of Tambon Administration Organization (TAO). According to the decentralization of public health management power, local administration organizations have to take responsibilities together with the Ministry of Public Health in providing health care to people. TAO's have authority to manage the allocation of budgets and to define policies related to community health.

Organizations from these sectors must adhere to the interactive learning through action, which is to take actions together with community and to learn by doing or taking such actions according to the method of an action based research. This research methodology is appropriate for the situation being studied, as it is the study conducted within a specific context. On the other hand, study conducted in such a practice placement site as an educational institution would help to achieve continuity between learning and development.

Regarding the pattern of the research, the research chose the *community-based action research* because of the following reasons. The community-based action research focuses on changing society and people in a systematic manner. It also focuses on the collaborative approach applied by implementing parties. Such focuses are carried out through the use of anthropological tools and the tools of other disciplines to solve problems of society. This research approach also uses investigative process to identify problems encountered in the application of the principle of democracy, equity, liberty and capability enhancement for participating persons. All of these are based on the concept that all community health stakeholders

must participate in the process of problem identification, analysis and planning for solutions and evaluation (Stinger, 1999: 8-10, 20-21). Hence, the pattern of this research is in line with the concept about the development of primary care delivery which postulates that learning and cooperation among participants must be created and their capabilities thereby enhanced. The researcher assumes the role of facilitator for creating participation of all sectors in the development and for synthesizing bodies of knowledge obtained from the development. The researcher believes that the health care model that has just been developed is capable of responding to the needs of people in a manner that fulfills such needs. This model would facilitate the learning about health management for different groups including people and community leaders, local administration organizations, and health personnel. Furthermore, this model would lead to the adjustment of the roles of the nursing profession in regard to providing community health care, as well as the adjustment of nursing education management.

**Research Question**

What are the characteristics of the primary care model in the community?

**Research Objectives**

1. To study the health care needs of community
2. To develop a primary care model in the community that is consistent with their health care needs through participation of community health stakeholders

**Scope of the Study**

In this study, the aim was to develop a primary care model in the community focusing on the collaboration of community health stakeholders such as community leaders, lay people, and various organizations in the process of community study, problem identification, health development planning, implementation, and evaluation. The research design utilized community-based action research. The study site was Bang Pla Kod Subdistrict, Ongkharak District, Nakorn Nayok Province – the area without previous establishment of Primary Care

Unit (PCU). This area was also a practice placement site for students from the Faculty of Nursing, Srinakharinwirot University.

**Definitions of Terms**

**Primary care** refers to health care service that focuses on providing care to individual persons, families and communities by integrating health promotion, health-threatening issue prevention and control, curative treatments and rehabilitation. The services are provided holistically with very close links between service providers, service facilities, communities and families. The services also have links with the public health care system of the middle level, other servicing systems, and communities. Such links would help facilitate the beneficial transfers of responsibilities among each other (Subcommittee for Drafting of National Health Bill, n.d.: 5).

**Primary care model in the community** refers to an approach of providing primary care services that covers areas of health promotion, disease prevention, rehabilitation, and curative treatments. The model is obtained through the analysis and synthesis of community health care needs study conducted with participation of community health stakeholders in community –based action research; look (community assessment), think (analyzing and identify community health problem) and act (planning, implementing and evaluation).

**Community health care needs** refers to characteristics of community health problems identified through assessment of community health status and the study on social-cultural aspects of communities, as well as the *vision of health development* defined during the process of participatory planning by community health stakeholders.

**Community health stakeholders** refers to directly affected persons and organizations in communities, who are *people, community leaders, and organizations*. Community leaders include district heads, village heads and public health volunteers. Organizations include Tambon Administration Organization (TAO), schools, temples, Community Health Center of Bang Pla Kod Subdistrict, Ongkarak District, Nakorn Nayok Province, and Faculty of Nursing,

Srinakharinwirot University. The last is an outside organization but is affected by its use of the community as a practice placement site for its nursing students.

**Participation** refers to the collaboration of community health stakeholders in the development process of the primary care model in the community, which includes community health study, problem identification, health development planning, implementation, and evaluation.

# CHAPTER II
# LITERATURE REVIEW

In this chapter, researcher reviewed all relevant literatures in order to shape the idea for developing primary care service in the community. Various concepts and related research were critically reviewed and summarized to provide the conceptual framework for management the research project. The core outlines present in this chapter were as follows

1. Health care system in Thailand;
2. Primary care system;
3. The community health development;
4. Community-based health service (CBHS);
5. The strategy for health “Triangle that Moves the Mountain”,
6. Community participation in health care;
7. The community study;
8. The community master plan;
9. Appreciation Influence Control (A-I-C) technique;
10. Action research and Community – based action research;
11. The conceptual framework.

## Health Care System in Thailand

### Evolution

Health care system in Thailand was evolved from the one of the past, in which people relied on assistance from each other utilizing local wisdom as the resource for treatments of illnesses and for taking care of their health. Later on, modern medicine and public health systems were adopted during the reign of King Rama IV when Thai society was rapidly influenced by technologies of western countries. As a consequence, Thai medical servicing system has been divided into 2 plans, traditional and modern medicines. At present, modern medicine has shared a greater portion of medical services, however, people still maintain a solid value of

using service of Thai traditional medicine, as it has been a traditional and cultural heritage for a long time. Later on during the reign of King Rama V, the government sector extended its role to provide public health services starting by improving the area of treatment and care. To pursue this, Siriraj Hospital was founded in 1888 as the first hospital in Thailand where the medical training program was started.

The public health servicing system in Thailand had been changed accordingly to each period of time starting from establishing a large hospital for each province and a health center in each Tambon. On the other hand, the servicing system at district level was developed rapidly as well. Ministry of public health allocated a lot of resources, both workforces and budgets, to establish community hospitals at district level and enable them to undertake their roles serving as important point to link health centers of Tambon level with hospitals at provincial level through the provision of integrated public health services covering the areas of health promotion, disease prevention and treatments

Currently, health care delivery system could be divided into 3 levels as below (Ministry of Public Health, 1999: 307-309).

1. Primary care level: This is the service delivery system at Tambon level focusing on health promotion, disease prevention and provision of initial care and treatment.

2. Secondary care level: This is the delivery of medical and public health services provided by physicians who have moderate level of knowledge and skills, comprising of units that provide general services and the ones staffed with physicians who are specialized in major areas. Such units are community hospitals; general or regional hospitals; and private hospitals.

3. Tertiary care level: This level delivers other areas of medical and public health services that must be provided by specialists. Servicing units of this level are general hospitals, regional hospitals, university hospitals and large private hospitals that are staffed with specialists covering all areas of specialties.

Even with the fact that hierarchic levels of health care delivery system have been clearly defined, people often skip some levels when they come for services. Even with minor illnesses, they do not want to use services at primary care level but the secondary and tertiary ones. There are several weak points in primary care service delivery system in Thailand because the overall system has not been focused on the development of primary care units both in urban and rural areas. In regard to weakness of services in urban area, the population and areas to be covered by each unit are not clearly separated. The services are primarily provided by private sector through "primary clinics", which has caused problems in regard to quality of care and the relationship within community. Furthermore, there is no equity as well. On the other hand, the weakness of primary care delivery system in rural area is the loss of people's faith and confidence in services rendered by health centers because they do not feel confident in capability of and techniques used by health personnel. There is no support from relevant offices of higher levels. Consequently, people utilize services of health centers less than what they should. In other words, these resources are not utilized in a cost-effective manner (Taweekiat Boonyapaisarncharoen, 1999: 60).

**Health System Reform**

Within a context that health care system of Thailand did not have its efficiency, quality and standards; there were problems about accessibility to health care system; and people's way of life had changed, health problems of Thai people had become more complicated. As a result, health care expenses had increased and reached a critical condition and became one reason for a need to have a health system reform. Furthermore, some changes of environments outside the system such as the political reform (in which the focus of health care delivery system was placed on its efficiency, quality, equity and people's participation) had become another reason for a need to have changes in Thai health system through a reform. As mechanisms and organizations comprising together as components of the health system had some defects in their respective systems, there was a need to reform the health system.

The reform was aimed to change the paradigm of Thai society in regard to the health system itself and its policy-related structure (Wiput Poolcharoen et. al, 2000: 219).

The health system reform of Thailand is the reform of health care structure, system and process through a legislation of Health System Reform Act. The enforcement of this Act fulfils the intent of Section 82 of Thai Constitution 2540 BE (1997 AD). This section prescribes that the state must hold responsibility to provide quality health care services to people in a thorough manner, substantial details of which are as below (Office of National Health System Reform, n.d.: 8-9).

The purpose of the new health system is to emphasize the health enhancement for all people and promote their participation in such enhancement through a continuous process of capability development for individuals, families, communities, environments and societies, in order to achieve a peaceful condition and well-being of staying together.

The direction of public health services must go towards the enhancement of health on a basis of self-sufficiency. It must be a quality, safe, fair and expense-controllable system. Its economic, technical, customary, traditional and cultural aspects must be acceptable to people and there must be several choices of servicing plans or patterns for people to choose. Furthermore, the area of primary care delivery system within the overall public health system must be strengthened in term of its quantitative and qualitative aspects, in order to provide services comprehensively covering all people and communities. On the other hand, the moderate and high levels of public health servicing system and any other public health services in the areas of specialties must be developed simultaneously. These systems must be linked to each other to achieve a participatory working scheme and a sharing of responsibilities.

Basing on the purpose of health system reform, which focuses on the enhancement of health through participation of all sectors involved, therefore, within the new health system, the importance has been placed on the preparation and provision of primary care. As a result of the study about health system reform in various countries with an attempt to identify the solution for problems emerged in

health care system, a concept has been developed. Such concept indicates that, “the development and the strengthening of primary care delivery system would enable the health system of Thailand to become a system that has its equity, quality and efficiency”. This concept is based on a reason that servicing units of primary care system locate close to people and they are able to provide care in a continuous, integrated and holistic manner (Yongyuth Pongsupap, 1999: 2).

## Primary care system

Primary care is increasingly being considered vital to the promotion of well-being and the effective management of health service resources. It is often perceived as being a low – cost alternative to high-tech secondary and tertiary care. Although the principles of primary care service may be simple but it has the complexity of the social, political, and professional context of the development that it is often poorly understood and policies designed to take place in primary care settings are frequently not effectively implemented (Turton, et al., 2000: 195).

### What is primary care ?

In foreign countries, the term “primary care” has been defined with a diverse range of meanings that could be changed when the term is used in different contexts or during different period of time. Understanding its definition would enable a person to have a guide utilizable in his/her practice and in the development of primary care system in Thailand.

#### Early definition

Since its introduction in1961, the term *primary care* has been defined in various ways. Often use to describe what primary care is or who provides it. these definitions are as follows ( Donaldson et al, 1996: 27-28).

Millis Commission Report (1966) used the term p*rimary physician* and defined as follow.

“**The primary physician** will serve as the primary medical resource and counselor to an individual or a family. When a patient needs

hospitalization, the services of other medical specialists, or other medical or paramedical assistance, the primary physician will see that the necessary arrangement are made, giving such responsibility to others as is appropriate, and retaining his own continuing and comprehensive responsibility."

In 1978. The Institute Of Medicine (Donaldson et al, 1996: 29) defined the essence of primary care that definition has been widely quoted and used. It has also proved useful as a touchstone for guiding the assessment of primary care. The definition of primary care is follow.

**Primary care** should and could be practiced "accessible, comprehensive, coordinated and continual care delivered by accountable providers of personal health services."

**The new definition and explanation of terms**

Because of changing in the health care system and health policy, the definition of primary care was explained. The IOM Committee redefined the term of primary care as follows (Donaldson et all, 1996: 31-33).

**Primary care** is the provision of integrated, accessible health care services by clinicians who are accountable for addressing a large majority of personal health care needs, developing a sustained partnership with patients, and practicing in the context of family and community. Each term in the definition is summarized and explained in the word following.

**1. Integrated** is intended in this report to encompass the provision of comprehensive, coordinated, and continues events and information about events occurring in disparate settings, levels of care and over time, preferably throughout the life span.

**2. Comprehensive care** addresses any health problem at any given stage of a patient's life cycle.

**3. Coordination** ensures the provision of a combination of health services and information that meets a patient's needs. It also refers to the

connection between, or the rational ordering of, those services, including the resources of the community.

**4. Continuity** is a characteristic that refers to care our time by a single individual or team of health care professionals ("clinician continuity") and to effective and timely communication of health information; events, risks, advice, and patient preferences ("record continuity").

**5. Accessible** refers to the ease with which a patient can initiate an interaction for any health problem with a clinician (e.g. by phone or at a treatment location) and includes efforts to eliminate barriers such as those posed by geography, administrative hurdles, financing, culture, and language.

**6. Health care services** refers to an array of services that are performed by health care professionals or under their direction, for purpose of promoting, maintaining, or restoring health. The term refer to all settings of care (such as hospital, nursing homes, clinicians' offices, intermediate care facilities, schools, and homes).

**7. Clinician** means an individual who uses a recognized scientific knowledge base and has the authority to direct the delivery of personal health to patients.

**8. Accountabl**e applies to primary care clinicians and the systems in which they operate. These clinicians and systems are responsible to their patinas and communication for addressing a large majority of personal health needs through a sustained partnership with a patient in the context of family and community and for 1) quality of care, 2) patient satisfaction, 3) efficient use of resource, and 4) ethical behavior.

**9. Majority of personal health care needs** refers to the essential characteristic of primary care clinicians: that they receive all problems that patients bring—unrestricted by problem or organ system—and have the appropriate training to diagnose and manage a large majority of those problems and to involve other health care practitioners for further evaluation or treatment when appropriate. Personal health care needs include physical,

mental, emotional, and social concerns that involve the functioning of an individual.

**10. Sustained partnership** refers to the relationship established between the patients and clinician with the expectation of continuation over time. It is predicated on the development of mutual trust, respect, and responsibility.

**11. Patient** means an individual who interacts with a clinician other because of illness or for health promotion and disease prevention.

**12. Context of family and community** refers to an understanding of the patient's living conditions, family dynamics, and culture background. Communities refer to the population served, whether they are patients or not. Community can refer to a geopolitical boundary (a city, county, or state), or to neighbors who share values, experiences, language, religion, culture, or ethic heritage.

Stoekle (1981: 1) defined **primary care** is...

"coordinated, comprehensive and personal care, available on both a first contact and continuous basis. It incorporates several tasks: medical diagnosis and treatment, psychological assessment and management, personal support, communication of information about illness, prevention, and health maintenance."

The Health Strategy 2001 of primary care in Ireland defined **primary care** is… (http://www.doh.ie/hstrat/primcare/contents.html.)

**1. An approach to care** that includes a range of services designed to keep people well, from promotion of health and screening for disease to assessment, diagnosis, treatment and rehabilitation as well as personal social services.

**2. The services provide first-level contract** that is fully accessible by self-referral and have a strong emphasis on working with communities and individuals to improve their health and social well-being.

**3. The first point contact** that people have with the health and personal social services and should be available to all people regardless of who they are, where they live, what their income is or what health and social problems they may have.

In Thailand, The Subcommittee for Drafting of National Health Bill ( n.d.: 5) defined **primary care** is…

> "The Health care service that focuses on providing care to individual persons, families and communities by integrating health promotion, health-threatening issue prevention and control, curative treatments and rehabilitation. The services are provided holistically with very close links between service providers, service facilities, communities and families. It also has links with public health care system of middle level, other servicing systems, and communities. Such links would help facilitate the good transfers of responsibilities between each other."

**What is primary health care?**

The WHO's Alma Ata Declaration defined Primary health care as follows: (WHO, 1978: 3 -4 )

> "Primary health care is essential health care based on practical, scientifically sound and socially acceptable methods and technology made universally accessible to individuals and families in the community through their full participation and a cost that the community and country can afford to maintain at every stage of their development in the spirit of self-reliance and self-determination… It is the first level of contact of individuals, the family, and the community with the national health system bringing health care as close as possible to where people live and work, and constitutes the first element of a continuing health care process."

**The Alma-Ata Declaration** outline's seven parameters of primary health care. These parameters are reiterated and refined in the 1998 document, "Advancing Primary Health Care in Alberta." These parameters provide the ideal outline of how

primary health care is maintained and managed. The parameters of PHC include: (Frankish et al. 2000: 3)

1. The first level of contact with the health system;
2. Accessible (close to where people live and work);
3. Participatory (involves community participation);
4. Affordable (low cost);
5. Empowering (encourages individuals to take more responsibility for their own health, including community self-reliance and self-determination);
6. Initiating a continuing health care process which systematically identifies those at-risk and ensures illness prevention, health promotion, treatment, and rehabilitation;
7. Providing service through multi-disciplinary teams; and
8. Based on practical, scientifically sound and socially acceptable method, and encourages appropriate uses of technology.

Counties Manukau District Health Board (www..cccinternational.com/ Cccinetworku/manuhauprinciples.pdj) defined **Primary health care** is…

> " A locally community based, first point of contact health service, it comprises a range of services from health promotion and screening through to diagnosis and treatment of medical condition, provided by community based health practitioner and support workers. Primary Health care will be:"
>
> **1. Effective**: services will deliver the best possible health outcomes for individuals and their families. This will facilitate overall health gains for the local enrolled population.
>
> **2. Empowering**: Services will promote informed choice and self responsibility of individuals and families who use the services, by being respectful of their needs and wishes and providing clear, comprehensive and objective information regarding the options available to them.
>
> **3. Holistic**: Service delivery will focus on all aspects of health and well-being including the physical, spiritual, emotion and cultural dimension.

**4**. **Efficient**: Service providers will have systems in place which ensure that all available resources are accessed and used to their maximum potential.

**5. Culturally competent**: Service providers and services will meet the diverse cultural needs of peoples in their local community. Measurable indicators will be implemented to ensure acceptability to consumers.

**6. People and Community focused**: Services will be "people centered" rather than "practice centered" Service providers will work closely with the local community to identify local needs and to ensure strong community participation in their governance and decision-making processes including input into planning and review of services.

**7. Quality focused**: Service providers will have a focus on continuous quality improvement and ongoing service development and will put in place systems to measure service quality and outcomes. Service providers will be clinically competent and organizations will have strong clinical governance.

**8. Equitable:** All people will have equal opportunity to access and utilize services. Where appropriate, mechanisms will be put in place to improve access to services for people with high health disparities.

**9. Well coordinated**: Services will be well coordinated internally and externally. Service providers will ensure strong links with other primary healthcare service providers and secondary and tertiary health care providers, and promote effective intersectoral communication and collaboration.

The meaning and important characters of the "PHC" stated above implies that WHO has defined the meaning of "PHC" that covers the provision of the front line servicing station of heath health care. In other words, WHO as well as developed countries have defined the meaning of "Primary health care" as *front line service* or *primary care*, which is the same as the meaning of "Primary care". Therefore, when the terms "Primary care" and "Primary health care" are used in European countries, they imply the same meaning and could be used alternately with each other (Rifat & Lang, 1996: http://www.phdb.moph.go.th).

**Characteristics of primary care**

The complexity of primary care requires that its description include a variety of attributes. The six aspects of primary care were emphasized (Donaldson et all, 1996: 80-81).

1. Excellent primary care is grounded in both the biomedical and the social sciences.
2. Clinical decision making in primary care frequently differs from that in referral specialties.
3. Primary care has at its core a sustained personal relationship between patient and clinician.
4. Primary care does not consider mental health separately from physical health.
5. Opportunities to promote heath and prevent disease are intrinsic to practice.
6. Primary care is information intensive.

Similarly, the Advisory Committee on Health Services (1996 cite in Frankish et al. 2000: 4 ) identified nine principles of primary care including:

1. Patient involvement,
2. Emphasis on keeping people healthy,
3. Appropriate, high quality care,
4. 24-hour access to care,
5. Individual choice of provider,
6. Ongoing patient-provider relationships,
7. Clinical autonomy,
8. Effective management, and
9. Affordability.

**Primary Care Activities**

Provision of primary care must comprise following activities (Tassana Boontong, 2001: 2).

1. Enhancement of health; prevention of diseases and illnesses

2. Surveillance, control and prevention of diseases, illnesses, violence and poisoning substances; management of environment to reduce risk factors and health threatening conditions; screening and identification of patients and people having health risks

3. Providing treatments for patients having basic diseases or illnesses, chronic diseases and accidental emergencies; making further transfers when problems are beyond existing capacity; and setting up comprehensive care covering all such aspects.

4. Providing rehabilitating services for different groups of people in community.

5. Strengthening people to become self-reliance; encouraging people to gather together and form groups to undertake health-related activities; communicating with people to disseminate knowledge and information; providing advice and consultation; building up confidence of people in addressing health problems of community; assessing health status and identifying health problems commonly found in the areas; giving advice about changing behaviors to prevent diseases; and cooperating with local organizations and networks in making plans and solving health-related problems of community people.

**Scope of Primary Care**

The scope of primary care covers the following aspects (Tassana Boontong, 1999: 68-70).

1. Assessment of people's health status: Separate them into a group of normal people, a group of people having health risks, and a group of those having disabilities, in order to manage them properly and efficiently.

2. Providing health care to people when they are normal and when they are ill covering both physical and mental aspects through a holistic health care servicing

scheme that integrates professional knowledge together with local wisdom. Roles and functions of this aspect of care include the following.

2.1 Providing treatments for sick people

2.2 Providing health promotion services

2.3 Providing surveillance of diseases such as giving, prevention of drug use.

2.4 Providing advice and instructions, encourage and support patients and relatives in order that they could rehabilitate themselves when they are ill or disable.

2.5 Proving follow-up services for patients having chronic diseases through surveillance and by ensuring that they receive treatment and care continuously.

2.6 Coordinating with other health professional personnel and other related persons in providing care to individuals, families and communities.

3. Building capability of community until people are able to take care of themselves, help each other and become self-reliant through exchange or selection of health-related information and utilization of local wisdom.

4. Promoting the preservation of rights of clients through providing data and information to raise their awareness about their rights in regard to health-related issues especially aged people, underprivileged children and the poor.

5. Setting up servicing system that covers all groups of people comprehensively.

6. Promoting sanitation and environmental health that favor health promotion and disease prevention.

7. Setting up a referral system of nursing services in order to achieve continuous care for clients.

8. Setting up a system that can store data on health problems of individuals, families and communities on a continual basis, which will be useful for providing health care to people, making work plan and conducting researches.

9. Defining policies, work plans and nursing activities in a manner that they are consistent to the health care plan of community.

10. Assessing, investigating and developing the quality of nursing services on a continual basis.

11. Building up and developing working teams of health care providers on a regular basis.

12 . Participating in the establishment of nursing networks and coordinating them with individuals, families and communities in areas of technical aspects and in health care related issues in order that they can build their capability and can receive continuous care.

**Primary Care Model in Thailand**

Up to present, there have been several weak points in the delivery system of primary care services in Thailand because the overall system has not been focused on the development of primary care units both in urban and rural areas. In regard to weakness of services in urban area, the population and areas to be covered by each unit are not clearly separated. The services are primarily provided by private sector through "primary clinics", which has caused problems in regard to quality of care and the relationship within community. Furthermore, there is no equity as well. On the other hand, the weakness of primary care delivery system in rural area is the loss of people's faith and confidence in services rendered by health centers because they do not feel confident in capability of and techniques used by health personnel. There is no support from relevant offices of higher levels. Consequently, people utilize services of health centers less than what they should. In other words, these resources are not utilized in a cost-effective manner (Taweekiat Boonyapaisarncharoen, 1999: 60).

**Primary Care Model under the Project of Health Insurance for All**

Within the context of the delivery system of primary care services under the project of "health insurance for all"; health centers are utilized as primary care units. Their capacities are upgraded with an increased number of personnel sufficient for providing primary care of a good quality. For urban areas where health centers are not present, previous structures existing in the areas such as public health centers of municipalities and private clinics are to be adjusted in a manner that can provide integrated services. Besides, additional primary care units are to be established in

order to provide health care to people in a comprehensive and continuous manner.The roles of hospital must be modified to mainly serve as servicing units for patients who have more complicated problems and those who are referred from primary care units. Such primary care units under the scheme of health insurance for all are *not* considered as the ones that provide services in area of treatment and care or the ones for diseases screening. Furthermore, they are *not* extended OPD's either. Instead, they are expected to undertake functions to provide health care to people in a continuous manner focusing on health enhancement and other higher-quality services. They must provide care in responsive to a diverse range of people's health needs in an efficient manner covering all areas including treatment and care, health promotion and disease prevention. Apart from this, they must set up an integrated servicing scheme, in which psychological needs of people and their relevant social and economic are taken into account (Health Care Network Development Bureau, 2002: 3). The standard criteria of Primary Care Unit under the project of health insurance for all are follows.

**1. Classification of Primary Care Servicing Units**

Primary care servicing units under the system of health insurance for all are so called as Primary Care Unit (PCU) or Community Health Center. They are divided into two groups as below (Ministry of Public Health, 2001: 62).

1.1 Main contractors: These are health care facilities that are able to deliver services covering all areas of care and staffed with a number of physicians and other personnel of different disciplines that meets the set criteria. These facilities are able to serve as direct Contracting Units for Primary Care (CUP).

1.2 Subcontractors: These are servicing units that could not provide services covering all areas of care or the ones that are not staffed with a number of personnel that meets the number set in the criteria. Servicing units of this level are not eligible to be filed with a registration.

**2. Basic Standards of Primary Care Unit**

A primary care unit must maintain the following physical standards (Ministry of Public Health, 2001: 64-67)

2.1 Location and Population Served

Any primary care unit (PCU) must locate in the area where people under its responsibility are residing and the number of population under responsibility of each PCU must not exceed 10,000.

2.2 Personnel

2.2.1 There must be nurses or public health personnel who have qualifications as defined in standard criteria to work as a team to provide care continuously at the ratio of at least 1 personnel per the population of 1,250. Of this, there must be at least 1 nurse per 5000 persons of population (in the future, the ratio should be improved to have 1 professional nurse per 900 persons of population). At least 75% of these personnel must perform their works regularly and continuously.

2.2.2 At initial stage, they are allowed to have physicians coming from the network to provide service continuously on a full-time basis at a ratio of at least 1 physician per 10,000 persons of the population (in the future when there are more physicians, the ratio should be 1:3,000).

2.2.3 In the areas where the number of physicians is not sufficient, it could be staffed with professional nurses or nurse practitioners whose knowledge and abilities fit to the standard criteria. These nurses would serve as personnel in addition to the ones mentioned in 3.1, which would make the ratio of at least 1: 1,000 under the supervision of physicians who are CUP or main contractors, totally not exceed 1: 20,000.

2.2.4 There must be dentists to provide services at the ratio of at least 1: 20,000. In the areas where the number of dentists is not sufficient, dental assistants can serve as additional personnel at the ratio of at least 1: 20,000 under the supervision of dentists, totally not exceed 1: 40,000.

2.2.5 There must be a pharmacist to oversee the procurement and storage system of medicines and medical supplies and the management of pharmacy-related activities in order to maintain the standard of services, at least 3 hours in a week.

**2.3 Management**

An appropriate management must be in place to ensure continuity, convenience and rapidity of services. There should the data utilizable for providing services of good quality and supporting health promotion and disease prevention activities. There should also be a system that could be used to monitor and improve the quality of services on a regular basis.

**3. Delivery Patterns of Primary Care**

The delivery patterns of primary care are as below (Health Care Network Development Bureau, 2002: 18-21)

**3.1 Service Delivery Patterns are divided as below: -**

3.1.1 Integrated Service comprising of care and treatment for patients who have general and chronic diseases. This service is the integration of the followings: educating clients about their health problems; making home visits when necessary; providing basic and relevant rehabilitation services; and providing services regarding health promotion and disease prevention at individual and family levels, for all age groups, both inside the unit and in community.

3.1.2 Proactive Care: This service includes the promotion of self-reliance among individual people, people's organizations and communities; providing education about how to manage commonly-found health problems and about healthy behaviors; overseeing the coverage of different functions such as health promotion, disease prevention and rehabilitation in community; and cooperating with community and other agencies to analyze health problems, make relevant plans and solve them.

3.1.3 Dental Care: Services provided are basic treatments, dental health promotion and prevention services.

**3.2 Having Access to Primary Care Services**

People can have access to services of the servicing network following the steps that have been defined together with people. People can use services at servicing units of either main contractors or subcontractors. However, using services at secondary and tertiary levels should go through the referral system except for cases of emergencies and accidents.

Basing on the study about situations of primary care delivery under the policy of health insurance for all, it was found that there were 5 structures as below (Prakin Sujchaya et. al, 2002: 2-3).

**1. Community Health Centers in Urban Area:** These centers were established basing on the concept of practitioners (Extended OPD) or the concept to upgrade public health service centers to serve as Primary Care Units (PCU).

According to a case study about primary care services provided by regional hospitals in Northeastern region, there had been a concept of modifying OPD examination rooms to use as the ones of primary care unit following the policy of charging only 30 Baht for any diseases. Besides, the concept of Hospital Accreditation was also applied on top of this. As a consequence, there was a diverse range of structural designs of primary care units. For examples, primary care units inside regional hospitals; community health centers under the administration of hospitals and municipalities; and health centers. There were conditions that any primary care units in municipal area were required to follow.

1) They had to be separated from Out Patient Department.
2) They had to have additional team members to work in community.
3) They had to provide comprehensive health promotion services.
4) They had to have standard criteria for providing services that were not duplicated with the ones of hospitals.
5) They had to be staffed with sufficient number of personnel.
6) They had to have management persons who could create links with local administration organizations and develop the paradigm regarding the work for the benefits of people.

The principle applied for service rendering could be explained as, “Just provide treatment and care and rehabilitation services to people according to the diseases and symptoms that they have.”

In regard to health promotion and diseases prevention in primary care units locating outside municipal areas, working pattern was clearly defined as to work with communities and to link with local wisdom in a form of Health Care Network in order to address health-related issues together. Their health care activities were comprehensive and they also run community health activities. In regard to staffing, the Contracting Unit for Primary Care (CUP) sent some nurse practitioners to station at Primary Care Unit. On the other hand, physicians, dentists and pharmacists came to work there on a rotating basis (Hataichanok Buacharoen, 2002: 7).

**2. Health Centers:** These health centers were developed and upgraded to serve as Community Health Centers outside urban areas. Such process was carried out through the adjustment of concepts and working patterns of personnel; the extension of services to cover boarder extent of health promotion and disease prevention; and making home visits in a systematic manner to provide health care to families. In addition, professional personnel from Contracting Hospitals for Primary Care, such as physicians, nurses and pharmacists were arranged to work in such health centers permanently or occasionally.

According to a case study about primary care services provided by community hospitals in the South, primary care units were established at health centers. They worked under supervision of Contracting Units for Primary Care (CUP) who allocated budget to them per capita of population served. Services provided were initial treatment and care for basic diseases during office hours by nurses. Some units also provided services after hours. During the course of providing treatments, they could consult physicians 24 hours a day. The major role of public health personnel was to provide health promotion and disease prevention, which included antenatal/ postnatal examinations, and immunizations. In regard to family practitioner, there were nurses who made home visits. The problem encountered was that the establishment of primary care unit was too rush in order to respond to the policy of “good health for all”. Health care workers and people were not well prepared for that. Professional staff members did not have homogeneity in working

together. Nurses and public health personnel were unable to coordinate with each other. Each party worked separately and at times left some tasks undone for others to undertake, especially the ones related to treatments and health promotion. Furthermore, there was no clarity in various areas of work performance. For examples, the issue about community participation, the roles of nurses in health promotion activities, investigation system that was not thorough enough, and lacking of supports from other organizations other than the ones from the government (Ruamporn Kongkamnerd, 2002: 11-15).

**3. The Establishment of New Community Health Center to serve as a Model:** Health care workers were asked to volunteer and work there and getting higher amount of remuneration.

There was a case study about community health center of Somchai village established from the budget of Bang Grauy Hospital. It was decided that the center would be located in front of the village. The center was constructed in a modern design to attract people's attention and create acceptance of clients. Staff members from the hospital came to work at the center basing on the principle of practitioners, home visits, and community survey; and focusing on health promotion and disease prevention. On the other hand, services in the area of treatment and care were limited to the basic ones and only for necessary cases, because patients could be referred for further treatments in the hospitals (Katha Banditanukul and Patcharaporn Panyawuthikrai, 2002: 17).

**4. Family Practitioner Unit of Hospitals:** This unit was staffed with multidisciplinary personnel who made home visits to patients after their discharges from hospitals or visited out patients in their houses.

According to a case study about primary care services provided by community hospitals in the Northeastern, a Family Practitioner Center was established to provide services inside and outside the center. It served as the primary care unit of a community hospital. As there was a decentralization of power from central administration to local area, local administration organization was authorized with such power to seek health care services to provide to people in its area. It was also authorized to have nurses to take care of people and to give nursing-study scholarship to students in the area). Therefore, the operation of the center was linked

with the one of local administration organization. In regard to health care servicing activities, nurses would provide basic treatment and care and give health-related advice not longer than 1 hour in a day. For the rest of the day, importance was placed on making home visits and working with community in order to create relationship and run a health building project in community to achieve self-reliance on health-related issues (Jintana Leelakraiwan, 2002: 9).

**5. Drug Stores** that provided services on health promotion in regarding the right use of drug and how to take care of one's own health.

Basing on a case study about drug stores in Bangkok, services provided by drug stores did not include only selling drugs directly to people who had non-complicated problems and those who had doctor's prescriptions, pharmacists stationed at drug stores also took their roles to provide basic health care as well. They gave advice and instructions about drugs and provided basic health information. They screened some diseases and made home visits, followed up the progress of diseases and monitored the problems of drug administration. They referred patients further to receive appropriate treatments. They also run a campaign to prevent diseases and health problems in community. They recorded and made notifications about data on drugs and health products that were beneficial to the aspects of consumer protection. There were links between them and physicians, pharmacists, medical technologists and physiotherapists that were related to the primary care. They also had links with other health care servicing units in government and private sectors, such as community health centers, private clinics, X-ray centers, medical laboratories and nearby hospitals. However, such links had not been official yet but originated occasionally basing mainly on personal relationships. Therefore, there were limitations regarding people's acceptance; the convenience and rapidity of the coordination; and back-and-forth referrals of patients among each of them (Wantana Maneesriwongkul, 2002: 23-24).

All of the above are the situations of primary care delivery system managed in line with government policies through the mechanisms of government sector. Apart from this, several other studies were conducted to find out the facts in the areas within the context of Thailand. Lessons learned obtained from different study sites illustrated the developmental stage of health care system in the areas. This

developmental stage had created opportunities for the “learning together” among different areas. The results of a study about the management of primary care delivery in community conducted by a research team from Faculty of Nursing, Nursing Department and Nursing Science Section, in various communities in 5 regions of Thailand, are detailed as below (Khanitta Nuntaboot, 2002: 32-34).

**1. Case Study of Eastern Region: Chonburi**

The delivery of primary care services was based on the previous structures of health centers and community hospitals. However, the roles of these health centers and community hospitals were modified in a manner that mechanisms of community organizations could be used to mobilize participation. The outstanding point was that community organizations provided supports to primary care services but under the following conditions. 1) Management system; 2) Clearly defined roles and functions of health care personnel; and 3) The adjustment in attitude of service providers in term of their paradigm regarding health. For health care service delivery in this pattern, nurses served as principal service providers together with public health officials. It focused on capability development for service providers through working together with technical officials in the areas.

**2. Case Study of Central Region: Ayudhya**

The structure of primary care servicing system was based on the previous structure, in which hospitals were used as servicing units and health centers were utilized by modifying their servicing roles. In regard to working pattern, physicians served as the center of multidisciplinary servicing team. The outstanding point of the service was the mobile outreach visits, which served as a strategy to strengthen the capability of the servicing unit, to provide easy accessibility for people, and to follow up patients who had chronic diseases. Furthermore, this region had applied the paradigm of learning together continuously to help define roles and functions of service providers and increase their capability through the modification of knowledge transferring techniques.

**3. Case Study of the North: Chiang Mai**

The previous structure of health centers was used in a new primary care delivery system. These health centers had changed their roles to provide primary care services. They utilized mechanisms of hospitals and local health committee as the

resource to make plans for health services delivery and to set up of a supervising and monitoring system by parent hospitals of the network. The determination about the roles and functions of service providers, as well as the capability development for them, were carried out by creating concepts among people, community organizations and local administration organizations; changing their paradigms; and through the development of their attitudes.

**4. Case Study of the South: Songkhla**

Health care servicing system of this region used the structure previously belonged to health centers. The roles of these health centers were changed accordingly in line with the policy, which defined that service providers had to be professional nurses. In regard to working pattern, there was a need for clarification about understandings, concepts and work performance of service providers. People's participation still needed to be encouraged. Monitoring and evaluation system had to be in place and be used efficiently under a condition that system development, personnel development and the development of tools and working methods were its success factors. In regard to enhancing the capability of service providers, it would require a continuous learning process. The researching process would serve as the process for the mobilization of thoughts, exchange of experiences and searching for health care system of the future.

**5. Case Study of the Northeastern: Khon Khaen**

The structure of servicing units inside hospitals was applied as the structure of the primary care services. The structure was the old one but the roles of such units were changed. The areas under their responsibility were clearly separated and specified. Service providers were assigned to station at specific servicing units. In regard to working pattern, servicing system was driven by physicians, community nurses and local administration organizations through the mechanisms of hospitals. The outstanding point of this region was the "working together with community" which served as the major characteristic of the development process. For example, hospitals worked together with Tambon Administration Organization. Nurses served as principal service providers with complimentary assistance from technical and expert persons from local educational institutes. In regard to success factors for this pattern of primary care delivery, changes in paradigm about working in health care

services would be required. Furthermore, there was a need for chances to "learn together" which could be achieved through the supports from community organizations and local administration organization. If this need was met, the capability of service providers could be developed and the good health of people in the area could be achieved.

From perspectives of this study, the implementation could be concluded as below (Khanitta Nuntaboot, 2002: 33).

1. The development process of primary care management system must focus on specificity of each area. This way, primary care provided will be responsive to health needs of people with a regard to their status as human being. It will be consistent to their social and cultural ways of life as well. Therefore, the development of working method must be specific. In other words, it must derive from local initiatives. The analysis and synthesis of weakness, strength and determining factors must be undertaken in order to identify strategies for on-going and feasible development. Such strategies should cover the following 3 areas: 1) changes in work process of the organization as a mean to implement the policies of the government, 2) financial management (which is an important supportive mechanism), and 3) human resource development.

2. The must be the coordination with related parties and organizations, such as people, community organizations, health care facilities and service providers under the support from government and local mechanisms. So far in the strengthening process, there has not been any links between each of these parties. Potentials and capabilities of each organization have not been taken to utilize together in an obvious manner.

3. Related professional persons should provide their opinions as the inputs for the determination about roles and functions to be undertaken in primary care system. Such opinions should be based on their respective areas of specialties but they should share the same purpose in common, which is to achieve health enhancement for people. In this regard, each profession has performed all works separately from the ones of others, both at field and professional levels. Each one has not acknowledged about the works of the others. They have not worked together in a homogeneous manner and have not learned together about working experiences

within areas or contexts of the others. This is the contrary to the fact that working and learning together is essential for the pursuance of "tangible" primary care. Due to these barriers, the national strategy development process has been progressing very slowly and relevant management for this has not been in place.

Success factors of primary care management system in transitional period are as below (Khanitta Nuntaboot, 2002: 32-34).

1. Homogeneity of servicing units and service providers: Primary care units at all levels must link with each other as a network in order that they can assist each other continuously regarding service delivery. Members of servicing team coming from different professions must set up a mutual goal in order to strengthen the health care delivery system among related parties. They should undertake the roles that are complimentary to the ones of each other but in a manner that they all share the same purpose in common, which is to work for the benefits of people.

2. Financial management of primary care units: It must be "people-centered" management.

3. Coordination between related professional organizations, research organizations, community organizations and service providers: Health care facilities required for primary care delivery must be established/constructed at field level in order to increase the capabilities of service providers in a manner that they are linked with people. This way, the homogeneity and consistency of health care delivery system would be achieved through the learning together between network organizations within the area and by extending the scope of coordination to involve organizations outside the area.

4. The development process of primary care delivery system must be divided into phases and the cooperation among academic/technical organizations; research organizations; service providers; health care facilities and local organizations must be focussed on, in a manner that they could form a health care network.

This is to generate the body of knowledge about working patterns and working methods that are based on the actual facts obtained from the field. It is also aimed to generate body of knowledge in academic/technical areas. The generation of

such bodies of knowledge must be carried out in a tangible manner during transitional period and in the long run.

**4.1 Transitional period**

4.1.1 Demonstrate how members of "primary care system development networks" could work together in the fields. Examples from various and different fields should be raised for the demonstration.

4.1.2 Generate the body of knowledge about "mutual learning process" in order that the areas of primary care system development could be expanded. This must be carried out basing on the paradigm regarding the cooperation among networks.

4.1.3 During implementation period, the expansion of the areas of the primary care system development must be focussed on. This must be carried out basing on the paradigm regarding the cooperation among networks residing in different regions across the country.

**4.2 In the long run**

4.2.1 Educational institutes must develop the health personnel production system in a manner that it is responsive to the need of the primary care system development network.

**Primary care models in foreign countries**

The model of primary care in each country was developed basing on different factors. For examples, intention to control/reduce health expenditures, to develop health insurance for all, to enhance efficiency of health system, and to prepare health services that are easy for people to get access to. Several countries have realized about the importance of primary care development and utilize the strategies of health care servicing system to serve as the center of the overall health care service development. The characteristics of primary care model vary from one country to another. Reviewing lessons learned of various countries would enhance better understanding about the contexts of health service delivery as well as the management. Patterns of primary care delivery in other countries could be summarized as below.

**1. Canada**

**1.1 Primary Care Service Delivery System**

Primary care is the fist line service in the flowing system of health care service. Services are carried out under patient-centered scheme and available 24 hours a day. Clients maintain their rights to choose specific service providers on preference and to change their family doctors. Consequently from health system reform that proactive primary care has been focused, and with the success of providing services rendered by family doctors and nurses, health care system of Canada has been enhanced. Comparing to other countries, its levels of efficiency, effectiveness and clients' satisfaction are higher (http://www.cfpc.Ca/ communications /prescription.asp.).

**1.2 Financial System**

The system is publicly funded but it services are provided by private sector. Most of its expenditures obtained from personal and corporate income taxes collected by federal and local governments. The health care system comprises of provincial plans covering 10 provinces and health insurance plans covering 2 regions. These health insurance plans comprehensively cover inpatient and outpatient services and private clinics. 70% of health insurance fund comes from government funds and the other 30% comes from private health insurance plan, premiums of which are covered by employers for their employees or paid directly by employees themselves (Ross, et all, 1999: 313).

**1.3 Primary Care Service Providers**

The main service providers are family doctors who provide cares collaboratively with other health personnel as a team, such as nurse practitioners, nurse midwives, professional nurses, nutritionists/dieticians, social workers, physiotherapists, pharmacists and occupational therapists. Number of service providers in each discipline depends on geographic location and demographic characters of each area. Clients can choose specific service providers on preference and maintain the right to change their family doctors. Nurses in FPNs are well accepted as knowledgeable and skillful as required for nursing practice (http://www.cfpc.ca/communications/prescription.asp.).

**2.United States of America**

**2.1 Primary Care Service Delivery System**

The primary care in the USA is the gatekeeper for the entrance opening into the flow inside health servicing system. Parts of the primary care also include community health servicing units accessible for people such as medical clinics, health maintenance organizations, community health centers and community nursing center.

**2.2 Financial System**

The coverage of federal health insurance plan is available in 2 categories. The first one is "Medicare" covering 13% of the population, which are elders and the handicapped. The services it covers for are 'acute-care focused'. The second one is "Medicaid" covering 10% of the population, which are the poor. It covers preventive services and acute and long-term cares. In regard to home care and long-term care for chronic illnesses and age-related frailty, they are usually *not covered* by any health insurance plans of either government or private sectors (Ross et al., 1999: 3, 73).

**2.3 Primary Care Service Providers**

The main service providers are medical doctors who are general or family practitioners, which usually gather together as groups. Other service providers include pharmacists, nurse practitioners, physician's assistants and dentists.

**3. New Zealand**

**3.1 Primary Care Service Delivery System**

Primary care in New Zealand is dominated by private for-profit general medical practice, with services provided on user-pays basis. Fees are set by individual GPs. The services are provided basing on the concept of "Primary Health Care". The service is moving itself towards the direction of providing health care to people in a manner that its accessibility is focused and collaboration with other professional disciplines is in place to provide a *package of care* instead of only the care provided by general practitioners as before. The characteristics of primary care servicing model are as below (http://www.drs.org.au/new_doctor/74/sibthorpe.html).

1. Registration of clients on a population-based basis.
2. Primary health organizations (PHOs) has been established to undertaking registration roles as mentioned in number 1 above for further providing primary care

(which includes general practice, nursing and community services) while District Health Boards (DHBs) are responsible for buying services.

3. The system is focused on community involvement and the participation in PHOs.

4. Provide serious supports to the third sectors including Maori service providers and people living in pacific islands.

5. Emphasize importance of political agenda and reduction of health–related inequity.

**3.2 Financial System**

District Health Boards (DHBs) who undertake function of buying services receive budgets from the government on a population-based basis and the budgets are provided basing on the calculation of allocation per capita. DHBs undertake service purchasing roles both for hospital and primary care services. In regard to the funding for health coverage for pediatric clients and those who have to come for services very frequently (12 visits/years carrying High-user Card), treatment costs will be subsidized by the government. The subsidizing type or amount depends on type, traveling distance to facility, location and the time of each service. The subsidized amount will be paid according to the invoice sent from general practitioners that are members of General Medical Service (GMS) (http://www.drs.org.au/new_doctor/74/sibthorpe.html).

**3.3 Primary Care Service Providers**

Service providers are medical doctors of general practice in private sector. Other service providers include independent nurse midwives, nurse practitioners and Plunket Society who provides well-baby clinic services in community (http://www.drs.org.au/new_doctor/74/sibthorpe.html).

**4. United Kingdom**

**4.1 Primary Care Service Delivery System**

In United Kingdom, the primary care service delivery system comprises of GPs and community health services. The GPs hold a status of contractor independently from NHS. Therefore, GPs conduct their practice and run a small private business, which mostly earns income from providing services to registered patients of NHS. In this system, the registration of patients is required and there are

competitions among service providers. With such competitions and the status of independent contractors, separation from each other among local health services exists and there is no integration among them. The servicing patterns of GPs are diverse, therefore the characteristics of services provided are varied according to GP doctors and community-based practitioners such as district nurse, health visitor and therapist. The service model used is disease-oriented. There were several causing factors for changes in policy about primary care services. In early 1980, there were changes in demographic characteristics, changes in pattern of illness, increases in health expenditures and differences in standards of primary care services. Therefore, a policy was issued to focused on the development of primary care standards. And in 1990, there was a health-related policy of UK that supported the use of primary care serving as the center of overall health services. Medical doctors in the field of general practice were assigned to take responsibility in "Family Health Services Authority" and they were enabled to have authority to oversee and control GPs. The method of bill payment was also changed in order to achieve servicing goals and the goals of consumer, which was the GP fund-holding (Exworthy, 2001: 268-269).

**4.2 Financial System**

The source of health-related incomes are obtained from the money paid for health by people through the state via direct taxation (0-50%), indirect taxation (17%) and national insurance (9%). In regard to payment to servicing units, there are 3 methods. Firstly is to pay capitation fee. Secondly is to pay additional fee per each additional item of service. And thirdly is to have people share the costs of medicines. In term of administrative aspects, there is a Health Board, an organization that buys services for people and pays the money for such services to health care facilities and service providers. GP Fund Holder receives budgets from Health Board for providing primary care to, and buys secondary care for patients (Exworthy, 2001: 266-267).

**4.3 Primary Care Service Providers**

Service providers are family practitioners and they have gathered together as Primary Care Groups (PCGs) covering all primary services nationwide. There are 500 servicing units all over the kingdom, each of which staffed with 50 GPs and provide services to a population of 100,000 persons. They undertake 3 key roles: to develop health; to develop primary care; and to deliver health services in the

community. They also have additional role in referring patients further to secondary care level (Exworthy, 2001: 268-269).

In regard to the roles of nurses in primary care, they can be divided into 4 major groups.

1) *Practice nurses* who are graduated with a bachelor degree but have never been trained in any special fields;

2) *Community nurses* who provide services in local NHS trust and provide care to patient at home;

3) *Public health nurses*; and

4) *Nurse practitioners* who have been trained in diagnostic and treatment skills and are able to work independently and transfer patients to other service providers appropriately.

Apart from these, there are other groups of nurses such as community and/or independent midwives, community psychiatric nurses who provide services to chronic patients that have developed mental problems in Mental Health Unit of NHS Trust (Turton, Peckham. & Tayylor , 2000: 202-205).

**5. Singapore**

**5.1 Primary Care Service Delivery System**

Primary care functions as the gatekeeper of health servicing system up to only a certain level. People can choose to use higher level of care by paying more money for additional costs without a need to go through any referral systems. The outpatient services are provided in a one-stop-service environment. Activities of health services include health screening, disease prevention for school children, home care, day-care/rehabilitation for elders, health education and health promotion. Servicing system at this level comprises of government and private polyclinics. Most people usually use the services rendered by their family practitioners. Besides, there are some agencies that provide primary care services. For example, “Family Health Care” which provides services for clients of all age including vaccination, health promotion, basic diagnostic screening, health services for women, family planning, nutrition consultation, psychiatric consultation, dental services, pharmaceutical consultation, X-ray, laboratory investigation, home visits and rehabilitation. Another

one is “School Health Service” running activities of health examination, vaccination and health education for school children. There is also a “Dental Service” which develops dental health continuously, emphasizes education on dental health, provides basic dental cares and deliveries efficient preventive dental care in community (Liu & Yue, 1999: 1-2).

**5.2 Financial System**

In the financing system for health care services, people must bear responsibility of taking care of their health. This is based on mutual responsibilities between individual persons and the state. The system consists of the followings.

1. Medisave: The compulsory system for persons who have their careers.
2. Medishield: The health insurance system with cheap premiums.
3. Medifund: The funding system that the state subsidizes for people having low incomes.

**5.3 Primary Care Service Providers**

Service providers include physicians, dentists, nurses and other public health personnel.

Basing on the review about the management of primary care service delivery in foreign country and in Thailand, it could be concluded as shown in Table 1.

**Table 1** The management of primary care service delivery in foreign country and in Thailand

| Issues | The management of primary care service delivery in foreign countries | The management of primary care service delivery in Thailand |
|---|---|---|
| 1. The management of primary care service delivery | Most of primary care services are managed by private sector providing services through GP clinics, most of which serve as the first entry into health care system and there is a system that links to higher levels of services. | Most services are managed by government sector. Primary care is defined as the first entry into health care system and there is a link to higher levels of care. However, using services by skipping some steps were commonly found. |
| 2.Characteristics of services | Services are provided in an integration of treatment, health promotion, disease prevention, rehabilitation and continuous care. | Services are provided in an integration of treatment, health promotion, disease prevention, and rehabilitation. However, the mostly focussing area is the treatment. |
| 3. Scope of services | Services are prepared both in a defensive (preparatory) manner in health care settings and in a proactive manner outreaching to community (in which the concept of “community-based service” is applied). | Services are provided proactively in community through health centers and community hospitals. |
| 4. Registration | There are registrations. | There are registrations. |
| 5. Service providers | Principal service providers are general practitioners and family practitioners. They also work as a team with nurse practitioners, professional nurses, dentists, physician assistants, nutritionists | Principal service providers are physicians, nurses and public health officials. |

**Table 1** The management of primary care service delivery in foreign country and in Thailand (continued)

| Issues | The management of primary care service delivery in foreign countries | The management of primary care service delivery in Thailand |
|---|---|---|
| | and so on. | |
| 6. Payment system of service purchase | Co-payment | Capitation–based lump sum |

**Conclusions**: Health care reform in foreign countries and Thailand, It focused on providing proactive services emphasizing on making the outreach of services to communities. This is aimed to promote health, protect them against preventable diseases and strengthen communities so that they can handle health problems of their people. Increasingly, effective public health action must incorporate knowledge of the context and commitment of community leaders and other stakeholders in decisions regarding priorities, distribution of responsibilities and resources for community health action. Hence, Community Health Development is a comprehensive health development program that aims to improve the health status and quality of life of a community. The ultimate goal is to enable a community to lead a healthy life. Hence, it applies a holistic approach to achieve this goal.

Building Community Health implies a need to change and change is a political process anywhere and especially in communities. The changes required are not only in the daily lives of the individual members and families of the community but also in the way the health system is organized and operates at the community level. For community members this may involve sharing responsibilities and investing personal time in planning and implementing health actions. For health workers in most cases this would imply a change in their roles, competencies and workloads so as to ensure adequate and timely support of community initiatives.

Such changes require highly motivated and committed leaders and teams with vision for the improvement of the health of their people.

## The Community Health Development

Community Health Development (CHD) is a comprehensive health development program that aims to improve the health status and quality of life of a community. The ultimate goal is to enable a community to lead a healthy life. Hence, it applies a holistic approach to achieve this goal (Nugroho, et al., http://www. healthdevelopment.org/frames.htm).

Community Health Development recognizes the need to involve the people in holistic solutions to health problems. To be sustainable, Community Health Development also needs continuing support from the service agencies available in the area, such as health services, environment, social welfare, and education. It is best presented as an alternative approach to strengthen the existing health system. It aims to achieve a greater impact on the health of people, greater coverage oh health services, and takes into consideration the shortage in financial resources and health workers (Nugroho, et al., http://www. healthdevelopment.org/frames.htm).

### Element of Community Heath Development

A community development approach is concerned with the notion of shared power between health professionals and lay people and the move from dependency to involvement. The concepts which underpin this approach are about equal access to resources, promoting democracy and involvement in decision-making about health, taking action to bring about change, sharing power and working in partnership with communities. Underlying each is the concept of shared authority. This means that each person takes equal responsibility for the decision-making and each is accountable for the outcomes. A brief outline of each of the different elements will demonstrate this (Dalziel, 2002: 219-227).

**1. Equity**

People all have the right to equal access to available health services for the maintenance and promotion of heath but, to be fair, people do not all need to be

treated in the same way. Inequalities in health care are not only about the provision of services but also how those services are delivered. Addressing inequalities means challenging practices that discriminate against individuals on whatever basis – poverty, race, disability, language , sexually or age – in the provision of essentials for health. It also involves examining the provision, quality, uptake, accessibility and availability to those who have the greatest need.

**2. Empowerment**

The empowerment process involves building individual and collective confidence and raising the esteem of individuals and communities through valuing their knowledge and experience and supporting them to be part of the decision-making process. Empowerment skills include problem-solving, assertiveness and confidence-building strategies.

**3.Participation**

Health personal can support their communities to be involved in any of these different levels. Involving people as part of the decision-making process is beneficial not only to the people living in communities but to the service providers. Giving users a voice in what they need avoids mismatch of services and may in the long run be more economical.

**4. Partnership and alliances**

A key concept in the community development process is partnership and the building of alliances. The benefits of community partnerships to health personal in relation to pooling information, knowledge, experience, skills and resources are too important to the promotion of health to be lost to medical politics. Joint working can be more efficient and effective and can widen and deepen the impact of health initiatives. In return, health personal must be willing to share knowledge and power with each other and other agencies and, importantly, the community and to be involved in supporting community involvement.

**5. Collective action**

The other experienced community development worker's experience suggests that the knowledge of what constitutes community development in primary care is very incomplete. Collective action occurs when people act together to bring about changes in their circumstances that they identify need to be changed. Rather

than supporting dependency and passivity they can ask themselves how they could support social action in their neighbourhood to bring about changes in confidence and self-esteem.

**Community Heath Development Strategy**

The general strategy of Community Heath Development (CHD) includes the following (Nugroho, et al. http://www. healthdevelopment.org/frames.htm):

1. Introduction of CHD and obtaining commitment of local agency leaders to the holistic CHD concept;

2. Community preparation, organization and training in community health development (CHD) and community development (CD);

3. Community involvement to promote personal and community responsibility and involvement in health and development activities;

4. Organization and training of an inter-agency team to oversee CHD in the local area;

5. Less emphasis on treatment of diseases and more on increasing the capability of individuals, families and communities to live a healthy life, stressing the importance of health promotion and development,

6. Use of appropriate technology at a cost that the community can afford;

7. Development of a system of community and small group planning, implementation, and review for health development;

8. Inter-agency planning, evaluation, refinement and expansion of CHD to other communities.

**Community Health Development as an Community empowerment**

Community Health Development can be created community empowerment. A selection of related studies on community empowerment were show as follows.

Wannara Chuenwattana (2002) studied community empowerment on child rearing in child under 6 years old by using participatory action research. The development process consisted of creation of the community's visions together, establishment of the focus groups objectives and work strategy, planning for solving

problems , and evaluation. The research found that the process of community development by participatory action research can be used for the empowerment of the community. The factors that support empowerment are having a strong natural leader, awareness of community problem, the ability of the community to cooperate in solving problems, ability to identify problems and find solutions by themselves.

Patcharin Lekswat (2001) studied the effectiveness of an oral health promotion program applying community empowerment among preschool children in Lampang province. It was found that the local leaders mobilized resources to support the oral health promotion program and the Tambon Administration Organization allocated budget to improve all day-care centers and supported budget for dental treatment in the health center.

**Conclusion:** CHD helps in creating the community health system, complementing the district health system to make the “new” district health system work to achieve the desired improvement in the health for all the people. Working with a community development approach will nor not only involve a change in practice for health personal and the need to enhance skills such as group work, but will radically change the relationships health personal have with the people with whom they are involved. No longer working for patients or clients but working with them, acknowledging the value of local expertise and knowledge and being able to support the emergence of leaders from within the community to take things forward.

## Community-based health services

Community-based care is directed at a target population, which is often described as a population at risk. Population at risk are aggregates that possess characteristics or exhibit behaviors that increase the chances of developing disease or disorder. To design a plan of care in the community level, the data gathered from the assessment of the community are used to plan community-based interventions The assessment process identifies the kinds of services and programs that are needed in the community (Klainberg et al., 1998: 176, 178).

The need for workable plans for community-based service delivery has been evident since the implementation of deinstitutionalization policies in the 1960s, which emptied a wide variety of large institutions with the expectation that former residents would be cared for in the community. The question of community-based services remains particularly germane today, for several reasons (Wolch, 1996: 649-650).

1. Community-based services will be hard pressed to meet the new demands that will be result from those seeking assistance during welfare reform.

2. Service deemed vital for the self-sufficiency of families and children are severely fragmented, which has inspired the implementation of federally supported housing programs and a variety of local service coordination demonstration projects.

3. Community-based services increase a continuum of care for people.

The implications (for clients and communities) of a community-based service provision strategy to support society' most vulnerable citizens and help service-dependent urban residents become more self-sufficient have yet to be adequately addressed.

Wanke et al.(1995 cited in Frankish, Moultan & Gray, 2000: 4) offer a further set of relevant principles for what they term 'community-based health services'(CBHS), these include:

**1. Universality** : as a foundation of the health system, CBHSs universally accessible to individuals, families and communities at a level affordable to the health system.

**2. Appropriate Environment** : CBHSs are delivered within the context of people's everyday life. Thus, to the extent feasible given available resources and services are; delivered as close as possible to where people live, work, go to school and/or undertake leisure activities; provided within each individual's family and community context; culturally appropriate; linguistically appropriate; and physically accessible.

**3. Continuum** : CBHSs encompass the full continuum of primary health services including health promotive, preventive, primary curative, rehabilitative and supportive services. When it is deemed that specialized secondary and tertiary health services are most appropriately delivered in an institutional setting, CBHSs, as the

first level of contact within the health system, are the primary route of access to these institutional services.

**4. Equity** : While offering a core of CBHSs to all residents, providers also target services for individuals, families and communities demonstrating the greatest existing or potential health risk.

**5. Health Focus** : While providing a full continuum of primary health services, the emphasis of CBHSs is on maintaining the health of individuals, families and communities and on addressing the determinants of health through a socio-ecological approach.

**6. Interdisciplinary** : CBHSs are delivered by teams of individuals who share common goals, determined by individuals and community needs, to which the achievement of each number of the team contributes, in a coordinated manner, in accordance with his/her competencies and skills and respecting the functions of other.

**7. Intersectoral** : Recognizing that the formal health system is only one of a number of factors that determine the health of individuals and populations, CBHSs providers work in partnership with other community organizations in the identification and resolution of health and related issues.

**8. Population-Based** : CBHSs are delivered to a specified geographical territory or sub-group pf the population, thus involving a population-orientation to service planning and evaluation.

**9. Responsiveness** : CBHSs providers are responsive to the needs and concerns of the individuals, families and communities served and actively involve consumer and citizens in the governance, management and evaluation of services.

A selection of related studies of community – based health service were shown as follows:

Elliott, K. (1990) studied "What role do community health centers play in improving Ontario's health care system ?. " The purpose of this study is to determine what role Community Health Centres (CHC's) play in improving Ontario's health care system. At the micro level of analysis CHC's do fulfill their objectives. However, as CHC's service target groups, such as ethnic minorities, low-income

populations, and seniors, they separate certain sectors of the population. By creating different service models for the privileged and for the disadvantaged, the government may be creating a two-tiered health care system. As a consequence, by adopting Chic's the Ontario government may be further exacerbating one of the problems it was addressing, the universality-selectivity dilemma.

Ghaly, M. A.(1990) studied "Client outcomes in a community health setting" .The most notable indicator of quality of care, the medication adherence scale, showed all clients taking medications as prescribed. The primary reason for discharge showed that the client could manage without further services. Clients reported that they were somewhat satisfied or very satisfied with services. Caregivers reported a low perceived level of stress. The scales measuring discharge status and symptom distress need further investigation to determine if they are true indicators of the concept of quality care.

**Conclusion:** It is quite obvious that the concept of community-based health services is consistent to the provision of primary care, the aim of which is to enhance the health of people and to create their ability in taking care of their own health. Therefore, in order to develop the primary care, the body of knowledge about working pattern and working method must be created in a manner that they are based on the facts obtained from the field. Furthermore, the coordination among service providers, people in the area and related organizations is also required for primary care delivery strengthening.

## The strategy for health: "Triangle that moves the mountain"

The strategy regarding the "triangle that moves the mountain" is the concept about the principle of working together among all three sectors by using wisdom to create knowledge and understanding among people in society and develop political involvement. This strategy was used for making movements for changes in difficult issues quite successfully, such as the political reform (drafting people's version of constitution) and health system reform (Prawes Wasi, 1999:9-10; 2000: 32; Wiput Poolcharoen et. al, 2000: 220).

**1.Generation of wisdom**

This is a technical task undertaken to synthesize body of knowledge utilizable for the development of mutual understanding between political and social sectors. This body of knowledge can also be used as the basis for decision making in a scientific manner and without prejudice. This task is "technical" because it needs to clarify that "What are the problems?" "What are the causes of such problems?" "What are the solutions?" "How to set up organizational structure and how the management would be?" All of these are systematic knowledge that must be analyzed and synthesized further to become utilizable for the management.

**2. Social movement**

The social movement is the power of strengthened people participating in giving a push for changes. It would reflect health needs and problems by using clear and diversified knowledge to drive social movement or to facilitate the generation of extensive knowledge through meetings and all kinds of media. Social movement would strengthen the undertaking of technical tasks and attract political sector to become involved. It is hard for technical component to involve or link directly with political sector. On the other hand, it is easier for social movement to create the link with or receive involvement from political sector.

**3. Political involvement**

The power of political sector is crucial for making changes in the structure of health-related policies, budgets and laws.

For health system reform, technical tasks were undertaken to develop body of knowledge as its first step. A research on body of knowledge about health development was conducted systematically to identify areas that need to be changed or reformed and to define the method required for making changes in a manner that it would catch up with changing situations. After the body of knowledge was analyzed and synthesized, a clearer body of knowledge was used to drive movements among related groups in various sectors to ensure that they would have knowledge and understanding. This was aimed that they would participate in driving mechanism of health system reform and in policy-making process. The reason for this is the principle that "Health is the issue involving people. Therefore, people must

participate in all health care related issues." To implement this, knowledge was generated and disseminated regularly, regional and national meetings for allied parties in health system reform were held serving as brainstorming stages to mobilize opinions of Thai people about the desired national health system. At the same time, information was presented through various media with the aim that people from all over the country would share their opinions and experiences. The political involvement was also developed by establishing the "National Health Committee" to serve as the core mechanism for overseeing issues related to directions and policies of national health system. It also served as the channel for legislation of related laws, "National Health System Bill BE…..", to use as the frame for setting up such directions, systems and structures.

In regard to community health development, a systematical study of problems is required. Body of knowledge on analysis and synthesis must be used as input data to create understanding among related parties. It must be used to create movements of people in community, organizations and stakeholders in order to raise their awareness and mobilize their cooperation. Furthermore, the link must be made with local administration organizations. These organizations hold responsibility to provide health care to people in the area according to the decentralization of health-related power. Therefore, local administration organizations have power in budgets and resources allocation and in the development of health-related policies.

Grassroots community development is the focus of the Healthy Communities: working within the Health for All movement. Healthy Communities is an international movement of communities focused on mobilizing local resources and political, professional, and community members to improve the health of the community. A Healthy Communities is one whose priority is to improve its environment and expand its resources so that community members can support each other in achieving their highest potential (Flynn, B.C. & Ivanov, L.L. , 2000: 350).

## Community participation in health care

Interest in community participation in health care is not new; there was community support for healers in past centuries and it is still a feature of traditional cultures today. To deal with the health crisis, a logical step would be to shift the emphasis away from medical service and new technologies toward preventive, decentralized, community care based on epidemiological priorities. Health service delivery was seen in terms of social policy rather than technological development (Rifkin, 1990: 1).

Participation means that all group members listen and are listened to, share in decision making, and contribute to the achievement of group tasks and objectives. Community development and organizational behavior research indicates that participation by all group members increases group motivation, leads to greater involvement in group activities, is associated with higher levels of commitment to group plans and objectives, and contributes to greater success in achievement of group goals( Cooke & szumal, 1994; Minkler, 1997 cited in Hickman & King 2001: 390).

**Why participation?**

One of the key changes is in the role of the ‘patient’ or the consumer of health care services. People are no longer content to be treated as passive recipients of whatever is deemed to be good for them. They want to be partners in the decision-making about their own health. And they want to be involved in designing, managing and delivering health care services so as to ensure that they are safe, effective and appropriate to community needs. The participation by consumers in health care policy and practice is now being recognized and sought as a means of improving the quality of care and making the system more accountable. A growing number of governments and health policy, planning and service delivery and evaluation. This is gradually bringing about a cultural change in an area that has traditionally been characterized by imbalances power between consumers, health professionals and administrators, particularly in the hospital sector. Some traditional models of health care have also been characterized by hierarchical power than active participants. Under this model, health care systems were designed and managed by

health professionals and administrators without input from those on the receiving end of services (http://www.participateinhealth.org.au/ClearingHouse/Docs/cfcedandtrainreport.pdf.).

The important of community participation in health care program can be summarize as follows (Oakley & Kahssay, 1999 : 9).

1. Community participation in health is a basic right of all people. Involvement in the decisions and action that affect people's health builds self-esteem and encourages a sense of responsibility.

2. Many health services, especially in developing countries, depend on limited resources. Community involvement in health care. Therefore, help make the available health resources more responsive to the basic needs of the people. Local knowledge and resources can be used to complement those provided by the formal health services.

3. Community participation in health increases the possibility that health program and projects will be appropriate and successful in meeting the health needs defined by the health service. Health program will have a better chance of success when health services are consistent with local perceptions of health needs and managed with the support of local people.

4. Community participation in health breaks the bond of dependence that characterizes much health development work and generally creates an awareness among local people of their potential involvement in development.

As a decade later, and reflecting on the practice in the intervening period, Rifkin (1996: 10-11) summarized the benefits which community participation was expected to bring to Primary Health Care programs.

1. People would make better use of existing health services and would ensure the sustainability of new services by being involved in decisions about their development.

2. People would be able to contribute resources of money, labor and materials to support the scarce allocated to health care.

3. People would change their poor health behavior if they had been involved in exploring its consequences.

4. People would gain experience and information which would help them to gain control of their own lives and thus challenge the existing social, political and economic system which had deprived them of this control.

**How do people participate?**

Rifkin (1990 : 11-12) suggested that, community can be participate in program with as important health services component in five different levels.

1. People participate in the benefits of the program.
2. People participate in program activities.
3. People participate in implementing health program.
4. People participate in monitoring and evaluating program.
5. People participate in planning program.

**Levels of people participation in health care**

Levels of people participation range through "minimal levels where consumers receive information, but little say, through to joint planning and ultimately to consumer or community control." Level of participation can be categorized as being at the level of Individual care, Health service, Health systems (http://nrccph.latrobe.edu.au).

. **1. Individual care**

People need to know that they have a right to participate in decisions about their own health care. Key to success at this level is the provision of "written and verbal information presented in an accessible and understandable way explaining treatment choices and likely outcomes with pathways for asking and getting answers to questions".

**2. Health service planning and review**

Individuals can participate at the planning and review level, however, for practical reasons it is usually done through the representative(s) of a community or group. The key to success at this level is the knowledge and experience the representative has and include – 1) a broad knowledge of specific issues 2) to know what being a representative entails 3) to be well positioned to communicate decisions between the represented community or group and the health service.

**3. Health system policy development**

The participation at this level is usually done through the representative or representative of a community or group. Key to success at this level is the knowledge and experience of the representative as outlined for health services above, plus – a broad knowledge of the health system.

A selection of related studies of participation of community – based primary care were shown as follows:

Long (1992) studied "Organizational competence for the facilitation of community participation in three community based health care projects in Kenya." The study demonstrated how differences in community participation were associated with differences in boundary spanning strategies and organizational structures and processes at two levels of analysis: overall project level and individual community level.

A model for organizational competence for community participation summarized the results of the study. Community participation was highest in the projects which aggressively pursued the development of mediating structures at community level through community development strategies using salaried project staff to span the boundaries between the community and the project. Community health workers were ineffective boundary spanners for community development.

Participation was greatest in the communities in which project supervisors frequently supported the community health worker in development activities. Differences in task supervision and the technical training of community health workers were not associated with community participation.

Community participation was enhanced by emergent planning, few donor agency restrictions, personal feedback mechanisms within the agency, and informal, group decision-making at the interface of the project and the community. "Blueprint" planning, donor agency restrictions, organizational dependence upon impersonal feedback, and hierarchical decision-making were barriers to community participation.

Woznica.(1986) studied " Community participation in health as an empowering process : a case study from Nicaragua."Community participation is analyzed from two perspectives: neighborhood involvement in health in a socio-historical context, and the manifestation of citizen participation in four community health programs. A variety of anthropological techniques were used to collect data, including participant observation, interviews, journals, and logs. Guba's criteria for trustworthiness in naturalistic inquiries were used as credibility checks in data collection and analysis. The study showed that community empowerment in health is a four-stage cyclical process. The four stages are (1) Analysis; (2) Organization; (3) Action; and (4) Transformation. In that the process is cyclic and ongoing, the community moves through the stages and returns to the first stages different (or transformed)--to begin the cycle again.

Danusugondho (1982) studied "Community participation as one determinant in utilization of primary health care. "This research is an investigation of the relationship between community participation (CPAR) and utilization of primary health care programs, officially called village community health development (VCHD), in East Java, Indonesia. The variable CPAR was measured in five activities of the village health committee (VHC) and the village health workers (VHWs): 1) priority setting, 2) planning, 3) selection and training of VHW, 4) resource contribution, and 5) discussions of problems in implementation. CPAR was also measured as the percentage of villages implementing VCHD in the subdistrict served by the health center (HC).

The investigator found: 1) CPAR shows a positive relationship with health center utilization (outpatients, deliveries, BCG and TT immunizations); 2) HC utilization shows positive relations also with the number of villages implementing VCHD and the regency average income per capita; and 3) The number of staffs, drug subsidies, and attitudes of the HC staff do not show a significant relationship with HC utilization. Thus, it is important for the health center to develop steps of VCHD as a way of establishing a channel of communication and thereby increasing utilization.

**Conclusion:** Community participation is key to developing a sense of ownership of public health problems and community solutions. To the extent that

people can participate in the process of exploring the nature and context of the problems that concern them, they have the opportunity to develop immediate and deeply relevant understandings of their situation and to be involved actively in the process of dealing with those problems. The task in these circumstances is to provide a climate that gives people the sense that they are in control of their own lives and that supports them as they take systematic action to improve their circumstances.

## The Community Study

Community study can illustrate the following dimensions of community, which are very important to the provision of primary care 1) Way of life, health status and health needs of people in community; 2)Way of life and environments that are threatening to or the risk factors for health status of people in community; and 3) The structures of community that favor the management of health problems or health threatening factors. The community study comprises of community assessment, identification of health problems and community health needs, all of which would lead further to the determination about community master plan and the plan for health services in community (Khanitta Nuntaboot, 2001: 74).

### The community assessment

Community assessment is a critical and early step in the process of identifying the health needs of community and working with residents to develop realistic and community identified solutions (Hancock, 1993 cited in Landy & Barton , 2001: 37).

The community assessment defined as the process of critically examining the characteristics, resources, assets, and needs of a community, in collaboration with that community, in order to develop strategies to improve the health and quality of life of the community (Hawtin, Hughes, & Percy-smith, 1994 cites in Wass, 1999: 252).

Community assessment are more likely to be useful when they are conducted for positive reasons, such as to (Baum, 1992 cites in Wass, 1999: 252) :

1. Review existing practices in order to bring about refinement and change

2. Provide information for policy formulation, funding allocation, and planning of new initiatives

3. Prevent costly mistakes resulting in inappropriate or underutilized programs and services

4. Challenge accepted beliefs and practices

5. Encourage lateral thinking and provide people with an opportunity to challenge long-accepted ideas with new information.

**The steps of community assessment**.

The steps of community assessment are as follows (Wass, 1999: 250-253).

**Step 1. Define the community**

The first consideration in a community assessment is to define the community to be assessed.

**Step 2. Describe the community**

The community description is an important component of the assessment process because it provides the context in which public health activities take place. The description establishes the unique characteristics and background of the community that are factors in shaping the plan.

**Step 3. Involve community members**

The assessment and planning process should be done with significant participation from community members, including those representing populations of colors, American Indians, foreign-born populations, people with low incomes, and youth.

**Step 4. Collect data**

The primary goal of data collection is to acquire meaningful and useful formation about the community and its health. There are two basic classifications of data: quantitative and qualitative. Both are necessary to complete a through and accurate community assessment. Quantitative data may be used to describe the size of a problem and determine its statistical significance. Qualitative data is information that reflects the quality or “nature” of thing that are more difficult to quantify, such as attitudes or beliefs(Baum, 1992 cites in Wass, 1999: 252). The community health personal should attempt to collect data using several different methods because no

method is without bias. The process of using multiple complementary methods is termed *triangulation*(Lundy & barton, 2001: 48).

**Step 5. Analyze the data**

Principles for analyzing the data are :

1. Focus on data sets rather than single indicators to define the extent of the problem.
2. Compare data trends over time rather than focusing on a single point.
3. Be specific about the problem being addressed.
4. Focus the analysis on conditions that are preventable.
5. Compare data to determine health problems.

**Step 6. Complete the assessment document**

The purpose of an assessment and prioritization report that stands on its own merit is to have available a reliable and complete information resource about the community for those audiences that may only be interested in health status information and not the full CHS plan.

**The bodies of knowledge used in community assessment**

In the process of community study, the bodies of knowledge within the contexts of two paradigms about health are required, which are: 1) The paradigm about epidemiology; and 2) The paradigm about social, culture and community way of life. These would serve as the guide to understandings about community in every angle, particularly the ones related to the way of life and the health of people in community. As part of the efficiency of health services would be obtained through the management of services in a manner that they are consistent to the way of life, thoughts, social and cultural aspects of clients, therefore the management of primary care delivery critically relies on the effectiveness of community study (Khanitta Nuntaboot, 2001: 86 ).

**1. Epidemiology study**

Epidemiology is concerned with phenomena related to health events in a population. More specifically, it is the measurement of the distribution and determinants of states of health and illness in human populations. One of the functions of the epidemiologic approach to the study of disease is to determine the

etiology, or cause of the disease or risk factor. Furthermore, these concepts can be applied to noninfectious diseases and conditions as well. In order to study the etiology or causality of a health problem, the epidemiologist systematically views three multifactorial elements: agent, host, and environment(Young & Phillips, 1999: 227). Epidemiology can be considered both as a *methodology* used to study health-related conditions and as a *body of knowledge* that results form research into a specific health-related condition. Using epidemiological study to investigate health problems leads to the accumulation of a body of knowledge about that particular problem. Practitioners then can use this of a body of knowledge in their clinical decision making and in developing health services. (Harkness, 1995 cited in Klainberg, et al, 1998: 11 ; Harkness, 2001: 102-103; Spradly & Allender, 1996: 260).

**2. Socio-cultural study**

In order to develop health care system, it is necessary to establish the health care system that can provide care to patients in a holistic manner basing on the good understanding about social dimension of illness. Currently, socio-cultural tools are widely used in community study both in the research and operational fields, which comprise of the followings (Komart Chungsathiensup et. al, 2002: 16-110).

**2.1 Walking Map:** Making a walking map is very important and must be the very first thing to undertake because it will help illustrate width-and-depth dimension of data. In other words, it would provide a big picture of community and a large number of data within a short time. More importantly, it would provide a good insight about community and a chance to observe various phenomena in a thorough manner, which would lead further to understandings in other dimensions. Walking map is a tool that could be made very simply. It has no complicated characteristics at all. It requires only a walking survey and taking down the notes on physical characteristics, environment and any other things observable in community.

**2.2 Family tree:** This is the tool used to create understanding about the relationship among relatives and social networks of people in community. It provides insight about individual people and their social relationship within a short period of time. It helps establish good relationship and acquaintance between

officials and people within a short time as well. Furthermore, it is also useful for the process of sorting out relevant family tree diagrams to put into each family folder. Health-related information can be added on the family tree. This way, health care service can be provided covering the whole family.

**2.3 Structures of community organizations:** This is to study social relationship in different perspectives including economic, social and political. It would illustrate structures and organizations existing in community and the networks that act as social power of such structures and organizations. This is useful for the process of taking potentiality and capability of these organizations to use as resources for implementations.

**2.4 Community health system:** The study about health system of community would provide good understanding about a diverse range of health care facilities that people have access to in community. This diverse range of community medical systems can be selected and applied in public health works in a manner that they are consistent to the belief of people residing in community and appropriate to existing resources.

**2.5 Community calendar:** The study of community calendar would indicate activities undertaken by people at different and specific times. This is to learn about people's way of life in regard to occupations, cultural and social activities. It would serve as input data for the preparation of pro-active health activities in a manner that they are consistent to the time for undertaking each of such activities.

**2.6 Community history:** This is to study about the background of community in economic, social, cultural, political and other perspectives. It links each of events together, both the ones happened in the past and the ones happen at present. It helps lessen the prejudice that people might take in studying stories of community. It also narrows the gap of relationship with community.

**2.7 Biography:** This is to study details in life of people, which would give a better understanding about stories in people's life and a clearer dimension of human being. Writing biography creates learning among people. Four important

target groups of this activity include the poor and the one in need; sick people; elders; and leaders.

To use socio-cultural tools to study community, users must study, understand and practice how to use them well. It is important to understand the concept that all the tools must be used harmoniously with each other. The data obtained through these tools are qualitative data. Therefore, persons who use the tools must have skills required for in-depth interview, participatory observation and data recording. They must analyze all issues thereafter basing on such obtained data (Khanitta Nuntaboot, 2001: 40).

**Conclusion:** To develop health care model, using socio-cultural tools together with epidemiological tools to study community way of life would create understanding about social dimensions and the dimension of human being of community.

## Community master plan

Making community "master plan" or the "socio-economic development plan" of community is considered as a transitional point of rural development process in Thailand. All developments in the past were failed because their focuses were on money instead of wisdom, and the scheme of such development was a top-down commanding system. As a consequence of community learning process, the inter-dependency and self-dependency would be developed in regard to manpower management, resource management, production management, crop or product management, and the management of all capitals including the social ones (http://www.thai.to/seri/develop/de01.htm).

Community master plan would reflect the vision of community that illustrates its desire to make plan for self-development. Community people define the direction of the development and solve problems together. They also develop the vision for everybody in community clarifying how community would like to be at present and which direction it will go in the future (http://www. geocities. Com /zurin111 /planchumchon.html).

Therefore, community master plan is derived from the analysis of capability, problems and the directions of the development, in attempt to achieve self-reliance of community (http://www.thai.to/seri/educate/ed11.htm).

**The development of Community Master Plan**

The process of people's R&D is used for the development of community master plan. This is the research and development of people aiming to create learning among people participating in the process. The crucial part of people's R&D is to create learning process for community to help them escape from the thought of depending on and waiting for assistance from the government or other outside parties. The principle of people's R&D is to know the world, know society, know one's self, analyze one's own capability, identify options, make master plan for self-development and conduct public hearing session for all people in community (http://www.kpi.ac.th/th/ showarticle.asp?level_article=21).

People's Research & Development (R&D) is the process used to conclude experiences of rural community with a background of agricultural society. This R&D process comprises of 6 major components (Wichit Nuntasuwan, 2002: 227-229).

1. Having clear and appropriate scope/area of R&D implementation
2. Placing importance on persons or participants and coordinating the roles of people participating in learning process
3. Having stage of learning to serve as mediator for meetings and forums
4. Having data that reflect the truth about life and society to serve as the basis for learning
5. The development of tools and methods to use in R&D process with appropriateness for participants and specific characteristics of each area
6. Obtaining community master plan as the output of learning process

**Persons participating in people's R&D process and their roles**

There are 3 major groups of persons participating in people's R&D process (Wichit Nuntasuwan, 2002: 231-232).

**1. Community leaders:** These are community members who are taking their roles and accepted as community leaders. There are 3 groups of them.

1.1 Formal leaders: such as Tambon headman, village headman and members of Tambon Administration Organization.

1.2 Leaders of community organizations or activity groups: such as Farmer's Group, Savings Group and Housewife's Group.

1.3 Natural leaders of community: These are community members who lead people's thought and know very well about all events and movements in society. Natural leaders also include community members who are knowledgeable or expert in various aspects, such as folk doctors and leaders in traditional, cultural and religious activities.

**2. Coordinators:** These are either people from outside community or community leaders who have experiences and understanding about how to run the learning process for community. They undertake the role to hold forums, conduct the process of data analysis and synthesis, set up the system for group of community leaders participating in learning process to use in working together, stimulate and monitor the process continuously.

**3. Facilitators:** These are persons who know about the data on stories inside community and stories of the outside world that are relevant to community. They know and understand about structures and social problems of all levels, as well as new patterns and alternatives. Persons in this group may be community leaders coming from other communities and knowledgeable persons from outside invited by community to participate in the process. They undertake the roles to convey or transfer content or data to members on learning stages.

**Conclusions:** The development of community master plan is the opportunity for people to learn about the research and making plan for themselves basing on the root of culture; natural, economic and social capitals. They would learn how to adjust and modify these things to become a new knowledge on the basis of sustainable development and the basis of knowledge woven together in a holistic manner called "wisdom". Basing on experiences of people in making community master plan during the past 20 years, it could be concluded that there are 4 important components as below (Seri Pongpis, 2002: 8, 27-28).

1. People still have a large number of *undeveloped* capabilities. They also have a large number of wisdom.

2. For searching, it should be started by searching for one's self, one's own root and capabilities. It is not necessary to start with problems or using problems as the focus point.

3. Once one's own capabilities are identified and one's own status is perceived and recognized; analyze data relevant to capabilities and development approach, then compile as self-development plan called "Socio-economic Development Plan of Tambon".

4. Start implementing the plan.

Therefore, preparing "Community Health Development Plan" is an important process that would enable community health stakeholders to learn together about how to identify their problems, capabilities and directions to go towards in the future, all of which would lead to the sustainability of the development. A-I-C (Appreciation, Influence and Control) technique is the popular method used to create learning in the stage of preparing development plans at Tambon and village levels. This technique would induce and motivate the participation in the process of problem identification and analysis; setting up development targets; making future plans and decisions related to village development. The opportunity for such participation is open to people in community or groups of their representatives (Orapin Sopchokchai, 2537: 1-3).

## The Appreciation Influence Control Process

A-I-C is a workshop-based technique that encourages stakeholders to consider social, political, and cultural factors along with technical and economic aspects that influence a given project or policy. It is a process that recognizes the centrality of power relationships in development projects and policies. Conferences that are part of the A-I-C process encourage stakeholders to consider social, political, and cultural factors in addition to technical and economic factors that influence the project or policy with which they are concerned. In other words, AIC facilitates recognition of "the big picture." This process has been implemented in a variety of

sectors and settings, including local, regional, and national (http://www. worldbank. org/wbi/sourcebook/sba101.htm).

**The components of AIC**

AIC is an organizing process that draws equally from the wisdom of ancient cultural traditions and from modern sciences. It is built on an understanding of the relationship between purpose and power. Every purpose creates a power field. The AIC process seeks to ensure that the full potential of that purpose is realized through the management of the three major components of the power field (http://users.erols.com/aic/).

**A - Appreciation** - the power we use in relating to the "whole" system. The function of appreciation is to connect us to that part of the whole power field that is outside our area of control or influence. We achieve this appreciation by opening ourselves up, by letting go of our attempts to influence and control. When we do we can fully utilize our intuitive and sensing capacities to perceive the full depth of realities and the full scope of possibilities that are latent in the power field created by our purpose. Successful appreciation helps us identify our ideal purposes, it gives ultimate meaning to our activities, it provides the outer parameters or boundaries of trust and dissolves many issues of influence and control before they can even arise. Successful appreciation is assessed by such criterion as the legitimacy of the purposes being served. Are the legitimate purpose of the self, the others and the whole being met?.

**I - Influence** - the power we use in relating to other "parts" of the system. The function of influence is to put all the parts of the whole in relationship to each other to build the best model of the past, present and future of the situation and the best strategies for achieving the purpose. Influence transforms the output of appreciation into relationship of value to each of the parts of the whole (stakeholders*)*. Influence operates though a dynamic process of interchange that makes the best and worst possible outcomes evident to each part. Whereas appreciation stays open to all possibilities influence is concerned with identifying

the few variables, the few strategies that have the highest probability of achieving the purpose. Successful influence still remains open to new appreciations but produces a satisfactory resolution of all the conflicting interests of the stakeholders. The ultimate criterion of successful influence is the effectiveness of the judgments made about the role and relationships between the stakeholders and the elements of the strategy or model of the whole employed.

**C - Control** - the power we use with ourselves as an "individual part" of the whole system. The function of control is to determine the form in which the purpose will be made manifest in the world. Whereas appreciation provides *IN-formation,* influence provides *TRANS-formation* and control provides *FORM-ation.* Whereas appreciation is open to all possibilities, influence seeks the best probabilities, control must close options down to the one actuality that will be realized in a specific time-frame, with specific production parameters. Control takes the infinite subjective possibilities of appreciation and reduces them to the single objective, produced reality. Control provides the actual form of a solution. Whereas the role the appreciative field is to create conditions that avoids or dissolves problems of influence and control, and the influence field reaches a satisfactory resolution between mutually incompatible interests, control is the only level that solves problems. We can only solve a problem when we have control of all the variables affecting its solution.. The solution changes reality forever and creates the need for a re-appreciation of current realties. So the process begins again.

Many studies which employ A-I-C process found that it can use to participate in decision making and planning among Thai people context. A selection of related studies are shown as follow.

Chavewan Wannaprasert , et al. (http://www.clib.psu.ac.th/acad_41/ wcha1.htm) studied “ promotion and study of women's potential and participation in decision- making for community development.” The objectives of this action research were to analyze and determine ways to develop the potential of women's group leaders and representatives to participate in the village development planning and village decision-making in order to propose their plans to relate organizations

and find ways to expand the application of suitable A-I-C technique to both government and non-government organizations used in the village in Thailand. The research results indicated that in each step of the group meetings, according to the A-I-C Technique, it increased motivation, created an atmosphere conductive to participation and built women's confidence in expressing themselves. The A-I-C technique allowed women to have opportunities to show their potential which will make men accept and have a new awareness of women's abilities in initiating village development plans.

Orapin Sopchokchai , et al. (http://www.nectec.or.th/users/ pong/ TDRI /hrs.htm) studied strengthening women's ability to participate in village development planning and decision-making processes. The project found that the A-I-C technique facilitated women's participation in the village decision-making arena, which used to be mainly male dominated. Bringing several female representatives together with men to discuss village development proved useful. Women understood the importance of development projects and felt responsible for implementing them. Since women effectively and successfully participated in the planning process, men, particularly village leaders, recognized women's abilities and the necessity to include women in community development. Their perspective about women's roles and their place in society changed; they thought of women more as equal partners in development.

After reviewing concepts about primary care and community health development, a need to develop the primary care model in the community was identified. Such model is to be developed in way that community people could have access to health services that could meet their health problems and are consistent to social and cultural contexts. The capability of people would be developed so people could participate at a higher level in the process of health care for individuals, families and communities, which is the ultimate goal of health system. The capability of community would be developed through activities in action research.

# Action Research

Action research has enjoyed increasing popularity across a wide variety of disciplines. It was designed specifically to bridge the gap between theory, research and practice and incorporates both humanistic and naturalistic scientific methods. Knowledge developed through action is ground in actual practice situations and thus it allows refinement and modification of basic knowledge developed through other method of inquiry (Holter & Schwartz-Barcott,1993: 301-302).

**What is action research ?**

Dick (http:www.scu.edu.au/schools/gcm/ar/art/arthesis.html.) mentioned that action research is a methodology which has the dual aims of action and research…(1) action to bring about change in some community or organization or program (2) research to increase understanding on the part of the research or the client, or both (and often some wider community).

Reason and Bradbury (2000, cited at Gatebby & Hume, http://134.36.42.69 /research/gatenby.pdf) comment that action research is more than a methodology. It is a “practice for the systematic development of knowing and knowledge” based on a belief that research can contribute to human emancipation, flourishing communities and different ways of being together. It enables reflection on our actions and practice, development of theory, and more broadly, contemplation of our ecology and spirituality.

Kemmis & McTaggart( 2000: 596) defined **Action research** is a learning process, the fruits of which are the real and material changes in (1) what people do, (b) how they interact with the world and with others, (c) what they mean and what they value, and (d) the discourse in which they understand and interpret their world.

O'Brien (http://www.web.net/~robrien/papers/arfinal.html) mentioned that **Action research** is "learning by doing" - a group of people identifies a problem, does something to resolve it, sees how successful their efforts were, and, if not satisfied, tries again. A more succinct definition is, "Action research...aims to contribute both to the practical concerns of people in an immediate problematic situation and to further the goals of social science simultaneously. Thus, there is a

dual commitment in action research to study a system and concurrently to collaborate with members of the system in changing it in what is together regarded as a desirable direction. Accomplishing this twin goal requires the active collaboration of researcher and client, and thus it stresses the importance of co-learning as a primary aspect of the research process".

**Characteristics of action research**

There are four characteristics of action research (Holter & Schwartz-Barcott ,1993: 299-301).

1. Collaboration: in action research the principle focus of collaboration involves interaction between a practitioner or a group of practitioner (the insider) and a research or a research team (the outsider). The nature of the collaboration that takes place between the practitioner and research is highly variable, ranging from simple periodic participation to facilitate the implementation of the intervention to in-dept, almost continuous collaboration throughout the entire study.

2. The problem: in action research, the problem is defined in relation to a specific situation and setting.

3. Change in practice: The actual change in practice that occurs depends on the nature of the problem identified. The change process is based on the intervention created either by the researcher ahead of time or in collaboration with the practitioners. The kind of changes have varied from revision in an organization's underlying assumption, to changes in personal values as well as numerous alterations in the techno structure of the organization.

4. Theory development: The development of theory is the final goal of action research. The research develops new or expands or enhances already existing scientific theories.

**Types of Action research**

The approaches of action research are classified as three main types (Holter & Schwartz-Barcott,1993: 301-302).

**Type 1: Technical collaborative approach**

In this approach, The underlying goal of the research is to test a particular intervention based on a pre-specified theoretical framework. The nature of the collaboration between the researcher and the practitioners is technical and facilitatory . The researcher identified problem and a specific intervention as well as the practitioner agreement to facilitate and participate in implementation.

**Type 2: Mutual collaboration approach**

In the mutual collaboration approach, the researcher and practitioners come together to identify potential problem, their underlying causes and possible interventions. The outcome of this dialogue, both the research and the practitioner arrive at a new common understanding of the problem and its causes and plan for initiating a change process.

**Type 3: Enhancement approach**

In the third type of action research approach, there are two goals for using ; one is to increase the closeness between the actual problems encountered by practitioners in a specific setting and the kind of theory used to explain and resolve those problems. A second goal is to assist practitioners in identifying and making explicit fundamental problem by first raising their collective consciousness.

After thorough review about its concept, the action research seemed to be the methodology that was fit to the objective of this research, which was to study about health needs of people in consistence to their socio-cultural contexts, and in unique and changing situation of the community. Furthermore, as a consequence of using action research as the basis for community health development by way of a collaborative inquiring, the community health stakeholders would learn about how to work together, and this would ensure the continuity of community health development. The learning process would also enhance the capability of the groups who work together and enable them to become empowered. It seems that such development approach is consistent to action research type 3: Enhancement

approach. Further more, The past decade has seen a rapid escalation in the demand for research aimed at eliminating health disparities and promoting community and broader social change. These forces have helped focus increasing attention on alternative orientations to inquiry that stress community partnership and action for social change and reductions in health inequities as integral parts of the research enterprise. In public health, social work, and related fields, community-based participatory research is increasingly acknowledged as the term that best capture this paradigm (Minkler & Wallerstein, 2003: 3).

## Community-based action research

Community-based participatory research takes the perspective that "participatory" research involves three interconnected goals: research, action, and education. As part of collaborative democratic processes, shared principles include a negotiation of information and capacities in both directions: researchers transferring tools for community members to analyze conditions and make informed decisions on actions to improve their lives, and community members transferring their expert content and meaning to researchers in the pursuit of mutual knowledge and application of the knowledge to their communities (Hatch, moss, & Saran, 1993 cited at Wallerstein & Duran, 2003: 28).

**Definition**

Community-based action research is a collaborative approach to inquiry or investigation that provides people with the means to take systematic action to resolve specific problems. This approach to research favors consensual and participatory procedures that enable people (a) to investigate systematically their problems and issues, (b) to formulate powerful and sophisticated accounts of their situations, and (c) to devise plans to deal with the problems at hand (Stinger, 1999: 17).

Community-based action research focuses on methods and techniques of inquiry that take into account people's history, culture, interactional practices, emotional lives. Although it makes use of techniques and strategies commonly

applied in the behavioral and social sciences, it is a more user-friendly approach to investigation than most (Stinger, 1999: 17).

**Characteristics of community-based action research**

Community-based action research is always enacted through an explicit set of social values. In modern, democratic social contexts, it is seen as a process of inquiry that has the following characteristics (Stringer, 1999:10).

1) It is democratic, enabling the participation of all people.
2) It is equitable, acknowledging people's equality of worth.
3) It is liberating, providing freedom oppressive, debilitating conditions.
4) It is life enhancing, enabling the expression of people's full human potential.

**Community-based action research assumption**

Community-based action research works on the assumption that all stakeholders—those whose lives are affected by the problem under study—should be engaged in the processes of investigation. Stakeholders participate in a process of rigorous inquiry, acquiring information (collecting data) and reflecting on that information (analyzing) to transform their understanding about the nature of the problem under investigation (theorizing). This new set of understandings is then applied to plans for resolution of the problem (action), which provides the context for testing hypotheses derived from group theorizing (evaluation) (Stringer, 1999:10).

**The cultural style of action research**

Community-based action research seeks to change the social and personal dynamics of the research situation so that it is noncompetitive and nonexploitative and enhances the lives of all those who participate. This collaborative approach to inquiry seek to build positive working relationships and productive interactional and communicative styles. Its intent is to provide climate that enables disparate groups of people to work harmoniously and productively to achieve their various goals (Stinger, 1999: 21).

**The role of researcher**

In community-based action research, the role of researcher is not that of an expert who does research but that of a resource person. He or she becomes a facilitator or consultant who acts as a catalyst to assist stakeholders in defining their problems clearly and to support them as they work toward effective solution to the issues that concern them. Titles such as facilitator, associate, and consultant are more appropriate in community-based action research than director, chief, or head, which are common to more hierarchical operations. The languages signal the nature of the relationships and orientations of the research (Stinger, 1999: 25).

**The Basic Routine Revisited**

There are three fundamental steps of a basic action research routine; Look, Think, and Act. The details of each stages are as follows (Stinger, 1999: 43-44).

**1. Look : building the Picture**

In the first phase---look ---participants define and describe the problem to be investigated and the general context within which it is set. The objective of this stage of the process is for the researcher to assist stakeholders in describing their situation clearly and comprehensively. The researcher should help to assist stakeholders in defining the problem in their own terms and describing their work or community context in detail. The task of this stage, the researcher and stakeholders should build the picture by gathering information, constructing, reports and describing the context—developing descriptive account.

**2. Think : Interpreting and Analyzing**

In the second phase---think--- participants analyze and interpret the situation to extend their understanding of the nature and context of the problem. In this phase, the stakeholders construct explanations to extend their understanding of what is happening and how it is happening and develop joint constructions to interpret and explain the problems under investigation.

The task of the research process is to interpret and render understandable the problematic experiences being considered. Interpretation builds on description through conceptual frameworks of meaning that enable participants to make better sense of their experiences.

**3. Act: Resolving Problems**

In the third phase of the process, participants act to formulate solutions to the problem. In this phase, the research process involve in three steps as follow.

**3.1 Planning**

In this step, all key stakeholders should be invited to participate in planning. In difficult problems and complex settings often require long-term and large-scale preparation, sometime called strategic planning. Strategic planning encompasses carefully defined and inclusive procedures that provide participants with a clear vision of their directions and intentions. It enables stakeholder to describe: 1) a vision of their long–term aspirations, 2) an operational plan that defines the particular projects or activities that will accomplish this vision, and 3) action plans that lay out the tasks and steps required to enact each of these projects or activities.

**3.2 Implementing:**

In this step, facilitators assist participants in organizing and implementing activities. All participants should be able to take advantage of opportunities to engage other stakeholders in activities and event related to the process of inquiry.

**3.3 Evaluating**

The last step, stakeholders are involved in a constant process of evaluation that enables them to monitor their activities and their progress.

Although the “ look, think, act routine is presented in a linear format, it should be read as a continually recycling set of activities (see figure 1).” As participants work through each of the major stages, they will explore the details of their activities through a constant process of observation, reflection, and action. At the completion of each set of activities, they will review look again, reanalyze, and re-act in order to modify their actions (Stringer, 1999: 19).

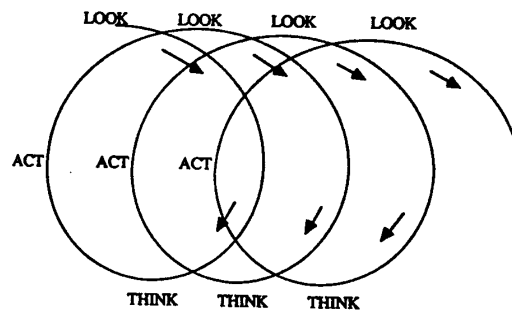


**Figure 1** Action research interacting spiral

**Source:** Stinger, 1999: 19.

**Data collection methods used in community-based action research**

When community-based action research is applied as methodology for the development of primary care model in the community, the body of knowledge created must reflect the participation of community health stakeholders in the process of health development. It must illustrate how the outcomes of their working together can create the learning for them. This kind of study is based on the thoughts of people involved and the observations made on how they work together. Therefore, in order to collect such data, both quantitative and qualitative methods of data collection are required and data collection are required and used together in an integrated manner.

1. Quantitative methods is used when study samples represent a large number of populations (Somchit Padumanoda, 2003: 204 ). In this research, a survey was conducted on health status of the population. The quantitative method used in the survey helped illustrate the magnitude and severity of health problems.

2. Qualitative methods is used when a study is conducted about natural phenomena through in-dept data collection (Somchit Padumanoda, 2003: 205). This research wanted to study about health needs of people in consistence to their socio-cultural contexts. To pursue this, it required the in-dept interview, the study about thoughts of people in regard to taking actions together; and the observations made on their work process.

Therefore, the integrated use of quantitative and qualitative methods is required for the data collection of community – based action research. This way, the level of understand about phenomena being studied would be increased, especially the ones related to human. Furthermore, collecting the same data through different methods is a way to test such data, which is so called the “Triangulation”, and this would increase the validity of study results (Somchit Padumanoda, 2003: 205 ).

A selection of related study on community-based action research is shown as follow.

Koch & Kralik (http://www.ncbi.nlm.nih.gov/entrez/query.fcgi?cmd) studied Chronic illness: reflections on a community-based action research program. The result of the study showed that the facilitator's skill in managing group dynamics is crucial to the life and outcome of the project. Change can occur as a result of action at an individual level, with improved self-management of chronic illness, or at a collective level where the PAR group instigates larger reform strategies. Participants feel validated in telling their story of living with a chronic illness. Story telling may be the turning point that enhances the lives of all those who participate. In conclusion: If health care professionals can understand the process that facilitates people to move toward incorporating chronic illness into their lives, we can make a substantial contribution to enhance their chronic disease self care management.

**Conclusions**: According to the review about its concepts and principles, the community-baaed action research has an outstanding point. It focuses on methods and techniques of inquiry that take into account people’s history, culture, interactional practices, and emotional lives. Its study process-comprising of look, think, and act –is in line with the concept of community development. Therefore, the researcher decided to use the concepts and principles of community-based action research as the basis for the development of primary care model in the community. In such development, the cooperation of all parties involved would be mobilized for the process of assessing community health needs, which include the following steps. 1) Look—study the community in order to learn about community problems.

2) Think—identify problems and make decisions together. 3) Act—take actions together by making community master plan, implanting community health development activities, and making an evaluation through the reflection of performance. All of which would lead to the learning together among groups of people involved, and would ensure the sustainability and continuity of the development.

## Conceptual framework

Basing on the review of relevant literatures, the conceptual framework of this research could be concluded as below.

For the development approach of primary care model in community, the essential part is the cooperation of community health stakeholders (both community groups and outside organizations that would be affected by the development) to give a push together for changes by using social wisdom strategy. This strategy includes the generation of knowledge or the undertaking of technical tasks and using them to activate and drive social movement of community and to get involvement from political sector. For example, taking body of knowledge on primary health development to advocate different groups in community (such as community leaders, community public health personnel, people, etc.) to have awareness about and extend their cooperation in the development. Undertake technical tasks by setting up training for persons participating in the study of community's way of life to clarify understanding about social dimensions and cultures of community and to collect data required for the assessment of people's health status. Use the analysis result to create understanding about the situation of community health by holding a workshop using A-I-C technique to mobilize stakeholders in community and let them take part in making plans and decisions related to health care system development in community. At the same time, in order to undertake technical tasks successfully and gain the continuity, it requires power and participation of people and leaders in community. Furthermore, in the stage of implementation, there is a need to develop the link with local political sector, which is Tambon Administration Organization (TAO). TAO plays significant roles in the allocation of personnel, budgets and other resources required for the implementation of the development.

The method used for the development is *community-based action research* comprising of 3 steps below.

1. Look — the stage of community study or assessment

2. Think—the stage to gain understanding about the situation of problems and participating in the process of community problem identification.

3. Act — the stage of implementation to solve problems, comprising of 3 sub-steps below.

3.1 Participation in the preparing process of health-related development plans

3.2 Participation in the implementation

3.3 Evaluation

The Conceptual frame of the research could be concluded as displayed in figure 2.

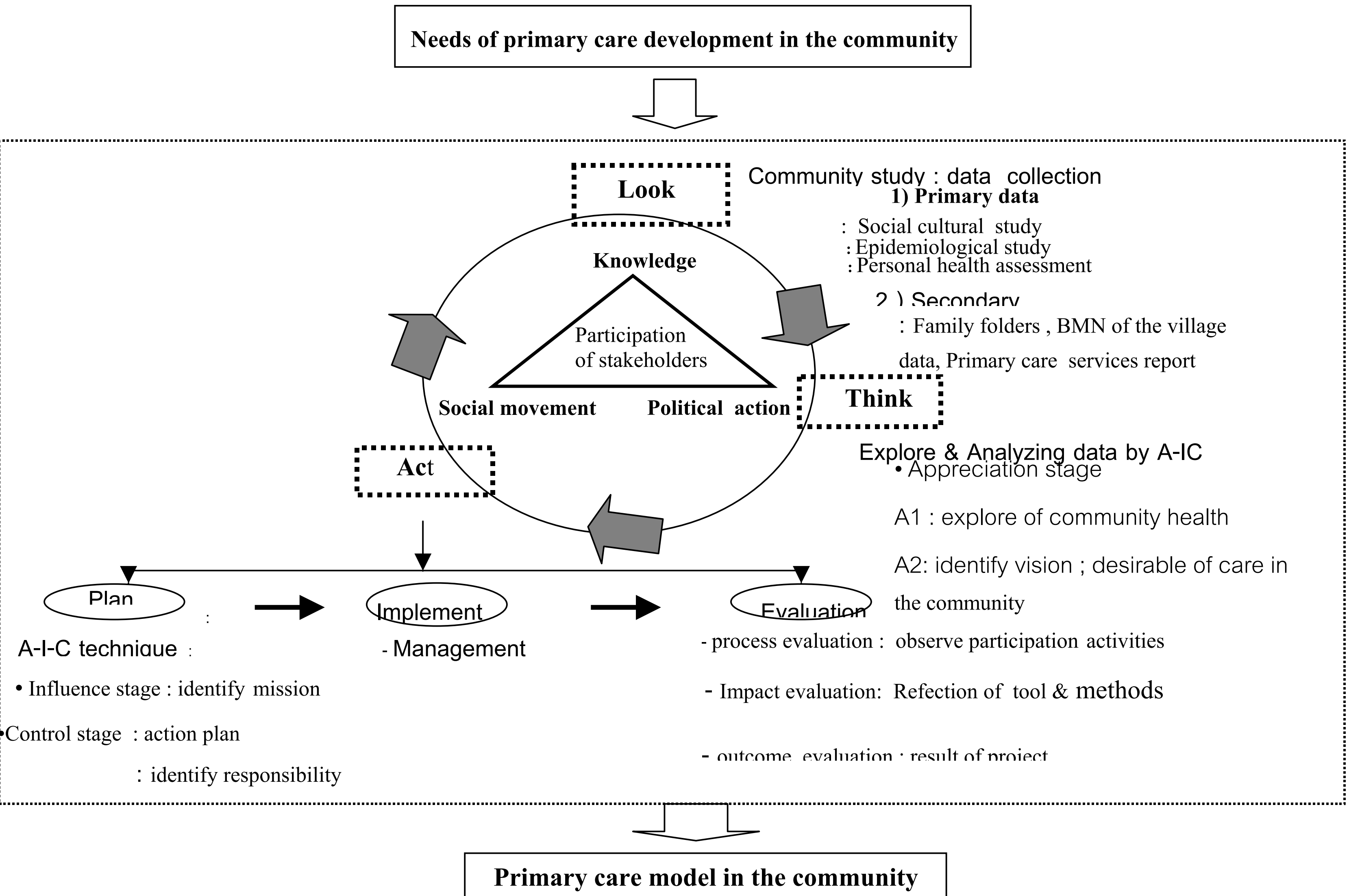


**Figure 2** Conceptual framework of the study activities

# CHAPTER III
# RESEARCH METHODOLOGY

Presented in Chapter 2 was the literature review which has been used as the guide for the development of the primary care model. Described in this chapter is the research methodology, including the following topics. 1) roles of the researcher; 2) research setting; 3) study design comprising the time schedule, research activities, sample groups, and study tools; 4) data collection methods; 5) data analysis methods; 6) protection of the participants' right; 7) research procedures; and 8) the conclusion of research procedures.

**Roles of the Researcher**

As illustrated by the perspectives from a case study in Northeastern Thailand, the success factor for primary care system management is the ability to create cooperation among people, community organizations, local administration organizations, and heath care facilities (of primary care and higher levels) and to establish a network of these parties. This network would play a significant role to develop bodies of knowledge and adopt them in their practice on a continual basis through assistance from academic persons working in educational institutions located in the area (Khanitta Nuntaboot, 2002: 39-40). Therefore, in this research, the investigator played two roles while working in the community: firstly, the role of a researcher and secondly, the role of a nursing instructor from the Community Health Department, Faculty of Nursing, Srinakharinwirot University. The latter role could also be described as an academic person from the educational institution located in the area and as one of the community health stakeholders undertaking the facilitating and consulting functions in a community – based action research. The main focus of such research was the capability enhancement for participants. To achieve this, the researcher assumed the roles as a communicator and an organizer for the development of a paradigm for working together and for continuous learning within a community

study process; the identification of community health problems; the development of a health care plan; and the implementation and evaluation of health-related projects. Furthermore, the researcher also synthesized bodies of knowledge obtained through the whole process and compiled them as lessons learned utilizable in the on-going development process. There were three nursing instructors from the Community Health Department, Faculty of Nursing, Srinakharinwirot University who served as assistants in the preparation of the primary care model development process.

**Research setting**

As previously mentioned, the success of primary care model development would be achieved only when the ability to initiate the cooperation among people and organizations who are community health stakeholders and the ability to create continuous learning about the development are in place (Khanitta Nuntaboot, 2002: 39-40). Therefore, in order to achieve such success, the purposive sampling was chosen as the method used to select the site for the development of a primary care model in the community. Bang Pla Kod Subdistrict, Ongkarak District, Nakorn Nayok Province, was selected site. This Subdistrict was the placement and practicing site for nursing students. It has served as the base for the preparation of teaching and leaning activities of all subjects. It is also the community health servicing area of the Faculty of Nursing, Srinakharinwirot University, which has facilitated continuous learning and development. In regard to the preparation of this study site, the investigator, together with instructors from Community Health Nursing Department, studied basic and baseline data about geographic characteristics, health problems and health-service-related issues in the area. These instructors coordinated with health centers, community leaders, people, Tambon Adminitration Organization and District Public Health Officer and gave a brief on the necessity of, and the guidelines for, the development of a primary care model in community, and they emphasized the benefits that would accrue to all sectors. As a result, these parties were willing to participate in the community health development process and were ready to learn together side by side with the researcher.

In regard to the characteristics of the study site, the results of community survey in 11 village revealed that there were a total of 787 households and a

population of 3,390. The community in the district was semi-rural and semi -urban in nature. Most people lived in houses located close together as a compound or as a kinship group. They had a very close relationship with each other. The community had never gone through a learning process related to health management and community strengthening. The health care facility for the primary care level in the area was the health center that had not yet been developed or sufficiently upgraded to be a primary care unit.

## Research Design

"Community-based action research" was applied in this study because, with this design, people's health could be developed consistent with the purpose of the health system (which emphasized the participation of all sectors). Furthermore, health services could be delivered in a manner consistent with the people's ways of life. And finally, community would become strengthened and self-reliant in regard to the health issues of the community and of individuals.

The key principle of this design involved the capability enhancement for individuals participating in this research as well as the improvement of their quality of life, which comprised the 3 following steps. 1) Look: Building the picture; 2) Think: Interpreting and analyzing; and 3) Act: Planning, Implement, and Evaluation (Stringer, 1999: 18). Activities of each step are described below.

### Step 1: Look: Building the picture

In this stage, the clarification of understanding about health phenomena was carried out through the study about the community's way of life; the development of relationships with community leaders and related organizations; and the community health assessment. Activities in this stage included 1) Team building through an identification of participants and prompt preparation for community health stakeholders; 2) Community study including the development of the walking-survey map, the interview with formal and informal community leaders about social and cultural aspects of the community, and the assessment of people's health. The study also included an epidemiological study conducted in an attempt to find out about

relationships between diseases or health risk factors and people's ways of life or health-threatening environments in order to come up with conclusions for further development. The outcome of this stage included: firstly, the relationship among community health stakeholders who were ready to work in a partnership with each other; and secondly, the cumulative learning about the community study process.

**Study Sample Groups**

1. The target group of *Community health assessment* included individuals of different age groups within the households residing in Ongkarak District, Nakorn Nayok Province, totaling 3,390 persons.
2. Participants of *Community study process* were the following people.
    2.1 Community leaders: 11 persons
    2.2 Public health volunteers (PHV): 6 persons
    2.3 Community health officers: 2 persons
    2.4 Nursing instructors from the Faculty of Nursing, Srinakharinwirot University: 8 persons

**Research Tools**

In the study about health care needs of the community (obtained through the process of community study), the following tools were used.

1. For the study about social and cultural aspects of community in an attempt to gain understanding about the dimensions regarding the "human being" and the "community being", the following tools were used.

    1.1 List of items to be observed for making a Walking-survey Map: This tool was developed by the researcher through the application of an anthropological observing method (Gittelsohn, et al, http://www.unu.edu/unupress/ food2/ UIN01e00.htm; Pelto, et al., 1998). Items to be observed covered the details about the environments of the community including characteristics of the community, transportation and public utility systems, locations of important places, community resources, health care facilities, characteristics of houses and surrounding areas and people's ways of living (Appendix).

1.2 *Social and Cultural Data Interview List*: used in the interview with formal and informal leaders. The researcher developed this tool based on the concepts of Gomart Jungsathiensup, M.D., about the study of community's ways of life. There were 21 open-ended questions covering the content about economic, social, cultural and political aspects; as well as the community health system (Appendix A).

1.3 *Family Health Interview List*: This tool was used to assess the health of people in the study site. The researcher developed this tool through the modification of MOPH "Family Folder", which has been used to store family health data and as the "Family Folder" in primary care unit. In this study, this tool was also used as the "Family Folder" to serve as the database utilizable in practical sessions of nursing training for students from the Faculty of Nursing, Srinakharinwirot University and in the management of health care delivery for members of families residing in the community. There were 5 parts of this tool (Appendix).

**Part 1**: House Map

**Part 2**: Relatives or Family Tree Diagram

**Part 3**: Personal Data, including 15 items of details. (The statistics of the persons in the family, first and last names, gender, date of birth, age, race, religion, marital status, relationship in the family, education, occupation, annual income of the family, status of name registration in the house documents, health insurance, and roles in community). These data were recorded in a blank space provided.

**Part 4**: Family Health Status and Health-related Behaviors, including 8 items (running number, disability, illness, annual health check-up, exercise, smoking, drinking and the use of addictive substances). These data were recorded in a blank space provided.

**Part 5**: Basic Public Health Data of the Family, including questions about durability, air ventilation, and cleanness of the house, sources of drinking water and water for regular use, availability and the use of sanitary toilet, waste water disposal, flooding and disturbing conditions of the house. These data were collected through a multiple choice checklist of answers prepared for informants. In some parts, informants were asked to fill answers in blank spaces provided.

**Quality verification of these tools**

The quality verification for these tools was carried out through the verification of content validity. A request was submitted to the Research Supervising Committee for a review of the coverage of the content and the correctness of language use . The interview list was tested through actual interviews made on a trial basis with revisions performed for clarity of content.

**Step 2: Think: Interpreting, analyzing and community health identification**

This was the stage for the clarification of understandings about issues obtained through the community study conducted by community health stakeholders. In this stage, community problems were identified and analyzed. This activity was carried out by applying the "A" of the "A – I - C" technique used in running a workshop (A= Appreciation – the step for the generation of knowledge). In this "A" step, people develop their learning and shared opinions about various issues of community in a creative manner.

The conclusions of the activity in this step were that community health stakeholders gained knowledge and experiences about the identification and analysis of community problems. They achieved better understanding about the situations of health-related problems of the community. Furthermore, community health stakeholders from all sectors were able to gain experiences of working together.

The activity in this step comprised the 2 following parts.

$A_1$: The presentation about the current health situation of the community and discussions together about all problems and issues to identify community health problems.

$A_2$: Development of a vision of 'community health' through the brain storming among community health stakeholders.

**Study Samples**

Study samples included the following community health stakeholders.

1) Formal leaders including Tambon Headman, Village Headman and members of Tambon Administration Organization (TAO), totally 13 persons.

2) Informal leaders, including public health volunteers, Buddhist monks and teachers, totaling 7 persons.

3) People's representatives, totaling 2 persons.

4) Community Health Official, 1 person.

4) Instructors from Faculty of Nursing, 6 persons

**Research Tools**

1. The A - I - C technique (Appreciation - Influence – Control) used in running a workshop
2. Schedule of the workshop (Appendix )
3. Document about a brief on the health situation of the community
4. Video tape recorder, camera
5. Activity record book

**Step 3: Act, which included 3 following minor steps.**

**3.1 Planning:** This was the step for making health-related development plans through the participation of community stakeholders. The plans were developed at both village and Tambon levels. Activities within this step were continued from the ones of step 2. The "I" (Influence) and the "C" (Control) of A – I - C technique were applied in the creation of a development guide and an implementation guide respectively. Activities in this step included: 1) $I_{1:}$ Creation of activities that would help achieve the results as defined in the vision; 2) $I_2$: Prioritization of project activities; 3) $C_1$: Preparation of implementation plan; and 4) $C_2$: Identification of responsible persons to implement the plan.

The outcomes of activities in this step concluded that community health stakeholders gained experiences about working as a team, learned how to prepare health-related a development plan, and worked together to develop the vision regarding the development and a diverse range of solutions in an creative manner. Furthermore, the community became empowered. Community members were proud of their ability to define their own future and solutions for problems, and they felt confidence in their own capabilities. All of these benefits would help these groups to

have experiences, be able to solve health problems and define their alternatives later on in the future.

**Study samples**

Study samples came from the same group of community health stakeholders used in Step 2 (Think).

**Research Tools**

1. The A – I - C technique (Appreciation - Influence – Control) used in running a workshop
2. Video tape recorder, camera
3. Activity record book

**3.2 Implementation:** This was the step for the presentation of a model of health care delivery management requiring cooperation from people, community leaders, nursing educational institute, community organizations and Tambon Administration Organization and health care facilities (which were health centers). Stakeholders implemented the top-priority-given project of "Exercise in the Community".

The conclusions of activities from this step were that experiences about the management of activities in regard to "community action for health" were acquired, people learned how to work in a partnership and share mutual responsibilities. People were able to participate extensively in all activities. Social mobilization developed as different sectors worked together in a collaborative manner. Community empowerment emerged through actual implementation and practices of people, leading to self-reliance in addressing any other problems.

Regarding health personnel, they learned and gained experiences about working together within the people's sector and different organizations; and about assuming roles as consultants and facilitators in activity undertakings.

**Study Samples**

1. Persons who took parts in the implementation were:

1.1 Community leaders: 3 persons

1.2 Public Health Volunteers: 3 persons

1.3 Buddhist monks: 3 persons

1.4 Teachers: 2 persons

1.5 Members of Tambon Administration Organization: 2 persons

1.6 People's representative: 10 persons

1.7 Community health officers: 4 persons

1.8 Instructors from Faculty of Nursing: 4 persons

2. People who exercised together in the project: 60 persons (aged 11 years and older, both males and females)

**Research Tools**

1. Posters displaying knowledge about exercises
2. Aerobic dance exercise program
3. Leaflet about physical activity program
4. Camera
5. Activity record book

**3.3 Evaluation:** This was the step for reflection about the implementation of the primary care model development. This reflection was carried out through the evaluation of its affects on stakeholders during the periods of community study; community health problem identification; planning and implementation. Besides, it was augmented through the evaluation of its "outputs", such as knowledge on exercises and exercising skills of people who exercised together in the project, as well as through the collection of their opinions about the implementation of the exercise project. Furthermore, reflection was also carried out through the evaluation of "impacts", such as the impacts on community health stakeholders and the impacts of the knowledge obtained through the working together as a partnership between health personnel on the one part and community and organizations on another.

**Study Samples**

1. Different groups of community health stakeholders were assessed during their participation in activities and a comprehensive picture of them was assembled, including the following: 1) Formal leaders (Tambon headman, village headman, members of Tambon Administration Organization [TAO]); 2) Informal leaders (public health volunteers, Buddhist monks and teachers; 3) People's representatives); 4) Community health officers; 5) Instructors from the Faculty of Nursing, Srinakharinwirot University; and 6) Nursing students from the Faculty of Nursing, Srinakharinwirot University.

2. People who took aerobic exercises with the Exercise Club, aged 11 years and over, both males and females, totaling 60 persons.

**Research Tools**

1. The tools used for the evaluation of Exercise in the Community Project.

The evaluation of this project was carried out involving the areas of knowledge about exercise, of exercising behaviors and opinions of people participating in exercise activities of the Exercise Club about Exercise in the Community Project. The researcher developed this tool based on her self-study of relevant documents. The tool comprised 4 parts as below.

**Part 1:** Personal l data of informants: This part was prepared as a check list including data about first and last names, age, village, gender, marital status, education, occupation, membership in the Exercise Club, and the mode of receiving information about the establishment of the Exercise Club.

**Part 2:** Knowledge about exercises:

Knowledge about exercise covered the understanding about the meaning, principle, and benefits of the exercise. This part contained 20 dichotomous questions and different scores would be given for the following kinds of answers.

| | |
|---|---|
| Correct answer | = 1 |
| Incorrect answer | = 0 |
| For the answer as "do not know" | = 0 |

The criteria used for interpretation of scores on knowledge were divided into 3 levels.

**Good:** giving correct answers over 80% (getting averaged scores of 16–20)

**Moderate:** giving correct answers by 60 – 79% (getting averaged scores of 13 – 15)

**Low:** giving correct answers below 60% (getting averaged scores of 0–12)

**Part 3:** Exercising behaviors

This was a list of interview questions covering content about practices related to the exercise. There were 11 questions in the checklist.

**Part 4:** Opinions about Exercise in the Community Project

This was a list of interview questions covering content about opinions on locations or places of the exercises, exercising postures, and the songs used for exercising; exercise leaders ; and the management undertaken by persons responsible for the project. There were 7 questions in the checklist.

**Quality verification of these tools**

The quality verification for these tools was carried out through the verification of the validity. Three experts on exercises were requested to check the content validity. The interview questions were revised as per advice received from such experts and were tested by using them to interview people who exercised in order to check the clarity of questions and the language used.

## Data Collection Methods

In this study, both quantitative and qualitative data were collected in an integrated method described below.

### 1. Qualitative Data Collection

#### 1.1 Semi-structured interview

As the means to study data about social and cultural aspects of the community, the investigator collected these data herself through in-depth interviews with leaders, senior people, and natural leaders, based on the interview guide prepared by the researcher as open-ended questions. Interview appointments were made in advance along with explanations about the objectives of the interview and interviewing method. Typically, the venues used for the interviews were the houses of

informants. Informal conversation was used in the interviewing method in order to create a relaxing and natural atmosphere. However, the conversation was conducted consistent with the interview guide. Probing questions were also employed to glean additional data from informants in areas where existing data were insufficient. All data were recorded in a book during the interview by taking down keynote contents according to the facts obtained. All these notes of data were rechecked again after each interview and additional records were expanded in order to document more complete data (Nisa Chuto, 2002: 168-184; Supang Chantawanich, 1991: 76-78).

**1.2 Rapid Assessment Procedures (RAP) Survey**

This was a rapid method of community survey used in making a walking-survey map. Its procedures are described below.(Gittelsohn, et al, http://www.unu.edu/unupress/food2/UIN01e00.htm).

1.2.1 Take a walking tour of the study area

Prior to making a walking-survey map, the researcher and nursing instructors from Community Health Department developed a map in a desk edition to serve as a convenient guide for the walking-survey map. An appointment was made with community leaders for the date and time of making a walking-survey map and to confirm participants in the walk. On the appointed date for making the map, participants took a walk and surveyed the community together. In some villages where the geographic locales were quite large and each group of houses separated by long distances from one another , participants were divided into small groups to survey separate areas. For any days when there were only a few participants, the single group would survey each separate parcel, one at a time.

1.2.2 Make brief notes during the walk.

During the walking tour of the study area, participants observed physical characteristics and environments of the community, as well as any miscellaneous items found along the way, based on the “community observation form”. This form was prepared through the application of anthropological observation methods by the researcher. Participants also talked to people during the survey of each house, explaining the objectives of the community study and primary care model development, talking about living conditions of family members living in the house, their health problems and their use of health services. They observed characteristics of

the community in the various aspects and reactions of people that they met. The researcher undertook functions to observe the community based on the details listed in the observation form and record data obtained through observation or from talking to people along the way.

1.2.3 Sketch a map

The desk-version map was enhanced with more drawings and details of important issues obtained through the observation. For example, appearances of each house and its surroundings; characteristics of people residing inside (such as newborns and small children, elders, sick or disable persons, the poor and leaders); and location of important places (such as groceries, drug stores, clinics, schools, temples, people's meeting places, health centers, factories, etc). Any other detailswere recorded separately in a book. After returning from the survey, the researcher augmented the walking-survey map into an enhanced version, and all events were recorded again in the same manner.

**1.3 Participatory observation**

Participatory observation was used as a mean to collect data in the following manner.

1.3.1 The observation was used as a mean to collect data of each activity undertaken throughout the period of the whole research project, including the periods of community study, planning, implementation and evaluation. The role of the researcher as an observer was to act as a complete participant and participate in every step of the activities as a member of a group of community health stakeholders, a group of nursing instructors from Faculty of Nursing, Srinakharinwirot University. The researcher also took the role as the manager of the primary care model development project, exercising functions as director, coordinator and advisor during the implementation of activities. The researcher made observations on the following aspects. 1) *Acts*: behaviors of participants during the implementation of activities; 2) *Activities;* 3) *Participation* in activities of the groups of community health stakeholders; 4) *Relationship* among the groups of community health stakeholders; and 5) *Settings* for the undertaking of activities (Nisa Chuto, 2002: 136-145; Supang Chantawanich, 1991: 44-61).

1.3.2 The observation was used together with the interview. During the interviews with formal and informal community leaders about data on social and cultural aspects of the community, the interviewer also observed their reactions, gestures, body language, speaking tones and relations with their surroundings. Furthermore, while collecting data on people's health status through the interview with each household, the researcher also observed reactions, gestures, living conditions of and relationship among members of the family, as well as environments inside and outside the house.

**1.4 Field notes taking**

1.4.1 The notes taken about all data obtained through observations of activities undertaken throughout the whole project (covering the periods of community study, planning, implementation and evaluation). The details of events observed (in a manner as described in 1.3.1) were taken down in a personal record book of the researcher. While participating in an activity, the researcher took down brief notes about date, time and place of the activity; participants; details of events; problems, obstacles and solutions.

1.4.2 The notes taken about observations made during interviews and the data obtained through RAP survey in the process of making a walking-survey map.

At the conclusion of each activity, the researcher wrote the report in a more detailed, complete version , augmented with the "full field notes".

**1.5 Document study**

In this study, the following secondary data were collected from various reports.

1.5.1 Data on health status from the "Family folders" obtained through a survey by nursing students from the Faculty of Nursing, Srinakharin University, conducted in 2002.

1.5.2 Summary Report on Public Health Development for 2002 of Ban Bon Health Center, Bang Pla Kod Subdistrict, Ongkarak District, Nakorn Nayok Province.

1.5.3 Data on Basic Minimum Needs (BMN) of households: 2003

**1. Quantitative Data Collection**

**2.1 Survey**

2.1.1 *The survey of people's health status in each household*: The data collection was carried out by the researcher, nursing instructors, and students from the Faculty of Nursing, Srinakharinwirot University.

2.1.2 *The survey of knowledge about exercises and exercising behaviors, and opinions about exercise project*: The researcher interviewed people who joined exercising activities with the Exercise Club, totaling 60 persons.

**Data Analysis methods**

**1. Qualitative Data Analysis**

The content analysis was applied. The data obtained from interviews, observations and the reviews of documents were analyzed using content analysis following the steps below (Neuman, 1991: 266-270; Patton1990: 381-383).

1.1 *Reading of the content of data* recorded during the interview with each informant or the data obtained from observation records. The researcher read them for several rounds in order to understand them well.

1.2 *Prepare data indices*.

1.3 *Prepare data codes and enter the code for the content of each text*: Assign control numbers according to data indices.

1.4 *Categorize the data*: Data assigned with the same code would be categorized in the same group.

1.5 *Develop summary grids*: by putting the categorized data in the summary grids.

1.6 *Conduct inductive analysis*: Conclude data in each category in a manner that they are in line with the objectives of the research.

**2. Quantitative Data Analysis**

The descriptive statistics was applied, such as the calculation for number and percentage.

**3. Epidemiological Data Analysis**

This was the descriptive study about the relationships among diseases or risk factors, living condition of people, and environments in the community and the calculation for incidence and prevalence rates.

## Protection of the participants' right

During the development of the primary care model for the community in Tambon Bang Pla Kod, Onkarak District, Nakorn Nayok Province, the researcher requested permission from the Public Health Officer of Onkarak District to use the local area to conduct this study. The research introduced herself and gave a brief on the objectives of the research, expected outcomes, and the development process to stakeholders, including community leaders (Tambon Headman, Village Headman and TAO members), the local inhabitants, and community health officers. The researcher also requested them to participate in the study on a voluntary basis with the right to withdraw from the project at any stage of the development process. Furthermore, the data obtained through the interview with each family was treated confidentially and was analyzed inclusively as a part of the big picture of the sampling group as a whole. These data were recorded in each family folder only for the purpose of providing health care service.

## Research Procedures

For the development of primary care in the community, the following procedural steps were used based on the objectives and conceptual frame of a community-based action research, as shown in Table 2.

**Table 2** The research procedure steps

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| **Look phase:** Building the community health pictures **Objectives:** 1. To create a working partnership through the application of knowledge about changes in health system and primary care to raise awareness of people, community leaders, TAO members and community health officers in order that they would participate in community health development process. | 1. The development of relationships and understanding with relevant persons in the group of community health stakeholders, such as formal and natural community leaders, people, TAO members and community health officers - undertaken by research team members. 2. The development of understanding among instructors in the Faculty of Nursing, Srinakharinwirot University regarding the policy about community-based teaching and learning management and about the provision of health services to residents in the practicing area – undertaken by the Dean of Faculty of Nursing. 3. The coordination at the policy level between management officials of the primary care unit and the Faculty of Nursing – undertaken by the Dean of the | 1. Formal and informal communication 2. Document on the brief about health system reform; participating roles according to the concept of “the triangle that moves the mountain”; and health-related decentralization of power 3. Document on summarized statistics of illnesses of residents in the study area. | 1. Community leaders, people, TAO members and community health officers understood and recongnized the need for the development of primary care in line with the need of community and were ready to extend their cooperation. 2. Instructors from the Faculty of Nursing, Srinakharinwirot University understood and were prepared to implement the policy. 3. Management officials of primary care units were ready to provide |

**Table 2** The research procedure steps (continued)

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| | Faculty of Nursing, in order to provide budgetary support for the provision of health care services to residents in the practicing area. | | budgetary supports to the Faculty of Nursing. |
| 2. To study about the situation of community health problems through the implementation of technical works, which is the assessment of community health status. | 4. The preparation of knowledge and understanding about community study through the use of social and cultural tools for community health stakeholders.<br>5. Planning for the collection of data on community health status. This step includes the setting up of a team of instructors from the Faculty of Nursing, Srinakharinwirot University; the coordination with the community regarding the date and time, and people who would participate in the community study; and making a walking-survey map.<br>6. Conduct community study and assess community health status through the collection of data about community folk ways and health status of | 4. Hold a 3-day workshop on "Primary Care Delivery and Community Study" using didactic presentation and actual practice in the community following the manual about the study of the community's way of life.<br>5. Conduct the study about community's way of life through the development of a walking-survey map using RAP survey technique; making observations following the anthropological community | 4. Community health stakeholders had understandings about participating roles in the primary care and about community study approaches using socio-cultural tools.<br>5. Instructors from the Faculty of Nursing, Srinakharinwirot University, community leaders and community health officers cooperated with each other in data collection. |

**Table 2** The research procedure steps (continued)

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| | community people, and the secondary data about people's health status from health centers and from the survey conducted by nursing students from Faculty of Nursing, Srinakharinwirot University.<br>7. Analyze data about situations of the community and synthesize such data to raise as the issues for health development of the community. | observation list; and interviews with community leaders using the interview form prepared for collecting data on social and cultural aspects. Record all data in the record book.<br>6. Conduct the survey on people's health status using the Family Interview Form.<br>7. Conduct the analysis of qualitative data using the content analysis technique. Analyze quantitative data to identify number; percentage; incidence and prevalence rates.<br>8. Hold workshops at village (2 villages) and Tambon levels using the | The results of community surveys in 11 villages revealed that there were a total of 787 households and a total population of 3,390. The concerns founded about health status of community included chronic illnesses derived from health behaviors and people's way of life; and infectious diseases caused by environmental factors. |

**Table 2** The research procedure steps (continued)

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| **Think phase: Interpreting & analyzing of community health problem** **Objective:** 1. In order that community health stakeholders understand about situation of community health and take part in the identification of community health problems. | 8. Hold meetings in order that community health stakeholders can learn about health situations. The researcher and the participants identify and analyze health problems together. | "Appreciation" step of A – I - C technique. $A_1$ : Current health situation of the community 9. Use participatory observation and recording data in record book. Record activities using video tape recorder. | 6. There were 18 participants at village level and 29 participants at Tambon level who attended meetings, discussed and identified health problems of the community. |
| **Act phase:** 1) Planning **Objective:** 1. In order that community health stakeholders take part in the determination of community health development | 9. Hold meetings to make health development plans both at village and Tambon levels, participants of which are community health stakeholders (proceeds continuously from the Think phase). | 10. Use the following steps of A-I-C technique 1) "Appreciation" $A_2$ : Develop vision about the health of community 2) "Influence" I : Develop a guide for the development | 7. Participants in meetings shared their opinions in brainstorming sessions to develop "vision" and "mission" about community health development at the levels of the village and Tambon. |

**Table 2** The research procedure steps (continued)

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| approach. | | 3) "Control": Define activities that require development and identify responsible person(s).<br>11. Use participatory observation and recording data in record book. Record activities using video tape recorder. | They also gave priority to the "Exercise in Community Project" to be implemented first before other activities. |
| **2) Implementing Objective:**<br>1. In order that community health stakeholders participate in the implementation of community health development activities. | 10. Community health stakeholders cooperated with each other to implement the "Exercise in the Community" Project as planned, which included the following activities.<br>10.1 Making announcement and recruiting members to found an "Exercise Club"<br>10.2 Holding meetings to found an "Exercise Club", appoint its committee, and provide knowledge about exercises to its members.<br>10.3 Making study visits to learn about the implementation of other exercise projects. | 12. Holding informal meetings.<br>13. Aerobic dance exercise program<br>14. Use participatory observation and recording data in notebook. Record activities using videotape recorder. | 9. An "Exercise Club" was founded with a total of 158 members and a committee comprising members with different responsibilities.<br>10. Committee members were able to apply knowledge obtained from making study visits to other places for the management of |

**Table 2** The research procedure steps (continued)

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| | 10.4 Testing physical proficiency of participants prior to exercises.<br>10.5 Training about exercises and the training for leaders of exercise sessions. | | the project.<br>11. A total of 56 persons were tested for their physical. proficiency.<br>12. There were exercise activities 3 times a week, each lasting 1 hour.<br>13. The Club has 6 persons who lead exercise sessions. |
| **3) Evaluation Objective:**<br>1. To make an evaluation about knowledge and exercising behavior of people who joined exercising activities and about their opinions on the implementation | 11. The survey about knowledge and exercising behaviors of participants in exercise activities and their opinions about the implementation of exercise project.<br>12. Informal discussion with the participants in exercise activities about the benefits that they gained.<br>13. Informal discussion with participants in the implementation of the | 15. The interview with participants in exercise activities about knowledge and exercising behaviors, as well as their opinions about the implementation of the exercise project.<br>16. Informal discussion with members of the “Exercise Club”. | 13. The total of 60 persons who participated in exercise activities had good knowledge about exercise. They attended exercise activities regularly. Most of them had the right exercising skills and shared the opinion that the implementation |

**Table 2** The research procedure steps (continued)

| Implementation Period | Research Activities | Tools and Methods | Outcomes |
|---|---|---|---|
| of exercise project.<br>2. To evaluate the results obtained from participating in the implementation of exercise project<br>3. To evaluate the impacts of participation in primary care model development of community health stakeholders. | exercise project.<br>14. Informal discussion with community health stakeholders who participated in different phases of activities.<br>15. The study from data recorded during the implementation of different phases of activities. | 17. Participatory observation and informal discussion. | of the exercise project was beneficial.<br>14. The group of people who held working partnership cooperated well and had pride in achieving good results from the implementation.<br>15. Resources of community were managed cost-effectively.<br>16. Community health stakeholders gained the experience of participating in activities, and they became motivated to implement other activities to improve the health of the community. |

**Table 3** The conclusion of research procedures

| Research phase | Instrument | Data collection | Data analysis |
|---|---|---|---|
| **1.Look phase:** Building the community health pictures | 1. Walking –survey Map<br>2. In-dept interview guideline<br>3. Family health assessment<br>4. Family health report in 2002<br>5. Health report of primary care services in 2002<br>6.Basic Minimum Health Need of Bang Pla kod Subdistrict in 2003 | - Rap survey<br>-In-dept Interview<br>- Observation<br>- Field note<br>- Survey<br>- Document study | - Content analysis<br>- Descriptive stat.<br>- Prevalent & Incident rate |
| **2. Think phase:** Interpreting & Analyzing of community health problem | 7.- Workshop meeting ; A-I-C technique : Appreciation step<br>- $A_1$ : Explore community health<br>- $A_2$ : Create visions | - Observation & Field note | - Content analysis |
| **3. Act phase:** (This phase was continued from Think phase) | 8. A-I-C technique : Influence & Control steps<br>9. Summary of Community health report | - Observation & Field note | - Content analysis |
| **3.1 Planning** | 10. Meeting agenda<br>11. Videotape record, Photograph | | |
| **3.2 Implement** | 12. Posters & Leaflet about Physical activity<br>13. Aerobic dance exercise program<br>14. Photograph | - Observation & Field note | - Content analysis |
| **3.3 Evaluation** | 15. Physical activity program questionnaire | - Formal & Informal interview<br>- Observation & Field note | - Descriptive stat.<br>- Content analysis |

# CHAPTER IV
# RESEARCH RESULTS

The development of the primary care model in the community reflects how community health stakeholders work and learn together to set up a delivery system of community health services. Such stakeholders include community leaders, members of the community and community organizations (e.g. temples, schools and local administration organizations); health care facilities on the primary level and at higher levels; and the institute of nursing education in the area. With the participation of these stakeholders, it was expected that the primary care system would be strengthened. The outcomes of this development are presented below in corresponding to each objective of this study.

1. The Study about Primary Care Need of Community
2. Community Health Master Plan Development
3. Characteristics of Primary Care Services That Correspond to the Need of the community
4. The result of the demonstration about the collaboration among Community Health Stakeholders Involved in Primary Care Services

**1. The Study about Primary Care Needs of Community**

The primary care development process must be responsive to the specific needs of the community and be consistent with the social norms and cultural values of each locale. Therefore, the health care needs of the community were studied and identified at the initial stage of this development. They were used later as the basis for an idealized health care delivery system. The researcher studied the health needs of the community together with community health stakeholders. The health needs of community identified through community study included the followings.

### 1.1 Process of the Participation in Community Study

Through community study, various dimensions of community can be viewed and understood according to their effects on health, thereby, revealing the primary care needs of people. In order to build the capabilities of the community, community health stakeholders should be encouraged to participate in learning and acting together. During the research demonstration stage, the researcher worked together with community health stakeholders to assess the community. This was conducted based on the concept of community-based action research. The researcher was able to help community health stakeholders to understand more clearly about the health conditions of the community and be able to identify relevant health care needs. The steps and conclusions of the community study are as below.

#### 1.1.1 Establishing contact

At the beginning, the researcher arranged the coordination between related parties and community health stakeholders in order to create understanding about the necessity of developing a primary care model and to raise the awareness that all groups should participate in such development.

##### 1.1.1.1 The Network of Primary Care Units (PCU Network)

The Network of Primary Care Units included Ban Bon Health Center, Public Health Officers in Chief of Onkarak District, Onkarak Hospital, Nakorn Nayopk Provincial Public Health Officer and Faculty of Nursing, Srinakarinwirot University. The Dean of Faculty of Nursing, Srinakarinwirot University met with administrators of related servicing units and proposed the policy of the faculty in going into the area and in taking responsibility to improve the health of community residents (in this practical and placement site of the faculty). The dean also requested from administrators the budgetary supports as well as cooperation in managing the delivery of services. As the results of this dialogue, health care servicing units were willing to cooperate in the activities of primary care delivery and were ready to provide financial assistance.

##### 1.1.1.2 Community health stakeholders

The researcher and instructors from the Department of Community Health Nursing discussed formally and informally with community health stakeholders about community health development approaches and the importance of

community participation. Such stakeholders included Subdistrict headman, village headmen, community people, TAO members and community health officers. As a result, leaders and residents were made aware about the importance of participation; realized the necessity to develop health care delivery systems consistent with the problems of the community; and were willing to participate in the process of community health development.

**1.1.2 Team Building for Community Study**

Community study has been a very good approach for leading to learning together with the community. It has also served as the starting point for the working together among community health stakeholders. Specific persons from this group were identified as participants for activities of the community study. In this group, the main responsible persons were the researcher and instructors from the Faculty of Nursing, Srinakarinwirot University. For other participants, the researcher identified team members of each village who were interested and would have time to participate in activities. The core participants from this group were village headmen and Village Public Health Volunteers. For some villages, ordinary people also showed interest and participated. The researcher coordinated with public health personnel responsible for taking care of people's health in the area and requested assistance from those most knowledgeable about the community. According to information obtained from an informal discussion, the health center was in the process of collecting data of residents to compile as family folders in response to the policy of MOPH. Therefore, the health center was willing to participate in this activity.

**1.1.3 The Preparation of Knowledge for Community Study**

There was preparation in terms of knowledge of community health stakeholders regarding the data collection through the use of socio-cultural tools. The preparation aimed to create understanding for these stakeholders about health-related situations linked to the social dimension of illness and the integrated component of healthy conditions (including physical, mental, social and spiritual dimensions). To do this, the Faculty of Nursing, Srinakarinwirot University supported the facilitation for a three-day workshop on the management of primary care delivery and on the study of the community using socio-cultural tools. Participants invited were health personnel (including 27 instructors from Faculty of Nursing, Srinakarinwirot University; 1

District Public Health Officer; and 3 Community Health Officers) and representatives from the community (which included 11 District and Village Headmen; 1 VPHV; 1 District Medical Officer; and 2 TAO members), totally 45 persons. The number of participants who actually attended the workshop was 41 persons (91.11%). According to observations derived from their practice in studying community, instructors from the Faculty of Nursing and Community Health Officers understood about the socio-cultural tools and were able to use them well. District and Village Headmen provided information during an informal discussion that they had gained knowledge and understanding about the process of community study and were willing to participate in the process.

Having been trained about community study through the use of socio-cultural tools, the instructors of Community Health Nursing Department set up a course of training in this topic for the third-year nursing students of the faculty. This course trains these students to use these tools to study the community as well as epidemiological aspects of disease. Based on observations, nursing students have been able to acquire skills for studying the community by using socio-cultural tools, such as making walking-survey maps and family tree diagrams. However, they have not developed skills required for conducting in-dept interviews or the ability to link health data of people to the socio-cultural aspects of the community.

**1.1.4 Community Data Collection**

The Community Study Team was coordinated for the collection of community data. For the research project, a data collection manual was prepared containing the following contents.

**1.1.4.1 Making A Walking-Survey Map**

The initial step of data collection for the research project was to develop a walking-survey map in order to learn about general conditions of the community within a short period of time. The researcher, nursing instructors and students from the Faculty of Nursing, Srinakarinwirot University, community public health officers and community representatives (including village headmen and their assistants, or VPHV's) took a walk together and surveyed the community. With participation of representatives from the community, the survey was carried out quickly and conveniently. On the other hand, these representatives also had the

opportunity to learn about data of each household during the survey. As the survey was being conducted, residents became interested in the project. They came and talked with the survey team. The discussions with people in each household included their living conditions and patterns, as well as their health problems. People were informed about the objectives of the community study. As observed, people in each household were friendly, and they cooperated well in providing data and information. They told the researcher that they were glad to have health staff visit their houses and that they would cooperate in any activities of community health development. Hence, through making such a walking-survey map, the conditions of community were learned in a short time. The by-product of data collection from this technique was the good relationship established between health personnel and community leaders and residents. The geographic areas of some villages were very large with houses scattered all over. Making a survey map by walking was difficult; in such cases, the team used vehicles instead. Some areas were flooded, and some houses remotely located. Since it was very hard to visit under such conditions , these areas were skipped and not surveyed.

**1.1.4.2 A Survey on Health Condition of People**

From studying the data obtained through a survey conducted in 2002 by students of the Faculty of Nursing, Srinakarin University, on health conditions of people living in Bang Pla Kod Subdistrict, it was found that 5 more villages had not yet been surveyed. These villages included village number 1, 2, 3, 4 and 11. The researcher surveyed health conditions of people in these villages together with instructors and students from the Faculty of Nursing. During the time of the survey, most houses were closed during daytime because people had gone out to work. Therefore, the researcher had to collect data in the evening with the assistance of VPHV's and the residents. For some villages located in remote areas where traveling back at night was inconvenient, the researcher decided to stay overnight in the community. From doing that, the researcher had the opportunity to learn about people's ways of life within a wider time frame as in the following: the time when people were walking out from the village to work in the field; the time when people gathered together after work drinking and talking in the village store; the time when family members did some activities together; and so forth. Consequently, the

researcher had more time to discuss with people in this group. In regard to the survey about the health status of members in each household, the researcher did not focus only on the interview to collect data. When any problems of people arose (related or not related to health), the researcher would assist them by providing instruction and giving consultation about self-care and health management. For example, researcher would gave instruction about self-care to patients suffering chronic diseases; she would teach the family about how to take care of paralyzed patients correctly; she would educate the family about how to take care of chronic wounds or ulcers; and she would request VPHV's to follow up these cases on a regular basis. In regard to giving instruction about health care benefits and how to use health insurance cards, the researcher discovered that some people did not have health insurance cards. VPHV's were asked to coordinate with the health center to address this need. Some people did not even have Thai ID's because their relatives had not notified authorities about their births. In this instance, the researcher would coordinate with village headmen to issue the ID's for them. The researcher would also listen to their stories about family problems, such as problems about drug use and relationships between spouses. For households presented with these problems, the researcher would make a follow-up visit to their houses. As a result, people became better acquainted with the researcher and understood more about the role of nursing instructors from the Faculty of Nursing who came to provide health care to people in the area. They became eager to cooperate in community health development activities.

**1.2 Living Condition of Community**

Based on the study conducted on social and cultural aspects of the community and a survey made on the health conditions of the populace , the living condition of the community can be summarized as below.

**1.2.1 Demography**

There were 1,231 households in Bang Pla Kod Subdistrict with a total population of 5,444 (Summary Report on Public Health Activity Development: fiscal year 2002, Ban Bon Health Center). This study was able to collect primary and secondary data of 787 households covering a population of 3,390 people; 3,055 of which had their names documented in house registration paper while another 335 had not. Most people were of working age, 31.1% of which (the uttermost) were 21-40

years old and 22% (the second most) aged 41-59 years. The second biggest group of the population was the group of elders, which shared 15.3% of the population. Regarding genders, females dominated a greater part of the population (52.2% comparing to 47.8% of males'). For martial status, most of them were married (50.1%) followed by single (41.9%) and widowed/divorced/separated (8%). All of them were Buddhists. In regard to educational background, most of them (67.79%) finished elementary schools, followed by those in the group who finished secondary level (11.1%). Additionally, 9.26% of the population was found to be illiterate and most of this group were elderly people.

**1.2.2 Characteristics of Community and Environments**

Based on the preparation of walking-surveyed map, the community was described as half-rural and half-urban. The study community is located in an agricultural area with houses scattered all over. However, in some villages, houses are located in dense cluster patterns. According to the review of family-tree diagrams, most families are extended kinship groups with houses next to each other. In each village, As observed, most of the houses are built of wood with a high- elevated floor. The basement area is open and available for various activities. This area is used as a recreational and resting area; the reception area for visiting neighbors, the place for doing hobbies; and for pens for raising animals. Houses are constructed with durable structures and materials. Internal areas of most houses are clean and the air ventilation inside is good. Every household has a sanitary toilet and other facilitating appliance similar to households in urban community.

Through observations and the interviews with community leaders, the researcher concluded that the natural environment and the behaviors of people had effects on the health of community. The community is located in a plain, which remains flooded for 4-6 months in rainy season. Waste water from households drains into residents' yards, keeping the area flooded at all times. The community does not have a central drainage system. People always toss rubbish on the ground around houses and in public areas. Hence, this condition is conducive for the breeding of *Ades aegypti* mosquitoes, the vector of dengue haemorrhagic fever, and it contributes to the spread of haemorrhagic fever in this community each year with the highest incidence rate among all areas of Nakorn Nayok Province. There is also a risk of

diarrhea from drinking and using water contaminated with waste water from households and the garbage thrown by people into the river. There is a treated tap water system in the village. However, residents close to the rivers and canals habitually use the water from there. Some households store rainwater for consumption, however, sometimes it does not last for the whole year. As they are very poor, residents must use water from rivers and canals for drinking. There are chicken farms scattered in Moo (village) 2, 4, 6 and 7. Some of them use an open system for raising chickens and cause some pollution for houses nearby, such as odors from animal feces; and infestations of some insects such as houseflies and fruit flies , which are vectors of diseases.

**1.2.3 Occupations and the Economics of Community**

In regard to the economic structure of the community, the most common occupation among people of working age is doing labor work (30.43%), followed by agricultural work (30.43%). Their occupations entail risk behaviors for illness. People with agricultural occupations such as rice farmers, orchard growers, and those who are hired for gardening were found to use work stimulants. They eat the leaves of a plant called "Kratom" (MITRAGYNA SPECIOSA) to stimulate themselves for hard work. Basing on data obtained through informal discussions with employed gardeners, the leaves of "Kratom" are very popular among laborers and gardeners. They have the belief, passed-on from ancestors, that the plant enhances their energy levels and enables them to work hard without exhaustion . They believe it relieves muscle ache and body pain. Some people eat this plant for its pharmacological effects. The owner of a grocery in the village mentioned that, in the harvesting season, a lot of people always take a labor job harvesting rice because the pay rate is higher than for other jobs. The larger the amount of rice they can harvest, the more money they can earn. This is the explanation for these people taking a kind of medicine ,usually reserved for asthmatic patients, in order to keep them alert and enable them to work hard without fatigue. Furthermore, they no longer feared sunlight either after taking this medicine. Villagers asked the grocer to buy this medicine from drugstores in the district to make it available for them in the village grocery. The owner of the grocery cited an example of this medicine, and after checking with a

drugstore in the district, identified it as prednisolone. It is quite certain that this medicine is damaging to the health of laborers who take it.

Risk of illness is also due to agricultural contaminants Laborers in orchards growing oranges or in gardens growing flowers and decorative plants are at risk of receiving poisons from chemical pesticides used excessively and applied without proper precautions. According to information given by a village public health volunteer, most people who grow oranges and grapes always look pale and often experience weakness and dizziness due to contact with chemical pesticides. The situation of workers hired in gardens of flowers and decorative plants was similar. According to information given by one of the workers, during the course of spraying pesticide, most workers do not wear facial masks or gloves. They do not take showers or change their clothes either because of hurry in their work. Sometimes after finishing the chemical spraying, they drink whiskey and have nausea and dizziness. People in labor groups always have muscle ache, waist and back pain due to hard work and inappropriate working postures.

From the researcher's study of the economic status of people in the community, results reveal the following: most of the households (32.5%) earned an income of 50,001 – 100,000 Baht/year, followed by those who earned 100,001 – 150,000 Baht/year (23.5%) and those who had income less than 50,000 Baht/year (19.2%) respectively. Based on the Basic Minimal Need Data (BMN Data) collected in 2003; people in the area of Bang Pla Kod Subdistrict had an average income of 25,352 Baht per capita per year. As high as 12.9% of the households were unable to meet BMN criteria (having income less than 20,000 Baht per capita per year). Among these, the average income per capita per year of people in village 4 (18,272 Baht) was the lowest (Community Development Department, Ministry of Interior, 2003). A study was then conducted on the community inside this specific village. The village is located in a very remote area. Most of the villagers live on wages earned from labor inside the village on a day-to-day basis. Since the hiring rate is low, their incomes are uncertain. According to information given by people in this group, their periods of unemployment constitute a greater part of the year than their periods of employment. In regard to households' savings, 29.1% of the households were unable

to meet the criteria (Community Development Department, Ministry of Interior, 2003).

For low income earners, their poor economic status certainly affected their life styles, especially during periods of illness. In other words, people always concentrate their energies on work , often to the detriment of their individual health and the health of family members. For example, there was a female diabetes patient who helped her husband burning wood to make charcoal. She had had brain surgery in the past. However, she was able to walk with the assistance a cane. While working, she did not wear any shoes at all. She gave information that her family was poor. Her husband made a living by burning wood into charcoal and selling it. Their income was not enough to cover expenses. Sometimes she did not go to see the doctor per appointment because her husband had to work and had no time to take her to the hospital. If the husband stopped working for a day, he would lose income. Hence, when she finished her diabetic medicines, she would ask a nurse residing in the same village to buy medicines for her from the hospital.

In regard to liability to debts, people of agricultural vocations were commonly found to bear a burden of debts. Most of the debts are from the loans taken from the Bank for Agriculture and Cooperatives and the ones taken from outside the official lending system. They take these loans for investing in agricultural activities such as growing oranges, annual crops, vegetables and rice. The debts they individually bear range from 70,000 to 1,000,000 Baht. These households are very stressed because they do not earn enough to pay back the loans and to cover daily expenses. For example, there was a family who grew oranges and had a problem with the fruits always falling from their stems before maturity. The husband and the head of family revealed that since they had been growing oranges, they had been able to get only one successful crop of oranges. When confronted with this problem, they had no crops and no income, they did not have money to pay back the loan or to cover expenses of the household and of their three school-age children. His wife was not well since she had a tumor in her throat. She had to go for treatment in Bangkok. During that critical time, he did not have money for her to go periodically for treatment. The family could not depend on relatives either, since they encountered

similar problems. Consequently, the husband was usually very stressed and discouraged. Sometimes he drank alcohol relieve stress.

**1.2.4 Social Situation and Participation of the Community**

In studying the social structure of the community and diagramming the family trees among relatives, the researcher discovered that most people in the community have close relationships with each other. As it was the relationship of kin, they usually help each other and gather together as a group for activities. So, they are very helpful to each other when somebody is ill.

The study of the roles of leaders revealed most of them to be formal leaders. Only a few are informal ones, most of those being senior villagers (who gained acceptance from people) or religious leaders such as abbots of temples. The relationship between formal leaders and people in each village, whether good or not, depends on the quality of their leadership and the attention they pay to problems of people. According to relevant information obtained from villagers during the survey about roles of village formal leaders (Head of Subdistrict, Village Heads), people in some villages have not been satisfied with the roles undertaken by leaders because these leaders have not paid sufficient attention to the needs of the people. Some people mentioned that they would like to move to another village where the leader was reputed to be better. For villages where leaders pay good attention to people, the leaders have gained acceptance from them well, and they always spoken of in a positive way. People desire for them to remain as the village leaders into the future. When villagers are satisfied with the performance of leaders, it ensures good cooperation from people in the conducting of activities.

Regarding establishment of various groups (such as the vocational ones), the establishment of most vocational groups can not be carried out successfully when they do not have strong group leaders. When they do not have sufficient markets for their products, conflicts arise among group members regarding interests, and established vocational groups are not sustainable and eventually dissolve. One village headman informed the researcher that people do not like doing supplementary jobs generated by such vocational groups because they earn only a small amount from such work. There are some groups established by supports from the government sector, such as the Water Consumption Group and the Coordinating

Group for Preventing the Corruption among Police Officers. Unemployed people such as housewives do not gather as a group to do any activities together, because they do not have organizations to support them and manage for such establishment. In regard to elderly people, there used to be an Elders' Club located at Prasittiwej Temple, managed by community health officers. However, as activities of the club were not conducted regularly or conducted without elders' participation, coupled with the inconvenience in commuting, the consequence was that elders ceased attending activity sessions.

In regard to the communication of people in community, most communications are via loudspeaker towers. In some villages where such towers are not available, the leaders will set a date for people to come for a meeting, or the leaders would go to each house and inform them individually. However, in some villages, people are unable to receive any information at all. The information that people receive is mostly about the appointment for a meeting and other information to be acknowledged. Information on health care knowledge is nonexistent or minimal at best. According to an informal discussion with one of the villagers, there had not been any officers coming to educate people about the prevention of illnesses. Village health volunteers do not give any such information either. Most of them perform only the work assigned by public health officers.

Temples in the community serve as centers for psychological and spiritual support for the people and as the place for them to meet and conduct activities together. Buddhist monks also assume roles to develop villages, such as providing supportive budgets for village development, giving consultations for resolving various problems including the health-related ones, i.e. problems about stress, drugs and alcohol. In this study, the venues for conducting most activities were found to be the temples. All abbots and ordinary monks demonstrated a very good cooperation and participated in activity sessions. They also provide more tangible support in kind, such as materials and supplies.

Examining the political dimensions of the community, this study found the administration at the village level to be managed by a village committee and a civil group of villagers. According to information obtained from an informal interview with villages and from making family tree diagrams, formal leaders usually pass on

their positions and titles to persons in their own kinship group . In other words, most village headmen and their assistants, and TAO members are persons that belonged to only a few big families. These leaders typically socialize among the same group of friends or within the same kinship group. During elections, the competition is high. Sometimes there are some conflicts, tending to be minor rather than severe. Such conflicts, however, sometimes affect their relationships and cooperation in conducting activities. For example, during planning for village development , group members who had experienced conflicts with each other in the past, did not want to be included in the same groups.

In view of people's participation, based on interviews with leaders and on informal discussions with people during the survey, opinion-sharing and-decision making about public activities were usually occurs in the village committee. The only obvious participation of ordinary people was observable in local and traditional festivities and other auspicious ceremonies or gatherings. There has not been any establishment of groups for village development purposes because support and encouragement from organizations have not not in place. In regard to the development planning at Tambon level of Tambon Administration Organization (TAO), so far, ordinary people have not had any opportunities to participate in this process. One of the villages reflected through an informal discussion that the implementations of some projects have not been consistent with the needs of inhabitants in respective areas. TAO has never surveyed people about their needs.

Considering social capital, as people in the community had interlocking relationships of kin, they were very close to and dependent on each other. Villagers always care for each other as well. Furthermore, as people practice the lifestyle patterns of the countryside, they maintain good human relationships with one another and extend caring for each other inside the community as well as to outsiders. The also cooperate well in activities. In view of the community's capability, this community has never experienced any processes of learning together about community development. There have not been any organizations or agencies coming into the area to promote and support people's participation for the sake of community strengthening. However, some villages were found to have latent capabilities. For example, some people grow oranges often face a vocational crisis with premature

falling of fruit. They have not been able to seek appropriate assistance from government agencies in the area to solve such crises. They have frequently lost all the crops and have encountered debt problems. Finally, they have had to gather together with each other to bargain with government agencies of central administration for temporary suspension of the debts. They have also discussed with each other in order to find substitute vocations.

**1.2.5 Health Services of the Community**

From the researcher's study of the health services of the community, health care units available in the community included:

1.2.5.1 Primary Care Unit (PCU): This primary care unit of the community is Ban Bon Health Center, located at Village 10. Health care providers there include 4 public health officers. According to information from an informal discussion with these providers , they divide responsibility among them according to geographic area - by village. Services provided include basic treatment and care, wound care, vaccination and contraception. Occasionally, home visits are made to patients with chronic diseases. Health promotion activities include vaccination for school children and the prevention and control of haemorrhagic fever by the spraying of pesticides for mosquitoes in the areas at risk. Since the health center does not have any *professional* health care personnel stationed there,, the (PCU?) is classified as a 'sub contractor' of the primary care system. However, the prime contractor available is - the Onkarak Hospital. From informal discussions with people, the researcher concluded that most clients who come for services of the health center usually exhibit a minor illness and come from poor families. Patients with moderate incomes have preferences, and they can seek services at a private clinic or at the hospital. They perceive the capabilities of the health center as insufficient in terms of the treatment available, materials, equipment, and medical supplies. Moreover, the center does not provide services after normal hours and on holidays.

1.2.5.2 Private Clinics: There are 3 private clinics in the community. 1) The clinic in Village 8 run by a professional nurse, opening only twice a week on Wednesday and Saturday. 2) The clinic in Village 6 run by a public health officer, also opening twice a week on Tuesday and Saturday. The officer also ventures out to provide services to patients at their houses. 3) The clinic in Village 9

where there is a district medical officer providing services there. Most patients who come for services in these clinics have non-severe illnesses. According to informal discussions with these patients, they attend these clinics because it is convenient, and these clinics have medicines of better quality compared to the ones available in the health center. Moreover, they have confidence in personnel providing services at such clinics.

1.2.5.3 Drug Stores: Most of the groceries in villages carry home remedies, painkillers, cold tablets, and antibiotics available for sale.

Apart from the above, there are some other health servicing facilities available outside the community. These facilities include private clinics in the township area of Okarak and Ban Na districts run by doctors; a community hospital (Onkarak Hospital); a provincial hospital (Nakorn Nayok Hospital); and a university hospital (Medical Center Hospital of Sinakarinwirot University). People using the services of these facilities have a moderate or higher level of economic status. They can afford and chose services they want. . People in this group include those who want the services provided by physicians as well as those who believe they have a more severe illness with aggravating symptoms that might require hospitalization. People chose these facilities as their health care resources based on their perception of the capabilities of these facilities and their satisfaction with services provided.

Regarding access to health services, when they are ill, people decide where to go to for services inside or outside the community according to the severity of the symptoms they have; their satisfaction with the various facilities; their economic status; and the availability of a health insurance card.

In regard to problems about health service delivery within the community, some kinds of services do not include outreach programs for people, such as health education about disease prevention. Some services do include outreach programs in their activities, but such programs are generally insufficient. Futhermore, some people do not have any access to health care service. They are not covered by any health care plans because they do not possess Thai ID’s. Others do not have their names registered in house-registration documents. Still, other people who have health insurance cards, have cards that are valid for services in other areas. They

may have migrated to work in the area without properly transferring their house registrations. Consequently, they must pay medical expenses out of their own pockets.

**1.3 Community Health Situation**

Based on primary and secondary data collected for a survey on the health conditions of people and the data obtained from an epidemiological study, the following health problems of this population group were identified.

**1.3.1 Preventable Health Problems**

Health problems that could be prevented through health promotion

**1.3.1.1 Illnesses Caused by Infectious Diseases** Requiring **Epidemiological Surveillance**

An important cause of illnesses for this population group and this area was infectious diseases. According to the incidence rates of infectious diseases requiring epidemiological surveillance in 2001, the most common ones are haemorrhagic fever, conjunctivitis, and acute diarrhea respectively (Table 4).

Every year, the incidence rate of haemorrhagic fever of this area has ranked the highest among all areas in Onkarak District of Nakorn Nayok Province. The incident rate of 2002 in particular was equal to 498.31 per 100,000 population. This was higher than the rate of 20 per 100,000 population defined in the Health Development Plan of MOPH, which was included in the $9^{th}$ National Socio-economic Development Plan (for the period of 2002-2006).

Based on an epidemiological study conducted in the area, the causative factor for such a high incidence rate of haemorrhagic fever is the behavior of inhabitants themselves. They do not take precautions to prevent the breeding and extermination the larvae of *Ades aegypti* mosquitoes. According to the information from informal interviews with community health officers and village public health volunteers (VPHV), the functions to prevent haemorrhagic fever are the responsibility of health personnel: VPHV's would fill abatement sand into vessels or ditches containing still water; and public health officers would spray mosquito repellant smoke. Despite these measures; most areas of the environment inside the community habitually retained still water constantly draining from households. The low areas also flood for a period of 4-6 months in the rainy season. Residents are always

throwing garbage onto the ground surrounding their houses. All of these conditions favored the development of breeding areas for *Ades aegypti* mosquitoes. Similarly, acute diarrhea is commonly found in the area due to people's behaviors such as eating food swarmed by the flies, using river and canal water contaminated by waste water from households for washing dishes, fresh vegetables and fruits. Some households even used water from these sources for drinking. Based on BMN Data of the year 2003, 0.7% of households did not meet the criteria for having enough clean water for drinking for the whole year. Therefore, when there are some patients having diarrhea in villages, the germs of the disease can spread easily through vectors including flies and contaminated water from rivers and canals.

**Table 4** Number and Incidence Rate of Illnesses Caused by Diseases Requiring Epidemiological Surveillance

| No. | Disease | Number | Rate (per 100,000 population) |
|---|---|---|---|
| 1 | Dengue Haemorrhagic Fever | 25 | 498.31 |
| 2 | Conjunctivitis | 22 | 438.50 |
| 3 | Acute Diarrhea | 18 | 358.78 |
| 4 | Fever of Unknown Cause | 7 | 139.53 |
| 5 | Amoebic Dysentery | 2 | 39.86 |

**Source:** Summary Report on Public Health Activity Development, 2002, Ban Bon Health Center, Bang Pla Kod Subdistrict, Onkarak District, Nakorn Nayok Province

**1.3.1.2 Low-birth-weight newborns**

Newborns: According to the study about number and percentage of live births distributed by birth weight for the period from 2000 to 2002, the number of newborns having birth weight over 3,000 grams kept increasing while the number of those who had birth weight less than 2,500 grams kept declining. These results demonstrate that there has been a good trend for health capital of children. However, as high as 38.24% of the newborns had their birth weights in the range of only

2,500 –2,999 grams. Therefore, there is a need to have nutritional surveillance in place for pregnant women.

**1.3.1.3 Malnutrition in 0-5 years**

Based on the review of the nutritional status of children under five years of age, 2 cases (0.64%) of first-degree malnutrition were found in 2002. This number illustrates a declining trend in comparison to numbers of cases found in 2000 and 2001 (Summary Report on Public Health Activity Development, 2002, Ban Bon Health Center, Bang Pla Kod Subdistrict, Onkarak District, Nakorn Nayok Province). However, as previously mentioned, 38.24% of newborns had their birth weights in the range of only 2,500–2,999 grams,putting these newborns at risk at succumbing to malnutrition. Based on observation, most children in the under-five group usually remained in the care of aged people when their parents went out to work. Parents of some children must even go to work somewhere else outside the community. The care- takers for these children, responding to inquiries, indicated that, frequently, these children keep playing and do not take meals on time and often prefer eating chewy snacks rather than more nutritious fare.

**1.3.1.4 Risk of Exposure to Chemicals**

People who have agricultural vocations, such as growing orchards, flowers and decorative plants, are at risk of exposure to chemical substances such as insecticides and pesticides. They do not take proper precautions while spraying such chemicals. For example, they do not wear gloves and masks. They do not wash or clean themselves and change clothes immediately after spraying. Some of them develop the symptoms of nausea and vomiting after using such chemicals.

**1.3.1.5 Condition of stress from being in debts and having poor crops**

People who grow oranges encounter the problem of premature falling of fruit ; have very poor crop yields; and are unable to earn enough income . In the meantime, they are still liable for large amounts of debt on the loans they have taken for investment. Hence, these people are in a very stressful condition.

**1.3.1.6 Health-risk Behaviors**

Health related behaviors usually reveal the trends for either good or ill health. Based on the survey about the health conditions of community residents, the following risky behaviors were found.

**1) Annual health check up**

Annual health check ups have been the screening device for initial signs of abnormality among people in at-risk groups. From the survey, 76.03% of people, aged 35 and over, have not had regular annual physical or health check ups.

**2) Physical exercise**

From the survey, most of the population, aged 11 years and older, (77.09%) do not exercise or exercised irregularly, implying that only 22.91% of this population exercise regularly. This percentage is very low in comparison to the target of "at least 60%" defined in the Health Development Plan of MOPH, which was included in the 9th National Socio-economic Development Plan (for the period of 2002-2006). According to the information given by respondents who had to go out to work, the factor preventing them from exercising is the unavailability of time. As observed, people in the community do not gather as a group to exercise together. During the informal discussion with villagers, they revealed that health personnel never encouraged people to exercise. People have learned from the television about exercising and its benefits. They have been inspired and have wanted to exercise. As per information disseminated via TV program, people should contact the local PCU for relevant information. When they gone to the health center, no information there has been available for them.

**3) Smoking**

Based on the survey, 22.34% of the population, aged 15 years and older, smoke cigarettes. Meanwhile, MOPH has set a target in its Health Development Plan included in the 9th National Socio-economic Development Plan (for the period of 2002-2006) to reduce the cigarette consumption rate among this population, aged 15 years or older, from 22.4% down to not exceeding 21%. The most popular type of cigarettes for this group is the type that people wrap and roll by hand.

**4) Drinking Beverages Containing Alcohol**

From the survey, the percentage of the population, aged 15 years and older, who usually drink alcoholic beverages is 18.14%. Among this group, the local clear-color whiskey has been the most popular drink. It contains the highest percentage of alcohol in comparison to other kinds of whiskeys. Residents typically have a small party and drink together after work due to the nature of the society they live in – the society of kin – and the close relationship with each other. Besides, they do not have anything to do in the evening, and this is their leisure time. This drinking pattern occurs repeatedly and becomes their normal way of life. Apart from drinking each evening, people also drink at the times of festivities such as Songkran (Thai New Year) and so on.

**5) Using Addictive Substances and Working Stimulants**

From the Report on Public Health Activity Development, 2002, Ban Bon Health Center, 3.96% of the population are addicted to amphetamines, most of whom are in their teens and of working age. On the other hand, working stimulants have remained popular among people who take labor jobs, such as working on a construction site, working in a garden, and harvesting rice. The stimulants most often used are Kratom leaves (Mitragyna Speciosa), anti-asthmatic drugs and soft drinks containing caffeine.

**1.3.2 Health Problems Requiring Continuous Care and Rehabilitation**

Health problems of people requiring continuous caret and rehabilitation are listed below.

**1.3.2.1 Chronic Diseases**

The researcher and the Faculty of Nursing, Srinakarinwirot University, conducted a survey on health condition of people who lived in Bang Pla kod Subdistrict during the period from October 2002 – February 2004. We found that most common chronic diseases were hypertension (with the prevalence of 53.69 per 1,000 population) and diabetes mellitus (with the prevalence of 27.14 per 1000 population), as shown in Table 5.

**Table 5** Number and prevalence rate of chronic diseases

| No. | Diseases | Number | Prevalence rate (per 1,000 population) |
|---|---|---|---|
| 1 | Hypertension | 182 | 53.69 |
| 2 | Diabetes mellitus | 92 | 27.14 |
| 3 | Bone and Joint disease | 91 | 26.84 |
| 4 | Asthma | 75 | 22.12 |
| 5 | Allergy | 69 | 20.35 |
| 6 | Heart disease | 51 | 15.04 |
| 7 | Peptic ulcer | 46 | 13.56 |
| 8 | Thyroid | 30 | 8.85 |
| 9 | Hypotension | 22 | 6.49 |
| 10 | Cataract | 21 | 6.19 |

**Source:** Survey on October 2002-Febuary 2003

In regard to the treatment for patients with chronic diseases, some patients have not received regular treatment. For example, some elderly patients living alone have no one to take them to the hospital. Some of them stay with their son. However, due to poor economic status, stopping work to take their aged parents to the hospital would impose a lose of income. Consequently, instead of going to the hospital, the elderly in this group frequently will seek treatment from clinics located in the community provided by professional nurses. Another alternative for the elderly is for them to ask health personnel to buy medicines for them from the hospital. In regard to the needs of patients with chronic diseases and their relatives, this group desires to have health care services provided in an outreach manner in the community, which would help reduce their burdens of transportation costs and losing an income due to absence from work.

In regard to patient care, there is also a group of some elderly patients who live alone and do not have any caregivers to take care of them. The biography of the following person can be raised as a case study.

A female patient, 61, married, was sick of diabetes mellitus. Both her legs have been disabled from falling down 18 years before, and she has been unable to walk ever since. Her husband got a new wife and moved out. She has 6 children, and most of them have families of their own and have moved out to live elsewhere. The children come to visit her once in a blue moon. This senile patient has lived alone in a house. She performs daily activities by moving herself little by little on the floor in a sitting position. At times, she has had to climb down stairs by herself to fetch something on the ground floor. The person who takes her for diabetic treatment is her daughter who lives in another district. Sometimes the patient has not been able to go to see the doctor per appointment because her daughter has not been available, and she has had to ask someone to buy medicines for her from the clinic. On the day of the visit to her house, the patient had 4 attacks of diarrhea. She asked one of the neighbors who was walking by the house to buy Oral Rehydration Salt (ORS) from a store for her to prepare and drink. After a family tree diagram was drawn, she was found to have one daughter living in the same village. The daughter had gotten married, moved to live in another house, and did not have time to take care of her mother. As the patient had diabetes mellitus and was at risk of having dehydration and hypoglycemia, a Village Public Health Volunteer (VPHV) was then coordinated to make contact with her relatives to come and take care of her. According to the follow-up with VPHV, her granddaughter comes to take care of her at night and the VPHP regularly visits and observes her symptoms.

**1.3.2.2 Lacking of Proper Care for Disabled Persons**

According to the survey conducted by the researcher and the Faculty of Nursing of Srinakarinwirot University during the period from October 2002 – February 2003, there were 103 disabled persons who suffered disabilities (the prevalence rate of disability = 30.38 per 1000 population). Considering the causes of such disabilities or causes of the specific disability rate, the most common cause was paralysis/paresis. Second to that were congenital disabilities, i.e. dumbness and disabled arms/legs (Table 6).

**Table 6** Number and cause specific disability rate distributed by the nature of disabilities

| No. | Nature of Disability | Number | Cause-specific Disability Rate (per 1,000 population) |
|---|---|---|---|
| 1 | Paralysis/Paresis | 27 | 7.69 |
| 2 | Dumbness | 21 | 6.19 |
| 3 | Disability of arm/leg | 21 | 6.19 |
| 4 | Down's Syndrome | 14 | 4.12 |
| 5 | Blindness | 13 | 3.83 |
| 6 | Deafness | 7 | 2.06 |
| | Total | 103 | 30.38 |

**Source:** Survey on October 2002-Febuary 2003

In regard to care for the disabled , persons who take care of senile and disabled persons (who suffer paralysis and can not help themselves) are their relatives. Some of these carergivers have been spouses or relatives who are quite aged. Therefore, some of them did not takeproper care of the disabled. A case study can be raised from the following biography.

A female dumb patient aged 70 years suffered from paralysis. At the first visit made to the house of patient, she was laying on the floor and looked very weak. She had a pressure sore on her hip. According to information given by her sister who took care of her, who was also an aged person, the patient had been paralyzed for 5 years after falling down from a tree. During the time of the visit, the patient was drowsy and her consciousness faded in and out. She would not accept any feedings. The patient was not taken to the hospital because there was only the sister that stayed with her. Children and grandchildren were all out at work. After that visit, the relatives were then advised to take the patient to the hospital and community health personnel were coordinated for further home visits. Another follow-up visit was made 2 weeks later, but she had already passed away. The relatives had not taken her to the hospital.

Among disabled persons of working age, some of them are able to help themselves, for example, doing vocational work or helping family to take care of the house. From the survey, the dumb persons were able to take some labor jobs. Persons who were disabled on a non-severe level of Down’s syndrome are able to help do some house work. However, most of these disabled persons are still burdens on their families because there has been no assistance offered by any agencies for their living. According to family tree diagrams, some families contain several disabled persons. For example, there were 5 dumb siblings or relatives found in one of the families, and only one of the five was able to work and earn for himself.

**1.4 Identification of Community Health Problems**

Community health problems were identified through the work carried out together between the researcher and community health stakeholders during the period of health development planning. They worked together to clarify understanding about existent health problems and to develop the vision of community health development. This cooperative effort identified the actual issues corresponding to the community residents’ ways of life and their health care needs. The problems identified are listed as shown in Table 7.

**Table 7** Displays the relation between disease/risk behaviors of people and causes of disease/risk behaviors factors

| Illness/Risk Behaviors/Health Threatening Factors | Health-affective factors in regard to individuals and living conditions | Health-related factors in regard to characteristics of community and environments |
|---|---|---|
| **I Preventable problems** | | |
| 1. Infectious diseases requiring epidemiological surveillance<br>1.1 Dengue haemorrhagic fever<br>1.2 Acute diarrhea<br>1.3 Conjunctivitis | 1.People are unaware of the problem and do not cooperate in destroying the larvae of Ades aeeypti mosquitoes. They rely on the functions of VPHV and Public Health Officers.<br>2. The surveillance was not in place before the outbreak of the disease. Frequently, it is only implemented after the outbreak. In addition, there has been no campaign to raise awareness of residents and to mobilize their cooperation in taking preventive measures.<br>3. People throw garbage onto the ground surrounding their houses, by the roads and into rivers and canals.<br>4. People living on the banks of rivers or canals use water from these sources for washing and cleaning. Some households do not have | 1. The environment is conducive for the breeding of mosquitoes; i.e. houses are located on a plain near to rivers and canals. Therefore, the area is often flooded with stagnant water, and the flood can last 4-6 months during the rainy season.<br>2. . Almost every household has a cemented compartment in the washroom for reserving water and a small chamber in front of the house to contain water for washing their feet before entering the house. These provide an ideal environment for the laying of the eggs of mosquitoes.<br>3. The garbage collecting system has been not in place and no trash cans are available for people to put garbage into. |

**Table 7** Displays the relation between disease/risk behaviors of people and causes of disease/risk behaviors factors (continued)

| Illness/Risk Behaviors/Health Threatening Factors | Health-affective factors in regard to individuals and living conditions | Health-related factors in regard to characteristics of community and environments |
|---|---|---|
| | enough rainwater for consumption and must use water from rivers and canals for cooking and drinking. | 4. Most of households do not have waste water drainage pipes. The waste water drains into the ground surrounding the houses. The water is either confined there or flows on further to rivers and canals and causes contamination.<br>5. People raise animals on the ground area under their houses, not in a sanitary pen. Animals' feces collection systems are not in place. |
| 2. Newborns with birth weights less than 3000 grams | 1. Most of pregnant women are factory workers. They do not eat enough foods during pregnancy and do not get enough rest | 1. The service of home visits are not provided to pregnant women. |
| 3. The risk of malnutrition among children under 5 years of age | 1. Children usually enjoy playing and often miss schedules for meals. They also love eating chewy snacks.<br>2. Parents do not have time to take care of children. Elders are the ones who take | 1. No daycare center available for children<br>2. No educational services provided to caregivers for the promotion of nutrition. |

**Table 7** Displays the relation between disease/risk behaviors of people and causes of disease/risk behaviors factors (continued)

| **Illness/Risk Behaviors/Health Threatening Factors** | **Health-affective factors in regard to individuals and living conditions** | **Health-related factors in regard to characteristics of community and environments** |
|---|---|---|
| | care of them during the daytime. | |
| 4. There are addictive drug uses, i.e. amphetamine, among teen-agers and persons of working age. | 1. Teen-agers usually love to learn and experiment with new things and are easily persuaded by friends.<br>2. Persons of working age have used drugs on a regular basis from the time when they were in their teens. | 1. The area is connected to several provinces, i.e. Patumthanee, Saraburi and Cha Choeng Sao. It has been difficult to control drug trafficking from outside.<br>2. There has been no cooperation among community people for the prevention of drug problems. |
| 5. People use stimulants during work such as the leaves of Kratom (Mitragyna Speciosa) and anti-asthmatic drugs. | 1. People believe that Kratom leaves will enhance their energy for working hard. They also use medicines to relieve muscle strains and body pain resulting from working. Anti-asthmatic drugs help people not to fear sunlight and to work hard without exhaustion.<br>2. Economic status of people is poor , and they want to earn more. Therefore, they work harder. | 1. People grow Kratom trees in villages. Also, anti-asthmatic drugs are available for sale in village groceries.<br>2. In harvesting season, the wages people can earn depend on the amount of rice they can harvest. |

**Table 7** Displays the relation between disease/risk behaviors of people and causes of disease/risk behaviors factors (continued)

| Illness/Risk Behaviors/Health Threatening Factors | Health-affective factors in regard to individuals and living conditions | Health-related factors in regard to characteristics of community and environments |
|---|---|---|
| 6. Gardeners growing grapes, oranges, flowers, decorative plants and so on, are at risk of being exposed to chemicals. | 1. Gardeners do not take proper precautions. They are always hurried in working. | 1. The main occupation in the area is agriculture.<br>2. No activities to educate people about how to run a campaign to use chemicals safely. |
| 7. No promotion for elders in terms of recreational activities and in forming as a group for the purpose of health promotion | 1. Elders have to help take care of the house and grandchildren during daytime.<br>2. All children usually go out to work. There is none to take elderly people to join the activities.<br>3. No group activities are designed and developed with the purpose to provide benefits for elders.<br>4. People only have some activities for elders within the family, such as a ceremony of paying homage to them during the Songkran festival (Thai New Year). | 1. No encouragement in the community for the awareness of and participation in implementing health promotion programs for elders.<br>2. The club for elderly people is located very far from various villages. Activities are not held on a regular basis. Elders do not participate in decision making and in the implementation of activities. |

**Table 7** Displays the relation between disease/risk behaviors of people and causes of disease/risk behaviors factors (continued)

| Illness/Risk Behaviors/Health Threatening Factors | Health-affective factors in regard to individuals and living conditions | Health-related factors in regard to characteristics of community and environments |
|---|---|---|
| **II Problems requiring continuous care and rehabilitation** | | |
| 1. Chronic illness such as hypertension, diabetes mellitus and heart disease | 1.People have risk behaviors such as having no exercise and smoking cigarettes. | 1. People in the community do not gather as a group to exercise together. 2.Society of kin usually prefer occasions for having party and drinking together quite often.<br>2. People in some villages face problems of poor crop yields and liability of debts and become distressed |
| 2. Patients with chronic diseases or disabled persons do not receive proper care. | 1. Most patients stay home alone during daytime since all relatives go out to work. | 1. No educational services about self-care are provided to patients and relatives. The service of home visits is not available. |

**Conclusions**: In regard to health care needs of residents in Bang Pla Kod Subdistrict, most health problems identified could be prevented through health promotion and disease prevention programs. Factors influencing the illnesses of people in the area are physical conditions and the living patterns of people in the community. These factors are specific health-related problems of this local area, including problems caused by environments; problems related to vocations and occupational health.

**1.5 Lesson Learned from Community Study**

1.5.1 Community study carried out based on the body of socio-cultural knowledge and on epidemiological study illustrates various dimensions of the community featuring their ways of life and health status; health-affecting environments; and the structure of community that favor the facilitation for health management.

1.5.2 The focus of community study is to try to understand about the living conditions of residents in the community and the environments that affect the health of people. Apart from serving as the process to collect data for further use as the basis for the planning of health care delivery management, the community study is also a good method for creating relationships with people within a short period. This method will let us know about community in all aspects, about the groups of people and organizations within community and about the capabilities of the community.

1.5.3 Building relationships with the community is very important because it will yield cooperation from them. The methods used in this study were the constant talk of community people. During this study, the researcher extended respect to community leaders, elders and other groups; paid attention to problems encountered during the data collecting period, and tried to find solutions for them. With these methods, community leaders and people became more acquainted with the researcher and the instructors from the Faculty of Nursing. They developed the impression that the researcher and these instructors were members of the community as well. This was evident by the fact that people, during the period of data collection invited the researcher and these instructors to attend various activities. For example, they were invited during New Year Festival, Songkran (traditional Thai New Year) festival, and the ordination ceremony.

1.5.4 Community study carried out with the participation of community is considered as a good starting point leading to learning together with the community. In other words, the community will assist health personnel to learn about geographic characteristics, groups of people, and the structure of the community. On the other hand, health personnel can help the community to identify community living patterns affect the health of people. Therefore, conducting community study together

can facilitate the exchange of opinions and points of views in various aspects, and can yield mutual benefits for all.

**2. Community Health Master Plan Development**

To deliver community health services corresponding with the health needs of the community, it is necessary to involve the participation of community stakeholders in decision making and planning for the future of the community. The fruits of this process will be the opinions of the residents and the details about the needs of the community, applicable for the synthesis of the primary care model in the community. Another outcome of the process will be the learning together between the researcher and the community health stakeholders. The A-I-C technique (Appreciation Influence Control Workshop-based) has been employed as the approach to create participation in the development of the community health master plan. During this research, community health plans were developed at both village and Subdistrict levels.

**2.1 The Development of the Community Health Master Plan at Village Level**

Involved in a planning process at the village level, residents or group representatives can be encouraged to share their ideas and develop a village development plan together. As a result, villagers are then empowered to solve problems of the village. Furthermore, all programs and projects established through this process can be later submitted for the development of plans at higher levels. The scope of this particular research project endeavored to develop community health master plans in only 2 villages with the objective to study the feasibility of involving the participation of community health stakeholders in the community health master plan development at the sub-district level. The steps and outcomes of this process are described below.

**2.1.1 Select villages and identify community health stakeholders**

To select villages for participating in the activities of master plan development, the following criteria were used. 1) Leaders from each village were required to be distinguished from each other. In other words, they were required to have different skill levels and strengths determined by their performance in village development activities; and in helping people and gaining acceptance from villagers. This information can be obtained from interviews with leaders and from informal discussions with villagers during the period of community study. 2) Leaders of such villages must agree to cooperate. 3) Both villages must be located in proximity to each other and people in both villages must have close relationships with each other. Finally, for this study, Village 6 and Village 7 were selected. They are located next to each other, separated only by a road. People in these two villages have kinship relationships with one another. They always maintain contact with one another and do activities together. They also share many of the same resources, such as Aroon Chayaram Temple located in Village 7.

Key community health stakeholders were initially identified as representatives of villages in the activities of the community health master plan development. Such stakeholders included:

1) Formal leaders: - the head of the sub-district who lived in Village 6; and the headman of Village 7

2) Informal leaders: - village public health volunteers (VPHV), Buddhist monks, and villagers who had leadership roles and agreed to cooperate. People in this group were selected through studying the biographies of people during the time when the community study was being conducted in Village 6 and Village 7.

3) Health personnel: - public health officers; and nursing instructors from the Faculty of Nursing, Srinakarin University.

A total of 18 persons (90%) from this group attended the planning meeting. Qualification and number such attendants are shown in Table 8.

**Table 8** Number and Qualification of people who attended the planning meeting at the village level

| Attendants | Qualification | Number Selected | Number Attended |
|---|---|---|---|
| 1. Sub-district Head | Formal leader of Village 6 | 1 | 1 |
| 2. Headman of Village 7 | Formal leader of Village 7 | 1 | 1 |
| 3. Buddhist monk | The abbot of Aroon Chayaram Temple – informal leader and a person whom people from 2 villages psychologically depend upon | 1 | 1 |
| 4. VPHV | Informal leader having role in health development of villages who had gained acceptance of people | 3 | 2 |
| 5. Representatives of people from Village 6 and 7 | Had role in community development; accepted and respected by people; had a broad vision | 8 | 7 |
| 6. Health personnel | - Community health officer | 1 | 1 |
| | - Nursing instructors | 5 | 5 |
| Total | | 20 | 18 |

**2.1.2 Develop the plan through the following activities**

2.1.2.1 Identify community health problems: The researcher presented the situation of health issues and problems of Village 6 and 7 by describing the health problems and their causes or risk factors and let participants discuss all issues, one issue after the other. As observed, participants actively shared ideas and opinions and identified community health issues and problems together. Through this, the meeting gained a better clarification of all issues and a better understanding about the current situation of health-risk factors in the community.

2.1.2.2 Empower participants: This activity was aimed to ensure that participants realized the abilities they had in community health development. The participants listened to the content of this activity from a playback on a tape recorder. After that, the researcher set up the topic for discussion in relation to the content they listened from the recorder, which was linked to the recognition of the potentials that they had for the health development of the villages. As observed, all participants showed a very good intention to do this activity, and they effectively linked the content of this activity to their abilities. In conclusion, participants were well aware of their potentials and were ready to develop the health of community.

2.1.2.3 Create a "*vision*": Participants were divided into 2 groups. The researcher asked a question in leading to a discussion. The question was " What is your ideal concept of the health status for people in your village ?" Then, participants in each group brainstormed about what they expected for the future and made a presentation accordingly in the meeting. As observed, participants in each group were very enthusiastic, and they shared opinions freely. The following are what they imagined as the characteristics of the desirable health status model.

"People should be in good physical and mental health and not suffering any diseases that can be prevented. "

"Have clean environments are free from rubbish."

"Be a drug-free community."

All participants expressed the expectations above as the following motto to reflect the vision about health development of villages.

"Good Village having Happiness and Free from Troubles Regarding Health"

2.1.2.4 Develop a 'mission' ($I_1$): Each group was assigned to brainstorm and identify approaches required for achieving the vision and make a presentation accordingly in the meeting. The conclusions about the mission are as below.

"Educate people about how to maintain good physical and mental health."

"Promote annual health check ups among people."

"Promote regular exercise programs ."

"Work together to prevent drug use."

"Improve the environment together to ensure cleanness of living areas conducive to good health."

2.1.2.5 Prioritize the activities of development

After successfully developing the mission of the community , participants in each group brainstormed and identified the first project to be developed . Their consideration was based on the importance of each project for the solutions of community health problems. Eventually, there were 2 projects proposed by participants, the project for solving drug problems and the project of exercise programs in the community. Participants debated extensively about the feasibility of the two projects and selected one of them by voting. Ultimately, the exercise project in the community was selected. Participants viewed it as a necessary project because most people in the community did not exercise, and they became increasingly sick from chronic diseases. Moreover, it was the type of project that the community was ready to participate in.

2.1.2.6 Create a guideline (C): Participants brainstormed to come up with an implementation guideline for "Exercising in the Community Project'. The researcher used the following questions to guide the brainstorming.

1) Who will do: what's the target group?

This identified the specific group of residents for the exercise project. The decision of participants was to have people from all groups and of all ages to exercise together.

2) To do what: What kinds of exercises to be included?

Since people in the target group were of all ages, participants decided to include aerobic dancing for children, teenagers and adults, and Tai-kek dancing for elders as their exercise activities. However, participants who were elders objected to this idea and proposed that all people, including the aged people, should exercise together with aerobic dancing. Finally, the meeting resolved to implement the exercising project by aerobic dancing, which would be modified to be suitable for aged people as well the younger groups.

3) Where to do: Where is the venue for exercising?

Participants suggested using the yard of Aroon Chayaram Temple as the venue for exercising because it was convenient for residents to commute to. The temple also could provide the space and equipment. The abbot of the temple also made a presentation at the meeting and he agreed to provide support in terms of space and equipment for this activity.

4) To do when: To exercise on which day and at what time?.

Participants suggested exercising 3 days a week on Tuesday, Wednesday and Thursday starting at 6 p.m., which was the time when everybody would be finished with their work .

5) How to do: How would the project be implemented?

Participants suggested an implementation guideline and responsible persons as below.

1. Conduct a public relations campaign about the project through the following methods. 1) Announcing via loudspeaker towers by TAO every evening for one week. 2) Putting notices about the project in villages. The researcher and nursing instructors would prepare bulletin boards and seek the support of printed posters about exercise from Chief Public Health Officers of the Sub-district. Three participants in the meeting were assigned to be responsible for putting the posters on the boards. 3) Persuading people to join exercising activity. All participants would help persuade people as such.

2. Establish an Exercising Club: The head of the sub-district suggested that each participant should seek at least 12 people to join exercise activity within a period of 2 weeks.

3. Find exercising facilitators for aerobic dancing: The researcher and the instructors of Community Health Nursing Department would coordinate with the health center, Chief Public Health Officer of Onkarak Subdistrict, and the Health Promotion Department of Onkarak Hospital for assistance and sorting out of such facilitators.

4. Seek for and prepare equipment: Aroon Chayaram Temple would be responsible for finding an amplifier and loudspeakers for use in exercise

activity. Young followers staying at the temple were to be responsible for turning on the music and arranging the place for exercise .

At the end, the meeting reached a conclusion that the project was to be implemented by designated participants from the meeting. The head of Village 7 was appointed as the chairperson, who would coordinate and monitor the implementation. The meeting would be called for again after some members were identified.

**2.2 The Development of the Community Health Master Plan at Tambon (Subdistrict) Level**

The development of master health plan at Tambon level was a process to take information and data about the needs of each village to present and exchange opinions about; then work together to come up with a development strategy. As a result, leaders from each village, community organizations, TAO members and health personnel were able to learn together. Besides, the data obtained from this activity could be used as the guide for managing the delivery of primary care, and could be used further as input data for making Tambon (Subdistrict) Development Plan. The meeting for the development of master health plan at Tambon level was proceeded with following steps.

**2.2.1 Identification of Health Stakeholders at Tambon level**

During the master health plan development meeting, keys community health stake holders were identified, which included people from various parties such as formal and informal community leaders, people, TAO members, and health personnel (Table 9). The identification was based on information obtained through community study and from studying personal biography of people to search for persons who had capability. Once capable people were identified, they were invited by the researcher to participate in the activity of master health plan development at Tambon level. These people cooperated well and were willing to attend the meeting. Some of them were advised by leaders or were told by people to participate in the meeting because they were seen as capable people. After community study and data collection at Tambon level were completely finished, the researcher met with them again informally to brief about the objectives of master health plan development meeting and seek their

cooperation in coming for the meeting. The researcher also asked their opinions about the date, time and venue of the meeting. After that the official invitation letter for the meeting was sent to each of them. They were confirmed about the meeting again by phone before the date of the meeting. Most of them agreed to attend.

**Table 9** Number and Qualifications of Participants of Planning Meeting at Tambon level

| Participants | Qualifications | No. Selected | No. Attended |
|---|---|---|---|
| 1. Head of Tambon (Subdistrict) | - Formal leader | 1 | 1 (Represented by Tambon Inspector ) |
| 2. Head of Village 1,2,3, 4, 5 , 7, 8, 9, 10, 11 | - Formal leaders | 10 | 8 (2 of them were represented by assistant head of villages) |
| 3. TAO members | - Formal leaders and TAO administrative persons (i.e. Chairperson and Deputy, TAO Secretary ) | 5 | 4 |
| 4. Public health volunteers | - Persons having good responsibility on undertaking duties; well accepted by people | 3 | 2 |
| 5. Teachers | - Educational representatives from 2 schools including 2 school directors and 1 teacher involved in health development activities in school | 3 | 2 |
| 6. Buddhist monks | - Abbots and assistants from 3 temples | 4 | 3 |
| 7. People's representatives | - Persons having roles in community development activities. They have gained respect and acceptance from people and | 5 | 2 |

**Table 9** Number and Qualifications of Participants of Planning Meeting at Tambon level (continued)

| Participants | Qualifications | No. Selected | No. Attended |
|---|---|---|---|
| | have a broader vision. | | |
| 8.Health personnel | - Community Health Officers | 2 | 1 |
| | - Instructors from Faculty of Nursing | 5 | 5 |
| Total | | 37 | 28 |

**2.2.2 The Development of a Master Health Plan**

The meeting was held for 1 day at the meeting room of TAO Bang Pla Kod and the A-I-C technique was used. A total of 28 persons out of 37 expected persons (75.68%) attended the meeting. The meeting was proceeded with following steps.

2.2.2.1 The meeting started with a brief on objectives and targets of health development planning activity by the researcher. After that, participants had a group activity for empowerment and to melt behaviors of all to be as one, as participants came from different agencies and some of them were not acquainted to each other.

2.2.2.2 A didactic presentation on knowledge about the type of primary care delivery and about the participation of community. The presentation was aimed that participants would perceive a view of the upcoming model of the primary care.

2.2.2.3 The presentation on health situation of Bang Pla Kod Subdistrict: The researcher distributed the handout material on a summary of such situation and presented factors relating to health in various aspects and issues for participants to discuss. The participants shared their opinions about causes of problems and how community would be affected, which helped illustrate a clearer view about health care needs. After being informed about current situation, participants were asked to analyze weakness and strength of the community in searching for the areas that the community had capability and promptness for. It led to a conclusion and

convinced participants that community had capability and promptness to participate in health development activities.

2.2.2.4 Activity for identifying community health problems and creating a vision: Participants were divided into 4 groups. Members of each group brainstormed about the desirable health they expected to have in the future in responsive to a question that the researcher asked as, "How do you want the desirable health status for people in your village to be?" After all groups created vision of each own, they presented their visions in the meeting. Then all participants worked together to make a conclusion and come up with a vision of health development activity of Bang Pla Kod Subdistrict, the details of which are as below.

**Vision of community health**

"*Good mind and body; Generosity; Pollution-free; and Catching up with all situations*"

This vision reflects the expectation for a desirable health status of people in the future, as described below.

**Good body and mind:** People of all groups and all ages have good physical and mental health. They should not suffer any diseases that are preventable.

**Generosity:** Caring for and sharing with each other both in good times and bad times. People have a warm family and strong community.

**Pollution-free:** To have neat and clean physical environments that are free from poisonous or toxic substances. To have a peaceful community with no problems about drug use and other kinds of bad habits such as drinking, smoking, gambling, etc.

**Catching up with all situations:** People pay attention to and look for knowledge; always update themselves with current data, information and events; and use knowledge as the basis for living their lives and for providing health care to individuals, family and community.

2.2.2.5 Group activity for establishment of allied parties: Some participants were absent from the meeting during this session, as they had to go for other business. The participants were then divided into only 3 groups. Each group

brainstormed about actions to be taken in attempt to achieve the vision and present that in a plenary session to conclude them together as a 'mission'. The mission concluded is as below.

**Mission**

" *Develop quality of life for people of all groups and ages to ensure their well being in regard to physical, mental, spiritual and social aspects. Use knowledge as the basis of living and health care. Participate in community health development activities.* "

2.2.2.6 Prioritization of projects to be developed: Participants from all groups proposed 3 projects together: Rubbish Eradication Project; Exercise Promotion Project; and Mental Development for the Youth Project. They agreed that the first two projects to be implemented were Rubbish Eradication Project and Exercise Promotion Project. To select only one of these two projects, participants debated to pick up the one they though it was more important and the one that the community would have ability to implement first. In regard to Rubbish Eradication Project, TAO Secretary shared an opinion that it could not be implemented during that given time because, firstly, most of people did not cooperate in the eradication. Secondly, there was no budget available, so it should be suspended until it could be implemented under the plan of the province. However, participants who also were leaders of villages and teachers viewed that the Rubbish Eradication Project would be certainly implemented at some other time in the future, starting from raising awareness of people relevantly. TAO Chairperson said that TAO had no problems with the budget but the area to use as the landfill for rubbish eradication. Therefore, TAO had been unable to implement anything about this so far. Since the meeting was unable to reach a conclusion about rubbish eradication, TAO Secretary suggested that this issue should be included for a discussion in a meeting among TAO members on a later date. Therefore, participants tried to select a project to be implemented first by voting again. The Exercise Project was then selected with a supportive reason that the community had the readiness to implement it first, as it would be started only in Village 6 and 7 before extending to other villages. The exercise activity would be undertaken under the coordination with sport committee of villages.

2.2.2.7 Setting up a committee to take responsibility for making a Tambon (Subdistrict) Health Development Plan: This activity was aimed to ensure the continuity of village health development planning activity. However, it was unable to set up this committee, as participants viewed that core leaders such as the head of Tambon (Subdistrict) and some of village headmen did not present in the meting at that time. Besides, the number of attendants was lesser than the one of the morning. The persons who could make important decisions were not available. TAO Secretary suggested that, in order that the health development plan could be implemented continuously, this plan should be presented as an agenda of Tambon Development Planning Meeting on a later date.

**2.3 Community Health Master Plan**

According to a meeting held with community health stakeholders to establish a master health plan of Ban Pla Kod Subdistrict, a health development plan was established as below.

**2.3.1 Vision**

*“Good mind and body; Generosity; Pollution–free; and Catching up with all situations*”

**2.3.2 Mission**

*“Develop the quality of life of people of all groups and all ages to ensure their well being in regard to physical, mental, spiritual and social aspects. Use knowledge as the basis of living and healthcare. Participate in community health development activities.“*

**2.3.3 Objectives**

1) To develop people’s health by focusing on health promotion and diseases prevention.

2) To develop both physical and social environment in favoring of good health.

3) To maximize access to service.

**Strategy 1** Creating Active Health Promotion and Reducing Important Health-Threatening Conditions

| Objectives | Activities |
|---|---|
| 1. Promote good nutritional status for people of all ages. | - Set up project to provide knowledge through loudspeakers and posters about healthy foods.<br>- Set up nutritional counseling service for people of all age-groups.<br>- Organize a contest on the preparation of healthy foods.<br>- Set up community's guidelines/measure about selling foods and consuming goods that are free from toxic substances and contamination. |
| 2. Promote exercise activities to people of all ages. | - Set up project providing knowledge through loudspeakers and posters about the principle and advantages of exercise and the principle of exercising through body movements in daily life.<br>- Set up exercise clubs in schools and community.<br>- Provide space and equipment for playing sports and exercise.<br>- Organize sport competition for people in various age groups both at village level and subdistrict level. |
| 3. Promote the development and promptness for learning among children of preschool and school age. | - Organize training for child caretakers on knowledge about feeding, dental hygiene, and child growth and development.<br>- Set up daycare center.<br>- Set up well baby clinic in community and schools in order to provide immunity; assess and advise about nutritional condition, dental health, and child development.<br>- Provide safe space for children to meet and play.<br>- Pay home visit to children with abnormality such as the underweight, sick, or disable children.<br>- Campaign to educate people through loudspeakers, leaflets, and posters about healthy behaviors and lifestyle, especially |

| Objectives | Activities |
| --- | --- |
| | those of working age.<br>- Provide annual screening for people in risk group. |
| 4. Increase the proportion of healthy elders. | - Organize training to prepare middle-age people about hobbies and supplementary vocations; and about living in their senile period.<br>- Gather as group to set up elders' club covering various areas and with as easy access to.<br>- Encourage family to place importance on taking care of elders.<br>- Organize activities on important days to promote mental health and social life of the elders.<br>- Set up geriatric clinic to asses the health of elders and provide continuous counseling. |
| 5. Reduce smoking in population, especially among the youth. | - Organize campaigning project to educate the youth and general people about effects of smoking.<br>- Develop skills of children and the youth in rejecting smoking.<br>- Set up quitting clinic for smoke addicts.<br>- Launch community regulations to protect persons from being exposed to toxic smoke from smoking in public. |
| 6. Reduce drinking in general population and prevent drinking in children and the youth. | - Campaign and provide knowledge through loudspeakers and posters in schools and the community about effects of drinking.<br>- Create a new value by campaigning people to refrain from drinking during important festivals and traditional events of the community.<br>- Set up a clinic to provide counseling and therapy for alcoholics. |
| 7. Prevent and reduce drug and | - Campaign through loudspeakers and posters in schools and the community about effects of drug use. |

| Objectives | Activities |
|---|---|
| stimulant use in children, the youth, and people of working age. | - Organize training to provide knowledge to parents, children, and the youth about the prevention of drug use.<br>- Develop life skills of children and the youth in schools.<br>- Provide continuous therapy for the addicts.<br>- Take a surveillance for drug use and drug trafficking by making community's regulation to punish drug dealers.<br>- Develop core leaders so that they would be able to give advice to target group; closely watch and keep track of target group's behaviors.<br>- Promote children and the youth to do useful activities such as sport playing, setting up vocational groups.<br>- Promote activities that tighten relationship between family members.<br>- Organize training to provide knowledge and create understanding among people of working age about negative effects of using work stimulants.<br>- Launch community regulations on the selling of pharmaceutical drugs or stimulants and the planting of Kratom trees the community. |
| 8 Reduce incidence rate and effects of important epidemics in the community, such as Haemorrhagic fever and diarrhea. | - Campaign and educate people through loudspeakers and posters about the prevention and control of diseases before the season of outbreak .<br>- Campaign that every household, temples, and schools eliminate sources that favor the breeding of striped mosquito every week.<br>- Appoint village and school larvae inspectors to randomly inspect for the larvae of striped mosquitoes.<br>- Organize a competition for areas free from the larvae of striped mosquito and honor certificate to household and village that control the larvae well. |

| Objectives | Activities |
|---|---|
| | - Promote the production of mosquito repellent and the eradication of striped-mosquito larvae that use local wisdom such as using lemon grass, galingale, orange peel, potash alum, etc.<br>- Request budget from TAO for buying smoke blowing devices and Abate sand.<br>- Run a campaign that people eat clean and well-cooked food.<br>- Take a surveillance and educate people about the control of disease outbreak, for example, making notification when there is an incidence of a case, eradicating excrements of humans and animals properly.<br>- Provide diagnostic service and primary treatment, for example, in cases of high fever, dehydration, shock; and transfer them for treatment. |

**Strategy 2** Promote Quality of Life of Persons Suffering from Chronic Diseases and the Disabled.

| Objectives | Activities |
|---|---|
| 1. Increase the ability of persons with chronic diseases to take care of themselves and alleviate their quality of life. | - Campaign and educate through loudspeakers and leaflets about self-care and practice guide for various diseases.<br>- Make home visits to patients in need of continuous care.<br>- Provide training for caretakers of chronic patients.<br>- Set up a mobile clinic to continuously provide treatment for chronic diseases in community. |
| 2. Develop capability of the disabled. | - Give advice and counseling about the rehabilitation and health promotion to the disabled and families.<br>- Make home visits to enhance capability of each disable |

| Objectives | Activities |
|---|---|
| | person.<br>- Provide equipment for rehabilitating the disabled.<br>- Advocate for employment opportunity for the disabled of working age.<br>- Manage for and provide resources for rehabilitation. |

**Strategy 3** Improve community's environment in favoring to good health.

| Objectives | Activities |
|---|---|
| 1. Improve physical environment. | 1.1 Campaign and educate villagers, students, and entrepreneurs through loudspeakers to keep environment clean and eliminate garbage.<br>1.2 Set up a big cleaning day for village/community/school to eliminate garbage and dig drainpipe.<br>1.3 Campaign that every household has its own garbage elimination, separate each kind of garbage, and provide garbage-dumping area for every household.<br>1.4 Establish community regulations and make a posting boards in the community to put announcement of regulations about littering in public.<br>1.5 Request cooperation from TAO to adopt a garbage collecting system and provide area for dumping garbage.<br>1.6 Search for environmental risk factors through a physical environment survey conducted once a year. |

**Strategy 4** Improve Access to Health Service

| Objectives | Activities |
|---|---|
| 3.1 Increase the number of those | - Coordinate with responsible units in issuing health benefit card for those have not had ones yet. |

| Objectives | Activities |
|---|---|
| having health benefit. | - Campaign to provide knowledge to people about their rights to health benefit, for example, those who are doing paid work, those who immigrated to work from elsewhere.<br>- Provide health service for those having health benefit in other areas and coordinate with responsible servicing unit. |
| 3.2 Enhance the capability of community in dealing with uncomplicated health problems. | - Provide knowledge and skill training to core health leaders of the community in assessing health condition and uncomplicated symptoms.<br>- Provide knowledge and skill training to core health leaders in families in using household remedy and herbs to deal with uncomplicated symptoms.<br>- Provide knowledge and skill training to core health leaders in dealing with sickness by methods of natural therapy such as massaging, meditation for relaxation.<br>- Create a network for the community as a channel to request for counseling and healthcare when they face uncomplicated health problems. |

**2.4 Lesson Learned from Health Development Planning Activity**

**2.4.1 Village Level**

2.4.1.1 Health development planning at village level provided opportunity for community members such as village leaders, public health volunteers, people's representatives and health personnel to meet together. They would clarify the understanding about important health problems and their causes, which would lead to the identification of problems. They would work together to define the development for the future and find the solutions for health problems of villages.

2.4.1.2 All parties cooperated well in the activity to develop the master plan of community health development, because the meeting was held in the evening when people finished all their works. The venue of the meeting located inside the community and it was easy for people to commute to. The meeting was conducted

informally which made all attendants felt relaxing and did not get boring during the meeting. Most participants from 2 villages were familiar with each other and got acquainted with the researcher and health personnel before, therefore they cooperated well in activities and felt courageous to share opinions.

2.4.1.3 The A-I-C technique could be used quite successfully for creating participation of people in the planning process, because the steps of this technique were not complicated. It started from clarifying the understanding about current phenomenon, which would lead to the needs in the future. It could compile thoughts and ideas of each participant to become a consensus of the meeting constructively.

**2.4.2 Tambon Level**

2.4.2.1 Planning activity at Tambon level provided opportunity for leaders from each village; informal leaders from organizations in community (i.e. Buddhist monks, teachers, and public health volunteers); people's representatives; TAO members; and health personnel to meet together. In the meeting, they worked together to clarify the understanding about illness problems and health-risk factors of people in Bang Pla Kod Subdistrict, to identify problems and crate a vision of the development, and come up with solutions. As community health stakeholders worked together, they learned about the roles undertaken by each sector that was responsible for community health development. The experience they had in regard to problem solving could be used further for solving other community problems in the future.

2.4.2.2 As there were representatives from a wide range of organizations, the health care needs were identified covering all aspects of 'holistic health', which included physical, mental, social and environmental, as well as the spiritual.

2.4.2.3 The success of master planning about health development at Tambon level depended on the intention of attendants. Even with a lesser number of participants in the afternoon session, but they showed good intention and enthusiasm to finish all activities as scheduled. These participants were enthusiastic leaders who realized well about the importance of participating in community health development activity. Some of them had experience from

participating in planning activity at village level and had a very good understanding about planning process.

2.4.2.4 As TAO members also participated in the activity of health development planning of Tambon, they gained a better understanding about health-related tasks that they would have to undertake to serve people. The solutions to be pursued by TAO were discussed and the problems identified through mutual discussion could be linked to the process of Tambon development planning.

2.4.2.5 Problems and obstacles of health development planning at Tambon level included the difficulty in making appointment with all leaders in entire Tambon to come for a meeting at the same time. They usually were occupied with personal business or activities of the community. Because of this reason, some headmen of Tambon and villages were unable to attend the meeting and some of those who attended could not stay for the whole day.

**2.4.3 A Comparison between Process and Outcomes of Health Development Planning Activity at Village Level and the Ones of Tambon Level**

Basing on health development planning activity at village and Tambon levels, it could be concluded as below.

2.4.3.1 Participants of Health Development Planning Activity

For the planning at village level, all participants were members from villages, which included Tambon head, village heads, village public health volunteers, Buddhist monks, people's representatives, and community health officers. For Tambon level, the participants of planning activity came from several villages and a wide range of community organizations. Such participants included village heads, people's representatives, public health volunteers, Buddhist monks, teachers, TAO members and community health officers. The meeting for health development planning facilitated that people from different groups in community could learn how to work together. And as participants attending the meeting at Tambon level came from different sectors and had a diverse range of qualifications in term of vocations, roles and duties, and educational background, the discussion about problems were proceeded thoroughly covering a wide range of creative solutions.

2.4.3.2 Participation in Activity

Participants at both village and Tambon levels were enthusiastic to share ideas and opinions constructively. The attendance rate of the meeting at village level was as high as 90% because it was scheduled for the evening when people finished all their works. Besides, the meeting was held at the temple and it was easy for people to commute to. At Tambon level, the meeting attendance rate was 75.68%, which was lesser than the one of village level. The meeting was held during daytime when most people were occupied with their works or activities of the community. The meeting was held at TAO meeting room. Some persons lived quite far from that and did not have personal vehicles. As it was hard for them to commute to the meting venue, they declined not to come. For those who attended the meeting, some of them could not stay for the afternoon session, as they had personal business to attend to. Some participants reflected that the meeting should be held for only half a day, as some of them did not get used to sitting all day long and some others needed to go for personal errands.

2.4.3.3 Planning Process

As the A-I-C technique was used as the process to mobilize participation in health development planning activity, its outcomes could be concluded as below.

2.4.3.4 At the Stage of Creating a Vision and Mission

Participants at both village and Tambon level acknowledged and understood about illness problems and health-risk factors. They discussed causes of problems together and were able to create a vision and creatively define a development approach.

2.4.3.5 At the Stage of Developing a Guide for Actions

For the planning at village level, a guide for actions was developed and responsible persons were identified clearly. For Tambon level, participants could develop the guide very broadly and could not identify responsible persons clearly because of the time constraint.

2.4.3.6 The Importance of Health Development Planning Activity

The health development plan of village level had its own specificity and it had to be developed in consistence to problems of the village. Therefore,

villagers had learned how to solve problems of the village from working together. Villagers who participated in the meeting became alert and shared the ownership of the project. They helped identify resources in the village for further and effectively used. On the other hand, the planning at Tambon level covered the scope of health development activity at Tambon level, which could be included in Tambon Development Plan. This way, more budgets could be allocated through this channel for health development for people. Furthermore, the coordination among leaders of villages and community organizations (community health stakeholders) was established, so they learned how to work together.

**Conclusion**: Through health development planning activity at village and Tambon levels, community health stakeholders learned how to work together to analyze problems, create an imagination or the target of the development, make plans for the future, and make decisions regarding health development for people. Each sector realized about the importance of participating in the development. They adjusted their roles in order that they could work together to achieve a common goal of people's well being. The experience gained from this activity would lead to self-reliance in the future. Besides, the results obtained from health development planning activity were used in managing the delivery of primary care to people in line with the needs of community.

**3. Characteristics of Primary Care Services That Correspond to the Need of the Community**

The health needs of community were obtained through the analysis of factors in regard to their health-affecting behaviors and living patterns; health-related characteristics and environments of the community; as well as the activities undertaken together by community health stakeholders to identify community health problems. The causes of such illnesses included health behavioral factors and living patterns of people, as well as the characteristics of environments in the community. People's sickness problems are as follow. 1) Preventable sickness: which included the sickness due to infectious diseases requiring epidemiological surveillance (the one

with the highest incidence rate and became an endemic diseases of the area was Hemorrhage fever), the low-birth-weight newborns, and children under 5 years old who were at risk of malnutrition problem. There also were the risks of being exposed to chemical substance for those in agricultural pursuit; the use of stimulant substances in laborers; the lack of exercise; smoking and drinking. 2) Sickness required treatment and rehabilitation**:** which included chronic diseases such as hypertension, diabetes, heart disease, and disability from paralysis; as well as sickness among elderly people.

**3.1 Primary care services**

Basing on sickness and risky behaviors of people, and the planning for creating a vision about community health development, a set of primary care activities corresponding to the needs of community could be organized covering all 4 dimensions, namely health promotion, diseases prevention, rehabilitation, and continuous treatment as following.

**3.1.1 Prevention and Control of Haemorrhagic Fever**

**3.1.1.1 Target Population**

According to the data about patients infected with infectious diseases requiring epidemiological surveillance reported by Ban Bon Health Center, Bang Pla Kod Subdistrict, Nakorn Nayok Province, most patients who suffered Haemorrhagic fever patients were children. Only few of them came from other age groups such as adolescence and adults. It could be concluded that the general population was at risk of Haemorrhagic fever.

**3.1.1.2 Services Available in the Area and Access to Services**

A epidemiological study on factors of disease occurrence and community health system found that most existing health services for the prevention of Haemorrhagic fever were responsive ones; in other words, personnel waited until there was a reported case of haemorrhagic fever in the community before taking actions. Community health officers would spray the smoke and village public health volunteers would fill Abate sand. In solving such problem, people and local organizations were not involved and encouraged to participate in the control of striped mosquito larvae and in managing the environment to prevent the breeding of striped mosquito. For example, they did not help manage the areas flooded by wastewater

from households; did not avoid dumping unused utensils to the ground and left them as places for striped mosquito to lay eggs. No campaigns were in place to inform people about the surveillance for and the prevention of the spread of the disease.

**3.1.1.3 Service Activities and Responsible Persons**

| Service Activities | Persons in Charge |
|---|---|
| **1. Disease Prevention Services** | - community health officers, village public health volunteers, professional nurse |
| 1.1Continuously provide knowledge on the principle of prevention and control of DHF for people, especially during the period before the outbreak | |
| 1.2 Inform the public when a case of Haemorrhagic fever is found in the community. | - community health officers, village public health volunteers, TAO |
| 1.3 Organize trainings for community core leaders and TAO on an approach to control Haemorrhagic fever in the community. | -Professional nurse, community officers |
| 1.4 Campaign that people in the community, schools, and temples eradicate striped mosquitoes breeding sources every week. | - community health officers, village public health volunteers |
| 1.5 Appoint village larva inspector to randomly inspect for larvae | - TAO, community health officers |
| 1.6 Campaign that people cooperate with each other in managing environment in order to reduce risk factors for causing disease, such as the undrained areas of waste water from households, and garbage around houses and in public places. | - TAO, community leaders, people |
| 1.7 Provide garbage containers and garbage elimination areas. | TAO |
| 1.8 Carry out the blowing of chemical fume to eradicate striped mosquitoes in household, school, and temple areas. | TAO |
| 1.9 Launch community's regulation by launching district regulation on striped mosquitoes breeding sources control. | TAO, community leaders |
| **2. Primary Treatment service** | -Professional nurse |
| 2.1 provide primary diagnosis and treatment, and transfer for further treatment for cases showing the signs of Haemorrhagic fever. | |

**3.1.1.4 Roles of Persons Involved and Problem Management**

**1) Professional Nurse**

Professional nurse had the roles to educate people about the surveillance and the prevention of diseases; develop and enhance the process of people's sector so they could manage environment in a way that it would not be a causing factor for diseases. Professional nurse also undertook the role to develop the capability of community leaders and TAO members in regard to disease control. She also provided primary diagnosis to patients and transfer them further for continuous treatment.

**2) Community Health Officers**

Community health officers undertook the roles in collaboration with professional nurse to educate people about disease surveillance and prevention, develop and enhance the process of people's sector so they could manage environment in a way that it would not be a causing factor for diseases. They also carried out functions in the same manner to develop the capability of community leaders and TAO members in regard to disease control. They also coordinated with TAO in blowing smoke to get rid of striped mosquito.

**3) Public Health Volunteers**

Public health volunteers undertook the roles in coordination with health personnel to provide information about the prevention and control of Haemorrhagic fever. They worked together with people to get rid of striped mosquito larvae and manage the environment in a way that it would not be the risk factor for the breeding of striped mosquito.

**4) Tambon Administrative Organization (TAO)**

TAO undertook the roles to manage the environment of community in a way that it would not be the health-risk factors. For example, build waste-watered drainpipes from households, collect garbage, carry out smoke blowing in coordination with community health officers to get rid of striped mosquitoes, launch district regulation on striped mosquitoes' breeding sources control, and support budget for community's disease prevention and control activities.

**5) Community Leaders, Community Organizations, and People**

They undertook the roles in carrying out community's activities to eradicate the larvae of striped mosquito and improve environments that were risk factors for the breeding of striped mosquito.

**3.1.2 Preventing the Risk of Malnutrition among Children Aged 0-5 years**

**3.1.2.1 Target Population**

According to the report on the birth weight of newborns of Ban Bon Health Center, Bang Pla Kod Subdistrict, Ongkarak District, Nakorn Nayok Province, for 2002, 38.24 percent of newborns had birth weight of 2,500 –2,599 grams and 0.64 percent of children aged 0-5 years old had first degree malnutrition. Thus newborns with low birth weight were at risk of malnutrition. Also, an observation on lifestyle of children age 0-5 years old found that during daytime their parents were out for work thus most of them stayed home with the elders. From informal conversations with child caretakers, it was found that children had inappropriate eating behaviors, for example, they always played and did not eat at mealtime. They loved to eat chewy snacks. Caretakers did not control the eating of children eating both quantitatively and qualitatively. Therefore, target group of this service activity included pregnant women, children aged 0-5 years, and child caretakers.

**3.1.2.2 Services Available in the Area and Access to Services**

From studying about community health system and from having informal conversations with child caretakers, there was no daycare center available for children aged 0-5 years in the community and no health staffs to provide knowledge about the promotion of nutrition and child development for children aged 0-5 years. Also, in informal conversations, pregnant women informed that home visiting service was not available to promote the nutrition of pregnant women. Thus service activities to prevent the risk of malnutrition should cover the fetus, pregnant women, children aged 0-5 years, and child caretakers.

### 3.1.2.3 Services Activities and Responsible Persons

| Services Activities | Responsible Persons |
|---|---|
| **1. Disease Prevention and Health Promotion Services for Pregnant Women** | |
| 1.1Provide advice on pregnancy and parental readiness. | -Professional nurse |
| 1.2 Pay home visits for pregnant women to evaluate complication during pregnancy and fetal development. | -Professional nurse |
| 1.3 Pay home visits to postnatal mothers and babies continuously. | -Professional nurse, community health officers |
| 1.4 Promote breast feeding. | -Public health volunteers |
| **2. Disease Prevention and Health Promotion Services for Children Aged 0-5 Years** | |
| 2.1 Give immunizations. | -Community health officers , professional nurse |
| 2.2 Assess child growth and development continuously. | , professional nurse |
| 2.3 Organize activities to promote child development according to their age. | - community health officers |
| 2.4 Take surveillance for the risk of malnutrition through keeping track of children's weight. | -Volunteers, community health officers |
| 2.5 Organize trainings for child caretakers to educate them about child raising behaviors; the promotion of child nutrition and development; and dental hygiene. Demonstrate how to prepare supplementary foods. | - Professional nurse |
| 2.6 Set up Well Baby Health Center in the community. | -TAO, community leaders |
| 2.7 Provide supplementary foods to children. | -TAO, |

| Services Activities | Responsible Persons |
|---|---|
| 2.8 Provide space in the community for children to play. | -TAO, community leaders |
| 2.9 Manage to ensure cleanness of environments in houses and community to prevent the incidence of diseases and accidents. | -TAO, community leaders |

**3.1.2.4 Roles of Persons Involved and Problem Management**

**1. Professional Nurse**

Professional nurse undertook the roles to educate child caretakers in order to promote child caring behaviors and to provide services to prevent the risks or incidences of diseases in the under-five children. Such services included immunization, surveillance of malnutrition and dental problems; and home visit to children aged 0-5 years who had malnutrition. She also undertook the roles in providing services to prevent the risks or the incidence of diseases in pregnant women and newborns, which included the home visit to monitor the course of pregnancy, the assessment of complications during pregnancy, monitoring fetal development, and continuous postnatal home visits. The services also included postnatal recovery for mothers and promoting breast feeding. Professional nurse took the function to encourage TAO and community to carry out child development activities and environmental management to prevent diseases and the risk of accidents.

**2) Community health officers**

They took the roles, in collaboration with nurses, in providing knowledge for child caretakers on the promotion of child development and nutrition for children aged 0-5 years. They also promoted immunization activities.

**3) Public Health Volunteers**

They undertook the a role to coordinate with health personnel in taking surveillance for the risk of malnutrition in children aged 0-5 years by monitoring the body weight of children and promoting breast feeding.

**4) Tambon Administration Organization (TAO)**

TAO undertook the roles to provide the budget for organizing activities for the promotion of child-caring behaviors. For example, setting up daycare center for children; organizing environment to promote child development such as providing space for children to play, providing toys that help promote child

development; and organizing environment that promotes good health and reduces the risk of accidents.

**5) Community Leaders**

They had a role, in cooperation with health staffs and TAO, in carrying out activities to promote child raising behaviors and organizing environment that would promote good health and reduce the risk of accidents.

**3.1.3 Preventing the Risk of Exposure to Chemicals among People in Agricultural Pursuit**

**3.1.3.1Target Population**

According to the a survey on health condition of people in working age; a study on community's economic structure; and an epidemiological study, the population at risk of being exposed to chemicals were farmers who grew flowers, decorative plants, oranges and annual plants. The population at risk also included people employed to grow same kinds of plants, and some other people who could be exposed to toxic substance left in the environment. The prevention of exposure to chemicals by doing poison-free agriculture could also, in a short run, affect the farmers, as they might not have a good quantity of product in comparison to when they used pesticide. This would lead to an income shortage and rising debts. However, it was found that in the long run, poison-free agriculture would yield the benefit to the health of farmers and people, as well as the environments in community.

**3.1.3.2 Services Available in the Area and Access to Serviced**

A study on health system of the community found that farmers and employees rearing flowering plants, decorative plants, orange orchards, and annual plants lacked knowledge and did not recognize the importance of prevention while spraying pesticide. These groups told that there had not been any health staffs coming to provide them knowledge about disease prevention and testing for blood levels of chemicals. They had not received any promotion either from community leaders and Subdistrict Chief Agriculture Officer about using biological substances to substitute the chemical ones.

**3.1.3.3 Service Activities and Responsible Persons**

| Service Activities | Responsible Persons |
|---|---|
| **1. Prevention Activities**<br>1.1Provide knowledge about prevention while spraying and after using pesticide to farmers and employees. | - Professional nurse, community health officers |
| 1.2Evaluate risk conditions and factors for farmers' health. | - Professional nurse |
| 1.3 Provide information and advice on how to reduce the risk of the exposure to chemicals among farmers. | - Professional nurse |
| 1.4 Run a campaign among people in agricultural pursuit to pursue poison-free practices. | - Community leaders, TAO, people |
| 1.5 Set up study tours for core leaders to observe poison-free agricultural practices. | -TAO, community leaders |
| 1.6 Provide training on the production and the use of biological substitutes to farmers. | -TAO |
| 1.7 Launch district regulations concerning the use of chemical substance in agricultural practices. | -TAO |
| 1.8 Screen people at risk of being exposed to chemical substances for diseases and transfer them for further treatment. | - Professional nurse |

**3.1.3.4 Roles of Persons Involved and Problem Management**

**1) Professional Nurse**

Professional nurse undertook the roles to educate farmers and laborers who grew flowers, decorative plants, oranges and annual plants, about self-prevention while and after spraying pesticide. Professional nurse also took roles to assess and screen people at-risk for diseases through testing their blood levels of chemicals. This nurse also coordinated with TAO and Subdistrict Chief Agriculture Officer to provide people with training and knowledge about producing and using biological substances to substitute chemical ones.

**2) Community Health Officers**

Community health officers had a role, with collaboration with nurse, to educate farmers and laborers who grew flowers, decorative plants, oranges and annual plants about the prevention while and after spraying pesticide.

**3) Public Health Volunteers**

These volunteers had a role, in coordination with public health staffs, to educate farmers and laborers who grew flowers, decorative plants, oranges and annual plants about the prevention while and after spraying pesticide.

**4) Tambon Administration Organization (TAO)**

TAO had the roles to run a campaign and promote poison-free agriculture among farmers; provide budget for a study tour of core leaders to observe poison-free agricultural practices; provide farmers with knowledge and training about the production and the use of biological substances in substitution to the chemical ones. TAO also took the role to issue rules and regulations for controlling the use of chemical substances.

**5) Community Leaders and People**

They had a role, in coordination with TAO, in running a campaign and promoting poison-free agriculture among farmers.

### 3.1.4 Preventing the Risk of Drug Use

#### 3.1.4.1 Target Population

According to the report on drug addicts in Bang Pla Kod Subdistrict prepared by Ban Bon Health Center, Bang Pla Kod Subdistrict, Ongkarak District, Nakorn Nayok Province, in 2003, people in the group with the highest drug use were the youth. And those who were affected by the problem were people in the community.

#### 3.1.4.2 Services Available in the Area and Access to Services

From studying about health system of the community, no measure was in place for the surveillance of drug use and there were no preventive services available for protection of people at risk. However, there were rehabilitative services available for the addicts, which included camping and socio-psychological therapy.

### 3.1.4.3 Service Activities and Responsible Persons

| Service Activities | Persons in Charge |
|---|---|
| **1. Prevention Activities** | |
| 1.1 Provide knowledge to parents and the youth about the prevention of drug use. | -Professional nurse |
| 1.2 Teach life skills to children and the youth in schools. | -Professional nurse |
| 1.3 Watch out for drug use and drug dealing in the community. | -Community leaders, people |
| 1.4 Closely watch and keep track of target group's behaviors. | -Community leaders, Public Health volunteers |
| 1.5 Develop community regulations for punishing drug dealers. | - TAO, Community leaders |
| 1.6 Organize activities to tighten relationship between parents and the youth. | -Community leaders, TAO |
| 1.7 Promote and support sports playing and exercise. | -Community leaders, TAO |
| 1.8 Promote the setting up of friend-help-friend and vocational groups | -Community leaders, TAO |
| 2. Rehabilitation Activity<br>2.1 Provide remedial service to rehabilitate the addicts | -Professional nurse, Community health officers |

#### 3.1.4.4 Roles of Persons Involved and Problem Management

**1) Professional Nurse**

Professional nurse provided knowledge to parents and the youth in at-risk group, developed life skills for children and the youth, created the participation of community and organizations in surveillance for the spread of drug use, taught life skills to children and the youth, and rehabilitated drug addicts.

**2) Community Health Officers**

In coordination with nurses, community health officers had a role to providing knowledge to parents and persons in at-risk group, and to rehabilitate drug addicts.

**3) Public Health Volunteers**

The volunteers had a role in coordination with community leaders in looking out for and keeping track of target group's behaviors; including both risk group and the addicts.

**4) Tambon Administrative Organization (TAO)**

TAO had the roles to provide supportive budget for carrying out activities to prevent drug use; cooperate with community leaders to draft and issue community regulations defined for the punishment of drug dealers. TAO also organized activities to tighten relationships between parents and the youth, and promoted the setting up of friend-help-friend and vocational groups.

**5) Community Leaders**

Community leaders had the roles to watch out for the spread of drug use in the community, cooperate with TAO in drafting and issuing community regulations to punish drug dealers, organizing activities to tighten relationship between parents and juvenile, and promoting the setting up of friend-help-friend and vocational groups.

**6) People**

People had a role, in coordination with community leaders, to watch out for the spread of drug use in the community.

### 3.1.5 Preventing the Risk of Using Work Stimulants

#### 3.1.5.1 Target Population

According to the survey about health condition of people in their working age and a study on economic structure of the community, people who took general labor works and farmers engaged in farming or orchard gardening were found to use stimulants, such as Kratom leaves (Mitragyna Speciosa) and anti-asthmatic medicines. They used these stimulants so that they could work and produce more outputs.

#### 3.1.5.2 Services Available in the Area and Access to Services

A study on health system of the community found that people using work stimulants never received knowledge from health staffs. People still planted

Kratom trees (Mitagyna speciosa) in the community. Village groceries sold these stimulants without any monitoring and control by community leaders and government agencies.

**3.1.5.3 Service Activities and Responsible Persons**

| Service Activities | Responsible Persons |
|---|---|
| **1. Stimulant Use in Work in Laborers Prevention** | - Professional nurse |
| 1.1 Provide knowledge about negative effects of stimulants to laborers. | |
| 1.2 Provide knowledge through loudspeaker towers to create understanding of community about the traditional eating the leaves and planting the trees of Kratom in community. | - Professional nurse, TAO |
| 1.3 Watch out for and control Kratom leaves eating in laborers, the planting of Kratom trees, and the selling of stimulants in groceries. | - Community leaders, TAO |
| 1.4 Issue community’s regulations to control the planting and eating of Kratom and the selling of stimulants in groceries. | - TAO |
| **2. Rehabilitation Service for Stimulant Users** | - Professional nurse |
| 2.1 Provide counseling service to those who were addicted to Kratom leaves. | |

**3.1.5.4 Roles of Persons Involved and Problem Management**

**1) Professional Nurse**

Professional nurse provided knowledge and created understanding about the negative effects of work stimulants to users and people in the community; gave advice to and counseling for stimulant users to change their behaviors.

**2) Community Leaders**

The leaders had a role to control the planting of Kratom trees and the selling of stimulants in groceries.

**3) Tambon Administrative Organization (TAO)**

TAO had a role to define a policy and issue the regulation of community on the selling of stimulants and the planting of Kratom trees in the community.

**3.1.6 Services for People with Chronic Diseases, Disability and Elderly Patients**

**3.1.6.1 Target Population**

According to an epidemiological study on illnesses caused by chronic diseases, the target group in need of health services included elderly people who suffered several chronic diseases at the same time. Several of them could not take care of themselves due to senility and/or disability from paralysis. Many patients had to live their lives alone. Besides, their relatives were affected by the problem as well. They did not have knowledge on how to take care of patients correctly either.

**3.1.6.2 Services Available in the Area and Access to Services**

From studying about health system of the community and from studying personal biography of people, it was found that health services available for chronic patients were minimal. Also, there were a lot of problems regarding access to services. Such problems included the unavailability of services to provide knowledge about self-care, unavailability of home visit services for patients who lived alone or needed continuous care. Examples of patients in the latter groups included the ones who could not take care of themselves due to senility or/and disability from paralysis, those who had pressured sores; those who received inadequate or improper nutrients, and patients who had care-takers that did not have proper knowledge. Besides, there was no continuity of treatment provided in the community due to the condition that patients did not come to see doctors per appointments because of various reasons. Some of them lived alone and could not come. Some of them had relatives but the relatives were not available to take them to the hospital at the time of appointment. Some of them had health insurance cards but the ones with validity for receiving health benefit in other areas. Thus, people in this group either bought over-the-counter medicines themselves or did not go to the hospital any longer. Furthermore, no surveillance system was in place in the community to prevent the incidences of diseases among people at risk and to monitor the progress of diseases in chronic patients.

### 3.1.6.3 Service Activities and Responsible Persons

| Service Activities | Responsible Persons |
|---|---|
| 1. Health Promotion and Diseases Prevention Services | |
| 1.1Educate people about the prevention of chronic diseases such as hypertension and diabetes. | Professional nurse, Community health officers |
| 1.2 Give advice on how to change personal behavior in order to prevent the incidence of chronic disease in the community such as the advice on exercise, smoking, drinking, eating, and stress management. | -Professional nurse, Community health officers |
| 1.3 Provide screening service for people in at-risk group and transfer them for further treatment. | -Professional nurse, Community health officers |
| 1.4 Set up counseling units for problem about healthcare of people in at-risk group, patients, and caretakers of chronic patients /the elders. | - Professional nurse |
| 1.5 Support and develop the capability of people, community leaders, and community organizations in carrying out activities to promote people's health such as setting up exercise groups, campaigning for quitting smoking and drinking, organizing activities to promote the elder's health, setting up the elders' club, and setting up housewives group. | -Volunteers, TAO, community leaders, people, professional nurse |
| 1.6 Provide services to assess the stress of people in at- risk group and provide counseling on stress management. | -Professional nurse |
| **2. Treatment Service** | |
| 2.1 Set up a mobile clinic to provide treatment for chronic patients with stable and uncomplicated disease progression; and elderly patients. | -Professional nurse |
| **3. Rehabilitation Service** | |
| 3.1 Make home visit to chronic patients who needed continuous care and the prevention of complications; the disabled and the elderly people living alone and could not take care of themselves. | - Community health officers, professional nurse |
| 3.2 Promote the setting up of self-help groups among chronic patients such as diabetes patients, heart disease patients. | - Professional nurse health officers, |

**3.1.6.4 Roles of Persons Involved and Problem Management**

To provide treatment and care to patients with chronic diseases in the community, responsible persons from various sectors were required.

**1) Professional Nurse**

Professional nurse had the roles to educate patients and relatives about self-care; make home visits to patients who were unable to take care of themselves and the ones who needed continuous care; provide treatment for chronic patients who had stable progression of their diseases and did not have complications. Professional nurse also assessed people in at-risk group through screening and transferred them for treatment; developed the capability of patients and caretakers in relying on themselves; developed the capability of community in organizing surveillance system to prevent incidences of diseases or reduce problems generated from the progression of chronic diseases. She also created participation among other organizations carrying out health activities for people in at-risk group and the ones who suffered chronic diseases.

**2) Community Health Officers**

Community health officers had the roles, in coordination with nurses, to make home visit, assess people at risk through screening and transfer them for treatment. Their such roles also included the development of capability of patients and caretakers in relying on themselves; and the development of capability of community in organizing surveillance system to prevent incidences of diseases or reduce problems generated from the progression of chronic diseases. They also created participation among other organizations carrying out health activities for people in at-risk group and the ones who suffered chronic diseases.

**3) Public Health Volunteers**

The volunteers had the roles, in coordination with nurses and community health officers, to provide information about sickness prevention to patients and relatives; teach them how to take proper care of themselves; and make home visits.

**4) Tambon Administrative Organization (TAO)**

TAO had the roles, in coordination with health staffs and the community, to organize surveillance system for reducing problems generated from the risk of having diseases or the progression of chronic diseases; and carry out health activities for people in at-risk group and the ones who suffered chronic diseases. For examples, organizing the environments in favoring to the promotion of good health, which could be carried out through the promotion and control of healthy food selling; providing space for exercise; establishing the elders' club or self-reliant group of patients who suffered chronic diseases. More examples included the development of information disseminating system, such as providing reading space and materials and improving public loudspeaker towers to cover all area.

**5) People/Community Leaders/Community Organizations**

They had participatory roles in carrying out community health activities in coordination with health staffs and TAO, and in setting up groups to provide help for patients who lived alone.

### 3.2 The Pattern of Primary Care Units

The pattern of primary care units was based on the previous structure; which was the health center. However, the capability of health care facilities was developed and the cooperation among networks inside and outside community was emphasized. of servicing unit and focus on cooperation between networks both inside and outside the community. Services provided were focused on the proactive ones, which included health promotion and disease prevention for people both in the community and at clients' home.

#### 3.2.1 Service Providers Team

According to the goal of the new health system, a primary care unit must be the servicing unit that possesses ability to develop the capability of persons involved in participating in the activities of health service delivery in coordination with health staffs. Besides, the health-benefit-for-all policy demands that communities and all people share the ownership. Thus service providers in primary units should

consist of networks that work harmoniously as a team. Such servicing network of primary care unit should consist of the followings.

**3.2.1.1 Professional Nurse**

Professional nurse would take the roles as principle service provider who is responsible for activities in regard to health promotion; diseases prevention; primary examination and treatment; patient transfers for continuous treatment; and the rehabilitation for patients with chronic diseases, sick patients, and the disabled. Furthermore, nurse will have to act as project managers by promoting and supporting participants from several sectors to work together in health development project activities.

**3.2.2.2 Community Health Officers**

Community health officers have the roles in providing health service for individuals, families, and the community within the assigned limit through helping professional nurses in promoting diseases prevention and providing primary examination and treatment. Public health offiicials also have role in carrying out activities to promote health in coordination with community leaders and local administrative organization.

**3.2.2.3 Village Public Health Volunteers (VPHV's)**

VPHV's have a role to take parts in carrying out health promoting activities in coordination with health staffs. They would achieve these by attempting to improve the capability required for performing activities. For examples, taking care of patient at home, providing services for health check-up, managing environments, preventing the outbreak of endemic diseases, promoting the development and nutritional status of children of different age groups; and making public relations on health activities.

**3.2.2.4 Community Leaders**

Community leaders have a role in coordination with health staffs and local administrative organization in organizing activities to promote the health of people and the environment. Community Leaders also have duties to encourage and support community to initiate activities for health promotion; to recommend and

support people to participate in carrying out health promoting activities; and to promote and sorting out and the utilization of community resources.

**3.2.2.5 People**

People have the role to extend cooperation and practice themselves properly as per instructions they received. For examples, instructions regarding health care of oneself, family members and community; health promotion; disease prevention; taking care of persons when they are sick; how to observe symptoms of diseases. They also have the role to participate in health care delivery management, providing support of resources, and participate in community health related activities and projects.

**3.2.2.6 Tambon Administration Organization (TAO)**

TAO has the roles in establishing community's health development policy by including health activities, which are responsive to local problems, as a part of district development plan. TAO also allocates health-promoting budget to encourage people to set up groups for doing activities related to health development and health care in a continuous manner.

**4. The Results of the Demonstration about the Collaboration among Community health stakeholders Involved in Primary Care Services**

The key focus of primary care is to promote health and to create health-management ability of community, as well as to build strength of people in order that they have potential in taking care of their own health and the one of community. The primary care also focuses on creating a health network that members of which aim to work with each other harmoniously as a team. Therefore, this study presents a case study on community health service package in order to create learning and strength of community health stakeholders in carrying out health activities. Such stakeholders include community leaders, general people, community organizations, public health volunteers, primary care units, district public health office, TAO, and local educational institution (the Faculty of Nursing, Srinakarinwirot University). This was the activity conducted right after and continuously from the period of the master plan development at village level of Village 6 and 7, and the master plan development at

Tambon level. Participants decided to implement exercising project in Village 6 and 7. At this step, community health stakeholders brainstormed to establish an implementation guideline for the project of exercising in the community, which is shown as below. (Figure 3)

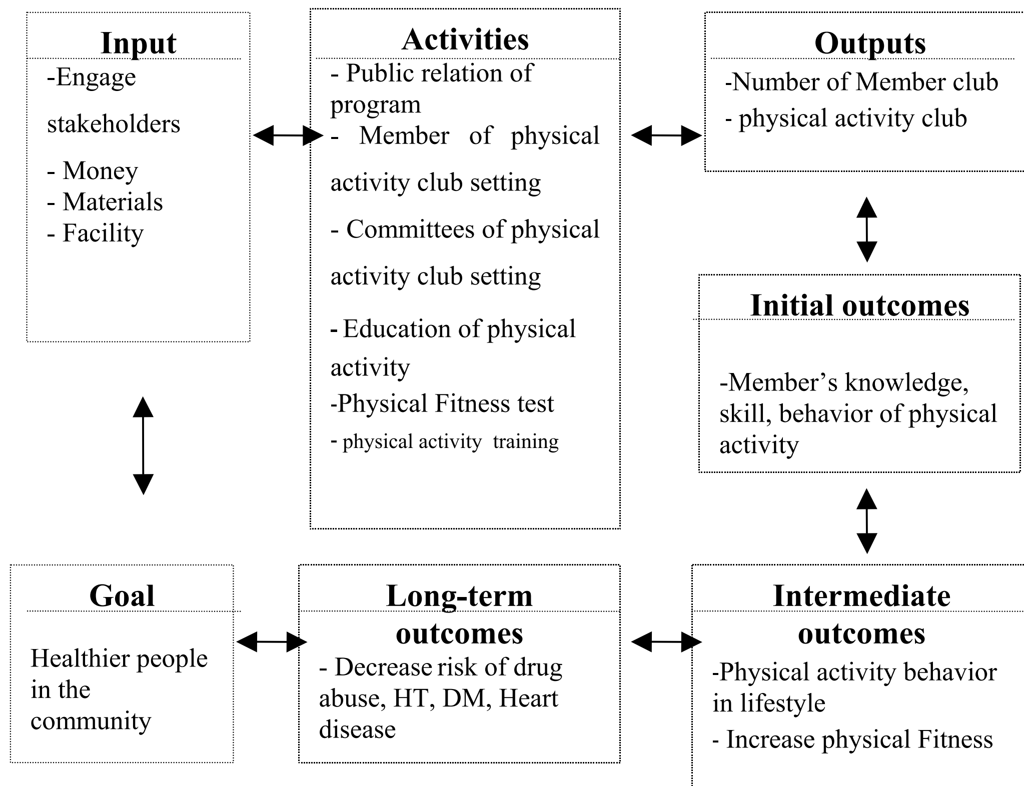


**Figure 3** Implementation Guide for Exercising in the Community Project

**4.1 The Goal of the Project**

The goal of implementing the project of exercising in the community is to ensure good health for people aged over 5 years and older.

**4.2 Objectives of Exercising in the Community Project**

1) People have knowledge on proper exercise.
2) People have proper exercise skill.
3) People regularly exercise.

4) Community health stakeholders learn to work together in community health development activities.

## 4.3 Procedures of Implementing Activities

### 4.3.1 Preparation Stage

4.3.1.1 Identifying Persons Involved

In implementing exercising in the community project, some persons were identified to share responsibility in implementing the activity. Such persons included the chief of the subdistrict, the headman of Village 7, two public health volunteers, the abbot of Aruoon Chayaram Temple, seven people from Village 6 and 7, and two TAO members. Health personnel who shared responsibility in project management with the researcher included three community-health-nursing instructors and two community public health officers.

4.3.1.2 Procurement of Budget, Equipment, Materials; and Facilitators who would lead the exercise

In implementing the activities, all the persons involved worked together to raise budget and procure equipment and materials for the project. The budget was supported by various sources such as Trongchai Farm Co., Ltd. and Rungsiri Farm Co., Ltd., from private sectors in the community. The TAO of Bang Pla Kod Subistrict also supported a part of the budget. Aroon Chayaram Temple supported the project by providing space for exercise and amplifier and loudspeakers, making a stage for a facilitator to lead the exercise. The temple also covered the expense of power bill. The Faculty of Nursing, Srinakarinwirot University supported the project with equipments such as wireless microphone and music cassettes for the exercise. In the search for an expert, district health office had contacted the director of Ongkarak Hospital to ask for the support of facilitator. The hospital then supported a facilitator to lead the exercise for 2 weeks. After that the exercise was led by nursing students from Srinakarinwirot University.

4.3.1.3 Public Relations of the Exercising Project

In order to inform people in Moo 6, 7, 8, 9, and 10 about the exercise project and invite them to join in, the public relations about the project were carried as follow. TAO of Bang Pla Kod made an announcement through

loudspeakers every evening for one week. The headman of Village 7 and public health volunteers were responsible for posting posters about principles and advantages of exercise. They also posted the announcement for membership recruitment. In addition, all persons involved talked to people individually and as a group about the exercising project and invited them to join.

4.3.1.4 Study Visit

In order to provide participants guidelines in carrying out the exercise project, Ongkarak District Health Office and Health Promotion Department of Ongkarak Hospital provided support to participants to take a study tour to observe the exercise activities. They attended an event of "Unite Together to Empower for Health Enhancement" in Lopburi province on the 20th Foebruary 2003. The core leaders who took the study tour with the researcher included the headman of Village 7, a public health volunteer, and a representative of people. As the results of this study tour, village headman and the public health volunteer had seen a model and were able to apply knowledge and experience in developing the community's exercise project.

**4.3.2 Implementation Stage**

4.3.2.1 Finding Exercise Members

Participants had cooperated with each other in finding members in order to set up an exercise club. At this stage, there were 4 persons who actively held responsibility. They all came from Village (or Moo) 7, which included the headman of Moo 7, a public health volunteer, an abbot of Aroon Chayaram Temple, and one people's representative. The village headman, the volunteer, and the people's representative talked with people in Moo 7 and invited them to join the exercise club. They also jotted down a name list and contacted volunteers of Moo 5, 8, and 10 to act as core leaders in finding exercise members. At the same time, the abbot of Aroon Chayaram Temple persuaded people living around the temple and people coming to the temple to go join the exercise and to take their children to exercise. This way, these children would spend their free time properly and would not get involved with drugs.

However, the rest of participants participants, mostly from Moo 6, could not find any member in their village. In an informal conversation, this group informed as follow.

"After I told them, some aren't interested in, some say they are not available. I don't know what to do."

"I've asked my friends, they say they'll think about it. For those who would like to join, someone from Moo 7 already jotted their name."

After talking to this group and being informed that they still could not find any member, the researcher asked them to try persuading people to exercise again by explaining the advantages of exercise. Furthermore, the researcher went to consult with subdistrict chief who lived in Moo 6 in order to ask for cooperation in finding exercise members. From the follow up, the researcher found that this group had talked with their neighbors and persuaded them to exercise and join the exercise club. From their effort, they successfully recruited 87 members. After the exercise had started, more and more people joined the club. The total number of people joining during the course was 158 people, most of which lived in Moo 7 (33.5 percent) while the second most were those in Moo 5 (32.3 percent), and the least of which were in Moo 10 (4.4 percent). The number of member in the latter group was less because they lived quite a long distance from the site where the exercise took place. Those who did not own personal transportation have to come by boat. Most of the club members were between 41-59 years old (29.7 percent). The second most were between 21-40 years old (23.4 percent) while others were between 5-10 years old (19 percent). Most of the members were female (87.3 percent) since most males prefer other type of sports such as running, rattan ball playing, or football.

4.3.2.2 Exercise Club Establishment

In accordance with the policy of the Ministry of Public Health which promoted people to exercise and supports the setting up of at least one exercise club in every subdistrict and in order to promote people to regularly exercise and take part in an activity, the exercise club was founded. An informal meeting was held on the 11th of March 2003 during 17.00-18.30 hrs at Aroon Chayaram Temple in order that people who joined as members would have a chance to participate in founding the

club and to express their opinions about exercise activity. The persons who attended the meeting composed of 54 people who joined the club, 3 community health nursing instructors, the abbot of Aroon Chayaram Temple, and 2 community health officials. The meeting agenda were as follow.

1) Naming the club and set up exercise schedule (day and time): the members expressed their opinions and brainstormed, the conclusion was that the club would be called “Bang Pla Kod Dance” and the exercise schedule would be on every Tuesday, Wednesday, and Thursday during 18.00-19.00 hrs at Aroon Chayaram Temple’s yard.

2) Appointing the committee of the club: the members selected the persons they thought suit each position while for some positions, some people volunteered to fill in. This committee composed of school children, working people and the elders, totally 19 persons. Among these, the headman of Moo 7 was selected as the president of the club.

3)Providing knowledge to club members about exercise principles, the advantages of exercise, and aerobic dancing principles.

4.3.2.3 Assessment of Physical Fitness

Before the aerobic exercise took place, the club had conducted an assessment of physical fitness for 65 members. The assessment included the measurement of lung capacity, the strength of arm and leg muscles, the amount of subcutaneous fat deposit, body weight and blood pressure. A total of 56 people were assessed for physical fitness under this program, which was financially supported by the Faculty of Nursing.

4.3.2.4 Exercise Training

In exercise training, there were nurses from Ongkarak Hospital and nursing students from the Faculty of Nursing to lead the exercise training. The exercise lasted 30 minutes each time during the first week and 1 hour each time thereafter. For exercise postures and music, the club used the ones that were not so fast since there also were elders who joined the exercise. However, for people in this senile group, the club had suggested that they should exercise only up to the maximum of their physical limits. From an observation, the researcher found that those who

joined the exercise tried their best in exercise training and were able to follow the exercise leaders.

The training for 6 exercise leaders (to be) of the community was carrying out at the same time of the training for those who joined the exercise. The training took 2 months and the exercise leaders of the community were able to lead the exercise by themselves thereafter. However, these exercise leaders faced a problem in gaining acceptance from the members of the club. At the beginning, some members did not accept these leaders and wanted health staffs to lead this instead. The village headman and some members informed the researcher as follow.

"I want doctor (the nurses who led the exercise) to lead the exercise. On a day she led the exercise, I felt I slept better."

"The villagers could not dance as good as the doctor who could bring more fun."

"If we let the villagers lead by themselves, people don't want to come. Villagers love to have doctor lead the dance."

According to the fact that club members did not accept them, the exercise leaders of the community felt discouraged and withdrew themselves. The researcher thus solved this problem by clarifying the understanding with the members about the importance of having these community exercise leaders. Member should give them support and encouragement since these people contributed themselves for the benefit of the community. Also, this would show that the community was capable of relying on itself. At the same time, more people were also trained as additional exercise leaders for the community. These additional ones were able to lead more adeptly and enjoyable, which resulted that club members started to accept the exercise leaders who also were members of the same community.

4.3.2.5 Supporting the Club's Committee to be able to Manage the Club

After the project started for a while, in order to ensure the continuity and sustainability of the project, the researcher and community health nursing instructors refrained from their roles as core managing persons and limited themselves only as supporters and consultants. The club's committee took over the

responsibility of running the project. It took 3 months for the overlapping period before the taking over could be completed. At first, the president of the club, which was the headman of Moo 7, lacked confidence and could not make any decisions to do anything at all. He said that

> "I am just a village headman. You should have invited subdistrict chief or TAO Chairperson to be the president of the club, as they have more authority to make decisions."

Sometimes the club had to informed its members about the news related to exercising but the village headman was afraid to speak in public, giving a reason that

> " I'm afraid of speaking in public. I can't use microphone. Doctor (the researcher), you have knowledge. You should be the one who speak."

Due to this problem, the researcher explained to him about the role of the leader of the exercise club that he was selected from the club's members to be the president, which showed that he was acknowledged and had leadership. Also, after working together, the researcher had seen his potential and strength. Thus, as the president of the club, he had full power in leading the decision and proceeding everything together with committees of the club. The researcher and the Faculty of Nursing were management persons and coordinators only for the initial stage. To enable the community to demonstrate its capability of relying on its own, the researcher and the faculty of Nursing had to changed their roles to supporting and consulting ones. The result was that the village headman understood more clearly about the role of the club's president. And due to support and encouragement from the researcher and club members, he was able to decide on carrying out activities and solving problems on his own with periodic consultations with the researcher. At present, the community is able to run the exercise project by itself while having the Faculty of Nursing and Ban Bon health center serve as project consultants.

**4.3.3 Project Evaluation Stage**

After 4 months of implementation, an evaluation was carried out in regard to knowledge about exercise, exercise skills, exercise behaviors, and the

attitude towards the project of 60 people exercising with the club. This was done through questionnaires and the result of the study appeared as follow.

**1) Demography of the Sample**

A survey on 60 people who attended the exercise found that most of them were members living in Moo 7 (38.3 percent). The second most were those in Moo 5 (30 percent). Almost all of them were female (91.7 percent) and most of them were between 41-59 years old (36.7 percent). In regard to marital status, most of them were married (56.7 percent). For educational level, the study found that most of those in schooled were in high school (16.7 percent). For those who no longer studied, most of them finished elementary school (55.0 percent). Most of surveyed people were employees who took labor jobs (31.7 percent), while the second most and the third were housewives (23.3 percent) and students (23.3 percent) respectively. Most of them (70 percent) had become members of the club for 4 months. Most people learned about the recruitment for membership of the club from village core leaders (44.57 percent) and followed by the one who learned from loudspeaker towers (22.83 percent).

**2) Knowledge about Exercising**

The study found that sample population had high level of knowledge about exercising. The mean score of knowledge level of the group was 16.5 with the standard deviation of 1.571. The maximum test score of the sample was 19 points out of the total score of 20 points, while the minimum score was 12 points. Most of the sample (61.7 percent) had their knowledge test score in the highest level while the second most (36.7percent) scored at intermediate level. When the level of knowledge was distributed according to age groups, persons aged 20 years and older scored at high level while the ones aged 11-20 years scored at intermediate level. (Table 10)

**Table 10** Number and percentage of score level of knowledge about exercising (n = 60)

| Knowledge Level | No. | Percent |
|---|---|---|
| High level | 37 | 61.7 |
| Intermediate level | 22 | 36.7 |
| Low level | 1 | 1.7 |

**Table 11** Numbers of score levels of knowledge about exercise, distributed by age groups (n = 60)

| Age group (Year) | Knowledge Score Level | | | |
|---|---|---|---|---|
| | High | Intermediate | Low | Total |
| 11 – 20 | 3 | 10 | 1 | 14 |
| 21 – 40 | 9 | 4 | - | 13 |
| 41 – 59 | 17 | 5 | - | 22 |
| Over 60 | 8 | 3 | - | 11 |
| Total | 37 | 22 | 1 | 60 |

The researcher also studied knowledge level of the sample group distributed by elements of knowledge about exercising and found that an understanding about the meaning of exercise was in a good standard. Most of them understood correctly about the principles of exercising. However, they misunderstood about some issues still. For example, they understood that children did not need to exercise, or believed that the harder they exercised the healthier they would be. About the advantages of exercise, there were still some misunderstandings. For example, some of them thought that exercising could help them to reduce their weight without having to control diet, or because of exercising, they wanted to eat more foods. The researcher corrected all issues that they did not understand correctly by explaining relevantly after finishing the interview with each of them and by educating people in each group before they commenced their exercise.

**3) Exercise Skill**

As observed, persons who joined the exercise were able to follow the exercise leaders correctly and adjusted the posture to fit their own body conditions. For example, the elders would dance slower and exercise only as much as they could.

**4) Exercising Behavior**

A study on exercising behavior of the samples found that before joining the exercise club, the samples used to move part of their bodies as a way to exercise but not in a regular manner. Walking was the most common method of exercise among them, followed by doing housework until they became sweating.

From the making of club members name list and the registration before each exercise, the researcher found that an average of 50 people came to exercise everyday. As observed, every member came on time and tried their best during the course of exercise. All of them attended the whole course, except for children who exercised for only 15-20 minutes.

After joining the exercise club, most of the samples (75 percent) exercised 3 times a week. Most of them (56.6 percent) exercised for 60 minutes each time. In regard to the intensity of exercise, most of them (90 percent) exerted with a moderate extent out of their full strength, felt tried, and perspired. Their warm up duration was 5-10 minutes (75 percent), and cool down duration was 5-10 minutes (86.6 percent). Thus it could be concluded that most of the samples had exercised correctly.

About the continuity of exercise, it was found that on days the sample could not join the exercise with the club, for example, on raining days or days they went on business, most of them (65 percent) did the exercise at home. In informal conversation, they informed that

> "On raining days, I turned on music and danced at home, well I tried to recall about the posture I used to dance"
>
> " On the day I didn't go to the temple, I invited my friends to dance together at my home."

About the manner of exercise, almost all of them (96.7 percent) agreed that they needed to exercise as a group since there would be some friends and it would be more fun than exercising alone. Most of them (98.3 percent) received supported from their families for coming to exercise. Talking with them informally, they informed as follow.

"I like to dance in group, I am embarrassed to dance alone."

"It's better to dance in group, there will be a lot of friends. If anyone skipped a beat, we would laugh and that's fun and it makes us be in good mood."

"In the evening after finishing housework, my husband would tell me to go exercise with our kids."

Apart from having patterned exercise with the club, they were also found to move parts of body as an exercise while they were doing daily activities. Most of them (78.33 percent) exercised by doing housework until they had perspiration. The second most (63.33 percent) did it by walking. In regard to the continuity of the exercise in the future, they needed a continuous exercise through aerobic dancing (80 percent).

**5) Opinions about the Implementation of Exercise Project in the Community**

From asking people who joined exercising activity about the location where the exercise took place, most members agreed that the location used at that time was safe and convenient to come. However, people lwho lived in Moo 10 viewed that it was inconvenient. They lived quite far and they had to commute by boat to come for the exercise.

In regard to their opinion about number of days for exercising in each week, most of them thought that 3 days a week was appropriate. In regard to postures used for exercise, people thought that the postures used were safe and easy to follow. The music used in the exercise was proper and enjoyable.

In regard to the opinion about community exercise leaders, most people thought that the community exercise leaders were able to lead adeptly and enjoyably. In regard to opinion about the managing ability of persons responsible for the project, which included nursing instructors from Faculty of Nursing,

Srinakarinwirot University; community public health officers; and committee members of the exercise club, people viewed that their managing ability was good.

**4.4 Lesson Learned from Working Together in Primary care services**

**4.4.1 Participation of Community Health Stakeholders**

4.4.1.1 Core leaders (formal and informal community leaders) included the headman of Moo 7, the abbot of Aroon Chayaram Temple, a public health volunteer, and one people representative. This group participated in the follow steps.

1) Thinking Together: team members who were the core leaders had coordinated with the researcher in preparing this project such as doing public relations about the project, recruiting members of exercise club and identifying resources.

2) Doing Together: this group participated actively and were very responsible for assignments. They sacrificed themselves and had creative thinking. For example, when they went to other villages to find members to join the exercise and to set up the exercise club, they were able to find the core leaders in other village to act as their representatives in getting members. The result was that many people in other village joined the exercise. The nature of the work was like a partnership. When they encountered problems or obstacles, they usually consulted the researcher. They and the researcher supported and encouraged each other all the time. After the project started for a certain period, the researcher encouraged the community to take over the responsibility of the project. It was found that the core leaders were able to manage the project, for instance, in raising funds and budgets, in persuading more people to join the exercise, and in contacting TAO for financial support.

3) Evaluating Outcomes Together: for example, team members had noticed that the number of people who joined the exercise became less, so they consulted each other to find out the cause of the problem and then try to improve the situation.

Basing on the observation and the note taken down about the participation of community health stakeholders, the core leaders were very responsible

and they felt that they had the ownership of the project. They wanted this project to be continued and sustained.

4.4.1.2 People joining the exercise cooperated both in attending the meeting and providing recommendation for project improvement. Such cooperation occurred because they realized about the advantages of exercising; they felt that they owned the project and they wanted the exercise project to be continued and sustained. School teachers who joined the exercise also participated in managing the project together with the researcher, for instance, in training the exercise leaders and in creating understanding so that the members accepted and supported the capacity of people in the community.

4.4.1.3 Health network group of primary care

The researcher had focused on creating the participation of health staffs in taking care of people's health. Such health network group composed of the following.

1) Ban Bon Health Center

Ban Bon Health Center is a primary care unit responsibility for taking care of the community people's health. It was found that in the initial stage of club member finding in order to set up the exercise club, community health officials did not have time to join the project and were not sure whether people would want to exercise regularly. However, after the core leaders were able to find lots of members, the researcher invited community health officials to attend the meeting with the club members and thus made them recognize that people had intention to exercise. Therefore, they joined in to share the responsibility with the Faculty of Nursing. By sharing such responsibility, they also gained benefit, as they were able to report the setting up of the exercise club as on of the results of their performance. It corresponded to the policy of the Ministry of Public Health in promoting the setting up of at least one exercise club in each subdistrict.

2) Ongkarak Hospital

Ongkarak Hospital was the main contractor of the primary care system that provided health services for the studied area. Thus it had a role to participate in taking care of people's health as well. The researcher created the hospital participation by asking them for a support of facilitators in exercise training,

and the hospital responded by assigning a health promotion nurse as a responsible person. After leading the exercise for one week, there was a turn over for the position of the hospital directors. The position was replaced by a new one who decided that the hospital did not have budget to support the expenditures of facilitators and transportation expenses since there was no budget allocated for this in the first place. Therefore the hospital discontinued sending facilitators to the community for exercise training. The researcher went to meet the new director to ask for cooperation. Then the hospital director supported by sending the facilitators for another week and suggested bringing community's exercise leader to receive training at Ongkarak Hospital during office hours and organizing training for exercise leaders in other villages as well.

3) Ongkarak District Health Office

Ongkarak District Health Office was the unit that supervises the performance of health center. The district health office extended its cooperation in providing consultation on project organizing and coordinating with Ongkarak Hospital and health center.

4.4.1.4 Community Organizations

1) Bang Pla Kod Tambon Administration Organization (TAO)

The Chairperson of TAO Committee and TAO Secretary cooperated and supported the community's exercise project of by publicizing the project through news broadcasting tower and talking with people to encourage them to join the exercise. However, for financial aspect, there was still a problem that most TAO members did not yet realize about the importance of the exercise project. Thus TAO were unable to provide budget for the project since there was no budget allocated for the project in the first place. Nevertheless, the administrative persons of TAO helped mobilize a small amount of their personal money to support the project.

2) Aroon Chayaram Temple

In carrying out the project, the temple actively cooperated. Specifically, the temple supported a space for organizing meetings, space for exercising, amplifier and loud speakers, electricity, and a stage for leaders to lead exercise. Furthermore, the abbot participated in the meeting agreed to take the roles in

disseminating information and explaining the advantages of exercising to people and encourage them to take their children to exercise. In addition, other monks also participated by sharing responsibility with temple boys about exercise music and amplifiers.

3) Private companies in the community partly supported the budget.

**4.4.2 Awareness about the Importance of Exercising**

Through informal conversations with people who joined the exercise both individually and as in group, the researcher learned that exercising improved their health. For example, they slept better, had less muscle strain and body pain, and were always in good mood. Some of them lost weight while those who had flatulence no longer had the symptom. Patients with diabetes mellitus and hypertension, confirmed by doctors who saw them on appointment, improved their symptoms. Also, exercising helped provide a chance to talk to others and tighten their relationship. On any day when they did not come to exercise, they felt lonely. The fact that they benefited from exercising made them intended to exercise regularly. The children aged over 5 years also see importance of exercising so they joined the club as members. When they were asked about the reason that inspired them to come for exercise, they replied that exercising kept them healthy and made them taller. As observed, children of their school age always came to exercise, which reflected that children and the youth realized about the importance of exercising. Also, it was found that a school in Moo 4 organized exercise program in school in order to prevent drug abuse, and school children and their parents gathered to exercise in the evening. Besides, the village headman and people of Moo 10 and 11 and the abbot of Pagklong 30 (Sam Sib)Temple had seen the model of Moo 6 and 7 exercise project. Thus they needed to have this kind of project in their villages too. Those who had exercised with the club informed that they knew that there was an exercise project in their community but could not attend as they had to take care of their families in the evening.

**Conclusion :** In this Chapter, the researcher has presented the process for the development of primary care model in the community and its outcomes. A

case study of how community health stakeholders worked together in health promoting activities was also presented. The development of a model of health service delivery at this time received cooperation form community health stakeholders during a range of stages. Such stages include the period of community study; identification of community health problems; the development of master health plan; priority setting for projects that required implementation before the others, the establishment of health activities; and the evaluation of implementation results and learning from working together. The results of participation that the community had in the process of health care model development at this time illustrated that the primary care model corresponded to health care needs of the community. It reflected the strength of community in participating in activities of health development. In light of this, any health development activity could mobilize power from all sectors and let them participate in managing health service delivery, which would lead to the sustainability of the project. The implementation results also yielded good outcomes with a positive impact for the health of the community. The approach for primary care model development could be concluded as shown in Figure 4.

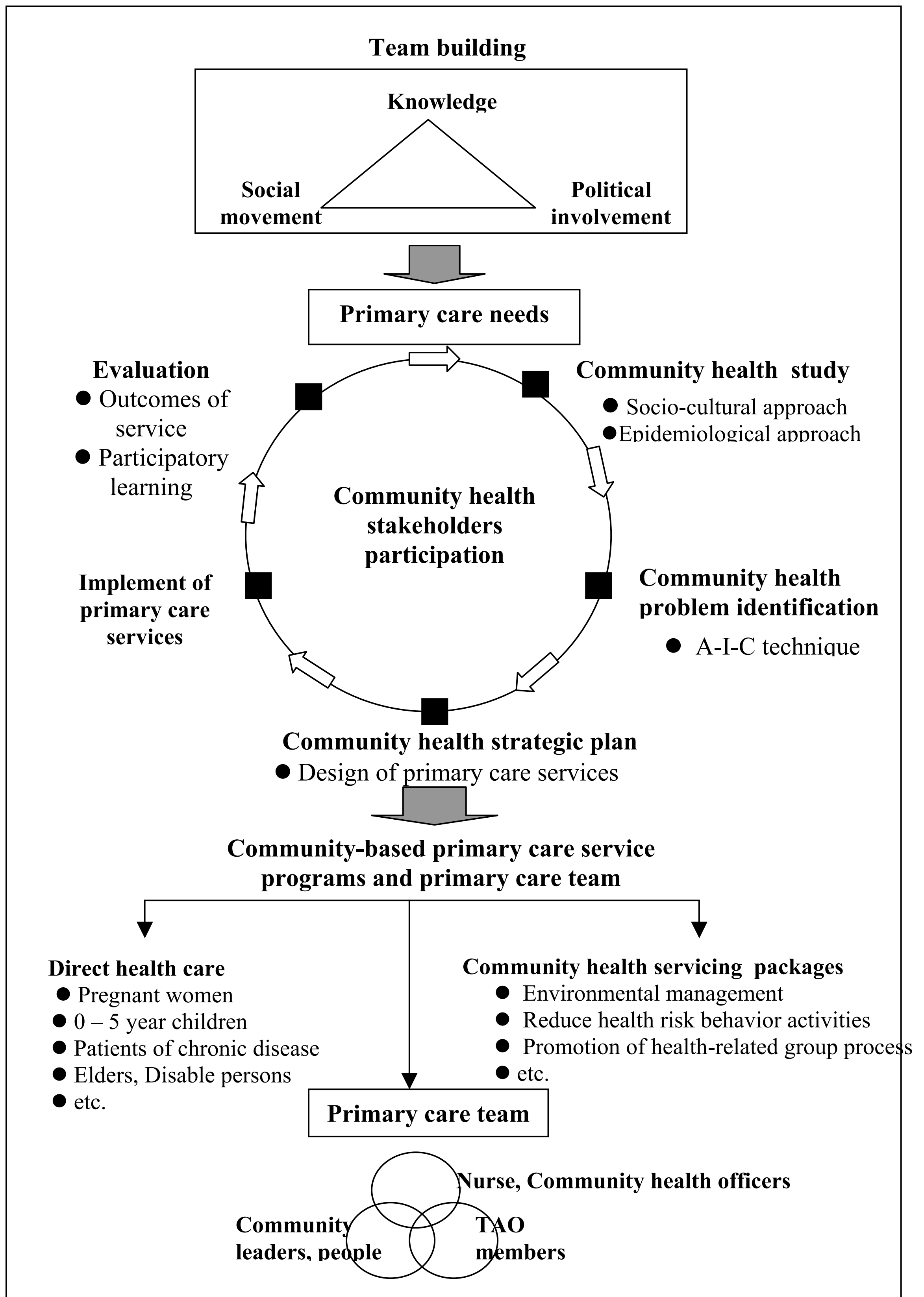


**Figure 4** Community –based primary care service model

# CHAPTER V
# CONCLUSION, DISCUSSION AND RECOMMENDATIONS

This chapter presents conclusion, discussion and recommendation.

## Conclusion

### 1. Research Background

Consequently to the health system reform, importance was placed on health development at primary level, as it was a health care system that people could have access to quite easily. It provided integrated, holistic and continuous care. And as the was a policy to establish a system of health insurance for all, the government adopted a policy to ensure health enhancement and to increase access to health services by setting up primary care units. However, in managing the delivery of primary health care in line with the policy of health insurance for all, which was implemented very urgently as required by the policy, the performance of health personnel were affected since they did not have time to prepare themselves. The works of health personnel were not carried out harmoniously with each other. Organizational strengthening activities and capability building for organizations were not in place. Therefore, the management of health care delivery in line with the policy and services provided accordingly were not consistent to socio-cultural contexts of community. Hence, this research aimed to develop a model of primary care in the community in order to facilitate the learning about working patterns and working methods basing on the actual fact of the community. To achieve this, cooperation must be established among technical organizations, health service providers in community, general people, community organizations and local administration organizations. The capability of people must be built and their strength must be enhanced in order that they can rely on themselves on any health issues. Besides, health services provided through this model must be consistent to the needs and socio-cultural contexts of the community.

**2. Research Design**

This study aimed to create a learning process through actions of community health stakeholders in developing a health care model consistent to socio-cultural contexts of the community. Therefore, the research design that would correspond to the situation being studied was community-based action research, which emphasized the participation in learning and in developing community health by using community as its base. The assumption of this research was that stakeholders could participate equally and social - emotional life of stakeholders was the focus of the development, and the researcher would take role as a facilitator and a consultant. Procedural steps of the research were defined accordingly to the objectives of the study and the steps of community-based action research, which are described as follow.

1. Look phase: This was the stage for studying about health situation of the community through a community study conducted by collecting socio-cultural data of the community and an epidemiological study which collected both primary and secondary data.

2. Think phase: This was the stage for identifying community health problems, which was carried out by community health stakeholders. After the data obtained from phase 1 and phase 2 were analyzed and synthesized, health needs of community became known.

3. Act phase: This was the stage for developing a model of health care delivery, which comprised three more phases of sub-activities.

3.1 Planning phase: In this stage, a master health plan was developed by using A-I-C technique and through the participation of community health stakeholders. It was then synthesized as health services.

3.2 Implementation phase: This was the stage for demonstrating how related organization could work together in community health care development; and a case study of implementing an ‘exercise in the community’ project.

3.3 Evaluation phase: This was the stage for evaluating the participation process and impacts.

**3. Research results**

**3.1 Living Conditions of the Community**

There were 11 villages in Bang Pla Kod Subdistrict with 787 households and a population of 3,390. Most people were in their working age and, second to that, were senile people. Most of them were general laborers and the second most were farmers.

The community being studied, as observed during the development of a walking-surveyed map, was semi-rural and semi- urban. Basing on a review of the family tree diagram, most households in community were extended families. They built houses close together among people of kin. Basing on the same diagram, there were seven large families in the community having a unique family name of each own. People in these families were relatives of each other through marriage. Therefore, people in the whole community had close relationship with each other as people of kin. They gathered to do group activities mostly related to religion and festivities but only few for the developmental ones. There had not been any organizations coming to encourage them to do development activities at all. As observed and from interviewing with community leaders, natural environment and behaviors of people caused some affects on the health of community. The community located in an agricultural area. Houses were built close together and they located densely by the banks of rivers and canals. As the area was a plane, it was usually flooded with non-flowing water in rainy season, 4-6 months at a time. The surrounding areas of houses were always filled up with wastewater form households. Rubbish and garbage were thrown all over the yards and public areas.

**3.2 Health Care Needs of the Community**

Health care needs of the community were identified by analyzing the relationship between illness problems/risk behaviors of people and the factors related to individuals and living patterns, as well as the factors related to characteristics of community and health-related environments. Then during the period of making master health plan, community health stakeholders were allowed to participate in identifying community health problems. The community health problems identified are as follow.

### 3.2.1 Preventable Health Problems

3.2.1.1 Illnesses caused by infectious diseases requiring epidemiological surveillance

From the community study, the most important infectious disease requiring epidemiological surveillance found in the area was haemorrhagic fever. It had the highest incidence with the rate of 498.31 / 100000 population and was an endemic disease of the area. Its incidence was the highest comparing to the ones of other areas in Ongkarak District. The population affected by haemorrhagic fever was children. The factors that favored the outbreak of the disease were the ones related to the location and environment of the community: location in a plain, persistent flood 4-6 moths in rainy season; no drainage pipes for waste water from households that caused the ground being filled up with water. The outbreak of the disease was also due to health behaviors of people that they did not prevent and control the disease. For examples, throwing garbage all over places; and lacking of cooperation to eradicate or prevent the breeding of striped mosquitoes.

Health care services in responsive to this problem must be the ones that focuses on improving environment and behaviors of people (such as keeping garbage correctly, prevention and control the breeding of striped mosquitoes). Such services also include educating people and organizations to make them understand and participate in taking surveillance for the disease; and improving environments of the community.

3.2.1.2 The Risk of Exposure to Chemicals among Farmers

Basing on a study about economic structure of the community and observations made on people growing oranges, flowers and decorative plants, these people were at risk of exposure to chemical substances containing in pesticide, due to their lacking of awareness; and their hurry in working.

Health services in responsive to this problem include the ones that provide knowledge to farmers how to prevent themselves while using chemicals; promote poison-free agriculture; screen people in at-risk group for diseases.

3.2.1.3 Risk Behaviors of Using Work Stimulants

The study about economic structure of the community found that people of working age who took a vocation as general laborers used stimulants while

working. Most of the stimulants used were Kratom leaves (Mitragyna Speciosa) taken by eating. Causing factors for using these included a legendary belief about the benefits of these leaves in helping people to work hard without pain or strain. It was also related to economic factor, i.e. they wanted to earn more wages.

Health services in responsive to this problem include the ones that campaign to educate people working as laborers, and to create understanding among community people in general, about the hazard of using work stimulants.

3.2.1.4 Risk Behavior of Drug Use

Basing on the report about drug addicts of Ban Bon Health Center, 2003, most of the addicts were the youth, and second to that were young adults. According to the interview with community leaders, community had never taken any surveillance for drug-use problem.

Health services in responsive to this problem included educational program for parents and the youth who are at-risk of drug addiction; life skill development program for children and the youth in school; inclusion of community and organizations in surveillance activities for drug use; and rehabilitation service for the addicts.

3.2.1.5 Low Birth Weight Newborns and Malnutrition among the Under-five's

Basing on 2003 Report prepared by Ban Bon Health Center, problems still persisted in regard to newborns with low birth weight (2,500- 3,000 grams) (rate = 38.24) and malnutrition among children aged 0-5 years (rate = 0.64). These newborns with low birth weight were at risk of having malnutrition. Besides, the way children were raised was also a causing factor for malnutrition. During daytime, children under five years of age were taken care of by elders. These children loved to eat chewy snacks. They were so occupied with playing that they did not have meals on time.

Health services in responsive to this problem include home visit and outreach services for pregnant women to take care about nutrition and assess complications; post-natal care for mothers and newborns; promotion of nutrition and development of the under-five children. The latter should be carried out in a manner

that community leaders and organizations participate in activities for health promotion and disease prevention for these children.

**3.2.2 Health Problems Requiring Continuous Care and Rehabilitation**

Illnesses caused by chronic diseases: Basing on a survey on health condition of people, there were some chronic diseases among elderly persons and people in late adulthood. The most common one was hypertension (prevalent rate = 53.6/1000 population) followed by diabetes mellitus (prevalent rate = 26.84/1000 population) and heart disease (prevalent rate = 22.12/1000 population) respectively. There had been an increasing trend of chronic diseases. It became a major concern of the community because the number of elderly people kept increasing as well. People also had risk behaviors, such as having no exercise, smoking, drinking and being stressed.

Health services in responsive to this problem include health promotion through changing in behavior of people in regard to exercising, eating, smoking, drinking, stress management; health screening for diseases in risk group; continuous treatment service in the community; and rehabilitation though home visits. These services also include capability building for relatives and carers in regard to taking care of chronic patients at home; the promotion of participation of community leaders, people and organizations in preventing and reducing risk factors generated from the progression of chronic diseases.

**3.3 Primary Care Model in Correspond to the Needs of Community**

**3.3.1 Delivery Model of Primary Care**

Basing on the health needs identified by community health stakeholders and the vision that they created, the researcher synthesized them and formulated as packages of health servicing activities, in each of which all 4 dimensions were integrated namely health promotion, disease prevention, rehabilitation and continuous care. There were 6 types of these servicing packages and characteristics of these services could be summarized into 2 groups as below.

3.3.1.1 Direct health care: which emphasized the care provided individually to each person in target groups. For examples, services for pregnant

women and newborns; immunization, nutritional and developmental promotion for children under five years of age; home-visits to patients with chronic diseases and disabilities for continuous care and rehabilitation; and health counseling services.

3.3.1.2 Community health servicing activities and community strengthening activities: which include

1) Disease surveillance, prevention and control: e.g. environmental management, screening people in risk group.

2) Activities to build up strength of community in order that it can be self-reliant in regard to health issues. For example, arranging activities to promote group process related to health, health-care data services, and consultation service about setting up health projects in community.

**3.3.2 Characteristics of Primary Care in the Community**

The characteristics of a primary care delivery model, which was developed by using health care needs as the guide for delivery management, could be described as below.

1) Acceptability: People accepted it, as it met their expectation. It was consistent to socio-cultural contexts and beliefs of community as well, because, social and cultural dimensions were focused on and taken into account during the period of community study and during the participating session of community health stakeholders to create a vision of community health development.

2) Holistic: Community health stakeholders had given the meaning of holistic health at the time when they identified community health problems and the time when they created a vision of community health. As a result, community health development plan and health care model had covered all aspects of physical, mental, social and spiritual.

3) Collaboration and harmonious working within health facility network: This was evident by a case study of exercise project in community. The project demonstrated how the researcher, people, community organizations, local administration organizations, Ban Bon Health Center, District Public Health Office and Ongkarak Hospital worked together.

4) Community strengthening: This was evident though the exercise project in which people learned how to work together and they were able to run the project continuously with a feeling that they owned the project.

5) Cost-effective use of community resources: Again, this could be demonstrated through the implementation of exercise project. Resources from various organizations such as temples, schools, private companies, health center, district health office and Faculty of Nursing, Srinakarinwirot University, were mobilized and used for the benefits of the health of community.

**3.3.3 Roles of Professional Nurse**

The researcher entered the community as a nursing instructor from an educational institute in the area, and as one of community health stakeholders who functioned as a facilitator working together with community and various organizations such as community leaders, people, TOA members, and community health officers. During the period of primary care model developing, the researcher undertook her nursing professional roles in providing various aspects of primary care to people. The roles that a professional nurse had undertaken could be summarized as below.

1) The role as a "*manager*": The researcher managed a process to accommodate the participation of all related parties in health management activities and in creating learning through working together. She managed this process to cover all stages - ranging from the time of studying community, identifying community health problems, making a master health plan, to the time of implementing health activities and assessing the pro-active health promotion.

2) The role as a "*care provider*": As the researcher entered the community as a nursing instructor, she also provided health care to people of various groups. For example, wound dressing, taking care of patient with high fever, and providing initial treatments as allowed and covered by the laws applicable for professional nursing practice.

3) The role as an "*educator*": The researcher educated people and patients, as well as carers both individually and as groups. She gave counseling to families regarding how to take care of patients with different problems and about relationship problems between family members.

4) The role as an "*advocator*": This role include the promotion that people receive correct information about how to choose health care services and about their eligibility for health benefits; raising awareness of community and organizations in participating in health management; negotiating with agencies for the benefits of community. Examples of the later include requesting budget from Tambon Administration Organization (TAO) and agencies in private sector.

5) The role as a "*communicator*": The researcher acted as a liaison person coordinating groups of people and organizations in undertaking health activities. She also coordinated for patients who needed continuous assistance and care from health servicing unit, communicated with relatives of patients and community leaders in providing a range of assistance, such as in applying for a health insurance card.

## Discussion

### 1. Characteristics of Health Care Needs

Characteristics of health care needs were identified through a community study conducted by collecting socio-cultural and epidemiological data of the community. These data were then analyzed to learn about causes of illness and risk behaviors that might have relationship with factors related to individuals and their living patterns and factors related to characteristics of community and environments. The findings of this study illustrated that characteristics of community environments, behaviors and living patterns of people were major factors that led to incidences of chronic and infectious diseases among the people. This was consistent to the finding of a study conducted by Khanita Nuntaboot, et. al, (2001). Such study found that most of health problems of people in the Northeast were preventable and people could prevent them by changing behaviors and taking good care of each own health. The causing factor for such problems was physical and social characteristics of community.

In addition, according to a survey, people in community had health problems and risk behaviors such as smoking, drinking, unsafe water resources and sanitation system. All of which affected the health of people in community. These factors were considered as the ones among the first top ten risk conditions found internationally and locally, which was so called "The burden of disease". These factors were reported as being the cause of one-third of all deaths at global level. Smoking, in particular, unless

there's a better control, would cause a higher global death rate for the period of the following 5 decades and it would make the averaged life span of human to be lowered by 20 years (WHO, 2002: 8, 10).

Major illness problems of people include:

**1.1 Infectious Diseases Requiring Epidemiological Surveillance**

From a survey, the most common infectious disease requiring epidemiological surveillance was haemorrhagic fever. It also was the endemic disease of the area and the outbreaks took place almost every year. The incidence happened because the area got flooded every year for 4-6 months in rainy season and because of people's behavior. They did not take prevention and control of the disease because they did not have awareness about the importance of this issue. All prevention and control were left as the burden of health personnel only. Therefore, as the solution depended on health personnel alone, such prevention and control were not achieved and the incidence of the disease became higher. It also reflected, at national level, as an increase in the incidence of infectious diseases requiring epidemiological surveillance. The haemorrhagic fever had been persistent as a major public health concern of Thailand during the past 30 years without any decreasing trend (MOPH, 1999 : 119). Another study on health condition of Thai people also reported that the outbreak of haemorrhagic fever took place every two years and number of the outbreaks would reach the peak in rainy season. Children in early age had the highest death rate from haemorrhagic fever (Chanpen Chuprapawan, 2000:22-23).

**1.2 Chronic Diseases**

Hypertension was the most common one, followed by diabetes mellitus. These two diseases had shown an increasing trend due to the demographic structure of the population. Most people were in their working age, and the second most were senile people. The community had a trend to have a higher number of aged people. If people of working age, who would be aged people in the future, had risk behaviors such as drinking, smoking, and having no exercise, the incidence rate of chronic diseases would be higher and higher according to the progression of their age. It was found that hypertension had a high prevalence among elderly Thai people. The relationship between the prevalence of hypertension and the increasing age would stop when individuals reach their age of 80. Apart from this, hypertension also had relation with

long-term handicapped condition and the condition of dependency. It might also be the major cause of disability among elderly Thai people. Hypertension was therefore a major public health concern of Thailand. It would be a persistent problem further even with the diagnostic and examination system in place (Chanpen Chuprapawan, 2000: 184). This was consistent to this study which found that elderly persons had disability from paralysis, which was the most common cause of disability, and it was a long-term disability.

**2. Studying about Health Care Needs**

In this research, health care needs were studied about through an assessment of service needs, which included

1) Felt needs – the needs according to perspectives of people obtained through the activities of community health problem identification and creating a vision on health during the period of master health plan development at Tambon level using A-I-C technique; and

2) Unfelt needs – the needs that people had not realized about.

The researcher created an understanding about and clarified the necessity of the need to receive health care. These were obtained through a systematic investigation, which included coming into the community to learn about people's way of life; studying logically about relationship between individuals and factors surrounding them; and assessing, formulating as community health problems to be resolved or developed for improving the health of people. This way, the plan for health care delivery was prepared in a way toward a holistic one.

Therefore, health service needs of people must be studied through the perspectives of health personnel and the ones of community. The perspectives of both parties would contain different views, and it would lead to the success of health care planning activity ( http://kinesiology.bioisestate.edu/ pemh570/ chpt4.htm.).

In activity of creating a vision of community health care development, community health stakeholders reflected that needs of community that covered the well being of people in physical, mental social, spiritual and cognitive aspects. It indicated that the community had given the meaning of health in a way toward a holistic one. It happened this way because of their learning at the time of identifying community health

problems, when they were clarified with understanding and were linked to factors related to heath in each issue. Prawej Wasi (2000: 9) stated that to reform health system successfully, Thai people must have a new imagination about health. They must view health in a manner that it is linked to factors related to physical, mental, social and spiritual.

**3. Access to Health Service**

Even with the existence of policy regarding "health insurance for all" which was adopted by the government in order to increase access to health services for people, however, according to this study, some people could not have access to health services due to following problems and obstacles.

**3.1 Availability of services**

Health services did not cover people were not holding health insurance card under the policy of "health insurance for all" due to personal factors of individuals. For example, they did not have their names documented in house registration paper; or they had the insurance card but the one that was valid for receiving services elsewhere. When these people were ill, they could not go to receive services from a health care unit except when they had an emergency condition. Hence, when they suffered other diseases, especially the chronic ones, they had to cover treatment cost out of their pocket. Most of these people migrated from elsewhere to work as laborers in the area.

Besides, some kinds of services were not available in the community. For example, treatment services for chronic patients whose symptoms were stable. Some of these patient did not receive treatment continuously because of the constraint about transportation (i.e. living alone, relatives were not available). Other kinds of services that also were not available included occupational health service for farmers or agricultural laborers who were at risk of exposure to chemical substances.

**3.2 Adequacy of availability of services to meet the need**

From a study, community health service in regard to initial treatment was available with an adequate number for people to choose. For emergency cases, people would take them to the hospital. Services for health promotion, disease prevention and rehabilitation were minimal (i.e. health education on disease prevention, home visit to patients with chronic diseases and disabilities). Community heath servicing activities

and activities for community strengthening were not in place. Primary care unit (PCU) did not provide services after hours and had constraints in term of medical supplies, equipment, materials and knowledge and competency of service providers. In this regard, Rabinowitz (http://ictb.lsi.ukans.edu.tool/EN/sub_main.htm) suggested that PCU must have adequacy in term of number of health personnel, servicing hours, and equipment and/or materials.

**3.3 Physical and economic barriers to access**

According to a study, the factor hindering some people from having access to health services was the economic status. Most people were poor and they placed the importance on their work for earning rather than placing it on health care. For cases requiring continuous examination and treatment, some of them did not have money to cover the treatment costs. For example, a patient with psychiatric symptoms did not receive any treatment because the family was poor. They did not have money to cover transportation costs if they would take the patient to go to the hospital in the city or even in Bangkok. Some patients/disabled persons did not have someone to take them to the hospital, as their children went out working during daytime. Some of them lived alone because their children migrated to work elsewhere and they could not go to the hospital. The outreaching services into the community were not available either. These factors were caused by 1) Lacking of outreach capacity; 2) Affordability; and 3) Program schedule. (Rabinowitz, http://ictb.lsi.ukans.edu.tool/EN/sub_main.htm).

All of the above reflected that factors hindering people from having access to health services were related to socio-cultural issues and the adequacy of health services. Therefore, in order that these people could have health services that they could access easily at affordable costs, the services would 1) increasing program capacity; and 2) developing effective outreach (Rabinowitz , http://ictb.lsi.ukans. edu.tool /EN/ sub_main.htm).

**4. Master Health Plan Development**

According to the development of master health plan with participation of community health stakeholders at village and Tambon levels, there were some strength and some weakness that required improvement before implementing as below.

**4.1 Strength**

Community health stakeholders came from different organizations of various sectors, such as temples, schools, TAO, community leaders, public health volunteers, people's representatives, and health personal. They cooperated and participated well in activities and were able to define a vision of the development and developed a guide or an approach for the development. It was a good start for them as they had gone through a learning process, had a chance to demonstrate the capability of their own and of community. It also was a good opportunity that TAO participated in health development process and was aware of the importance to integrate health development activities to the activities of other social developments.

**4.2 Weakness**

4.2.1 According to the experience form planning activity at Tambon level, some of the problems presented were problems of some villages. Other villages that did not have the same problems declined not to pay attention to and did not place importance on the issues.

4.2.2 There was a constraint about representatives who would attend the meeting at Tambon level. Several villages had no representatives from people's sector to attend the meeting at all. On the other hand, the time of the meeting might not be scheduled in consistence with other activities of the community. For example, people were occupied with their works. Therefore, if people had gone through the planning at village level before the planning at Tambon level, the planning process at Tambon level could be proceeded more efficiently and gain better outcomes. In other words, in the planning activity at village level, people have a larger proportion in number of participants who represent their village and take parts in making decisions. The plan would be developed accordingly toward the ideas and opinions shared by people from that village. They can define the needs in consistent to the problems of the village When each village presents the plan of the village at the planning at Tambon level, the plan of Tambon would have a diversity and be consistent to the needs of each area. The meeting may take a short time, as every village already has a plan and ready to present.

4.2.3 Persons who never had experience in making health development plan at village level did not place importance on and did not understand about the planning process at Tambon level. For those who had such experience at village level

(especially village leaders) came to the meeting at Tambon level with a clear purpose. They understood about their role and planning process and were able to stay in the meeting for all sessions and the responsibility about the project they wanted to present was developed.

**5. The Model of Primary Care in the Community**

The model of primary care in the community developed in this study has similar or different key characteristics in comparison to other models as the following.

**5.1** The Process for Developing Primary Care Model in the Community

In this research, the model of primary care in the community was developed according to the concept of health care delivery management under new health system. It emphasized the participation of community people and organizations in health care delivery management in order that people and community can rely on oneself. The development started from the time when the researcher, a technical person from a nursing educational institute came in to arrange a process for participation in learning through working together among different sectors. Such sectors included formal and informal community leaders, TAO, and community public health officers. Team building was initiated and team members were prepared in term of knowledge required for conducting a community study. They participated in community health problem identification. A master plan for health activity was developed by using A-I-C technique and synthesized as health servicing activities in line with problems and health care needs of community. Health activities were undertaken together with community health stakeholders. Then the evaluation of activities and learning from participating was carried out. This study is consistent to other studies in other different areas including Khon Khaen, Chiang Mai and Chonburi provinces, in term of creating the participation of health personnel, people, community organizations, and TAO in health servicing activities. The activities were carried out with a clear principle of working with community that linked to local wisdom as a health care network (Khanistha Nuntabutr, 2002: 32-34). The difference of this study from the others is that the delivery of health care in such mentioned areas emphasized the creation of learning through working together. For health care services that proceeded activities together were not started from studying about health care needs of community and then compiled and

formulated them as a master health plan of community. Then finally, arranged it as health services for providing to people.

**5.2 Characteristics of Health Care Delivery**

5.2.1 In regard to the structure of primary care unit in this study, primary care delivery was based on the previous structure, which was the health center, but emphasized proactive services (at houses and community, province) and had professional nurses serve as principal service providers together with health network (community health officers, community leaders, people and TAO). This study is similar to other studies in Songkhla, Chiang Mai and Chonburi provinces that used previous structure at health center as PCU (Khanita Nuntaboot, 2002:32- 34)

5.2.2 In regard to health personnel, this study defined professional nurses as principal service providers working together with health care network including community health officers, community leaders and TAO. Each party worked together and held different responsibility according to capability, roles and functions of each own. This study did not define other health professionals as service providers, such as physicians, dentists and pharmacists, because of constraint regarding number of such personnel. Furthermore, people could go for health services that must be provided by physicians or dentists at the community hospital, which served as a main contractor of primary care system. In this regard, this study has both similarity to and difference from other studies in Khon Khaen, Songkhla and Chonburi provinces, which defined professional nurses as principal service providers and these nurses had to station at primary care units providing care together with public health officers. The difference is that in such areas, other health professionals, such as physicians, dentists and pharmacists, took turns coming to provide services at PCU on a rotating basis (Khanita Nuntaboot, 2002:32- 34; Hataichanok Buacharoen, 2002:8).

**6. Roles of professional nurse**

During the period of community study, researcher performed the role of health-related activity organizer and community nurse in giving the direct care to people in different groups such as children, elderly, patients with chronic diseases, and disabled. From the interview, people in the community was satisfied with the role of professional nurse because good relations was formed between nurse, local people and

community leaders and also nurse has better understanding on human relations towards the people under the treatments. From the study about proper health service systems that are suitable for Thai society in the next two decades which stated that the 2 main professional groups suitable for Primary care unit are Doctors and Nurses, with the conclusion of nurses have the socio-psychological advantage, adequate communication skills with patients, lower production investment, and large number of personnel that can be distributed evenly (Aree Wallayasaewee, et al, 1999: 21) This confirms the idea that professional nurses would be the main and most possible personnel for Primary care unit which can also work in coordination with other health network e.g. community health officer, public health volunteers, community leaders, Tambon Administration Organizations (TAO) and people in the community. In the survey about health conditions of population, it was found that there were people who suffer from many illnesses such as rheumatism, gastritis, and other chronic illnesses. Thus, nurse in Primary care unit should acquire enough skills of primary care. Nursing council had proposed that nurses in every Primary care unit should be nurse practitioners with the long-term goals of providing each unit with nurse practitioner graduated in Master Degree level (Nursing Council, 11-12). Furthermore, in the area of this study which is area of agriculture that use intense amount of pesticides, nurses in Primary care unit should also have the knowledge and skills over occupation health.

**7. Participation of community health stakeholders**

**7.1 Leaders, organizations and people in the community**

Throughout the study, community leaders, people, and organizations such as school, temple and private sectors had participated from the process of community study, health development planning, and implementation which reflects the ability of people and the strength of the community. Basic factors of the community with relatives' relationship and urban society, which helping each other, favor the chance of development. Providing of the chance to learn and practice, advices, and participation with health personnel create self-care community and sustainable development. The results showed that leaders, organizations and people in the community had acquired higher sense of pride as participating in community health development activity such as

exercise group and also continue on to plan new projects in other aspects, for example, development of traditional Thai herbs.

**7.2 Tambon Administration Organizations (TAO)**

Tambon Administration Organizations (TAO) had participated in community health development planning and activities arranging such as providing of advices and supports but not with full and active responsibility yet. That is because TAO of Bang Pla Kod sub-district is in level 5 which has no directly public health-working personnel. Most of the members give the importance to infrastructure development and did not consider the proposed exercise program in the community seriously. However, there was a good sign of development from deputy of TAO which proposed the community health development aspect into sub-district development plan. After informal meeting with head of TAO, there were ideas of community development including development of sidelines careers for people in the community, and community solid waste management. Concerning community health services, deputy of TAO had offered sub-district health development plan in order to allocate the required budgets. Besides, after the activities, good relationships between Faculty of Nursing and TAO have been formed as they had shown interest in organizing further health activity. However, knowledge and understanding concerning community health management should be provided to the members of TAO for them to be responsible of health management for people in the community.

**7.3 Community Health Officers**

Mainly, contribution of Community health officers in community health care was limited in being a part of the meeting and, because of lack of personnel, participation in other health-related activities, for example, community study or community health development plan is limited. As researcher arranged the exercise program for the community and because that activity is one of the assigned policies from the government concerning community health development, community health officers had given good coordination throughout the project. This yielded out in creation of good attitude between Faculty of Nursing and community health center and the tendency to work in collaboration towards health development for people in the community. One of community health officers stated that community heath center is ready to be a part in any health development activity arranged by Faculty of Nursing.

**7.4 Public Health Volunteers**

Before the study, the roles of Public health volunteers in community health care used to be directly under the advices of Public health officers. During the implementation of the program, they had shown good sign of active participation in all the process of community health study, problem identification, health development planning, implementation, and evaluation. Later, they stated that having been given the chance to express their opinions and work freely help inspiring them to work on other development projects.

**7.5 Health officer in district level**

During the implementation of exercise program in community, researcher had worked in coordination with local health officer in the form of suggestions and resource allocation including budgets and equipments. Health officer in district level also acted as the coordinator between local health center and Ongkarak hospital which helped organize the implementation of the activities.

**7.6 Primary Care Unit, Ongkarak Hospital**

Ongkarak Hospital, the main contacter primary care unit of Bang Pla Kod community health center, has the main role of giving proper health services for people in the area. In this study, the hospital had participated in the exercise program in the community by providing of exercise leaders. From the informal interview, people in the community was satisfied with the provided exercise leaders while nurses who joined the activities in the community had gained a better attitude towards working in the community and enjoyed the activities with local people. But, with budget limitations from the hospital, the activities could be performed in only a short period. The director of the hospital also showed the similar visions with faculty of nursing concerning providing of proactive services in Bang Pla Kod sub-district and offered to work in coordination with the faculty to establish more community works such as disease screening project despite of the potentials both in knowledge and personnel of the faculty.

**7.7 Instructors in Community Health Nursing Department**

In this study, Instructors in Community Health Nursing Department had participated in the activities from team setup with researcher to build up the awareness in community leaders, members of Tambon Administration Organizations (TAO), and

public health officers concerning public health development, to community study, data collection, problem identification, implementation, and evaluation. They had agreed that working experiences with the community can be adopted in community health nursing study; good relationships were formed with community leaders, public health officers, members of TAO, and especially people in the community. They also helped organizing teaching activities in the community and other academic activities of Community Health Nursing Department.

Participations from involving sectors can be concluded as shown in figure 5

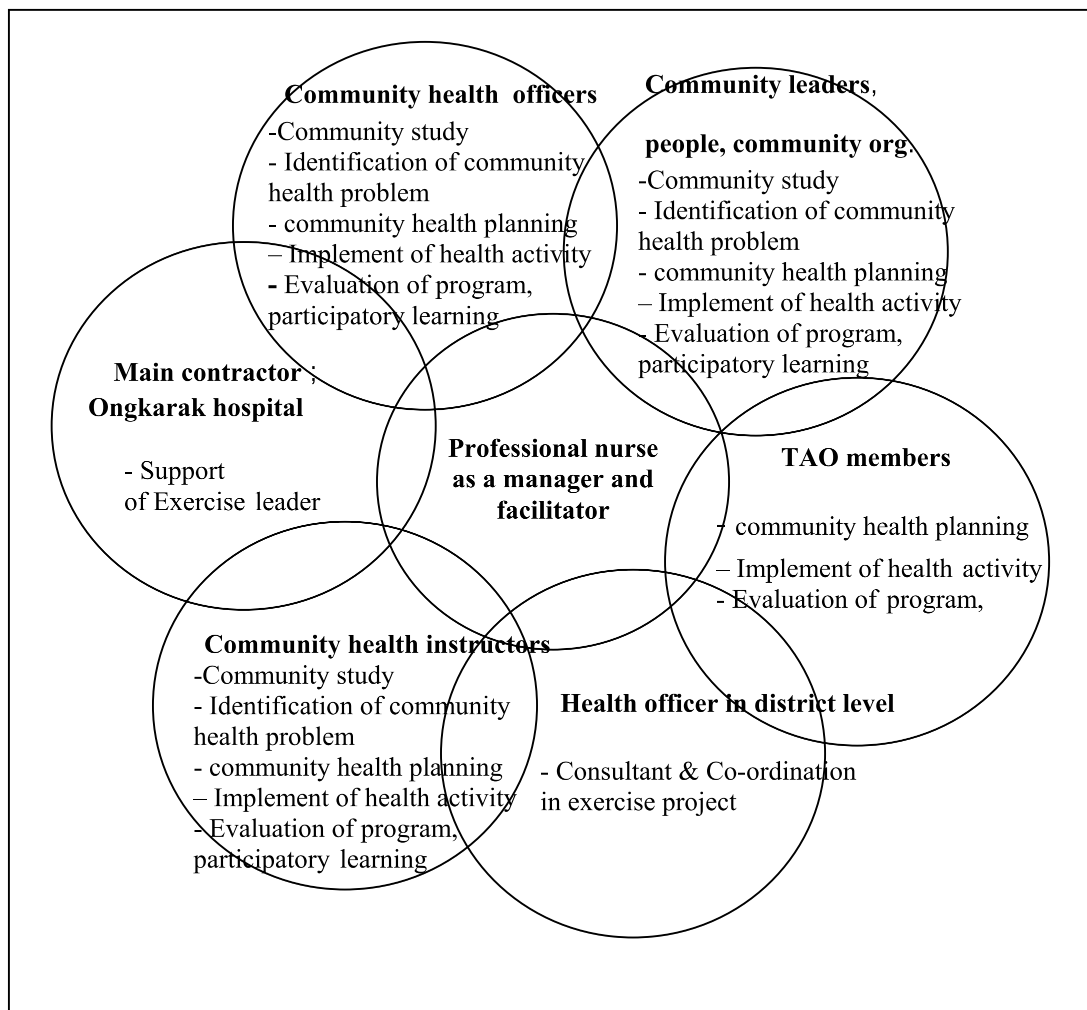


**Figure 5** The participation of community health stakeholders in community health development

## 8. Knowledge acquired from the study

### 8.1 Instruments

There are many instruments used in development of Primary Care Unit in the community which can be concluded as follows

#### 8.1.1 Socio-cultural instrument

The mean to strengthen Primary Care Unit is providing of health services that reach the social dimension of illnesses. Moreover, as mentioned in National Health Bill that 'health' is humanity's way of life that harmoniously unites the personal, economical, mental, family, community, social, cultural, and environmental factors; using of socio-cultural instruments would help obtaining a more holistic view of the community. Because of this reason, the concept of socio-cultural instruments – which comprised of Walking-survey Map, Family Tree, Community Calendar, individual record, Structure of Community Organizations, Community Health Systems, and Community History - by Dr. Komart Chungsateansup had been adopted in this study. The results from the study showed that

1) Walking-survey Map

Apart from helping researcher to get to know the community quickly in many aspects such as locations, environment, and people; during the survey, the researcher had many chances to make conversations with local people to inform them with the objectives and goals of this community study and also roles of Faculty of Nursing, Srinakarinwiroj University which formed a better relationship between people in the community, researcher, and instructors from Faculty of Nursing. Furthermore, walking with community representatives also helped gathering information that might not be easily to get from families such as problems concerning narcotics.

2) Family Tree

Family Tree helped the researcher to learn about families' members more in details including relationships between family's members, individual's lifestyle, and sickness pattern such as genetic illnesses. In some leaders' family, leader status had been authorized down to the next generations. Moreover, it also helped to study the relations between people with different surnames either in blood or marital connections which are social assets to live together closely.

2) Community Calendar

Upon arranging any activity which involving local people, the period of community activities in both profession and cultural should be considered seriously. In some community, most of local people might work as employee or in the farm during the day. Thus, in order for them to be participated in any projects, the activities must be arranged after work.

3) Personal history

Personal history, frequently used along with Family Tree, is the instrument to study about one's life in order to gain a better understanding of self. In this study, it was used to study about groups of people such as patient group, formal and informal/natural leaders in order to collect the information about health conditions, their potentials and to select them to be a part of community health development plan.

**8.1.2 Epidemiology study**

Epidemiology study is the study about sickness conditions in population group which would link between nature of illness, risk factors, environmental factors and personal lifestyles. It also helps to study the severe or attitude of problems such as frequency or possibility of the problems.

**8.1.3 Evaluation of people's health conditions**

As Walking-survey map helps to study a broad view of the community, evaluation of health conditions of people in the community can make clearer dimensions and more detailed of community. Furthermore, better relationship between researcher and local people can be formed through the exchange of opinions, providing of direct care, and regularly visit the community. Thus, regular visit and making conversations with people in the community by related health personnel would benefit on participation from the community in health service development.

**8.1.4 Action intensive conference A-I-C (workshop-based)**

A-I-C is the technique which would help gathering the ideas and concepts in community development by encouraging the participants/stakeholders to express their opinions. In this study, the technique was used in both district and sub-district level and found that the participants and stakeholders from many sectors such as informal/formal community leaders, and community representatives can express their opinions creatively concerning the community health development topics. The concepts

was supported by the study of Chaweewan Wannaprasit et al. (http://www.clib.psu.ac.th/acad 41/wchal.html) which use A-I-C in encouraging women to take part in decision making for community development and found that, with every step of A-I-C, the women were encouraged with higher level of confidence to express their potentials. Therefore, in village and community development planning, the technique of A-I-C is also the proper tools and should be presented its concepts and methods to related participants.

**8.1.5 'A Triangle That Moves Mountains' strategy**

Normally, this strategy is used in big scale or national level such as drafting of people's constitution or National Health Bill which was found that it is very effective on gathering opinions from related sectors. In this study which is adaptation of the strategy in local level, it also showed its potential on creating participation from people, community organizations, and government sectors. Its principles involve providing of knowledge and academic work to build up a better understanding among people in the community, creating links with related government sectors e.g. Tambon Administration Organizations (TAO) on data collection and analysis, and arranging of action intensive conference to exchange the opinions from different groups of people in order to identify problems and guidelines for community health development. The outcome of this activity is better visions and commitments on development actions which have the agreements from groups of people involved.

**8.2 Working methods in the community concluded from the research**

In order to develop Primary Care Unit in the community, researcher had worked for the coordination from the community as follows

**8.2.1 Building up the sense of awareness and understanding**

In each stage, researcher had built up advocate in groups of community leaders, community health officers and people in the community concerning the sense of awareness and participation in development processes by providing of news and information on participating health development, goals and roles of related parties. These actions benefited on letting them had a better understanding of objectives, goals and expectable outcomes.

**8.2.2 Understanding the context of the community**

Starting the community study by learning about their way of life, fundamental characteristics, and readiness of the community helped researcher to understand the components, relationships and links between influencing factors and health conditions of people in the community.

**8.2.3 Forming relationship and trust with stakeholder and community**

In order to build up good relationship with the community, researcher used the methods as described:

1) Because researcher approached the community as outsider who wanted to study and work with their society, paying respect to local people such as community leaders, community health officers, and elderly people would create a better relationships towards each other.

2) During the period of the study, researcher started by building up connections with both formal and informal/natural leaders of the community such as village headman, head of TAO committee, district headman, health volunteers, abbot, and teacher in order to gather their opinions and suggestions concerning implementation of activities. It was noticeable that formal leaders had performed more important roles because people in the community respectfully accepted their status and was willing to be participated in any arranged projects. However, informal/natural leaders such as abbot or teacher also had important roles on health activities

3) Arranging activities following community calendar or activities is also one of the keys leading to their coordination. Presenting the objectives of the study at community monthly meeting made it convenient for group of leaders such as village headman and members of TAO to receive information and progress of the study while other activities involving people in the community such as collecting of data or meeting with related groups were arranged in their free time. The result showed that people in the community had actively attained and participated with the projects

4) Attaining local ceremony such as Song Kran festival or ordination ceremony of a Buddhist priest had helped researcher to be accustomed to the community and was accepted as a member of the community.

5) Regularly visit and providing advices to the community in the role of nurse during the study such as care for people with paralysis or families with mental illness member made the community realize the benefits of having public health personnel in the community and accept the potentials of researcher as professional nurse.

8.2.4 Working as partnership with the community by letting them to be a part in decision making and implementation of community health activities such as exercise program for people in the community.

8.2.5 Potential Development of the Community

Even the studied community had never been developed under any learning activity before, it showed good potentials and readiness for learning processes. From the arranged project of exercise activity in the community, it can be clearly seen that having strong leaders with potentials e.g. working for the whole community, good human relations and broader management visions is one of the keys on carrying out any successful activities. That is because, with trust in their leaders, people in the community would give the supports and participate in the arranged projects which would obviously strengthen the community and become a good role model for community nearby.

8.2.6 Working in collaboration with health service unit and related organizations

Researcher had worked in coordination with health service unit and related organizations in the area such as community health center, district health officer, and Ongkarak hospital on arranging of community health development activities in order to create build up a health network workforce.

**9. Influencing factors over the achievement of Primary care model in community**

In this study, the factors which influence over the achievement of Primary care model in the community can be concluded as follows:

9.1 The allocation of budgets from the government must be revised. In the mean time, registration procedure of people under health insurance should be more

flexible and not limited only to local people which would benefit labors moved from other areas to receive any needed health services.

9.2 Both Primary Care Unit and Tambon Administration Organizations (TAO) should be supplied with adequate budgets. Decentralization of budget allocation would favor the work of these 2 parties.

9.3 More knowledge on community health management is to be provided to Tambon Administration Organizations (TAO). The study showed that most of TAO members did not realize the importance of the subject which causes lack of supports in many requirements.

9.4 Health service units both inside and outside the community should work in coordination with each others by adjusting their roles to fit the types of services needed with the objectives of better community health.

9.5 Community health officers should be encouraged to work in a proactive manner and not strict to provide health services only in office hour.

9.6 Community health stakeholders should continually exchange their knowledge and experiences in order to sustain community health development.

**Limitations of the study**

In this study, the required data were collected in sub-district level which consisted of 11 villages. But, with time limitations, only problems concerning community health and behaviors were collected broadly from people in different age groups. Moreover, apart from health promotion, all other aspects concerning health services – health-threatening issues prevention, primary curative treatment, and rehabilitation – could not be fitted within the timeframe of the research.

**Recommendations**

**Policy planning**

1. The structure of health service systems is to be revised by letting community health stakeholders take more action from the stage of problem identification through planning and implementation of activities to develop health services which are suitable for conditions and problems of each individual community.

2. Professional nurse should be encouraged to take part in community health management because of their proper potentials and quantity, while each primary care unit should be provided with nurse practitioners.

3. Before decentralization of work on public health to sub-district level, Tumbon Administration Organization should be provided with knowledge and understanding concerning community health services and their responsibilities as its member.

4. Community health care needs must be a part in sub-district development plans in order to have a clearer picture of budgets allocation and health-related activities for people in the community.

**Health Care Services**

1. Arranging of health services should be suitable for the problems and needs of each community.

2. Health services should cover people from outside the area or, even, people without health insurance card.

3. Of all the aspects of health services, health promotion and health-threatening issues prevention should be given more importance and on also potential development of people in the community to take part in health service activities from the stage of problem identification, planning, implementation, and evaluation.

4. In primary care services, public health personnel should be trustworthy and build up a good relationship with the community, realize and utilize its potentials in community health care development.

5. Community health officers should be persuaded to provide the services which suitable for community activities and/or to work overtime.

**Nursing education**

1. The concepts and curriculum of nursing institutes should move towards creating personnel with potentials to perform in primary level of services, especially the role in community health.

2. Arrangement of nursing practice experiences should be based on health care needs in each specific community.

3. In community health care practice, nursing students should participate along with the community and organizations from the beginning of community study, problems identification, planning, implementation, to evaluation stage which would help changing their attitudes from curer to community supporter and facilitator and people to realize their potential of health management. Furthermore, it also helps improving the skill of nursing student on working in teamwork and coordination with others.

4. In the stage of community health evaluation which use socio-cultural and epidemiology study and both qualitative and quantitative data collection, nursing students should be provided with the interviewing skills and qualitative data analysis.

**Research study**

1. Study on community health needs of population in different age groups using Epidemiology and socio-cultural study.

2. As mentioned before that only health promotion had been studied in this research, Study in groups of people with special needs concerning other health service aspects, for example, health-threatening issues prevention, primary curative treatment, and rehabilitation, should be performed through the use of community-based action research to build up knowledge and experiences together.

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# Appendix

# Appendix A

## Set 1

## แบบสังเกตชุมชนสำหรับการทำแผนที่เดินดิน

**ชื่อหมู่บ้าน**……..………………**ตำบล**..…………………**อำเภอ**…..……………....**จังหวัด**…………………..
**วันที่ / เวลา**……………………………………………….
**ผู้เก็บรวบรวมข้อมูล** …………………………………………………….

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1. สภาพลักษณะของชุมชนเป็นอย่างไร? ( ชุมชนเมือง ชุมชนกึ่งเมือง ชุนชนกึ่งชนบท ชุมชนชนบท )

…………………………………………………………………………………………………………………

2. ระบบการขนส่งเป็นอย่างไร? ( ชนิด , ความพอเพียง , ค่าใช้จ่าย ) สภาพของถนน ทางเดินเท้า เป็นอย่างไร ?

…………………………………………………………………………………………………………………

3. ระบบสาธารณูปโภคของชุมชนมีอะไรบ้าง ? ( แหล่งน้ำใช้ , ไฟฟ้า , ระบบการสื่อสาร )

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4. ระยะทางระหว่างจุดที่สำคัญต่างๆเป็นอย่างไร ? ( เช่น จากบริเวณที่อยู่อาศัยกับตลาด โรงเรียน สถานบริการสุขภาพ แหล่งน้ำ ทุ่งนา แหล่งประกอบอาชีพ เป็นต้น )

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5. สภาพแวดล้อมทั่วไปของชุมชน เป็นอย่างไร ? ( แหล่งน้ำ โรงงาน สภาพภูมิอากาศ สิ่งก่อเหตุรำคาญ เป็นต้น )

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6. แหล่งประโยชน์ที่สำคัญของชุมชน มีอยู่ที่ใดบ้าง ? ( เช่น วัด โรงเรียน สถานที่ราชการ แหล่งที่ชุมนุมหมู่บ้านเป็นต้น)

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7. แหล่งบริการสุขภาพในชุมชน มีอะไร อยู่ที่ใดบ้าง ?

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8. สภาพลักษณะบ้านเรือน เป็นอย่างไร ? ( ขนาด วัสดุที่ใช้ปลูกสร้าง ลักษณะการตั้งบ้านเรือน เช่น ตั้งตามกลุ่มเครือญาติ ตั้งตามกลุ่มฐานะเศรษฐกิจ เป็นต้น )

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9. สิ่งแวดล้อมบริเวณรอบบ้านเป็นอย่างไร ? ( ความสะอาด สิ่งปลูกสร้างต่างๆ ขยะมูลฝอย )

…………………………………………………………………………………………………………………

10. สภาพของผู้คนที่พบเห็นในชุมชน ในครัวเรือน เป็นใครบ้าง? ( ชนิดของบุคคล เช่น ผู้สูงอายุ ผู้พิการ คนยากจน ผู้ป่วย ผู้นำ ) กลุ่มคนในชุมชนกำลังทำอะไร ? มีปฏิกิริยาอย่างไร ?

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## SET 2

### แบบสัมภาษณ์ข้อมูลระดับชุมชน

**ชื่อ - นามสกุลผู้ให้ข้อมูล**……………………………………………………………………….

**ที่อยู่**………………………………………………………………………………………….

**วัน เดือน ปี ที่สัมภาษณ์**…………………………………………………………………..

**ผู้สัมภาษณ์**…………………………………………………………………………………….

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1. ด้านเศรษฐกิจ

1.1 เดิมชาวบ้านในชุมชนเคยประกอบอาชีพอะไรบ้าง

การเปลี่ยนแปลงของแต่ละอาชีพมีการเคลื่อนไหวอย่างไร อาชีพดังกล่าวหายไปด้วยเหตุใด ?

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1.2 ปัจจุบัน ในชุมชนของท่านมีการประกอบอาชีพอะไรบ้าง ? สัดส่วนของแต่ละอาชีพเป็นอย่างไร ?

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1.3 แต่ละอาชีพมีการทำในช่วงไหน อย่างไรบ้าง ? แต่ละอาชีพประสบปัญหาหรือไม่อย่างไร ?

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1.4 สภาพทางเศรษฐกิจของคนในชุมชนเป็นอย่างไร คนในชุมชนมีภาระหนี้สินหรือไม่ มีแหล่งเงินกู้หรือไม่ มีกี่แหล่ง มีการกำหนดเงื่อนไขการชำระคืนอย่างไร ?

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2. ด้านสังคม วัฒนธรรม

2.1 ชุมชนของท่านมีประวัติความเป็นมาอย่างไร ทำไมมีการตั้งชื่อแบบนี้ ใคร เป็น ผู้มาตั้งถิ่นฐานอยู่เป็นกลุ่มแรก ?

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2.2 ในชุมชนของท่านมีประเพณีอะไรบ้าง ทำกิจกรรมในช่วงไหน มีใครเข้าร่วมบ้าง ?

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2.3 มีประเพณี พิธีกรรม หรือกิจกรรมอะไรบ้างที่เคยมีและในปัจจุบันได้หายไป ?

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2.4 มีการจัดตั้งกลุ่มต่าง ๆ ทั้งการจัดตั้งโดยรัฐ หรือชุมชนเอง หรือไม่อย่างไร ?

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2.5 ต้นทุนทางสังคมของชุมชนมีอะไรบ้าง ? เช่น ภูมิปัญญาท้องถิ่น ผู้นำไม่เป็นทางการ ระบบ/ความสัมพันธ์/ค่านิยมที่ทำให้ชุมชนสามารถแก้ปัญหาที่มีอยู่ได้

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2.6 ความสัมพันธ์ของคนในชุมชนเป็นอย่างไร และระหว่างชาวบ้านกับผู้นำเป็นอย่างไร ?

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2.7 การสื่อสารของคนในชุมชนเป็นอย่างไร ?

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3. ด้านการเมือง

3.1 ในอดีต มีผู้นำที่สำคัญ เป็นใครบ้าง แต่ละท่านมีความสำคัญอย่างไร ?

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3.2 โครงสร้างการปกครองของชุมชนเป็นอย่างไร ?

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3.3 ลักษณะทั่วไปของการเมืองในท้องถิ่นเป็นอย่างไร ? (กลุ่มผลประโยชน์ , ความขัดแย้ง)

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3.4 รูปแบบการมีส่วนร่วมในชุมชนทางด้านการเมืองท้องถิ่น การประชุมแสดงความคิดเห็น การตัดสินใจเกี่ยวกับกิจการสาธารณะต่าง ๆ ในชุมชน เป็นอย่างไร ?

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4. ระบบสุขภาพในชุมชน

4.1 ในอดีต เมื่อเจ็บป่วย / คลอดชาวบ้านไปหาใครบ้าง มีวิธีการรักษาอย่างไร แล้วปัจจุบันผู้รักษา/วิธีการดังกล่าวหายไปอย่างไร ?

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4.2 คนในชุมชนมีการดูแลสุขภาพของตนเองอย่างไร และมีการดูแลซึ่งกันและกันอย่างไร ?

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4.3 ในชุมชนของท่านมีแหล่งบริการสุขภาพและแหล่งยาอยู่ที่ใดบ้าง ?

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4.4 หมอพื้นบ้านมีใครบ้าง มีกี่แบบ มีคนนิยมใช้บริการหรือไม่ ?

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4.5 สถานบริการสุขภาพที่ชาวบ้านนิยมไปใช้บริการทั้งในและนอกชุมชน มีที่ใดบ้าง ?

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4.6 ชาวบ้านมีปัญหาเกี่ยวกับการใช้บริการสุขภาพ หรือไม่อย่างไร ?

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5. ประวัติชีวิตบุคคลที่สำคัญ

5.1 ในชุมชนของท่าน มีบุคคลที่สำคัญ หรือน่าสนใจ เป็นใครบ้าง ? กรุณาเล่าประวัติชีวิตของบุคคลเหล่านั้น ( เช่น ผู้นำทั้งที่เป็นทางการ และไม่เป็นทางการ ผู้สูงอายุ คนจน ผู้พิการ คนเจ็บป่วย )

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**เลขที่แบบสัมภาษณ์....................**

**ผู้สัมภาษณ์................................**

**วัน เดือน ปี ที่สัมภาษณ์................**

## SET 3

## แบบสัมภาษณ์ครอบครัว

**บ้านเลขที่**..........**หมู่ที่**.........**ตำบล**..................**..อำเภอ**........................**.. จังหวัด**........................

**ชื่อผู้ให้สัมภาษณ์**................................ **อายุ**.......... **ปี**

**ความสัมพันธ์กับหัวหน้าครอบครัว**..............................

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**ส่วนที่ 1** แผนที่บ้าน

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ส่วนที่ **2** ผังเครือญาติ

□ ชาย

○ หญิง

☒ ⊗ ตาย

△ ป่วย

□——○ อยู่ด้วยกัน

□—/—○ หย่าร้างหรือแยกกัน

## ส่วนที่ 3 ข้อมูลส่วนบุคคลของสมาชิกในครอบครัว

| ลำดับ (1) | ชื่อ-สกุล (2) | เพศ (3) | ว.ด.ป. เกิด (4) | อายุ (5) | เชื้อชาติ (6) | ศาสนา (7) | สถานภาพสมรส (8) | ความสัมพันธ์ในครอบครัว (9) | การศึกษา (10) | อาชีพ (11) | รายได้/ปี (12) | การมีชื่อในทะเบียนบ้าน (13) | | | หลักประกันสุขภาพ (14) | บทบาทในชุมชน (15) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | | | | | | | | | มี | | ไม่มี | | |
| | | | | | | | | | | | | อยู่ | ไม่อยู่ | อยู่ | | |
| | | | | | | | | | | | | | | | | |

**ข้อมูลส่วนที่ 4  ภาวะสุขภาพ/พฤติกรรมสุขภาพ**

| ลำดับ (16) | ความพิการ (17) | โรคประจำตัว (18) | การตรวจสุขภาพ/ปี (19) | การออกกำลังกาย (20) | สูบบุหรี่ (21) | ดื่มสุรา (22) | การใช้ยา/สารเสพติด (23) | อาการผิดปกติ/เจ็บป่วยในระยะ 6 ด.ที่ผ่านมา (24) |
|---|---|---|---|---|---|---|---|---|
| | | | | | | | | |

หมายเหตุ ช่องลำดับเป็นบุคคลตามลำดับจากข้อมูลส่วนบุคคล

ส่วนที่ **5** ข้อมูลพื้นฐานด้านสาธารณสุขประจำครอบครัว

1. ลักษณะบ้านที่อยู่อยู่อาศัย

☐ คงทนถาวร ☐ คงทนถาวร

2. การถ่ายเทอากาศในบ้าน

☐ ดี ☐ ไม่ดี

3. การจัดบริเวณบ้านและภายในบ้านสะอาดไม่รกรุงรัง

☐ ใช่ ☐ ไม่ใช่

2 มีและใช้ส้วมถูกหลักสุขาภิบาล

☐ มี ☐ ไม่มี

3 การกำจัดน้ำทิ้งและน้ำโสโครกภายในบ้าน

☐ มีท่อระบายน้ำ ☐ ทิ้งลงบริเวณบ้าน /แม่น้ำ/คลอง

4 บริเวณบ้านมีนำท่วมขัง

☐ ไม่มี ☐ มี (ท่วมขัง …. เดือน)

5 น้ำดื่มส่วนใหญ่ของครอบครัว

☐ น้ำฝน ☐ น้ำประปา ☐ น้ำจากเครื่องกรอง/บรรจุขวด

6 ภาชนะที่เก็บน้ำดื่ม

☐ ถูกสุขลักษณะ ☐ ไม่ถูกสุขลักษณะ

7 น้ำใช้ส่วนใหญ่ของคนในครอบครัว

☐ น้ำฝน ☐ น้ำประปา ☐ แม่น้ำ/ลำคลอง/บาดาล ☐ อื่น ๆ ระบุ…….

11. การกำจัดขยะ

☐ เผา ☐ ฝัง ☐ มีรถมาเก็บ ☐ ทิ้งลงบริเวณบ้าน/ที่ สาธารณะ

12. การได้รับเหตุรำคาญจากสิ่งแวดล้อมด้านแสง เสียง กลิ่นเหม็นและอื่น ๆ

☐ ไม่ได้รับ ☐ ได้รับ ระบุ………..

**SET 4**

**แบบสัมภาษณ์**

**การประเมินผลโครงการออกกำลังกาย**

แบบสัมภาษณ์ฉบับนี้มีจุดมุ่งหมายเพื่อประเมินผลโครงการออกกำลังกายโดยการสำรวจความคิดเห็นของประชาชนที่มาออกกำลังกายในชมรมการออกกำลังกาย "บางปลากดแดนซ์" ตำบลบางปลากด อำเภอองครักษ์ จังหวัดนครนายกในด้านความรู้เกี่ยวกับการออกกำลังกาย พฤติกรรมการออกกำลังกายและความคิดเห็นต่อโครงการออกกำลังกายในชุมชนเพื่อเป็นแนวทางในการพัฒนากิจกรรมการออกกำลังกายเพื่อสุขภาพในการตอบคำถามเหล่านี้ จะไม่มีผลเสียต่อผู้ให้สัมภาษณ์ จึงขอความกรุณาให้ท่านตอบคำถามให้ครบทุกข้อตามความเป็นจริง ประกอบด้วย 4 ตอน คือ

**ตอนที่ 1** ข้อมูลส่วนบุคคล

**ตอนที่ 2** ความรู้เกี่ยวกับการออกกำลังกาย

**ตอนที่ 3** พฤติกรรมเกี่ยวกับการออกกำลังกาย

**ตอนที่ 4** ความคิดเห็นเกี่ยวกับโครงการออกกำลังกายในชุมชน

ขอขอบพระคุณในความร่วมมือในการตอบแบบสอบถามครั้งนี้

**เลขที่แบบสัมภาษณ์**..........................

**ชื่อ-นามสกุลผู้ให้ข้อมูล**............................... **อายุ**.........**ปี** **หมู่**...............................................................
**ชื่อ-นามสกุลผู้เก็บรวบรวมข้อมูล**......................................................................................................................
**วันที่เก็บรวบรวมข้อมูล**..........................................................................................................................
..........................................................................................................................................................

**ตอนที่ 1**

**แบบสอบถามข้อมูลส่วนบุคคล**

**คำชี้แจง** ให้ทำเครื่องหมาย / ใน ( ) หน้าข้อความที่เป็นคำตอบของท่าน และตอบคำถามในช่องว่าง

1. เพศ
   ( ) ชาย ( ) หญิง
2. สถานภาพสมรส
   ( ) โสด ( ) คู่ ( ) หม้าย / หย่า / แยก
3. ระดับการศึกษา
   3.1 กำลังศึกษา ( ) ประถมศึกษา ( ) มัธยมศึกษา
   3.2 จบการศึกษา ( ) ประถมศึกษา ( ) มัธยมศึกษา
   ( ) อนุปริญญา ( ) ปริญญาตรี
   ( ) สูงกว่าปริญญาตรี ( ) อื่น ๆ ระบุ.............
4. อาชีพ
   ( ) เกษตรกรรม ( ) รับจ้าง
   ( ) รับราชการหรือพนักงานรัฐวิสาหกิจ ( ) ค้าขาย
   ( ) ไม่ได้ประกอบอาชีพ ( ) แม่บ้าน
   ( ) เกษียนราชการ ( ) นักเรียน /นักศึกษา
   ( ) อื่น ๆ ระบุ.............
5. ท่านเป็นสมาชิกของชมรมออกกำลังกายหรือไม่ ?
   ( ) เป็นสมาชิก โปรดระบุ.........เดือน ( ) ไม่ได้เป็นสมาชิก ระบุเหตุผล................................
6. ท่านได้รับข่าวการจัดตั้งชมรมออกกำลังกายของหมู่บ้านจากที่ใด? (ตอบได้มากกว่า 1 ข้อ)
   ( ) จากป้ายประกาศในหมู่บ้าน ( ) จากการประกาศทางหอกระจายข่าว
   ( ) จากเพื่อน ( ) จากแกนนำของหมู่บ้าน เช่น ผู้ใหญ่บ้าน อสม.
   ( ) จากบุคลากรด้านสุขภาพ ( ) อื่น ๆ โปรดระบุ............

**ตอนที่ 2**

**ความรู้เกี่ยวกับการออกกำลังกาย**

**คำชี้แจง** โปรดทำเครื่องหมาย / ลงในช่องขวามือให้ตรงกับความคิดเห็นของท่านมากที่สุดเพียง ช่องเดียว

| ข้อความ | **ใช่** | **ไม่ใช่** | **ไม่ทราบ** |
|---|---|---|---|
| 1.การออกกำลังกายเพื่อประโยชน์ต่อสุขภาพต้องเป็นการเคลื่อนไหวที่ทำให้หัวใจเต้นเร็วขึ้นกว่าปกติ | | | |
| 2. การทำกิจกรรมในชีวิตประจำวัน เช่น การทำงานบ้าน การเดิน หรือทำสวน ที่ใช้ระยะเวลานานพอจนเหงื่อออกและรู้สึกเหนื่อยขึ้น ถือว่าเป็นการออกกำลังกาย | | | |
| 3. ควรออกกำลังกายอย่างสม่ำเสมอ อย่างน้อย 3 วันต่อสัปดาห์ | | | |
| 4. การออกกำลังกายแต่ละครั้งควรใช้เวลาอย่างน้อย 30 นาที | | | |
| 5. การออกกำลังกายต้องเริ่มด้วยการเคลื่อนไหวส่วนต่าง ๆ ของร่างกายอย่างเบา ๆ อย่างน้อย 5 นาที | | | |
| 6.ก่อนเสร็จสิ้นกิจกรรมการออกกำลังกายแต่ละครั้ง ควรมีการผ่อนคลายโดยค่อย ๆ ลดความเข้มข้นของกิจกรรมเพื่อให้ร่างกายปรับสู่สภาพปกติ | | | |
| 7. ต้องออกกำลังกายในบริเวณที่มีอากาศถ่ายเทดี | | | |
| 8. เลือกวิธีการออกกำลังกายให้เหมาะสมกับสภาพร่างกาย อายุ และโรคประจำตัว | | | |
| 9. ออกกำลังกายหลังจากรับประทานอาหารอย่างน้อย 2 ชั่วโมง | | | |
| 10. เด็ก ๆ ไม่จำเป็นต้องออกกำลังกายก็ได้ | | | |
| 11. การออกกำลังกายยิ่งหนักยิ่งเป็นผลดีต่อสุขภาพ | | | |
| 12. คนที่มีโรคประจำตัว เช่น โรคหัวใจ ความดันโลหิตสูง โรคเบาหวาน ควรงดการออกกำลังกาย | | | |
| 13. หยุดออกกำลังกายทันทีเมื่อมีอาการผิดปกติเกิดขึ้น | | | |
| 14. ถึงแม้จะออกกำลังกายนาน ๆ ครั้ง ก็ช่วยทำให้ร่างกายมีความแข็งแรงได้เช่นกัน | | | |
| 15. เมื่อเป็นไข้หวัด มีไข้ ควรหยุดออกกำลังกายชั่วคราว | | | |
| 16. การออกกำลังกายช่วยลดน้ำหนักโดยที่ไม่จำเป็นต้องควบคุมอาหาร | | | |
| 17. การออกกำลังกายช่วยให้นอนหลับได้ดีขึ้น | | | |
| 18. การออกกำลังกายทำให้ต้องการรับประทานอาหารมากขึ้น | | | |
| 19. การออกกำลังกายอย่างสม่ำเสมอช่วยลดโอกาสเสี่ยงต่อการเป็นโรคเรื้อรัง เช่น ความดันโลหิตสูง โรคหัวใจ โรคมะเร็ง เป็นต้น | | | |
| 20. การออกกำลังกายช่วยทำให้อารมณ์ดีขึ้น | | | |

**ตอนที่ 3**

**พฤติกรรมการออกกำลังกาย**

คำชี้แจง โปรดทำเครื่องหมาย / ลงใน ( ) ที่ตรงกับการปฏิบัติของท่าน และตอบคำถามในช่องว่าง

1. ก่อนเข้าร่วมออกกำลังกายกับชมรมการออกกำลังกายท่านมีการเคลื่อนไหวออกกำลังกายต่างๆ ต่อไปนี้ บ่อยเพียงใด ? (ตอบได้มากกว่า 1 ชนิด)

| | ชนิดของการเคลื่อนไหว ออกกำลังกาย | ความถี่ ครั้ง/สัปดาห์ | | | ความถี่ ครั้ง/สัปดาห์ |
|---|---|---|---|---|---|
| ( ) | วิ่ง | | ( ) | เล่นตระกร้อ | |
| ( ) | ว่ายน้ำ | | ( ) | ตีแบตมินตัน | |
| ( ) | ขี่จักรยาน | | ( ) | เตะฟุตบอล | |
| ( ) | ล้างรถ | | ( ) | ทำงานบ้านจนรู้สึกเหนื่อยและมีเหงื่อออก | |
| ( ) | เดิน | | ( ) | เต้นแอโรบิค | |

( ) อื่น ๆ ระบุ...................................... จำนวน ......................... ครั้ง/สัปดาห์

( ) ไม่ได้ออกกำลังกาย ระบุสาเหตุ...............................

2 หลังจากเข้าร่วมออกกำลังกายกับชมรมการออกกำลังกาย ท่านปฏิบัติตนอย่างไร? ในการออกกำลังกายในเรื่องต่าง ๆ ดังต่อไปนี้

2.1 ท่านออกกำลังกายบ่อยแค่ไหน ?

( ) 1 ครั้ง/สัปดาห์ ( ) 2 ครั้ง/สัปดาห์ ( ) 3 ครั้ง/สัปดาห์

( ) มากกว่า 3 ครั้ง/สัปดาห์ ( ) ทุกวัน ( ) นาน ๆ ครั้ง

2.2 ท่านใช้เวลาออกกำลังกายแต่ละครั้ง นานเท่าใด ?

( ) 10 นาที/ครั้ง ( ) 20 นาที/ครั้ง ( ) 30 นาที/ครั้ง

( ) 60 นาที/ครั้ง ( ) มากกว่า 60 นาที ขึ้นไป

2.3 ท่านทำการออกกำลังกายในแต่ละครั้งหนักเพียงใด ?

( ) ออกแรงเพียงเล็กน้อย ไม่รู้สึกเหนื่อย

( ) ออกแรงปานกลาง รู้สึกเหนื่อย มีเหงื่อออก

( ) ออกแรงมากจนรู้สึกเหนื่อยมาก

2.4 ท่านใช้เวลาในการอุ่นเครื่องก่อนการออกกำลังกาย นานเท่าไร ?

( ) น้อยกว่า 5 นาที ( ) 5 – 10 นาที

( ) มากกว่า 10 นาที ( ) ไม่เคย

2.5 ก่อนหยุดออกกำลังกายในแต่ละครั้ง ท่านมีการผ่อนคลายกล้ามเนื้อ นานเท่าไร ?

( ) น้อยกว่า 5 นาที ( ) 5 – 10 นาที

( ) มากกว่า 10 นาที ( ) ไม่เคย

3. ในวันที่ฝนตกหรือติดธุระ ไม่สามารถมาออกกำลังกายที่ชมรมการออกกำลังกาย ท่านมีการออกกำลังกายที่ใด ?

( ) ในบ้าน ( ) บริเวณรอบบ้าน ( ) ที่วัด

( ) ที่โรงเรียน ( ) ที่ทำงาน ( ) อื่น ๆ ระบุ.........................

( ) ไม่ได้ออกกำลังกาย

4. สมาชิกครอบครัวของท่านสนับสนุนให้ท่านได้ออกกำลังกาย หรือไม่ ?

( ) สนับสนุน ( ) ไม่สนับสนุน ระบุเหตุผล....................................

5. ท่านชอบออกกำลังกายอย่างไร ?

( ) ตามลำพัง ( ) เป็นกลุ่ม

6. ในชีวิตประจำวัน ท่านเคลื่อนไหวออกกำลังกาย เป็นช่วง ๆ ประมาณ 8 -10 นาที สะสมอย่างน้อย 30 นาที/วันโดยวิธีใดบ้าง ? ( ตอบได้มากกว่า 1 ข้อ)

( ) ทำสวน ( ) ทำความสะอาดบ้าน ( ) ล้างรถ

( ) ซ่อมแซมบ้าน ( ) ขึ้นลงบันได ( ) เดิน

( ) อื่น ๆ ระบุ..................

( ) ไม่มีกิจกรรม

7. ในอนาคต ท่านยังคงออกกำลังกายอย่างต่อเนื่องหรือไม่ ?

( ) ออก โปรดระบุชนิด.........................

( ) ไม่ออก โปรดระบุเหตุผล.........................

## ตอนที่ 4
## ความคิดเห็นเกี่ยวกับโครงการออกกำลังกายในชุมชน

**คำชี้แจง** ท่านมีความคิดเห็นเกี่ยวกับโครงการออกกำลังกายโดยการเต้นแอโรบิกอย่างไร โปรดเขียนเครื่องหมาย / ลงใน ( ) ที่ตรงกับความคิดเห็นของท่านมากที่สุด และตอบคำถามในช่องว่าง

1. สถานที่ที่ใช้ออกกำลังกาย มีความปลอดภัย

   ( ) ปลอดภัย ( ) ไม่ปลอดภัย ระบุแนวทางแก้ไข..........................

2 การเดินทางไป-กลับ มีความสะดวก

   ( ) สะดวก ( ) ไม่สะดวก ระบุแนวทางแก้ไข...............................

3 การออกกำลังกายทุกวันอังคาร –พุธ- พฤหัสบดี เหมาะสม

   ( ) เหมาะสม ( ) ไม่เหมาะสม ระบุแนวทางแก้ไข.........................

4. ท่าทางที่ใช้ประกอบการออกกำลังกาย ทำตามได้ง่าย และปลอดภัย

   ( ) ใช่ ( ) ไม่ใช่ ระบุแนวทางแก้ไข......................................

5. เพลงที่ใช้ประกอบการออกกำลังกาย มีความสนุกสนาน

   ( ) ใช่ ( ) ไม่ใช่ ระบุแนวทางแก้ไข..........................................

6. ผู้นำออกกำลังกายของชมรม สามารถนำได้คล่องแคล่ว และสนุกสนาน

   ( ) ใช่ ( ) ไม่ใช่ ระบุแนวทางแก้ไข..........................................

7. ความสามารถในการบริหารจัดการชมรมออกกำลังกายของผู้รับผิดชอบโครงการ

   7.1 อาจารย์ คณะพยาบาลศาสตร์ มหาวิทยาลัยศรีนครินทรวิโรฒ

   ( ) ดี ( ) ต้องปรับปรุง ระบุแนวทางแก้ไข.................................

   7.2 เจ้าหน้าที่ สถานีอนามัย

   ( ) ดี ( ) ต้องปรับปรุง ระบุแนวทางแก้ไข...................................

   7.3 คณะกรรมการชมรมการออกกำลังกาย

   ( ) ดี ( ) ต้องปรับปรุง ระบุแนวทางแก้ไข...................................

# Appendix B

**Table 12** Number of population and household according to village name

| Village | Village Name | No. Population | No. household |
|---|---|---|---|
| 1 | Ban klong Yeesipkua | 58 | 243 |
| 2 | Ban klong marong | 96 | 454 |
| 3 | Ban Nurpatoonum | 92 | 242 |
| 4 | Ban Klong samsip | 92 | 418 |
| 5 | Ban Lang | 48 | 172 |
| 6 | Ban Aur | 32 | 121 |
| 7 | Ban Klang | 58 | 248 |
| 8 | Ban Kou | 51 | 194 |
| 9 | Ban Norg | 98 | 409 |
| 10 | Ban Bon | 82 | 350 |
| 11 | Ban Klukot | 112 | 539 |
| | Total | 787 | 3390 |

**Table 13** Number and percentage of population according to age groups

| Age groups (years) | No. | Perceentage |
|---|---|---|
| 0-4 | 289 | 8.5 |
| 5-10 | 290 | 8.6 |
| 11-20 | 493 | 14.5 |
| 21-40 | 1,053 | 31.1 |
| 41-59 | 747 | 22.0 |
| Over 60 | 518 | 15.3 |
| Total | 3,390 | 100 |

**Table 14** number of people and percentage of population according to characteristics

| **Population characteristics** | **No. of people** | **Percentage** |
|---|---|---|
| Sex | | |
| Male | 1,622 | 47.8 |
| Female | 1,768 | 52.2 |
| Martial status | | |
| Singer | 1420 | 41.9 |
| Married | 1698 | 50.1 |
| Widow / Divorce / Separate | 272 | 8.0 |
| Occupation | | |
| Employee | 950 | 28 |
| Agriculture | 730 | 21.5 |
| Retailer | 197 | 5.8 |
| Government employee | 53 | 1.6 |
| Housewife | 138 | 4.1 |
| Retired | 10 | 0.3 |
| Under parental care | 984 | 29 |
| Level of Education | | |
| No Education | 232 | 9.52 |
| Primary School | 1652 | 67.79 |
| High school | 375 | 15.39 |
| Certificate | 90 | 3.69 |
| Bachelor degree | 88 | 3.61 |
| Pupil/Student | | |
| Under school age | 175 | 18.37 |
| Nursery | 112 | 3.3 |
| Primary school | 422 | 12.4 |
| High school | 198 | 5.8 |
| Certificate | 26 | 0.8 |
| Bachelor degree | 20 | 0.6 |
| Health Insurance | | |
| 30 Baht Health card | 3113 | 91.8 |
| Social Welfare card | 69 | 2.0 |
| Employer | 183 | 5.4 |
| No health insurance | 25 | 0.7 |

**Table 15** Number of people and percentage of household characteristics

| Household Characteristics (N = 787) | No. of people | percentage |
|---|---|---|
| Type of household | | |
| Permanent | 783 | 99.5 |
| Non-permanent | 4 | 0.5 |
| Ventilation in household | | |
| good | 497 | 63.2 |
| poor | 290 | 36.8 |
| Sanitary washroom | | |
| yes | 784 | 99.6 |
| no | 3 | 0.4 |
| Wastewater management in household | | |
| sewer system | 114 | 14.5 |
| under the house/in house area/river/canal | 673 | 85.5 |
| swamp area around the house | | |
| yes | 425 | 54.0 |
| no | 362 | 46.0 |
| Solid waste management | | |
| In open fire | 588 | 74.7 |
| Curbside collection | 108 | 13.7 |
| Public space/river/canal | 91 | 11.6 |
| Environmental irritations such as light, noise, smell, etc. | | |
| yes | 100 | 12.7 |
| no | 687 | 87.3 |

**Table 16** Number of people and percentage of Health behavior according to Annual check up, Exercise, Smoking, Drinking, and Drug Consumption

| Health Behavior | No. of people | Percentage |
|---|---|---|
| Annual check up (age more than 35 years old, N = 1,652) | | |
| yes | 396 | 23.97 |
| no / never | 1,256 | 76.03 |
| Exercise (age more than 11 years old, N= 2,811) | | |
| yes | 644 | 22.91 |
| no | 2,167 | 77.09 |
| Smoking (age more than 15 years old, N= 2,574) | | |
| yes | 575 | 22.34 |
| no | 1,999 | 77.66 |
| drinking (age more than 15 years old, N= 2,574) | | |
| yes | 467 | 18.14 |
| no | 2,107 | 81.86 |
| drug consumption (age more than 15 years old, N= 2,574) | | |
| Amphetamine | 102 | 3.96 |
| Cannabis | 76 | 2.95 |
| no | 2,396 | 93.09 |

**Table 17** Nmber and percentage of student of different levels of education according to Nutrient conditions and dental status

| Health Problems | No. of student | Percentage (normal standard) |
|---|---|---|
| 1. Nutrient conditions | | |
| 1. 1 Lack of Iodine in student of primary school level (5 – 12 years old) | 8 | 1.51 |
| 1.2 under weight | | |
| 1. 2.1 student in nursery (3 - 5 years old) | 13 | 7.83 |
| 1. 2.2 student in primary school (5 – 12 years old) | 33 | 6.32 |
| 1. 2.3 student in High school (13 – 15 years old) | 6 | 6.06 |
| 2. dentistry status | | |
| 2.1 Gingivitis | | |
| 2.1.1 little sore (level B) | 174 | 33.33 |
| 2.1.2 moderate sore (level C) | 34 | 6.51 |
| 2.1.3 urgently cure needed (level E) | 24 | 4.59 (less than 10 %) |
| 2.1.4 level C + D + E | 59 | 11.30 (less than 50%) |
| 2.2 Caries | 95 | 18.19 (less than 20%) |

**Source:** Annual report on Public Health development, Bahn Bon medical center, Bang Pla Kod sub-district, Ongkarak district, Nakorn Nayok province,2002.

**Table 18** Number and percentage of member of exercise club according to village, age group, and sex

| Variable | No. of people (n = 158) | Percentage |
|---|---|---|
| Village | 51 | 32.3 |
| 5 | 27 | 17.1 |
| 6 | 53 | 33.5 |
| 7 | 20 | 12.7 |
| 8 | 7 | 4.4 |
| 10 | | |
| Age groups (year) | 30 | 19 |
| 5-10 | 27 | 17.1 |
| 11-20 | 37 | 23.4 |
| 21-40 | 47 | 29.7 |
| 41-59 | 17 | 10.8 |
| Over 60 | | |
| Min = 5 Max = 83 | | |
| Sex | | |
| Male | 20 | 12.7 |
| Female | 138 | 87.3 |

**Table 19** Number and percentage of sample groups of member of exercise club according to their characteristics

| Variable | No. of people (n = 60) | Percentage |
|---|---|---|
| Village | | |
| 5 | 18 | 30 |
| 6 | 6 | 10 |
| 7 | 23 | 38.3 |
| 8 | 9 | 15 |
| 10 | 4 | 6.7 |
| Sex | | |
| Male | 5 | 8.3 |
| Female | 55 | 91.7 |
| Age groups (year) | | |
| 11-20 | 14 | 23.3 |
| 21-40 | 13 | 21.7 |
| 41-59 | 22 | 36.7 |
| Over 60 | 11 | 18.3 |
| Min = 11 Max = 62 | | |
| Martial status | | |
| Single | 22 | 36.7 |
| Married | 34 | 56.7 |
| Widow / Divorce / Separate | 4 | 6.7 |
| **Level of Education** | | |
| Primary School | 33 | 55.0 |
| High school | 5 | 8.3 |
| Certificate | 2 | 3.3 |
| Bachelor degree | 6 | 10.0 |
| Pupil/Student | | |
| Primary school | 4 | 6.7 |
| High school | 10 | 16.7 |
| Occupation | | |
| Employee | 19 | 31.7 |
| Housewife | 14 | 23.3 |
| pupil / student | 14 | 23.3 |
| Retailer | 5 | 8.3 |
| Government employee | 4 | 6.7 |
| Agriculture | 3 | 5 |
| No occupation | 1 | 1.7 |
| Duration of membership | | |
| 1 month | 2 | 3.3 |
| 2 months | 1 | 1.7 |
| 3 months | 15 | 25 |
| 4 months | 42 | 70 |

**Table 20** Means of receiving information about exercise group

| Variable | No. | Percentage |
|---|---|---|
| village leaders | 41 | 44.57 |
| village announcement hall | 21 | 22.83 |
| friends | 14 | 15.21 |
| Health personnel | 10 | 10.87 |
| village notice board | 6 | 6.52 |
| Total | 92 | 100 |

**Table 21** Number and percentage of exercise group member according to exercise behavior

| Exercise Practice | No. of member | Percentage |
|---|---|---|
| 1. Before membership | | |
| 2.3 Type of exercise activity | | |
| - Jogging | 6 | 4.9 |
| - Swimming | 1 | 0.83 |
| - Bicycling | 17 | 14.04 |
| - Ta- kraw | 2 | 1.65 |
| - Badminton | 8 | 6.61 |
| - Football | 2 | 1.65 |
| - Aerobic exercise | 1 | 0.83 |
| - Walking | 44 | 36.37 |
| - Car-washing | 3 | 2.48 |
| - Boat-rowing | 2 | 1.65 |
| - Heavy and sweaty housework | 35 | 28.94 |
| Total | 121 | 100 |
| **2.** After membership | | |
| 2. 1Frequency of the exercise | | |
| - 2. times/week | 5 | 8.3 |
| - 3 times/week | 45 | 75.0 |
| - more than 3 times/week | 6 | 10.0 |
| - everyday | 2 | 3.3 |
| - not frequent | 2 | 3.3 |
| 2.2 Duration of the exercise | | |
| - 10 minutes/session | 1 | 1.7 |

**Table 21** Number and percentage of exercise group member according to exercise behavior (continued)

| Exercise Practice | No. | Percentage |
|---|---|---|
| - 30 minutes/session | 24 | 40.0 |
| - 60 minutes/session | 34 | 56.6 |
| - more than 66 minutes/session | 1 | 1.7 |
| 2.3 Intensity of the exercise | | |
| - light exercise, feel not so tired | 3 | 5.0 |
| - moderate exercise, feel tired and sweaty | 54 | 90.0 |
| - vigorous exercise, feel so tired | 3 | 5.0 |
| 2.4 Duration of Warm up session | | |
| - less than 5 minutes | 10 | 16.6 |
| - 5 – 10 minutes | 45 | 75.0 |
| - more than 10 minutes | 4 | 6.7 |
| - never practice | 1 | 1.7 |
| 2.5 Duration of Cool down session | | |
| - less than 5 minutes | 7 | 11.7 |
| - 5 – 10 minutes | 52 | 86.6 |
| - more than 10 minutes | 1 | 1.7 |
| - never practice | - | - |
| 2.6 Exercise places on the day not attained exercise group | | |
| - At home | 39 | 65.0 |
| - Around the house | 6 | 10.0 |
| - School | 2 | 3.3 |
| - Office | 1 | 1.7 |
| - Temple | 1 | 1.7 |
| - Not exercise | 11 | 18.3 |
| 2.7 Support from family member | | |
| - yes | 59 | 98.3 |
| - no | 1 | 1.7 |
| 2.8 Type of exercise preferred | | |
| - in group | 58 | 96.7 |
| - on your own | 2 | 3.3 |

**Table 21** Number and percentage of exercise group member according to exercise behavior (continued)

| **Exercise Practice** | **No.** | **Percentage** |
|---|---|---|
| 2.9 Physical activities in everyday routine | | |
| - House cleaning | 47 | 78.33 |
| - Stair-climbing | 10 | 16.67 |
| - Bicycling | 1 | 1.67 |
| - Boat-rowing | 1 | 1.67 |
| -Walking | 38 | 63.33 |
| 2.10 Preferred exercise activity in the future | | |
| - Aerobic exercise | 48 | 80.0 |
| -Football | 1 | 1.7 |
| -Badminton | 2 | 3.2 |
| -Volleyball | 1 | 1.7 |
| -Jogging | 4 | 6.7 |
| -Walking | 4 | 6.7 |

**Table 22** Number and percentage of opinions towards Aerobic Exercise project in the community (N = 60)

| Opinions | No. of member | Percentage |
|---|---|---|
| 1. Safety of Aerobic exercise ground | | |
| Safe | 59 | 98.3 |
| Unsafe | 1 | 1.7 |
| 2. convenience of transportation | | |
| convenient | 56 | 93.3 |
| inconvenient | 4 | 6.7 |
| 3. Days of Aerobic exercise (Tuesday-Wednesday-Thursday) | | |
| suitable | 54 | 90 |
| unsuitable | 6 | 10 |
| 4. Easy and safe Aerobic exercise movements | | |
| yes | 58 | 96.7 |
| no | 2 | 3.3 |
| 5. Suitable exercise music | | |
| yes | 55 | 91.7 |
| no | 5 | 8.3 |
| 6. Skilful and cheerful exercise leaders | | |
| yes | 58 | 96.7 |
| no | 2 | 3.3 |
| 7. Ability of project manager on project management | | |
| 7.1 Lecturer from Faculty of nursing, Srinakharinwirot university | | |

**Table 22** Number and percentage of opinions towards Aerobic Exercise project in the community (N = 60) (continued)

| Opinions | No. of member | Percentage |
|---|---|---|
| good | 59 | 98.3 |
| to be improved | 1 | 1.7 |
| 7.2 Local Public health personnel | | |
| good | 58 | 96.7 |
| to be improved | 2 | 3.3 |
| 7.3 Exercise group Committee | | |
| good | 60 | 100 |
| to be improved | - | - |

# BIOGRAPHY

| | |
|---|---|
| **NAME** | Miss Srisuda Rassmeapong |
| **DATE OF BIRTH** | 11 July 1964 |
| **PLACE OF BIRTH** | Nakon Si Thummarat, Thailand |
| **INSTITUTIONS ATTENDED** | Bangkok Nursing College, 1983-1987 |
| | Diploma in Nursing and Midwifery |
| | Mahidol University, 1993-1995 |
| | Master of Science (Public Health) |
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| | Position: Professional Nurse |
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