CHAPTER 2

PROJECT DESCRIPTION

2.1 Rationale

Health system reforms have been continually implemented since 1913 AD to adapt both structures and services with the economic and social situations and changing public health problems to ensure healthiness of Thai people. Health centers, which are health service providers closest to people, have been steadily improved in several aspects, such as, personnel capacity building, infrastructure renovation for better work environment and service quality improvements to meet the needs in the community. However, problems in providing public health services have been raised; for instance, equality of the medical and public health services, efficiency of health service systems, quality of services, patients' access to services in case of emergency and coverage of health insurance (Ministry of Public Health and Khon Kaen University, 2001: 203). In addition, it revealed that health services were misunderstood to cover only medical treatments and people often thought inequalities existed in getting access to the services, such as, some patients received special care from officers.

In Phachi district there are eight health service providers all of which are under the jurisdiction of MOPH. They consist of a 30-bed community hospital which is monitored by the provincial public health office and 7 health centers are under command of provincial health office and supervision of Phra Nakhon Si Ayutthaya provincial health office. Both the hospital and the provincial health office have joined cooperation as the Board of Public Health System Reform in district level which is

responsible for coordinating and supporting health centers to achieve goals stated in MOPH policies.

Phachi hospital has provided support in academic activities by supervising the performance of health centers twice a year in order to improve the quality of health centers in various aspects with hope that people will go to the health centers in their neighborhood to receive treatments. A progress report of a research project, which aimed to improve health services at the primary care unit and used a large health center as its sample in 1998 AD, showed that there were 1,680 by-pass patients transferred from the health center to Phachi hospital and 1,338 cases or 79.54% were sick of diseases which could be cured at the health center (Phra Nakhon Si Ayutthaya provincial public health office, 1998). The fact that most people preferred receiving treatments at the hospital was probably because they felt the service at the health center was inferior. Several studies indicated that people tended to perceive that the service quality at the health center was still unsatisfactory (MOPH and Khorn Kaen University, 2001: 350, Anong Puunpaem et al., 2002: 100)

In 2001, Thai Government launched a 30 baht policy which applies monetary systems to systematize public health systems and to assure equalities for Thais in access to health services. The 30 baht policy has brought attentions to the health center because it is the first service point where people can get access to health services. As a result, Phachi district has developed a network of health service systems into two levels : Contracting Unit for Primary care (CUP) and Primary Care Unit (PCU) (Figure 1)

- Contracting Unit for Primary care (CUP) is the organization for contract registration which provides primary care services or acts as a main contractor in

implementing the universal coverage of health insurance in which the purchaser agrees to buy services from the provider who must offer primary health care. However, because the health center in Phachi district doesn't qualify to register, Phachi hospital then acts as CUP or a main contractor and the health center is a sub-contractor.

- Primary Care Unit (PCU) refers to areas which are allocated in an organization and comprise personnel, equipment, facilities and work systems to provide primary care services. The ratio and factors for the service arrangements should be stated clearly. Phachi hospital has categorized PCU into three service units as follows;

- PCU1 is the primary care unit in the responsible area of Phachi hospital's responsibility for the population.

- PCU2 is the primary care unit responsible for health centers in the following sub-districts; Pai Lom, Pha Kaew, Kra Jew and Don Ya Nang which are under supervision of District Health Office. responsible

- PCU3 is the primary care unit responsible for the population of health centers in the following sub-districts; Nong Nam Sai, Koh Muang and Sar Som which are under supervision of District Health Office.

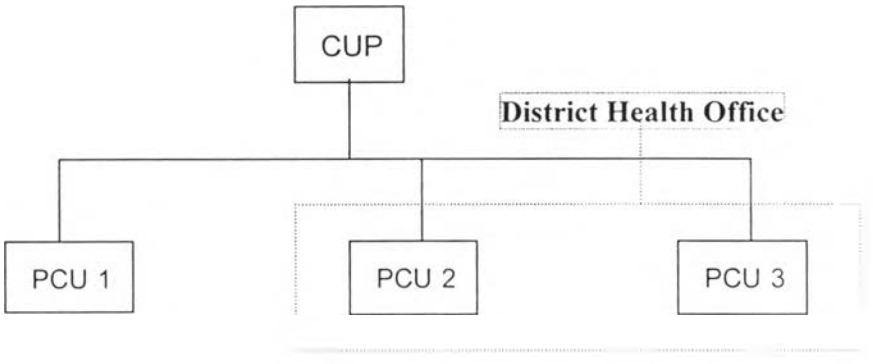

Figure 1 : Public Health Network in Phachi District

The development of primary care network in Phachi district is designed to cover all aspects so that all health centers reach minimum standards. Three part of the development are set up as follows; (Appendix 1.)

- Management ; their are responsible for policy development and planning by core team (Core team comprises one officer from the district health office, two staff members from health center and three staff from hospitals.), for example : structure, budget, resource management, program implementation, monitoring and supervisory. moral and total quality improvement

- Quality improvement ; their are in charge of implementation to improve service of PCU by service improvement committee (Service improvement committee comprises six staff from health centers and four from the hospital.), for example : quality of service (human resource development, infrastructure and environment, treatment glide line, health promotion and prevention, rehabilitation), home visit, information system.

- Evaluation ; their are responsible for evaluation of the outcome from PCU by core team, for example : project evaluation.

Phachi hospital participates in a health network in the district level to improve the quality of the health centers. Improvements include setting up service systems to satisfy people and organizing activities to generate quality services which are holistic, integrated and continual. The quality improvement is divided into three stages; 1) services improvement, 2) Home visits, and 3) Information system. Infrastructure of the health service providers is a part of service improvements that is required to attain the minimum standard. So, areas in the health service provider must be sufficiently allocated for treatments, health promotions and prevention and rehabilitation. In addition, check-up areas must be clean, separated from other areas,

and have systems to prevent infection (Office of Health Service Network Development, 2001)

Most health centers in Phachi district are wooden buildings which were constructed since the foundation of the first health center in the district. Some buildings were renovated or modified. Three buildings have two floors and poor management and maintenance caused unpleasant visibility and untidiness. Most staff members are sanitary officers and public health staff who have knowledge in proactive services like health promotion and disease prevention which reduce the number of treatments provided. So, the service system in the health center regarding the treatments was not appropriate and accurate based on professional standards.

Five S Standard and Quality Improvement

Due to the 30 baht policy, The attention of specialists in health policy has been focused on a very interesting worldwide 'movement' in health care called Quality Improvement (QI). In order to attain the continuous improvement, Phachi hospital has a mandate to monitor the service quality of health centers to increase customers' satisfaction with all health centers in Phachi district. The current health care customer is better educated and best informed it has ever been. Although the perspective of health care professionals is widely regarded to be important and useful, other facets of quality have also emerged to be significance. The most important change has been the recognition that health care service must respond to the preference and values of the customers, and their opinions about care are important indicator of its quality. In addition, there is increasing recognition of the complex nature of the service and the need to satisfy the demands of the customer (patient) (Figure 2)

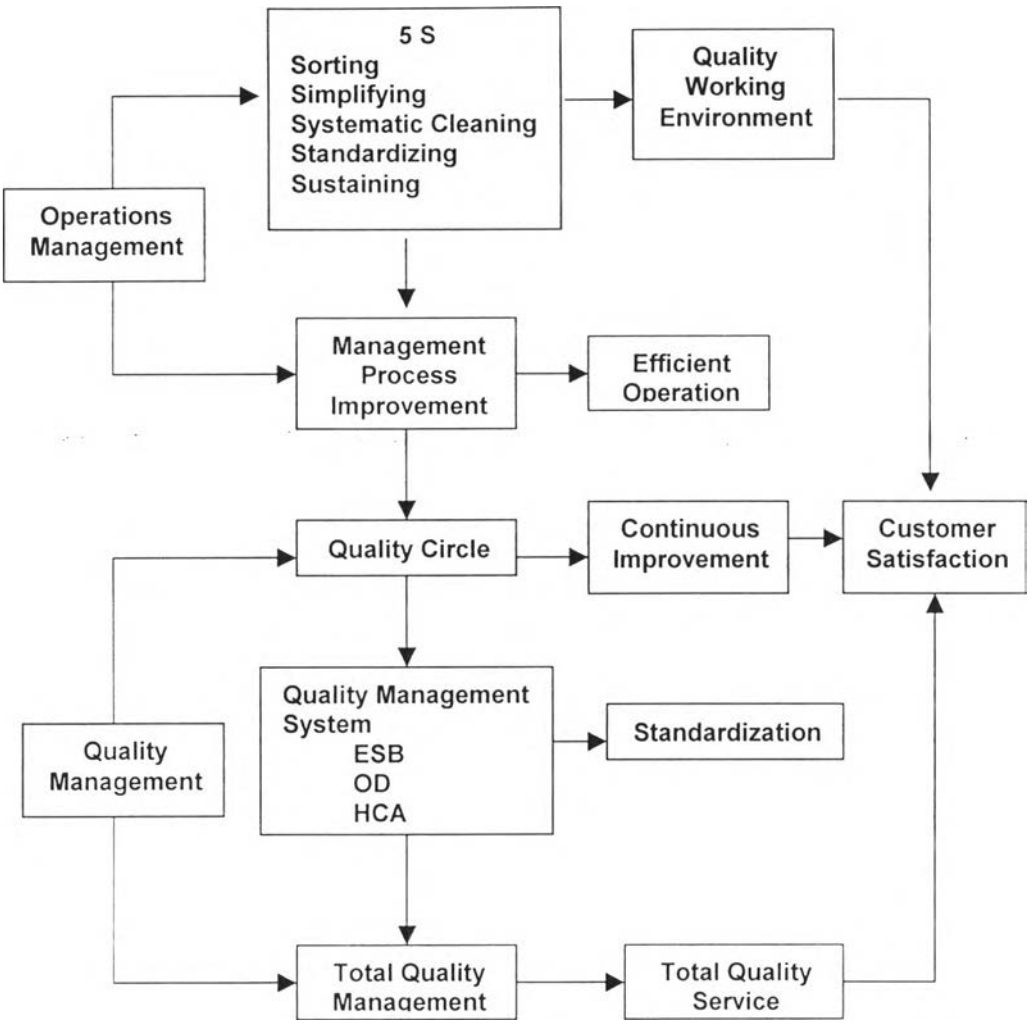

Figure 2 : Quality model and Quality circles of Health centers in Phachi District, Ayutthaya Province

Source : Adapt from Quality model & Quality circles. Real Estate Management

In quality improvement, quality is determined by customer and practitioners have to improve the quality of their work. The steps of quality improvement include (1) defining a goal, (2) testing possible improvements, and (3) measuring success. Techniques in quality improvement are numerous, such as, Quality Control (QC), Total Quality Management (TQM), Hospital Accreditation (HA), ISO, etc. Quality improvement of Phachi district consists of 3 phases; (1) Improving working

environment (2) Improving service behaviors (3) Improving service systems. (Figure 3 and Table 1)

In early stage, infrastructures of the health centers should be conducted so that the health centers become organized, tidy, clean, and pleasant to work. Good house keeping will eliminate safety problem, improve morale, and increase efficiency and effectiveness. Employees appreciate a clean, orderly workplace where they can accomplish task without interference or interruption.(National Safety Council 76) This will be an important step in the improvement plan and will apply the Five S program which is a team focused approach based on simple knowledge background.

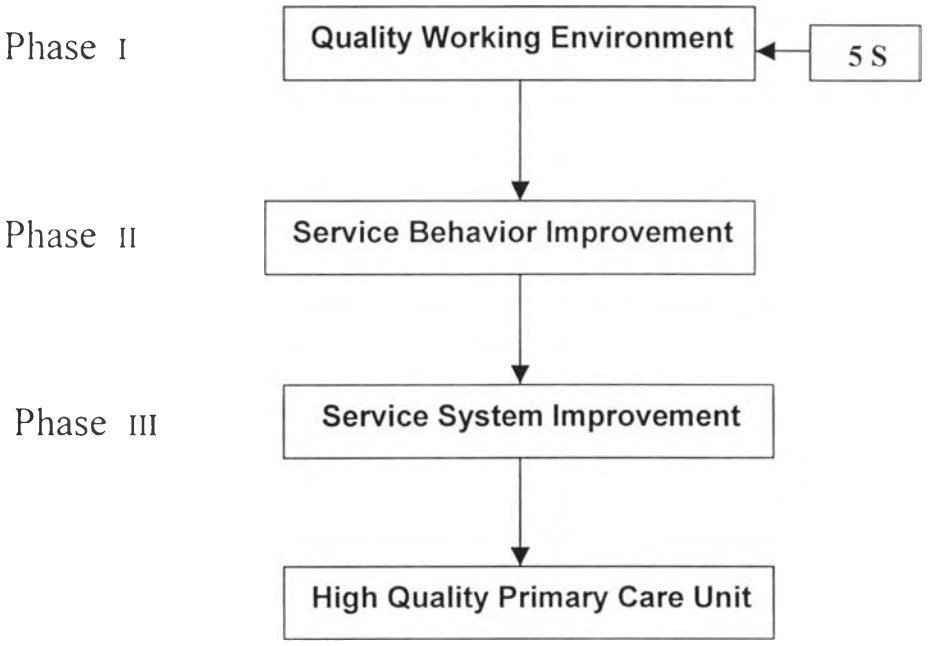

Figure 3: Quality Improvement of Health Centers in Phachi District, Ayutthaya Province

Table 1 : Activity Plan for Quality Improvement of Health Centers in Phachi District, Ayutthaya Province

What	How	When	Who responsible
Phase I : Improving working environment	Adopting Five S program (training, implementing and evaluating)	In 2001-2002	Core team of primary care unit in Phachi district
Phase II : Improving service providers behavior	Adopting Excellent Service Behavior (ESB) program (training, implementing and evaluating) and Organization Development (OD) (seminar, meetting)	In 2002 - 2003	Core team of primary care unit in Phachi district
Phase III : Improving service system	Adopting Health Center Accreditation (HCA) to improve the quality of health service (training, implementing and continue developing) and Total Quality Management (TQM) (operating and continue developing)	In 2003	Core team of primary care unit in Phachi district

Five S is a principle which promotes cooperation from employees to organize and develop a productive work environment, reduce costs and delays in working (Krittiya Bualuangngam, 2002). It is also an activity which generates disciplines and leads to more efficiency and effectiveness (Smith Satchukorn. 2002). What's more, the Five S activity is a fundamental practice to maintain and sustain healthy work environments (Weena Kunavivat, Phattarapol Limphudee and Viriya Rattanasuwan, 2001) The Five S program was developed by the Japanese based on a concept of quality control (QC) and it was modified to focus at individuals and environments. The Five S originates from Japanese words that begin with 'S' which stand for Seiri(organization), Seiton(tidiness), Seiso(purity), Seiketsu(cleanliness), Shitsuke(discipline). These principles first emerged following World War II ,as past of the quality movement in Japan; the goal was eliminate obstacles to efficient production (John E. Backer, 2001) These concepts can be easily applied to other functions and activities both in and out of the workplace (Productivity Inc 7-11)

In Thailand, the Five S program was initially adopted by NSK Spring Company Limited (Thailand) in 1978 AD but the company applied only the first three S as its administrative policies. In 1983 AD Siam Kubota Industry Co., Ltd. (Siam Cement Group) translated the meaning of the Five S from Japanese to Thai language called "Ha Sor". It has rhyme in Thai and is easy to remember like its original as follows; Seiri = Sorting (Sa-sang), Seiton = Simplifying (Sa-duak), Seiso = Systematic Cleaning (Sa-Art), Seiketsu = Standardizing (Suk Ka Luck Sa Nah) and Shotsuke = Sustaining (Sart Ni-Sai). (Table 2 and Figure 4)

Table 2 : Definition of Five S

Five S	Definition
Sorting	Organizing items in categories and develop separated systems for needed, unneeded and unnecessary items. Some of them can be recycled and distributed or sold.
Simplifying	This focuses on efficient and effective storage methods. Items categorization, placement, specific location for items should be examined and assigned for convenience and safety at work.
Systematic Cleaning	This step is to thoroughly clean the work area; get rid of garbage dust, dirt and clutter so that the area is visibly and physically spotless. Maintenance and follow-up monitoring should be conducted to sustain the readiness for use of the items.
Standardizing	Try to maintain implementations of the first 3S and continually improve systems by setting standards or rules to follow for safety and hygiene.
Sustaining	This step promotes strict, constant compliance with rules and standards and right consciousness to continually improve environments at work climates so that it becomes a habit.

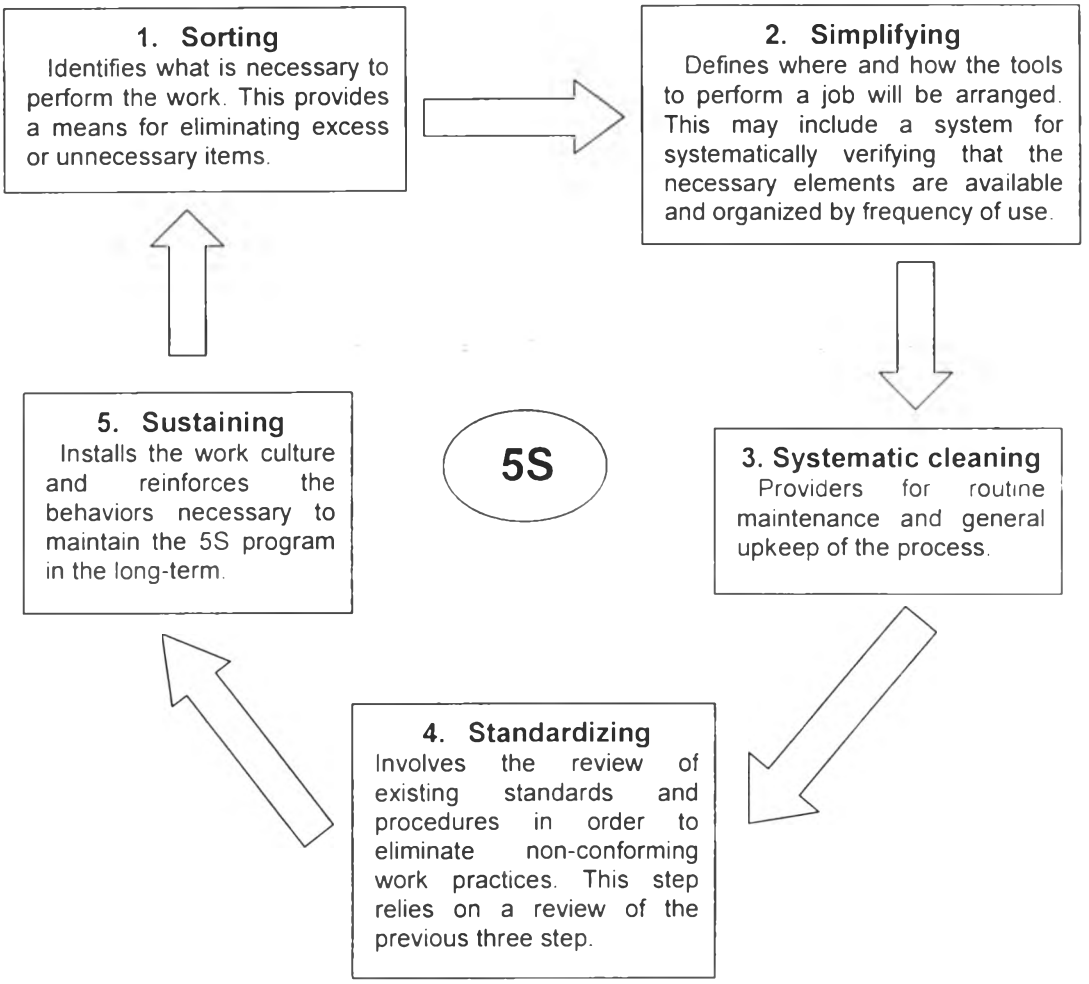

Figure 4 : Five S Circle and Definition

Source : John E. Becker . Facility Management, 2001

The Five S program is a basic for continual improvement of manpower and efficiency to increase productivity (Viset Juphibaan quoted in Trintanai Nopphakhun and Sirichai Araaium, 1999). It also improves work climates in the workplace, causes physical improvements and supports more efficient organizational management and developments. For instance, a school in Pathum Thanee province implemented the Five S program with hope to improve the school for about a year and it yielded positive changes, such as, the site was clean and tidy and documents could be found

more quickly, etc. Another case study, at the end of 1998, Phachi hospital adopted the 5S program as a strategy to improve health service providers and work systems and it showed that they were clean, organized, pleasant and the work system was smoothen. thus it elevated the capacity of teamwork. In addition, staff members were more creative and became more self-disciplined in their responsibilities.

Results showed that the Five S program, by its very nature, is a tool that can help introduce good environmental management practices, and can subsequently be used to improve housekeeping and health worker safety and health. (John E. Becker, 2001)

During the implementation of the Five S to improve the quality of physical environments and infrastructures, other aspects can be conducted concurrently, such as, Excellent Service Behavior (ESB), Organization Development (OD), Health Center Accreditation (HCA), etc. However, because these activities are continuous long termed and need more time for implementation, it takes time to see changes

2.2 Goal and objectives

This project aims to improve the quality of health centers by adopting the Five S program as a strategy to enhance conditions of the physical environment and infrastructures so that the health center are tidy, clean, pleasant to work, have productive working climate and staff can perform their work fast and serve customers with high quality service. The followings are specific objectives;

1. To support health centers in Phachi district to comply with the Five S program. The units should be able to act as minimum 80 percent in compliance with the Five S by the year 2003. Six health centers succeeded in 2002.

2. To ascertain that health centers in Phachi disctrict are tidy, clean and pleasant to work in 'good' level by the year 2003. They must score at least 50 percent within the year 2002.
3. To increase satisfactions among customers with the organization of health centers in Phachi district.
4. To identify problems and obstacles in quality improvement of health centers .

2.3 Methods

2.3.1 Setting and Participants

The implementation of the Five S program in seven health centers undered supervision of the Phachi district health office, namely A, B, C, D, E and F. All of them started the implementation in May 2001 except one which began at the beginning of May 2002 because it was renovated and re-built Each unit has approximately 2-5 employees as responsible persons. Five staff in health center A, 2 in B and C, and 3 in D, E and F.

Three teams; core team, service improvement committee and Five S specialists, are involved in the implementation process. Each consists of people in different functions and responsibilities as follows;

- Core team comprises one officer from the district health office, two staff members from health center and three staff from hospitals. They are responsible for policy development and planning, quality improvement. management and evaluation of the outcome from primary health care services or health centers in Phachi district.

- Service improvement committee comprises six staff from health centers and four from the hospital. They are in charge of implementation to improve services of health centers in Phachi district.
- Five S specialists comprise two staff from Phachi hospital who are responsible for the Five S program at Phachi hospital. They are involved in training and provide information about Five S, setting standards of Five S for health centers and acting as consultants for service improvement committee and 5S practitioners

2.3.2 Procedures

To enhance service performances in physical environments and infrastructure of Phachi district's health centers, the Five S program was adopted as one of the major strategy for implementation and it consists of three steps; preparation, implementation and monitoring and evaluation.

Step 1 Preparation

1. Organize a meeting among the committee of service improvement in Phachi district's primary care units concerning directions for physical environment improvement by adopting the Five S program. Outcomes from this implementation have been identified as fundamental for personnel, organizational and career developments and have been concretely shown in the form of primary care services.

2. Service improvement committee presented a summary in the use of the Five S program for physical environment improvement to the core team. The Five S program has been practiced as a guideline and policy for service improvement and has been implemented in all health centers from 1 October 2001 onward.

Step 2 Implementation

Implementation has three steps as follows;

First step: Training

Training sessions about the Five S need to be conducted for 25 staff of health centers and public health officers in Phachi districts. The training took place twice on 21 and 22 October 2001 from 13.00-16.00 and facilitated by two Five S specialists from Phachi hospital. This training included lectures, games and field study in the Five S program in the hospital as detailed below;

- The lecture covered the following issues;
  - Definitions of the Five S; Sorting, Simplifying, Systematic Cleaning, Standardizing and Sustaining.
  - Background and rationale for the Five S program
  - Implementation of the Five S program which promotes participation from staff. The implementation can be broken down into 5 steps as follows;

    First step: Sorting. "Sorting" means to sort through everything in each work area and set a standard for needed and unneeded items in the workplace.

    Second step: Simplifying. This is to systematically organize, arrange and identify needed items in categories.

    Third step: Systematic Cleaning. This refers to clean up facilities, equipment and work areas so that they become spotless and dirt-free. In addition, Big Cleaning Day should be organized at least once a year.

    Step 4: Standardizing. This is to ensure that the first three steps in the Five S program continue to be effective and there is an ongoing evaluation in place.

Step 5: Sustaining. The final step is to keep carrying on and maintaining the standards so that it becomes a habit.

- Benefits from the Five S Program will concentrate on continual habit forming for improvement and development. The Five S Program will be a basis for manpower and managerial development. For staff, they will learn about themselves and learn to look after themselves which will become the strength of the organization.

• Game

Dreamy house game was played to reflect the importance and benefits of the Five S program.

• Field study

The participants visited two units in Phachi hospital; (1) accident and emergency unit to observe the implementation of one-stop services and (2) health promotion to learn about data compiling, filing system, arrangement and placement of facilities and equipment.

At the end, there were a recap of issues raised in the training and focus on habit sustaining which is the fifth S. Personal behaviors can help the Five S program, continue. The lecturers asked the participants to express and exchange their opinions. Most of them expressed their concerns about inability to conduct the first three S's; sorting, simplifying and systematic cleaning because of limited number of staff, time and budget constraint.

Second step: Planning

Each health center developed its own Five S implementation plan but it must contain activities and board display of the Five S program as follows;

- Meetings among members and set the meetings as activities in the health center's gant chart.
- Each of the Five S must be delegated for responsibilities.
- Standards of each area must be identified.
- Big cleaning day must be set.
- There must be an area inspection and take photo of pre and post Five S program implementation.

Third step : Turn the Five S into daily task

Each health center followed the standard which was formulated by the service improvement committee and Five S specialists of Phachi hospital and staff from each health center. The standard comprises three aspects; (1) infrastructure, physical environments and location (2) Equipment and facilities and (3) Service system for convenience and safety. All constitute to 42 issues (Table 3).

Table 3 : Details of Five S Standards for Health Centers

No.	Five S Standards
Infrastructure and Environment	
Location	
1	Surrounding areas are clean, tidy and pleasant.
2	Signs are displayed at each allocated working area.
3	Working hour signs are displayed and can be seen clearly.
4	Area arrangement in the building (inside) is tidy and pleasant.
5	The floor is spotless and not blocked and not slippery.
Beds, tables, chairs and shelves	
6	They are well-organized, clean and spotless.
7	There are only needed items which are labeled for placement.
8	They are ready for use, in good shape and put in a proper place.
9	Beds are covered with clean bed sheet or plastic sheet.
Toilet	
10	There are signs showing directions.
11	Floor is clean; doesn't have any dirt or marks and not slippery.
12	Bad smell is deodorized and there is good ventilation and the air circulates freely.
13	There is enough water for cleaning.
14	There is enough light.

Table 3 : (Continued)

No.	Five S Standards
15	Only necessary items are put in the toilet.
16	There is good water system, not clogged up and no leakage in the water pump.
Facilities, equipment and medical supplies	
17	Medical supplies are categorized by types.
18	Labels indicating names of medicines are attached clearly.
19	There is a temperature control within the refrigerator.
20	There is a temperature control within the refrigerator.
21	The number of medicines is sufficient for services.
22	The number of thermometers is sufficient for use.
23	Spatulas are available and enough for use.
24	Tension-meters (to check high blood pressure) are ready for use.
25	Stethoscopes are ready for use.
26	Flashlights are ready for use
27	Stitches set and emergency kits are sufficient and ready for use.
Service Management for Convenience and Safety	
Fire Protection System	
28	Fire extinguishers are placed in appropriate areas.
29	Fire extinguishers are regularly examined and ready for use
30	Inflammable items are kept safely.
Electric facilities	
31	Electric facilities are ready for use safely.
32	Electricity wires are kept tidily.
33	Electric facilities are checked regularly.
Infection prevention	
34	Waste is disposed by incinerator
35	Waste is separated between infected and uninfected.
36	Hand-wash basins are available and sufficient, separated from general purpose basins (for cleaning tools and equipment).
37	Liquid, soap and clean towels are available at the hand-washing basins.
38	Medical carts are equipped with solution and first aid kits.
39	Used and contaminated clothes are completely kept.
40	Items are sterilized and not infected.
Safety	
41	Items are labeled and placed with safety.
42	Fragile items or those, which can be broken easily, must be labeled with a cautious sign.

Step 3 Monitoring and Evaluation

Monitoring and evaluation process were implemented after the training and implementation of the Five S program by health centers. The service improvement

committee of Phachi district monitored and provided recommendations periodically every three months or upon requests from each area. The first monitoring occurred on 21-25 January 2002 to advise those engaged in the implementation. After six months of implementation, there was another follow-up for monitoring and evaluation on 20-26 April 2002 to study and discuss problems, obstacles, to seek solutions for modifications, to assess practices and standardization and to explore customers' satisfaction concerning infrastructure and location of each health center and evaluation of cleaning and tidiness, pleasantness of work environment for each unit (details were described in Chapter 3).

2.4 Activity plan with timetable

Activity	M. 1	M. 2	M. 3	M. 4	M. 5	M. 6	M. 7	M. 8	M. 9	M. 10	M. 11	M. 12
1. Preparation												
1.1 Study problems												
1.2 Research												
1.3 Draft proposal												
2. Implementation												
2.1 Meeting and explain												
2.2 Develop plans												
2.3 Data collection												
3. Evaluation												
3.1 Compile data												
3.2 Data analysis												
4. Report outcomes												

2.5 Problems, conflicts and means for resolution

1. The study of this project didn't have much scientific rigor because the cross-sectional evaluation was used with no comparison between before and after the project.

2. The data collection was feeling in details for evaluate of evaluators. The might make the evaluators bias in details.

3. Lack of cooperation from primary care staff in implementing the Five S program because this requires participation from everyone and continuality.

Solutions:

- The Five S program should be included in the policy and directed from Phachi district health office.
- Create motivations for implementation; such as, organizing a contest and providing a reward.
- Develop and implement monitoring and evaluation plans once every two-months in the early stage.