

Chapter 5

IMPLEMENTATION & ASSESSMENT

Key Messages

- Final auditing results showed that all hospitals pay adequate attention to the removal of unwanted items and appropriate categorisation and shelving of the drugs. The basic principles of 5S in arranging items are well practiced.
- Final KAP study showed positive changes and improvement from the baseline assessment: hospital staff gave their own assessment to 4 activities related to 5S practices.
- All of the activities showed a significant improvement: 93% of the hospital staff remove unwanted/outdated items; 94% arrange the workplace; 92% clean workplace regularly; and 86% check working conditions of equipment and machinery.
- The EBM Study organized an Awards Ceremony to recognize efforts of the pilot hospitals. The Teaching Hospital Kurunagala won the best 5S implementer's award. The other four hospitals won Merit Awards for specific aspect of their 5S implementation.
- The Case Studies and SWOT analysis found out that leadership, continuous training, and regular supervision and monitoring attribute to the successful implementation of 5S activities.

5.1 HOSPITAL DEVELOPMENT

Implementation started with the planning of the programmes in July 2006. JASTECA was summoned to provide technical assistance to the pilot hospitals. In addition, Quality Secretariat was involved in looking at the clinical aspects of 5S implementation such as the control of infection and waste management.

5.1.1 PREPARATORY PHASE

During the preparatory stage the following activities were conducted:

- a) Establishment of Quality Structures/ committees
- b) Training of staff
- c) Setting up of 5S zones
- d) Provision of basic sets of equipment and supplies to each QMU.

Through the preparatory stage, the mind-set of the hospital staff was positively influenced to participate in the subsequent actions.

A. ESTABLISHMENT OF QUALITY STRUCTURES AND COMMITTEES

A.1 OBJECTIVE

To enhance total participation of staff at all levels and develop a continuous improvement culture. Fostering a spirit of superior performance in the teams.

A.2 STRUCTURES

The following committees were set up at respective pilot hospitals:

- Work Improvement Teams (WIT)

This is the core 5S implementation group. They will select a leader called WIT leader. All employees of a hospital should belong to at least one WIT. All quality improvement work has to be handled by core teams. Each team is made up of 6 -10 employees, headed by a team leader and has a common interest to improve quality of services in a particular area of the hospital. It consists of all categories of staff including clinicians belonging to a particular zone such as wards, clinics, etc. The number of WIT in an institution will depend on the number of departments/units in the hospital. Each WIT has its own leader. WIT leaders play a central role in implementing 5S. The team leader reports to the Quality Management Unit (QMU) which represents an oversight team.

- Quality Management Unit (QMU)

This is an administrative unit for quality management under the head of the hospital. It consists of 1-3 staff entrusted with quality

management tasks. These units were established in each of the five hospitals.

- Quality Management Team(QMT)

This consists of members of QMU and leaders of WITs who would facilitate and plan all activities related to quality improvement in hospitals. Functions include:

- Developing a ‘hospital quality’ policy and hospital action plan for quality
- Organising monthly meetings of WIT leaders
- Coordinating with stakeholders
- Organising biannual quality forums
- Publishing regular newsletters
- Monitoring and evaluation

TABLE 5- 1: FORMATION OF 5S IMPLEMENTATION TEAMS IN PILOT HOSPITALS

Hospitals	Wards	Beds	Staff	QMT	QMU team	WITs
Madampe PU	4	38	28	+	2	3
Dankotuwa DH	6	119	67	+	2	9
Chilaw DGH	19	469	510	+/-	3	5
Kuliyapitiya BH	14	414	421	+	3	31
Kurunegala TH	54	1379	1824	+	5	98

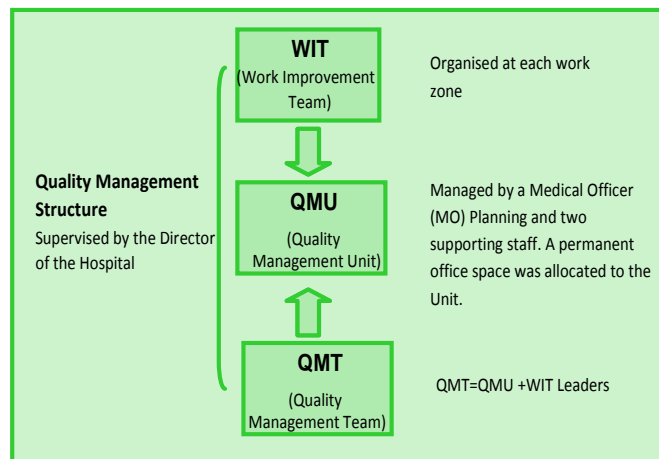


FIGURE 5- 1: MANAGEMENT STRUCTURE FOR HOSPITAL QUALITY IMPROVEMENT

B. TRAINING IN 5S APPROACH

- Objective

Training programmes aim to disseminate 5S methodology and prepare all employees in the hospital for the participation in 5S activities. Employees require training in three basic areas:

- The principles of 5S
 - Specific training of skills, such as statistical analysis using QM tools.
 - Interpersonal skills to promote teamwork and consensus building.

The healthcare workforce which forms the work improvement teams should be trained to conduct the PDCA tests and they must possess the skills required for such tests. They are expected to assess the results and build on what they learn from PDCA. A continuous training programme should be instituted at the initiation of the 5S implementation programme with the aim of sensitising all staff members from the top level managers to the lowest level employees.

c. SETTING UP OF 5S ZONES AND IDENTIFICATION OF PROBLEMS

Initial visits of JASTECA and EBM Study Team resulted in discussions on quality management and the areas which require 5S actions were identified in each hospital. Since 5S is a stepwise implementation process, problem identification was restricted initially to the areas where *Seiri* and *Seiton* could be applied with maximum visible results. The main criteria for selection were visibility, and perception of staff and patients. Further, it was based on the results of the Baseline Study. The common zones selected in the five hospitals are shown in the box.

Selected Zones

- Entrance
- OPD
- Selected Wards
- Dispensary
- Kitchen/Canteen
- Emergency & Accident Service Unit

The layout plans of entire work areas were obtained. Each section was divided into sub-zones such as OPD reception, dispensary, wards etc. Priority zones for implementation of 5S were selected by the QMT.

WITs initially identified the problems related to structure and processes that could be remedied applying the 5S techniques. The initial action assisted by JASTECA and QS were mainly directed at improving patient's comfort and creating a pleasant environment for the hospital staff. This was followed by the identification of more complex problems by WITs with the support of QMUs and the heads of the institutes. (More details will be highlighted in the next sections)

d. PROVISION OF EQUIPMENT & SUPPLIES

Basic office equipment and supplies to support the setting up of the work of the QMU at each hospital was provided. The Hospital management provided WIT office space for the newly established QMU at all hospitals.

5.1.2 OPERATING PHASE

A. TRAINING OF TEAMS

The project commenced with leadership training, followed by a five-day residential workshop to develop a resource panel which could implement 5S in the hospitals. Subsequently the training of Quality Management Unit was undertaken. Once WIT teams were established, further training sessions of minor scale at the site were undertaken for WIT leaders in collaboration with JASTECA team, QMU members and resource panel. During the initial period, four workshops were conducted where 70 persons participated. Summary of the training courses is described below:

A.1 LEADERSHIP TRAINING

This was held on 8th and 9th of March, 2006. 36 persons including hospital directors, DMOs, and unit heads of five hospitals participated. The main objective of this training was to improve the leadership skills and to introduce 5S and TQM methods to the hospital team.

A.2 COMMUNICATION SKILLS AND QC TOOLS

A five-day residential workshop was held from 5th to 9th June, 2006. Two persons were selected from respective hospitals to attend this workshop. The main objective was to train the selected persons to be moulded into resource personnel who in turn will provide training in productivity and quality to other staff in the hospital.

A.3 MANAGEMENT TRAINING FOR QMU

23 QMU members attended the workshop on July 1, 2006 to be trained on management of quality improvement programme using basic 5S techniques.

A.4 SENSITISATION TRAINING FOR WIT LEADERS

Lectures were given at the initial stage when the EBM Team (JASTECA, or QS) visited the hospitals. This was to impart necessary knowledge and skills, such as management responsibility, leadership and benefits of implementing 5S.

Continuous training

- In-service training

Regular in-service training was carried out by JASTECA for about nine months during the implementation of the activities. This provided the newly established WITs, and QMUs teams with a continuous technical assistance to help them in conducting the main activities of 5S, and extend them the experience and expertise from the experts in the field.

- Workshops

Two main workshops were carried out to support the implementation process and enhance the management capacities at the pilot hospitals. Namely:

“Progress of Implementation of 5S at the pilot Hospitals workshop” on February 21, 2007 with participation of 40 staff members of the five hospitals. The main objectives of the workshop were to review the progress of implementation of 5S at the pilot hospitals and to improve the problem-solving capacities of the QMTs through sharing experiences accumulated from implementation of various interventions.

“Quality and Safety in Healthcare” workshop was held from May 31 to June 2, 2007 with the participation of 30 hospitals employees. The main objectives of this three-day workshop were to strengthen the leadership and problem solving skills at the pilot hospitals by identifying the main problems encountered by the management teams and to discuss the issues of sustainability at the end of EBM study.

B. 5S ACTIONS IN FIVE PILOT HOSPITALS

The following table summarises the actions taken as per 5S step. Some lessons were drawn from the implementation. Despite the differences in the extent of the hospitals, (specially among the five hospitals) similar results were observed in them.

TABLE 5- 2: 5S ACTIONS IN PILOT HOSPITALS

	Description	Action Taken	Lessons Learnt
Seiri	<ul style="list-style-type: none"> ▶ This step focuses on eliminating unnecessary items in the selected zone. It requires sorting things out. WIT leaders should have knowledge of disposal standards and procedures. 	<ul style="list-style-type: none"> ▶ Create holding areas ▶ Identify the unwanted items (red tag) and separate them into one of these 3 categories <ul style="list-style-type: none"> ✓ Items having no value ✓ Items in the inventory shelf ✓ Items with no value and their disposal is costly ▶ Take action to dispose 	<ul style="list-style-type: none"> ▶ Delay in disposal of some items as disposal policies of inventory items have to be followed up. ▶ The rules relating to the disposal of medical records with medicolegal issues need to be clear. ▶ Working environment is improved and space utilisation is maximised. ▶ Principle of Seiri could be applied when reviewing other administrative and clinical procedures. ▶ Seiri is a simple housekeeping job of sorting out things, but it is also an excellent technique to transform a cluttered workplace area into a better looking and more effective area.

Seiton	<ul style="list-style-type: none"> ▶ It is reflected in the saying “a place for everything and everything in its place”. It entails arranging necessary items in a good order so that they can be easily retrieved when needed 	<ul style="list-style-type: none"> ▶ Look at what is left after implementation of first S (Seiri). ▶ Identify categories of items <ul style="list-style-type: none"> ✓ Items frequently used ✓ Items sometimes used ✓ Items not used but have to be kept ▶ Labelling for ease of identification by anyone. Warning signs should be applied on items needing safety precautions. 	<ul style="list-style-type: none"> ▶ The work place has become safer and more efficient, the storage becomes effective, and it improves the appearance of workplace. ▶ The workflow has become smooth and easy, and things frequently used are moved closer. This can be extended also to arranging other administrative areas, data and facilities.
Seiso	<ul style="list-style-type: none"> ▶ This requires cleaning up of workplace on a regular basis. 	<ul style="list-style-type: none"> ▶ Cleaning areas assigned ▶ Cleaning tools made available ▶ Roster prepared 	<ul style="list-style-type: none"> ▶ Workplace has become more pleasant with improved visibility. ▶ Equipment and instruments are maintained better ▶ Staff motivation for work improved
Seiketsu	<ul style="list-style-type: none"> ▶ Standardisation of procedures ▶ Visual management 	<ul style="list-style-type: none"> ▶ Check lists prepared ▶ Colour coding in place ▶ Safety signs in place 	<ul style="list-style-type: none"> ▶ Continuous use of 3S would ensure an improvement in work environment. ▶ Best practices can be standardised in this stage
Shitsuke	<ul style="list-style-type: none"> ▶ Staff develop team spirit and discipline ▶ Comply with hospital rules ▶ Adopt best practices ▶ Move to continuous improvement ‘Kaizen’ and this is inculcated in staff ▶ Staff engages in learning and doing ▶ Make 5S as routine 	<ul style="list-style-type: none"> ▶ Introduce collaborative work improvement method ▶ Systematise 5S approach 	<ul style="list-style-type: none"> ▶ Only a few WITs have reached the 4th S stage, and have introduced collaborative work improvement process. This way helps the WITs in systematising 5S activities. ▶ Strong leadership and commitment of managers is found to be critical. ▶ Observed as a step for hospital to become a learning organisation.

5.1.3 PRELIMINARY RESULTS OF INTERVENTIONS AT PILOT HOSPITALS

The Study Team has decided to commence with the first three Ss, *Seiri*, *Seiton*, and *Seiso*, due to their relative simplicity (housekeeping). Dramatic changes in the attitude of hospital staff were observed at some places. This encouraged the hospital leadership to continue implementing the full 5S activities. The following section illustrates the key actions that were observed in the areas with visible improvement.

This learning process started with identifying a few WIT teams in each of the five hospitals that are ready for on-the- job training of the tasks as explained above. The first activity was to identify and record a quality problem statement. It was discussed within the team to arrive at a consensus; if it could be solved by the team. Next, the team analysed the root causes of the identified problem, and decided on the available solutions (actions) for each cause. Then, the team members listed out the steps to be taken. The teams displayed an interest in the cycles of learning and few teams have already tested the changes.

It was discovered that establishing the right environment is required for a successful outcome. Training is one way to help this process. It improves their capacities in analysing problems and reporting changes using quality tools such as work sheets, traffic light systems, etc. The worksheet is in fact a useful tool for the recording process. Recording changes (before and after) via photos and traffic light system is a simple way to make the changes visible.



FIGURE 5- 2: SEIRI DAY AT DGH CHILAW

A. SORT (SEIRI)

Hospitals have created storage areas for discarded and damaged items. This task is named 'red tagging'. Actions were followed up on disposing the discarded items as rules and regulations determine. Guidelines on disposing them were formulated. The progress of work carried out on this aspect was monitored.

B. SET IN ORDER (SEITON)

A colour coding system was introduced for quick identification. For waste disposal, the following colour codes were used. Sharps and infected material (yellow with red stripes), glass (red), mixed waste (black). This enables easy identification of the different waste products. This colour coding system is based on the standards developed at the Castle Street Hospital for Women.

In addition to the use of a colour coding system, items were labelled clearly to make their storage areas visible. A major change was created with the introduction of a filing system. Forms were arranged neatly with a numbering system for easy retrieval.

A first-in and first-out system was practiced. Items became easily retrievable. This was found to be very useful in storing and issuing drugs and medicines in drug stores and pharmacies. Another visible change was the presence of sign boards giving directions to patients and visitors.