Chapter

3

HOSPITAL QUALITY & SAFETY

Key Messages

- Perceived patient satisfaction relates to both clinical and non-clinical areas. Respecting the patients` dignity, confidentiality of information, and the provision of appropriate amenities are as important in influencing patient satisfaction as the provision of excellent care.
- Common quality problems in the hospital care system relate to structure (resources and equipment, facilities), processes (service) and outcomes (infection rates, hospital mortality rates, etc). Improvement of all will lead to improvements in total quality at the hospital. Quality improvement therefore requires an integrated approach.
- Five S is a simple management tool that can be introduced as a initial step towards achieving Total Quality Management (TQM). Leadership plays a key role behind the positive changes attributed to 5S. However, the underlying principle of this approach is encouraging full participation of the hospital employees.
- Patient and staff safety cannot be separated from quality. Prevention of harm through reduction of errors and omissions should be promoted by developing an appropriate information system to record and monitor such events.
- The recently drafted National Policy on Hospital Quality and Safety advocates a wider spectrum of quality improvement in public hospitals. The proposed three projects correspond to its three policy goals; management systems; clinical practice; and risk management and safety.
- Organizational development is a pre-requisite to the other projects.

3.1 CHALLENGES

Sri Lanka provides healthcare to all its citizens free of charge irrespective of their status, income or geographic location. However, certain drawbacks in the hospital-based healthcare delivery system have affected the quality and efficiency of its services as evident from overcrowding in the higher level institutions, deficiencies of amenities and patient dissatisfaction. The imbalance of quality of services exist between higher and lower level hospitals and also within the same level. Less attention given to quality of services at primary care level and less emphasis placed on patients' rights and patient satisfaction also contribute to the current situation.

3.1.1 HEALTH CARE QUALITY CHALLENGE

State hospitals in Sri Lanka are classified into different grades of hospitals depending on the location, bed strength, availability of specialist services etc. The quality of services expected when treating a wide spectrum of illnesses needs dynamism in provision of services based on local demand. Emergence of new diseases, increase in the NCDs, changing knowledge base, new and refined diagnostic and treatment technologies, changing healthcare financing with more involvement of private sector and outsourcing have contributed to the complexity of service provision of present day hospitals.

Adding to this complexity is the patient care processes having a large number of sequential and parallel processes and procedures that are being carried out by different categories of staff. Further, the services received by patients are carried out over several days and by different categories of staff.

A. RESPONSIVENESS

One critical challenge facing quality is to ensure patient satisfaction. Responsiveness is the ability to fulfil patients` expectations while patient satisfaction is the degree to which those expectations are achieved.

Perception of patient satisfaction involves both clinical and non-clinical areas. WHO, in the World Health Report 2000, describes responsiveness as a measure of how health system performs.

Responsiveness to people's expectations in regard to non-health matters reflects the importance of respecting the people's dignity, autonomy and the confidentiality of information. Responsiveness can therefore be an indicator that reflects patient satisfaction, quality of care, and patient experience. The elements of responsiveness to the patients are one of the needed areas in improvement in Sri Lanka.

Two specific studies in Sri Lanka addressed the importance of customer/patient satisfaction concept. (**Figure 3- 1 and Figure 3- 2**)

The results of the studies show that a very visible problem in most of the pubic hospitals today is overcrowding and long waiting ques in OPD and clinics. The main reasons for the customer dissatisfaction are in fact attributable to the non-medical areas. Other problems causing patient dissatisfaction includes inadequate cleanliness, lack of comfort and basic amenities, disorderly arrangement, and improper attitude of staff and lack of courtesy. Clinical aspects too afflict with factors that lead to dissatisfaction among patients, such as inadequate care, shortage of drugs and other supplies, prolonged hospital stay, and delays in the various processes in the patients' clinical pathway.

The perception of quality of services by the patient also weighs heavily on the doctor-patient relationship. If higher and sustainable satisfaction of services on the part of users is the end aim, it requires efforts to integrate quality improvement in both clinical and non-clinical areas through an effective quality management system.

Comparative Assessment of Customer/Patient Satisfaction & Service Quality (June 2006)

- The satisfied level in all hospitals is comparatively less on responsiveness
- Generally there is dissatisfaction for facilities and responsiveness regarding the delivery of services.

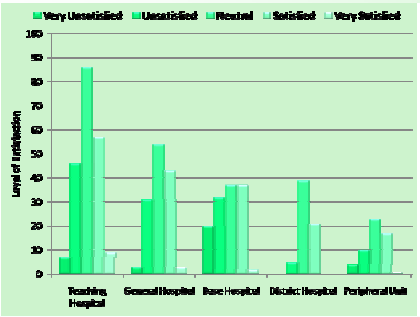

FIGURE 3- 1: DISTRIBUTION OF STUDY SAMPLES: OUTPATIENT SATISFACTION

The Clinical Pathway

In each unit of a hospital, patient-provider interphases exist that are characterized by a series of processes that lead to production of a clinical product such as medical treatment of a condition, surgical operation or a normal obstetric delivery.

A clinical pathway can be described as the sum of all the activities, contacts and events, which the patient experiences during his or her interaction with the health care system. The Study (Gampaha GH) shows that 98% of the time spent in hospital is waiting time.

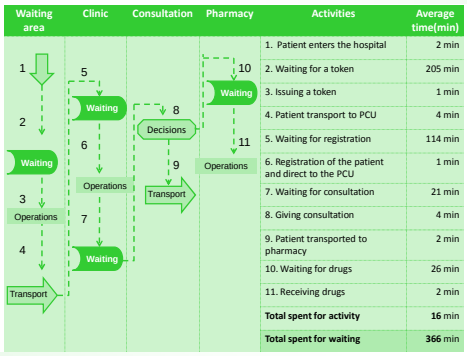

FIGURE 3- 2: PATIENT'S PATHWAY

B. SAFETY OF HEALTHCARE SERVICES

Patient safety is a critical issue, which cannot be separated from quality. Safety means prevention of harm to patients, where harm can occur through errors of omission and commission in hospitals. This includes wrong surgical procedures, surgical wound infections, neonatal deaths due to cross infection in hospital, delays in obstetric care and/or errors of judgment causing maternal deaths and accidents within the hospital. Adverse effects from wrong use or overdose of medicines are highlighted from time to time in the media.

Hospitals lack an appropriate information system to record and monitor such events. The required commitment by the stakeholders to develop a culture of safety as a standard of care is not evident. The access to and use of clinical data on adverse events and critical incidents is an area that should draw the attention of clinicians and hospital managers.

C. THE QUALITY GAP

Major share of resources for the curative sector in Sri Lanka goes to the Tertiary Hospitals that come under the management of the MoH. Although these hospitals are better resourced, the quality of services in these hospitals remains a concern. The outcomes are not as expected, and variations in standards of care are noticed. On the other hand, the provincial hospital system that is under the Provincial Director of Health Services (PDHS) is found to be less resourced. The conditions are worse in the North and East where the ongoing conflict has disrupted the services. The phenomenon of bypassing smaller institutions aggravates the problem, which results in overcrowding at higher-level institutions. However, on the positive side, the community is willing to support quality improvement in the hospitals in the provinces. This has to be fostered through a committed leadership and involvement of the community.

Quality problems in the hospital care system in Sri Lanka include issues relating to structure, process and outcomes. Structural problems are observed in scarcity of qualified personnel, supplies and equipment, and poor environment. Poor outcomes of service quality are evident through high infection rates, hospital mortality rates and by low satisfaction of the patients as well as employees.

Sometimes, a patient with a complex medical problem is seen by several clinicians. The physical examination and investigations are often repeated. Records are not kept properly, and the resulting delay in treatment and its financial implications lead to agitation and dissatisfaction in patients and their families.

The quality gap of hospital service is observed in the same hospital at different times of the day, week and month where services tend to fall below the standard due to poor organisation of work during weekends, public holidays and at the times when the staff shifts.

It is thus noted that enhanced resources and high technology alone will not improve the quality of care. A better organisation of the service delivery system and orienting its employees in improvement of quality is required.

D. FACTORS AFFECTING HOSPITAL QUALITY

Issues related to quality of hospital services have been discussed through numerous publications and forums. Media reports have highlighted the importance of improving quality of care and patients' satisfaction. The following can be cited as the major factors affecting the quality. They are mostly attributed to the absence of proper organisational and institutional initiatives.

- Absence of a vision and a hospital policy at institutional level.
- Weak leadership
- Inadequate skills and training in quality management
- Absence of a regular review mechanism of operational performance
- Shortage of funds to continue quality initiatives
- Insufficient authority at institutional level
- Imbalanced resource allocations among health care institutions

3.2 LOCAL INITIATIVES

Implementation of a more responsive and a sustainable curative health care system is especially necessary to face the current challenges posed by changing socioeconomic patterns. Recently, attention has been drawn to ensure patient satisfaction by improving hospital quality, efficiency and safety. The MoH has already initiated action to introduce Quality Assurance (QA) Programmes in hospitals under its purview.

3.2.1 HISTORICAL PERSPECTIVE OF QUALITY

A. EVOLUTIONARY STAGES OF QUALITY

The evolution of quality can be described in four stages: (1). Inspection; (2). Quality Control; (3). Quality Assurance(QA) and (4). Total Quality Management (TQM). The inspection involves only the scrutiny of the final products. Quality Control and Quality Assurance focus on the process. QA became more popular at a later stage as it tried to 'assure' the expectations of the customers, primarily through maintaining and improving the quality of service. The emphasis has been to ensure that all actions taken by the providers adhere to set standards. The TQM regards the quality, as the state of the customers' expectations being met. In order to meet these expectations the organization takes a stance of a proactive learning organization. It seeks to improve quality of services through ongoing changes in response to a continuous feedback.

In Japan, manufacturing sector started TQM approach in 1950s. 5S approaches emerged as the basis of the TQM. 5S was introduced for the first time in Sri Lanka in 1993.

B. HISTORY OF QUALITY IMPROVEMENT IN HEALTH SECTOR

Sri Lanka embarked on a National Quality Assurance Programme for the health sector in the latter part of 1980s with the idea of improving quality in service areas, such as maternity care. A National Consultative Programme was formulated with 32 sets of indicators and standards in 1989. The latter programme was introduced into 3 hospitals in the following year. But this programme was more statistics oriented and had cumbersome procedures. It was eventually abandoned.

In 1990s, an attempt to improve hospital services was made in Uva Province. A number of awareness programmes were also conducted in the state sector hospitals. In 1995, a manual on quality assurance of patient care services was published.

In order to secure clinical quality, data collection system has to be reliable and timely. This in turn depends upon the efficient data processing system, the efficient work environment, the capacity of

FUNCTIONS AND RESPONSIBILITIES OF THE QUALITY SECRETARIAT

The Quality Secretariat (QS) was established in 2004 at the CSHW with its Director also working as the Director of Quality Secretariat. In 2005, permanent staff was allocated to the unit. The QS functions as the apex body for planning and monitoring management activities.

The QS will promote and develop quality culture in the institutions coming under the MoH and Provincial Ministries of Health. Initially the Secretariat concentrated in launching the National Quality Assurance Programme in tertiary care hospitals.

the staff, the availability of the staff, the motivation of the staff for patient quality etc. The existing resource quality did not meet the expectation in order to secure QA in Sri Lanka Hospitals.

Dr. Karandagoda, the Director CSHW, (early in 2000) developed an interest in improving hospital quality. He rediscovered 5 S that was practiced in the manufacturing sector, and applied the technique to improve the hospital, with remarkable results.

The important landmark in the quality movement is the launch of the program in the hospital. Instead of using the same programme of QA, which sets indicators of clinical activities, he adopted Japanese concept of "Five-S" as the entry point to the quality improvement. This yielded rich dividends by way of awards such as Taiki Akimoto 5 S Merit Award (2001), Sri Lanka National Quality Award (2002) and National Productivity Award (2003).

The MoH was quick to recognize this remarkable achievement. The Director CSHW who played the key role was assigned to lead the Quality Secretariat in 2005.

3.2.2 INITIATIVES AT OTHER HOSPITALS

The Japanese style of management (5 S) was welcomed and applied in many institutions not only in hospitals but more so in the manufacturing sector. Some hospitals followed the steps of CSHW to improve the services provided. Among the hospitals, GH Ampara, BH Mahiyanganaya and GH Monaragala got recognition in the country on their achievements.

Five S Terminologies

- Seiri – Sort
- Seiton – Set in Order
- Seiso – Shine
- Seiketsu – Standardise
- Shitsuke – Self-discipline

A. 5S – TQM AT AMPARA GENERAL HOSPITAL

GH Ampara started implementation of 5 S practices with the presence of Quality Circles in 2001. Over the years, GH Ampara made considerable achievements towards the TQM for the hospital

Here are some examples of their achievements;

- Specified standards were developed for each unit so that any deviation is readily informed through the information system.
- Disaster management plan was adapted to their hospital.

- Well established triage system was introduced.
- Appointment system for patients was introduced, and priority given for patients from distant localities.
- The patients were given the opportunity to select the doctor they wish to see.
- Visitors Pass for the visitors of the in ward patients allowing only 2 at a time.
- Well maintained record keeping system started with proper addressing system, which reduced the retrieval time to 30seconds.
- The Hospital has several maintenance units namely; Electrical, Water supply, Painting & craftsmanship, Landscaping, Automobile, Biomedical, etc.
- A Telemedicine unit was functioning.
- Well equipped and properly maintained CSSD (Central Sterile & Supplies Division) resulting in improvement of efficiency significantly.

The best achievement they had was the patient satisfaction as well as staff satisfaction which had a positive effect on the success on 5 S – TQM in their hospital. These efforts were rewarded with several awards.

A.1 SOME OF AWARDS WON

- 5S Akimoto Award - JASTECA - 2004
  - Service sector - best

    1st runner-up for all over the competition
- National Productivity Award - 2004 - NPO
  - Service sector - 3rd place – NPO
- National Productivity Award - 2005 - NPO
  - Service sector (large scale) – Winner
- Provincial Productivity Award -2005 - NPO
  - Winner (Eastern Province) – 2005
- Special Kaizen Award JASTECA – 2005
- International Award of the Pacific-Asia Quality Award -2007

B. DISTRICT GENERAL HOSPITAL MONERAGALA

B.1 CHALLENGES

DGH Moneragala faced with the common problems encountered by any government hospital. This included vacant administrative positions, financial constraints and general lethargy. The new concept was introduced with the objective of addressing these problems effectively

B.2 ACHIEVEMENTS

DGH Moneragala was rewarded with Taiki–Akimoto competition in 2006. Being located in one of the underprivileged areas in Sri Lanka, winning an award, after competing with 40 hospitals, proves the strength of their success.

The hospital was able to deliver comprehensive, better care to the patients fulfilling patient satisfaction. Improvement in staff welfare issues and cleanliness was also addressed. In parallel, they were able to improve clinical performances as shown by improved annual data.

3.2.3 INITIATIVE ON SAFETY

As a step to improve the safety measures inside the hospitals, the MoH made an effort to document the interventions that were implemented as part of the Quality Management Efforts and will lead to decrease the incidence of Hospital Acquired Infections (HAIs). These were important interventions to achieve the WHO slogan of “Clean Care is Safer Care”.

A. INFECTION CONTROL SURVEILLANCE

Castle Street Hospital for Women (CSHW) and GH Ampara, established a system for Infection Control Surveillance. An Infection Control Officer (or more than one) was responsible to maintain the information system, and produced the required reports to present to the Infection Control Committee during their regular meetings to take the needed decisions.

Over the months and years, it was shown that the infection rates, morbidity rates and mortality rates related to Hospital Acquired Infections have been reduced significantly.

B. ESTABLISHMENT OF CENTRAL STERILE & SUPPLIES DIVISION (CSSD)

A CSSD was set up in both hospitals as a separate unit and this intervention resulted in improvement of standard of services. Other benefits include;

1. Reduction of the workload of ward staff.
2. Adequate supply of items on regular basis.

3. Ward sisters were having more time to focus on the elements of quality services provided to patients.

Improvement of safety was evident in the reduction of Hospital Acquired Infection (HAI） rates, morbidity and mortality. This ultimately reduced the financial burden of health system as it reduced the period of patient stay and treatment costs.

3.3 PILOT INTERVENTIONS

The main purpose of the pilot study is to document the effective models for a quality management programme that could be replicated in the other locations

In addition to institutionalize the HMP, the formulation of action plans for priority programmes and its activities need hard data and evidence for decision- making. The evidence collected through the MOH-JICA EBM Study provide the data that could support the decision- making process.

3.3.1 CATEGORIZATION OF INTERVENTIONS

The evidence collected from various interventions are presented in two main sections; central level and institutional level. The evidence will support the formulation, implementation, monitoring, and evaluation of the National Action Plan for the next few years. The proposal for National Action Plan of the Quality Management Programme is described at the end of this report.

A. NATIONAL LEVEL

Two important interventions were conducted to provide the MoH with the main foundation of implementing the Quality Management Programme in the country;

1. Development of Quality Management Tools.
2. Development of Implementation Guidelines.

At the implementation level, 5S–TQM programme needs the guidelines to create a standardized understanding and practice of the approach. It needs the required tools to document, assess, monitor, and evaluate the 5S–TQM programme. These two aspects are fundamental to have in hand before expanding the programme.

B. INSTITUTIONAL LEVEL

Implementation of 5S–TQM approach aimed at developing an organizational culture, characterized by the increased patient satisfaction and safety through hospital employees' active participation.

Evidence collected during the implementation is presented under the following four main headings;

a. Organizational Development
b. Responsiveness to people's expectations
c. Make Hospitals a safer place
d. Strengthen Community involvement

The above four aspects create a culture in the hospitals which in turn facilitates spontaneous and continuous improvement of working

environment, and finally increase patients' satisfaction and safety. This organizational culture of learning is crucial for the improvement of quality services provided by the hospital.

Evidence was generated from the following interventions;

- Pilot Implementation
  I. TH Kurunegala
  II. GH Chilaw
  III. BH Kuliyapitiya
  IV. DH Dankotuwa
  V. PU Madampe

- Case studies
  I. CSWH
  II. GH Ampara
  III. DGH Moneragala

3.3.2 METHODOLOGY & STRATEGY

A. 5 S AS A BASIS FOR TQM APPROACH

There are many approaches to improve quality. One such approach, the 5S approach was introduced to five hospitals in the North Western Province during pilot implementation. It is a proven strategy to improve workplace quality and motivate staff. 5 S is currently implemented in many major companies as well as in a few hospitals in Sri Lanka.

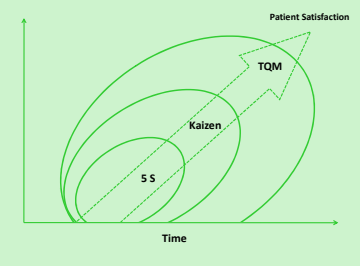

FIGURE 3- 3: PROCESS DEVELOPMENT OF THE 5S TQM

5S implementation technique is different from traditional approaches seen in other quality assurance programmes. It is an outstanding development activity because of its visibility and readiness to be perceived by all levels. It is well accepted since team work approach unites all categories of staff. The concept, upon its implementation in selected hospitals, would help to correct the tarnished image of the public hospitals and uplift the staff morale.

The underlying principle in this approach is encouraging full participation of hospital employees by introducing methods that are simple to understand and to implement. This approach promotes quick tangible results.

B. COLLABORATIVE APPROACH

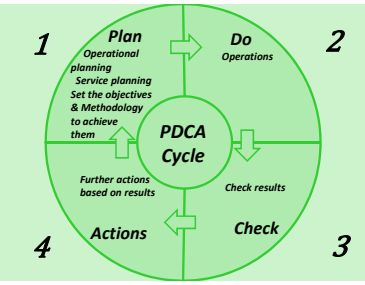

FIGURE 3- 4: PDCA CYCLE

The quality improvement involved a continuous process improvement in some selected areas in the hospital. Further, all interventions for quality improvement would fit into a problem solving cycle called the PDCA (Plan-do-check-act) cycle, which can be applied to all levels and used by both the management and by Work Improvement Teams (WITs). It provides a framework that helps to visualize the actions to be taken and the progress made.

The "collaborative Approach" encompasses 5S activities through PDCA cycle to move on to the TQM. Quality improvement is about change. This approach will help the hospital staff to design and implement changes that would improve the quality of health care services.

The PDCA cycle was originally developed by Walter Shewhart, a statistician in 1930's, and later in 1950's Edward Deming promoted it in Japan.

The application of this cycle for step-by-step implementation of 5S will form a useful model that the hospitals can follow.

C. CONTINUOUS QUALITY IMPROVEMENT (CQI)

Implementation of 5S cycles needs 1- 2 years to be institutionalized and routinely practiced in the whole hospital. Implementation of 5S will provide the staff with space and clean environment that in turn creates the room for staff motivations for improving the quality of care in their hospitals. This bottom-up approach will work in a self-reinforcing cycle resulting in the provision of improved healthcare services in the long run. The Castle Street Hospital for Women (CSHW) and the GH Ampara succeeded in a similar pattern.

Multiple PDCA cycles are required before realizing the challenges in both clinical and managerial areas of the hospitals **(Figure 3- 5)**.

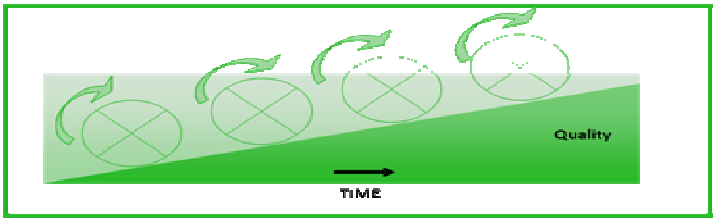

FIGURE 3- 5: MULTIPLE PDCA CYCLES OVER TIME

Finally, the above steps are expected to lead to TQM over the time, if additional managerial and physical inputs are duly provided.

D. THE PLAN OF IMPLEMENTATION

The 5S approach could be introduced in four phases. The first phase is dedicated to situational analysis, establishment of organizational

structures, training, and sensitization. The phase two introduces 5S concepts. During phase three of implementation, a 5S audit is conducted and data are evaluated to assess the impact. Final phase is accomplished by communicating and sharing results, rewarding the efforts of staff and developing a plan for the next cycle

- Successful 5S implementation needs each phase to be proceeded according to the cycle shown below. The implementation has to be gradual producing some visible results that would be observed by both the public and staff.

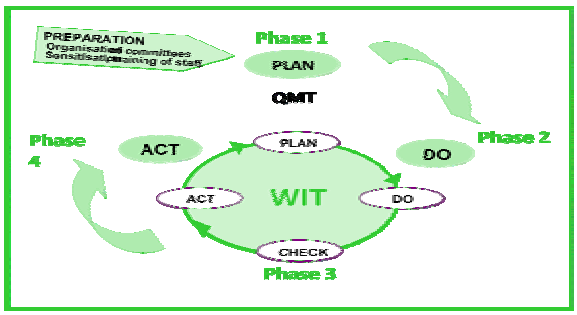

FIGURE 3- 6: FIVE S OPERATIONAL CYCLE

3.3.3 INTERVENTIONS FOR DECISIONS AND ACTIONS AT THE CENTRAL LEVEL

A. DEVELOPMENT OF QUALITY MANAGEMENT TOOLS

Various tools were introduced during the initial implementation. The aim was to use the tools to document the work undertaken as well as to assess the quality improvement process. These tools were first drafted in collaboration with the QS and JASTECA.

List of Revised and Developed Tools

- Safety Documentation/Monitoring Tools
- Set of instruments to be used for baseline survey/ situational analysis (KAP study tools) to assess and review knowledge and practice of quality and related principles in the hospitals.
- Set of Auditing Sheets of all components of 5S and for measuring and monitoring hospital quality.

These sets of tools can help designing, implementing and monitoring the quality management activities in the hospitals.

DGHS appointed an expert working group for this purpose in February 2007. It consisted of 9 medical professionals who modified and tested the existing instruments and tools to make it more relevant to the health sector.

The working group reviewed the existing instruments used in baseline surveys and in other quality related studies such as patient and staff satisfaction surveys with a view to producing reliable research tools. Besides, monitoring is another area where the development of effective tools would benefit quality improvement efforts immediately.

The complete sets are included in the Resource book II: 5 S TQM of EBM study for further reference.

B. DEVELOPMENT OF GUIDELINES

The guideline for 5 S' implementation can fill the gap of knowledge and practices in the critical field of improving health services in Sri Lanka.

Maintaining practices of 5S and kaizen is still a big challenge. A human element plays a very significant role in the implementation of TQM practices from the first day.

Although the concept and principles of 5S, Kaizen, and TQM have been implemented in the industry sector for some time, the service sector especially the health services, started much later. Therefore documentation and literatures concerning implementation of 5S-TQM in health services are still limited. There are no comprehensive guidelines for implementation of 5S in the health care setting in Sri Lanka.

The guidelines should provide practical tips for 5S operations in the following areas:

- Introduction to implementation of 5S (step by step guidance)
- Concept and Approach
- Planning for implementation
- Selection of Hospitals/Departments
- Establishment of Quality Structure and Committees
- Starting Activities
- Orientation
  - Training
  - Implementation of Activities
  - Monitoring and Evaluation
- Implementation Guidelines
  - Seiri (Sort)
  - Seiton (Set up)
  - Seiso (Shine)
  - Seiketsu (Standardise)
  - Shitsuke (Self-Discipline)
- Monitoring and Evaluation
  - Development of tools for M&E
  - Documentation Tools
  - Auditing Sheets
  - KAP Questionnaires
  - 5S Quality Award

The guidelines will be presented in the Resource book II: 5 S TQM.

3.3.4 INTERVENTIONS OF 5S- TQM APPROACH AT INSTITUTION LEVEL

Five hospitals were selected in the NWP, and 5 S methods were introduced in June 2006. The selected hospitals vary in size, speciality, location and management style. However, all hospitals successfully introduced 5S and achieved significant changes in the workplace and patient orientation. There is one common factor in their success; Leadership of the management. Leadership made right and timely decisions on which way to follow within the constellation of management options they had.

TABLE 3- 1: PILOT HOSPITALS IN NORTH-WESTERN PROVINCE

Institution	Type	Number of beds	Specialties	District
Kurunegala	TH	1206	Tertiary hospital, 22 specialties	Kurunegala
Chilaw	DGH	450	Surgery, Internal Medicine, Paediatrics, OB-GYN	Puttalum
Kuliyapitiya	BH	298	Surgery, Internal Medicine, Paediatrics, OB-GYN, Ophthalmology, OMF	Kurunegala
Dankotuwa	DH	109	Surgery, Internal Medicine, Paediatrics, OB-GYN	Puttalum
Madampe	PU	32	Non-specialist General care	Puttalum

Several lessons learned and evidence that was collected are presented below under four main headings;

- Organizational Development.
- Responsiveness to people's expectations.
- Make Hospitals safer place.
- Community Involvement.

A. IMPLEMENTATION STAGES

All the hospitals involved in implementing 5 S-TQM programme have documented the benefits of the programme.

Implementation started with the planning of the programme in July 2006. Japan Sri Lanka Technical & Cultural Association (JASTECA) was contracted to visit 5 hospitals to implement 5 S in the selected zones of the hospitals. In addition, the Quality Secretariat (QS) made several additional visits to ensure clinical aspects of 5S implementation such as infection control and waste management.

The following section summarizes the preparation and operating phases of the pilot implementation.

A.1 Establish Quality Management Structure

Several committees were set up at respective hospitals during the implementation, which included Work Improvement teams (WIT), Quality Management Unit (QMU) and Quality Management Team (QMT). All three committees had to work in harmony to provide a sound management structure as depicted below.

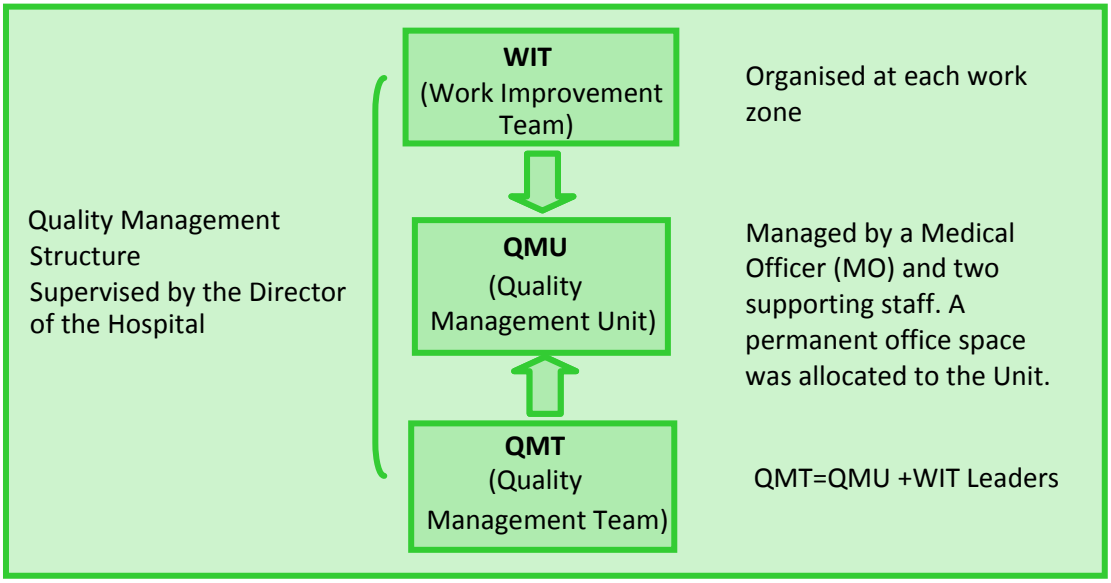

Figure 3- 7: Quality Management Structure

A.2 Provision of Equipment

Each hospital was supported with a basic set of office equipment and supplies to start up of the work of the QMU. The hospital management provided a office space for the QMU

A.3 Training

The project started with leadership training, followed by a 5-day residential workshop in Colombo to develop a resource panel which could implement 5S in the respective hospitals. Subsequently the training of QMU was undertaken. Once WIT teams were established, further training in small sessions at the institutions were undertaken for WIT leaders in collaboration with the JASTECA team, QMU members and resource panel.

Later on, regular in-service trainings were carried out by the JASTECA for approximately nine months during the implementation of the activities. Several training workshops were conducted among five hospitals throughout the implementation period that enabled the QMTs to strengthen their knowledge and skills. It was also an opportunity to share experience and learn from one another.

A.4 5 S ACTIONS

After the formulation of WITs in all 5S zones, the QMUs worked with the WIT members to identify the priority challenges. Based on the results of the problem-solving exercise, the WITs identified the most suitable options to solve the problems.

On average nearly 50 quality problems were identified and worked on by the WITs in each hospital during the first year of implementation of 5S in the pilot hospitals.

Details of actions and implementation of changes are included in the Resource book II: 5 S TQM of the EBM final report. Several specific examples are mentioned in the course of this report to highlight a concept or a principle.

B. ASSESSMENT OF INTERVENTIONS

B.1 IMPACT OF KNOWLEDGE, ATTITUDE AND PRACTICE

- In assessing the final level of knowledge of the hospital staff (both medical and non-medical) on the key concepts on 5 S-Kaizen, productivity, and quality improvement in health care, it was found that the average range of knowing the key concepts is between 93% to 97% expect Kaizen (78.6%).This is a very significant improvement in the knowledge of the staff in comparison to 30% at the baseline assessment.

Baseline Survey (May 2006)

Baseline KAP Assessment was carried out to measure the related aspects of 5S–TQM among the hospital staff. Average value in five hospitals for attitude is 71 out of 100. In addition, the average value for knowledge is 30 for all five hospitals.

Seiton (arrangement of items in systematic manner) was lack in all hospitals, highest 65%, and lowest 37%.

  - Practice of 5 S was self-assessed in terms of four main activities. All of the activities showed a significant improvement; 93 % of the hospital staff who participated the assessment remove unwanted/outdated items; at the time of the assessment 94% arrange work place; 92% clean workstation regularly; and 86% check working conditions of the equipment and machinery.

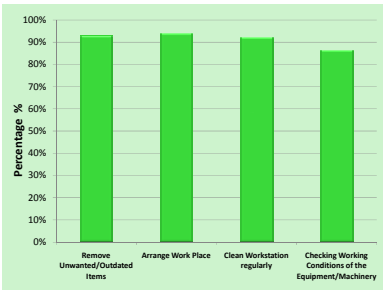

FIGURE 3- 8: SELF PRACTICE OF 5 S AT THE PILOT HOSPITALS

- Although the 5S system is a relatively effective management tool in improving work environment, it is greatly affected by the attitudes of the people who participate. If more people with positive attitudes participate, positive outputs can be achieved out of

minimum resources and in a short span of time relative to the other management tools.

- The assessment that measured the attitude of the staff included several statements on 5S concepts. All the responses on these statements showed real positive changes in attitude towards the concepts and principles of 5S which partly explained the success of implementation of 5S activities at the pilot hospitals. selected findings are;
  - 76% of the staff of the five hospitals interviewed feel that employees can get more benefits by practicing 5S concepts in comparison with 10% in disagreement. This is a real good achievement of changing the mind set of the staff of the hospitals that the program runs only one year.

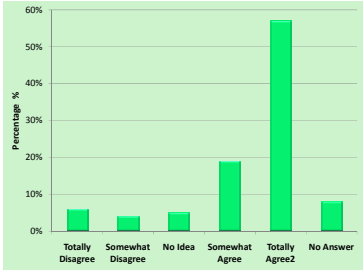

FIGURE 3- 9: OPINION REGARDING THE BENEFITS OF 5S

  - The majority of the staff of these pilot hospitals does not believe that the 5S implementation increases their workload.

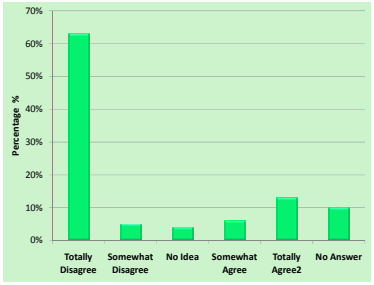

FIGURE 3- 10: OPINION REGARDING THE INCREASE IN WORKLOAD DUE TO 5S

Details of the study are present in the Resource book II: 5 S TQM.

B.2 FINAL ASSESSMENT AND AUDITING OF THE PILOT HOSPITALS IN NWP

Implementation of the 5S and other quality improvement methods require constant reviews and modifications of the actions. External assessment can objectively address what has been accomplished and what has not. For the hospitals, auditing provides an invaluable opportunity to reflect their 5S practices thereby finding the ways for further improvement.

- Overall Assessment
  - All hospitals had set priority in improving certain locations first, and OPD area and outside/inside premises were chosen in general. Laboratory and kitchen are the two areas where less priority was given. Compared to Wards and OPD area, labour room scored lower achievements in all five S aspects. It is apparent that dealing with non-clinical setting is less complex and

hospital management preferred to start improvement in non-clinical areas to show positive changes before tacking the more complex areas.

- Key findings were as follows
  - All Hospitals had paid adequate attention to remove unwanted items particularly from OPD, ETU, Clinic areas, Dispensary, outside & inside premises and the office.
  - Storing of drugs was quite satisfactory whereas adoption of red tag system varied from Hospital to Hospital.
  - In relation to organizing things in order, outside & inside premises had been attended more than in other locations, which were commonly observed in all Hospitals.
  - Basic principles to follow for arranging items such as "Can see, Can take out, Can return" and X-Y axis were well practiced in most of the locations in all Hospitals.
  - Cleanliness on average lagged behind among the first three Ss. Even at institutional level the concern given for cleaning in different locations differed, which resulted in creating some neglected areas.
  - It was found that availability of cleaning responsibility schedule was a good indicator of actual cleanliness.
  - OPD area was kept according to standards better than in any other locations at three hospitals and it was the Record Room at two hospitals. On the other hand, laboratory had the lowest average standards among all locations in all hospitals where this facility was available. As a whole, office was also given a lower priority in setting standards.

Details of the Final assessment process are included in the Resource book II: 5 S TQM.

B.3 JICA- EBM QUALITY AWARDS CEREMONY- 2007

Part of phase four implementation of 5S-TQM is to share and communicate the results of the final assessment/audit to all parties involved. Based on the results of this assessment, an Awards Ceremony was organised under the title of "JICA-EBM Quality Awards Ceremony, 2007".

Under the patronage of JICA country representative, and the secretary of MoH, the ceremony was held in August 13, 2007 with an participation of about 80 invitees of pilot hospitals, MoH, and other related institutions.

- The first award was won by TH Kurunegala as the best implementers of 5s-TQM
- Other Hospitals won Merit Awards for the following aspects;

- GH Chilaw : Achievements in short time
- DH Dankotuwa : Quality Improvement Team Achievements
- PU Madampe : Community Involvement Efforts
- BH Kuliyapitiya : Quality Improvement efforts in a 5S Zone (Drug Store)

B.4 How likely is the 5S-TQM practice to sustain at the Pilot Hospitals?

Focus group discussions (FGDs) were carried out in the five pilot hospitals, where 10 to 14 staff members from each hospital, representing all categories, were asked their opinion on the sustainability of the Quality Improvement Programme in their hospital after the end of the pilot period. The discussions addressed three main areas;

- Demands
- Institutional Capacity
- Enabling environment

The results of the FGDs obtained invaluable feedback that would be useful for planning the next phase of the National Quality Management Programme.

- OVERALL ANALYSIS

All five hospitals indicated that they have potentials to sustain the 5S-TQM activities. However, human factors, training, policy and support from RDHS are commonly mentioned as a problem or inadequate in most hospitals.

Human factors included lack of adequate number of minor staff and lack of support from Consultants. Three out of five hospitals found it somewhat difficult to continue organising training programmes for their staff. All hospitals acknowledged a lack of policy support to enforce and sustain the activities. Finding sufficient funds to start the activities was a challenge to the pilot hospitals. This indicated that timely support from the RDHS office would be crucial for the sustainability of their activities. Clear guidelines to enforce quality requirements to the hospitals would be fundamental to ensure the sustainability of the programme.

Policy Implications

- Guidelines should be developed to set up quality requirements of the hospital.
- A coordinated network should be established at central and regional levels to help the hospitals in sustaining their quality management programme.
- A mechanism to provide systematic and continuous training should be in place.

C. Responsiveness to People's Expectations

TH Kurunegala was able to solve the problem of inconveniencing patients at the Dispensary. The large number of patients patronizing the health services from this hospital was subjected to a great inconvenience due mainly to the practice of dispensing drugs to all patients as well as to the hospital staff from one counter.

With the introduction of 5S methodology the 3 separate counters were setup to dispense drugs; one for OPD and heart patients, another for clinic patients and another for the hospital staff and Security service personnel.

This procedure was quickly adopted, and it has since then dramatically improved the dispensing system by pre-packaging the common drugs separately, allowing each Pharmacist to keep an inventory of Drugs in his/her cupboard on a tiered system and keeping the fast moving Drugs on a prioritized system within the easy reach of the Dispensers/Pharmacists.

This exercise was resulted in reducing the Dispensing Time less than 60 seconds per patient. The duplication of work within the Dispensary Sub-Store was also minimized to a great extent by following the 5S methodology.

D. SAFETY OF HOSPITAL CARE

The health sector is a high-risk area because adverse events, arising from treatment rather than disease, can lead to serious damage, complications, patients suffering and death. Although several hospitals and healthcare settings have set procedures in place to ensure patients safety, the health care sector still lags behind other industries and services that have introduced systematic safety processes.

D.1 SOLUTIONS FOR HOSPITAL HAZARDS

Areas of potential hazards to the patients and hospital staff should be seriously considered in any Quality Management Programme. Areas of immediate danger to patients and staff have been addressed at the pilot hospitals.

- Securing Electric Wiring in the hospital
  The re-wiring of DH Dankutowa was done successfully with assistance of local company. The re-wiring of PU Madampe was done with assistance of a donor, but the work process was delayed due to administrative procedures.
- Improving the quality of Water Supply.
  - GH Chilaw was managed to solve the problem of poor Quality of Water-Intake to the Dental Unit with private sector participation

Safety interventions will reduce the possibility of accidents. It will also have a positive impact on the status of the hospital as a community member.

FIGURE 3- 11: THE NEW WATER PURIFICATION UNIT AT THE DENTAL DEPARTMENT, GH CHILAW

FIGURE 3- 12 IMPROVING INFRASTRUCTURE OF PU MADAMPE WITH COMMUNITY INVOLVEMENT

E. COMMUNITY INVOLVEMENT

Positive effect of establishing an active Hospital Development Committee to enhance Public Assistance was observed at PU Madampe.

It was observed that there were several Infrastructure development that could not be supported by the government. It was also witnessed that several projects were carried out with community involvement and private sector contribution. A clear difference as an example could be seen in the outlook of PU Madampe.

3.4 THE ROADMAP

The proposed National Action Plans are responding to three main goals, (number 2, 3 and 4) of the draft National Policy of Quality and Safety for Hospitals **(See section 3.5.1)**. The first project, concerning the organizational development, is considered a prerequisite to all other projects as it serves as the backbone of the National Quality Management Programme.

The proposed Projects are;

- Organizational Development for the QMP.

  For implementation under the second policy goal: Managerial systems.
- Implementation of National clinical guidelines in the MoH hospitals.

  For implementation under the third policy goal: Clinical Practice.
- Establishment of a Risk Management to ensure patient and staff safety in the MoH health Institutes.

  For implementation under the fourth policy goal: Risk Management and Safety.

The proposed plan of action is to be finalized after review and receiving comments of stakeholders.

3.4.1 PROFILE OF THE PROPOSED PLAN OF ACTION

- **Project Title:** Organizational Development for the Quality Management Program
- **Project Duration:** To be decided
- **Focal Point:** DDG/MS
- **Implementing Agencies:** Quality Secretariat
- **Target Areas & Beneficiaries**
  Main beneficiaries of this project include public hospitals at the tertiary, secondary, primary and peripheral levels. Outcomes of this project will benefit the health care receivers as well as the providers of the public hospitals in Sri Lanka.

A. JUSTIFICATION

Implementation of a responsive health care system has been a long felt need in Sri Lanka. A growing dissatisfaction with the quality of hospital services is prevalent across the country. The past study shows that waiting time comprises 98% of the time spent in hospitals. Overcrowding at the OPD and long waiting time for registration and at the drug counter are so common in the secondary and tertiary level hospitals in Sri Lanka.

Absence of rigid rules and regulations for hospitals on the standards of hygiene, maintenance of facilities, waste disposal, and sewage system adversely affect quality and safety of public hospital services. A survey (in 2003) shows less than 50% of medical equipments is in working condition, simply due to lack of periodic inspection and calibration, not to mention inappropriate usage on the part of the staff.

Clinical performance can hardly be maintained in a disarrayed work environment with unwilling staff. The Castle Street Hospital for Women and many other public hospitals in Sri Lanka have proven this point after introducing organizational development through a simple and low-budget management tool. The technique helps to identify management issues that need improvement.

B. OBJECTIVES & OUTPUTS

B.1 OBJECTIVES

To develop a structure and mechanism at the central and provincial/district levels for the implementation of the nation-wide implementation of the National Quality Management Programme (QMP) Expected Output and Activities

B.2 OUTPUTS

- A mechanism to support the implementation of the QMP established at the central level
- A structure developed and capacities of the Provincial/ District Offices strengthened for coordinating QMP with the QS and the QMU of regional hospitals
- Information system established to monitor changes
- An auditing system established for National Health Excellence Awards

3.4.2 RELATED PROJECTS/PROGRAMMES

A. IMPLEMENTATION OF NATIONAL CLINICAL GUIDELINES

(To be finalized after review and receiving comments of stakeholders)

- **Project duration:** To be decided
- **Focal point:** DDG/MS
- **Implementing Agencies:** QS supported by the Advisory Committee on Clinical Quality (to be appointed)
- **Target Areas & Beneficiaries**
  The main beneficiary would be the care seeking population at the MoH hospitals at Teaching, Provincial General, District General, Base Hospitals, and District Hospitals. The care providers will also

benefit from clear guidance being provided to manage patients efficiently.
The health administration would also benefit from being able to plan requirements as there is uniformity in the management.

A.1 JUSTIFICATION

Sri Lanka has been proud of the health indicators reflecting the clinical care in the health institutions, such as the maternal mortality and infant mortality rates. This has been due to the clinical excellence reached through the commitments of the care providers who set clinical standards in their individual capacity.

- As new frontiers open out in the different specialties of medicine, need for incorporating the new information in to the clinical practice in the MoH hospitals without undue strain on the available resources becomes very important.
- At the same time efficient and timely utilization of resources in the provision of care which must be provided expeditiously saving precious minuets in emergency situations too is of utmost importance.
- All these objectives could be achieved by the use of Clinical Guidelines in the health care institutions. Well documented instance of reduction of venous thrombosis in the UK after clinical guidelines were implemented is well known. Long felt need of clinical Guidelines has been fulfilled recently in the MoH hospitals by the development of Guidelines on 93 Clinical Guideline. These will reach the hospitals within the next one month.
- It is very important to sensitize the care providers not only about the content but also on the advantages of using them. This project will ensure the use of these guidelines not only by advocacy but also by identifying the gaps in the necessary resources and providing a satisfactory environment to implement the guidelines.

A.2 OBJECTIVES

To improve the clinical care provided with respect to the 93 clinical conditions by the efficient implementation of the clinical guidelines.

A.3 OUTPUTS

- Setting up a stage (strengthening the health system) to use the guidelines efficiently
- Capacity building of the health care providers in order to implement the guidelines
- Systems to monitor and evaluate compliance with the guidelines and assess the impact

B. ESTABLISHMENT OF A RISK MANAGEMENT SYSTEM TO ENSURE PATIENT AND STAFF SAFETY

- **Project title:** Establishment of a Risk Management System to ensure patient and staff safety in the MoH health Institutions
- **Project duration:** To be decided
- **Focal point:** DDG/MS
- **Implementing Agencies:** QS supported by the Advisory Committee on Clinical Quality (to be appointed)
- **Target Areas & Beneficiaries**
  This project will first be piloted in a few hospitals the Teaching Hospital level and later in the other levels. Later, the practice will be scaled up to the provincial-wide implementation.
  Main beneficiaries will be health care providers and recipients, and their families.

B.1 JUSTIFICATION

The term Risk Management is applied to a number of diverse disciplines. For the health care providers, it could be considered as a form of quality assurance. Clinical risk management is an approach to improve the quality of care and ensure safe delivery of health care by placing special emphasis on identifying circumstances that put patients at risk of harm, and acting to prevent or control these risks.

- A similar approach targeting the staff safety too is important in a country like Sri Lanka. Therefore, an integrated approach is suggested. It is difficult to estimate the frequency of adverse events happening to the patients in Sri Lanka as there is no record of such events maintained. Individual events are managed as and when they occur to the best of the ability of those involved.
- However, by the media reports of such events and the increasing number of legal interventions, the numbers of adverse events must be considerable although it is not surprising, considering the work load of the MoH hospitals. It is timely that a system to identify, document, and evaluate these adverse events is established in order to take preventive actions.

B.2 OBJECTIVE

To Improve the clinical care and staff safety by minimising adverse events.

B.3 OUTPUTS

- Establishment of Central Risk Management Unit
- Establishment of 4 local Risk Management Units
- Setting up of the mechanism to implement Risk Management and staff safety (Incident Management System)

3.5 POLICY CONSIDERATION

3.5.1 FORMULATION OF A NATIONAL POLICY ON HOSPITAL QUALITY & SAFETY

A. RATIONALE FOR A POLICY ON QUALITY

In the recent past, a few attempts were made to institute the National Quality Assurance Programme, but the programme did not fully take off due mainly to the absence of a clear policy and strategies that could trigger a coordinated set of actions for quality improvement. Even the current efforts of the 5S programme will not succeed unless a clear policy is developed. The development of a policy on hospital quality and a strategic plan has been a long-felt need in Sri Lanka.

B. PROCESS OF DEVELOPMENT

A draft policy on hospital quality was first developed in 2006 under the support of the WHO. It remained incomplete until the Ministry decided in early 2007 to finalise it as a National Policy on Hospital Quality and Safety. The committee, led by the Deputy Director General (Medical Services) of the Ministry as well as a working group was organised for this purpose. Its tasks included review of the priorities and performances of the existing policies and to study the various dimensions and domains relevant to quality of care and safety.

The working group undertook a SWOT analysis on the weaknesses and opportunities of the current service quality at the hospitals in order to identify the priority strategic areas of the policy. Then, the committee finalised the selected policy goals and strategic options that achieve the stated policy goals.

C. KEY FEATURES OF THE DRAFT POLICY

The formulation of a policy on quality was based on the framework published by the USA Institute of Medicine (2001) that draws attention to 6 areas namely Patient safety, Timeliness, Effectiveness, Efficiency, Equity and Patient centeredness, where process changes can improve care.

The main features of the draft policy include change of

Policy on Hospital Quality and Safety

Vision

- Sri Lankan Hospitals will be recognised for excellence in provision of high quality care of international standards.

Mission

- Provide a hospital service of demonstrable high quality through continuous improvement of quality and safety in response to customer/patient expectations with full involvement of the staff and stakeholders

organizational behaviour towards more customer-focused care, shared responsibilities; evidence based clinical practice, mechanisms for risk management, empowerment of health staff, enhancing equity and supporting leadership development at all levels.

Eight policy goals embody these key features:

- Goal1: Customer/Patient Satisfaction
- Goal 2: Managerial systems
- Goal 3: Clinical Practice
- Goal 4: Risk Management and Safety
- Goal 5: Staff Competence and Welfare
- Goal 6: Institutional Strengthening
- Goal 7: Health Promotion
- Goal 8: Enabling and Internal Environment to Quality

This policy is considered as the final draft presented to the Honourable Minister of Healthcare and Nutrition for his approval. The detailed document of Quality and Safety Policy is available in the Resource book II: 5 S TQM of EBM study.

3.5.2 OPERATIONALISING THE POLICY

A framework of implementation of the policy strategies has to be developed next. The successes of the strategies depend on the commitment of all employees, strong leadership having the capacity to make decisions to modify activities in response to feedback.

Policies such as setting up of a viable organizational structure with a steering committee at national level and similar committees at provincial/district levels would help them to play a leadership role in sustainability of the program. Policy also needs stakeholders to play a major role and they should be involved in development of the system and monitoring of progress.

For scaling up, a phased approach has to be sought.

A. RECOMMENDED STRATEGIES FOR IMPLEMENTION THE NATIONAL QUALITY MANAGEMENT PROGRAM IN SRI LANKA

A.1 STRENGTHEN THE ROLE OF THE QUALITY SECRETARIAT (QS)

- Reviewing and updating the position of the QS in the MOH organogram and its financial situation.
- Reviewing and updating the organizational chart of the QS. Continuous reviewing and updating of the functions of the QS.

A.2 BUILDING UP CAPACITIES FOR QUALITY IN ALL HEALTH PROVINCES

- Develop a Quality department at the provincial level and at the district level
- Conduct Training of Trainers (TOT) at the level of the province and then expand at district level.

A.3 CREATE DEMAND FOR QUALITY IN HEALTH SERVICES

- Disseminate quality concepts to increase quality awareness among all stakeholders.
- Announce to the public the best performing facilities periodically.

A.4 ENSURE COORDINATION AMONG MAIN PARTNERS OF HEALTH CARE

- Establish a network among health partners.
- Establish data base for quality management.
- Establish a Multi–institutional Quality Committee to coordinate quality activities among different partners.
- Establish a Central Committee from different sectors of MoH to coordinate quality activities, unify concepts, and approaches among different sectors.

A.5 ESTABLISHMENT OF MONITORING SYSTEM

- Establish a system for data collection and comparative analysis.
- Develop a set of quality indicators to measure performance for primary, secondary, and tertiary health care.
- Introduce health care accreditation system in Sri Lanka.
- Enhance leadership commitment to the new program.
- Establish committees to establish standards, accreditation tools, and training activities on relevant topics.
- Involve collages to support the system.