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Ministry of Healthcare and Nutrition  
Democratic Socialist Republic of Sri Lanka (MOH)  
Japan International Cooperation Agency (JICA)

The Development Study on  
Evidence-Based Management for the Health System in Sri Lanka

Resource book II  
**5S - TQM**

Evidence For Decisions, Actions and Health

Final Report  
Volume 3

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**Message From Japan International Cooperation Agency**

In response to a request from the Democratic Socialist Republic of Sri Lanka, the Government of Japan decided to conduct “The Study on Evidence-Based Management for Health System” and entrusted to the study to the Japan International Cooperation Agency (JICA).

JICA selected and dispatched the study team headed by Ms. Akiko Shimooka of Global Link Management Co., LTD. from October, 2005 to September, 2007.

This report was developed from enormous efforts between the study team and the officials concerned of the Government of Sri Lanka after a series of field surveys and pilot studies. Upon returning to Japan, the team conducted further studies and prepared this final report.

I believe that this report will contribute to the promotion of Sri Lanka’s effort in this field and to the enhancement of friendly relationship between two countries.

Finally, I wish to express my sincere appreciation to all the persons concerned for their close cooperation extended to the study.

September 2007

**Yoshihisa Ueda,**

Vice President

Japan International Cooperation Agency



September 2007

Mr. Yoshihisa Ueda,  
Deputy Vice President  
Japan International Cooperation Agency  
Tokyo, Japan

**Letter of Transmittal**

Dear Sir,

We are pleased to forward herewith the Final Report for “The Development Study on Evidence-based Management for the Health System in Sri Lanka.”

This report compiles the results of the study which was conducted from October 2005 through September 2007 by the Study Team organized by Global Link Management Inc. under a contractual agreement with the Japan International Cooperation Agency (JICA).

The Final Report consists of four separate volumes: one Main Report and three Resource Books. The Main Report titled “Roadmap for Implementation” presents the action plans and proposals of the Ministry of Health, Sri Lanka for the next 2 to 5 years, covering the three strategic programme areas identified in the Sri Lanka Health Master Plan. The Resource Books present the results of the technical surveys and case studies together with the survey tools and analysis. They contain the evidence based upon which the action plans were developed. The Resource Books will help stakeholders in Sri Lanka as well as interested parties in Japan in planning and programming future activities.

We would like to express our sincere gratitude and appreciation to the officials of your agency and the JICA Advisory Committee for guidance and advice provided during the execution of the study. Our appreciation would also go to the people in Sri Lanka who tirelessly worked with us, guided us and supported us for the last two years.

We are confident that the results of the Study, including the intangible knowledge and skills shared with our Sri Lankan counterparts, as well as the acknowledged change in mindset the study enabled will make a significant contribution to the Sri Lankan Health System in its future development.

Sincerely Yours,

**Akiko Shimooka**  
Team Leader  
The Development Study on Evidence-based Management  
for the Health System in Sri Lanka  
Global Link Management, Inc.



## Preface

The Government of Sri Lanka and the JICA agreed to jointly undertake the development study on "Evidence-Based Management (EBM) for the Health System in Sri Lanka". The Study, referred to as "the EBM Study", commenced in October 2005. The EBM Study consists of three components. Overall, they contributed to meet the new challenges faced by the Sri Lankan health system: transition in epidemiological pattern; increased public expectations of healthcare services; and increasing demand for efficient use of health finances. The three programme areas of Quality Assurance, Health Sector Financial Information Management, and NCD Prevention and Management directly correspond to these three challenges.

The overall aim of the EBM Study was to initiate a pilot process that will give valuable feedback on standard good practices in managing change. It also helped identify the conditions that need to be in place for effective implementation. The conditions identified included policies, regulations, resource requirements as well as mechanisms and methodologies that need to be in place both at the ground level and at the regional and central level.

### 1. Structure of the Final Reports

The results of the EBM Study are presented in the "Main Report" and in three separate "Resource Books".

Composition of the Final Reports	Title
Main Report	Roadmap for Implementation
Resource Book I	Resource Book I: Cost Accounting
Resource Book II	Resource Book II: 5S-TQM
Resource Book III	Resource Book III: NCD

#### A. Main Report

This document acts as the roadmap for the implementation of three key programme areas that were prioritised in the Health Master Plan (HMP): 1) Quality Assurance; 2) Health Sector Financial Information Management; and 3) NCD Prevention and Management. It discusses the intent and commitment of the Ministry of Healthcare and Nutrition (MoH) for the next 2 to 5 years.

The action plans and proposals contained in the Main Report were developed to support, refine, expand or update the project profiles that were originally drafted in 2005 as part of the HMP. They outline an implementation framework that was formulated based on evidences from past practices and from the EBM Study.

The Main Report, titled 'Roadmap for Implementation', is the lead document to three other documents entitled "Resource Book I: Cost Accounting", "Resource Book II: 5S-TQM", and "Resource Book III: NCD". The Main Report consists of 6 chapters:

<p><b>Chapter 1</b> <i>Introduction</i></p>	<p>Chapter 1 presents an overview of the health sector and its challenges, together with a brief introduction to the scope and contents of this report.</p>
<p><b>Chapter 2</b> <i>Costing for Hospital Management</i></p>	<p>These four chapters set out the action plans and proposals for three key programme areas of the Health Master Plan. They also explain the basis upon which the action plans and proposals were developed. The chapters contain five sections:</p> <p>1) Challenges; 2) Local Initiatives; 3) Pilot Interventions; 4) The Roadmap; and 5) Policy Considerations.</p> <p>The action plans or proposals are described in Section 4 of each chapter, and is titled `The Roadmap`.</p>
<p><b>Chapter 3</b> <i>Hospital Quality &amp; Safety</i></p>	
<p><b>Chapter 4</b> <i>Chronic NCD</i></p>	
<p><b>Chapter 5</b> <i>Trauma</i></p>	
<p><b>Chapter 6</b> <i>Operationalising the Action Plans</i></p>	<p>This chapter discusses key considerations for actual operationalisation of the intent and commitment as they are reflected in the action plans and proposals.</p>
<p><b>Annexure</b> <i>Action Plans</i></p>	<p>Action plans and proposals are presented in a template format, which summarises project profile, strategic framework and plan of actions.</p>

Each chapter starts with a set of key messages in bullets. Each message gives concise descriptions of main issues, challenges, concepts, activities and the main results. In combination, they convey a snap-shot of the proposed programme areas.

## B. Resource Books

The Resource Books served as the platform upon which the action plans and proposals were formulated. They also contain substantial evidence and management tools related to the three key programme areas. In contrast to the summary of information presented in the Main Report, the information carried in the Resource Books is more technical and detailed, giving both statistical data and descriptive information on the results of situational analysis, survey instruments, training manuals, case studies, etc.

The intended users of these books include stakeholders in the target areas of the action plans and proposals presented in the Main Report, potential planners and implementers of the similar projects, researchers and students who are interested in the subject areas, and the like.



## B.1 Costing

<p><b>Chapter 1</b> Key Issues &amp; Challenges</p>	<p>The first chapter illustrates costing as an essential activity in the context of the current budgetary problems in Sri Lanka while highlighting the present status of inefficient costing information available at the institutional level. The chapter also provides the concepts of accounting.</p>
<p><b>Chapter 2</b> Overview of The Component</p>	<p>This chapter presents the study plan in detail, including listing the objectives, activities and planned outputs relating to improvement of hospital management through cost accounting.</p>
<p><b>Chapter 3</b> Literature Review &amp; Case Studies</p>	<p>The third chapter focuses on the basis on which the costing exercises were carried out. The topics include: the literature survey (involving both hospital based and disease management-based studies); the management needs survey that highlights the shortcomings of the current reporting systems and the lack of skills in costing and financial management among hospital management; and the studies of the supply of pharmaceuticals and hospital costing in the private sector in Sri Lanka.</p>
<p><b>Chapter 4</b> Methodology Development</p>	<p>The costing system at Sri Jayawardenepura General Hospital (SJGH) was studied in detail in this Chapter. The methodology involved in the step-down cost accounting is presented, drawing on its operationalisation at SJGH and the results derived. Section 4.3 then uses the step down unit costs of the two pilot hospitals in Kurunegala district along with time studies carried out at the Colombo North Teaching Hospital, to derive disease management cost estimates for five selected conditions/treatment procedures.</p>
<p><b>Chapter 5</b> Pilot Implementation: Hospital-Based Costing</p>	<p>Chapter 5 presents the results of step-down cost accounting in the two pilot hospitals followed by comparisons of unit costs across medical specialities and units/wards.</p>
<p><b>Chapter 6</b> Way Forward</p>	<p>The final chapter summarises outcomes of the pilot implementation at two hospitals, and discusses policy concerns in the context of adopting managerial cost accounting in Sri Lanka.</p>

## B.2 5S-TQM

<p><b>Chapter 1</b> Key Issues &amp; Challenges</p>	<p>This chapter introduces key issues and challenges that the public hospitals in Sri Lanka face. It also summarises key concepts related to quality in particular in the context of the health sector. Finally the chapter provides an overview of principles that constitute hospital quality.</p>
<p><b>Chapter 2</b> Component Overview</p>	<p>This chapter provides an overview of this component, describing the study aim, objectives, strategies and outputs. It also briefs the North Western Province and five hospitals selected for pilot interventions. Working arrangements and implementation schedule were also presented in the end of this chapter.</p>
<p><b>Chapter 3</b> Situational Analysis</p>	<p>This chapter is devoted to describe local situations on the target province as well as profile of five pilot hospitals and their baseline information. Results of the studies on clinical pathway, patient/staff satisfaction, and best practices in the selected hospitals are also presented together with the stakeholder analysis.</p>
<p><b>Chapter 4</b> Methodology &amp; Strategies</p>	<p>The chapter describes approaches and strategies to enhance hospital quality. The 5S technique is described as a basis for the total quality management and its operations are detailed in phases.</p>
<p><b>Chapter 5</b> Implementation &amp; Assessment</p>	<p>Preliminary and final results of the pilot implementation at five selected hospitals are given. The chapter also documents the process and results of the final assessment of 5S implementation done by using two tools: KAP study and 5S audit. Analysis provides some common factors that contributed to the successful implementation of 5S at the selected hospitals. The chapter ends with a brief summary of activities carried out at the central level: development of 5S implementation guidelines and M&amp;E quality tools.</p>
<p><b>Chapter 6</b> Way Forward</p>	<p>The last chapter describes the process and main features of the recently drafted national policy on Quality and Safety in Hospitals. It also summarises the challenges for sustaining the 5S-TQM programmes at the hospital levels.</p>

**B.3 NCD**

➤ **Part 1**

This part encompasses the concepts of Non-communicable Diseases, the government and other parties that are involved in the management of Non-communicable Diseases, the challenges they face, and the activities and outputs of the EBM Study.

<p><b>Chapter 1</b> Conceptual Framework</p>	<p>This chapter describes why prevention and management of NCD was selected for EBM Study. It gives an overview of factors contributing to chronic NCDs as well as Trauma. Finally it describes strategies or approaches to prevent and control chronic NCD and Trauma.</p>
<p><b>Chapter 2</b> Stakeholders</p>	<p>Chapter 2 focuses on government stakeholders and other partners like professional organisations, unions, non-governmental organisations, research and academic institutions and media. It discusses the survey done to identify the roles of stakeholders in the management of non-communicable diseases in Sri Lanka and to explore the limitations for progress in their activities.</p>
<p><b>Chapter 3</b> Key Issues &amp; Challenges</p>	<p>This chapter defines some of the key challenges the health system in Sri Lanka is facing. The discussion is mainly focused on issues that pertain to chronic NCD and trauma.</p>
<p><b>Chapter 4</b> EBM Study On NCD</p>	<p>This chapter presents the purpose and output of NCD component. Outputs are described by areas of interest. It also focused on activities to deliver the outputs by each subcomponent like evidence base, trauma system, healthy life system and information system.</p>

➤ Part 2

Part 2 is on chronic NCD and consists of 6 chapters. This part discusses extensively the chronic non- communicable diseases and the burden they impose on the world as well as Sri Lanka. It considers the actions that can be taken to address the chronic NCD burden, including what can be done about the early life factors. This part also describes the pilot implementations that were done in Kurunegala and Polonnaruwa.

<p><b>Chapter 5</b> Chronic NCD Burden</p>	<p>This chapter focuses on the burden of chronic NCD. It describes the trend in morbidity and mortality of main chronic NCDs. It also gives an overview of biological risk factors, behavioural risk factors and other risk factors of chronic NCD.</p>
<p><b>Chapter 6</b> Chronic NCD Strategies &amp; Programmes</p>	<p>The second chapter is about the strategies and programmes for the prevention and control of NCD. It describes the WHO global strategies and the recommendations to address the main risk factors for Chronic NCD as well as the interventions, programmes, projects started by the EBM Study to address these issues.</p>
<p><b>Chapter 7</b> Early Life Factors</p>	<p>This chapter is on the study undertaken to find out the relationship between early life factors and non-communicable diseases.</p>
<p><b>Chapter 8</b> Behavioural Risk Factors In Kurunegala</p>	<p>The fourth chapter describes the behavioural risk factors found in the Kurunegala district. Unhealthy diet, physical inactivity, tobacco and alcohol use and inability to cope with persistently high levels of stress have been identified as risk factors to develop chronic NCD. Options to address each of these risk factors, communication messages and finally the indicators to assess the progress is described in this chapter.</p>
<p><b>Chapter 9</b> Chronic NCD Prevention In Kurunegala</p>	<p>Chapter 5 is a detailed account of the pilot implementation of the Healthy Lifestyles Programme in Kurunegala. Advocacy and building a broad base of supporters, assessment of baseline status in 4 settings, training of trainers and finally review of t Healthy Lifestyle programme in Kurunegala are discussed.</p>
<p><b>Chapter 10</b> Chronic NCD Surveillance In Polonnaruwa</p>	<p>The final chapter presents the pilot implementation of the chronic NCD surveillance system in Polonnaruwa. It gives an overview of the disease surveillance activities in Sri Lanka and activities conducted in Polonnaruwa in relation to surveillance. Formulation of a minimum data set for chronic NCD, development of a surveillance system and training programmes for implementation of chronic NCD surveillance system are described.</p>

➤ Part 3

Part 3 is on Trauma and it has 6 chapters. This includes an insight into the actual burden of trauma in Sri Lanka, the actions that can be taken and that are already taken to address this burden, and the final conclusions including the new policies and plans derived from the pilot implementations.

<p><b>Chapter 11</b> Trauma Burden</p>	<p>The first chapter presents the burden of trauma on the health system and economy of Sri Lanka. It describes the morbidity, mortality and the cost of trauma in Sri Lanka.</p>
<p><b>Chapter 12</b> Trauma-Strategies &amp; Programmes</p>	<p>Strategies and programmes for prevention of trauma have been discussed in this chapter. It is explained in certain levels such as safety promotion, pre-hospital care, in-hospital care and rehabilitation.</p>
<p><b>Chapter 13</b> Development of a Coordinated and Sustainable Trauma System</p>	<p>The third chapter discusses the development of a coordinated and sustainable trauma system, establishment of the Trauma Secretariat, organisation of the Trauma System Development Committee and proposals to expand them.</p>
<p><b>Chapter 14</b> Safety Promotion: An Initial Step</p>	<p>This chapter discusses safety promotion. The activities undertaken in relation to the UN Road Safety Week including exhibitions, media seminars, video presentations, street dramas and school education programmes are described in this chapter in great detail.</p>
<p><b>Chapter 15</b> Trauma Surveillance In Pilot Hospitals</p>	<p>The fifth chapter describes the trauma surveillance in 4 pilot hospitals, namely Teaching Hospital Kalubowila, General Hospital Kalutara, Base Hospital Horana and Base Hospital Panadura. Under this study Trauma, a surveillance record was developed to collect data and software was designed to enter the collected data.</p>
<p><b>Chapter 16</b> Emergency Treatment Units: An Exploratory Review</p>	<p>The studies on Emergency Treatment Units and Primary Care Units are discussed in the sixth chapter.</p>

## **2. Profile of the EBM Study**

### **A. Study Objectives**

A key aim of the EBM study was to set in motion of change that would act as a catalyst for future developments in the key programme areas identified by the Health Master Plan by initiating a first step in implementing some core aspects of the HMP on a pilot basis.

### **B. The Principle Approach**

The principle approach adopted in this study was to develop an evidence-based management system for the healthcare sector in Sri Lanka. Evidence-based health care takes place when decisions that affect the care of patients are taken with due weight accorded to all valid and relevant information. The need for an evidence-based healthcare system for Sri Lanka was also highlighted in the HMP. While the evidence-based approach has already been practiced in clinical medicine, its application to healthcare management, particularly hospital management had been slow. Therefore, the approach of this study was relatively novel.

A system based on evidence is also transparent, and has numerous benefits. At the macro level, it helps in the identification of strategic priorities, as well as fund and other resource allocations. At the micro level, it helps in planning and prioritising activities. An evidence-based system also helps the donor community in formulating their assistance strategies. For this approach to work, managers need to have the necessary information to make decisions as well as possess the tools and techniques necessary to generate this information.

The EBM study consisted of 3 main components and the study attempted to adhere to this overall principle in undertaking each of the three components.

### **C. The Three Components**

**Component 1** dealt with improving healthcare service quality in public hospitals by reorienting the staff to implement a continuous quality improvement process. This process would ultimately lead to the establishment of Total Quality Management in public hospitals. As a first step, the EBM study, implemented the Japanese 5S quality improvement method on a pilot basis at 5 hospitals in the North Western province. This approach was not totally novel to Sri Lanka. The Castle Street Hospital for Women in Colombo has been well recognized for its successful implementation of the 5S approach and for transforming not only hospital operations, but also the mindset of workers. This bottom-up approach would lead to both increased employee satisfaction as well as patient satisfaction. This would then work in a self-reinforcing cycle resulting in the provision of improved healthcare services. With a view to sustain the 5S implementation and to proceed to Total Quality Management (TQM), the EBM Study introduced a continuous learning cycle (collaborative improvement approach).

**Component 2** dealt with the provision of rationalized financial information for the management of the healthcare system in Sri Lanka. As a first step, Component 2 developed a detailed cost accounting methodology for public hospitals. It initially focused on the design of a data collection methodology based on cost centres, which formed the basis for cost accounting. This methodology drew upon the step-down methodology in general, and the Japanese experience in integrating clinical and financial costing systems in particular. Based on the data collection methodology, pilot implementation of the new costing system undertook at 2 hospitals in the North Western province. Furthermore, the department level costing system (based on cost centres) also formed the basis for further analysis of costs based on disease type. Component 2 also undertook this additional analysis at the same two pilot hospitals, as well as at the Colombo North Teaching Hospital at Ragama. These programmes could be replicated at other locations as well. Once the cost accounting methodologies are adopted at all hospitals, it would form the basis for a rationalized database of financial information for the healthcare sector.

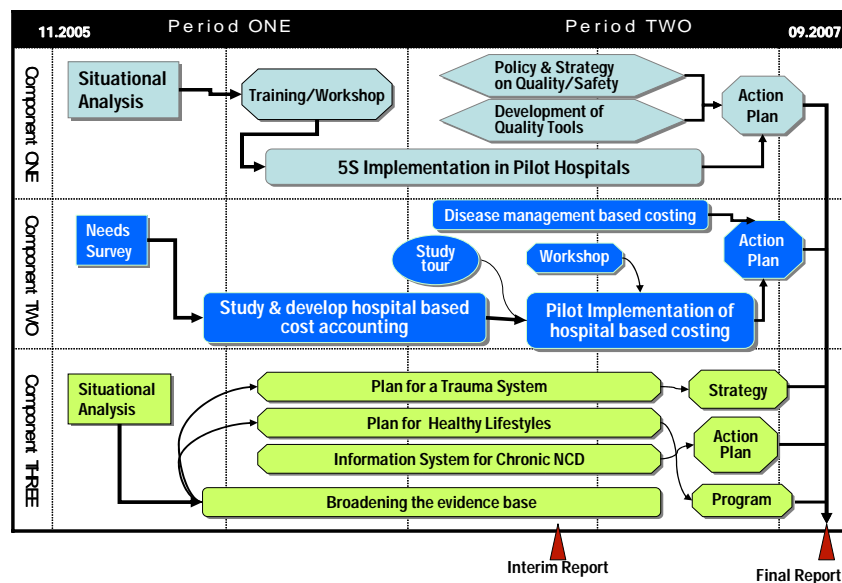
**Component 3** dealt with strengthening the capacity of the health sector and communities in the prevention and management of non-communicable diseases (NCDs), both chronic and acute, throughout the course of life. It was designed to complement or supplement the existing programmes of the government as well as to support the implementation of existing policies or the formulation of new ones. This component undertook a number of activities aimed at broadening the evidence base required for the prevention and management of NCDs. It used this broadened evidence base to plan and implement lifestyle change programmes, including social marketing campaigns and behavioural change communications, aimed at targeted groups. Specifically, its four-pronged strategy consisted of the following:

- Broadening the evidence base through the following means:
  - 1) Case studies and forums that highlight good practices in reducing the risk factors and underlying determinants;
  - 2) Research on the influence of early life factors;
  - 3) Focus group discussions on the knowledge, attitudes and practices of selected target groups (in the Kurunegala district);
  - 4) Advisory groups in building consensus on technical issues; and
  - 5) A symposiums on ensuring the effectiveness of policy processes and policies.
- Planning for safe communities and initial implementation of a trauma system, including an injury surveillance system in the Colombo South General Hospital (Teaching) Kalubowila, General Hospital Nagoda, Kalutara, and 2 base hospitals at Panadura and Horana.

- Pilot testing interventions to promote healthy lifestyles in Kuliapitiya division, specifically in 5 hospitals, 10 schools, 18 workplaces and in a village with 483 residents.
- Strengthening the information system in Polonnaruwa district so that it can generate, manage and use information on priority chronic conditions.

#### D. Work Flow

Figure 1 illustrates the work schedule for the EBM study. It shows the major activities/ tasks undertaken as part of the EBM study.



Each component started with a situational analysis, which included discussions with key stakeholders, and was aimed at gaining a comprehensive understanding of the ground situation, and identified the immediate focus for the study. Once this was done, the study moved to the target hospitals and populations for pilot implementation. The final stage of the study consisted of formulating strategies and action plans for future expansion.



Map of Sri Lanka





## Key Messages

### Key Issues and Challenges

- Several Challenges face the healthcare system of Sri Lanka in improving quality of its service delivery. One critical area is to ensure patient satisfaction: overcrowding and long waiting lines in the hospital Outpatient Departments and Clinics are very visible at any large public hospitals, which results in patient dissatisfaction.
- Another challenge is patient safety. Safety is tantamount to the prevention of harm to the patients. Adverse effects from wrong use or overuse of medicines or wrong surgical procedures are frequently reported. The health system should have an appropriate mechanism to record and monitor such events.
- Major factors affecting the hospital quality is the absence of proper organizational and institutional initiatives. These include absence of vision, weak leadership, inadequate skills and absence of regular review mechanisms.

### Component Overview

- The main purpose of the EBM study is to document the most suitable model for quality management program that could be implemented island wide.
- The main outputs of the EBM Study are development of: methodology and guidelines for 5S implementation, Quality Management system at pilot hospitals, and a proposal for the National Action Plan for Quality Management Program.

### Situational Analysis

- The baseline survey was undertaken to assess knowledge, attitude and practice of the hospital staff on the 5S practices. On average, 70% of the respondents at each pilot hospital scored satisfactory for the attitude test, but only 30% had satisfactory knowledge on 5S. The level of service quality, assessed by checklists which include multiple indicators addressing various quality elements. varied among the five pilot hospitals, the highest attainment being 70% and lowest 40%.
- The result of the patient satisfaction survey shows that patients tend to be dissatisfied with the present conditions of hospital facilities (tangibles), which is one of the key elements constituting `responsiveness` of the health care system defined in the WHO report 2000. The other study shows that 98% of time spent in the hospital is waiting time.
- Some public hospitals followed the steps of the Castle Street Hospital for Women to improve the quality of services through the Japanese style of management, 5S-TQM. The General Hospital Ampara won a number of awards, including the Pacific- Asian Quality Award (2007).

### **Methodology & Strategies**

- Successful implementation of 5S-TQM approach proved to be very effective in developing an organizational culture characterized by increased patient/ staff satisfaction and safety.
- The EBM Study adopted 5S as a basis for TQM to improve workplace and motivate staff.
- The collaborative approach which utilizes the application of a classic operations model, PDCA (Plan-Do-Check-Act) Cycle was identified as a suitable framework to establish, maintain, and continuously improve 5S activities.
- 5S implementation needs a minimum of 2 to 3 years until the programme becomes institutionalised as a routine practice in the hospital.
- Successful 5S implementation typically goes through a cycle of four phases, starting from preparation and Planning (organisation of quality management unit and working improvement teams, training), implementation (five Ss of Seiri, Seiton, Seiso, Seiketsu, and Shitsuke), and assessment (including monitoring) to taking actions.
- The bottom-up approach will work in a self-reinforcing cycle resulting in the provision of improved healthcare services in the long run.

### **Implementation & Assessment**

- 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.

### **Way Forward**

- 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.

- The absence of adequate institutional initiatives is the main factor inhibiting efforts aimed at improving quality of hospital care. To overcome this challenge, leadership at the institutions needs to be strengthened and skill levels need to be improved. In addition, systems such as regular review mechanisms, setting standards, etc. also need to be strengthened.
- There are ample models in Sri Lanka, which illustrate that public hospitals can replicate practical lessons learnt from elsewhere (e.g.: GH Ampara and CSHW). However, replication is still a significant challenge because most of the successful replications relied on strong and determined initiatives by individuals. However, this is often an unrealistic expectation. A systematic support network is essential for successful replication across the country, and currently, such a network (including systems and processes) is missing. Future efforts need to focus much attention on developing such support networks.



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## Abbreviations

### A

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<b>A&amp;E</b>	Accident & Emergency
<b>AA</b>	Assistant Accountant
<b>ADB</b>	Asian Development Bank
<b>ADIC</b>	Alcohol and Drug Information Centre
<b>AHF</b>	Ageing and Health Programme
<b>AMRO</b>	Assistant Medical Record Officer
<b>AOS</b>	Accident and Orthopaedic Service
<b>AOTS</b>	Association for Overseas Technical Scholarship
<b>ATLS</b>	Advance Traumatic Life Support

### B

---

<b>BCC</b>	Behaviour Change Communication
<b>BH</b>	Base Hospital
<b>BHK</b>	Base Hospital Kuliypitiya
<b>BHT</b>	Bed Head Ticket
<b>BMI</b>	Body Mass Index

### C

---

<b>CAP</b>	Cycle Action Plan
<b>CD</b>	Central Dispensary
<b>CIDAS</b>	Computerised, Integrated and Decentralised Accounting System
<b>CIGAS</b>	Computerized Integrated Government Accounting System
<b>CMC</b>	Colombo Municipal Council
<b>CNTH</b>	Colombo North Teaching Hospital
<b>CPR</b>	Cardio Pulmonary Resuscitation
<b>CQI</b>	Continuous Quality Improvement
<b>CSHW</b>	Castle Street Hospital for Women
<b>CSTH</b>	Colombo South Teaching Hospital
<b>CSSD</b>	Central Sterile and Supplies Division
<b>CVD</b>	Cardio-Vascular Diseases

### D

---

<b>DALY</b>	Daily Adjusted life Years
<b>DDG</b>	Deputy Director General
<b>DDGMS</b>	Deputy Director General Medical Services
<b>DGH</b>	District General Hospital
<b>DH</b>	District Hospital
<b>DIG</b>	Deputy Inspector General
<b>DMO</b>	District Medical Officer
<b>DPC</b>	Diagnosis Procedure Combination
<b>DPDHS</b>	Deputy Provincial Director of Health Services

### E

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<b>EBM</b>	Evidence-Based Management
<b>ECG</b>	Electro Cardiograph
<b>EEG</b>	Electro Encephalography
<b>EMS</b>	Emergency Medical Services
<b>EMT</b>	Emergency Medical Technician
<b>EPSC</b>	Expanded Productivity Steering Committee
<b>ER</b>	Emergency Room
<b>ET</b>	Endo Tracheal
<b>ETU</b>	Emergency Treatment Unit

<b>F</b>	
<b>FBS</b>	Fasting Blood Sugar
<b>FCTC</b>	Framework Convention on Tobacco Control
<b>FGD</b>	Focus Group Discussion
<b>FHP</b>	Foundation for Health Promotion
<b>G</b>	
<b>GDP</b>	Gross Domestic Product
<b>GH</b>	General Hospital
<b>GPS</b>	Government Payroll System
<b>GYN</b>	Gynaecology
<b>H</b>	
<b>HMP</b>	Health Master Plan
<b>HLS</b>	Healthy Lifestyle
<b>HR</b>	Human Resources
<b>HSDP</b>	Health Sector Development Project
<b>I</b>	
<b>ICU</b>	Intensive Care Unit
<b>IDD</b>	In Door Dispensary
<b>IMMR</b>	Impatient Morbidity and Mortality Registry
<b>IMR</b>	Infant Mortality Rate
<b>INGO</b>	International Non-Governmental Organisation
<b>INIH</b>	Italian National Institute of Health
<b>IPAQ</b>	International Physical Activity Questionnaire
<b>ISO</b>	International Organisation for Standardisation
<b>IUGR</b>	Intra Uterine Growth Retardation
<b>IV</b>	Intra Venous
<b>J</b>	
<b>JASTECA</b>	Japan Sri Lanka Technical & Cultural Association
<b>JDC</b>	Jewish Joint Distribution Committee
<b>JICA</b>	Japan International Cooperation Agency
<b>JIT</b>	Just in Time
<b>K</b>	
<b>KAP</b>	Knowledge, Attitude, Practice
<b>L</b>	
<b>LBW</b>	Low Birth Weight
<b>LCA</b>	Life Course Approach
<b>LKR</b>	Lanka Rupee
<b>LRH</b>	Lady Ridgeway Hospital
<b>LSCS</b>	Lower Segment Caesarean Section
<b>LSRD</b>	Lifestyle Related Diseases
<b>M</b>	
<b>MBNQA</b>	Malcolm Baldrige National Quality Award
<b>MCD</b>	Ministry of Child Development
<b>MDPU</b>	Management Development and Planning Unit
<b>MDS</b>	Minimum Data Set
<b>MH</b>	Maternity Home
<b>MO</b>	Medical Officer
<b>MoH</b>	Ministry of Healthcare and Nutrition
<b>MOH</b>	Medical Officer of Health
<b>MRA</b>	Medical Research Assistant
<b>MRI</b>	Medical Research Institute
<b>MRO</b>	Medical Record Officer
<b>MS</b>	Medical Superintendent
<b>MSD</b>	Medical Supplies Division

<b>N</b>	
<b>NCCP</b>	National Cancer Control Programme
<b>NCD</b>	Non-Communicable Disease
<b>NCPI</b>	National Committee for the Prevention of Injuries
<b>NDDA</b>	National Dangerous Drugs Authority
<b>NG</b>	Naso Gastric
<b>NGO</b>	Non-Governmental Organisation
<b>NHP</b>	National Health Policy
<b>NHSL</b>	National Hospital of Sri Lanka
<b>NNP</b>	National Nutritional Policy
<b>NPS</b>	National Productivity Secretariat
<b>NWP</b>	North Western Province
<b>O</b>	
<b>OBS</b>	Obstetric
<b>OD</b>	Organizational Development
<b>ODD</b>	Out Door Dispensary
<b>OPD</b>	Out-Patient Department
<b>P</b>	
<b>PATH</b>	Partnership Action on Tobacco and Health
<b>PCU</b>	Primary Care Unit
<b>PDCA</b>	Plan-Do-Check-Act
<b>PDHS</b>	Provincial Director of Health Services
<b>PHI</b>	Public Health Inspector
<b>PHNS</b>	Public Health Nursing Sister
<b>PHM</b>	Public Health Midwife
<b>PO</b>	Plan of Operations
<b>PSDG</b>	Provincial Specific Development Grant
<b>PSU</b>	Productivity Steering Committee
<b>PU</b>	Peripheral Unit
<b>Q</b>	
<b>QA</b>	Quality Assurance
<b>QC</b>	Quality Circle
<b>QMP</b>	Quality Management Programme
<b>QMT</b>	Quality Management Team
<b>QMU</b>	Quality Management Unit
<b>QMP</b>	Quality Management Programme
<b>QS</b>	Quality Secretariat
<b>R</b>	
<b>RDHS</b>	Reginal Director of Health Services
<b>RG</b>	Registrar General
<b>RMSD</b>	Regional Medical Supplies Division
<b>RTA</b>	Road Traffic Accident
<b>RTI</b>	Road Traffic Injuries
<b>RTIRN</b>	Road Traffic Injuries Research Network
<b>S</b>	
<b>SCU</b>	Stock Control Unit
<b>SJGH</b>	Sri Jayawardenapura General Hospital
<b>SLANA</b>	Sri Lanka Anti-Narcotic Association
<b>SLIDA</b>	Sri Lanka Institute of Development of Administration
<b>SLSI</b>	Sri Lanka Standard Institute
<b>SLT</b>	Sri Lanka Telecom
<b>SPC</b>	State Pharmaceutical Corporation
<b>SPHI</b>	Supervising Public Health Inspector
<b>SPHM</b>	Supervising Public Health Midwives
<b>STD</b>	Sexually Transmitted Diseases

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<b>STI</b>	Sexually Transmitted Infections
<b>SWOT</b>	Strength, Weakness, Opportunity, Threat
<b>T</b>	
<hr/>	
<b>TH</b>	Teaching Hospital
<b>THK</b>	Teaching Hospital Kurunegala
<b>TOT</b>	Training of Trainers
<b>THP</b>	Teaching Hospital Peradeniya
<b>TQM</b>	Total Quality Management
<b>TSDC</b>	Trauma System Development Committee
<b>TS</b>	Trauma Secretariat
<b>U</b>	
<hr/>	
<b>UN</b>	United Nations
<b>W</b>	
<hr/>	
<b>WB</b>	World Bank
<b>WHA</b>	World Health Assembly
<b>WHO</b>	World Health Organisation
<b>WIT</b>	Work Improvement Team
<b>5S</b>	Five Ss; Sorting, Set in Order, Shining, Standardisation, Self discipline

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## Chapter 1

# KEY ISSUES & CHALLENGES

### Key Messages

- Several Challenges face the healthcare system of Sri Lanka in improving quality of its service delivery. One critical area is to ensure patient satisfaction: overcrowding and long waiting lines in the hospital Outpatient Departments and Clinics are very visible at any large public hospitals, which results in patient dissatisfaction.
- Another challenge is patient safety. Safety is tantamount to the prevention of harm to the patients. Adverse effects from wrong use or overuse of medicines or wrong surgical procedures are frequently reported. The health system should have an appropriate mechanism to record and monitor such events.
- Major factors affecting the hospital quality is the absence of proper organizational and institutional initiatives. These include absence of vision, weak leadership, inadequate skills and absence of regular review mechanisms.



Certain drawbacks in the hospital-based healthcare delivery system in Sri Lanka have affected the quality and efficiency of the services rendered by it. Overcrowding apparent in the institutions of higher levels, by passing those of lower levels, is largely contributory in this regard. The imbalance in the quality of service between hospitals of different hierarchies and those of the same is unmistakable. Less priority given to the quality of services rendered at primary care level and lack of emphasis placed on the rights of the patients and patient satisfaction largely contribute to underutilization of small hospital in the country.

Chapter 1:

- Introduces key issues and challenges encountered by the public hospitals in Sri Lanka.
- Summarizes the key concepts related to 'quality' in the health sector.
- Provides an overview of principles which constitute the concept of 'hospital quality'.

## **1.1 QUALITY CHALLENGE IN HEALTH CARE**

Public hospitals in Sri Lanka are classified into different grades, markers being the location, bed strength, availability of specialist services etc. The quality of services expected when treating a wide spectrum of illnesses, requires dynamism in provision of services based on local demand. Emergence of new diseases, increase in the non-communicable diseases, rapidly changing knowledge base, new and refined diagnostic and curative technology, upliftment in the financing of health care 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 wide spectrum of patient-care measures, with their sequential and parallel procedures, assigned to different categories of staff; the time-consuming system which victimizes the patient.

This section attempts to highlight the challenges faced by the health sector in improving quality of services in a very complex environment. These challenges explain the rationale of the methodology and strategies that the EBM Study attempts to introduce.

### **1.1.1 PATIENT SATISFACTION**

One crucial challenge facing the quality is to ensure patient satisfaction. A very acute problem is the overcrowding and long waiting queues in hospital Out Patient Departments (OPD) and clinics. It induces patients to seek the services of the private sector which only a few of them could afford. Majority of the population in the country depends on public health care which eventually leads to the overcrowding in the state hospitals. Quality in the health sector should reflect safety, responsiveness, patient satisfaction and scientific validity of care. Responsiveness is the ability to fulfill 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. In the World Health Report 2000, WHO identifies responsiveness as a measure of identifying performance by the health system in relation to non-health aspects.

Long waiting queues, unhygienic environment, lack of basic amenities, procedural delays, callous attitude of staff devoid of respect are among the chief contributory factors for the dissatisfaction in the non-clinical areas as revealed by previous studies. Similarly, inadequate care, shortage of drugs and other supplies and prolonged hospital stay constitute the main drawbacks of the clinical side.

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 objective, it requires efforts to integrate quality improvement in both clinical and non-clinical areas through an effective quality management system.

### **1.1.2 SAFETY OF HEALTHCARE SERVICES**

Another challenge related to quality is patient- safety. The latter cannot be separated from quality. Safety means, prevention of harm to patients; harm that can occur through errors of omission and commission in hospitals. Negligence in the health care system in Sri Lanka has brought forth disastrous consequences in the recent past. Several cases of erroneous surgical procedures causing deaths or prolonged morbidity have been reported. Instances of surgical wound infections, neonatal deaths due to cross infection in hospital, delays in obstetric care and/or errors of judgment causing maternal deaths, deaths from wrong blood transfusions and falls from beds or in the toilets in hospitals causing injury to patients have been reported. Adverse effects from wrong use or overdose of medicines are frequently highlighted 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 the use of clinical data on adverse events and critical incidents is an area that should draw the attention of clinicians and hospital managers alike.

### **1.1.3 THE QUALITY GAP**

Major share of resources for the curative sector in Sri Lanka is invested in the tertiary hospitals that come under the purview of the Ministry of Health. Although these hospitals are better resourced, the quality of services remains a concern. The outcome is not as expected and variation in standards of care is predominant. On the other hand, the provincial hospital system that comes under the purview of the Provincial Councils, is found to be less resourced due to financial constraints and remoteness of some hospitals from the centre. The conditions are worse in the North and



East where the ongoing war has disrupted the services. Authorities are struggling to maintain the basic services in this region. The phenomenon of bypassing smaller institutions perceived as of low quality, aggravates the problem due to overcrowding at higher level institutions. However on the positive side, the hospitals in provincial areas have a significant resource with the willingness of the community to support 'quality improvement' in their hospitals. This has to be fostered largely through a committed leadership.

Hospitals as an entity are relatively inefficient today. A patient with a complex medical problem is seen by a large number of physicians. The physical examination and investigations are often repeated. Records are not kept and administered properly. The resulting delay in treatment and the financial implications lead to agitation and frustration in patients and their relatives.

Another notable fact which widens the quality gap, is the deficient organization of work carried out during weekends and public holidays. This situation is aggravated at times of staff shifts.

Therefore, it is apparent that increased resources and high technology alone will not ensure high quality care. A better organisation of the service delivery system and orienting its employees in improvement of quality is required if we are to address the quality gap.

#### **1.1.4 FACTORS AFFECTING HOSPITAL QUALITY**

Various documents and forums have discussed issues related to the quality of hospital services in Sri Lanka. Media reports have highlighted the importance of improving quality of hospital care and patients' satisfaction. Factors hindering improvement of quality pertaining to the hospital system are many. Most common factors are as follows:

- 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 mechanism to capable of reviewing operational performance.
- Shortage of funds to continue quality initiatives.
- Insufficient authority at institutional level.
- Imbalance allocation of resources among institutions providing health care.

All these factors have led to the deterioration of quality of hospital services, the end result which is the patient dissatisfaction. Remedying of all above would result in a better health services delivery and patient satisfaction in local hospitals.

The EBM Study has taken up the above mentioned main challenges. Specific strategies and approaches have been developed to overcome them.

## **1.2 CONCEPT OF QUALITY**

### **1.2.1 QUALITY DEFINITION**

Defining 'quality' in service organisations like hospitals takes an entirely different perspective from that of manufacturing organisations. While the latter produces tangible products, the perceptions of hospital services are highly subjective due to the intangible nature of the product. This makes defining quality in health care a difficulty.

There is no universally accepted definition of quality in health care. This is because quality has many dimensions and each dimension is emphasized according to the interests of the stakeholders. Professionals tend to emphasize on "clinical quality" which governs the cardinal principles of providing due care to the patients and adopting correct clinical procedures. One measure of quality is the degree to which the tasks carried out by health providers meet expectations of clinical standards. "Touch quality" which means interactions between patients and providers is another dimension of quality that plays a significant role in ensuring patient satisfaction. Policy makers take into consideration other dimensions of quality, which are efficiency, value and appropriateness.

Quality of care should be defined in the context of both clinical standards and patients' expectations. Institute of Medicine, USA defines quality of health services as, "the degree to which health services for individuals and populations increase the likelihood of desired health outcomes and are consistent with current professional knowledge" (Institute of Medicine, USA 2001) The health outcome is determined by services rendered by health care providers in treating the sick.

With a view of standardising quality programmes, International Organisation for Standardisation had introduced a series of Quality Standards called 'ISO 9000 series'. It defines quality as, "the totality of features and characteristics of a product or service that bears on its ability to meet a stated or implied need".

Quality is often described in relation to productivity. Productivity is defined as "the amount of output per unit of input" (a measure of efficiency). High productivity is defined as "the high output at low cost (=highly efficient)". A high output with a low cost does not show true efficiency unless other dimensions, such as, acceptability and good standards are maintained in production.

### **1.2.2 TERMINOLOGY**

Key terminology used in quality improvement literature are 5S, Kaizen or Continuous Quality Improvement (CQI) and Total Quality Management (TQM).

**A. 5S APPROACH**

The 5S approach emphasizes clearing of waste to achieve a cleaner and a safer environment. Thus, it forms one important component of Kaizen activity. The “waste” here is defined as an activity that does not add any value to the product. In the health service delivery, long queues, and delays in retrieving patient records lead to a colossal waste of time. A patient contracting a hospital-acquired infection due to the absence of infection-controlling, results in inconvenience and loss of resources for both patients and their families.

The rationale behind the 5S practice is to guarantee organisation, neatness, cleanliness, standardization and discipline, which constitute the basic requirements of good quality and high productivity of any workplace. While CQI and 5S are often used interchangeably, 5S approach relies more on the simple and effective rules for tidiness.

The 5S management technique is the first step in a total quality approach, planned for implementation in the five pilot hospitals. The table listed below summarises main notion of each step.

**TABLE 1- 1: FIVE S TERMINOLOGIES**

Japanese	English	Typical Examples
Seiri 整理	Sort	Throw away rubbish and unrelated materials in the workplace, everything in place
Seiton 整頓	Set in Order	Everything in its proper place for quick retrieval and storage
Seiso 清掃	Shine	Clean the workplace thoroughly
Seiketsu 清潔	Standardise	Standardize the way of maintaining cleanliness
Shitsuke 躰	Self-discipline	Do 'Five S' daily - make it a way of life

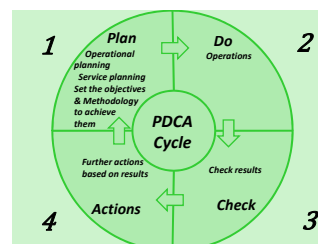
**B. KAIZEN(CQI)**

The term ‘Kaizen’ originally used by Japanese, means continuous improvement. In business it is the way to improve productivity with continuous efforts towards reducing overload, deviation from the standards or waste. Clean environment, safety and discipline are the corner stones of efficient and effective work and the foundation of Kaizen.

In quality terminology, some authors use Kaizen to be synonymous with CQI (Continuous quality improvement). Japanese believed that best and most lasting changes came from gradual improvement. Gradual improvement is achieved by continuous learning and problem solving. Two approaches that are being used for continuous improvement are PDCA Cycle and benchmarking.

**C. PDCA CYCLE**

Quality improvement in hospitals involves a continuous process, which fits into the problem solving cycle called the PDCA (Plan-Do-Check-Act) Cycle. This cycle can be applied to all levels of improvement. Conversely, the PDCA cycle can also be



**FIGURE 1- 1: DEMING CYCLE**

used as a tool to assess the performance of Work Improvement Teams, which use this device for improvement of quality in their workplace.

**D. BENCHMARKING**

This is an important area for sustenance of continuous work, improvement which involves studying the procedures and practices in other hospitals for the purpose of comparison and setting standards.

**E. TOTAL QUALITY MANAGEMENT (TQM).**

TQM is an organised systematic approach to continuous improvement of quality at every level. It is designed to focus on satisfying customer expectations, identifying problems, building commitment among personnel and promoting open decision-making. This approach focuses on the customer and the continuous improvement of the structure, the process, and the outcome.

TQM has been operative in business management practice for some time. Recently it has been adapted by the health sector. It would involve continuous designing and re-designing of the health system structures and processes for quality improvement.

Approaches described above namely 5S and Kaizen would lead to establishment of Total Quality Management process in which continuous improvement of quality takes place and where an effective Quality Management System, a committed leadership and full stakeholder involvement are evident.

**1.2.3 FRAMEWORK OF HEALTH CARE QUALITY**

The quality framework deals basically with three elements of quality; namely, structure, process and outcomes (Donabedian Model 1980). Hospitals have patients to be served and resources to be taken care of, for the benefit of the patients. The resources are combined in various ways to create structures from which specific patient-care services arise.

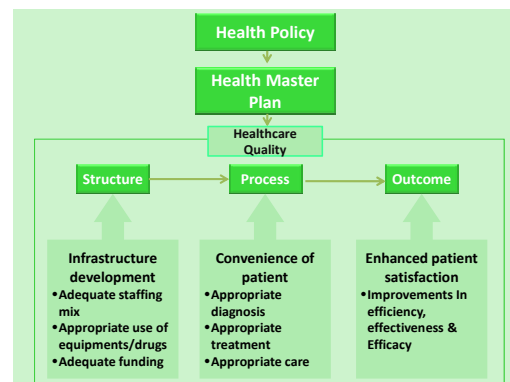


FIGURE 1- 2: QUALITY FRAMEWORK

The structural aspects of a hospital involve resources such as inputs that are both human and physical. Ex: staffing levels, personnel mix, infrastructure, equipment and financing.

The process is where structural inputs are used to provide appropriate care for the patient through many procedures of clinical and managerial devices, resulting in an outcome. These structures and processes, however, can be changed to provide better quality care.

The outcome indicates the results that would include increase in patient satisfaction, reduction in medical negligence etc. It is a measure of quality which can be measured in terms of efficacy and effectiveness. Though outcome can be measured, it can only be changed through structural and procedural changes. In EBM study, an attempt is made towards making changes in both the structure and the procedure which in turn would enhance quality. Evidence of systematic feedback arising from outcomes is vital for making appropriate changes in the structure and procedure.

Healthcare is also influenced by the larger external environment which includes political, cultural, institutional and social factors. The structures and procedures depicted in the model are influenced by these external factors.

The National Health Policy and the Health Master Plan have set out policies and strategies in regard to quality improvement of patient care services. The MOH is committed to a quality assurance programme which would culminate from building on existing programmes.

All programmes aimed at improvement of quality, focus on either the structural or procedural measures. The activities pertaining to such measures that are either ongoing or planned include 5S implementation, implementation of continuous quality improvement(CQI) processes, development of best practice guidelines and standard protocols, re-designing of systems, defining service, infrastructure and human resource standards by hospital level, and establishment of accreditation processes.

## **1.3 QUALITY ISSUES IN SRI LANKA; LITERATURE REVIEW**

The literatures selected here is related to government health policy framework, quality implementation in Sri Lanka and managerial aspects of quality and its issues. The purpose of literature review is to analyse the available literature and to gather evidence relevant to the Sri Lankan situation of quality management.

### **1.3.1 SELECTED LITERATURE**

#### **A. DRAFT POLICY ON QUALITY AND SAFETY IN PUBLIC SECTOR HOSPITALS OF SRI LANKA ( MOH, 2005)**

A draft Policy on Quality was prepared in October 2005 by a MOH Consultative Committee. It outlines 12 directions: client (patients) satisfaction, clinical practice, service delivery and basic human needs, risk management, clinical audit and research, resource management, communication, staff competence, staff welfare, referral systems and shared responsibilities, community and environment and health related cultural values and spiritual health.

#### **B. REPORT OF THE PRESIDENTIAL TASK FORCE ON FORMULATION OF A NATIONAL HEALTH POLICY FOR SRI LANKA (MOH, 1992)**

This document provides a conceptual framework for the strategic formation of health care service delivery in Sri Lanka. The quality of services will fall into this framework. As the title indicates, it describes the direction of the National Health Policy (NHP). This policy paper was formulated since there were only guidelines available which had been developed on ad hoc basis.

As a result, Sri Lanka "never had a comprehensive National Health Policy to mould the destinies of health development." Therefore it is designed to be comprehensive so as to provide a framework for governmental activity. It serves as a guide in decision making for the politicians, administrators, health planners, health professionals and all others concerned with health and health related activities within and outside the government. In order to formulate the policies, development of a health master plan up to 2002 was recommended. However, this could not be affected until a ten-year health master plan was developed by the Ministry of Health in 2003.

In this policy document, under general policy measures, it is stated that a minimum standard of health care should be provided irrespective of class, creed, economic status, age, and gender. In addition, the report elaborates on quality assurance programmes and recommends the establishment of medical audits in all medical institutions.

#### **C. QUALITY ASSURANCE OF PATIENT CARE SERVICES (MoH, 1995)**

This manual explains the philosophy and methodology of the national quality assurance programme. The main thrust in the past had been to

increase the health care coverage by providing new infrastructure and expanding existing facilities, equipment and staff. At no stage had there been any endeavour to enhance the quality of care provided at these institutions.

This article of Quality Assurance of Patient Care Services was developed in 1989 in view of the fact that the public expectations had increased in relation to quantity as well as quality. This development also fulfilled a state obligation. The article contained 32 indicators covering a wide range of health care including provision of safe water, control of communicable diseases, sanitation, maternal care, provision of essential drugs, nutrition, immunization, non-communicable diseases, disaster preparedness, dental care and school health. The programme was introduced to pilot hospitals (Teaching and Provincial hospitals) and reviewed in 1993 at Kurunegala. It was decided to focus on five critical areas probably due to some of the above indicators going far beyond the capacity of the hospitals to manage. However, the reason for amendment was not stated. New indicators are now confined to the areas of hospital settings: 1. Intensive Care Unit 2. Operating Theatre 3. Maternity Care 4. Paediatric Care 5. General Sanitation.

**D. CURRENT STATUS & OUTCOMES OF THE NATIONAL QUALITY ASSURANCE PROGRAMME (PERERA, 2004)**

It reviews the history of health quality assurance programmes in Sri Lanka, including literature review, historical perspectives, situational analysis of the current status and recommendations. According to this document, the formal initiative in quality assurance in Sri Lanka had its origin in late 1988, when the Deputy Director General (Medical Services) at that time (the author of the current article) came across the publication, "Quality assessment and assurance in Primary Health Care. M.I. Roemer and C. Montoya Aguilar, WHO Geneva, 1988". Upon its presentation at the monthly meeting, the Ministry of Health took a decision to initiate a quality assurance programme for the health sector (see above). Although various attempts have been taken, the programme was implemented on individual initiatives of enterprising managers. The main deficiency identified in this programme was its poor link to the overall system management. Deployment of human resources, logistics, supply and administrative support from the centre and decentralization units were not in line with the quality development activities. Such factors have discouraged the staff in implementing this programme.

The important landmark in the area of quality assurance is the launch of the programme at Castle Street Hospital for Women.

- The document also provides some recommendations as follows:

Formulation of a National policy on total quality management, need for Quality Management Units to be established in all secondary and tertiary care hospitals, opening of a budget line to ensure minimal resources such as for training programmes, establishment of clinical auditing, formulation of a system to report adverse



patient outcomes and near misses, introduction of a performance appraisal system, introduction of a Quality Assurance Programme sustained in the peripheral institutions in order to avoid over-utilization of tertiary hospitals and the introduction of a referral system.

**E. CHANGING AN ORGANISATIONAL CULTURE THROUGH SOCIAL DIALOGUE: EXPERIENCE AT SRI LANKA TELECOM (SRI LANKA TELECOM, 2002)**

This article describes the process of successful introduction, through the privatisation of Sri Lankan Telecom (SLT). According to the Japanese management style, the formation of task force between the managers and labour union was implemented. This is a unique experience where the importance of labour management through dialogue had been explicitly recognised and acted upon. One of the challenges was the issue of resistance to change in the organisational culture. It was given top most priority in formulating action plans. The article describes the workers' cooperation after the initial stormy and overt confrontation. It resulted in a constructive dialogue that led to development of a concrete action programme to solve their issues.

**F. ISO 9000 AND TQM: ARE THEY COMPLEMENTARY OR CONTRADICTIONARY TO EACH OTHER? (MAQD, 2003)**

This article compares the concept and function of TQM and ISO 9000. A certificate of ISO 9000 guarantees that the organization meets the quality standard set by ISO. But the authors argue that although both ISO 9000 and TQM seek similar standards, TQM is more comprehensive than ISO 9000, in the sense that TQM emphasizes on continuous and proactive organizational attitudinal change to meet customer expectations rather than working for a certification of ISO.

**G. WHY JAPANESE MANAGEMENT PRACTICE IS SUCCESSFUL IN GOVERNMENT HOSPITAL MANAGEMENT IN SRI LANKA (SRIDHARAN, 2005)**

The review shows that the approach of Japanese style interventions for quality, takes an incremental application to ongoing process rather than breakthrough innovative methods as in the Western countries and the US. The latter emphasis of product innovation is more costly. The author argues that Japanese continuous improvement of quality is more suitable to the Sri Lankan setting than product breakthrough innovation of western countries.

**H. IN SEARCH OF AN ASIAN STYLE OF MANAGEMENT (WIJewardena ET.AL., 1996)**

There are many comparative studies on styles of management in Western and Asian cultures and their impact on management practices. In most of these studies, however, the authors have based their comparisons on the American and the Japanese styles of management, assuming that Japan represents the Asian culture. The authors of this article argue that this is not so and they assume that Sri Lanka falls in

between the American and the Japanese style. Sri Lanka tends to be more individualistic and closer to the American style compared to that of the Japanese.

### **1.3.2 HISTORICAL PERSPECTIVE OF QUALITY**

#### **A. EVOLUTIONARY STAGES OF QUALITY**

The evolution of quality can be divided into four stages: (1) Inspection (2) Quality Control (3) Quality Assurance (4) Total Quality Management (TQM). The inspection involves only examination of the final products. Quality Control and Quality Assurance focus on the process. Quality Assurance becomes more popular at a later stage as it tried to 'assure' the expectations of the customers, primarily through maintaining and improving the quality of care. Here 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. Quality assurance and TQM require a change in management style from playing a controlling role to a facilitating and an empowering one. 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 approach emerged as the basis of the TQM. 5S was introduced for the first time in Sri Lanka in 1993 and the TQM concept was brought in with an offering of National Quality Award in 1996 similar to the Macolm Baldrige National Quality Award in USA (MBNQA, USA 1987).

The evolution of the quality in the manufacturing sector in Sri Lanka more or less followed the stages stated above. In order to secure clinical quality, the infrastructure such as 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 the staff, the availability of the staff, the motivation of the staff for patient quality etc. The infrastructure did not meet the expectation in order to secure Quality Assurance in Sri Lankan hospitals.

#### **B. HISTORY OF QUALITY IMPROVEMENT IN MANUFACTURING SECTOR**

Sri Lanka's concern for quality began in 1960s when garment export and its quality became the concern of both the companies and the government (Goonetilleke, 2003). But this was the decade of quality inspection, the first stage of quality evolution. In 1970, the first Sri Lankan visit to Japan in order to study Quality Circles was the beginning of the modern quality improvement movement in Sri Lanka.

In 1980, Sri Lanka Standards Institute was established. It initiated a National Quality Promotional Campaign (1981) and embarked on training personnel on quality and consumer education and the programme expanded throughout the 80s. Quality consciousness in Sri Lankan industries spurred up in early 1980s (Goonetilleke, 2003) (R759), (See also Table 2) Quality circles, 5S, Kaizen methodologies were introduced into Sri Lanka throughout the 80s.

In 90s, more 'total' approaches became popular like Total Productive Maintenance (TPM), ISO 9000, TQM, Just In Time (JIT). 1993 was the year when 5S was introduced into Sri Lanka for the first time at ETF by Sunil G. Wijesinghe. Kaizen and Suggestion Schemes were introduced the following year.

'National Productivity Year' was declared in 1996 and all the ministries were requested to initiate the programme. 'National Quality Award' was launched in the same year.

### **c. 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 objective of improving quality in service areas, such as maternity care. A National Consultative Meeting Programme was formulated with 32 sets of indicators and standards in 1989. This programme mostly concentrated on availability of services and improving quality in the areas of basic patient needs, hygiene, health education and maternity care. The programme was introduced into three hospitals the following year. But the programme was more statistically inclined and had cumbersome procedures, therefore it did not take root (Perera, 2004).

In 1990s, projects were initiated in Uva Province. A number of awareness programmes were conducted in state hospitals around the country during this period. In 1995, a manual on quality assurance of patient care services was published.

Dr. Karandagoda, the Director of Castle Street Hospital for Women, had interest in improving hospital quality during his tenor as a Deputy Provincial Director in Uva Province. He re-discovered 5S that was practiced in the manufacturing sector, and applied the technique in order to uplift the hospital, with remarkable results.

The launch of this programme could be identified as the landmark in the quality movement.

Instead of adhering to the same programme of quality assurance, 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 5S Merit Award (2001), Sri Lanka National Quality Award (2002), and National Productivity Award (2003).

Some examples of activities are shown here. The meetings of the sectional heads is organized (serves as Steering Committee), monthly meetings are established for 5S programmes, simplified procedures and forms are employed to improve efficiency, quick settlement of the problems through negotiation, maintenance of staff activities.

A Quality Management Unit was established to promote, monitor and evaluate quality. Regular dialogues with suppliers were established to ensure quality supplies. Having undertaken these institutional changes, he proceeded to improve other aspects of quality of care. Clinical protocols were developed for management of major clinical conditions.

A resuscitation check list and a reporting system of adverse events were developed. Regular patient satisfaction surveys were conducted and suggestion boxes were placed at all sections.

The Ministry of Health was quick to recognise this remarkable achievement, and the Director of the CSHW, who played the key role in promoting and improving quality of the hospital, was assigned as Quality Secretariat in 2005.

## Chapter 2

# COMPONENT OVERVIEW

### Key Messages

- The main purpose of the EBM study is to document the most suitable model for quality management program that could be implemented island wide.
- The main outputs of the EBM Study are development of: methodology and guidelines for 5S implementation, Quality Management system at pilot hospitals, and a proposal for the National Action Plan for Quality Management Program.



This chapter provides an overview of Component 1 describing its aim, objectives, strategy and the outputs. It introduces the selected province with its health system and the pilot hospitals in which the study is undertaken. It also proceeds to describe the work arrangements and outlines the schedule of work.

## **2.1 AIM, OBJECTIVES, AND OUTPUTS OF STUDY**

5S-TQM implementation aims at developing an organisational culture characterised by increased patient satisfaction and safety through improving hospital employees' active participation.

- **General objective**  
General objective of this component is to establish a quality improvement process by setting up an organisational mechanism at five hospitals in the North Western Province using 5S-TQM techniques.
- **Specific objectives**
  - To initiate a process of continuous improvement system through 5S implementation
  - To develop an organisation mechanism to support implementation levels
  - To promote a culture of learning organisation in the selected hospitals

The implementation of 5S is a gradual process that could take several years for its institutionalisation in these five hospitals.

### **2.1.1 EXPECTED OUTPUTS**

The study aimed to produce the following four main outputs during the course of two-year implementation:

1. The methodology for implementation of 5S is developed.
2. A Quality Management System is established.
3. A culture of learning organization is created.
4. National Action Plan for Hospital Quality Management is developed. (2007-2010)

Detailed activities were discussed and decided with the consultation of the counterparts of the Ministry at the selected hospitals.

### **2.1.2 CRITERIA FOR SUCCESS**

The study considers the implementation a success if the followings goals are attained in the long run:

*Resource Book II: 5S-TQM*

- A quality management system and an organisational culture of learning are established.
- Staff and patients' safety is ensured.
- Patient satisfaction is improved.

As a pre-condition of attempting the above-mentioned outcomes, the Study Team envisions that the availability of a National Policy and an Action Plan on hospital quality and safety is a key. Therefore, assistance rendered to the MOH in developing those is one of the priorities of the study.



## **2.2 SELECTION OF TARGET AREA**

### **2.2.1 TARGET PROVINCE**

The study undertook pilot implementation of 5S-TQM at the five selected hospitals. Introduction of 5S required a great degree of commitment on the part of the hospital management to re-orient the staff for continuous improvement of hospital services by catering to the patients' satisfaction first.

In consultation with the MOH and the Provincial Ministry of Health, it was decided to select one hospital representing each level of service for implementation of 5S. There are two from Kurunegala District; namely Kurunegala Teaching Hospital and Kuliypitiya Base Hospital while three are from Puttalam District. They are Chilaw District General Hospital, Dankotuwa District Hospital and Madampe Peripheral Unit.

A health forum with the participation of all stakeholders in the province was held by the MOH in 2005 that helped to sensitise the concerned authorities on health development of the province. Each hospital in NWP presented strategic plans (support from World Bank), showing their exposure to strategic planning. Their willingness and enthusiasm to make changes in the hospital system to give better services to its people made the province a fertile ground to commence this quality improvement programme of 5S.

Other reasons for selecting hospitals in North Western Province for this exercise are summarised below;

- Few hospitals in the province have some experience of 5S-TQM.
- The hospitals selected are relatively in close proximity to each other, thus the coordination process will be made easy.
- There are already planned inputs in quality improvement in UVA and Southern Provinces (World Bank) and Western Province (WHO). North Western Province has not such support from other organisations.
- Political leaderships in North Western Province are very favourable and supportive of health sector report in the province.
- One of the priorities of the District Health Plans of the province is the improvement of quality in their hospitals.

### **2.2.2 PILOT HOSPITALS**

In order to select pilot hospitals for 5S-TQM implementation, the Counterpart Team Meeting was held in February 2006. The criteria for selection agreed upon are the following;

- The hospital should possess some experience in strategic planning (on development of vision, mission, goals, prioritization, and project management skills).
- The hospitals selected should be of different hierarchy, from teaching hospitals to peripheral level hospitals.
- The hospitals should possess some experience in 5S, and willingness and interest for 5S implementation by the Heads of the institutions.
- The hospitals should be selected as to fit into the three components of the EBM Study.

Using the criteria, the following five hospitals in North Western Hospitals were selected. The extent and specialities of respective hospitals are summarised in the table below:

- Teaching Hospital Kurunegala (Kurunegala District)
- District General Hospital Chilaw (Puttalam District)
- Base Hospital Kuliyaipitiya (Kurunegala District)
- District Hospital Dankotuwa (Puttalam District)
- Peripheral Unit Madampe (Puttalam District)

**TABLE 2- 1:** PILOT HOSPITALS IN NORTH WESTERN PROVINCE

Institution	Type	Number of beds	Specialities	District
<b>Kurunegala</b>	<b>TH</b>	1206	Tertiary hospital, 22 specialities	Kurunegala
<b>Chilaw</b>	<b>DGH</b>	450	Surgery, Internal Medicine, Paediatrics, OB-GYN	Puttalam
<b>Kuliyaipitiya</b>	<b>BH</b>	298	Surgery, Internal Medicine, Paediatrics, OB-GYN, Ophthalmology, OMF	Kurunegala
<b>Dankotuwa</b>	<b>DH</b>	109	Surgery, Internal Medicine, Paediatrics, OB-GYN	Puttalam
<b>Madampe</b>	<b>PU</b>	32	Internal Medicine, OB-GYN	Puttalam

## **2.3 WORKING ARRANGEMENT**

### **2.3.1 CENTRAL LEVEL**

Quality development responsibilities are divided among several units at the Ministry of Health. The Deputy Director General of Management Development and Planning Division is the counterpart for the EBM study. The work was specifically handled by the Director, Organisation Development, of the Division who was responsible along with the EBM study team in planning, implementing and monitoring the project. The Division of the Deputy Director General Medical Services, responsible for tertiary care hospitals that include all Teaching hospitals, is handling the quality aspects in clinical care while the Divisions of other Deputy Director Generals are responsible for maintaining quality of public health services, laboratory and pharmaceutical services and training.

Quality Secretariat which is an arm of MOH, helps to plan and assist implementation including training. It works closely with the EBM study team in supporting the planned activities in the five pilot hospitals.

### **2.3.2 PROVINCIAL AND DISTRICT LEVEL**

With the implementation of the 13th amendment to the constitution, the managerial functions of the provincial and district hospitals were decentralized. In North Western province, two deputy officers who come under the authority of the Provincial Director, carry out many of the tasks assigned. They are responsible for district health planning and programming. One of its prime functions is to maintain high quality health services which are expected to strengthen the capacities of both human and physical resources, thereby improving the quality of care at hospitals. They form the steering committee at the highest level in the province which would overlook and supervise the EBM study process.

### **2.3.3 INSTITUTIONAL LEVEL**

#### **A. APPOINTMENT OF FACILITATOR (JASTECA)**

As 5S implementation needed support of an expert team which could train, supervise and monitor activities of 5S in the five hospitals, a search was made for a suitable contractor. The resource available for this purpose is limited in Sri Lanka. It was decided to recruit a quality management team from Japan- Sri Lanka Technical & Cultural Association (JASTECA). Scope of JASTECA's role and responsibilities include the followings:

#### **A.1 SCOPE OF WORK**

Duration: July 2006 to February 2007 (8 months)

- Responsibility in 5S implementation at five hospitals.
  - Supervise 5S implementation at the pilot hospitals.

- Guiding WIT members with proper utilization of QC tools and problem solving skills.
- Assist WIT Teams to develop 5S action plans.
- Two Consultants will visit each pilot hospital on a regular basis for a period of eight months.
- A minimum of two visits per hospital per month.
- Responsible for proper implementation of steps from one to five in the 5S system.
- Test and identify the knowledge of 5Ss of the WIT members and take appropriate steps to retrain in order to improve their knowledge as and when necessary.
- Auditing and reporting
  - A core team shall be identified and will be trained to carry out the 5S audits and improve the implementation process.
  - A special audit sheet with emphasis on the requirements of the hospitals will be developed along with the WIT teams.
  - A reporting format will be developed based on audit findings which will be consolidated by the Consultants for submission to JICA and MOH.
- Preparation of 5S manual
  - Guide and assist the WIT teams to prepare the 5S manuals at every pilot hospital.
  - This 5S manual could be used as a reference document in each of the pilot hospitals.

#### **A.2 LIMITATIONS**

Though JASTECA has considerable experience in implementation of 5S in several private companies and industries in Sri Lanka, their experience in hospital environments is limited. They are the only base of human resource available in Sri Lanka who can successfully implement 5S. The study team believed their expertise can be used in its pilot implementation.

## 2.4 IMPLEMENTATION SCHEDULE

The EBM Study was conducted for 24 months, starting from October 2005. The entire Study was divided into two periods:

- *Period One* : October 2005 September 2006; and
- *Period Two* : October 2006 – September 2007

Period One was intended for preliminary investigations to understand the ground situations. During this period, the selected pilot hospitals formed 5S Working Improvement Units and started implementing 5S activities.

During Period Two, attempts were made to develop and test a methodology to achieve the objective of instituting a quality improvement process through 5S approach in the pilot hospitals with the end view of replicating in other public hospitals by the Ministry of Health. In parallel to that, the EBM study assisted the Quality Secretarial and the Ministry of Health in formulating a policy and strategies on quality and safety. The latter constitutes a pre-condition for the development of an Action Plan and successful implementation of quality improvement programme nationwide.

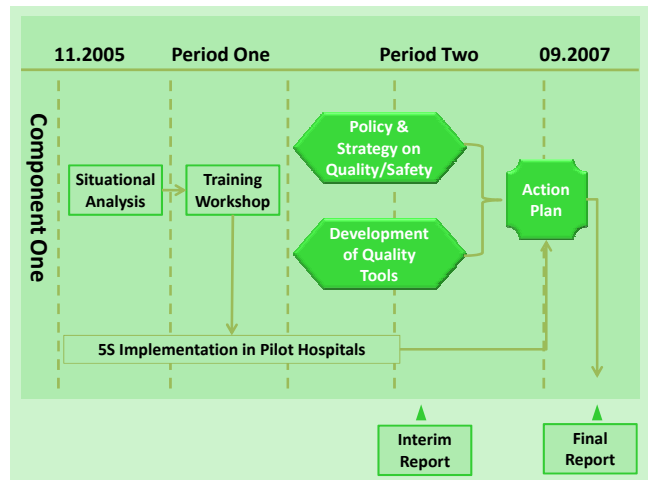


FIGURE 2- 1: FLOW OF WORK FOR KEY ACTIVITIES

