No.

Ministry of Healthcare and Nurtrition
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

Roadmap for Implementation

Cost Accounting

5S - TQM

NCD

Evidence for Decisions, Actions and Health

Final Report
Volume 1
Main Book

September 2007
Global Link Management, Inc.

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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:

Chapter 1 *Introduction*	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.
Chapter 2 *Costing for Hospital Management* **Chapter 3** *Hospital Quality & Safety* **Chapter 4** *Chronic NCD* **Chapter 5** *Trauma*	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: 1) Challenges; 2) Local Initiatives; 3) Pilot Interventions; 4) The Roadmap; and 5) Policy Considerations. The action plans or proposals are described in Section 4 of each chapter, and is titled `The Roadmap`.
Chapter 6 *Operationalising the Action Plans*	This chapter discusses key considerations for actual operationalisation of the intent and commitment as they are reflected in the action plans and proposals.
Annexure *Action Plans*	Action plans and proposals are presented in a template format, which summarises project profile, strategic framework and plan of actions.

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

Chapter	Description
Chapter 1 Key Issues & Challenges	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.
Chapter 2 Overview of The Component	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.
Chapter 3 Literature Review & Case Studies	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.
Chapter 4 Methodology Development	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.
Chapter 5 Pilot Implementation: Hospital-Based Costing	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.
Chapter 6 Way Forward	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.

B.2 5S-TQM

Chapter	Description
Chapter 1 Key Issues & Challenges	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.
Chapter 2 Component Overview	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.
Chapter 3 Situational Analysis	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.
Chapter 4 Methodology & Strategies	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.
Chapter 5 Implementation & Assessment	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&E quality tools.
Chapter 6 Way Forward	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.

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.

Chapter 1 Conceptual Framework	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.
Chapter 2 Stakeholders	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.
Chapter 3 Key Issues & Challenges	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.
Chapter 4 EBM Study On NCD	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.

- 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.

Chapter 5 Chronic NCD Burden	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.
Chapter 6 Chronic NCD Strategies & Programmes	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.
Chapter 7 Early Life Factors	This chapter is on the study undertaken to find out the relationship between early life factors and non-communicable diseases.
Chapter 8 Behavioural Risk Factors In Kurunegala	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.
Chapter 9 Chronic NCD Prevention In Kurunegala	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.
Chapter 10 Chronic NCD Surveillance In Polonnaruwa	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.

- 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.

Chapter	Description
Chapter 11 Trauma Burden	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.
Chapter 12 Trauma-Strategies & Programmes	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.
Chapter 13 Development of a Coordinated and Sustainable Trauma System	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.
Chapter 14 Safety Promotion: An Initial Step	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.
Chapter 15 Trauma Surveillance In Pilot Hospitals	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.
Chapter 16 Emergency Treatment Units: An Exploratory Review	The studies on Emergency Treatment Units and Primary Care Units are discussed in the sixth chapter.

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.

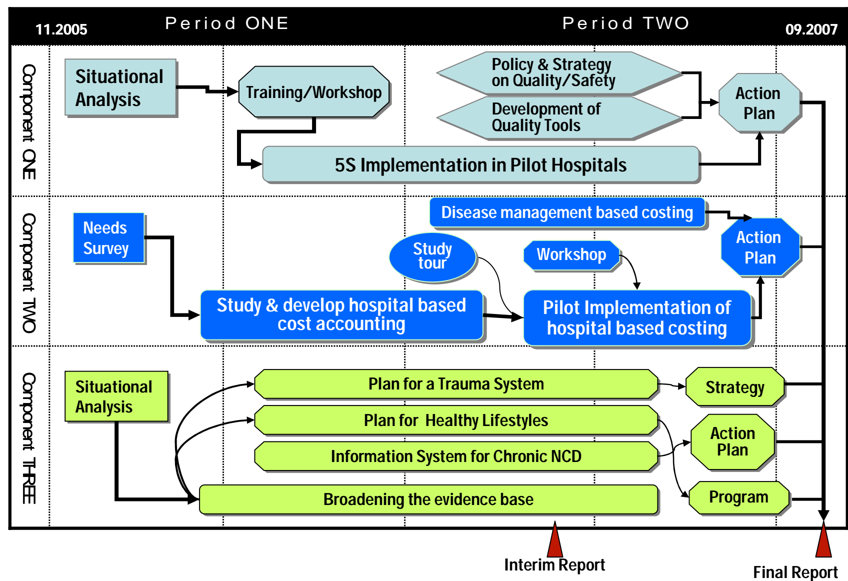
Component 3 dealt with strengthening the capacity of the health sector and communities in the prevention and management of non-communicable diseases (NCDs), both chronic and acute, throughout the course of life. It was designed to complement or supplement the existing programmes of the government as 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 Kuliyapitiya 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

Map No. 4172 UNITED NATIONS
August 2001

Department of Public Information
Cartographic Section

KEY MESSAGES

INTRODUCTION

- Sri Lanka which is now designated a 'middle income' country, has reached a high level of health status in the region, mainly thought to be through free healthcare, free education and food subsidies. The lifestyles of people have greatly changed over the years as well.

- The current challenges that present to the Sri Lankan healthcare sector include the increase in the elderly population, infectious diseases and maternal and child related conditions which continue as problems, and trauma and non communicable diseases which present as emerging and evolving problems. Increasing public expectations regarding quality and increased demand for efficiency and productivity are also challenges that need to be met.

- Quality Assurance, Health Sector Financial Management, and NCD Prevention and Management are the three key programmes that were prioritized in the Health Master Plan, and in this document the intent and commitment of the MoH for the next 2 to 5 years is discussed in relation to the above three areas.

- Sri Lanka needs a healthcare system that is evidence based which is transparent and has numerous benefits at both the macro and micro levels. Evidence can be gathered via case studies, pilot implementations etc. and the action plans/ proposals need to be built on this evidence.

COSTING FOR HOSPITAL MANAGEMENT

- Health transition in Sri Lanka is increasing the demand for health financing, but the budgetary situation in the country will constrain the availability of funds.

- Managerial cost accounting can provide a valuable tool for better fund management; cost efficiency is an important strategy for improving health financing.

- Step down cost accounting that takes a comprehensive approach to hospital costing and allows for the disaggregation of costs by cost centres and the calculation of unit costs was adopted as the strategy.

- Piloting cost accounting at Teaching Hospital Kurunegala (THK) and Base Hospital Kuliyapitiya (BHK) provided feedback on its usefulness, practicality and sustainability.

- Disease based costing that can provide useful information for future budgeting activities when combined with epidemiological data was also carried out at three sites.

- Disaggregated costing information can support planning and budgeting at hospital level, and contribute to better cost efficiency.

- At a national level work on systematising pharmaceutical and wage record keeping and the development of treatment protocols to cover all major diseases is desirable in supporting the adoption of Managerial Cost Accounting and using it as the basis for decision making, planning and budgeting.

- The costing results from the pilot sites, and their acceptance and use by the hospital and provincial health staff have encouraged the Provincial authorities to undertake a three year action plan to introduce Managerial Cost Accounting to the province.

HOSPITAL QUALITY & SAFETY

- 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, equipment and 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**.**

CHRONIC NCD

- Since 1980s, chronic non-communicable diseases (NCDs) have surpassed communicable diseases as the leading cause of deaths in Sri Lanka. With an annual increase in death rates ranging from 0.4% to 5.8% (1.3% for cardio-vascular diseases), NCDs will continue to exert a heavy burden on the health system, household and national economy. However, NCD deaths, complications and the diseases themselves can be prevented.

- The rising trends in NCD risk factors (e.g. biological, behavioural, psycho-social and early life) are exacerbated by the changing demographic patterns and the socio-economic political milieu. They call for a shift in the health system.

- The MoH has initiated programmes and projects to respond to the increasing NCD burden. It has formulated policies and guidelines. It has collaborated with the external development partners. Meanwhile, other stakeholders have also been involved in health promotion and disease prevention.

- The Healthy Lifestyle Programme in Kuliyapitiya division (Kurunegala district) highlighted the need, generated the demand and indicated the interest for reducing NCD risk factors. It demonstrated the potentials of schools, workplaces, a village and local health settings in promoting health and well-being.

- Meanwhile, the introduction of a passive surveillance system in Polonnaruwa was assessed favourably by all sectors as it does not only generate information on NCD & risk factors but also promotes continuity of patient-care and improves job performance of staff from the hospitals, RDHS and MOH.

- Both the RDHS Kurunegala and Polonnaruwa plan to continue their initiatives and during the next 5 years comprehensively implement the three elements of the global strategy – surveillance, prevention and patient management.

- Strict enforcement of existing policies (e.g. National Authority on Tobacco and Alcohol Act) and adoption of the National Health Promotion Policy and National Policy for NCD Prevention and Control will facilitate the implementation of the Kurunegala and Polonnaruwa action plans.

TRAUMA

- Since 1995, trauma and other injuries have been the leading cause of admissions to government hospitals in Sri Lanka. Road traffic injuries and home accidents represent a major fraction. The economic burden of trauma has been in the upswing; for 2005, the estimated hospitalisation and other costs of accidents amounted to 14.166 billion rupees.

- Recognising that the onset and deterioration of most traumas can be prevented, the government and its partners have taken vital steps towards safety promotion, improving people's access to emergency medical services (EMS) and enhancing the quality of hospital care for trauma victims. Their shared vision is the provision of timely, appropriate, quality and cost-effective medical care to trauma victims by a coordinated, sustainable trauma system with improved preparedness.

- The introduction of a trauma surveillance system in Colombo South Teaching Hospital, General Hospital Kalutara, Base Hospital Horana and Base Hospital Panadura demonstrated the operational challenges in generating and using information for trauma prevention, better patient management and policy formulation.

- During the next two years, the objective is to strengthen all the components of the trauma system such that safe community programmes will be initiated, the reach of the existing EMS system and the coverage of the trauma surveillance will be expanded, a system for improving the quality of acute and long-term care will be established and a national policy on trauma will be adopted. Central to the achievement of these objective and outputs is a fully functional Trauma Directorate that will ensure the sustainability of the MoH initiatives on trauma and will be a concrete manifestation of the government's commitment to reducing the growing trauma burden.

OPERATIONALIZING THE ACTION PLAN

- In order to put pilot experiences into operation, several prerequisites need be dealt with- a method to scale up the project, a process of monitoring and evaluation, a suitable funding mechanism and a favourable policy environment.

- In the process of scaling up, provision of the necessary human resources with the necessary training and the physical resources should be provided by the national or provincial health authorities. Mechanisms for regular generation and sharing of information should be sought. Partnerships should be built among all stakeholders.

- Monitoring and evaluation (M&E) of the process is essential for the policy makers, managers and resource providers in assessing the progress, identifying the shortcomings, developing skills and redirecting when necessary. It could take place at national, provincial and district levels. The Management Development and Planning Unit (MDPU) is expected to play a key role in monitoring and evaluation at the national level. Process and outcome indicators should be identified for M&E in each of the projects/ interventions.

- Adequate funding from reliable sources is essential to move forward in any pilot/ scale-up intervention. Health Sector Development Project and Finance Commission may act as funding agencies for the provinces and districts.

- National Policy on Hospital Quality and Safety and National Policy for NCD Prevention and Control with their frameworks of interventions are some of the policy documents available at present in the relevant fields. However there are no such policy documents regarding Trauma System and Hospital Finance Management, and these need be addressed in the near future.

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Abbreviations

A

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

B

BCC	Behaviour Change Communication
BH	Base Hospital
BHK	Base Hospital Kuliyapitiya
BHT	Bed Head Ticket
BMI	Body Mass Index

C

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

D

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

E

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

F

FBS	Fasting Blood Sugar
FCTC	Framework Convention on Tobacco Control
FGD	Focus Group Discussion
FHP	Foundation for Health Promotion

G

GDP	Gross Domestic Product
GH	General Hospital
GPS	Government Payroll System
GYN	Gynaecology

H

HMP	Health Master Plan
HLS	Healthy Lifestyle
HR	Human Resources
HSDP	Health Sector Development Project

I

ICU	Intensive Care Unit
IDD	In Door Dispensary
IMMR	Impatient Morbidity and Mortality Registry
IMR	Infant Mortality Rate
INGO	International Non-Governmental Organisation
INIH	Italian National Institute of Health
IPAQ	International Physical Activity Questionnaire
ISO	International Organisation for Standardisation
IUGR	Intra Uterine Growth Retardation
IV	Intra Venous

J

JASTECA	Japan Sri Lanka Technical & Cultural Association
JDC	Jewish Joint Distribution Committee
JICA	Japan International Cooperation Agency
JIT	Just in Time

K

KAP	Knowledge, Attitude, Practice

L

LBW	Low Birth Weight
LCA	Life Course Approach
LKR	Lanka Rupee
LRH	Lady Ridgeway Hospital
LSCS	Lower Segment Caesarean Section
LSRD	Lifestyle Related Diseases

M

MBNQA	Malcolm Baldridge National Quality Award
MCD	Ministry of Child Development
MDPU	Management Development and Planning Unit
MDS	Minimum Data Set
MH	Maternity Home
MO	Medical Officer
MoH	Ministry of Healthcare and Nutrition
MOH	Medical Officer of Health
MRA	Medical Research Assistant
MRI	Medical Research Institute
MRO	Medical Record Officer
MS	Medical Superintendent

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

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

Chapter

INTRODUCTION 1

- Sri Lanka which is now designated a ‘middle income’ country, has reached a high level of health status in the region, mainly thought to be through free healthcare, free education and food subsidies. The lifestyles of people have greatly changed over the years as well.
- The current challenges that present to the Sri Lankan healthcare sector include the increase in the elderly population, infectious diseases and maternal and child related conditions which continue as problems, and trauma and non communicable diseases which present as emerging and evolving problems. Increasing public expectations regarding quality and increased demand for efficiency and productivity are also challenges that need to be met.
- Quality Assurance, Health Sector Financial Management, and NCD Prevention and Management are the three key programmes that were prioritized in the Health Master Plan, and in this document the intent and commitment of the MoH for the next 2 to 5 years is discussed in relation to the above three areas.
- Sri Lanka needs a healthcare system that is evidence based which is transparent and has numerous benefits at both the macro and micro levels. Evidence can be gathered via case studies, pilot implementations etc. and the action plans/ proposals need to be built on this evidence.

1.1 THE HEALTH SECTOR & ITS CHALLENGES

1.1.1 OVERVIEW

Sri Lanka has reached a high level of health status amongst its population in comparison to the countries in the neighborhood. Though there are many factors that directly and indirectly influenced this achievement, three social development programmes, namely free healthcare, education, and food subsidies, implemented by consecutive governments of Sri Lanka during the last 60 years, were the main reasons for this achievement.

These social development progammes resulted in drastic improvements in literacy rates, as well as the health status of the population. Expansion of health services led to lower death rates and birth rates. Life expectancy at birth increased. All these factors gradually changed the social structure, expectations and aspirations of the society.

Sri Lanka is no more a low income country. The island has been designated a middle income country. As the quality of life improves, many other things also change in the society. The initiation is slow, but once started the changes occur rapidly. Coupled with industrialization, exposure to global developments through communications made people to think a new. Migration to urban areas and overseas destinations seeking better paid occupations changed the traditional way of life. In addition, the political scenario also changed as a means of facing the challenges forced upon the system.

1.1.2 CHALLENGES

Sri Lanka has experienced a number of fundamental changes in the healthcare sector over the last two decades. The Health Master Plan identifies three key changes that will have a significant impact on the healthcare sector in Sri Lanka. These changes and some of their implications are briefly described below.

The 3 E's of Challenges

- Epidemiological patterns
- Expectations of public
- Efficiency in health finance

A. TRANSITION IN EPIDEMIOLOGICAL PATTERN

These social developments led to a demographic as well as an epidemiological transition. The workforce and the elderly are a major portion in comparison to the children. Over the last twenty years, the epidemiological patterns in Sri Lanka have been undergoing drastic changes. Although on a decreasing trend, communicable diseases and Maternal and Child Health (MCH) related conditions remain a problem. These can be categorised as

continuing problems. Conditions such as accidents, suicides and homicides are on the rise. These are the emerging problems for the country. And finally, mortality due to non-communicable diseases (NCDs) such as cancers, heart diseases and mental disorders has been increasing. Much of the increase in NCDs is related to lifestyle changes. This set of diseases can be categorised as evolving problems. The methods adopted to prevent and control communicable diseases cannot be used to do the same for non-communicable diseases.

B. INCREASED PUBLIC EXPECTATIONS

Together with changes in disease patterns, the population's expectations from the healthcare system as well as the required interventions by the system have also changed. While treatment for the continuing problem of communicable diseases can be relatively low cost, preventive measures such as improved sanitation, safe drinking water, solid waste management, as well as improvement of nutrition and health promotion have been found to be more effective. The increasing importance and resultant shift from curative to preventive measures have required new interventions by the healthcare system.

Furthermore, dealing with emerging problem such as road accidents, injuries, and HIV/AIDS requires a network of preventive, curative, and rehabilitative services. This requires a multi-sectoral, coordinated approach among a number of institutions. For instance, the healthcare sector has had to initiate cooperation and coordination with, among others, the road development authorities, the police, as well as social services.

The evolving problems of chronic NCDs take longer-term treatment, requiring patient participation in the treatment. The patient-provider relationship requires a fundamental change towards a more collaborative, empathic, and comfortable one. Moreover, since these diseases are lifestyle related, the preventive arm of the healthcare service has had to be fundamentally reoriented. The curative arm too has had to be restructured with the increased demand for high cost, high skilled procedures for the diagnosis and treatment of the evolving conditions.

All this has meant that the expectations from the healthcare system have increased, leading to the need for fundamental changes to the way the system responds to the changing disease burden. It has also meant the need for improved quality and productivity of the system.

C. INCREASED DEMAND FOR EFFICIENCY

Given the epidemiological and demographic changes as well as the increased public expectations, the pressure to improve the productivity of the system has become even greater. The increase in life expectancy that accompanies optimisation of GDP per capita

income figures has meant greater financial burden on the system. This has led to the increasing demand for more efficient allocation and use of limited financial resources, while at the same time offering better quality healthcare services.

It is in this context that the Health Master Plan (HMP) was developed to meet the new challenges faced by the Sri Lankan healthcare system. The strategic objectives of the HMP include ensuring the delivery of high quality healthcare services, while at the same time improving the allocation and utilisation of scarce resources. The three programme areas of Quality Assurance, Health sector Financial Information Management, and NCD Prevention and Management directly correspond to these three challenges. In order to implement these three programme areas, action plans have been developed through an evidence-based approach. This approach is a well recognised strategy in the provision of improved healthcare services both effectively and efficiently.

1.2 SCOPE OF THE "ROADMAP FOR IMPLEMENTATION"

As reflected in its title, this document acts as the roadmap for the implementation of three key programme areas that were prioritized 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 MoH for the next 2 to 5 years. The "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 Resource Books serve as the platform upon which the action plans and proposals were formulated. They also contain substantial evidence and management tools related to the 3 key programme areas.

The action plans and proposals contained in this document 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 were formulated based on evidences from past practices and from the recently concluded Evidence-Based Management (EBM) Study, a collaboration between the MoH and the Japan International Cooperation Agency (JICA). As part of the EBM study, pilot projects were conducted in a limited scale on selected target groups over the last two years. They focused on the three programme areas mentioned above. These pilot implementations gave valuable feedback on standard good practice in managing change. They also helped identify what conditions 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.

Structure of Chapters 2 to 5 (Discussion of the action plans & proposals

- Section 1: Challenges
- Section 2: Local Initiatives
- Section 3: Pilot Interventions
- Section 4: The Roadmap
- Section 5: Policy Considerations

This report consists of 6 chapters. 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. Chapters 2 to 5 set out the action plans for three key programme areas of the Health Master Plan. These chapters also explain the basis upon which the action plans were developed. Each chapter contains five sections (See the Box). The action plans are described in Section 4 of each chapter, and is titled `The Roadmap`. In addition to these descriptions, the latest versions of the action plans and proposals are in the Annexure. Chapter 6 discusses key considerations for actually operationalising the intent and commitment as they are reflected in the proposals and action plans.

Each chapter starts with a set of key messages in bullet points. 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.

1.3 ACTION PLANS AND PROPOSALS

1.3.1 BUILDING ON THE EVIDENCE

The need for an evidence-based healthcare system for Sri Lanka was highlighted in the recent policy documents including the Health Master Plan. A system based on evidence is transparent, and has numerous benefits. At the macro level, it helps in the identification of strategic priorities, as well as do appropriate resource allocations. At the micro level, it helps in planning and prioritising activities. Indeed, the need for an evidence-based healthcare system for Sri Lanka is highlighted in the recent policy documents including the Health Master Plan.

As mentioned in the previous section, the action plans and proposals in the “Roadmap for Implementation” were partly built upon a body of evidence collected through pilot implementation and field research. The evidence came from case studies, pilot implementations, and technical studies on the specific issues. They contributed to the development of new initiatives in all three areas. Overall, pilot implementations helped gain valuable insights on standard good practice as well as operational constraints. Chapters 2 to 5 present the results. Only a summary of information has gone into this report and the majority of the information, including the results of situational analysis, survey instruments, training manuals and case studies, etc is compiled on the corresponding Resource Books I, II, and III.

1.3.2 MANAGEMENT INPUT

Evidence-based management focuses on the underlying organizational issues that influence delivery of health services in every spectrum. It addresses *how to do*, rather than *what to do*. While these organizational issues are fundamental to successful service delivery, up until the recent project supported by JICA, limited attention was paid to the importance of management inputs in delivering high quality health services.

The pilot activities undertaken over the last two years initiated the process of collecting managerial evidence pertaining to organisational capabilities as well as the capacities of the health system and the communities in the country. Overall, the pilot implementation gave valuable feedback on a broad range of issues that are likely to be fundamental during scaling up of operations in a wider scale.

1.3.3 PURPOSE

The action plans and proposals outline agreed initiatives that will be undertaken during a specific timeframe. They will be useful for mobilizing technical and budgetary support from stakeholders, creating partnerships, achieving a consensus on the operational coordination and monitoring.

1.3.4 OVERVIEW

The "Roadmap for Implementation" contains 4 action plans and 3 proposals. One of the action plans is on Cost Accounting; it is for provincial implementation. Another is a national level proposal on Quality Management. The remaining three action plans refer to chronic NCDs and trauma. Of these three, one is a national plan while the other two are district level plans. The rationale for the various plans - district level vs. national level - is explained in Chapter 6. **Table 1- 1** summarises the titles of the action plans and proposals, their objectives and the project durations.

TABLE 1- 1: HIGHLIGHTS OF THE ACTION PLANS AND PROPOSALS

Action Plan/Proposal	Objective & Target Population	Project Duration
Strengthening the Health Financing System through Cost Accounting (Provincial Action Plan) Annexure1	Utilise resources effectively and efficiently through cost-accounting system. Provincial/District Hospitals, PDHS/RDHS offices in the North Western Province will directly benefit.	3 years
Organisational Development for the Quality Management Programme & 2 related projects (3 Proposals for the National Programme) Annexure 2	Develop a structure and mechanism at the central and provincial/district levels for the nation-wide implementation of the National Quality Management Programme (QMP) Outcomes of this project will benefit the healthcare receivers and providers at public hospitals in Sri Lanka.	To be decided
NCD Surveillance and Prevention in Polonnaruwa District (District Action Plan) Annexure 3	Reduce the prevalence and complications of major NCDs by adopting effective prevention strategies and adhering to standard clinical management procedures. Entire population of Polonnaruwa District will benefit	5 years
Promoting Healthy Lifestyle in Kurunegala District (District Action Plan) Annexure 4	Arrest the projected increasing trends in the chronic NCD-related morbidities, complications and mortalities in Kurunegala district Total population in Kurunegala District will benefit	5 years
Improving Trauma Care in Sri Lanka (Action Plan for the National Programme) Annexure 5	Provide timely, appropriate, quality and cost effective medical care to trauma victims. Patients, staff and residents of the service areas will directly benefit.	2 years

1.3.5 STRUCTURE

A template of the action plans and proposals given in the annexure is shown in Figure 1-1. Below is a brief description of the key information contained in each item.

1. Project Profile

The project title, target areas & beneficiaries, focal point (coordinating body), implementing agencies, and duration of the project are listed at the top.

2. Strategic Framework

The project summary describes the basic premise of the project and its scope. This is supported by a statement which offers justification for the project, project objectives, outputs, as well as indicators that will help in the verification of project success. Important assumptions underlying the project, the preconditions for the successful implementation of the projects, as well as the associated risks are also listed.

FIGURE 1- 1: TEMPLATE FOR ACTION PLAN & PROPOSALS

3. Plan of Actions

Key activities and the operational details are given in a matrix. The schedules and budgets shown in this section are only indicative, and will need to be fine tuned and adjusted by the implementers prior to actual implementation. However, based on current information, they are likely to be good approximations of expected schedules and budgets.

The plan of action also details other projects that are related to the project; the project number that appeared in the Health Master Plan provides complementary information that helps in linking the project to the overall programme framework. Relevant coordinating agencies, both private and public that will complement project activities, as well as the Monitoring & Evaluation system that needs to be in place to ensure the success of the project.

Chapter

2

COSTING FOR HOSPITAL MANAGEMENT

Key Messages

- Health transition in Sri Lanka is increasing the demand for health financing but the budgetary situation in the country, will constrain the availability of funds.
- Managerial cost accounting can provide a valuable tool for better fund management; cost efficiency is an important strategy for improving health financing.
- Step down cost accounting that takes a comprehensive approach to hospital costing and allows for the disaggregation of costs by cost centres and the calculation of unit costs was adopted as the strategy.
- Piloting cost accounting at Teaching Hospital Kurunegala (THK) and Base Hospital Kuliyapitiya (BHK) provided feedback on its usefulness, practicality and sustainability.
- Disease based costing that can provide useful information for future budgeting activities when combined with epidemiological data was also carried out at three sites.
- Disaggregated costing information can support planning and budgeting at hospital level, and contribute to better cost efficiency.
- At a national level work on systematising pharmaceutical and wage record keeping and the development of treatment guidelines to cover all major diseases is desirable in supporting the adoption of Managerial Cost Accounting and using it as the basis for decision making, planning and budgeting.
- The costing results from the pilot sites, and their acceptance and use by the hospital and provincial health staff have encouraged the Provincial authorities to undertake a three year action plan to introduce Managerial Cost Accounting to the province.

2.1 CHALLENGES

2.1.1 RISE IN HEALTH FINANCING NEEDS

A. GLOBAL TREND

The goal of health financing is to ensure adequate spending on health relative to income at national and household levels and effective allocation of financial resources to different types of public and personal health services[1]. Health financing is one of the most important health sector reform agendas of the WHO.

Globally there is a gap between countries' needs for health financing and their current health spending. The underlying population and epidemiological dynamics have profound effects on the economies and health needs of all countries. This trend is more prevalent in the middle and high income countries. The World Bank study projects that changes in population size and structure alone will increase total health care spending needs by 45% in South Asia over the next 20 years. Of which, 27% are due to population growth and 18% are the result of age-sex structure changes[3].

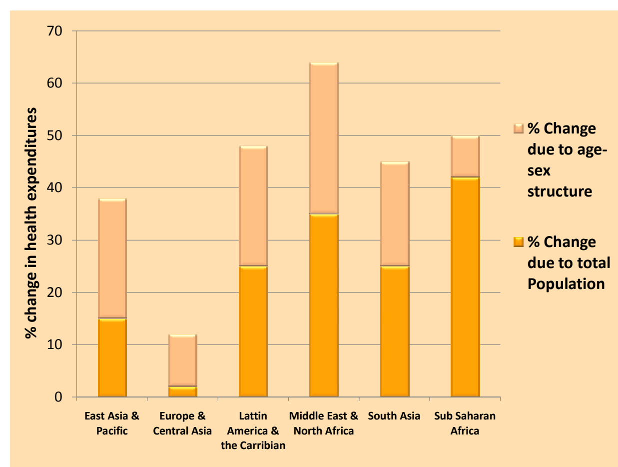

FIGURE 2- 1: EFFECTS OF CHANGES IN NUMBERS OF PEOPLE AND AGE-SEX STRUCTURE ON HEALTH SPENDING BY REGION, 2005-25[2]

B. SRI LANKA

As in the world, in Sri Lanka as well, the challenge of the health transition engendered by demographic and epidemiological transition, combined with the residual communicable disease burden; the insufficient health budget afflicted both by shrinking government revenues and rising costs; and the poor management procedures in the public health system; all pose a threat to the safeguarding and improvement of the health status of the population.

Sri Lanka faces the changing demand of the health sector in the presence of limited resources. New technology and new drugs are costly and patients' expectations are high. The estimate on financial status of the health system for the next fifteen years clearly shows

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1www.wpro.who.inc, 2007
[2]Gottret, 2006
[3]Gottret, 2006

the need for additional funds to manage the health system, if there is no significant gain in efficiency[1].

In such a changing scenario, the Ministry of Healthcare and Nutrition at national and provincial levels need to reorient their strategies to bring about better accountability and cut wastage to make the system more efficient, particularly since the complementary strategy of expanding financial resources remains constricted in the present period. Sound financial management is essential then, and the achievement of this objective depends crucially on the establishment of a good management information system that measures both outputs and the costs of services.

2.1.2 INCREASING HEATH EXPENDITURE

A. OVERVIEW

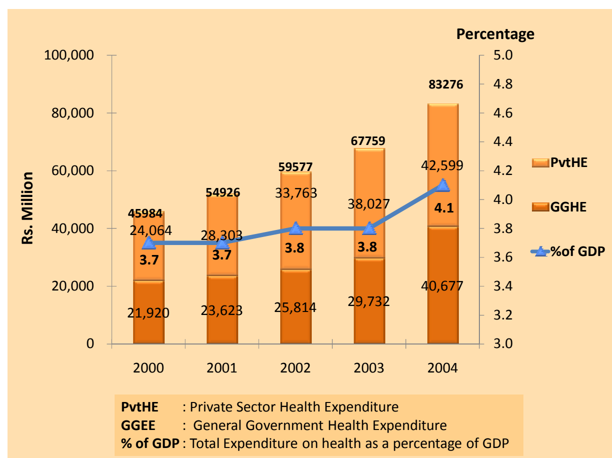

Figure 2- 2: TOTAL EXPENDITURE ON HEALTH 2000-2004[2]

Sri Lanka has achieved excellent health indicators, while spending a relatively low share of its GDP on health over the years. Sri Lanka has however witnessed a rising trend in health expenditure in recent years. Total expenditure on health was Rs.83,276 million in 2004, increased by 81% from Rs.45,984 million in 2000. This amounted to 4.1% of the GDP or Rs.4,279 per capita（US$41 per capita), a modest increase in the share of the GDP from 3.7% or Rs. 2,490 per capita (US$31 per capita) in 2000 (**Figure 2- 2**). In Sri Lanka, economic growth did not trigger this increased spending on health. In fact, a rapid expansion in GDP during the 90s (average 5% p.a.) was accompanied by a declining trend in nominal health expenditure as a share of the GDP[3].

Over the years the private spending has emerged as the dominant source in health financing in the country. In 2004, when 51% of health financing was from the private spending, 44% of total health expenditure was funded through households out-of-pocket spending while 49% was derived from government sources, primarily through central taxation(**FIGURE 2- 3**). A sizeable portion of health expenditure then still remains the responsibility of the state. With the rise in health expenditure, this burden is growing while the potential for increasing the state health sector budgetary allocation is limited given the competing demands, including defence.

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[1] MoH, Health Master Plan: Analysis, Strategies and Programmes, 2003

[2] MoH, National Health Accounts, 2004

[3] MoH, Health Master Plan: Analysis, Strategies and Programmes, 2003

Within the government sector, expenditure patterns still remain highly centralized despite the attempts at devolution. Out of total health spending, Provincial Government's share remained at 35% in 2002, and decreased to 30% in 2004. The provinces are extremely limited in their approach and their ability to raise funds. The burden of financing the state health system falls squarely on the central government, and the challenge of finding sufficient funds to meet health needs necessitates focusing on cost curtailment as one means of improving accessibility to funds.

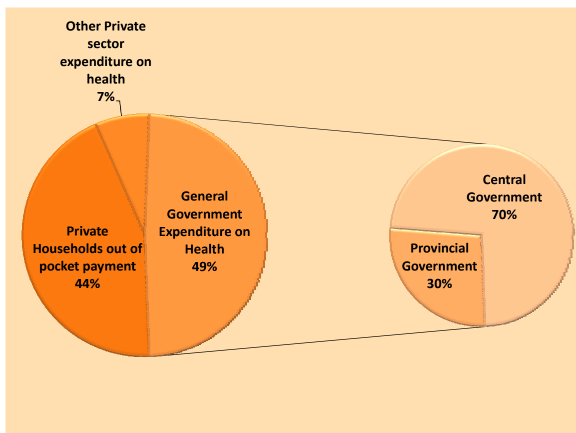

FIGURE 2- 3: BREAKDOWN OF TOTAL HEALTH EXPENDITURE 2004 [1]

B. HIGH COST OF MEDICAL SUPPLIES

Medical supplies are a major element of hospital costs borne by the state in the context of free health care provided through public hospitals **(Figure 2-** 4) **-** 92-93% of the `supply` category are medical items. While the costs of drugs are high, particularly due to the rapid depreciation of the rupee and international trade regulations, an empirical analysis of the drug distribution system in the country suggests that inefficiencies in the estimation of drug needs, procurement, storage and distribution could be further adding to the costs.

The drug distribution network within the country is complex: hospitals under the line ministry are served by the Medical Supplies Division (MSD) under the Ministry of Health but hospitals coming under the Provincial Council are serviced by the Regional Medical Supplies Division (RMSD) under the purview of the Regional Director of Health Services (RDHS).

Hospitals estimate their drug supply needs and these estimates function as the basis for budgeting and drug disbursement. However, the formulation of these estimates is often carried out in an arbitrary manner, with many hospitals merely using a mark-up on the previous drug estimates/consumption levels. These result often in drug shortages and in some instances

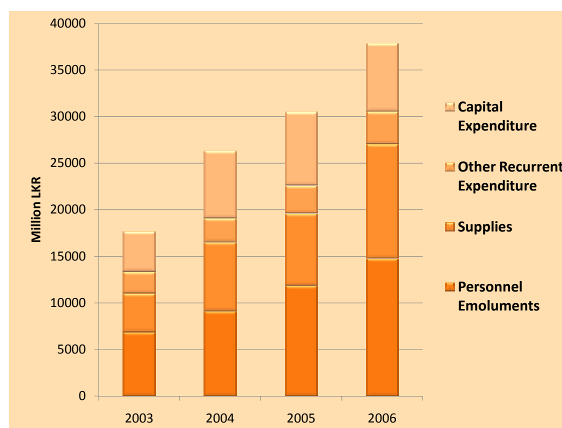

FIGURE 2- 4 CENTRAL GOVERNMENT EXPENDITURE ON HEALTH, 2003-2006

[1]MoH, National Health Accounts, 2004

in wastage. Local purchases are allowed to a limited extent depending on the category of the institution. The burden of drug purchase is sometimes shifted to the patients in times of scarcity.

Greater emphasis on improving the pharmaceutical sector, through improving estimation procedures, increasing the number of personnel trained in drug estimation and costing, better systems for the purchase and disbursement of pharmaceuticals, more and better maintained drug stores distributed through the island and better pharmaceutical management at national, regional and institutional levels are essential measures for limiting costs in the state healthcare sector.

C. PERSONNEL COSTS

Personnel costs are the major component of total health care costs accounting for 39% of the Central Government's expenditure on health in 2006. Cost of personnel emoluments have grown continuously in recent years, with a significant increase of 115% in the period 2003 to 2006. Improving the productivity of labour, optimising the mix of different skill groups and rationalising the use of overtime are the crucial objectives in improving efficiency. Analysing data on personnel and their cost contribution to different units and wards will be beneficial in achieving all these three objectives.

2.1.3 CONSTRAINTS IN RESOURCE ALLOCATION

A. ADMINISTRATIVE ALLOCATION

The 13th Amendment (1987) to the Constitution saw the delegation of certain powers and functions of the central government to the Provincial Councils. The Financial Commission is responsible for allocating the annual budget to the provinces. The shares of the total revenue that were allocated to the provinces have been hovering between 9.9% and 10.2%[1]. The provinces are finding it challenging to contain their expenditure within their budgetary allocations that are primarily dependent on the central government transfers.

B. ALLOCATION TO HOSPITAL SERVICES

All Teaching Hospitals, and those General and Base Hospitals under the MOH function as decentralized units with clearly defined budgets, but those hospitals under the Provincial Ministries of Health do not have separately assigned budgets or managerial autonomy. This restricts their ability and incentive to plan, manipulate resources or control costs effectively.

In 2004, Rs.27, 462 million or 68% of the total health financing were allocated to hospital services, of which 20% (Rs.7, 973 million) went to Provincial Hospitals[2]. There is a decreasing trend in allocation to regional institutions. In 1999, 27% of the total government health expenditures were allocated to provincial and district hospitals while

[1] MoH, Health Master Plan: Analysis, Strategies and Programmes, 2003
[2] MoH, National Health Accounts, 2004

allocation to the line ministry hospitals amounted to 41%. The downturn in spending was consistent during the 90s[1] .

2.1.4 INSUFFICIENT MANAGEMENT OF INFORMATION

A. LACK OF COST INFORMATION TO BASE FINANCING DECISIONS

The budgeting and accounting processes of the health institutions as well as allocations given to the health sector by the treasury do not take into account new developments and new procedures practiced in the health sector. This is due to the lack of cost information on which to base such decisions. It is also noted that when various health policies are drafted they do not have sufficient cost information to evaluate the projected costs of alternative strategies to help in deciding on appropriate policy options. The unavailability of managerial cost information is seen to be a major hindrance to effective policy making.

The purpose of cost accounting from a management perspective is to provide good data on a timely basis that provides enough detail to answer important questions that arise in diverse decision-making situations. Good data provides the basis for sound decisions. Without good financial data, it is much more likely that a bad decision will be made that translates to wastage of time and money.

B. DISJOINTED INFORMATION AT THE DISTRICT LEVEL

Financial management at public hospitals is managed by the accountants of the hospital at the line ministry hospitals and large-scale provincial hospitals. Management of the hospital accounts is quite different at the regional level. This is due to the provincial hospitals having to rely on the pooled information relating to all hospitals available at the RHDS office. This arrangement adds complexity to the autonomy of information management at the provincial and district levels. As a result, neither hospital directors nor health officials in the provincial and district offices have enough knowledge or grasp of financial and cost information regarding hospital management.

A mechanism should be developed to link financial information available at the RHDS to clinical information at the hospitals to improve autonomy of managing financial information at the provincial and district levels.

C. LACK OF COST INFORMATION AT THE HOSPITAL

A budget at public hospitals is currently prepared merely based on the allocation in the previous year, without taking into account the increase in the number of patients and changes in clinical procedures both of which have major impacts on hospitals costs. Also, as the hospital budget is allocated without any cost analysis, it is difficult to

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[1] MoH, Health Master Plan: Analysis, Strategies and Programmes, 2003

generate any interest or awareness on cost matters amongst hospital employees.

The demand for new health and medical services has increased and will continue to increase due to changes in the disease structure. As a result the burden on health financing will grow every year as well as due to rising awareness and patient expectations. Lack of cost information precludes the identification of the budget shortfall along budget lines. The necessary services cannot be provided to patients in a systematic manner, and the quality of services is likely to deteriorate.

There is no routine analytical data on costs. As a result, it is difficult for hospital managers to undertake a comprehensive analysis of hospital performance. The current mechanism for collecting cost information at the hospitals is merely an accounting process and is not designed to analyse costs for management purposes. Therefore, the financial data presently compiled at institutional level is insufficient and inadequately disaggregated to support detailed financial analysis that would be useful for decision-making purposes.

There is an urgent need to establish a proper data collection, cost accounting, and control system in provincial level health institutions including at the district and provincial office levels.

2.2 INITIATIVES: PAST & PRESENT

2.2.1 FOCUSING ON THE 'ECONOMICS OF HEALTHCARE'

Internationally there has been a major shift towards focusing on the 'economics of healthcare', not merely from an accounting and cost containment perspective, but as a means of ensuring greater equity and welfare. For instance, the World Health Report 2000, devoted to the discussion of health systems performance, had as one of its goals the fairness of financing: encompassing such issues as prepayment to avoid catastrophic healthcare burdens, pooling of funds, cross-subsidization and progressive healthcare payments[1].

The findings of the WHO Commission on Macroeconomics and Health published in the same year highlighted the importance of national allocations to health care. Following on from the Commission on Macroeconomics and Health (2000), steps were taken immediately to establish such a commission in Sri Lanka, and so the country was among the first few nations to establish a National Commission on Macroeconomics and Health. The activities of this commission were varied, but many focused on issues of financing, budgeting and costing.

Of these, of particular importance in the present context is the Review of Costing Studies undertaken as a research project under the National Macroeconomics and Health Commission[2]. This study, covering all cost studies undertaken in the period 1990-2004 attempts to highlight the methodologies adopted and results of all these studies as well as act as a manual for supporting costing studies in the future. It concludes by proposing that a cost results matrix be maintained at a national level, where the findings of such micro studies could be fitted into the relevant cells (direct/indirect costs, curative/preventive) so as to support the generation of national level cost estimates by disease, level of healthcare institution and intervention.

The MOH-JICA EBM study involving step down cost accounting could go a long way in supporting this initiative as hospital costs generated for different levels of hospital could then be combined with disease specific treatment costs in determining the relevant disease specific cell entries.

The Ministry of Health and the Institute of Policy Studies have also been jointly involved in the preparation of National Health Accounts, an important policy tool in the context of national health financing and expenditure.

2.2.2 IMPORTANCE OF HOSPITAL AUTONOMY

The importance of hospital autonomy has been recognised and recorded in the Health Task Force Reports of 1992 and 1997, and in recent national policy documents such as Vision 2010 and the Health Master Plan (2007). The feasibility for the rational management of hospitals and the

[1]WHO, 2000
[2]deSilva, Amala, Samarage, Somanathan, & Aparnaa, (2007)

implementation of fee generation/recovery depends on the ability of the hospital to determine its input mix as well as its outputs (For example, paying wards could partially cross-subsidize the non-paying wards). It also necessitates the retention of the fees within the specific hospital to act as an incentive for revenue generation. The current system where any residual or earned income from paying wards is channelled to the consolidated fund provides no incentive for efficient and effective hospital management.

The Sri Jayawardenapura General Hospital is the only semi-autonomous fee levying state sector hospital in Sri Lanka. The necessity for determining appropriate fee structures have resulted in this hospital developing systematic and detailed accounting systems and cost calculation procedures.

Given the arguments in favour of hospital autonomy and the administrative and political support as reflected through its acceptance in policy documents clearly indicates the need for implementing such a policy at least for the larger line ministry hospitals while simultaneously increasing the degree of disaggregated planning, budgeting and decision making in provincial level primary and secondary healthcare institutions.

2.2.3 Computerised Information System (CIGAS & GPS)

At a practical level, in the accounting arena, two major steps forward in the recent past have been the introduction of GPS and CIGAS. The Ministry of Health has adopted a Computerized Integrated Government Accounting System (CIGAS) in 1996 which enables different units both central and decentralized to send accounting information to the chief accountant at the MOH. This facilitates activities related to bank reconciliation, writing of cheques and payroll activities. It enables the Accounting Unit to provide monthly accounts and to send a master summary to the Treasury.

Three years after the acceptance of CIGAS, the government has also adopted a computerized system for the payment of salaries (GPS). In this system, each employee has a designated number and the payments are done according to this number and computerized balances are obtained. These new measures have increased the efficiency of the accounting system in the public health sector.