

Democratic Socialist Republic of Sri Lanka
Ministry of Health

**PREPARATORY SURVEY
FOR
THE PROJECT FOR IMPROVEMENT OF
BASIC SOCIAL SERVICES TARGETING
EMERGING REGIONS

FINAL REPORT**

JANUARY 2012

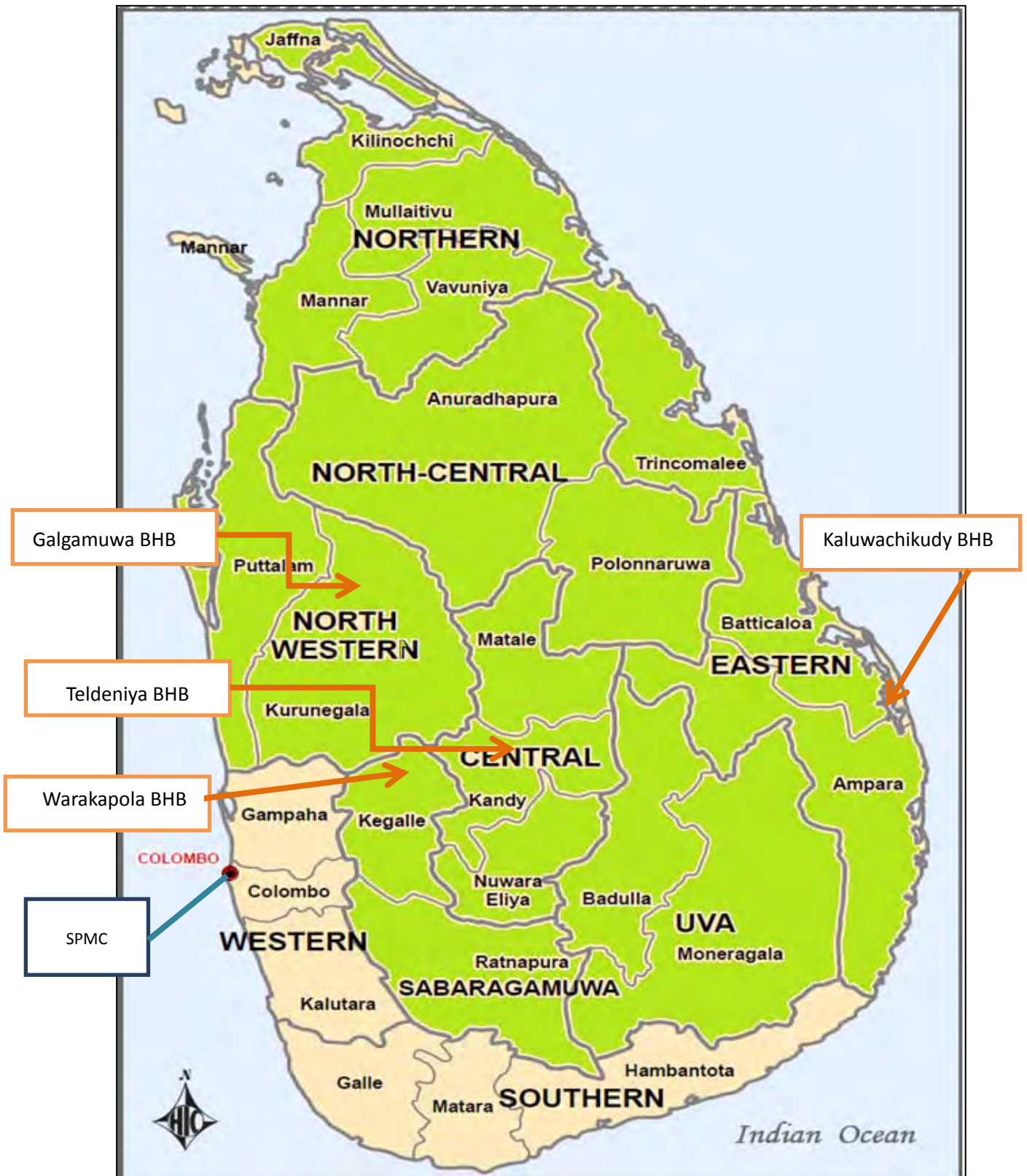
**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)
GLOBAL LINK MANAGEMENT, INC.
INTEM CONSULTING, INC.**

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| SAD |
| JR(.) |
| 12-003 |

The following foreign exchange rates are applied in the study
(as of December 2011)

- USD 1 = 76.8 JPY
- LKR 1 = 0.7 JPY

Location Map



State Pharmaceutical Manufacturing Corporation (SPMC)



Front view of SPMC



Tablet compression machine



Film coating machine



Filling, capping and labeling line

BH Teldeniya



Front view of the Hospital



Clinical laboratory

BH Galgamuwa



Front view of the Hospital



X-ray room



Hematology analyzer and biochemistry analyzer



Ward

BH Kaluwanchikudy



Front view of the Hospital



PCU/ECU

BH Warakapola



Front view of the Hospital



New x-ray unit before installation



Ultrasound scanner



Clinical laboratory

Ambulance



Ambulance



Interior of ambulance

Abbreviations

| | |
|----------|---|
| AMO | Assistant Medical Officer |
| BES | Biomedical Engineering Services |
| BH | Base Hospital |
| BHA, BHB | Base Hospital type A, Base Hospital type B |
| bn | Billion |
| BOR | Bed Occupancy Rate |
| BP | British Pharmacopoeia |
| B/S | Balance Sheet |
| BTMU | Bank of Tokyo Mitsubishi UFJ |
| C | Central Province |
| CBG | Criteria Based Grant |
| CBSL | Central Bank of Sri Lanka |
| CD | Central Dispensary |
| CEB | Ceylon Electricity Board |
| CSSD | Central Sterile Supply Department |
| CTG | Cardiotocography |
| CVD | Cardio-vascular diseases |
| DBH | District Base Hospital |
| DG | Director General |
| DGH | District General Hospital |
| DH | District Hospital |
| DM | Diabetes mellitus |
| DRA | Drug Regulatory Authority |
| E | Eastern Province |
| ECG | Electrocardiography |
| ECU | Emergency Care Unit |
| ENT | Ear, Nose and Throat |
| ERD | External Resource Development |
| EU | European Union |
| FC | Finance Commission |
| FCP | Foreign Currency Portion |
| GBV | Gender-based violence |
| GDP | Gross Domestic Product |
| GFATM | Global Fund to fight AIDS, Tuberculosis and Malaria |
| GMP | Good Manufacturing Practices |
| GoSL | Government of Sri Lanka |
| HIMS | Health Information Management System |
| HLC | Healthy Lifestyle Centre(s) |
| HMP | Health Master Plan |
| HPLC | High Performance Liquid Chromatography |
| HRH | Human Resources for Health |
| HSDP | Health Sector Development Programme |
| ICB | International Competitive Bidding |
| ICU | Intensive Care Unit |
| IDP | Internally-displaced people |
| IHD | Ischemic Heart Disease |
| IMMR | Indoor Mortality and Morbidity Return |
| IMR | Infant Mortality Rate |
| JFY | Japanese Fiscal Year |
| JICA | Japan International Cooperation Agency |
| JPY | Japanese Yen |
| LCB | Local Competitive Bidding |
| LCP | Local Currency Portion |

| | |
|--------|--|
| LM | Line Ministry |
| MBBS | Bachelor of Medicine & Bachelor of Surgery |
| MCH | Maternal and Child Health |
| MDGs | Millennium Development Goals |
| MDPU | Management Development & Planning Unit |
| MH | Maternity Home |
| MICU | Medical Intensive Care Unit |
| MLT | Medical Laboratory Technologist |
| MMR | Maternal Mortality Ratio |
| MO | Medical Officer |
| MoFP | Ministry of Finance and Planning |
| MoH | Ministry of Health |
| MOH | Medical Officer of Health, or Medical Office of Health |
| MoH&IM | Ministry of Health and Indigenous Medicine |
| MSD | Medical Supplies Division |
| MSU | Medical Statistics Unit |
| N | Northern Province |
| NC | North Central Province |
| NCD | Non-Communicable Diseases |
| NCE | New Chemical Entity |
| NDQAL | National Drug Quality Assurance Laboratory |
| NECORD | North East Community Restoration and Development Project |
| NHSL | National Hospital of Sri Lanka |
| NPD | National Planning Department |
| NPP | NCD Prevention Project |
| NW | North Western Province |
| Obgy | Obstetrics and Gynaecology |
| ODA | Official Development Assistance |
| OPD | Outpatient Department |
| OT | Operation Theatre |
| PBC | Premature Baby Care |
| PC | Provincial Council |
| PCU | Primary Care Unit |
| PDHS | Provincial Director of Health Services |
| PGH | Provincial General Hospital |
| PGIM | Post Graduate Institute for Medicine |
| PH | Provincial Hospital |
| PHI | Public Health Inspector |
| PHM | Public Health Midwife |
| PIU | Project Implementation Unit |
| P/L | Profit/Loss Statement |
| PMCU | Primary Medical Care Units |
| PMU | Project Management Unit |
| PQ | Prequalification |
| PSDG | Provincial Specific Development Grant |
| PSM | Professions Supplementary to Medicine |
| PU | Peripheral Unit |
| QCBS | Quality-Cost Based Selection |
| RDHS | Regional Director of Health Services |
| RFP | Request for Proposals |
| RH | Rural Hospital |
| RMO | Registered Medical Officer |
| ROA | Return on Asset |
| ROE | Return of Equity |

| | |
|--------|---|
| Sub | Sabaragamuwa Province |
| SAARC | South Asian Association for Regional Cooperation |
| SBCU | Special Baby Care Unit |
| SEC | State Engineering Corporation |
| SICU | Surgical Intensive Care Unit |
| SOE | Statement of Expenditure Procedure |
| SOEs | State Owned Enterprises |
| SPC | State Pharmaceutical Corporation of Sri Lanka |
| SPMC | State Pharmaceutical Manufacturing Corporation of Sri Lanka |
| STEP | Special Term for Economic Partnership |
| TB | Tuberculosis |
| TH | Teaching Hospital |
| TOD | Treasury Operation Department |
| ToR | Terms of Reference |
| TQM | Total Quality Management |
| UNFPA | United Nations Population Funds |
| UNICEF | United Nations Children's Fund |
| USD | United States Dollars |
| USP | United States Pharmacopoeia |
| VP | Visiting Physician |
| WB | World Bank |
| WHO | World Health Organization |
| WRCD | Weekly Return on Communicable Diseases |

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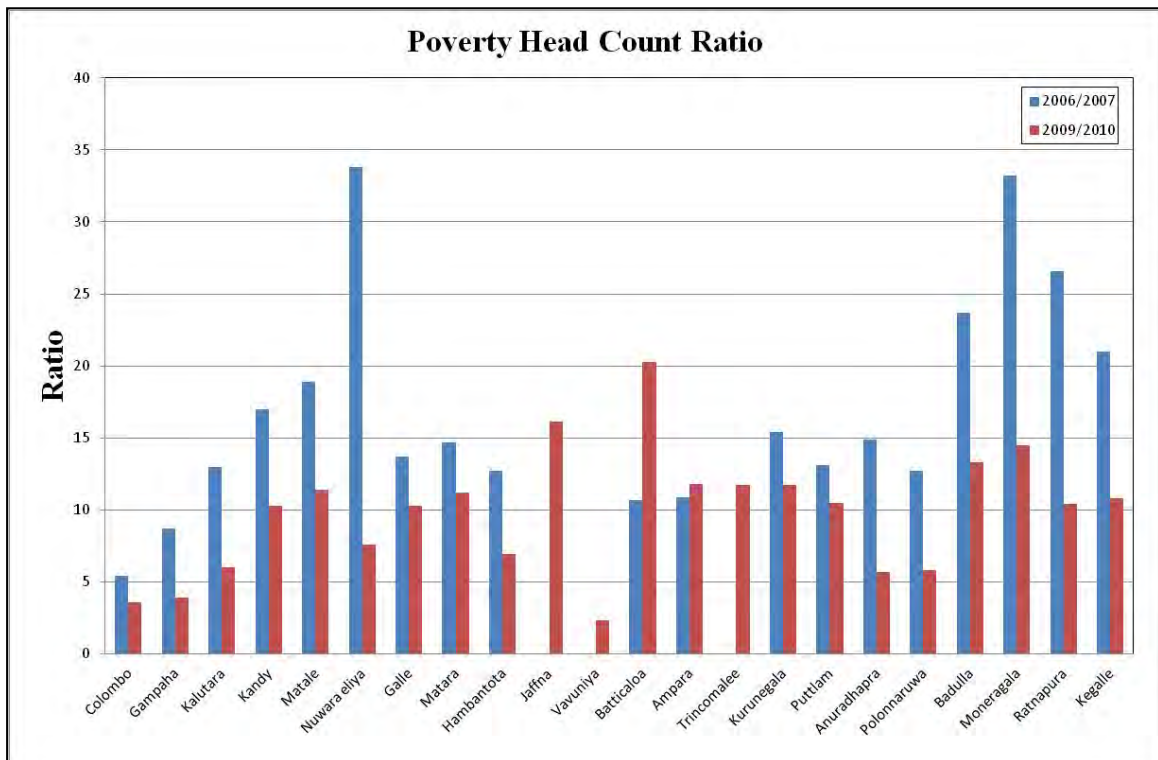
CHAPTER 1 INTRODUCTION

1.1 Sri Lanka: Economic Growth and Poverty Reduction

Sri Lanka is an island with an area of 65,610 square kilometres and a population of 20 million in 2007. Having ended the three-decade long conflict, the country has begun to enjoy its macro-economic growth. The country's ultimate goal, stated in the Central Bank's Annual Report 2010, is to reduce poverty and surpass the targets set under the Millennium Development Goals (MDGs). Sri Lanka's target for MDG Goal 1 is to reduce the proportion of the population below the national poverty line from 22.7% (2002) to 13.1% (2015)¹. According to the result of the "Household Income and Expenditure Survey 2009/10"², Sri Lanka's poverty head count ratio has now been reduced to 8.9 %, thus the country has achieved its MDG Goal 1 Target.

Figure 1-1 shows the progress in reducing poverty head count ratio by district. While most districts have halved the ratio, the data from two districts in Eastern Province (Batticaloa and Ampara) indicates a worsening situation.

Figure 1-1: Poverty head count ratio (2006/07-2009/10)



Source: Department of Census and Statistics, Ministry of Finance and Planning, Sri Lanka, 2009 , "Poverty in Sri Lanka", page 2, and Department of Census and Statistics, 2011, "Household Income and Expenditure Survey 2009/10, page 35.

Although no explanation is given in the report, it is assumed that, as a much wider range of households were included in the latest survey, a more realistic assessment of the situation has

¹ MDGs in Sri Lanka: <http://www.mdg.lk/>

² Department of Census and Statistics, Ministry of Finance and Planning, Sri Lanka, 2011, page vii Table H1. This HIE survey has covered 19,958 households of all island except Mannar, Kilinochchi and Mullaitivu due to difficulty in access to households.

been presented. It is also worthwhile to note that the poverty situation has dramatically improved in the central and hilly districts such as Nuwara Eliya, Moneragala and Ratnapura.

Table 1-1 shows the main socio-economic figures and targets for Sri Lanka. Due to Sri Lanka's successful economic performance, it graduated to middle-income status in January 2010 from the list of Poverty Reduction and Growth Trust-eligible countries.

Table 1-1: Main socio-economic targets

| Target | Unit | 2005 | 2010(Actual) | 2016 (Projection) |
|--------------------------|-------------|-------|--------------|-------------------|
| GDP | USD billion | 24.4 | 56.0 | 98.0 |
| Per capita income | USD | 1,241 | 2,399 | 4,470 |
| Access to electricity | % | 75 | 88 | 100 |
| Unemployment | % | 7.2 | 4.9 | 3.2 |
| Infant mortality | Per 1,000 | 11.2 | 8.5 | 4.0 |
| Maternal mortality | Per 100,000 | 45 | 33 | 20 |
| Primary school enrolment | % | 95 | 99 | 100 |

Source: Central Bank of Sri Lanka, 2011, Annual Report 2010, page 22, modified by the Study Team

However, despite all of the development efforts and achievements, there still remain emerging areas where basic social services such as hospital services, are lagging behind. The Japan International Cooperation Agency (JICA), as a long-standing partner working to improve the Sri Lankan health sector, initiated a dialog with the Ministry of Finance and Planning with the goal of preparing further assistance to Sri Lanka. The two governments agreed to conduct a preparatory survey to provide an evidence base for planning a future framework of assistance from Japan to Sri Lanka.

1.2 Health Outlook of Sri Lanka

Based on the strong commitment from the government, the health status of people in Sri Lanka has in general steadily improved over the past decade, as seen in Table 1-2. Child malnutrition is one of the remaining challenges, though it has shown a significant improvement since the 1980s, when over 30% of the children below the age of five were stunted.

Table 1-2: Selected health indicators 2000 - 2010

| Indicators | 2000 | 2005 | 2010 |
|---|---------|-------------|-------------|
| Life expectancy at birth | 69 | NA | 71 (2009) |
| Neonatal mortality rate (per 1,000 live births) | 13 | 12 | 10 |
| Infant mortality rate (Per 1,000 live births) | 19 | 17 | 14 |
| Under 5 mortality rate (per 1,000 live births) | 23 | 20 | 17 |
| 1-year old vaccinated against measles (%) | 98 | 99 | 96 (2009) |
| Children under 5 years stunted (%) | 18.4 | 17.3 (2007) | 19.2 (2009) |
| Maternal mortality ratio (per 100,000 live births) | 59 | 45 | 39 (2008) |
| Births attended by skilled health staff (%) | 97 | 99 (2007) | na |
| Prevalence of TB (per 100,000 population) | 108 | 102 | 101 (2009) |
| Confirmed indigenous malaria cases ⁽¹⁾ | 210,039 | 1,640 | 0 (2008) |
| Number of physicians per 10,000 ⁽²⁾ | NA | 5.2 | 6.8 |
| Number of nurses and midwives per 10,000 ⁽²⁾ | NA | 14.1 | 17.7 |

Source: WHO "Global Health Observatory Data Repository", (1) WHO "Malaria Country Profile", (2) Calculated by JICA study team based on GoSL data

The current health status enjoyed by the people in Sri Lanka far exceeds those of other South Asian countries, as shown in Table 1-3. As already stated in Table 1-1, the major MDG targets such as the infant mortality rate (Target: 9/1,000 live births) and maternal mortality ratio (Target: 36/100,000 live births) have already been achieved in 2010. The other health related indicators, such as the under-five mortality rate (Target: 12/1,000), proportion of 1-year old children immunised against measles (Target 99 %), are on track.

Table 1-3: Selected health indicators in South Asia (2009 unless otherwise stated)

| | South Asia | Sri Lanka | India | Bangladesh | Bhutan | Nepal | Pakistan |
|--|-------------------------------|--------------|---------------|---------------|---------------|---------------|---------------|
| Life expectancy at birth | 64 ⁽¹⁾ (2008) | 75 | 65 | 68 | 67 | 68 | 65 |
| Infant mortality rate (Per 1,000) | 55 ⁽²⁾ | 15 | 50 | 40 | 46 | 43 | 71 |
| Under five mortality rate (per 1,000) | 69 ⁽²⁾ | 17 | 65 | 51 | 59 | 52 | 88 |
| 1-year old vaccinated against measles (%) | 75 ⁽²⁾ | 96 | 71 | 89 | 98 | 79 | 80 |
| Maternal mortality Ratio (per 100,000 live births) | 290 ⁽²⁾ (2008) | 39 (2008) | 230 (2008) | 340 (2008) | 200 (2008) | 380 (2008) | 260 (2008) |
| Births attended by skilled health staff (%) | 50 ⁽²⁾ | 99 (2007) | 53 (2008) | 24 | 71 (2007) | 19 (2006) | 39 (2007) |
| Contraceptive prevalence rate (%) | 53.9 ⁽²⁾ (2008) | 68 (2007) | 54 (2008) | 53 (2008) | 35 (2007) | 48 (2006) | 27 (2008) |
| Pregnant women receiving ANC (at least once) (%) | 70 ⁽²⁾ | 99 (2007) | 75 (2008) | 51 (2007) | 88 | 44 (2006) | 61 (2007) |
| Incidence of TB (per 100,000) | 173 ⁽²⁾ | 66 | 168 | 225 | 158 | 163 | 231 |

Source: <http://data.worldbank.org/indicator/SP.DYN.LE00.IN/countries>, (1) World Bank "World Development Indicators 2010", (2) United Nations "Statistical Annex: Millennium Development Goals, Targets and Indicators 2011"

Meanwhile, the longer life expectancies are posing a new challenge to the government of Sri Lanka: meeting the rising costs of healthcare accompanying the rapid increase in Non-Communicable Diseases (NCDs). According to the Annual Report of the Ministry of Finance and Planning 2010, both live discharges and deaths due to NCDs are on the rise.

Table 1-4: Live discharges and deaths due to NCDs 2005-2008

| Disease | | 2005 | 2006 | 2007 | 2008 |
|----------------------------|-----------------|--------|--------|--------|--------|
| Coronary heart disease | Live discharges | 65,836 | 75,399 | 80,919 | 81,045 |
| | Deaths | 3,762 | 4,125 | 4,536 | 4,466 |
| Rheumatic heart disease | Live discharges | 3,680 | 3,309 | 3,513 | 3,573 |
| | Deaths | 69 | 35 | 37 | 61 |
| Essential hypertension | Live discharges | 78,367 | 83,128 | 82,550 | 79,699 |
| | Deaths | 586 | 428 | 437 | 385 |
| Stroke | Live discharges | 19,215 | 22,487 | 24,921 | 26,793 |
| | Deaths | 2,549 | 2,893 | 3,193 | 3,102 |
| Diabetes mellitus | Live discharges | 51,476 | 58,429 | 60,944 | 59,409 |
| | Deaths | 675 | 597 | 545 | 579 |
| All cancers | Live discharges | 44,672 | 48,484 | 52,444 | 59,356 |
| | Deaths | 2,683 | 3,163 | 3,388 | 3,384 |

Source: Ministry of Finance and Planning, 2011, Annual Report 2010, page 83,

In addition, the following is the ranking of hospital deaths in Sri Lanka in 2007. This ranking is not unique to urban and more developed districts, as 16 out of 25 districts recorded Ischemic heart

disease as the number one killer in the hospital³.

Table 1-5: Leading causes of hospital death (2007)

| Disease | % |
|---|------|
| Ischemic heart disease | 13.1 |
| Neoplasm | 10.1 |
| Pulmonary heart disease and diseases of the pulmonary circulation | 10.1 |
| Cerebro-vascular disease | 9.2 |
| Diseases of the gastro-intestinal tract | 7 |

Source: Ministry of Health, 2010, Annual Health Statistics, page 37, Table 35.

1.3 Japanese Contributions to Improving Health Service Delivery in Sri Lanka

Japanese cooperation with the Sri Lankan health sector dates back several decades. The well-known contribution includes the formulation of the Health Master Plan and the establishment of the State Pharmaceutical Manufacturing Corporation (SPMC) in 1985. As described in Chapter 4, SPMC has continued to produce essential drugs for the country until the present, and the expansion of its production lines is considered a priority issue for the country.

Table 1-6: Grant assistance to SPMC

| E/N | Project Title | Cost (100 million Japanese Yen) |
|------|---|---------------------------------|
| 1985 | The Establishment Project of Pharmaceutical Centre of Essential Drugs (1/2) | 18 |
| 1986 | The Establishment Project of Pharmaceutical Centre of Essential Drugs (2/2) | 7.4 |

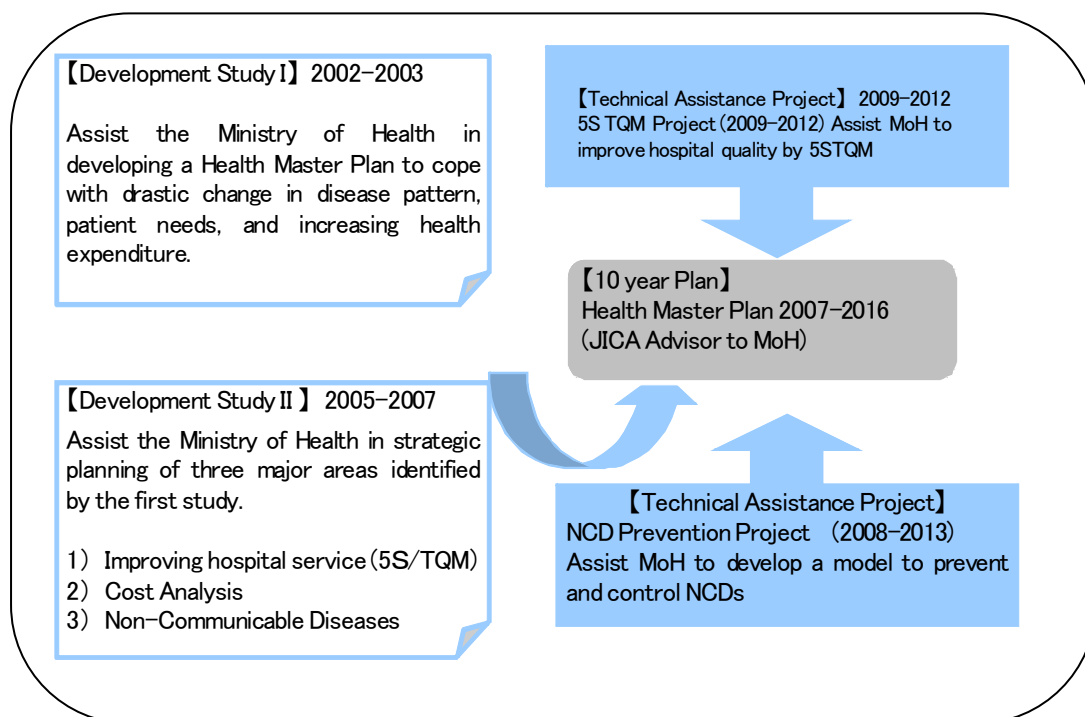
Source: Ministry of Foreign Affairs, White Paper, Statistical Section, 1986, 1987

By using the Yen-loan scheme, the Government of Japan assisted the Government of Sri Lanka to improve the national blood transfusion service in 2000/2001 with a total amount of 2.84 billion Japanese yen. This project has contributed to the establishment of a safe and efficient blood supply for the control of infectious diseases in the country. The ODA Loan was used for the construction of the National Blood Transfusion Centre, supply of equipment to the centre as well as local blood banks, and consulting services including engineering services and technical training. The other Yen-loan example was the “Small-scale Infrastructure Rehabilitation and Upgrading Project II” in 2004. From the total contribution of 11.77 billion Japanese yen, 6.6 billion was used for health sector support, such as improving rural hospitals.

Currently, a technical cooperation project on “Health Promotion and Preventive Care Measures of Chronic NCDs (NPP)” is being implemented by the Ministry of Health. This project aims to develop an implementation model to prevent and control chronic NCDs with a focus on Ischemic heart diseases through community screening, health guidance and health promotion activities. The background of the current technical assistance is shown in Figure 1-2.

³ Neoplasms are the leading cause of death in Colombo, Galle and Jaffna.

Figure 1-2: Background and area of JICA assistance



Source: JICA Study team

In addition to NPP, JICA provided technical support to MoH in advancing the 5S-TQM programme for government hospitals.

The following Table shows the list of Japanese contributions in the past two decades.

Table 1-7: Major Japanese cooperation to Sri Lanka (health sector) (Unit: 100 million Japanese Yen)

| Grant Aid | | | Technical Cooperation | |
|-----------|--|-------|--|-----------|
| E/N | Project Title | Cost | Project Title | Period |
| 1995 | The Project for the Improvement of the Faculty of Dental Sciences in the University of Peradeniya | 1.14 | - | |
| 1996 | The Project for the Improvement of the Faculty of Dental Sciences in the University of Peradeniya | 4.94 | Nursing Education Project in Sri Lanka | 1996-2001 |
| | The Project for the Establishment of the School of Nursing, Sri Jayewardenepura | 0.91 | | |
| | The Project for Improvement of Educational Equipment for the Faculty of Medical Science, the University of Sri Jayewardenepura | 7.21 | | |
| 1997 | The Project for the Improvement of the Faculty of Dental Sciences in the University of Peradeniya | 17.51 | - | |
| | The Project for the Establishment of the School of Nursing, Sri Jayewardenepura | 2.65 | | |
| | The Project for Improvement of Educational Equipment for the Faculty of Medical Science, the University of Sri Jayewardenepura | 2.18 | | |

| Grant Aid | | | Technical Cooperation | |
|-----------|---|-------|---|-----------|
| 1998 | The Project for the Establishment of the School of Nursing | 11.8 | Dental Education Project at the University of Peradeniya | 1998-2003 |
| 1999 | The Project for Improvement of the General Hospital Ratnapura | 5.54 | - | |
| 2000 | The Project for Improvement of the General Hospital Ratnapura | 1.44 | | |
| 2001 | The Project for Improvement of Medical Equipment in the General Hospital Matara | 3.62 | | |
| | The Project for Improvement of the General Hospital Ratnapura | 9.58 | - | |
| 2002 | The Project for Improvement of the General Hospital Ratnapura | 3.26 | Master Plan Study for Strengthening Health System | 2002-2003 |
| 2005 | The Project for the Improvement of Central Function of the Jaffna Teaching Hospital (detailed design) | 0.9 | The Development Study on Evidence-Based Management for the Health System in Sri Lanka | 2005-2007 |
| 2008 | The Project for the Improvement of Anuradhapura Teaching Hospital | 1.04 | - | |
| | The Project for the Improvement of Anuradhapura Teaching Hospital | 0.26 | Project on Health Promotion & Preventive Care Measures of Chronic NCDs | 2008-2013 |
| 2009 | The Project for the Improvement of Anuradhapura Teaching Hospital (Phase II) | 3.9 | Medical Service Administration | 2008-2011 |
| | The Project for the Improvement of Anuradhapura Teaching Hospital (Phase II) | 4.91 | Improvement of Quality and Safety in Healthcare Institutions in Sri Lanka | 2009-2012 |
| | The Project for the Improvement of Central Functions of Jaffna Teaching Hospital | 22.98 | - | |

Source: Ministry of Foreign Affairs of Japan and JICA Knowledge Site

1.4 Major Donors Contributions to Improving Health Services in Sri Lanka

According to the annual report of the External Resources Department of Sri Lanka, a total amount of US\$47 million was contributed to health sector development by all bi- and multilateral donors in 2010. Although there are many organizations that have contributed to the improvement of health services in Sri Lanka, Japan, the World Bank, UN agencies, the Saudi Fund and the Government of the United States accounts for about 83 per cent of total foreign funds for the health sector. Some donors contribute through the National Health Development Fund that is administered by the Ministry of Health. According to the MoFP, the organizations listed below are the donors for the National Health Development Fund between 2004 and 2010.

Table 1-8: Donors for the National Health Development Fund

| Years | Name of the Donors | Purpose of Donation | Amount in SLR |
|-------|--------------------------------------|---|---------------|
| 2004 | World Health Organization (WHO) | Rehabilitation and Treatment for Tsunami affected people | 1,655,200.00 |
| 2005 | WHO | Rehabilitation and Treatment for Tsunami affected people | 2,640,000.00 |
| 2005 | NOVO Nordisk India Pvt | To Establish Diabetes Care Clinics in Sri Lanka | 10,997,000.00 |
| 2006 | NOVO Nordisk India Pvt | To Establish Diabetes Care Clinics in Sri Lanka | 9,773,900.00 |
| 2007 | Sight Savers International Sri Lanka | Construction of a new Paediatric Ophthalmology Unit of the Lady Ridgeway Hospital | 2,000,000.00 |

| | | | |
|------|--------------------------------------|---|---------------|
| 2008 | Sight Savers International Sri Lanka | Construction of a new Paediatric Ophthalmology Unit of the Lady Ridgeway Hospital | 8,000,000.00 |
| 2008 | WHO | Emergency relief for five Flood affected Districts | 3,300,000.00 |
| 2008 | UNICEF Sri Lanka | Nutrition & Food Security Survey in Sri Lanka | 1,161,526.00 |
| 2008 | Lepra Ch. Leprahilfe Emmaus Schweix | Anti-Leprosy Campaign in Sri Lanka | 2,118,900.00 |
| 2008 | Chamber of Commerce South Korea | Improvement of Health Care Facilities in Horan Electorate | 4,296,800.00 |
| 2009 | Sight Savers International | Construction of a new Paediatric Ophthalmology Unit of the Lady Ridgeway Hospital | 7,420,000.00 |
| 2009 | WHO | Strengthening of Public Health Services in IDP Camps Cheddikulam | 7,796,500.00 |
| 2009 | WHO | Mental Health Services to Serve Internally Displaced Persons in Vavuniya District | 2,753,259.00 |
| 2009 | WHO | Health Intervention in Conflict-affected Areas in Northern Prov. | 23,750,000.00 |
| 2009 | UNICEF Sri Lanka Country Office | Nutrition and Food Security Survey in Sri Lanka | 11,500,000.00 |
| 2010 | Sight Savers International | Construction of a new Paediatric Ophthalmology Unit of the Lady Ridgeway Hospital | 1,580,000.00 |
| 2010 | WHO | Flood relief activities | 1,200,000.00 |
| 2010 | WHO | Nutrition Day Expenses | 1,131,000.00 |
| 2010 | UNICEF Sri Lanka | Nutrition and Food Security Survey in Sri Lanka | 965,075.64 |

Source: National Health Development Fund, MoFP

The World Bank (WB), the World Health Organization (WHO) and JICA, however, are three major organizations that are actively providing support especially in the field of NCD prevention as described below.

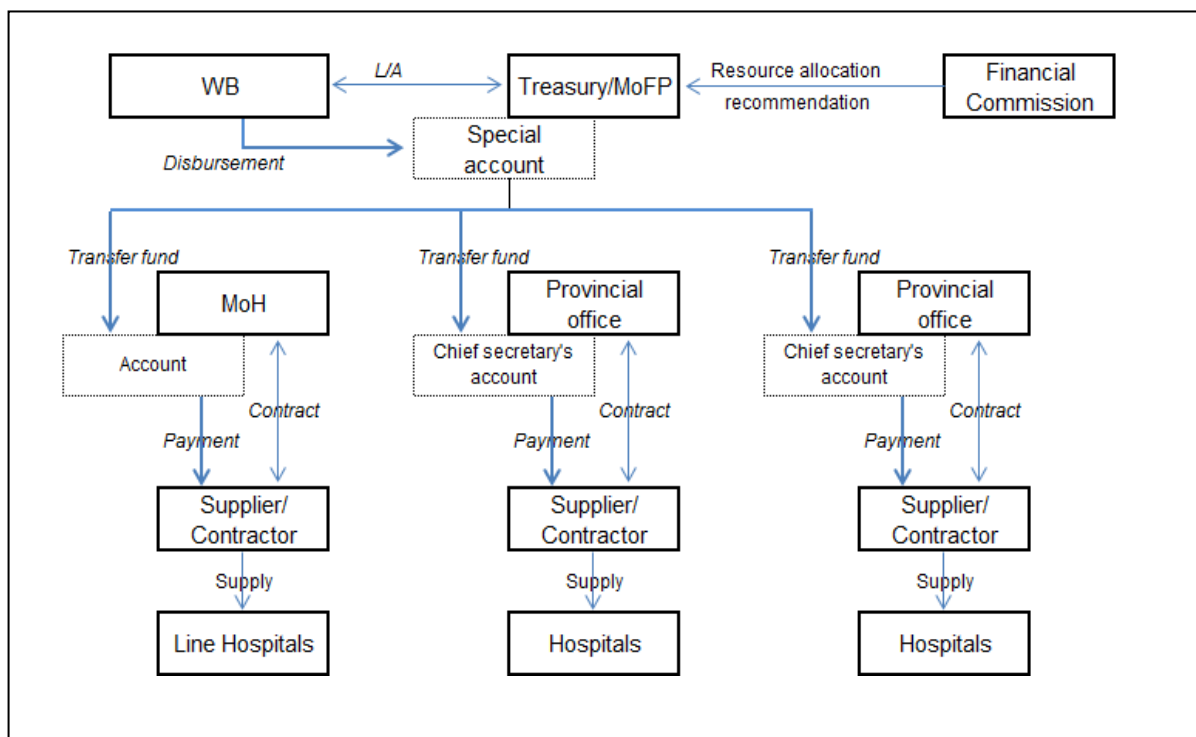
1.4.1 The World Bank (WB)

According to the ERD Annual Report 2010, the World Bank portfolio was comprised of 32 projects. The total value was approximately US\$1,346 million of which about US\$260 million was in grant form. The Health Sector accounted for 7 per cent and the majority was channelled through the Health Sector Development Project (HSDP). The original HSDP (US\$61.38 million) was made effective in October 2004 with the project development objective to “improve efficiency, equity, and quality of health care by strengthening planning, management, and monitoring capacity at the district, provincial and central level with a specific focus on supporting preventive care services at the district and divisional level”. The project covered all nine provinces and 25 districts in Sri Lanka. However, right after commencement, Sri Lanka was affected by the tsunami and Avian influenza, and about US\$22.5 million was reallocated to provide assistance with these national emergencies.

In 2009, the bank approved a supplementary grant of US\$ 26.7 with two major components: support for decentralised health service delivery at the provincial and district levels (component 1)

and strengthening the stewardship functions of the central Ministry of Healthcare and Nutrition (Component 2)⁴. The implementation structure for HSDP is shown below.

Figure 1-3: Implementation structure for HSDP



Source: The World Bank Sri Lanka Office

The bank is now preparing for the second HSDP which will align with the five-year plan of MoH. Therefore the bank is now waiting for the draft plan that is to be completed by December 2011. Upon receipt of the draft, the bank will make comments, send a mission in April, appraise and submit project plan to the board in September.

According to the bank, HSDP II differs from the previous one and will be based on results-based financing. The most important aspect under result-based financing is setting objectives with results indicators. As long as the objectives can be measured by the results indicators, the bank can finance any aspect of the project including human resources and tax. The World Bank considers the most important aspect for all donors to grasp is what MoH plans to achieve in five years.

1.4.2 The World Health Organization (WHO)

The WHO Country Office in Sri Lanka takes a leading role in supporting MoH in developing the health service delivery system. The current Country Cooperation Strategies (2006-2011) emphasise the following five areas of cooperation⁵.

- **Human resources for health:** Rationalise the development and management of human resources; support pre-service and continuing education in clinical, public health and management competencies; strengthen the regulatory framework to ensure quality of performance of health staff.

⁴ Project Paper on a Proposed Additional Credit of the Amount of SDR 16.3 million to the Democratic Socialist Republic of Sri Lanka for a Health Sector Development Project, June 18, 2009

⁵ WHO Country Cooperation Strategy 2006-2011

- **Communicable diseases:** Strengthen the surveillance system for existing, emerging and re-emerging diseases; address priority communicable disease programmes; coordinate action for pandemic preparedness.
- **Non-communicable diseases and mental health.** Support prevention and control of major non-communicable diseases (NCDs), mental health disorders and related priorities; promote integrated and cost effective approaches for prevention and management of major NCDs; support surveillance of NCD risk factors and their determinants.
- **Child, adolescent and reproductive health.** Reorient the existing maternal and child health services by inclusion of a package of services and interventions for child, adolescent and reproductive health and nutrition using a lifecycle approach.
- **Emergency preparedness and response.** Strengthen and communicate information for emergency preparedness, response and dissemination; contribute to networks for coordinated preparedness and crisis management; continue to address health and rehabilitation in post-tsunami and post-conflict areas; institutionalise the Emergency Preparedness and Response programme within the health sector.

The WHO Sri Lanka Office is currently planning for the next Country Cooperation Strategy starting from 2012.

1.4.3 United Nations Children’s Fund (UNICEF)

The United Nations Children’s Fund (UNICEF) is working in the field of (1) health & nutrition, (2) water, sanitation and hygiene (WASH) & construction, (3) education and (4) child protection. The current five-year country cooperation programme (2008 – 2012) will end next year and UNICEF is currently preparing for the next cycle. In the health & nutrition section, UNICEF emphasises (1) improvement of maternal and child nutrition in low performing districts, (2) strengthening maternal, neonatal and child health care and monitoring with a special focus on disadvantaged population in the estate sector and the rural areas, and (3) enhancing access to quality basic health, nutrition and early childhood care and development services for women and children in resettlement areas/emergencies. From 2009 to 2010, UNICEF re/constructed 10 rural primary health care facilities (Government Health Centres), 3 paediatric wards, 1 mother and 1 new born care unit, 1 lactation management centre, 4 maternity wards and 2 labour rooms in conflict affected areas⁶.

For the years of 2011-2012, UNICEF intends to spend US\$3.5 million on health and nutrition activities in the Northern Province, and US\$1.5 million in the Eastern Province. The major activities for the North are to establish and upgrade a comprehensive obstetric care facility, special intensive baby unit, paediatric ward, and therapeutic feeding centre in each district hospital. For the East, UNICEF plans to scale up the integrated nutrition programme and preventing micronutrient deficiencies amongst under-five and pregnant/breastfeeding women through supplementation and de-worming treatment for parasite control⁷.

1.4.4 Asian Development Bank (ADB)

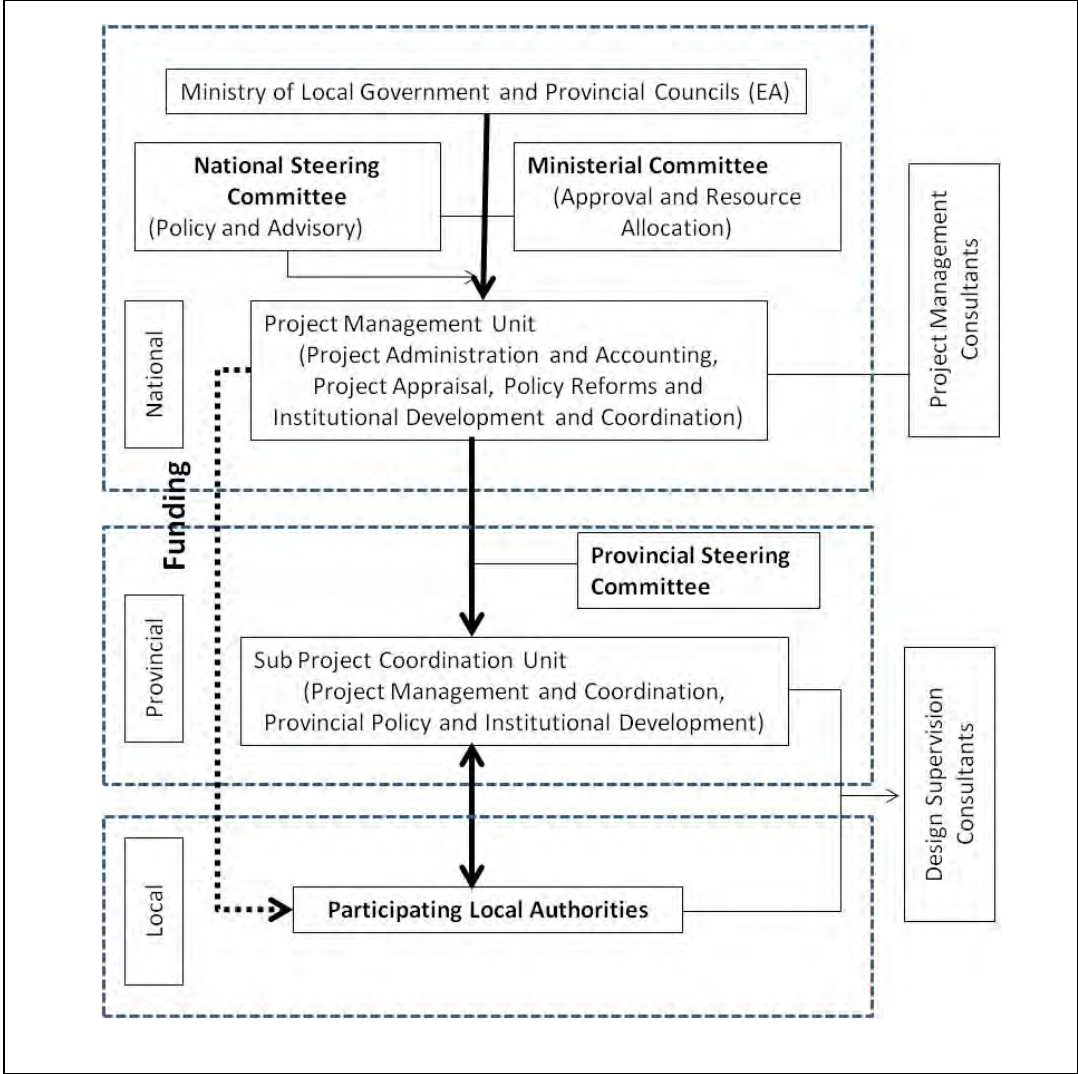
Although the Asian Development Bank (ADB) may not be a major donor in the health sector, it is worth including in this section due to its “Local Government Enhancement Sector Project”,

⁶ UNICEF Sri Lanka, page 4

⁷ *ibid.*, page 22-25

approved on October 21, 2011. This US\$59 million project will provide capital grants for about 100 selected local authorities⁸ for the implementation of eligible sub-projects such as water supply and sanitation, drainage, solid waste management, roads and bridges, improvement of maternity and health centres and others. The other outputs include local government policy reform and capacity building support and project management and administration support. The project commenced in the third quarter of 2011 and will end in the 2nd quarter of 2015. The project organization structure is shown in Figure 1-4.

Figure 1-4: Local Government Enhancement Sector Project organization structure

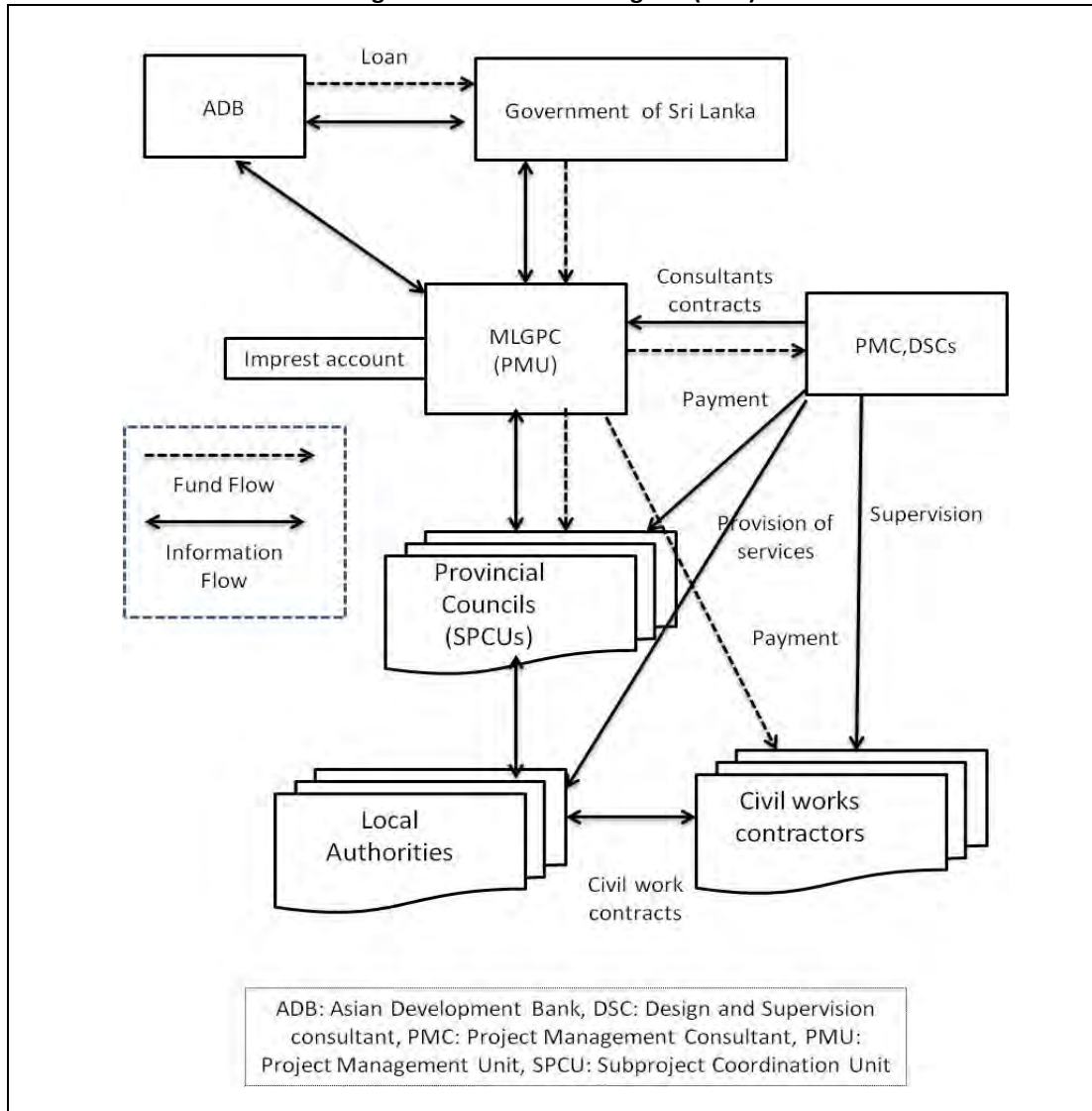


Source: Project Administration Manual for Democratic Socialist Republic of Sri Lanka: Local Government Enhancement Sector Project, page 9

The project is estimated to cost US\$68.6 million, and ADB is providing a US\$59 million loan with a 32-year term, including an 8-year grace period. The interest rate is 1.0% per annum during the grace period and 1.5% per annum thereafter. This project’s Fund Flow Diagram is shown in Figure 1-5.

⁸ The number of local authorities (Pradeshiya Sabhas) for each province are: Western Province, 8; North Central Province, 13; Uva Province, 13; North Western Province, 13; Sabaragamuwa Province, 15; Southern Province, 18; and Central Province, 18.

Figure 1-5: Fund Flow Diagram (ADB)



Source: Project Administration Manual for the Democratic Socialist Republic of Sri Lanka: Local Government Enhancement Sector Project, page 17

1.5 Dialogue with the Government of Sri Lanka

The Japan International Cooperation Agency (JICA) dispatched a preparatory survey mission in April 2011 to undertake scoping research and develop implementation arrangements for a further survey to be conducted. Both parties agreed to conduct a 'preparatory survey' to facilitate formulation of the project for the "Improvement of the Basic Social Service Targeting the Lagging Behind Regions".

In July 2011, JICA dispatched a Fact Finding Mission and agreed with the Government of Sri Lanka as follows:

- 1) The project name will be changed to "The Project for the Improvement of Basic Social Services Targeting the Emerging Regions".
- 2) The project will focus on (1) strengthening pharmaceutical manufacturing capacity for reliable and efficient supply of essential drugs, and (2) strengthening the capacity of secondary-level hospitals to provide sufficient curative services as regional core hospitals,

thereby contributing to the improvement of health status of people in Sri Lanka through access to quality care services.

- 3) JICA will dispatch a preparatory survey team and a survey will be jointly conducted with the Ministry of Health.

In November 2011, JICA dispatched an appraisal mission to discuss and agree on the basic framework for future cooperation between the two governments. After a series of consultation meetings, the two parties came to an agreement and signed the Minutes of Discussions (MD) on the 24th of November 2011. Chapter 6 of this Preparatory Report reflects the contents of these MDs.

1.6 Policy Framework and the Rationale for the Project

There are four major policies that are closely associated with this project: “Mahinda Chintana” (2010-2016), The Health Master Plan (2007-2013), The National Policy & Strategic Framework for Prevention and Control of Chronic Non-Communicable Diseases (2009), and The National Medicinal Drug Policy (2005).

1.6.1 “Mahinda Chintana”

The “Mahinda Chintana” is the highest-level development plan for Sri Lanka. The current plan was published in 2010 with a full vision and direction for the country. Under section 6.2 of “The Emerging Wonder of Asia”, the main challenges in the health sector are stated as (a) responding to a changing disease and demographic pattern, (b) human resource management, (c) improving responsiveness and (d) addressing the needs of vulnerable groups.

The current government recognises that ensuring greater access for low-income households and reducing inequalities helps to improve overall health indices. The government aims to provide a health care system that ensures easy access to modern health care services for all, including people in emerging areas. Among many future strategies, the following strategies highlight the importance of this project⁹. The health sector development initiatives by time horizon are attached in Annex 1.

- 1) **The growing incidence and mortality from non-communicable diseases will be brought under control and reduced through preventive and curative actions:** In order to reduce the growing NCD burden, better coordination between preventive and curative care is essential, and availability of medicines for secondary prevention should be ensured.
- 2) **Improve efficiency of healthcare delivery services:** The use of higher-level facilities for conditions that could be treated at a lower level facility will be reduced through implementation of an effective referral system.
- 3) **Increasing local drug production capacity:** By 2020, Sri Lankan local pharmaceutical companies will have a significant share of the drug market. They will also be able to cater to the foreign market, competing with other South Asian medical drugs producers. The government will increase the capacity of the State Pharmaceutical Manufacturing Corporation while encouraging the private sector to set up new production plans as partnership projects.

⁹ “Mahinda Chintana” , The Emerging Wonder of Asia, 2010, page 148-154.

1.6.2 Health Master Plan

The Health Master Plan (HMP) for Sri Lanka was formulated in 2003 with the assistance of JICA and finally approved by the Cabinet in 2007. This policy and strategic framework (2006 - 2015) was designed to support Sri Lanka's overall economic and social goals. It aims to facilitate equity by making health services accessible, especially to the poor and marginalised. The HMP aims to improve health status and reduce inequalities by adopting five strategies:

- 1) Deliver comprehensive health services, which reduce the disease burden and promote health;
- 2) Empower communities to participate actively in health maintenance;
- 3) Improve human resources for health delivery and management;
- 4) Improve health financing, mobilization, allocation and utilization of resources; and
- 5) Strengthen stewardship and management within the health system.

Implementing the HMP has become an integral part of the management of the health system through existing structures and regimes.

1.6.3 The National Policy & Strategic Framework for Prevention and control of NCD

As stated in the *"Mahinda Chintana"*, chronic NCDs such as cardiovascular diseases, diabetes mellitus, chronic respiratory diseases, chronic renal diseases and cancer, have become a significant disease burden to Sri Lanka. In 2009, in order to reduce premature mortality due to chronic NCDs, the Ministry of Health formulated a national NCD prevention and control policy with the following key strategies:

- 1) Strategy No. 1: Support prevention of chronic NCDs by strengthening policy, regulatory and service delivery measures for reducing level of risk factors of NCDs in the population;
- 2) Strategy No. 2: Implement a cost-effective screening program at the community level with special emphasis on cardiovascular diseases;
- 3) Strategy No.3: Facilitate provision of optimal NCD care by strengthening the health system to provide integrated and appropriate curative, preventive, rehabilitative and palliative services at each service level;
- 4) Strategy No. 4: Empower the community for promotion of healthy lifestyles for NCD prevention and control;
- 5) Strategy No. 5: Enhance human resource development to facilitate NCD prevention and care;
- 6) Strategy No. 6: Strengthen national health information systems including disease and risk factor surveillance;
- 7) Strategy No. 7: Promote research and utilisation of findings for prevention and control of NCDs;
- 8) Strategy No. 8: Ensure sustainable financing mechanisms that support cost-effective health interventions at both preventive and curative sectors; and
- 9) Strategy No. 9: Raise the priority of NCDs and integrate prevention and control into policies across all government ministries, and private sector organizations.

Since May 2008, JICA has been assisting the Ministry of Health to implement the "Project on Health Promotion and Preventive Care Measures of Chronic NCDs, NPP". NPP aims to formulate an implementation model to prevent and control NCDs through low-cost screening, health guidance and follow-up strategies and health promotion. Among the nine key strategies stated in the NCD policy, NPP assists MoH in accomplishing the strategies No. 2, No. 4 and No. 7.

In August 2011, the Ministry of Health issued a circular to establish "Healthy Lifestyle Centres

(HLC)” at every possible institution. Prevention should always be accompanied by a curative sector. The newly identified patients need to be properly tested, diagnosed and treated. The high-risk group should receive follow-ups and guidance at the LHC by medical and healthcare personnel. Upgrading the secondary-level institutions and increasing the production of necessary drugs will certainly promote and accelerate the implementation of the government NCD programmes. More information on NCDs and HLCs will be described in Chapter 2.

1.6.4 National Medicinal Drug Policy (2005)

The objectives of the policy are follows:

- 1) To ensure the availability and affordability of efficacious, safe and good quality medicines relevant to the health care needs of the people in a sustainable and equitable manner;
- 2) To promote the rational use of medicines by healthcare professionals and consumers; and
- 3) To promote local manufacture of essential medicines.

In recent days, the unstable supply and lower quality of imported drugs have become national issues. MoH has now prepared a new National Drug Policy and it was presented to the Parliament in January 2012¹⁰.

1.7 Objectives, Schedule and Methodologies

Based on the policy dialogs between the two governments, a preparatory survey has been carried out with the following objectives, schedule and methodologies.

1.7.1 Survey objectives

This preparatory survey is conducted to collect necessary information for the project especially on the SPMC and the actual conditions of secondary health institutions existing in the emerging regions.

1.7.2 Survey schedule

The preparatory survey was conducted from 20 July 2011 to 31 January 2012 according to the following schedule.

Table 1-9: Survey schedule

| Schedule | Survey Activities | Methodology |
|--------------------------------|--|--|
| 20/07 – 26/07 | <ul style="list-style-type: none"> ➤ Preparation of Inception Report ➤ Pre-test questionnaires | |
| 27/07 – 12/08 | <ul style="list-style-type: none"> ➤ Field Survey: North Western, North, North Central, Central, Uva and Sabaragamuwa provinces. ➤ Facility survey of SPMC | <ul style="list-style-type: none"> ➤ Interview ➤ Observation ➤ Data collection |
| 15/08 – 31/08 | <ul style="list-style-type: none"> ➤ Finalization and sending out of questionnaires to secondary-level institutions ➤ Facility survey of SPMC | <ul style="list-style-type: none"> ➤ Questionnaire survey |
| 01/09 – 10/09 15/09 – 30/09 | <ul style="list-style-type: none"> ➤ Preparation of Progress Report ➤ Submission to JICA and the Government of Sri Lanka | |
| 01/10 – 14/11 | <ul style="list-style-type: none"> ➤ Follow-up on the secondary-level institution survey, ➤ Cost and financial analyses ➤ Implementation structure analysis ➤ Finalization of draft final report | <ul style="list-style-type: none"> ➤ Telephone interviews ➤ Discussion/consultation with MoH |

¹⁰ Daily News, December 7, 2011

| Schedule | Survey Activities | Methodology |
|---------------|---|--|
| 15/11 – 15/12 | <ul style="list-style-type: none"> ➤ Submission of the draft final report to JICA and the Government of Sri Lanka ➤ Discussion and finalization of the report | |
| 15/12 – 30/12 | <ul style="list-style-type: none"> ➤ Preparation of indicators | |
| 04/01 – 18/01 | <ul style="list-style-type: none"> ➤ Conduct baseline survey | <ul style="list-style-type: none"> ➤ Questionnaire survey ➤ Field visit ➤ Interview |
| 19/01 – 31/01 | <ul style="list-style-type: none"> ➤ Preparation and submission of the final report | |

1.7.3 Survey areas

As agreed in the Minutes of Discussion dated on 11 August 2011, this preparatory survey was conducted in the seven provinces namely, Northern, Eastern, North Central, North Western, Central, Uva and Sabaragamuwa.

1.7.4 Survey methodology

The questionnaires for the secondary-level institutions were sent to all 61 secondary-level institutions¹¹ from the Ministry of Health and by the end of September 2011, 57 responses were obtained. The survey on SPMC was conducted with great cooperation from the General Manager of SPMC. The team made a full facility and equipment survey, reviewed the expansion proposal and collected qualitative information from the staff members. The baseline survey methodology for indicators is described in Chapter 7.

1.7.5 JICA study team members

JICA dispatched a 'study team' consisting of seven members as listed below.

Table 1-10: JICA study team members

| | Name | Area of research responsibility |
|---|------------------|--|
| 1 | Keiko Nishino | Team leader/health administration/project planning |
| 2 | Naomi Imani | Health sector analysis |
| 3 | Reiko Sata (Dr.) | Provincial health service |
| 4 | Makoto Suzuki | Medical equipment/SPMC |
| 5 | Daigo Hirano | Building and facilities |
| 6 | Soichi Takai | Financial analysis/project planning |
| 7 | Takayuki Kojima | Financial analysis/project planning |

The JICA study team conducted the preparatory survey under the supervision and guidance of Ms. Miwa Hiasa, Deputy Director, South Asia Division 3, South Asia Department, and Dr. Palitha Mahipala, Additional Secretary, Ministry of Health.

¹¹ Questionnaires and the list of institutions are attached as Annex 2 and 3.

CHAPTER 2 Health Service Delivery System

2.1 Organization of Health Service Delivery

2.1.1 Decentralised health administration

In Sri Lanka today, around 65% of outpatient services and 85-90% of inpatient services are provided by government health institutions¹². In the government sector, health care delivery was, along with other functions, decentralised in 1987 by amendments to the Constitution (often referred to as “The 13th Amendment”). Since then, a majority of the primary and secondary-level healthcare institutions have been managed by the provincial governments through the provincial Ministries of Health or equivalent (referred as provincial MoH hereafter), while the central MoH remains responsible for tertiary-level hospitals. In 2010, 994 out of 1043 government curative care institutions were under provincial health administration. The demarcations between the central and provincial health authorities as stipulated by the constitutional amendments are listed in Annex 4, while Table 2-1 summarises the current roles and functions played by the central and provincial governments.

Table 2-1: Functions of the central and provincial governments in health administration

| | Central Government (Ministry of Health) | Provincial Government (Provincial Councils through provincial Ministry of Health) |
|---------------------------------------|--|--|
| Policy formulation and implementation | <ul style="list-style-type: none"> ➤ Formulation of policies, regulations and programmes/projects, ➤ Implementation of policies, regulations and programmes/projects and provision of guidance to provincial governments ➤ Epidemic and endemic control | <ul style="list-style-type: none"> ➤ Implementation of policies, regulations and programmes/projects with guidance from the central MoH |
| Service provision | <ul style="list-style-type: none"> ➤ National Hospital of Sri Lanka (NHSL) ➤ Teaching Hospitals (TH) ➤ Provincial Hospitals (PH) ➤ Special Hospitals ➤ Selected DGHs, BHs and DHs | <ul style="list-style-type: none"> ➤ District General Hospitals (DGH) ➤ Base Hospitals (BH) ➤ Divisional Hospitals (DH) ➤ Primary Medical Care Units (PMCU) ➤ Medical Offices of Health (MOH) |
| Human resources | <ul style="list-style-type: none"> ➤ Pre-service training of HRH ➤ Recruitment and placement of Health Service cadres | <ul style="list-style-type: none"> ➤ In-service training of HRH (except for post graduate training of doctors) ➤ Provision of salaries to personnel working in institutions managed by the province |
| Supervisory functions | <ul style="list-style-type: none"> ➤ Supervision of statutory institutions and public corporations ➤ Regulation and supervision of private medical and health care facilities | |

(1) Health administration by the provincial authorities

The central Ministry of Health, often called the “Line Ministry” (LM), is in charge of all the tertiary-level hospitals and special purpose hospitals, as well as some secondary and a very small

¹² MoH “Health Information Abstract 2010”, June 2010

number of primary-level curative institutions, which altogether numbered 49 in 2010. Apart from managing these hospitals, the Line Ministry's role in the provision of services is rather indirect, through (a) appointment of professional and semi-professional categories of health personnel including doctors, nurses, and officers in health administrations, (b) central procurement of major medical equipment and medicines and their delivery to the district warehouses, and (c) activities, including procurement and facility expansion/renovation. These activities take place under the vertical programmes of MoH (such as NCD, malaria, Leprosy and TB control) and under some donor funding channelled through MoH¹³.

Other functions the central government plays through the Ministry of Health include formulating policy and programmes and ensuring their implementation, pre-service training of health personnel, regulation and supervision of private medical and health care facilities, supervision of specified statutory institutions and public corporations including SPMC, etc.

(2) Health administration by the central authorities

Each province has a provincial government called the Provincial Council (PC) with its own cabinet and ministries. A PC is responsible for ensuring financial resources for day-to-day operations as well as maintenance and expansion of the facilities under their management including primary and secondary-level health care institutions. A PC also has the authority to decide on the upgrade of existing hospitals to higher categories. The Line Ministry may be consulted before such a decision is taken, as additional personnel and supplies including drugs by MoH would become necessary. Otherwise approval and provision of necessary financial resources for expansion of an upgraded hospital is a sole discretion and responsibility of the PC.

The health administration structures of the provinces may be similar but not uniform. All matters related to health, both allopathic (western) and indigenous (ayurvedic) medicines are handled by the provincial MoH. In some provinces, other areas such as women's affairs, children's welfare and sports are also placed under the same ministry.

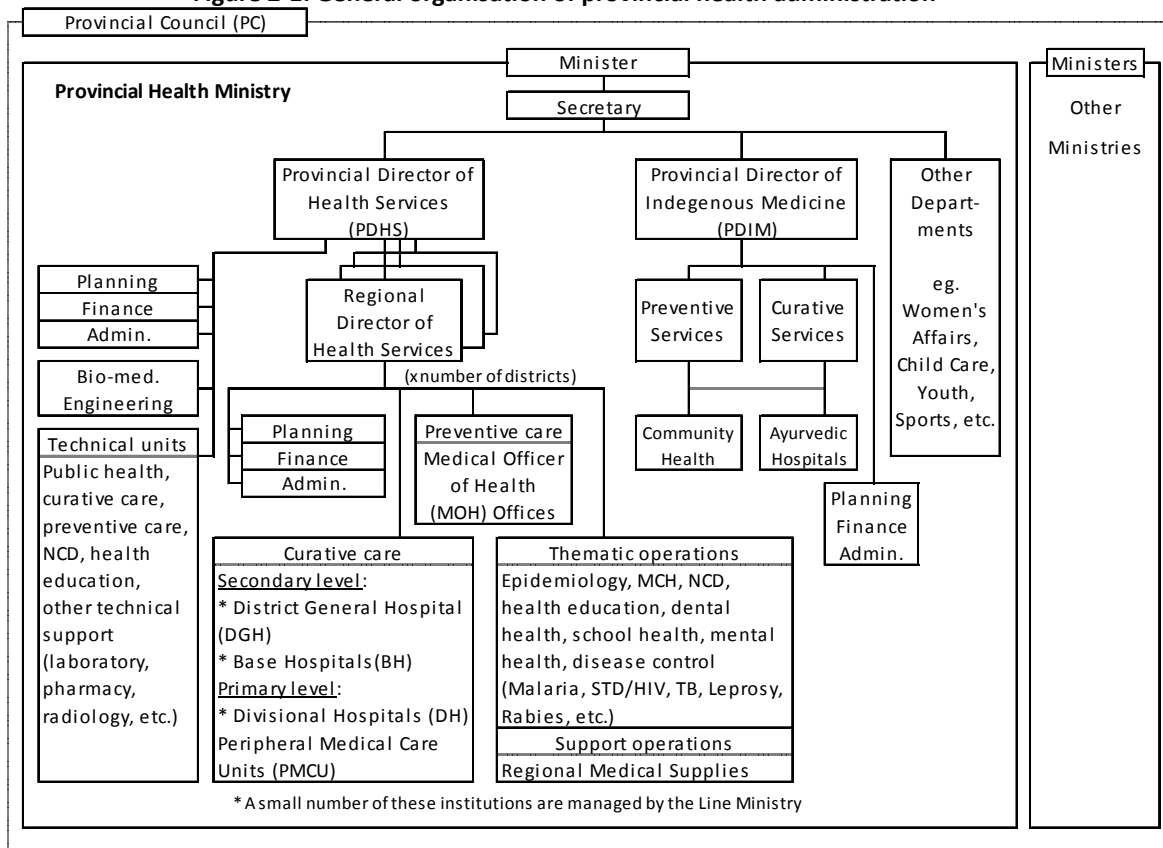
A provincial MoH is typically headed by a minister, assisted by a secretary. Each province has a Provincial Director of Health Services (PDHS) who has overall responsibility for allopathic medicine. Under PDHS there is a Regional Director of Health Services (RDHS) for each district in the province who is directly responsible for the day-to-day operations related to health service provisions, both curative and preventive.

The organisation of the curative service deliveries will be discussed in detail in the next section. Preventive services, including immunisations for children, comprehensive reproductive health care (antenatal, postnatal, family planning and well women clinic services), nutrition services, NCDs and school health, are provided through 297 (as of 2008) health units called the "Medical Office of Health (MOH)". Each MOH covers a population of roughly 80,000 to 100,000 people and is headed by a Medical Officer of Health (MOH), who functions as the manager of the operation. Under the MOH, public health nursing sisters, public health midwives and public health inspectors carry out preventive care services, including outreach activities. A MOH is typically located next to a hospital, in which space is utilised for the provision of preventive services.

A conceptual model of the provincial health administration is presented in Figure 2-1, while the current organizational structures of Central Province as an example are found in Annex 5.

¹³ In 2010, funding from WHO, GFATM and the World Bank (grant component) was channelled through MoH to the provincial hospitals.

Figure 2-1: General organisation of provincial health administration



2.1.2 Organisation of government curative care institutions

Curative care is provided through a network of 1,043 (as of 2010¹⁴) health institutions organised into eight categories: The National Hospital, specialised hospitals, teaching hospitals (TH), provincial general hospitals (PGH), district general hospitals (DGH), base hospitals (BH), divisional hospitals (DH) and primary medical care units (PMCU)¹⁵. BHs are further divided into A (BHA) and B (BHB), and DHs into A, B and C subcategories according to their bed strengths.

This current categorization of hospitals came into force in around 2008 with a view to facilitate an organised hospital development mechanism. The “Recategorization of Hospitals” published by the central MoH (Annex 6) roughly defines the level and range of the services to be provided¹⁶. Table 2-2 sums up the organisation of the hospitals under old and new categorisations.

¹⁴ MoH “Hospitals and Bed Strength in Sri Lanka by Districts (Government Sector)”, 2010

¹⁵ Hospitals which do not have MOH nearby also provide preventive services.

¹⁶ It was noted, however, that most of the hospitals are not fully equipped to provide the services at the expected level. More details on the actual standards of the services provided are found in Chapter 3.

Table 2-2: Organization of hospitals under “old” and “new” categorisations

| | Old categorisation | Current categorisation | No | Bed strength | Managed by: |
|-----------|-------------------------|--|--------------|--------------|----------------------------------|
| Tertiary | National Hospital | National Hospital | 1 | 3,291 | LM ⁽¹⁾ |
| | Teaching Hospital (TH) | Teaching Hospital (TH) | 21 | 17,736 | LM |
| | | Provincial General Hospital (PGH) | 3 | 3,889 | LM |
| Secondary | General Hospital (GH) | District General Hospital (DGH) | 18 | 9,509 | LM x 7 PC ⁽²⁾ x 11 |
| | Base hospital (BH) | Base Hospital (BH) – Type A & B | A=21 B=45 | 13,672 | LM x 7 PC x 59 |
| Primary | District Hospital (DH) | Divisional Hospital (DH) – Type A, B & C (Inpatient facilities available) | A=39 | 20,659 | LM x 2 PC x 456 |
| | Peripheral Unit (PU) | | B=143 | | |
| | Rural Hospital (RH) | | C=276 | | |
| | Maternity Homes (MH) | Primary Medical Care Unit (PMCU) | 476 | 745 | PC x 476 |
| | Central Dispensary (CD) | (Inpatient facilities only available at former Maternity Homes) | | | |

(1) Line Ministry = Central Ministry of Health

(2) Provincial Councils

Source: MoH “Hospitals and Bed Strength in Sri Lanka by District 2010”

- 1) **Teaching hospitals (TH) / Provincial general hospitals (PGA):** THs are those hospitals that are engaged in undergraduate and/or postgraduate training. They provide comprehensive services, from outpatient-based consultation to highly specialised medical care by specialist doctors (referred as “consultants”) including those trained in sub-specialities. PGHs are established in those provinces without THs to provide medical care of a similar standard. They typically have the bed strengths of 1,000 or above.
- 2) **District general hospitals (DGH) / Base hospitals (BH):** Each district has one DGH and at least one BH to meet the local needs for secondary-level health care services. BHs are classified into Type A and Type B, according to bed strength.
- 3) **Divisional hospitals:** Former district hospitals, rural hospitals and peripheral units. The divisional hospitals are classified into Type A, Type B and Type C according to bed strength.
- 4) **Primary medical care units:** At the very grassroots level, former central dispensaries and maternity homes provide most basic curative services.

In addition to the above-mentioned hospitals there are special hospitals including Ragama Rehabilitation Hospital, Angoda and Mullariyama Psychiatry Hospital and Eye Hospital.

Outpatient services, including clinics for specific care, are offered at all the levels, though to a differing extent. When a patient who has come to the outpatient department (OPD) requires follow-up visits, he is normally asked to come back on a specific day when a clinic session is conducted as per a fixed schedule. Varieties of clinics vary from one institution to another but medical, surgical, ante- and post-natal, immunisation clinics are commonly found even at PMCU, where they are conducted by medical officers (MOs) and midwives. More specialised clinics such as diabetes, renal, psychiatric, etc. may be routinely organised at higher-level hospitals by MOs and in-house or visiting consultants.

2.1.3 Referrals

Sri Lankan health care is based on the open system, which allows people to walk into any health institution of their choice, be it primary or tertiary, to receive the health and medical care they

require. As such, a systematic referral system does not exist

This has resulted in general overcrowding of hospitals that offer specialist care and more sophisticated facilities, most of which are at the tertiary level. More resources are being allocated to these “popular” hospitals to cope with the ever increasing demand, and in turn primary and some secondary institutions are increasingly underutilised, as they are not well endowed to revamp their services to a level people will find acceptable. As a consequence many hospitals are unable to offer services they should be providing according to the government standard, having to “refer” more people out to higher-level hospitals or private facilities.

As a result of the lack of a referral system mentioned earlier, the current Health Information Management System (HIMS) collects no data on such referred cases. “Transfer”, which is the term used for moving patients to other facilities by ambulance, occurs quite frequently but again there is currently no systematic collection of data on this. This makes it extremely difficult to find out the extent of actual referrals happening. The only means available for determining the rate of referrals is through an assessment of the bed occupancy rate (BOR), of which the trend is shown in Table 2-3.

Table 2-3: Bed Occupancy Rate (BOR) of selected categories of hospitals 2005 - 2007

| BOR (%) | | 2005 | 2006 | 2007 |
|----------------------------|----------------------|-------|------|------|
| Base Hospitals (secondary) | | 79 | 72.5 | 70 |
| tertiary | Provincial Hospitals | 104.7 | 87.5 | 94.8 |
| | Teaching Hospitals | 97.8 | 89.4 | 82.6 |

Source: “Health Information Abstract 2010” MDPU, MoH

MoH recognises the potential of a functional referral system for a reduction of the superfluous demand for tertiary-level care, as stipulated in the Health Master Plan. However, no significant progress toward the development of an institutionalised referral system has been undertaken so far.

2.2 Public Health Expenditures

In 2006, the government’s share of total health expenditures was slightly less than 50%¹⁷. The rest was financed privately, of which over 85% was financed by out-of-pocket expenditures of individuals. The ratio of total health expenditure to GDP gradually increased from 3.5% in 1995 to 4.2% in 2006.

2.2.1 National

Between 2005 and 2010, overall health expenditure in the public sector grew by 67% from Rs. 46 billion to Rs. 77 billion. With the overall increase in the government expenditures, however, the proportion of the health component actually shrank from 5.8% to 3.9 % over the same period.

The government health expenditure consists of two categories: recurrent and capital. Table 2-4 shows the recent trends in the public health expenditures¹⁸ in Sri Lanka.

¹⁷ Institute for Health Policy “Sri Lanka Health Accounts: National Health Expenditures 1990-2006”, Aug. 2009

¹⁸ Expenditures incurred by the central and provincial health authorities, including the indigenous medicine sector.

Table 2-4: Trends in government health expenditures 2005-2010*

| | Health Expenditures | | | | Total Government Expenditures ⁽¹⁾ | % of health in total government expenditure |
|--------------------------|---------------------|-----------|-------|----------------------------|--|---|
| | Capital | Recurrent | Total | % of recurrent expenditure | | |
| | (Rs. billion) | | | | | |
| 2005 | 9 | 37 | 46 | 80% | 793 | 5.8% |
| 2006 | 11 | 44 | 55 | 80% | 1,072 | 5.1% |
| 2007 | 12 | 50 | 62 | 81% | 1,353 | 4.6% |
| 2008 | 11 | 55 | 66 | 83% | 1,412 | 4.7% |
| 2009 | 10 | 59 | 69 | 86% | 1,789 | 3.9% |
| 2010 | 13 | 64 | 77 | 83% | 1,968 | 3.9% |
| Growth between 2005-2010 | 44% | 73% | 67% | 3 points | 148% | - 1.9 points |

* Including expenditure by provincial authorities

Source: MoFP "Annual Report 2010", (1) NPD

(1) Recurrent expenditure

Recurrent expenditure, which accounted for 83% of the health expenditure in 2010, refers to the expenses necessary to run and maintain the existing systems. This includes salaries, fuel and utilities (water, electricity, etc.), maintenance and repairs of buildings and equipment, supplies of drugs and medical consumables, etc. It is exclusively financed by the GoSL expenditures.

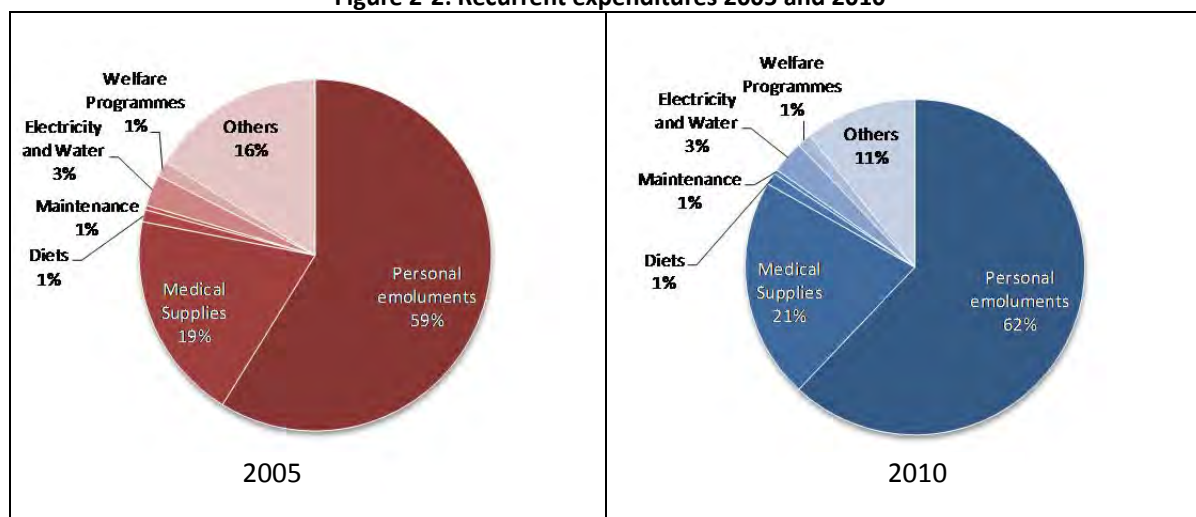
Table 2-5 shows the main components and recent trends of the recurrent expenditure. Between 2005 and 2010, it grew by 73%. The biggest increase was for medical supplies at 91%, which includes drugs, X-ray films, dental, laboratory and surgical consumables and non-consumables, dressings, oxygen, etc.

Table 2-5: Recurrent expenditures on health (Rs. million)

| Category | 2005 | 2007 | 2010 | % Increase b/w 2005 and 2010 |
|-----------------------|--------|--------|--------|------------------------------|
| Personal emoluments | 21,757 | 29,128 | 39,577 | 82% |
| Medical supplies | 7,100 | 10,826 | 13,582 | 91% |
| Diets | 409 | 547 | 736 | 80% |
| Maintenance | 150 | 234 | 272 | 81% |
| Electricity and water | 1,075 | 1,403 | 2,002 | 86% |
| Welfare programmes | 504 | 922 | 865 | 72% |
| Other | 5,976 | 6,460 | 6,799 | 14% |
| Total | 36,951 | 49,520 | 63,833 | 73% |

Source: MoFP Annual Report 2010

Figure 2-2: Recurrent expenditures 2005 and 2010



(2) Capital expenditure

Capital expenditure covers all the items not included in the recurrent category. They include not only acquisition of assets (land, buildings, equipment, furniture, vehicles, etc.), but also capacity development activities, as well as various programmes/projects, some of which may be financed with external resources.

Capital expenditure increased by 44% from Rs. 9 billion to Rs. 13 billion between 2005 and 2010, but its proportion declined from 20% to 17%, reflecting the greater resources needed to maintain the health system. The government is looking into ways to sustain the free health care system, including encouraging private sector growth through tax incentives¹⁹. The current initiatives in accelerating preventive interventions for NCDs also aim to lighten the financial burden on the curative side.

2.2.2 Provincial

As mentioned earlier, provincial councils are responsible for allocating financial resources for the provision of preventive and curative services except for those provided by the hospitals under the Line Ministry's management. As shown in Table 2-6, the share of health spending by the provincial councils in terms of the total government health expenditure is less than 30 %, despite the fact that the overwhelming majority of health care institutions are under provincial management. This may be due to the fact that all tertiary hospitals, which are more expensive to operate/maintain/develop, are managed by the central government. The declining share of the provincially managed hospitals may also indicate that more emphasis is has been placed on tertiary care in recent years.

Table 2-6: Health expenditure by central and provincial governments 2005-2010

| Year | Rupees (billion) | | | % expended by PCs |
|--------------------|------------------|---------------------|----------------|-------------------|
| | Central Gov. | Provincial Councils | National Total | |
| 2005 | 30 | 16 | 46 | 34.8% |
| 2006 | 38 | 17 | 55 | 30.9% |
| 2007 | 44 | 18 | 62 | 29.0% |
| 2008 | 48 | 18 | 66 | 27.3% |
| 2009 | 50 | 19 | 69 | 27.5% |
| 2010 | 55 | 22 | 77 | 28.6% |
| Growth b/w 2005-10 | 83% | 38% | 67% | |

Source: MoFP Annual Report 2010

Sources of funds available for provincial councils include local tax and licence fees, profits made by enterprises directly run by the provincial governments, programme grants from Line Ministries and annual grants from the central government. As most of the provinces have very minimal income of their own (0.6-0.7% of GDP²⁰), provincial councils are almost totally dependent on the grants provided by the central government.

The grants to provinces are allocated annually based on the recommendations made by the Finance Commission, an independent body directly under the President. Its function is primarily to ensure equity among the provinces in terms of resource availability, reflected in the distribution of the grants from the central government to the provincial councils. The flow of the funds is shown in Figure 2-3 and Figure 2-4.

¹⁹ Ministry of Finance and Planning, 2009, Annual Report 2008, page 88

²⁰ Expenditure Estimates 2011 of Ministry of Local Government and Provincial Councils

The major components of the annual grants to provinces are as follows:

- 1) **Block Grant:** The Block Grant is provided to cater for the recurrent costs of the provincial governments. The amount is determined by deducting the estimated revenue from the estimated recurrent needs of a PC for the same year.
- 2) **Criteria-Based Grant (CBG):** This is a part of the provincial capital budget and is designed to favour disadvantaged provinces. The amount is determined based on fixed criteria such as population, area, per capita income, and socio-economic disparities.

Figure 2-3: Budgeting flow

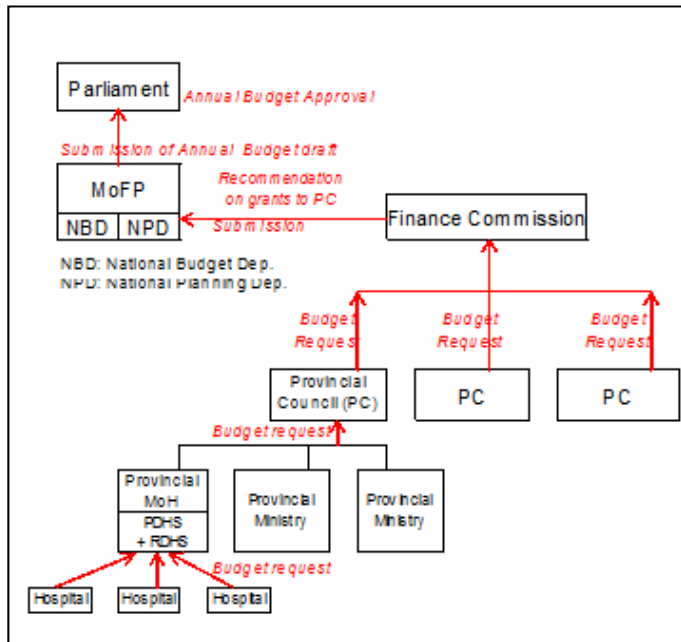
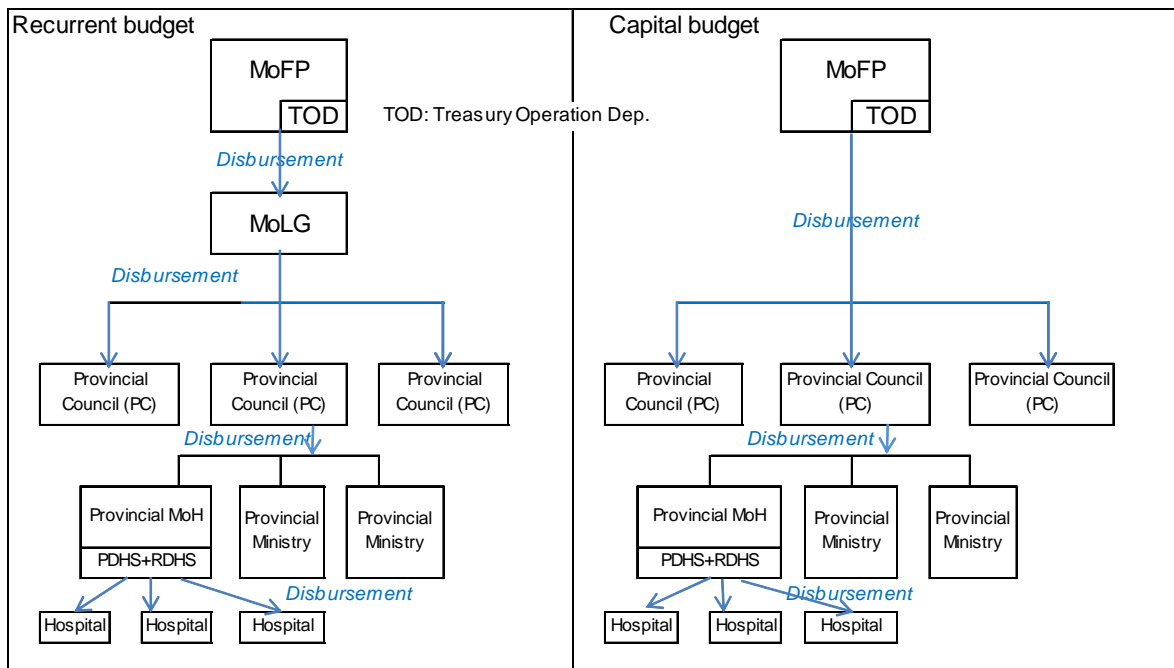


Figure 2-4: Disbursement flow



- 3) **Provincial Specific Development Grant (PSDG):** This constitutes the biggest part of the capital budget of a province. The amount is determined by the Finance Commission in consultation with the Department of National Planning (NPD) and the respective provincial council on the basis of national priority and provincial needs.

- 4) **Foreign funds:** For externally funded projects, funds are often channelled to provincial councils as a part of the government grants to the province. In 2010, funds from such donors as UNICEF, UNFPA, World Bank, ADB as well as JICA were given to provinces in this manner.

The 2011 allocation of the grants to all the provinces are shown in Table 2-7.

Table 2-7: Allocation of government grants to provincial councils 2011 (Rs. millions)

| | West. | Central | East. | South. | N. West. | N. Central | North. | Uva | Sabaraga muwa |
|------------------------|-------|---------|--------|--------|-------------|---------------|--------|-------|------------------|
| Recurrent Total | 7,170 | 13,270 | 10,473 | 11,172 | 12,657 | 7,386 | 9,153 | 8,897 | 9,823 |
| CBG | 400 | 375 | 250 | 325 | 300 | 276 | 275 | 300 | 335 |
| PSDG | 1,575 | 1,400 | 815 | 1,450 | 1,450 | 1,275 | 1,150 | 1,150 | 1,100 |
| UNICEF | 0 | 123 | 293 | 0 | 0 | 0 | 309 | 145 | 0 |
| UNFPA | 0 | 45 | 88 | 0 | 0 | 45 | 45 | 0 | 0 |
| Others | 161 | 1,090 | 4,265 | 85 | 91 | 260 | 1,564 | 2,019 | 928 |
| Capital Total | 2,136 | 2,865 | 5,330 | 1,860 | 1,841 | 3,083 | 3,343 | 3,469 | 2,363 |
| Of which foreign funds | 40 | 884 | 3,464 | 35 | 45 | 1,336 | 1,689 | 1,759 | 725 |
| Grand Total | 9,306 | 16,135 | 15,803 | 13,032 | 14,498 | 10,469 | 12,496 | 9,438 | 9,948 |
| Per capita (Rs.) | 1,585 | 5,998 | 10,195 | 5,234 | 6,196 | 8,443 | 10,501 | 9,300 | 6,249 |

Source: MoFP "Expenditure Estimates 2011 Vol.1"

The health sector received some 20% of the total grants in 2011, which was the second highest proportion after the road sector.

Table 2-8: Distribution by sector of the Government grant allocations to provincial councils, 2010

| Sector | Amount (Rs. millions) | % |
|----------------|-----------------------|------|
| Roads | 6,538 | 27.3 |
| Health | 4,749 | 19.9 |
| Education | 4,109 | 17.2 |
| Agriculture | 426 | 1.8 |
| Irrigation | 630 | 2.6 |
| Administration | 1,550 | 6.5 |
| Others | 5,907 | 24.7 |
| Total | 23,909 | 100 |

Source: MoFP "Expenditure Estimates 2011 Vol.1"

2.3 Human Resources

2.3.1 Current availability of Human Resources for Health

As of the end of 2009, the government health sector employed a total of 107,560 personnel including non-technical and casual staff. About 51% work with the Line Ministry and its institutions and the rest with the provincial institutions²¹. Table 2-9 shows the number of major categories of health personnel employed in the public sector in 2009. Compared to 1999 when availabilities of doctors and nurses per 100,000 of population were 36.7 and 73.8 respectively, the situation has greatly improved in the last 10 years. As of 2010 around 14,000 qualified doctors were practicing in the private sector on either a full-time or part-time basis. Nurses in the private sector number around 15,500²².

²¹ MoH "Health Manpower updated on 31. 12. 2009" published on the MoH website

²² MoH "Health Information Abstract 2010"

Table 2-9: Human resources for health in the government sector 2009

| Category | Institutions under: | | Total | per 100,000 population |
|-------------------------|---------------------|---------------------|--------|------------------------|
| | MoH | Provincial Councils | | |
| Medical officers | 8,531 | 5,189 | 13,720 | 66.76 |
| Of whom are specialists | 825 | 310 | 1,135 | 5.52 |
| Nursing officers | 17,279 | 9,403 | 26,682 | 129.83 |
| Midwives | 1,117 | 7,609 | 8,726 | 42.46 |
| Pharmacists | 750 | 441 | 1,191 | 5.80 |
| Radiographers | 353 | 111 | 464 | 2.25 |
| Med. lab. technologists | 923 | 409 | 1,332 | 6.48 |
| Hospital attendants | 3,620 | 4,576 | 8,196 | 39.88 |
| Sanitary labourer | 7,470 | 6,049 | 13,519 | 65.78 |
| Ordinary labourer | 6,349 | 4,251 | 10,600 | 51.58 |

Source: Calculated from MoH "Health Manpower updated on 31.12.2009"

2.3.2 Regional distribution of health personnel

Despite the improved availability of health personnel, the benefits are not felt evenly by all regions. The geographical imbalances in terms of HRH distributions, which were also noted in "Mahinda Chintana", are shown in Table 2-10.

Table 2-10: Availability of different categories of HRH in the government sector by province 2007

| | Western | Central | Southern | Northern | Eastern | North Western | North Central | Uva | Sabaragamuwa | Total |
|---|---------|---------|----------|----------|---------|---------------|---------------|-------|--------------|--------|
| Population (000) | 5,707 | 2,599 | 2,417 | 1,159 | 1,493 | 2,276 | 1,196 | 1,275 | 1,888 | 20,100 |
| # hospital beds | 20,977 | 10,150 | 7,224 | 4,249 | 5,098 | 6,303 | 4,489 | 4,766 | 5,438 | 68,694 |
| Beds/1000 pop | 3.7 | 3.9 | 3.0 | 3.7 | 3.4 | 2.8 | 3.8 | 3.7 | 2.9 | 3.4 |
| Medical officers (all hospital-based categories) | | | | | | | | | | |
| Number | 4,004 | 1,569 | 1,124 | 392 | 609 | 960 | 392 | 597 | 781 | 10,428 |
| Per 100,000 pop | 70.2 | 60.4 | 46.5 | 33.8 | 40.8 | 42.2 | 32.8 | 46.8 | 41.4 | 52.1 |
| Per 1,000 beds | 190.0 | 154.6 | 155.6 | 92.3 | 119.5 | 152.3 | 87.3 | 125.3 | 143.6 | 151.8 |
| Medical specialists | | | | | | | | | | |
| Number | 336 | 126 | 104 | 18 | 55 | 78 | 44 | 49 | 42 | 852 |
| Per 100,000 pop | 5.9 | 4.8 | 4.3 | 1.6 | 3.7 | 3.4 | 3.7 | 3.8 | 2.2 | 4.3 |
| Per 1,000 beds | 16.0 | 12.4 | 14.4 | 4.2 | 10.8 | 12.4 | 9.8 | 10.3 | 7.7 | 12.4 |
| Dental officers (all hospital-based categories) | | | | | | | | | | |
| Number | 687 | 167 | 75 | 33 | 54 | 88 | 42 | 53 | 70 | 1269 |
| Per 100,000 pop | 12.0 | 6.4 | 3.1 | 2.8 | 3.6 | 3.9 | 3.5 | 4.2 | 3.7 | 6.3 |
| Nurses | | | | | | | | | | |
| Number | 11,433 | 4,256 | 3,603 | 751 | 1,689 | 4,004 | 1,353 | 1,804 | 2,283 | 31,176 |
| Per 1,000 beds | 545.0 | 419.3 | 498.8 | 176.7 | 331.3 | 635.3 | 301.4 | 378.5 | 419.8 | 453.8 |
| Midwives | | | | | | | | | | |
| Number | 1,284 | 932 | 879 | 242 | 747 | 654 | 426 | 462 | 758 | 6,384 |
| Per 100,000 pop | 22.5 | 35.9 | 36.4 | 20.9 | 50.0 | 28.7 | 35.6 | 36.2 | 40.1 | 31.9 |
| Technical support staff (Technical officers) | | | | | | | | | | |
| Number | 2,167 | 733 | 895 | 364 | 568 | 748 | 361 | 447 | 690 | 6,973 |
| Per 1,000 beds | 103.3 | 72.2 | 123.9 | 85.7 | 111.4 | 118.7 | 80.4 | 93.8 | 126.9 | 101.5 |
| Non-technical support staff (labourers and attendants) | | | | | | | | | | |
| Number | 8,790 | 5,207 | 3,356 | 2,770 | 2,823 | 3,818 | 1,939 | 2,185 | 2,970 | 33,858 |
| Per 1,000 beds | 419.0 | 513.0 | 464.6 | 651.9 | 553.7 | 605.7 | 431.9 | 458.5 | 547.8 | 493.0 |

Source: World Bank "Prevention and Control of Selected Chronic NCDs in Sri Lanka" 2010

Although not visible from the above Table, disparities within provinces and districts also exist. Among other reasons, the scarcity of Tamil-speaking medical professionals is also a factor behind the less-than-adequate staffing in the estate areas and conflict-affected regions, where Tamil is dominantly spoken. Some measures to ease this problem have been taken, such as lowering entrance requirements for midwife training in the conflict-affected Tamil-speaking regions. However overall, the government is yet to put in place suitable deployment, training and recruitment policies and practices that can effectively address the issue of inequitable distribution of HRH²³.

2.3.3 Deployment of HRH

The MoH appoints all the professional and semi-professional medical, technical and administrative health personnel not only for the centrally managed institutions but also for provincial health administrations and hospitals under them²⁴. Such tools as staffing norms and cadre lists are supposed to facilitate optimal placement of the HRH.

MoH has developed new staffing norms²⁵, which specify the number of nursing officers, midwives, PSM (Professions Supplementary to Medicine)²⁶ and other paramedics to be deployed at different kinds of medical institutions. These are considered to be based on international standards but with the current level of available human and financial resources, it is very unlikely that these norms could be applied in near future.

Each province and institution has a cadre list that specifies the number of personnel by category to be deployed there. The provincial public service commissions are the approving authorities. Most of the cadre lists, however, are thought to underestimate the actual needs, as the number of positions could not be increased without accompanying financial resources.

As the tools are unrealistic, it is not clear how appointments by MoH are determined. In general, it appears, hospitals with heavier patient loads are given priority to cope with the demand for services. This is perfectly logical but may be perpetuating or even worsening the imbalances among the hospitals, as those underutilised due to lack of human resources are not likely to get additional staff needed to improve their services.

Health personnel are expected to accept the appointment given and serve in one duty station for 4 years before a transfer can be considered. However, there are cases where a newly appointed MO leaves the post after a very short period, discouraged by poor social infrastructure such as water, electricity, housing and schools for children, along with the lack of opportunities for private practice.

2.3.4 Production of major categories of HRH

Fully-qualified medical doctors are trained at universities, all of which are under the Ministry of Higher Education²⁷. Most of the other categories of health personnel are produced by the training institutions managed by the MoH of the central government.

²³ MoH, "Human Resources for Health Strategic Plan (2009-2018) Situation Analysis", Jul 2009 (page 18)

²⁴ Only clerical and minor staff at hospitals and health administration are appointed by the provincial authorities.

²⁵ MoH "Norms for the Health Cadre", 2011

²⁶ This category includes radiographers, physiotherapists, occupational therapist, pharmacists and medical laboratory technologists (MLT).

²⁷ Doctors without MBBS degrees are called Assistant Medical Officers (AMOs) and Registered Medical Officers (RMOs).

1) MBBS Doctors

Undergraduate training of medical doctors is undertaken at medical faculties of eight universities²⁸. Each year some 1,100 students are accepted. After graduation with the MBBS degree, they are placed in government hospitals for on-the-job training as “intern MOs”.

2) Specialists (Consultants)

The Post Graduate Institute for Medicine (PGIM) attached to the University of Colombo is the only institution in the country that gives post-graduate level training. Overseas trained specialists need to be certified by the PGIM Board to have their qualifications recognised. In 2009, 178 specialist doctors were certified by PGIM, including 33 in general medicine, 14 in general surgeries, 14 in paediatrics and 13 in obstetrics and gynaecology, 13 in radiology and 5 in anaesthesiology²⁹.

3) Nurses

MoH runs 16 nursing training schools across the country. All of them are attached to TH, PGH, DGH or BH. The training duration is 3 years. Some universities offer undergraduate training programmes for nurses leading to a Bachelor’s degree in nursing.

4) Professions supplementary to medicine (PSM)

PSM includes radiographers, physiotherapists, occupational therapists, medical laboratory technologists (MLT) and pharmacists. There is one training institution for each of the first three categories, three for MLTs, and two for pharmacists, all managed by MoH. The training duration is 2 years.

The Universities of Peradeniya, Colombo, Ruhuna and Jayewardenepura run 4-year undergraduate courses which lead to Bachelor’s degrees in physiotherapy, medical laboratory sciences and pharmacy. The annual intake for each course is 35-40.

The intake of trainees into the MoH-managed institutions has been irregular as it depends on availability of financial resources both for training and absorption into the government health services rather than the actual needs³⁰. The actual intake for the past 5 years is shown in Table 2-11.

Table 2-11: Intake for training of different categories of HRH 2006-2010

| | 2006 | 2007 | 2008 | 2009 | 2010 |
|-------------------------|-------|-------|------|------|-------|
| Nurses | 3,806 | 1,953 | 0 | 0 | 4,070 |
| Midwives | 0 | 0 | 0 | 0 | 228 |
| Medical Lab Technicians | 0 | 475 | 0 | 0 | 140 |
| Pharmacists | 213 | 257 | 0 | 100 | 42 |
| Dispensers | 0 | 261 | 0 | 0 | 46 |
| Radiographers | 40 | 167 | 0 | 76 | 60 |

Source: MoFP “Annual Report 2010”

Training of health personnel is also facing a challenge resulting from the epidemiological transition. With NCDs accounting for a major health burden in Sri Lanka, for example, both pre-service and in-service training must be systematically refined to meet this new challenge.

2.3.5 HRH policies and strategies

Development and management of Human Resources for Health (HRH) has been a long-standing

²⁸ Colombo, Peradeniya, Sri Jayewardenepura, Kelaniya, Jaffna, Ruhuna, Eastern, Rajarata universities

²⁹ PGIM Newsletter vol. 17

³⁰ MoH “HRH Strategic Plan (2009-2018) Situation Analysis”, July 2009

agenda in the health sector. Since the early 1990s, various proposals and plans were formulated regarding several HRH issues including those mentioned above, and also those related to human resource management such as decentralisation and performance appraisal, mobilisation of resources for health and formulation of proper human resource development policies and plans³¹. The Health Master Plan 2007-2016 also identifies “Improved Management of HRH” as one of the five strategic objectives. In the plan the lack of an organisation/key unit with the mandate to lead the implementation of these policies and plans is pointed out as a factor behind the slow and sporadic actions taken so far.

In 2009 the HRH Strategic Plan was finalised and published by MoH. The document identifies seven strategic objectives in three areas as shown in Table below:

Table 2-12: HRH Strategic Plan

| Areas | Strategic Objectives |
|---------------------------|--|
| Area 1: HRH Planning | (1) Strengthen HRH planning process to respond to the service and population needs. (2) Institutional HRH planning as an integral part of national health plans that address national health priorities. |
| Area 2: HRH Training | (3) Improve the production and quality of training to meet skill and development needs in changing service environments. |
| Area 3: HRH Management | (4) Develop and institutionalise human resource management systems. (5) Address health workers’ needs to ensure optimal workforce retention and participation. (6) Establish a performance management system for HRH to improve productivity and performance of health workers. (7) Ensure effective deployment procedures that minimise distribution imbalances. |

Source: MoH “HRH Strategic Plan (2009-2018) Situation Analysis”, July 2009

The document also stresses the importance of political will to address the HRH issues and to allocate sufficient resources as a crucial factor to move the situation forward.

2.4 Essential Drugs and Common Medicines

2.4.1 Overview

The list of essential drugs for Sri Lanka is compiled by a national committee based on the WHO model list. Additional items and categories are included in view of the needs of the Sri Lankan population and disease prevalence based on three criteria, namely efficacy, safety and cost-effectiveness. The latest version (2009) of the “Essential Drug List” contains more than 500 items (468 kinds of drugs). There is also a “Hospital Formulary List”, which is a list of drugs that are required to be available in governmental institutions. The list is determined in a similar manner as the essential drug list.

The number of newly registered drugs available in the general market and at private hospitals is rapidly increasing. The Drug Regulatory Authority (DRA) controls importation and circulation of drugs through registration and issuance of licences for the importation and manufacture of drugs. Further details of this registration system can be found in section 2.4.2.

The regulations for drugs and medical consumables are implemented in line with the “Cosmetics Devices and Drugs Act (1980)”. Also the “National Medicinal Drug Policy for Sri Lanka (2005)” describes objectives as stated in 1.5.4 according to “*Mahinda Chintana*” principles. The new

³¹ *ibid.*

National Medicinal Drug Policy, which should include recommendations on the reselection system of essential drugs, limiting drug imports and restrictions on prescribing variety, is expected to be finalised soon, and may be available in part by January 2012³².

Under the free health care system, drugs are available free of charge at governmental institutions. The Medical Supplies Division (MSD) of MoH has the responsibility to distribute medicinal drugs, surgical items (consumables and non-consumables), simple medicinal equipment and reagents for laboratories to all the governmental institutions. The government owned State Pharmaceutical Corporation of Sri Lanka (SPC) handles most drug imports in the country. SPC imports more than 20,000 items for MSD as well as for its own retail pharmacies which charge lower prices than other private pharmacies. At the same time, the State Pharmaceutical Manufacturing Corporation of Sri Lanka (SPMC), another government-owned company, produces several kinds of oral essential drugs. SPMC will be discussed in detail in Chapter 4.

There are some purely private markets for private hospitals and pharmacies. Although the private market is growing along with the economic development and it has surpassed governmental purchases in terms of total spending, drug distribution by the government is still crucial in this country.

2.4.2 Drug registration system

The Drug Regulatory Authority (DRA) is a department under MoH, responsible to the Director General of Health Services, with responsibility in quality assurance of drugs and cosmetics. There is a sister department called the National Drug Quality Assurance Laboratory (NDQAL), which provides technical support for the testing of products and the manufacturing process for local manufacturers.

Every company that sells drugs including medical consumables and cosmetics is required to obtain a license from DRA. Every product to be sold needs to be registered before it can be put on the market. These registrations need to be renewed every 1 to 5 years. A new chemical entity (NCE), after passing a documentary examination, must undergo special processes, such as laboratory and clinical tests, before it can be registered. DRA automatically rejects all products which have been rejected by one of the “reference countries”, namely USA, UK, Australia, Norway and some European countries, without any investigation.

Domestic manufacturers also need to obtain a license. Each of their products needs to have its formulation approved, and be registered separately by strength. Each product must undergo a 6-month stability test along with a kind of stress test based on its shelf life before it is allowed to circulate. The passed products get a one-year registration until the end of their shelf life, and then get full registration for five years after that. In addition, NDQAL takes part in Good Manufacturing Practice (GMP) inspections and provides advice on GMP to local manufacturers.

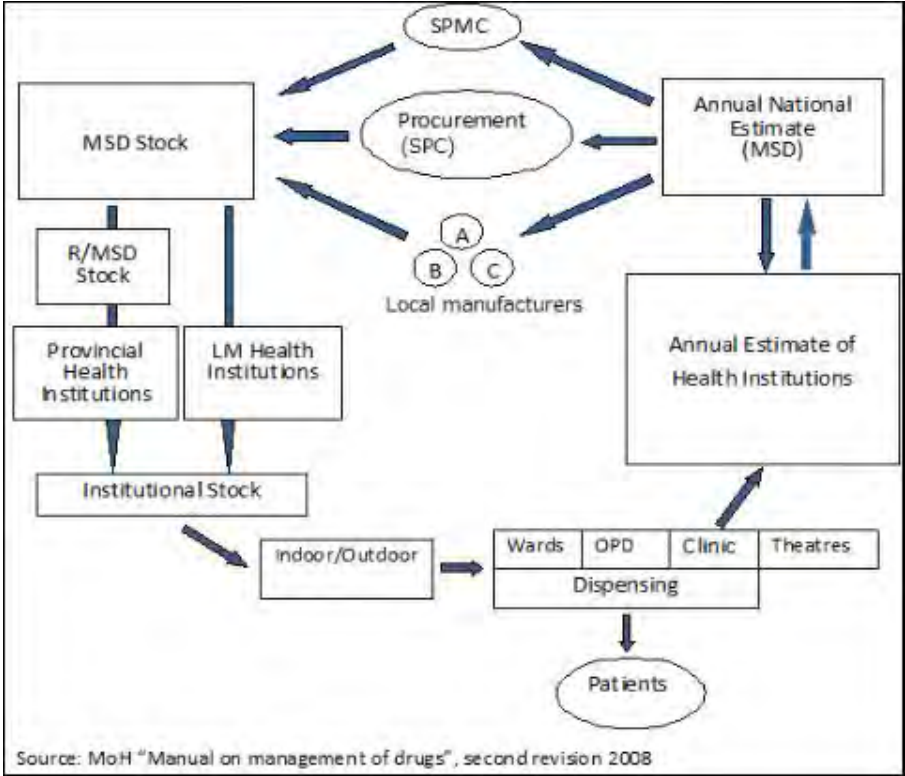
2.4.3 Budget allocation and drug procurement

The Medical Supply Division (MSD) prepares a budget plan with a corresponding distribution list of drugs for two years in advance based on the actual consumption in the previous year and requests obtained from each institution. After finalization of the annual plan, MSD firstly places orders with SPMC and other local manufacturers based on their production capacity and then orders the additional amounts required for the year from SPC. SPC issues an international tender notice on behalf of MSD one year before the appointed day of delivery.

³² Daily News 18 October 2011

For some surgical consumables such as gauze and cotton wool, MSD gives preference to local small manufacturers and directly purchases from them according to the policy. Basically, the central MSD distributes drugs to all institutions through respective regional MSDs quarterly, except for Line Ministry institutions that receive direct deliveries from the central MSD. In each institution, there are separate dispensing windows for inpatients and outpatients. Generally the stock for the latter is rather limited. These activities are depicted in Figure 2-5.

Figure 2-5: Management flow of pharmaceutical consumables



The expenditure for medical supplies grew from Rs. 7.1 billion out of total health expenditure of Rs. 46 billion in 2005 (15%) to Rs. 13.6 billion out of Rs. 77 billion in 2010 (18%)³³, as shown in Table 2-4 and 2-5. For 2011, a more than 30% increase is predicted because of the extended OPD hours³⁴. According to the Manual on Management of Drugs (2008), an appropriate proportion for drugs and medical consumables is about 11% of total health expenditure. However, the expenditure on drugs and medical consumables has gone far beyond this threshold for the last couple of years because of the increasing demand for better services, escalating unit cost of drugs, changing patterns of morbidity, and rehabilitation demands related to the internal conflict.

Table 2-13: Expenditure on medical supplies 2009 and 2010

| Year | Import by SPC | Local production | | Others and Irregular Purchase | Total | Total import* (reference) |
|------------------|---------------|------------------|-----------|-------------------------------|--------|---------------------------|
| | | By SPMC | By others | | | |
| 2009 Rs. million | 10,509 | 599 | 697 | 344 | 12,149 | 21,547 |
| % | 87 | 5 | 6 | 2 | 100 | |
| 2010 Rs. million | 10,436 | 908 | 923 | 1,284 | 13,551 | 22,439 |
| % | 77 | 7 | 7 | 9 | 100 | |

*Central Bank of Sri Lanka, Imports for "Medical and Pharmaceutical Products"
Source: Domestic Data of Financial Department of MSD as of Aug.2011

³³ Ministry of Finance and Planning, Annual Report 2010
³⁴ Daily News, 2 September 2011.

In Sri Lanka, drug shortages sometimes become a serious problem. It is not simply because of lack of finance. The problems, triggered by heavy dependence on drug importation, unforeseen situations, such as severe deterioration of drugs, product failure or late delivery, can cause an island-wide stock-out of medicines. Considering these circumstances, MoH has been trying to decrease its dependency on imports by strengthening local manufacturing capacity and by establishing a stable import procedure. On August 3, 2011, the Sri Lankan Health Minister and a delegation including the director of MSD called upon the Indian Health Minister to discuss the problems described above and a consensus was reached to enforce strict control over poor-quality dealers³⁵.

At a time of stock-out, hospitals first contact regional MSD for additional supplies. When the regional MSD does not have the required items in stock, help from the central MSD is sought before resorting to local purchase. Such irregular expenditure on local purchases made either by MSD or institutions accounted for nearly 10% of total medical supplies purchased in 2010 as shown in Table 2-13.

2.5 Facilities and Equipment

2.5.1 Facilities

The required minimum facilities at different levels of curative medical institutions can be summarised as shown in the Table 2-14. However, additional facilities may be provided depending on specific needs (for details, refer to Annex 6).

³⁵ Daily News, 5 August 2011

Table 2-14: Facilities at different categories according to re-categorization of hospitals

| Primary Medical Care Unit | Divisional Hospital | District Base Hospital | District General Hospital | Teaching/ Provincial Hospital |
|---|--|--|---|---------------------------------------|
| Outpatient care | Outpatient care with a ECU for limited emergency care and screening | Outpatient Department with separate Preliminary Care Unit, Emergency Care Unit and screening facilities | | |
| Limited emergency care: Facilities for stabilization of patients before referring to secondary or tertiary care medical institutions. | Basic laboratory facilities | Clinic facilities | | |
| | Minor operation facilities | In-ward facilities | | |
| | Labour room | 2 Medical units 2 Surgical units 2 Ob-Gyn units 2 Paediatric units 1 ENT surgical unit 1 Eye surgical unit Anaesthesia Unit | 3 Medical units 3 Surgical units 3 Ob-Gyn units 3 Paediatric units 3 ENT surgical unit 2 Eye surgical unit | |
| Facilities for a poly-clinic including Ante-Natal & Post-Natal, Family Planning, Child Health, Well Women etc. | Wards: 1 Maternity ward, 1 male and female Medical and Surgical wards each and one children's ward | 1 Dermatology unit 1 Psychiatry unit 1 Rheumatology unit 1 STD/AIDS Unit 1 ENT surgical unit 1 Orthopaedic surgery 1 Neo-natology unit | | |
| | Dental unit | | | |
| Facilities for continuation of treatment of patients referred by secondary and tertiary medical institutions for a limited period of time | 1 Neurology unit | | | |
| | 1 Cardiology unit | | | |
| | 1 Oncology unit | | | |
| | 1 Neurosurgical unit | | | |
| | 1 Genito urin. surg. Unit | | | |
| | 1 Paediatric surgical unit | | | |
| | 1 Nephrology unit | | | |
| | Chest Medicine | | | |
| | Transfusion Medicine | | | |
| | Intensive Care Units | | | |
| | Medical Intensive Care Unit | | | |
| | Surgical Intensive Care Unit | | | |
| Ambulance | | Cardiac Intensive Care Unit | | |
| | | Coronary Care Unit | | |
| (Services of visiting consultants will be available in some of these hospitals through out-reach clinics) | | Operation Theatres | | |
| | | Diagnostic services | | |
| | | Radiology Department | | |
| | | Pathology Dept. with Histopathology, Haematology and Microbiology Units | | |
| | | Medico-legal Department | | |
| | | Maxillo Facial Surgical Unit | | |
| | | | Orthodontal Unit | |
| | | Medical Records Unit | | Medical Statistic Unit |
| | | Public Health Unit | | |
| | | Psychiatry, Rheumatology, STD/AIDS or any other relevant unit will be added according to need | Chest Medicine, Neurology, Cardiology and Transfusion Medicine Units will be added according to service requirements. | Accident Service/ Trauma Surgery unit |
| | | | | Dept of Anaesthesia |

Source: Re-Categorization of Hospitals

2.5.2 Equipment:

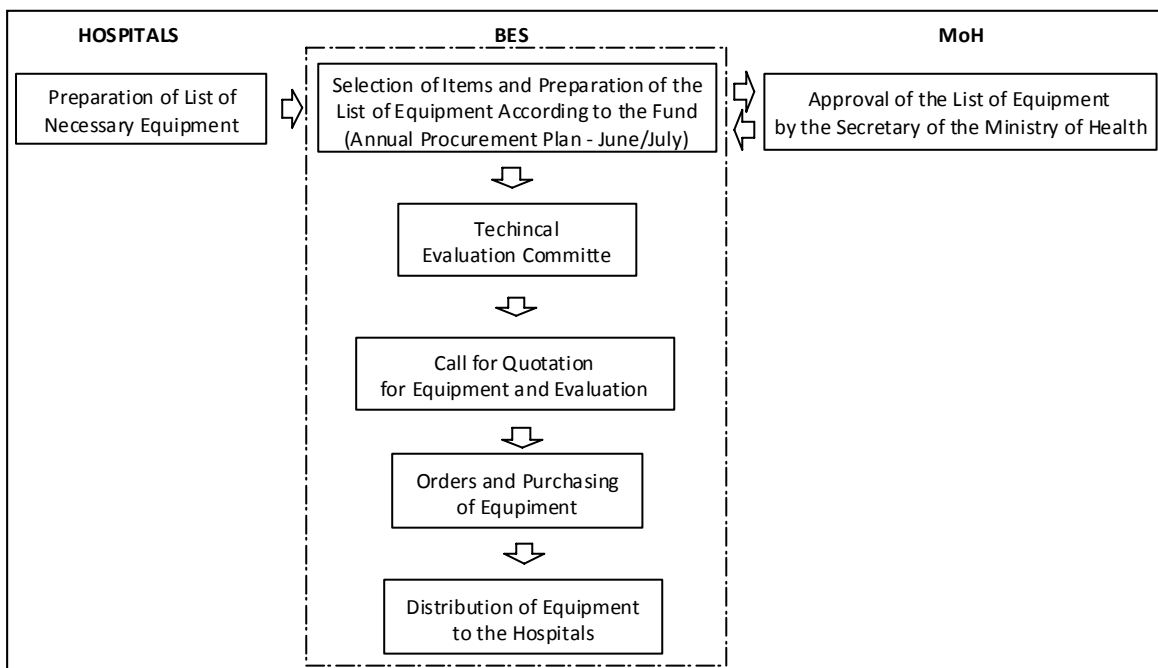
For planning or selection of medical equipment for each category of hospitals, the Desired

Equipment List issued by the Biomedical Engineering Services (BES) is followed. However, for the selection of equipment, it is essential to consider the actual needs of the hospital, availability of resources such as money to operate and maintain the equipment, manpower, the technical level of staff, and available infrastructure in the facilities, including radiation protection of walls in the X-ray examination rooms, and stabilised electric power.

1) Procurement procedure: Line Ministry Institutions

For the line ministry hospitals, procurement is based on the “Annual Procurement Plan”. BES receives the lists of required equipment from all hospitals and selects items to be provided in order of priority and according to the funds available and they prepare a list of equipment to be purchased for the following year. This list is then submitted to the Secretary of the Ministry of Health for approval. Once the list is approved by the health secretary, BES appoints a “Technical Evaluation Committee” to call for quotations for medical equipment and for evaluation. Then they place orders for the purchase of equipment and deliver it to the hospitals. This procedure is shown in Figure 2-6 below.

Figure 2-6: Procurement process of medical equipment for Line Ministry hospitals



For items worth more than Rs. 3 million, quotations are called for by the Tender Branch of MoH.

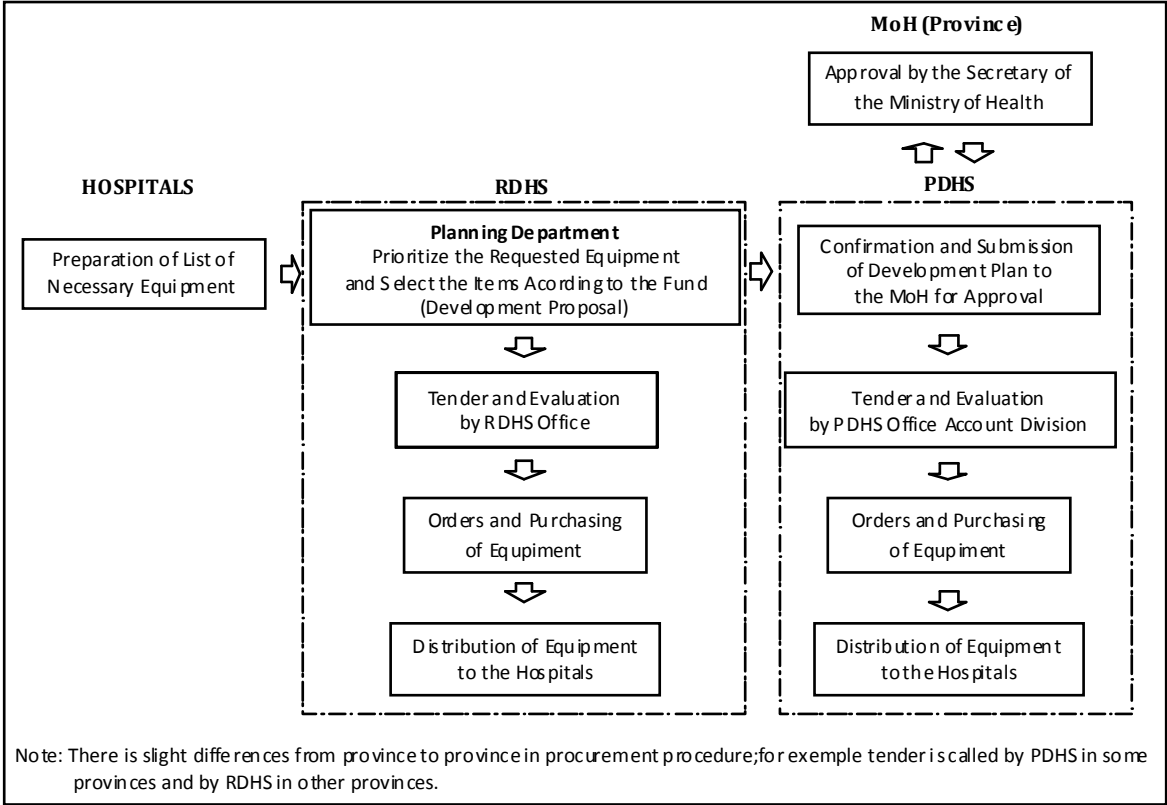
Apart from the above-mentioned procedure, when there are urgent requests, BES submit a list of equipment prepared by each hospital to the “Expenses Control Committee” of the Ministry of Health and then to the Secretary for approval. Alternatively, requests are sometimes made directly to the secretary and the approved request comes to the BES through the secretary. Once the approved list is received, either the BES itself calls for quotations and purchases the equipment or the hospital is asked to call for quotations and money is given by the BES to the hospital to purchase the equipment.

2) Procurement procedure: Provincial institutions

Each hospital prepares a lists of needed equipment listed in order of priority and submits it to RDHS. The planning department of the RDHS reviews the lists from different hospitals and selects items to be procured according to the availability of funds allocated to that section, at the time of the “Development Proposal” formulation for the following year. The proposal is then submitted to

PDHS, which in turn submits it to the Provincial Health Secretary for approval. Once it is approved, tenders are called for by the PDHS office accounts division or by the RDHS office and the orders are placed for purchasing equipment. The purchased items are delivered to the hospitals by RDHS. This procedure is shown in Figure 2-7.

Figure 2-7: Procurement process of medical equipment for provincial hospitals

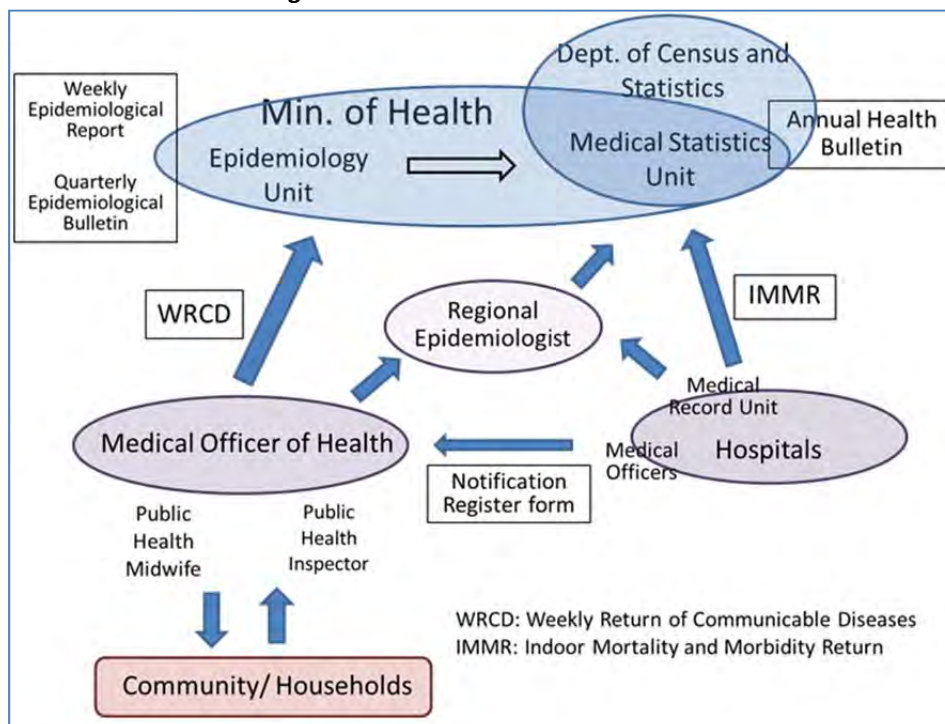


For urgent requests made by hospitals, the funds are allocated from the recurrent budget and the call for tenders and the purchase of equipment is done by the RDHS office.

2.6 Health Information Management System

Sri Lanka has a well-established system to collect information related to maternal and child health (MCH) and the control of communicable diseases (Figure 2-8). The Medical Office of Health (MOH) is in charge of information collection. MOHs routinely send reports to the Regional Epidemiologist and relevant medical officers in RDHS such as MO-MCH, and at the same time launch investigations when required. Each MOH is required to submit a weekly report to the Central Epidemiological Unit (MoH) – especially for the 21 notifiable diseases (epidemic diseases). The information is compiled into the Epidemiological Reports, published weekly and quarterly.

Figure 2-8: Health information flow



Source: Interview from Medical Statistics Unit and Epidemiology Unit

With the demographic and epidemiological transitions, some limitations in the HIMS have emerged. There are currently no viable collecting and reporting channels for information related to the elderly or persons with disability in the community.

Information on hospital-based service utilisation and disease prevalence (mainly of inpatients) is collected by the Medical Record Unit in each hospital. The Medical Record Unit obtains information mainly from bed head tickets (BHT) in which ward doctors fill diagnosis or directions to paramedical staff. Although some departments of the secondary-level institutions are equipped with computers, the on-line information system is not ready for use except in a few pilot hospitals. The data, such as the number of admissions/deliveries/deaths and cause of admission/death are sent to the Medical Statistics Unit of the Department of Census and Statistics either directly or via the Regional Epidemiologist on a quarterly basis. However, the disease prevalence of outpatients, the referral situation and drug consumption are not included in the current information system. Most of the state hospitals also do not have an adequate system to keep individual medical records especially for outpatients, which is essential in maintaining the quality of clinic service for chronic patients. In general, chronic outpatients bring notebooks on their own to keep medical records, such as results of blood tests and drug dosages.

Population-based statistics for health are also often outdated. The Medical Statistics Unit compiles all data sets and publishes the "Annual Health Bulletin" however it takes a few years before the Bulletin is published. To meet recent health requirements, a reorganization and/or expansion of the existing information system is desirable.

2.7 NCD Prevention

2.7.1 NCD prevention policy and institutionalization

As stated in Chapter 1, the Cabinet approved the “National Policy & Strategic Framework for Prevention and Control of Chronic Non-Communicable Diseases” in 2009. The objective of this policy is to reduce premature mortality due to chronic NCDs by 2% annually over the next 10 years through the expansion of evidence-based curative services, and individual and community-wide health promotion measures for the reduction of risk factors.

The NCD Unit under the Deputy Director General Medical Service 1 is responsible for coordinating island-wide programmes for NCD prevention. The responsibility of the NCD Unit includes acute NCDs such as trauma and poisoning, and excludes Cancer and Mental health that are handled by the ‘Director, Cancer’ and ‘Director, Mental Health’.

In January 2010, MoH established a “National NCD Steering Committee” that is chaired by the Secretary of Health. This committee was established to discuss the overall directions and guidelines for NCD prevention. However, only a few meetings have been held since the inauguration. During 2010, MoH established a position for “Medical Officer – NCD” at RDHS office, and filled 23 positions except Kilinochchi and Mullaitivu as of December 2011³⁶. MoH also announced a Job Description of MO-NCD in February 2011, as shown in Annex 7.

2.7.2 Healthy Lifestyle Centres

In August 2011, MoH sent out a letter to all PDHS, RDHS, heads of decentralised units, directors of Teaching Hospitals, MSS, DMOs, MOICs, and heads of institutions, requesting them to make necessary arrangements for establishing, wherever possible, Healthy Lifestyle Centres (HLC) in healthcare institutions. It was recommended to establish at least 3 centres per MOH area with facilities to provide health guidance, screening, basic treatment, referral and follow-up for the target population. The necessary equipment for HLC is listed in Table 2-15 and the NCD Unit has spent more than Rs. 84 million in 2011 to establish HLCs.

Table 2-15: Basic equipment for each Healthy Lifestyle Centre

| | Items |
|---|--|
| 1 | 3 tables & chairs |
| 2 | TV & DVD |
| 3 | White boards |
| 4 | Display boards (2) |
| 5 | Small cupboard to keep health education materials |
| 6 | Screening equipment (weighing scale, stadiometer, waist tape, mercury BP apparatus, stethoscope, glucometer, BMI calculator, calculator, peak flow meter, and arrangement to check total cholesterol if available) |
| 7 | Documents (Invitation forms, register, monthly summary, personal health records and follow-up clinic guidelines) |
| 8 | IEC materials |

Source: MoH letter dated 15 August 2011

In addition, the following drugs were categorised as a priority for managing NCDs and it was recommended that they be available at all primary-level healthcare institutions, thereby avoiding stock-out situations.

³⁶ As of December 2011, MO/NCD of Jaffna, Hambantota, Moneragala, Colombo and Ampara are only acting MOs and not permanent.

Table 2-16: Priority drug list to manage NCDs at primary-level Institutions

| | Drugs |
|----|--|
| 1 | Adrenaline Tartrate 0.1% Injection 1ml Ampoule |
| 2 | Aspirin tablet 100 mg |
| 3 | Atenolol tablet 50 mg |
| 4 | Atorvastating tablet 10 mg |
| 5 | Beclometasone Dipropionate – aerosol inhaler – 50 mcg metered dose, 200 dose Unit MDI dry power capsule for breath induced device, 100 mcg DPI & mcg DPI |
| 6 | Chlorpheniramine Maleate (chlorphenamine) – injection 10 mg in 1 ml Ampoule, tablet 4mg |
| 7 | Enalapril Maleate tablet 5mg |
| 8 | Fruzemide – injection 20 mg in 2ml Ampoule, tablet 40 mg (Furosemide) |
| 9 | Glibenclamide tablet 5mg |
| 10 | Glyceryl Trinitrate tablet 0.5 mg sublingual |
| 11 | Hydrochlorothiazide tablet 25 mg |
| 12 | Hydrocortisone Hemisuccinate injection 100 mg vial |
| 13 | Metformin tablet 500 mg & 850 mg |
| 14 | Nifedipine slow release tablet 20 mg |
| 15 | Salbutamol – respiratory solution 0.5 % in 10 ml bottle, tablet 2mg & 4 mg |
| 16 | Theophylline slow release tablet 125 mg |

Source: A Letter from Directors to Addition Secretary MS, MoH dated 12 August 2011

MoH also issued the “Guidelines for Management of NCDs in Primary-level Institutions”, shown in Annex 8. The NCD Unit is now planning to review these guidelines to align them with the actual situation in the field.

2.7.3 NCD Prevention Project (NPP)

As stated in Chapter 1, JICA has been assisting MoH to implement the “Project on Health Promotion and Preventive Care Measures of Chronic NCDs, NPP” since May 2008. The outline of this five-year project is shown in Table 2-17.

Table 2-17: Outline of NCD Prevention Project, NPP

| | |
|------------------|--|
| Project Title | Project on Health Promotion and Preventive Care Measures of Chronic NCDs |
| Duration | May 2008 to March 2013 |
| Project Purpose | Effective and efficient implementation models to prevent and control NCDs (DM, Hypertension, and Hypercholesterolaemia) are developed. |
| Outputs | <ol style="list-style-type: none"> 1) Risk factors of cardiovascular diseases are identified by the Ragama Health Study based on the evidence. 2) Intervention guidelines and manuals are formulated based on available evidences and related literature. 3) Institutional and technical feasibilities of the consolidated intervention guidelines are assessed for development of the NCD prevention models in pilot areas. 4) Expansion plan for health check-up/ guidance and health promotion for prevention of cardiovascular diseases is finalised for island-wide implementation. |
| Major Activities | <ul style="list-style-type: none"> ➤ Conduct risk factor surveys in Ragama MoH area and produce evidence for decision making; ➤ Prepare NPP implementation guidelines for health check-ups, health guidance and follow-up, and health promotion; ➤ Prepare tools and manuals to facilitate implementation of NCD prevention; ➤ Analyse costs of NCD prevention for planning of island-wide expansion; ➤ Implement NCD prevention activities in Kurunegala and Polonnaruwa to examine institutional, financial and technical feasibility of the NPP model; and ➤ Assist MoH to plan for island wide expansion of NCD prevention activities. |

| | |
|---|---|
| Project Management and Implementation group | Project Director: Dr. R.R.C. Ruberu, Secretary of Health Project Manager: Dr. Wimal Jayantha, Deputy Director General, Planning, MoH Project implementing group: NCD Unit, Kurunegala RDHS, Polonnaruwa RDHS and University of Kelaniya JICA team: Keiko Nishino (leader) and 7 JICA Experts |
|---|---|

Aligned closely with the NCD policy, NPP has developed a robust model that is ready for implementation in other districts and Healthy Lifestyle Centres. NPP is currently finalising all documents such as guidelines, manuals and tools and is assisting MoH to establish HLCs.

CHAPTER 3 Health Services of the Emerging Regions

3.1 Socio-economic Conditions of the Seven Regions

Sri Lanka is comprised of nine provinces, which are divided into a total of 25 districts. Western province leads the country's economic development, earning 48.4% of GDP in 2007, followed by Southern Province (10.5%), North Western (9.6%) and Central (8.9%) provinces. The conflict-affected region of Northern province contributed least to the GDP at 3.3% in the same year³⁷.

The seven provinces included in this survey were chosen jointly by the GoSL and JICA as socio-economically less-developed regions. Some of the differences amongst the provinces are shown in Table 3-1.

Table 3-1: Selected geographical, demographic and economic indicators of the seven "emerging regions"

| Province | District | Area | Population (2010) ⁽¹⁾ | Pop. Distribution (2001) ⁽²⁾ | Mean Household Income (2009-10) ⁽³⁾ | GDP per Capita (2009) ⁽⁴⁾ | Unemployment Rates (2010) ⁽⁵⁾ |
|---------------|--------------|-----------------|----------------------------------|---|--|--------------------------------------|--|
| | | Km ² | (,000) | Urban/Rural/Estate | Rs | Rs. 000 | % |
| National | | 62,705 | 20,653 | 14.6 / 80.0 / 5.4 | 36,451 | 236 | 4.9 |
| Central | Kandy | 1,917 | 1,431 | 12.2 / 80.5 / 7.3 | 33,063 | 175 | 6.7 |
| | Matale | 1,952 | 497 | 8.2 / 86.9 / 4.9 | 30,013 | | |
| | Nuwara Eliya | 1,706 | 761 | 6.1 / 40.3 / 53.6 | 31,029 | | |
| Northern | Jaffna | 929 | 611 | 14.7 / 85.3 / 0.0 | 18,917 | 134 | Na |
| | Kilinochchi | 1,205 | 156 | 0.0 / 100.0 / 0.0 | na | | |
| | Mannar | 1,880 | 104 | 0.0 / 100.0 / 0.0 | na | | |
| | Vavuniya | 1,861 | 174 | 35.5 / 64.5 / 0.0 | 39,640 | | |
| | Mullaitivu | 2,415 | 148 | 0.0 / 100.0 / 0.0 | na | | |
| Eastern | Batticaloa | 2,610 | 534 | 23.7 / 46.3 / 0.0 | 22,844 | 183 | 5.3 |
| | Ampara | 4,222 | 644 | 19.0 / 81.0 / 0.0 | 24,721 | | |
| | Trincomalee | 2,529 | 374 | 13.4 / 86.6 / 0.0 | 24,291 | | |
| North Western | Kurunegala | 4,624 | 1,563 | 2.4 / 97.2 / 0.5 | 36,922 | 213 | 4.8 |
| | Puttalam | 2,882 | 779 | 9.2 / 90.5 / 0.3 | 32,918 | | |
| North Central | Anuradhapura | 6,664 | 830 | 7.1 / 92.7 / 0.1 | 37,586 | 189 | 3.6 |
| | Polonnaruwa | 3,077 | 410 | 0.0 / 99.9 / 0.1 | 31,526 | | |
| Uva | Badulla | 2,827 | 886 | 6.6 / 72.7 / 20.7 | 32,313 | 168 | 4.1 |
| | Moneragala | 5,508 | 440 | 0.0 / 97.7 / 2.3 | 22,161 | | |
| Sabaragamuwa | Ratnapura | 3,236 | 1,125 | 5.7 / 84.2 / 10.1 | 41,312 | 157 | 4.6 |
| | Kegalle | 1,685 | 818 | 2.2 / 90.8 / 7.1 | 29,342 | | |

Source: (1) (2) Dept. Census and Statistics

(3) Dept. Census and Statistics, Household Income and Expenditure Survey 2009-10

(4) (5) Ministry of Finance and Planning, Annual Reports 2009 & 2010

While Sri Lanka has largely been successful in providing universal education and health care, there remain some regional disparities as seen in Table 3-2.

³⁷ MoFP, Annual Report 2010

Table 3-2: Selected health and social indicators of the seven “emerging regions”

| Province | District | Maternal Mortality Rate (2006) ⁽¹⁾ | Infant Mortality Rate (2006-07) ⁽²⁾ | Measles vaccination coverage (2006-07) ⁽³⁾ | Net enrolment for primary education (2007) ⁽³⁾ | Primary completion rate (2007) ⁽³⁾ | Households with access to electricity (2006-07) ⁽⁴⁾ | Households with safe drinking water (2006-07) ⁽⁴⁾ | Households using adequate sanitation facilities (2006-07) ⁽³⁾ |
|---------------|--------------|---|--|---|---|---|--|--|--|
| | | Per 100,000 live births | Per 1,000 live births | % of under 1 year-olds | % | % | % | % | % |
| National | | 39.3 | 15 | 97.1 | 89.9 | 83.6 | 80.0 | 84.8 | 91.7 |
| Central | Kandy | 23.9 | 22 | 98.8 | 85.0 | 78.0 | 81.7 | 78.2 | 91.9 |
| | Matale | 33.1 | 26 | 95.7 | 87.5 | 74.0 | 72.8 | 79.6 | 75.2 |
| | Nuwara Eliya | 80.7 | 19 | 97.0 | 89.9 | 68.8 | 75.8 | 51.4 | 75.7 |
| North | Jaffna | 37.9 | 14.9 (2009) ⁽⁵⁾ | 87.1 (2004) ⁽³⁾ | 90.8 | 129.4 | 48.2 (2009) ⁽⁶⁾ | 96.0 ⁽³⁾ | 75.9 |
| | Kilinochchi | 102.8 | NA | 95.3 (2005-06) ⁽³⁾ | 92.1 | 84.2 | | 92.2 ⁽³⁾ | 95.8 |
| | Mannar | 46.2 | 15.19 (2009) ⁽⁵⁾ | 80.7 (2004) ⁽³⁾ | 129.4 | 164.4 | | 85.1 ⁽³⁾ | 63.8 |
| | Vavuniya | 39.3 | 25.40 (2009) ⁽⁵⁾ | 90.5 (2004) ⁽³⁾ | 120.4 | 176.4 | | 87.3 ⁽³⁾ | 67.1 |
| | Mullaitivu | NA | NA | 90.2 (2005-06) ⁽³⁾ | 114.1 | 148.4 | | 54.7 ⁽³⁾ | 30.3 |
| East | Batticaloa | 77.4 | 5 | 94.1 | 102.0 | 92.1 | 70.8 | 96.5 | 81.5 |
| | Ampara | 85.0 | 27 | 96.0 | 105.9 | 94.7 | 66.3 | 89.5 | 87.1 |
| | Trincomalee | 11.9 | 21 | 97.7 | 108.0 | 99.0 | NA | NA | 85.5 |
| North West | Kurunegala | 33.5 | 29 | 98.6 | 93.3 | 87.0 | 71.6 | 89.4 | 79.0 ⁽⁷⁾ (2008) |
| | Puttalam | 51.6 | 23 | 94.0 | 92.1 | 84.2 | 69.0 | 92.8 | 95.8 |
| North Central | Anuradhapura | 29.7 | 27 | 100.0 | 89.9 | 82.6 | 66.6 | 85.3 | 86.3 |
| | Polonnaruwa | 14.7 | 5 | 100.0 | 86.5 | 78.5 | 74.4 | 88.6 | 80.4 |
| Uva | Badulla | 42.9 | 31 | 96.0 | 85.9 | 74.8 | 77.9 | 79.3 | 85.9 |
| | Moneragala | 70.5 | 21 | 96.1 | 78.3 | 76.8 | 52.7 | 85.4 | 84.9 |
| Sabaragamuwa | Ratnapura | 51.6 | 16 | 95.1 | 82.6 | 71.9 | 62.7 | 61.9 | 88.1 |
| | Kegalle | 35.7 | 18 | 99.1 | 95.1 | 84.1 | 82.5 | 74.2 | 93.2 |

Source: (1) UNFPA, ICPD+15 (Family Health Bureau, MoH), (2) DHS Preliminary Report, (3) UNICEF, MNC Health and Nutrition 2010, (4) Dept. Census and Statistics, Poverty in Sri Lanka, (5) Northern Provincial Council, Statistical Information 2010, (6) MoFP, Annual Report 2010, (7) 2008 data supplied by UNICEF Sri Lanka Office

For Northern and Eastern Provinces, which were affected by the civil war that ended in May 2009, some statistical data are not available. Careful efforts were made to complete the above Tables, but caution must be exercised when interpreting the results, as some of data may not conform to other information.

In Northern Province the efforts of rehabilitation and resettlement of the internally displaced people (IDP) are ongoing. In Kilinochchi and Mullaitivu Districts, where the war lingered longest, the process started only a short time ago. Progress may be slow as demining must be completed before areas can be opened for resettlement. The PDHS is rehabilitating destroyed hospitals as soon as the area is cleared of mines, in the hope that they will serve as an incentive for IDPs to resettle there. There has been a significant amount of foreign aid and given this situation, the state, needs, and even the catchment population of the hospitals are far more dynamic than other provinces.

3.2 Health Facilities Survey of the Secondary-level Institutions

3.2.1 Context and methodology

The standard facilities and services to be available at different levels of curative medical institutions (hereafter referred to as “the standard”) are specified in the MoH document “Recategorization of the Hospitals” (see Annex 6). The initial visits by the JICA Mission to selected hospitals in July–August 2011 indicated that many hospitals are yet to fulfil the prescribed functions.

The survey aimed to determine the needs of secondary hospitals by assessing the gaps between the standard and the actual conditions. The data collected were to be utilised as a means of selecting target institutions to be strengthened under the planned Japanese assistance project. To this end, self-administered questionnaires for district general hospitals (DGH) and base hospitals (BH) were developed (attached as Annex 2) and sent to all the 61 hospitals in the seven provinces listed as DGHs or BHs in the MoH’s “Hospitals and Bed Strength in Sri Lanka by District (Government Sector) 2010”. The information sent back from the hospitals was then tabulated and clarifications were sought for irregularities and missing data by telephoning the applicable hospitals. By the end of September 2011, 57 institutions out of 61 had returned the questionnaire, as shown in Table 3-3³⁸.

Table 3-3: Numbers of the institutions surveyed by province and type

| Province | Questionnaire sent to: | | | | Questionnaire returned by 30.09.2011 from: | | | |
|--------------|------------------------|-----|-----|-------|--|-----|-----|-------|
| | DGH | BHA | BHB | Total | DGH | BHA | BHB | Total |
| Central | 3 | 2 | 4 | 9 | 3 | 2 | 4 | 9 |
| North | 4 | 2 | 4 | 10 | 3 | 2 | 4 | 9 |
| East | 2 | 3 | 9 | 14 | 1 | 3 | 7 | 11 |
| N. West | 1 | 2 | 5 | 8 | 1 | 2 | 5 | 8 |
| N. Central | 1 | 0 | 5 | 6 | 1 | 0 | 5 | 6 |
| Uva | 1 | 2 | 3 | 6 | 1 | 2 | 3 | 6 |
| Sabaragamuwa | 1 | 1 | 6 | 8 | 1 | 1 | 6 | 8 |
| Total | 13 | 12 | 36 | 61 | 11 | 12 | 34 | 57 |

Source: JICA-MoH Survey on Secondary-level Institutions

3.2.2 Limitations

Due to the methodology employed, it was not possible to independently verify the information supplied. Some inconsistencies were also noted among the information obtained through different channels, in which case the data received most recently were taken as the most accurate reflection of the current situation.

There were also difficulties in obtaining some data which was thought to be crucial in analysing the functions of a hospital. For example, information on referred cases and their reasons for referral are not collected under the current health information management system. In lieu of appropriate referral records, the survey used the number of outward transfers by ambulance as the indicator for referrals but the sources of this information were not uniform, ranging from the ambulance log books to personal memories, depending on the record keeping systems of individual hospitals. To facilitate the analysis, additional telephone interviews were also conducted with all the hospitals to find out the main reasons for transfers to supplement the information. In addition, information obtained through visits was also applied when verifying and analysing the data.

³⁸ The list of the institutions involved in this survey is attached as Annex 3.

3.2.3 Utilization of secondary-level institutions

Table 3-4 shows an overview of the utilisation of the surveyed hospitals by category. Variations even within a category are quite significant.

Table 3-4: Overview of service utilisation at secondary institutions by category

| Indicator | | DGH (N=11) | BHA (N=12) | BHB (N=34) | ALL (N=57) |
|---|---------|----------------|----------------|----------------|----------------|
| Catchment area population (,000) | Range | 85 – 826 | 140 – 806 | 10 – 565 | 10 – 826 |
| | Average | 417.1 | 391.6 | 168.4 | 270.0 |
| Number of beds | Range | 139 – 747 | 100 – 475 | 40 – 358 | 40 – 747 |
| | Average | 496 | 282 | 150 | 251 |
| Bed Occupancy Rate (%) | Range | 61 – 96 | 33 – 109 | 10 – 140 | 10 – 140 |
| | Average | 78 | 80 | 63 | 70 |
| OPD attendance (/month average) 2010 | Range | 3,840 – 29,035 | 4,767 – 17,754 | 1,015 – 18,961 | 1,015 – 29,035 |
| | Average | 17,226 | 12,483 | 9,004 | 11,456 |
| Number of admissions (/month average) 2010 | Range | 416 – 6,344 | 600 – 4,649 | 12 – 3,310 | 12 – 6,344 |
| | Average | 4,069 | 2,619 | 1,130 | 2,059 |
| Number of deliveries (/month average) 2010 | Range | 6 – 576 | 11 – 503 | 0 – 307 | 0 – 576 |
| | Average | 362 | 261 | 61 | 160 |
| Monthly patient load (OPD+admission+clinics) as % of population | Range | 3.0 – 34.1% | 1.3 – 24.6% | 3.1 – 38.1% | 1.3 – 38.1% |
| | Average | 11.8% | 7.7% | 12.9% | 11.7% |

Source: JICA-MoH Survey on Secondary-level Institutions

Bed occupancy rate (BOR) is an indicator commonly used to assess utilisation of hospitals. Factors behind low BOR could be (1) oversupply of beds, (2) lack of manpower, as well as (3) lack of facilities and supplies for necessary investigations and treatment. The survey found 13 hospitals with BORs of less than 50% as shown in the Table 3-5. While more in-depth investigations would be needed to identify the factors behind the low BORs, oversupply could be ruled out for those with high population/bed ratio, such as Teldeniya, Galgamuwa, Kalawana, Rikillagaskada and Kalmunai North. Low availability of specialist doctors appears to be a common factor, except for Kalmunai North. Many of them have also recently been re-categorised from DH to BH, and as such are still missing some essential facilities that a secondary institution requires.

Table 3-5: Secondary hospitals with BOR less than 50% in 2010

| | Prov ince | Hospital and Category | | BOR (%) | # Beds | Pop. /bed | # Specialis ts | Remarks |
|----|--------------|-----------------------|-----|------------|-----------|--------------|----------------------|--|
| 1 | N | Mankulam | BHB | 10 | 40 | 250 | 0 | Inpatient facilities only recently built. |
| 2 | NW | Galgamuwa | BHB | 22 | 131 | 2,290 | 2 | Being upgraded from DH to BHB |
| 3 | E | Kalmunai North | BHA | 33 | 413 | 1,162 | 5 | Line Ministry hospital |
| 4 | NW | Polpitigama | BHB | 34 | 110 | 800 | 0 | |
| 5 | E | Mahaoya | BHB | 35 | 100 | 400 | 0 | Still functioning as DH |
| 6 | Sab | Kalawana | BHB | 38 | 82 | 1,463 | 0 | |
| 7 | C | Teldeniya | BHB | 39 | 87 | 3,494 | 0 | Being upgraded from DH to BHB |
| 7 | Uva | Siyambalanduwa | BHB | 39 | 117 | 521 | 0 | |
| 9 | N | Kayts | BHB | 40 | 59 | 814 | 0 | The surrounding areas not yet fully resettled. |
| 9 | NC | Kebitigollewa | BHB | 40 | 83 | 726 | 1 | |
| 9 | NC | Welikanda | BHB | 40 | 62 | 301 | 0 | Still functioning as DH |
| 12 | C | Rikillagaskada | BHB | 44 | 126 | 1,339 | 1 | Recently upgraded from DH to BHB |
| 13 | U | Wellawaya | BHB | 46 | 112 | 262 | 1 | |

Source: JICA-MoH Survey on Secondary-level Institutions

3.2.4 Human resources

It is difficult to assess the sufficiency of human resources at each institution, as the approved posts in the cadre lists do not necessarily reflect the true needs for provision of the services expected of the secondary hospitals. As such, this survey only looked at availability of particular categories of personnel rather than sufficiency.

A majority of institutions face shortages of staff, though to differing extents. Re-employment and contractual arrangements are sometimes made as temporary measures. Staff shortages are also an issue for non-professional categories such as ward attendants and labourers in some provinces. This may be an issue of financial resources rather than human, as the number of minor employees is reportedly kept at a minimum in order to employ more professional staff within the allocated budget.

(1) Specialist doctors (Consultants)

The extent of utilisation of secondary institutions is believed to be closely related to the availability of specialist doctors along with appropriate medical facilities. For example, the number of deliveries is very much dependant on availability of comprehensive emergency obstetric care. In Sri Lanka, all deliveries of first time mothers, as well as high-risk pregnancies, are to be conducted in institutions that offer specialist care.

According to the norms, secondary hospitals are to have 2 consultants each for medicine, surgery, paediatrics and obstetrics and gynaecology, and 1 each for other areas. This translates to 11 consultants for BH and 25 for DGH. In reality, even just in terms of numbers, only 3 out of the 57 institutions fulfil this standard. The average numbers of consultants are 16 for DGH, 6.9 for BHA and 2.3 for BHB. More than a third of BHBs (N=12 out of 34) did not have a single consultant at the time of the survey. Some hospitals provide specialist care as per a fixed schedule through visiting consultants who are attached to other secondary or tertiary institutions.

Table 3-6 shows the numbers of consultants available by hospital category, while Table 3-7 lists the hospitals that did not have a single specialist at the time of the survey.

Table 3-6: Number of consultants at 3 categories of secondary hospitals

| Indicator | | DGH (N=11) | | BHA (N=12) ⁽¹⁾ | | BHB (N=34) ⁽¹⁾ | | ALL (N=57) | |
|-----------------------|---------|------------|----------|---------------------------|----------|---------------------------|-----------|------------|-----------|
| | | LM(4) | Prov.(7) | LM(3) | Prov.(9) | LM(2) | Prov.(32) | LM(9) | Prov.(48) |
| Number of Consultants | Range | 7 – 21 | | 1 – 12 | | 0 – 9 | | 0 – 21 | |
| | Average | 16.0 | | 6.9 | | 2.3 | | 5.9 | |
| | | 18 | 15 | 6.3 | 7.1 | 6.5 | 2.0 | 12.0 | 4.8 |

Source: JICA-MoH Survey on Secondary-level Institutions

Table 3-7: Hospitals without specialists

| Province | Institutions | Category | # beds | BOR (%) |
|----------|----------------|----------|--------|---------|
| C | Teldeniya | BHB | 87 | 39 |
| C | Hettipola | BHB | 58 | NA |
| N | Chavakachcheri | BHB | 104 | 66.2 |
| N | Kayts | BHB | 59 | 40 |
| N | Mankulam | BHB | 40 | 10 |
| E | Kaluwanchikudy | BHB | 150 | 80 |
| E | Mahaoya | BHB | 100 | 34.5 |
| NW | Polpitigama | BHB | 110 | 34 |
| NC | Welikanda | BHB | 62 | 40 |
| U | Siyambalanduwa | BHB | 117 | 39.1 |

| Province | Institutions | Category | # beds | BOR (%) |
|----------|--------------|----------|--------|---------|
| Sab | Warakapola | BHB | 138 | 53.2 |
| Sab | Kalawana | BHB | 82 | 38 |

Source: JICA-MoH Survey on Secondary-level Institutions

(2) Medical officers (MOs)

The doctor-population ratio was calculated using the catchment area population divided by the number of doctors³⁹ as shown in Table 3-8. In general, Line Ministry hospitals are better staffed but this was not the case for BHAs.

Table 3-8: Number of MOs and population and the number of patients per doctor at 3 categories of secondary hospitals

| Indicator | | DHG (N=11) | | BHA (N=12) | | BHB (N=34) | | ALL (N=57) | |
|-----------------------------------|---------|-------------|----------|----------------|----------|----------------|-----------|--------------|-----------|
| | | LM(4) | Prov.(7) | LM(3) | Prov.(9) | LM(2) | Prov.(32) | LM(9) | Prov.(48) |
| Number of MOs (excl. consultants) | Range | 16 – 186 | | 6 – 105 | | 1 – 90 | | 1 – 186 | |
| | Average | 103.3 | | 49.1 | | 23.6 | | 44 | |
| | | 123.0 | 95.9 | 37.7 | 52.9 | 74.0 | 20.5 | 87 | 36 |
| Population per doctor | Range | 697 – 8,967 | | 1,207 – 15,000 | | 1,429 – 56,000 | | 697 – 56,000 | |
| | Average | 3,713 | | 7,308 | | 10,395 | | 8,407 | |
| | | 4,891 | 3,039 | 7,201 | 7,344 | 3,784 | 10,808 | 5,415 | 9,358 |

Source: JICA-MoH Survey on Secondary-level Institutions

The 10 institutions that have the largest coverage populations per doctor are listed in Table 3-9.

Table 3-9: 10 Institutions with worst population/doctor ratio

| | Province | Institution | Cat | Catchment population | # doctors | Pop. per doctor |
|---|----------|----------------|-----|----------------------|-----------|-----------------|
| 1 | E | Kaluwanchikudy | BHB | 280,000 | 5 | 56,000 |
| 2 | C | Teldeniya | BHB | 305,000 | 11 | 27,727 |
| 3 | NC | Tambuttegama | BHB | 441,000 | 22 | 20,045 |
| 4 | NW | Polpitiyagama | BHB | 88,000 | 5 | 17,600 |
| 5 | NW | Galgamuwa | BHB | 300,000 | 18 | 16,667 |
| 6 | N | Kayts | BHB | 48,000 | 3 | 16,000 |
| 7 | NW | Dambadeniya | BHB | 300,000 | 20 | 15,000 |
| 7 | C | Dickoya | BHA | 300,000 | 20 | 15,000 |
| 7 | Sa | Kalawana | BHB | 120,000 | 8 | 15,000 |
| 7 | NC | Welikanda | BHB | 45,000 | 3 | 15,000 |

Source: JICA-MoH Survey on Secondary-level Institutions

With the current status of the staffing norms and cadre lists discussed earlier, it is not very clear how placements of doctors are determined by MoH. While some hospitals have almost permanent vacancies, there are others that have more MOs than the number of the posts officially approved by the provincial authorities.

As giving appointments is at the discretion of MoH, the main concern of the provinces is keeping the appointed personnel. It was emphasised a number of times by health administrators that reasonable accommodation facilities (“quarters”) must be provided to attract and retain doctors, especially consultants, who are in great demand.

³⁹ Including consultants, intern MOs, AMOs and RMOs.

(3) Nurses

Table 3-10 shows population and the numbers of beds per nurse for different categories of the hospitals. Large LM hospitals appeared to be most favoured, though for the BHA category, like other categories of staff, provincial hospitals are on average better staffed.

Table 3-10: Number of nurses and population and the number of beds per nurse at 3 categories of secondary hospitals

| Indicator | | DHG (N=11) | | BHA (N=12) | | BHB (N=34) | | ALL (N=57) | |
|----------------------|---------|-------------|----------|-------------|----------|---------------|-----------|----------------|-----------|
| | | LM(4) | Prov.(7) | LM(3) | Prov.(9) | LM(2) | Prov.(32) | LM(9) | Prov.(48) |
| Number of nurses | Range | 42 – 540 | | 18 – 220 | | 0 – 172 | | 0 – 540 | |
| | Average | 228.2 | | 124.2 | | 51.6 | | 101.0 | |
| | | 315.7 | 195.4 | 103.0 | 131.2 | 130.5 | 46.7 | 225.0 | 77.7 |
| Population per nurse | Range | 513 – 4,000 | | 636 – 6,818 | | 667 – 24,000* | | 513 – 24,000* | |
| | Average | 1,995 | | 3,179 | | 4,881* | | 3,950* | |
| | | 2,248 | 1,858 | 2,628 | 3,362 | 2,422 | 5,040* | 2,414 | 4,244* |
| # beds per nurse | Range | 1.38 – 4.07 | | 1.76 – 7.14 | | 1.03 – 29.50* | | 1.03 – 29.50 * | |
| | Average | 2.55 | | 2.83 | | 5.11* | | 4.12 | |
| | | 1.70 | 3.03 | 2.25 | 3.02 | 2.25 | 5.29* | 2.01 | 4.72* |

* Excluding one BHB with no nurse

Source: JICA-MoH Survey on Secondary-level Institutions

Although the acute shortage of nurses in Northern Province is said to have eased⁴⁰, it is evident the province is still short-staffed of nurses. Five of the top 10 institutions with largest numbers of beds per nurse are in Northern Province. Mankulam BHB does not have a single nurse while Point Pedro is the only BHA on the list.

Table 3-11: 10 Institutions with the largest number of beds per nurse

| | Province | Institution | Cat | # beds | # nurses | # beds per nurse | Pop. per nurse |
|---|----------|----------------|-----|--------|----------|------------------|----------------|
| 1 | N | Mankulam | BHB | 40 | 0 | - | - |
| 2 | N | Kayts | BHB | 59 | 2 | 29.5 | 24,000 |
| 3 | NC | Welikanda | BHB | 62 | 6 | 10.3 | 7,500 |
| 4 | N | Cheddikulam | BHB | 222 | 24 | 9.3 | 1,583 |
| 5 | N | Chavakachcheri | BHB | 104 | 12 | 8.7 | 5,917 |
| 6 | NC | Kebitigollewa | BHB | 83 | 10 | 8.3 | 2,500 |
| 7 | C | Hettipola | BHB | 58 | 7 | 8.3 | 4,571 |
| 7 | N | Point Pedro | BHA | 264 | 37 | 7.1 | 4,054 |
| 7 | E | Samanthurai | BHB | 175 | 29 | 6.0 | 6,414 |
| 7 | NC | Padaviya | BHB | 195 | 33 | 5.9 | 1,545 |

Source: JICA-MoH Survey on Secondary-level Institutions

(4) Other technical and non-technical staff

Shortages of technical support staff were reported by many heads of institutions interviewed, including PDHSs. Table 3-12 shows the numbers of radiographers, pharmacists and MLTs for different categories of hospitals. LM hospitals enjoy better availability for this category of staff. There are a number of hospitals that have more staff than specified in their approved cadre lists. It is not clear whether they have excess staff or the cadre lists are out-dated.

⁴⁰ World Bank, "Prevention and Control of Selected Chronic NCDs in Sri Lanka" 2010

Table 3-12: Number of selected categories of technical staff at 3 categories of secondary hospitals

| Indicators | | DHG (N=11) | | BHA (N=12) | | BHB (N=32)* | | ALL (N=55) | |
|--|---------|------------|----------|------------|----------|-------------|-----------|------------|-----------|
| | | LM(4) | Prov.(7) | LM(3) | Prov.(9) | LM(2) | Prov.(30) | LM(9) | Prov.(46) |
| Radiographers | Range | 2 – 7 | | 1 – 4 | | 0 – 3 | | 0 – 7 | |
| | Average | 4.2 | | 2.6 | | 1.3 | | 2.2 | |
| Pharmacists | Range | 2 – 18 | | 1 – 14 | | 0 – 10 | | 1 – 18 | |
| | Average | 12 | | 7.0 | | 2.9 | | 5.5 | |
| Medical Laboratory Technologists (MLT) | Range | 1 – 21 | | 1 – 12 | | 0 – 6 | | 0 – 21 | |
| | Average | 12 | | 6.5 | | 2.5 | | 5.1 | |
| | | 15 | 10 | 9.3 | 5.8 | 6.5 | 2.6 | 6.3 | 5.1 |
| | | 16 | 9.6 | 7.7 | 5.1 | 5.5 | 2.3 | 5.5 | 4.7 |

* 2 BHB did not provide information on these categories of staff.

Source: JICA-MoH Survey on Secondary-level Institutions

Staff shortages were also reported for the non-professional category. Some provinces are reportedly cutting back the number of minor employees (ward attendants, labourers, etc.) to cover the costs of professional staff.

3.2.5 Availability of essential drugs

The hospitals were asked (1) how well their needs for drugs were covered by the supplies from the Line Ministry (through MSD), (2) the number of items that went out of stock, and (3) the items that faced most serious stock crisis in 2010. Answers provided may have been retrieved from memories of individuals in charge of the matters rather than from a stringently maintained logistic information management system.

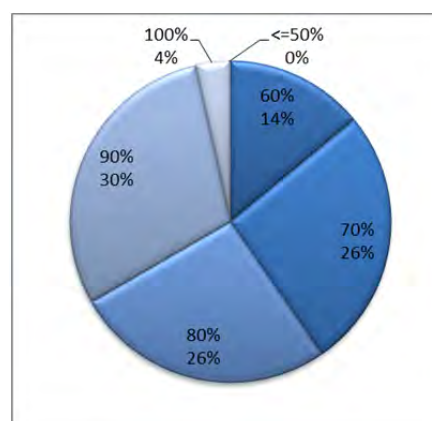
Responses indicate that over 80 per cent of hospitals involved in this survey had more than 70 per cent of their drug requirements fulfilled by the MSD supplies in 2010. Of the secondary hospitals surveyed, 30% experienced stock-out of more than 20 items in 2010⁴¹.

Table 3-13: Sufficiency of MSD supplies 2010

| Sufficiency (%) | No. of hospitals | Percentage |
|-----------------|------------------|------------|
| 100 | 2 | 4 % |
| 90 | 17 | 30 % |
| 80 | 15 | 26 % |
| 70 | 15 | 26 % |
| 60 | 8 | 14 % |
| 50 or less | 0 | 0 |
| Total | 57 | 100 % |

Source: JICA-MoH Survey on Secondary-level Institutions

Figure 3-1: Sufficiency of MSD supplies 2010



⁴¹ This information may not be 100% accurate, as some institutions do not have an established system for logistics management.

Table 3-14: Number of stock-out items

| No. of stock-out items | No. of hospitals | Percentage |
|------------------------|------------------|------------|
| 0 | 3 | 6 % |
| 1 – 10 | 22 | 39 % |
| 11 – 20 | 14 | 25 % |
| 21 – 30 | 8 | 14 % |
| < 30 | 9 | 16 % |
| NA | 1 | 0 |
| Total | 57 | 100 % |

Source: JICA-MoH Survey on Secondary-level Institutions

Figure 3-2: Number of stock-out items

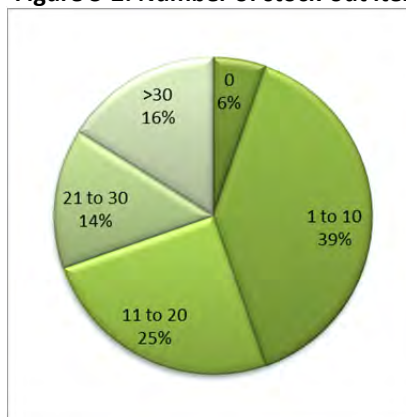
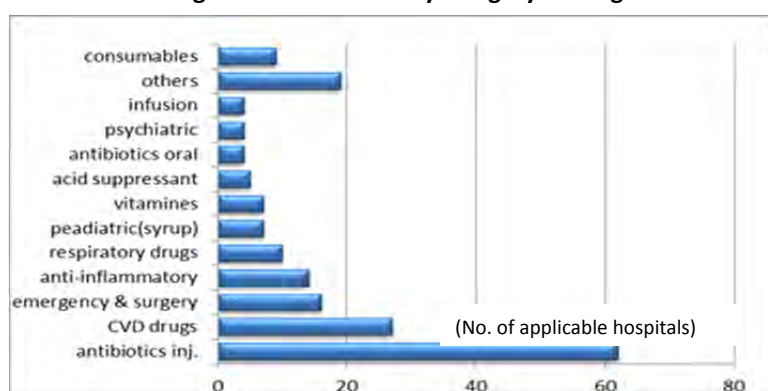


Figure 3-3 shows the responses to a multiple-answers question regarding the items which experienced stock-out in 2010. In total, 180 drugs were reported. The most frequently mentioned (by more than 5 institutions) were Cloxacillin inj. (antibiotics), Cefuroxime inj. (antibiotics), Atorvastatin tab. (CVD drug), Metformin tab. (CVD drug), Paracetamol tab. (anti-inflammatory) and Theophyllin tab. (respiratory drug). The most often reported categories for stock-out were antibiotics injections and oral drugs for cardiovascular disease (CVD) control – possibly because they contain more items than other categories, including new drugs for which demands are often higher than traditional ones. The volume of the cases/patients affected by the shortages is not known.

Figure 3-3: Stock-out by category of drugs 2010



Source: MoH JICA Health Care Facility Survey for Secondary-level Institutions

3.2.6 Condition of health facilities

Almost all hospitals surveyed suffer from a shortage of appropriate spaces and equipment to deliver medical services expected of secondary-level institutions. Every year gradual improvements are made through additional equipment and/or renovations and expansions of the facilities using the regular capital budget provided through the provincial councils.

(1) Central Province

a) Kandy District

There is one district general hospital and two base hospitals (both Type B) as follows:

DGH Nawalapitiya: The hospital with 526 beds has seen steady development in infrastructure over the years and possesses almost all basic infrastructure required for the re-categorization. The most urgent need is the construction of a surgical ward complex and the supply of medical equipment such as laparoscope, Colour Doppler, etc.

BHB Gampola (Line M): A teaching hospital that possesses almost all basic infrastructure; however urgent improvement of the theatre complex including an ICU, PCU/ECU and appropriate medical equipment is needed.

BHB Teldeniya: Although a base hospital type B in a catchment area with a population of 304,709, it does not possess the basic infrastructure needed to deliver medical services required at the secondary level. The urgent needs are improvements of the theatre complex including an ICU, radiology department, laboratory, blood bank, ward units and quarters, and additional medical equipment. With development of the facilities, human resources should also be secured.

b) Nuwara Eliya District

There is one district general hospital, one base hospital type A and one base hospital type B in Nuwara Eliya District.

DGH Nuwara Eliya (Line M): The hospital, with 426 beds, has submitted a proposal for a Netherlands Loan for the construction of a new hospital complex but this still has not been approved. The most urgent needs are the improvement of a medical ward unit, a dermatology ward unit and a high dependency unit.

BHA Dickoya: The construction of a 150-bed hospital complex is ongoing. The next most urgent need is the construction of additional quarters for consultants, MOs, nurses and other staff. Equipment such as a drug counting machine for the dispensary; a semi-auto analyser and other basic equipment for the laboratory, etc. are also needed.

BHB Rikillagaskada: Improvement of basic infrastructure required for secondary-level institutions is needed. This includes the development of an operation theatre complex including ICU, laboratory, blood bank, etc. Major urgent equipment needs include a nebuliser, monitor, pulse oximeter for ECU; biochemistry analyser, and a haematology analyser for the laboratory.

c) Matale District

There is one district general hospital, one base hospital type A and one base hospital type B in Matale District. The condition of the facilities is as follows:

DGH Matale: Matale is an important district general hospital in the district hospital network. Recently some infrastructure has been improved, including the operation theatre, dermatology building and psychiatric ward, but there is a need to continue with the improvement of the administration block, chest clinic building and eye clinic building. The major items of equipment required in the hospital are a biochemistry analyser, a haematology analyser, etc. for the laboratory.

BHA Dambulla: Improvement of facilities undertaken recently includes the renovation of the outpatient department, mental health unit and staff quarters, but there is a need to continue with the renovation of clinic buildings, etc. The hospital major equipment needs are a cardiac monitor, infusion pump, CTG machine, an ultrasound scanner, etc. for medical, surgical, gynaecology/obstetrics and paediatric ward units; and an automatic biochemistry analyser for laboratory.

BHB Hettipola: Hettipola Hospital has infrastructure required for a primary care unit but not for a secondary-level institution. The hospital needs improvement of almost all basic infrastructure, such as the outpatient department, operation theatre complex, radiology, laboratory, blood bank, etc. and medical equipment necessary for these facilities.

(2) Northern Province

a) Jaffna District

Point Pedro Base Hospital Type A, Telippala Base Hospital Type A, Chavakachcheri Base Hospital Type B and Kayts Base Hospital Type B are secondary-level hospitals of Jaffna District.

BHA Point Pedro: One of the most important secondary-level hospitals in Jaffna District. The years 2010 and 2011 have seen improvements in kitchen facilities, the operation theatre (rewiring), wards and an internal road under the EnRep project. The hospital's current needs are construction of a mental health unit, surgical ward unit, department of physiotherapy, CSSD and quarters, and the renovation of the operation theatre, radiology department and entire sewerage system. The major equipment needs are a multi-paramonitor, syringe pump, pulse oximeter, etc. for the ward unit; and a biochemistry analyser, haematology analyser for the laboratory, etc.

BHA Telippala: The infrastructure of the outpatient department, operation theatre and wards has been improving in 2010 and 2011. However, to improve the delivery of medical services to the people they need to continue improving other infrastructure, such as the physiotherapy unit, blood bank, quarters, etc. and the supply of medical equipment such as monitors and pulse oximeters for wards and equipment for radiology and the laboratory.

BHB Chavakachcheri: The hospital improved the infrastructure of the outpatient department and administration block in 2009. The hospital has received assistance from Finland Red Cross to improve the infrastructure of the medical and surgical ward units and quarters. Other urgent needs reported are the improvement of the operation theatre, blood bank, mortuary and kitchen.

BHB Kayts: The hospital has not made any improvements in infrastructure in recent years. To provide better medical services to the catchment area population, the hospital needs urgent construction of basic infrastructure such as an outpatient and administration department, operation theatre, laboratory, blood bank, radiology department, surgical ward and supply of equipment for these facilities. In order to improve these facilities, human resources shall need to be secured.

b) Mannar District

DGH Mannar: In 2010, the hospital developed the infrastructure of the operation theatre and has been supplied with equipment such as a CTG machine, eye operating microscope, etc. Current urgent major needs are the improvement of infrastructure of the clinics, a medical ward unit, eye, ENT, skin and cardiology units. Major medical equipment needs are monitors, CTG machines, etc. for the ward unit, equipment for the laboratory, etc.

c) Mullaitivu District

The conditions of infrastructure of the two secondary-level institutions are as follows:

DGH Mullaitivu: Based on the master plan of the hospital, UNICEF has undertaken the development of a paediatric, maternity and SBCU complex and the NECORD Project has undertaken the improvement of 30 rooms in the nursing officers' quarters complex and consultant quarters. Other major needs are construction of a medical ward unit, wards for orthopaedic, eye, skin and laboratory. Improvement in the sewage system is also needed.

BHB Mankulam: The hospital has upgraded to a base hospital from central dispensary a few years ago and it does not possess the basic infrastructure required for a secondary-level hospital. The hospital possesses only an outpatient department, one ward unit of 40 beds and two consultants' quarters. Basic facilities required in the re-categorization, such as clinics, operation theatre, laboratory, radiology and blood bank, etc. need to be constructed to function as a base hospital.

d) Vavuniya District

There is one district general hospital and one base hospital Type B in Vavuniya District. The conditions of the facilities are as follows:

DGH Vavuniya: The hospital has 593 beds and is an important district general hospital in the region. The infrastructure of an emergency unit is under construction. The hospital will have assistance from the Government of China for the construction and supply of medical equipment to the operation theatre and wards. In recent years, the hospital has been supplied with equipment for the laboratory, dental unit, surgical ward unit, radiology department, etc. Other urgent needs are the improvement of wards, quarters, etc., and the supply of equipment for the Intensive Care Unit, operation theatre, orthopaedic unit, etc.

BHB Cheddikulam: The hospital possesses 222 beds and has seen improvement of facilities such as the outpatient department, operation theatre and wards in recent years. In 2009 and 2011, the hospital was supplied with equipment for the operation theatre, radiology department, etc.

(3) Eastern Province

a) Batticaloa District

BHB Kaklawanchikudy: The hospital has developed the outpatient department and operation theatre in recent years. A three-story building is under construction and the maternity unit on the ground and first floor is already functioning. The hospital could provide smooth medical services if other infrastructure such as the administration department, clinics, wards, laboratory, etc. could be improved and equipment for the blood bank, operation theatre, etc. were supplied.

b) Ampara District

The conditions of the six base hospitals of Ampara District are as follows:

BHA Kalmunai North (Line M): Kalmunai North is an old hospital with a history of more than 100 years. The hospital is trying to improve the facilities and in recent years has developed the clinics and administration complex. The most urgent needs are the construction of a new operation theatre, radiology department, etc. and the supply of medical equipment for these facilities.

BHA Kalmunai South (Line M): The hospital has started the construction of a new outpatient and radiology department but they do not have enough funds to complete them. The hospital could deliver better medical services if they were able to complete this building and construct other buildings such as a surgical ward unit, etc. and supply equipment such as an ECG, monitor, ultrasound for the ECU; endoscopy, ventilator, CTG machine, etc. for the ward units; and equipment for the laboratory, etc.

BHB Mahaoya: The outpatient department and clinic complex and gynaecology and obstetrics unit are under construction. In addition to this, the most urgent needs are development of male and female ward units, quarters for consultants and nurses, and the supply of such equipment as an ECG, hysteroscope, infusion pumps, monitors, a defibrillator, CTG machines and so forth.

BHB Samanthurai: In recent years the hospital has developed an operation theatre and surgical wards and also some staff quarters, and has received some equipment such as operation tables,

anaesthesia apparatus, etc. The major urgent needs are the construction of buildings for clinics, PCU, ICU, wards and the supply of medical equipment such as a dental unit for the outpatient department; defibrillator, monitors, etc. for the wards, etc.

BHB Dehiattakandiya: In 2010 the hospital developed infrastructure for a premature baby care (PBC) unit and has been supplied with equipment such as incubators and a phototherapy unit. Other equipment needs are a mini-autoclave, ECG, etc. for the outpatient department, a monitor, pulse oximeter, etc. for the ECU and ward units, an automatic film processor for the radiology department, etc.

BHB Akkarapatthu (Line M) : In recent years the hospital has developed a labour room and drug store and has been supplied with some equipment such as a biochemistry analyser, anaesthesia apparatus, etc. The most urgent needs in infrastructure are the improvement of the surgical ward unit, gynaecological and post-natal ward units, and quarters. Major equipment needs are an ECG, dental chair, etc. for the outpatient department, a defibrillator, monitor, CTG machines, etc. for the ward units. Facilities for MICU and SCIU are available but they are not functioning due to lack of equipment.

c) Trincomalee District

The conditions of one district general and three base hospitals are as follows:

DGH Trincomalee: From 2010 the hospital has been developing its infrastructure: a three-story building with a PCU/ECU, radiology department, laboratory, gynaecology and an obstetric ward unit, paediatric ward unit, etc. With the assistance of AMERICARES new Emergency Care, ward units and an operation theatre will be developed. In addition to this, the Government of China will assist in the improvement of existing ward units and supply of equipment. The other major needs are improvement of quarters for consultants, medical officers and nurses.

BHA Kanthalai: A building for the outpatient department is under construction. The hospital was supplied with a haematology analyser in 2010 and an ultrasound scanner and monitors in 2011. The Government of China will assist with the improvement of infrastructure for a trauma care unit in 2012. Other major needs are the improvement of the maternity complex, a new drug store and the sewerage system. Major equipment needs are equipment for the ECU, equipment such as monitor, pulse oximeter, glucometer, etc. for the ward units, etc.

BHB Mutur: In 2010, the hospital developed a three-story building for the MO quarters and a general store. The Government of China will assist with the development of an administration department and renovation of some existing buildings. Other major needs include the construction of a building for wards.

BHB Kinniya: The whole hospital has been improved since the tsunami (2004). The major needs in improvement of infrastructure are the construction of quarters for consultants, MOs and nurses and the construction of a drug store. Major equipment needs include a defibrillator, monitor, endoscope and CTG machine for the ward units, and anaesthesia apparatus with a ventilator and operation lamp for the operation theatre.

(4) North Western Province

a) Kurunegala District

In Kurunegala District there are five base hospitals. The conditions are as follows:

BHA Kuliypitiya: The hospital has 475 beds and it is one of the important secondary-level hospitals in Kurunegala District. The hospital has constructed a five-story building for wards, a new

drug store and a new SBCU in recent years. The current major needs are improvement of the laboratory, blood bank and quarters for nurses. Major equipment needs are a mini-autoclave and ECG for the outpatient department; a mobile ventilator, ECG, etc. for PCU/ECU, defibrillator, monitor, pulse oximeter, etc. for the ward units, etc.

BHA Nikawaratiya: The hospital developed the surgical unit and drug stores in 2009, and in 2010 was supplied with equipment such as an operation table, patient monitor, CTG machine, ECG, scanning machine, etc. The current major needs are the supply of an 800 Kw. generator, a purified water system, supply of an ambulance, repair of the roof of paediatric unit and development of a computer network system within the hospital. The major equipment needs are a laparoscope and flexible hysteroscope for operations, cardiac monitor, etc.

BHB Dambadeniya: In recent years the hospital has seen a continuous development and increase in its utilisation due to the improvements in facilities. The hospital possesses an operation theatre with two operation rooms, radiology department, SBCU, and a blood bank. The current major needs are the construction of a new building for outpatient department with an administration department, PCU/ECU, MICU/SICU, clinic building and a laboratory that complies with the standard set by the re-categorization.

BHB Galgamuwa: Galgamuwa Base Hospital is one of the important secondary-level health institutions in the region. It does not possess the necessary basic infrastructure to deliver a standard level of medical services to the population. Major improvements needed in infrastructure are the improvement of the outpatient and administration department, construction of an operation theatre including ICU and CSSD, laboratory, blood bank, gynaecology and obstetric wards and a surgical ward.

BHB Polpitiyagama: The hospital with 110 beds has a very low bed occupancy rate (34%) due to lack of basic infrastructure required for its re-categorization as a secondary-level institution. The hospital also needs to improve quarters for MOs, nurses and other staff, and human resources. Urgent development is needed in order to deliver the standard medical services to the population of the region.

b) Puttalam District

There is one district general hospital and two base hospitals in Puttalam District and the conditions of each hospital are as follows:

DGH Chilaw: The Chilaw District General Hospital with 532 beds possesses almost all the basic infrastructure to deliver standard medical services as a secondary-level hospital. Major needs are improvements in the medical unit complex, surgical unit complex, drug store, etc. and supply of equipment such as an ECG, dental unit, etc. for the outpatient department; an ECG, pulse oximeter and sucker for PCU; pulse oximeter, infusion pump, CTG machine, etc. for inpatient facilities, and other equipment for the operation theatre, radiology, laboratory, etc.

BHA Puttalam: The hospital has made improvements to infrastructure of the ICU and blood bank in recent years and in 2010 to 2011 has received equipment such as anaesthesia apparatus, an ultrasound scanner, infant warmer, blood gas analyser, etc. The current major needs are improvement of infrastructure of eye ward unit, female surgical ward unit, quarters, etc. Major equipment needs are delivery beds, a ventilator, ECG, syringe pump, mobile X-ray, electrolyte analyser, etc.

BHB Marawila: In recent years the hospital has constructed an ambulance garage and has renovated the eye ward, medical female ward, medical male ward and blood bank. The hospital will continue with the improvements of the physiotherapy unit and operation theatre with the

assistance of WHO. The major equipment needs are an ECG, autoclave for dental, etc. for outpatient department; a cardiac monitor, defibrillator, pulse oximeter for PCU; a ventilator for ICU; a biochemistry analyser and haematology analyser for the laboratory, etc.

(5) North Central Province

a) Anuradhapura District

Anuradhapura District has three base hospitals and the conditions of the facilities are as follows:

BHB Padaviya: In recent years the hospital has improved the infrastructure of the renal clinic building, ECU, X-ray and kitchen, and has been supplied with equipment such as an X-ray unit, ultrasound scanner, etc. The hospital will continue with the development of infrastructure of the outpatient department, isolation ward units, etc. with the assistance of the European Union and German Red Cross. Other major needs are development of an MICU/SICU, laboratory, consultant's quarters, etc. Major equipment needs are the supply of monitors, infusion pump, phototherapy unit, CTG machine, ultrasound scanner for ward units, dental X-ray unit, etc.

BHB Tambuttegama: In recent years the hospital has improved the infrastructure of the nurses' quarters and MOs quarters and the operation theatre (renovation) and has been supplied with equipment such as operation tables, a haematology analyser, biochemistry analyser, etc. The current most urgent construction needs are a gynaecology and obstetric unit, a surgical complex including operation rooms and a new outpatient and administration department and the supply of equipment such as monitors, a paediatric resuscitator, a pulse oximeter for wards, anaesthesia apparatus, diathermy for the operation theatre, etc.

BHB Kemitigollewa: In 2011, the hospital constructed ETU buildings and received some equipment for this unit. The most urgent needs are the construction of quarters for consultants, MOs and nurses and supply of equipment for the operation theatre, laboratory, blood bank, etc.

b) Polonnaruwa District

There is one district general and two base hospitals in Polonnaruwa District. The conditions of the facilities are as follows:

DGH Polonnaruwa: Polonnaruwa Hospital with 601 beds possesses almost all the basic standard infrastructure to function as a district general hospital. In 2011, a surgical ward complex with 160 beds has been developed and supplied with an ultrasound scanner, automated blood culture machine and haematology analyser. The current major needs are development of the PCU/ECU, dialysis and cardiology units. Other infrastructure needs are the improvement of quarters for consultants, family quarters for MO, quarters for nurses and for minor staff.

BHB Medirigiriya: To function as a secondary-level hospital, Medirigiriya hospital needs to improve infrastructure in the operation theatre complex including the ICU, SCBU, and the main drug store. The hospital equipment needs are a refrigerator, microscope, etc. for the outpatient department; monitor, ventilator, pulse oximeter, etc. for the ward units; a spectrophotometer, flame photometer, centrifuge for the laboratory, etc.

BHB Welikanda: The hospital possesses the infrastructure of a divisional hospital but not of a base hospital. To function as a secondary-level hospital all basic infrastructure such as PCU/ECU, operation theatre including the ICU, radiology department, laboratory, blood bank, etc. need to be developed. When this infrastructure has been developed, human resources must be secured.

(6) Uva Province

a) Badulla District

The conditions of the three base hospitals are as follows:

BHA Diyatalawa: The hospital has 268 beds and is one of the most important secondary-level hospitals in Badulla District. In recent years the hospital has constructed a new building for outpatients and the administration department and has renovated the ICU unit, maternity unit, etc. The current major needs are the construction of a new ward complex and supply of equipment for the operation theatre, laboratory, etc.

BHB Mahiyangana: In 2009, a new maternity ward complex was constructed and in 2011 it was supplied with equipment such as patient monitors, a defibrillator, dialysis machine, etc. The current major needs are the construction of an outpatient and administration complex, clinics, quarters and sewerage system, and supply of equipment such as a steriliser, nebuliser, ECG, etc. for the outpatient department; a glucometer, defibrillator, ECG, etc. for the ECU; a nebuliser, sucker, pulse oximeter for the ward units; a ventilator, monitor and syringe pump for the ECU; an automatic film processor, illuminator, etc. for the radiology department and a biochemistry analyser, microscope, etc. for the laboratory.

BHB Welimada: The hospital has developed the outpatient department and received an X-ray unit in 2009. The current major needs are development of the operation theatre complex and surgical unit, PBU and ICU, the ward complex for obstetric, laboratory, blood bank and quarters. New equipment for these facilities will be needed.

b) Moneragala District

In Moneragala District there is one district general hospital and two base Hospitals. The conditions of the facilities are as follows:

DGH Moneragala (Line M): Major improvements that are being carrying out by the hospital in 2011 are renovation of the labour room, renovation of ward units and kitchen and improvement of other infrastructure such as water supply and treatment plant, changing of electricity lines, etc. In 2010 and 2011, the hospital was supplied with a fully automated biochemistry analyser, haematology analyser and flame photometer for the laboratory; an operation table and operation lamp for the operation theatre, etc. The current major needs are construction of new building for the surgical ward unit, CSSD, renovation of the operation theatre, and supply of equipment for the outpatient department, PCU, ward units, etc.

BHB Wellawaya: The hospital has improved the infrastructure of the ward and received some equipment such as an X-ray unit, ventilator, ultrasound scan, etc. in 2011. In the near future, the hospital will construct and renovate some building(s) and be supplied with additional equipment with the assistance of the Government of China. The current needs are the development of quarters for consultants, MOs and nurses. Major equipment needs are equipment for the outpatient department, ECU, ward units, radiology department and laboratory.

BHB Siyambalanduwa: In 2008, the hospital developed the infrastructure of the outpatient department and ward complex, and in 2009 was supplied with an X-ray machine and operation table. The current major needs in infrastructure are improvements of infrastructure of the PCU, MICU/SICU, paediatric ward unit, blood bank and supply of equipment for these facilities.

(7) Sabaragamuwa `Province

a) Kegalle District

The conditions of the facilities of one general hospital and three base hospitals below are as follows:

DGH Kegalle (Line M): Kegalle Hospital is a district general hospital with almost all specialities required of secondary-level institutions and possesses 746 beds. In 2010 the hospital developed the operation theatre complex. The current major needs in infrastructure are improvement of the ward complex, health promotion complex and MO quarters. Major equipment needs are equipment for the outpatient department, ECU, ward units, ICU, blood bank, etc.

BHB Karawanella: In 2008-2009, the hospital developed the maternity ward. The major needs in infrastructure are the development of the administration department and construction of a new clinic unit. Major equipment needed is an instrument for histopathology processing.

BHB Warakapola: In 2011 the hospital renovated the labour room. In order for the hospital to deliver appropriate medical services at the secondary level, all basic infrastructure required for a base hospital is needed, such as an operation theatre, maternity complex, radiology department, ICU, laboratory, blood bank and equipment.

BHB Mawanella: The major needs are the improvement of infrastructure of the outpatient department, PCU/ECU, clinics, gynaecology and obstetric ward unit, medical ward unit and laboratory. Major equipment needs are equipment for the outpatient department, ICU, operation theatre, radiology and laboratory.

b) Ratnapura District

In Ratnapura District there are four base Hospitals. The conditions of the facilities are as follows:

BHA Embilipitiya: Currently the hospital possesses 370 beds with plans for an increase to about 600 beds in the near future. The hospital has constructed a new maternity unit and the current needs are construction of a new outpatient department, PCU/ECU, clinic building, medical ward unit and surgical ward unit and quarters. Major equipment needs are a nebuliser, tablet counting machine and ECG for the outpatient department; a multi-monitor, syringe pump, high dependency beds, etc. for the ward units; a blood gas analyser and serum electrolyser for the ICU; a fluoroscopy unit, mammography, etc. for the radiology department; a tissue embedding system and biochemistry analyser for the laboratory.

BHB Balangoda: The hospital developed the operation theatre including an ICU and surgical ward units in 2006. The current major needs in infrastructure are the establishment of male and female ward units. Major equipment needs are an ECG, dental unit, etc. for the outpatient department; a cardiac monitor, pulse oximeter, ECG, etc. for the ECU and ward units; a phototherapy unit, sucker and pulse oximeter for PBU; anaesthesia apparatus, a monitor for the operation theatre, automat for the radiology department and a microscope for the laboratory.

BHB Kahawatta: In recent years the hospital has renovated ward units and clinics and has been supplied with equipment such as a film processor for the radiology department, an operation table and anaesthesia apparatus for the operation theatre, multi-monitor, etc. The current needs are construction of a medical ward unit and quarters for consultants. Major equipment needs are instruments for dressing rooms; a drug counting machine for the dispensary; a multi-monitor, pulse oximeter, defibrillator, etc. for the ECU; an infusion pump, multi-monitor, etc. for ward units; an operation table, anaesthesia apparatus, etc. for the operation theatre.

BHB Kalawana: In order for the hospital to function at a secondary level, all basic infrastructure such as the outpatient department, operation theatre including the ICU, blood bank, surgical ward unit, etc. required for a base hospital need to be developed. In addition to this, quarters for MOs, nurses and for other categories of staff shall need to be improved in order to secure necessary human resources.

The needs of the hospitals mentioned above are summarised in Table 3-15.

Table 3-15: Conditions of district general hospitals and base hospitals

| Institution | Urgent Construction/Renovation Needs | | Major Equipment Needs ⁽³⁾ |
|--|--|---|---|
| | Major Items ⁽¹⁾ | Other ⁽²⁾ Items | |
| Central Province | | | |
| DGH Nawalapitiya (Kandy) | - Construction final stage of maternity, PBU, OT complex - Surgical ward complex - Renovation of post-natal ward | PCU | <u>OPD</u> : ECG <u>ECU</u> : syringe pump, defibrillator, monitor <u>Ward</u> : defibrillator, syringe pump, monitor, etc. <u>ICU</u> : syringe pump, monitor <u>X-ray</u> : fluoroscopy, Colour Doppler |
| BHB Teldeniya (Kandy) | - Surgical complex - X-ray department - Quarters | PCU, MICU, SICU, OT, Lab, Blood Bank | <u>OPD</u> : spot lamp, bed, dental chair, etc. <u>ECU</u> : defibrillator, monitor, etc. <u>Ward</u> : bed, monitor, sucker, etc. |
| BHB Gampola Line M (Kandy) | - Theatre complex - ICU - Accident ward | PCU | <u>OPD</u> : refrigerator <u>Ward</u> : monitor, BP apparatus, slit lamp <u>ICU</u> : ventilator <u>X-ray</u> : CT scanner |
| DGH Nuwaraeliya Line M (Nuwara Eliya) | - Medical ward - Dermatology ward - High dependency | - | <u>Ward</u> : defibrillator, ventilator, monitor, etc. <u>OT</u> : OT table, laminar flow <u>X-ray</u> : X-ray machine, mobile X-ray |
| BHA Dickoya (Nuwara Eliya) | - Doctors quarters - Quarters - Waste management system | PCU, ECU, MICU, SICU | <u>OPD</u> : drug counting machine <u>X-ray</u> : safe light, lead apron hanger, etc. <u>Laboratory</u> : semi-automatic analyser, etc. |
| BHB Rikillagaskada (Nuwara Eliya) | - Operation theatre - Blood bank - Consultant/MO quarter | PCU, MICU, SICU, Lab | <u>OPD</u> : refrigerator, dressing trolley, etc. <u>ECU</u> : monitor, pulse oximeter, nebuliser, etc. <u>X-ray</u> : lead apron, film hanger, etc. <u>Laboratory</u> : biochemistry analyser, etc. |
| DGH Matale (Matale) | - OPD 1st floor, administration block - Chest clinic building - Eye clinic building - Improvement of infection-control unit - Expanding of children's ward - Improvement of general clinic (development plan) | PCU | <u>OPD</u> : tablet counting machine, etc. <u>ENT</u> : spot lamp, ENT bed, etc. <u>OT</u> : autoclave, etc. <u>X-ray</u> : X-ray machine <u>Laboratory</u> : biochemistry analyser, haematology analyser, spectrophotometer, etc. |
| BHA Dambulla (Matale) | - Clinic building renovation - Mortuary construction Step11 - OPD clinic toilet complex | PCU, MICU, SICU | <u>OPD</u> : autoclave, bed, ECG <u>ECU</u> : infusion pump, syringe pump <u>Ward</u> : monitor, ventilator, infusion pump, etc. <u>OT</u> : anaesthesia apparatus <u>X-ray</u> : Colour Doppler <u>Laboratory</u> : biochemistry analyser <u>Blood Bank</u> : refrigerator |
| BHB Hettipola (Matale) | - OPD - Ambulance garage - Ward toilets (repair) | PCU, MICU, SICU, OT, X-ray, Lab, Blood Bank | <u>OPD</u> : lamp, instruments, etc. <u>ECU</u> : monitor, defibrillator, pulse oximeter <u>Ward</u> : monitor, pulse oximeter, ECG, etc. |

| Institution | Urgent Construction/Renovation Needs | | Major Equipment Needs ⁽³⁾ |
|---|--|---|--|
| | Major Items ⁽¹⁾ | Other ⁽²⁾ Items | |
| Northern Province | | | |
| BHA Point Pedro (Jaffna) | - CSSD - OT (renovation) - X-ray (renovation) - Surgical ward - Mental health unit - Dept. physiotherapy - Quarters - Entire sewage system (renovation) | PCU, MICU, SICU | <u>OPD</u> : dental unit <u>ECU</u> : ECG, sucker, nebuliser, ventilator <u>Ward</u> : monitor, syringe pump, etc. <u>OT</u> : OT light, pulse oximeter, etc. <u>X-ray</u> : computerised radiography <u>Laboratory</u> : haematology analyser, etc. <u>Blood Bank</u> : donor bed, water bath, centrifuge, etc. |
| BHA Telippalai (Jaffna) | - Physiotherapy unit - Blood Bank - Doctor quarters | SICU, OT, Blood Bank | <u>Ward</u> : monitor, pulse oximeter <u>Laboratory</u> : analyser |
| BHB Chavakachcheri (Jaffna) | - Surgical theatre - Blood bank - Kitchen - Mortuary | PCU, MICU, SICU | - (not mentioned) |
| BHB Kayts (Jaffna) | - OPD block - X-ray - Surgical ward complex (OT)/ICU - Paediatric ward | Lab, Blood Bank | <u>Ward</u> : patient monitor, trolley |
| DGH Mannar (Mannar) | - Medical ward complex and clinics 3-story block - 4-story building for eye, ENT, skin and cardiology - Central sewage system - Water treatment plant | - PCU, ECU, SICU, Lab | <u>OPD</u> : refrigerator, etc. <u>Ward</u> : monitor, CTG, etc. <u>ICU</u> : transport ventilator, etc. <u>Laboratory</u> : biochemistry analyser, etc. <u>Blood Bank</u> : (need equipment) |
| DGH Mullaitivu (Mullaitivu) | - ICU - Laboratory - Medical ward | - | <u>ICU</u> : transport ventilator, temporary pacemaker <u>X-ray</u> : conventional X-ray unit |
| BHB Mankulam (Mullaitivu) | - Construction of medical store and kitchen - Renovation of medical officers quarters - Construction of nursing quarters | PCU, MICU, SICU, OT, X-ray, Lab, Blood Bank | <u>OPD</u> : autoclave, steriliser, dental X-ray unit, etc. <u>ECU</u> : patient monitor, ECG, cardio bed, etc. <u>Ward</u> : ECG, IV stand |
| DGH Vavuniya (Vavuniya) | - Ward complex of 200 beds - Quarters (repair) - Proper water and electricity system | PICU, SICU | <u>OPD</u> : dressing trolley, instruments, etc. <u>ECU</u> : bed, etc. <u>Ward</u> : monitor, CTG, pulse oximeter, etc. <u>ICU</u> : ventilator, monitor, etc. <u>OT</u> : anaesthesia apparatus monitor, etc. <u>X-ray</u> : mobile X-ray, ECG <u>Laboratory</u> : biochemistry analyser, etc. |
| BHB Cheddikulam (Vavuniya) | - BP boxes - Defibrillator - Ambu bag - Others | PICU, MICU, SICU | - (not mentioned) |
| Eastern Province | | | |
| BHB Kaklawanchikudy (Batticaloa) | - Completion of maternity unit - Clinic complex and surgical ward and ICU - Administration block and auditorium | MICU, SICU, Lab | <u>OPD</u> : refrigerator, ECG, dressing table, etc. <u>ECU</u> : monitor, pulse oximeter, ECG, etc. <u>Ward</u> : ECG, pulse oximeter, nebuliser, etc. <u>OT</u> : (need equipment) <u>Blood Bank</u> : (need equipment) |
| BHA Kalmunai North Line M (Ampara) | - Primary Care Unit - Radiology department - Theatre complex/CSSD | PCU, MICU, SICU, Lab | <u>OPD</u> : dental unit <u>ECU</u> : (need equipment) <u>X-ray</u> : automatic processor, Colour Doppler, etc. |
| BHA Kalmunai South Line M (Ampara) | - Completion of OPD complex - Completion of X-ray unit - Surgical ward complex | PCU, ECU, SICU | <u>OPD</u> : dental chair, refrigerator, etc. <u>ECU</u> : monitor, ultrasound, ECG <u>Ward</u> : endoscopy unit, ventilator, CTG, etc. <u>ICU</u> : ventilator <u>X-ray</u> : X-ray unit, CT scanner <u>Lab</u> : (need equipment) |

| Institution | Urgent Construction/Renovation Needs | | Major Equipment Needs ⁽³⁾ |
|---|--|---|--|
| | Major Items ⁽¹⁾ | Other ⁽²⁾ Items | |
| BHB Mahaoya (Ampara) | - Male and female wards - Consultant quarters - Nurse quarters | ECU, MICU, SICU, Lab | <u>OPD</u> : ECG, refrigerator, hysteroscope, etc. <u>ECU</u> : patient monitor, pulse oximeter, etc. <u>Ward</u> : defibrillator, monitor, CGT, warmer, etc. <u>OT</u> : monitor, anaesthesia apparatus, etc. <u>X-ray</u> : static X-ray, automatic film processor, etc <u>Blood Bank</u> : defree |
| BHB Samanthurai (Ampara) | - Clinic complex - Ward complex | PCU, MICU, SICU, Lab | <u>OPD</u> : spot lamp, dressing table, etc. <u>ECU</u> : monitor <u>Ward</u> : monitor, defibrillator <u>OT</u> : light source <u>X-ray</u> : mobile X-ray, ultrasound |
| BHB Dehiattakandiya (Ampara) | - | PCU, MICU, SICU | <u>OPD</u> : autoclave, ECG, refrigerator, etc. <u>ECU</u> : monitor, nebuliser, ECG, etc. <u>Ward</u> : monitor, nebuliser, infusion pump, etc <u>MICU</u> : defibrillator, pulse oximeter, etc. <u>OT</u> : anaesthesia app. OT table, laryngoscope, etc <u>X-ray</u> : automatic film processor <u>Laboratory</u> : biochemistry analyser, etc. |
| BHB Akkarapattu Line M (Ampara) | - Gyne and post natal ward - Surgical male ward - Quarters for consultants and nurses | MICU, SICU | <u>OPD</u> : autoclave, ECG, nebuliser, etc. <u>PCU</u> : nebuliser, ECG, infusion pump, etc. <u>ECU</u> : pulse oximeter, infusion pump, ECG, etc. <u>Ward</u> : monitor, pulse oximeter, etc. <u>OT</u> : (need equipment) <u>X-ray</u> : fluoroscopy radiography, CT scan, etc. <u>Laboratory</u> : (need equip. for histopathology) |
| DGH Trincomalee (Trincomalee) | - Nurses and matron quarter complex - Consultants quarters complex - MO quarters complex | - | <u>ECU</u> : monitor, ECG. <u>Ward</u> : monitor, ultrasound, CTG, etc. <u>ICU</u> : monitor, defibrillator, ventilator, etc. <u>OT</u> : diathermy, anaesthesia app. monitor, etc. <u>X-ray</u> : static X-ray, ultrasound, etc. |
| BHA Kanthalai Line M (Trincomalee) | - Maternity ward complex - New drug stores - Sewerage system | PCU, Lab | <u>OPD</u> : tablet counting machine, dental chair, etc <u>ECU</u> : monitor, bed, etc. <u>Ward</u> : monitor, ventilator, glucometer, etc. <u>ICU</u> : (need equipment) <u>OT</u> : diathermy, monitor, autoclave <u>X-ray</u> : automatic film processor |
| BHB Mutur (Trincomalee) | - Renovation of all building - Construction of official bldg. - Construction of OPD, ETU, quarters | PCU, MICU, SICU, X-ray, Lab, Blood Bank | <u>Ward</u> : monitor, pulse oximeter, ECG, CTG, ultrasound, etc. |
| BHB Kinniya (Trincomalee) | - Drug store - Consultant quarters - Quarters for MOs and nurses | PCU, SICU, Lab | <u>Ward</u> : monitor, defibrillator, CTG, ultrasound, infusion pump, ventilator, etc. <u>ICU</u> : ventilator, etc. <u>OT</u> : OT lamp, anaesthesia apparatus <u>X-ray</u> : X-ray machine |
| North Western Province | | | |
| BHA Kuliypitiya (Kurunegala) | - Laboratory - Blood bank - Nurses quarters | - | <u>OPD</u> : autoclave, ECG <u>PCU</u> : ventilator, ECG, sucker, pulse oximeter <u>ECU</u> : spiral board, ventilator, etc. <u>Ward</u> : monitor, defibrillator, CTG, etc. <u>ICU</u> : monitor, ventilator, pulse oximeter <u>X-ray</u> : (need equipment) <u>Laboratory</u> : (need equipment) |
| BHB Nikawaratiya (Kurunegala) | - Paediatric unit roof repair - Ambulance - Computer network within the hospital - 800KW Generator - Purified water system | PCU, MICU, SICU, OT | <u>ECU</u> : refrigerator, autoclave <u>Ward</u> : monitor, pulse oximeter, spirometer, laparoscope, hysteroscope, etc. <u>X-ray</u> : fluoroscopy unit |
| BHB Dambadeniya (Kurunegala) | - OPD - PCU - Clinic building - Laboratory | MICU, SICU | <u>OT</u> : (one set of equipment for one OT) <u>X-ray</u> : automatic film processor <u>Laboratory</u> : microscope, electrolyte analyser, haematological analyser |

| Institution | Urgent Construction/Renovation Needs | | Major Equipment Needs ⁽³⁾ |
|--|---|--|--|
| | Major Items ⁽¹⁾ | Other ⁽²⁾ Items | |
| BHB Galgamuwa (Kurunegala) | - Theatre complex - CSSD - ICU - Blood bank - Laboratory - Dispensary - Surgical ward - Gyne/Obst ward - Drug store | PCU | <u>OPD</u> : autoclave, steriliser, etc. <u>ECU</u> : ventilator, defibrillator, monitor, etc. <u>Ward</u> : monitor, pulse oximeter, infusion pump, ultrasound, CGT, delivery bed, etc. |
| BHB Polpitiyagama (Kurunegala) | - Toilet system of ward 1, 2, 3, 5, ETU - MO quarters renovation/construction - RMO quarters, nursing quarters | PCU, MICU, SICU, OT, X-ray, Lab, Blood Bank | <u>OPD</u> : spot lamp, refrigerator, sucker, etc. |
| DGH Chilaw (Puttalam) | - Medical unit complex - Surgical unit complex - Drug store | ECU | <u>OPD</u> : refrigerator, dental chair, ECG, etc. <u>PCU</u> : ECG, sucker, pulse oximeter <u>Ward</u> : monitor, pulse oximeter, CTG, etc. <u>ICU</u> : defibrillator, ventilator, etc. <u>OT</u> : diathermy, anaesthesia apparatus, etc. <u>X-ray</u> : automatic film processor, etc. <u>Laboratory</u> : biochemistry analyser, etc. |
| BHA Puttalam (Puttalam) | - Eye ward - Female surgical ward - Mortuary - Nurses quarters | ECU | <u>OPD</u> : dental chair <u>PCU</u> : monitor, defibrillator, etc. <u>Ward</u> : delivery bed <u>ICU</u> : ventilator, electrolyte analyser, etc. <u>OT</u> : anaesthesia apparatus, OT table, etc. <u>X-ray</u> : ultrasound |
| BHB Marawila (Puttalam) | - 2 medical wards - Eye ward (funds donated by the public to complete the work) (Physiotherapy unit to be equipped) | ECU, SICU | <u>OPD</u> : ECG, autoclave, dressing trolley, etc. <u>PCU</u> : monitor, defibrillator, pulse oximeter, etc <u>MICU</u> : ventilator <u>OT</u> : diathermy, monitor, ventilator, etc. <u>X-ray</u> : fluoroscopy radiography <u>Laboratory</u> : biochemistry analyser, etc. |
| North Central Province | | | |
| BHB Padaviya (Anuradhapura) | - Consultant's quarters - Hospital colour wash - Record room | PCU, MICU, SICU, Lab | <u>Ward</u> : monitor, infusion pump, CTG, etc. <u>X-ray</u> : dental X-ray |
| BHB Tambuttegama (Anuradhapura) | - Gyn and Obst unit and labour room - Surgical ward complex - New administration block | PCU, ECU, MICU, SICU | <u>Ward</u> : monitor, pulse oximeter, etc. |
| BHB Kebitigollewa (Anuradhapura) | - Consultant quarter - MO quarter - Nurse quarter | MICU, SICU | - (not mentioned) |
| DGH Polonnaruwa (Polonnaruwa) | - PCU and ECU - Dialysis unit - Cardiology unit | PCU, ECU | - (not mentioned) |
| BHB Medirigiriya (Polonnaruwa) | - OT and ICU complex - SCBU - Main drug store | PCU, ECU, X-ray, Lab | <u>OPD</u> : autoclave, refrigerator, microscope, etc.. <u>Ward</u> : monitor, defibrillator, pulse oximeter, etc <u>Laboratory</u> : centrifuge, etc. |
| BHB Welikanda (Polonnaruwa) | - Operation theatre - Male ward - Quarters | PCU, ECU, Clinic, MICU, SICU, X-ray, Lab, Blood Bank | - (not mentioned) |

| Institution | Urgent Construction/Renovation Needs | | Major Equipment Needs ⁽³⁾ |
|---|---|----------------------------------|--|
| | Major Items ⁽¹⁾ | Other ⁽²⁾ Items | |
| Uva Province | | | |
| BHB Diyatalawa (Badulla) | - Ward complex | - | <u>OT</u> : anaesthesia apparatus <u>Laboratory</u> : semi-automatic analyser |
| BHB Mahiyangana (Badulla) | - Construction of OPD, clinic and administration complex - Renovation of interim doctor quarters (12) - Construction of sewerage system | PCU, SICU | <u>OPD</u> : steriliser, autoclave, ECG, etc. <u>ECU</u> : defibrillator, ECG, glucometer, etc. <u>Ward</u> : pulse oximeter, nebuliser, etc. <u>ICU</u> : monitor, ventilator, syringe pump, etc. <u>OT</u> : OT table <u>X-ray</u> : automatic film processor, etc. <u>Laboratory</u> : biochemistry analyser, etc. <u>Blood Bank</u> : weight scale, thermometer, etc. |
| BHB Welimada (Badulla) | - Theatre complex - ICU and PBU - Ward complex for obstetrics - Ward complex for surgical - Intern house officers quarters | ECU, Lab, Blood Bank | <u>OPD</u> : autoclave, refrigerator, ECG, etc. <u>PCU</u> : ECG, diagnostic set, etc. <u>Ward</u> : defibrillator, monitor, CTG, etc. <u>X-ray</u> : automatic processor, dental X-ray, etc. |
| DGH Moneragala Line M (Moneragala) | - OT renovation - Construction CSSD - Construction surgical ward | ECU | <u>OPD</u> : dispensing scale, Holter <u>PCU</u> : monitor, infusion pump, syringe pump <u>Ward</u> : monitor, syringe pump, CTG, etc. <u>ICU</u> : pulse oximeter, wheel chair <u>X-ray</u> : fluoroscopy, ultrasound <u>Laboratory</u> : autoclave, microscope, etc. |
| BHB Wellawaya (Moneragala) | - Quarters for consultant, MO and nurses | PCU, MICU, SICU, OT | <u>OPD</u> : autoclave, dental chair, ECG, etc. <u>ECU</u> : monitor, infusion pump, etc. <u>Ward</u> : monitor, syringe pump, etc. <u>X-ray</u> : automatic film processor, etc. <u>Laboratory</u> : biochemistry analyser, etc. |
| BHB Siyambalanduwa (Moneragala) | - Blood Bank - Septic tank - Paediatric ward | PCU, MICU, SICU | - (not mentioned) |
| Sabaragamuwa Province | | | |
| DGH Kegalle Line M (Kegalle) | - Ward complex 4-story - Health promotion complex 4-story - MO quarters 4-story | PCU | <u>OPD</u> : autoclave, refrigerator, etc. <u>ECU</u> : ventilator, monitor, ECG, etc. <u>Ward</u> : monitor, pulse oximeter, laryngoscope, nebuliser, doppler, etc. |
| BHB Karawanella (Kegalle) | - Administration block - Clinic | MICU, SICU | - (not mentioned) |
| BHB Warakapola (Kegalle) | - Maternity complex - Theatre complex - Radiology complex | PCU, MICU, SICU, Lab, Blood Bank | <u>X-ray</u> : X-ray unit |
| BHB Mawanella (Kegalle) | - Clinics/OPD complex - PCU/ETC - Gyn ward - Medicine ward | SICU, Lab | <u>Ward</u> : steriliser <u>ICU</u> : mobile X-ray <u>OT</u> : OT table <u>X-ray</u> : automatic film processor, dental X-ray |
| BHA Embilipitiya (Ratnapura) | - OPD, clinic and ETU/PCU building - Medical unit - Surgical unit | - | <u>OPD</u> : tablet counting machine, ECG <u>Ward</u> : monitor, syringe pump, HD bed, etc. <u>ICU</u> : blood gas analyser, serum electrolyser <u>X-ray</u> : X-ray, fluoroscopy, mammography, etc. <u>Laboratory</u> : biochemistry analyser, etc. |
| BHB Balangoda (Ratnapura) | - Male and female medical ward | - | <u>OPD</u> : dental unit, trolley, ECG, etc.. <u>ECU</u> : monitor, pulse oximeter, ECG, etc. <u>Ward</u> : monitor, defibrillator, CTG, etc. <u>OT</u> : anaesthesia apparatus, monitor, etc. <u>X-ray</u> : automatic film processor <u>Laboratory</u> : microscope |
| BHB Kahawatta (Ratnapura) | - Clinic building renovation - Construction of medical ward - Construction of quarters | PCU, MICU, SICU, Lab | <u>OPD</u> : drug counting machine, forceps, etc. <u>ECU</u> : monitor, defibrillator, etc. <u>Ward</u> : monitor, infusion pump, etc. <u>OT</u> : OT table, OT lamp, monitor, etc. |

| Institution | Urgent Construction/Renovation Needs | | Major Equipment Needs ⁽³⁾ |
|------------------------------------|---|----------------------------|--|
| | Major Items ⁽¹⁾ | Other ⁽²⁾ Items | |
| BHB Kalawana (Ratnapura) | - OT, Blood Bank, ICU - PBU, drug store - Outpatient department | PCU, X-ray, Lab | OPD: nebuliser, ECG, dental chair, etc. ECU: ECG, pulse oximeter, etc. Ward: nebuliser, ECG, CTG, glucometer, etc. |

Remarks: With regard to the quarters for staff, refer to the following section

⁽¹⁾ "Major Items" means the urgent construction and/or renovations proposed by each hospital

⁽²⁾ "Other Items" means that these facilities should be constructed and equipped in accordance with the "Re-categorization of Hospitals"

⁽³⁾ "Major Equipment Needs" as provided by the respondents.

Source: MoH JICA Health Care Facility Survey for Secondary-Level Institutions

(c) Availability of staff quarters:

There is a shortage of quarters for consultants, MOs, nurses and other staff in many hospitals, as shown in Table 3-16 below. The existing quarters in some hospitals require renovation. Availability and conditions of the quarters are often considered to be related to how well a hospital is staffed. Therefore, it is important to consider the construction and/or renovation of quarters in the implementation of health facilities development.

Table 3-16: Availability of staff quarters

| Province/ District | Cat. | Hospital Name | Number of Existing Quarters | | | | |
|-----------------------|--------------|---------------|-----------------------------|------|--------|--------|------|
| | | | Consultants | MO | Nurses | Others | |
| C | Kandy | DGH | Nawalapitiya | 5 | 15 | 1 | 4 |
| C | Kandy | BHB | Teldeniya | 0* | 7** | 2** | 2** |
| C | Kandy | BHB (LM) | Gampola | 1* | 4* | 22 * | 0* |
| C | Nuwaraeliya | DGH (LM) | Nuwaraeliya | 11* | 14* | 73* | 54* |
| C | Nuwara Eliya | BHA | Dickoya | 2* | 4* | 1* | 8* |
| C | Nuwara Eliya | BHB | Rikillagaskada | 0* | 1* | 4* | 2* |
| C | Matale | DGH | Matale | 5** | 8** | 5** | 3** |
| C | Matale | BHA | Dambulla | 8*** | 9*** | 1*** | 6*** |
| C | Matale | BHB | Hettipola | 0 | 3 | 1 | 1 |
| N | Jaffna | BHA | Point Pedro | 1* | 3* | 1 | 0* |
| N | Jaffna | BHA | Telippalai | - | 5 | 2 | 2 |
| N | Jaffna | BHB | Chavakachcheri | 0* | 0* | 0* | 0* |
| N | Jaffna | BHB | Kayts | - | 3 | 1 | 1 |
| N | Mannar | DGH | Mannar | 1* | 5* | 1* | 0* |
| N | Mullaitivu | DGH | Mullaitivu | - | 3 | - | 18 |
| N | Mullaitivu | BHB | Mankulam | - | 2* | - | 1 |
| N | Vavuniya | DGH | Vavuniya | 4* | 7* | 3* | 5* |
| N | Vavuniya | BHB | Cheddikulam | 1* | 3* | 1* | 1* |
| E | Batticaloa | BHB | Kaklawanchikudy | - | 3* | - | - |
| E | Ampara | BHA (LM) | Kalmunai North | 5 | 12 | 3 | - |
| E | Ampara | BHA (LM) | Kalmunai South | 4* | 1* | 0* | 0* |
| E | Ampara | BHB | Mahaoya | 1* | 1 | 1* | 0* |
| E | Ampara | BHB | Samanthurai | 0* | 0*** | - | 0* |
| E | Ampara | BHB | Dehiattakandiya | 4* | 10* | 5* | 5* |
| E | Ampara | BHB(LM) | Akkarapatthu | 3* | 0* | 10* | 0* |
| E | Trincomalee | DGH | Trincomalee | 10* | 12* | 21* | 18 |
| E | Trincomalee | BHA(LM) | Kanthalai | - | - | 1* | 1 |
| E | Trincomalee | BHB | Mutur | 1 | 3 | 1 | - |
| E | Trincomalee | BHB | Kinniya | - | 1* | 0* | - |
| NW | Kurunegala | BHA | Kuliyapitiya | 5* | 2* | 0* | 0* |
| NW | Kurunegala | BHB | Nikawaratiya | 4* | 10* | 1* | 0* |
| NW | Kurunegala | BHB | Dambadeniya | - | - | - | - |
| NW | Kurunegala | BHB | Galgamuwa | 1* | 4* | 1* | 0* |
| NW | Kurunegala | BHB | Polpigitigama | - | 2 | 1** | 1** |
| NW | Puttalam | DGH | Chilaw | 1* | 1* | 1 | 0* |
| NW | Puttalam | BHA | Puttalam | 6* | 4 | 1* | 0 |

| Province/ District | | Cat. | Hospital Name | Number of Existing Quarters | | | |
|-----------------------|--------------|----------|----------------|-----------------------------|-----|--------|--------|
| | | | | Consultants | MO | Nurses | Others |
| NW | Puttalam | BHB | Marawila | - | - | 0* | - |
| NC | Anuradhapura | BHB | Padaviya | 0* | 7** | 2** | 20** |
| NC | Anuradhapura | BHB | Tambuttegama | 2* | 6* | 2* | 3* |
| NC | Anuradhapura | BHB | Kebitigollewa | 1* | 4* | 1* | 0* |
| NC | Polonnaruwa | DGH | Polonnaruwa | 13* | 2* | 2 | 2 |
| NC | Polonnaruwa | BHB | Medirigiriya | 5 | 4** | 2 | 16** |
| NC | Polonnaruwa | BHB | Welikanda | - | 2 | 6 | 30 |
| U | Badulla | BHA | Diyatalawa | 5 | 1 | - | - |
| U | Badulla | BHA | Mahiyangana | 4* | 4* | 1* | 8* |
| U | Badulla | BHB | Welimada | 0* | 0* | 0* | - |
| U | Moneragala | DGH (LM) | Moneragala | 5** | 9** | 3** | 3** |
| U | Moneragala | BHB | Wellawaya | 0* | 4* | 2* | 0* |
| U | Moneragala | BHB | Siyambalanduwa | - | 4 | 1 | 1 |
| Sa | Kegalle | DGH (LM) | Kegalle | 5* | 8* | 3 | 19 |
| Sa | Kegalle | BHB | Karawanella | 3 | 6 | 1 | 0 |
| Sa | Kegalle | BHB | Warakapola | 1* | 0* | 0* | 0* |
| Sa | Kegalle | BHB | Mawanella | 5 | 8 | 9 | 19 |
| Sa | Ratnapura | BHA | Embilipitiya | 9* | 28* | 8* | 12* |
| Sa | Ratnapura | BHB | Balangoda | 5 | 9* | 1* | 1 |
| Sa | Ratnapura | BHB | Kahawatta | 2 | 5 | 1 | 2 |
| Sa | Ratnapura | BHB | Kalawana | - | 1** | 0* | 3** |

Remarks: * Hospital needs more quarters - No comments from the hospital

** Existing quarters need renovation LM: Line Ministry

*** Existing quarters are not adequate

Source: MoH JICA Health Care Facility Survey for Secondary-Level Institutions

3.2.7 Availability and maintenance of essential equipment

The survey looked at how the facilities (building, electrical and mechanical issues) and medical equipment are maintained at each institution. Since few hospitals have their own maintenance department, the maintenance and/or repairs are done with the assistance of MoH or Provincial Director of Health Services. Maintenance arrangements of each surveyed hospital are summarised in Annex 9.

(a) Maintenance at Line Ministry hospitals:

Concerning the maintenance and/or repairs of facilities, the Line Ministry provides financial assistance and the hospitals need to find local technicians, etc. for the repairs. Maintenance and repairs related to electricity are undertaken by the Ceylon Electricity Board (CEB). In the case of medical equipment, the maintenance and repairs are carried out by the engineers and technicians of Biomedical Engineering Services (BES), which is under the Ministry of Health.

(b) Maintenance at provincial hospitals:

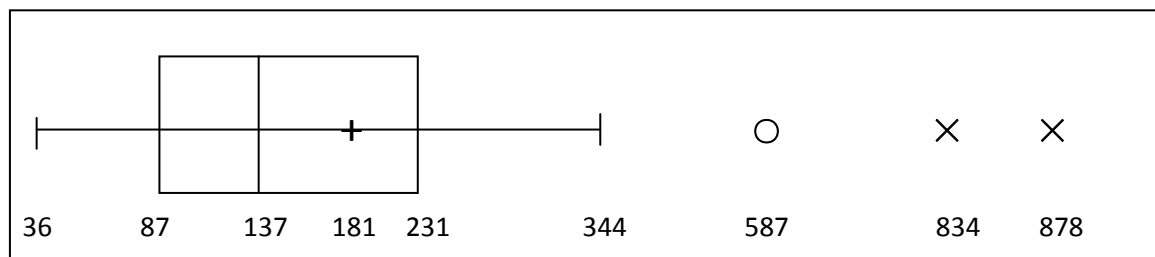
Maintenance of facilities is carried out almost in the same way as the Line Ministry hospitals. Regarding the maintenance and repair of medical equipment, the Engineering Department in each province provides the services for it. Also the hospitals have maintenance agreements with the private companies from which the equipment was purchased, and maintenance of the equipment is done by them.

3.2.8 Referral situations

As mentioned earlier, the numbers of transfers to higher institutions by ambulance were used to observe the referral trends in this survey. The number of patients (outdoor, indoor and clinics combined) per transfer was calculated to find out the frequency for each hospital. The results are

presented as a box plot in Figure 3-4⁴². The highest transfer rate was one for every 36 patients at Cheddikulam BHB in Northern Province, and the lowest transfer rate was one for every 344 patients at Kuliypitiya BHA in North Western province. The median transfer rate was one in every 137 patients. Three upper outliers were Vavunia and Kegalle DGHs and Marawila BH.

Figure 3-4: Box plot of the number of patients for one ambulance dispatch 2010



Source: MoH JICA Health Care Facility Survey for Secondary-Level Institutions

Table 3-17 shows the 17 hospitals for which transfer rates were more than one per 100 patients. They were relatively small hospitals, with the average bed strength of 108 and BOR of 52 per cent as against the overall average of 242 and 69 per cent respectively. The average number of consultants for the 17 hospitals was 1.1 while the overall average was 5.7, indicating a correlation between the availability of consultants and frequency of transfer. In fact, out of 12 hospitals that did not have a single consultant (see Table 3-7), 10 are listed here.

Table 3-17: Institutions with one outward transfer for every 100 patients or less 2010

| Province | Category | Institutions | Pt/Transfer-out | Journey to referral hosp.(min.) | Population (000) | No. of beds | BOR | No. of Consultants | No. of MOs | No. of Nurses | No. of Ambulances |
|----------|----------|----------------|-----------------|---------------------------------|------------------|-------------|-----|--------------------|------------|---------------|-------------------|
| N | BHB | Cheddikulam | 36 | 40 | 38 | 222 | na | 1 | 17 | 24 | 1 |
| N | DGH | Mullaitivu | 38 | 130 | 85 | 139 | 80 | 7 | 16 | 42 | 1 |
| NC | BHB | Welikanda | 46 | 30 | 45 | 62 | 40 | 0 | 3 | 6 | 2 |
| NW | BHB | Polpitiyagama | 48 | 90 | 88 | 110 | 34 | 0 | 5 | 25 | 1 |
| N | BHB | Kayts | 49 | 45 | 48 | 59 | 40 | 0 | 3 | 2 | 1 |
| C | BHB | Rikillagaskada | 54 | 45 | 106 | 126 | 44 | 3 | 18 | 42 | 2 |
| E | BHB | Mutur | 54 | 150 | 80 | 92 | 130 | 1 | 9 | 23 | 2 |
| N | BHB | Mankulam | 56 | 30 | 10 | 40 | 10 | 0 | 1 | 0 | 1 |
| N | BHB | Chavakachcheri | 59 | 30 | 71 | 104 | 66 | 0 | 10 | 12 | 2 |
| E | BHB | Kaluwanchikudy | 62 | 50 | 280 | 150 | 80 | 0 | 5 | 34 | 2 |
| C | BHB | Teldeniya | 67 | 35 | 304 | 87 | 39 | 0 | 11 | 20 | 1 |
| NW | BHB | Galgamuwa | 67 | 90 | 300 | 131 | 22 | 2 | 16 | 40 | 2 |
| C | BHA | Dickoya | 78 | 90 | 300 | 100 | 95 | 3 | 17 | 44 | 2 |
| E | BHB | Mahaoya | 84 | 90 | 40 | 100 | 35 | 0 | 20 | 26 | 2 |
| U | BHB | Siyambalanduwa | 90 | 60 | 61 | 117 | 39 | 0 | 8 | 22 | 1 |
| U | BHB | Wellawaya | 95 | 45 | 150 | 112 | 46 | 1 | 10 | 28 | 2 |
| Sa | BHB | Kalawana | 100 | 90 | 120 | 82 | 38 | 0 | 8 | 23 | 1 |

Source: MoH JICA Health Care Facility Survey for Secondary-Level Institutions

⁴² Data for one hospital was not available.

Most of these hospitals are underutilised as indicated by their low BOR. On the other hand, Mutur BHB, Dickoya BHA, Kaluwanchikudy BHB and Mullaitivu DGH have high BOR. They may be able to reduce the transfer rate by increasing their bed strengths.

Table 3-18 shows the main reasons for transfers obtained through telephone interviews with a relevant MO at each hospital⁴³. Each hospital gave one to five reasons, and in total 215 different answers were obtained. They were classified into two categories, i.e. “fair” and “unwarranted” in view of the services that secondary hospitals are supposed to offer⁴⁴.

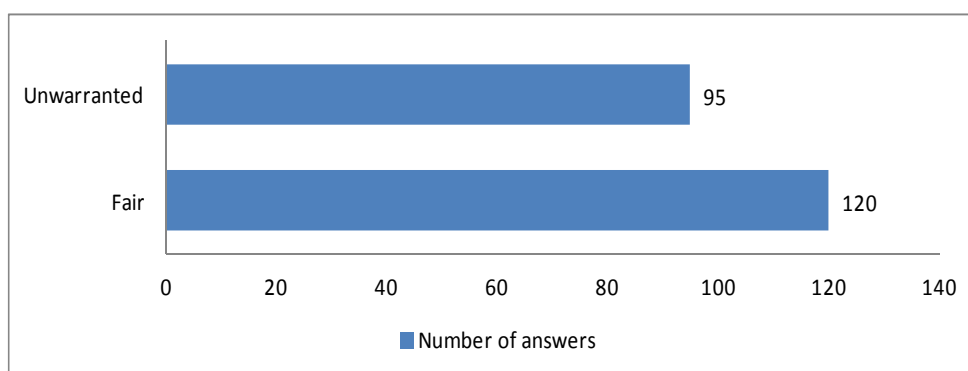
Table 3-18: Reasons for transfers from secondary to tertiary hospitals

| Fair referral reasons | No. | Unwarranted referral reasons | No. |
|--------------------------------|------------------|------------------------------------|-----------------|
| Tertiary level specialist care | 48 | Secondary-level specialist care | 14 |
| Dialysis | 2 | Lack of ICU & monitoring equipment | 28 |
| Lack of accident service | 2 | Lack of ETU | 1 |
| CT/MRI | 37 | Lack of PBU | 5 |
| Echocardiogram / USS | 18 | Lack of operation theatre | 7 |
| Other advanced investigation | 4 | Lack of blood bank | 1 |
| Temporary manpower shortage | 13 | Basic investigation | 21 |
| | | Chronic manpower shortage | 11 |
| | | Lack of training (skill) | 1 |
| | | Lack of drugs | 5 |
| | | Security purpose | 1 |
| Total | N = 120 (56%) | Total | N = 95 (44%) |

Source: MoH JICA Health Care Facility Survey for Secondary-Level Institutions

More than a half responses fell into the “fair” category, but 95 (44 per cent) were rather unwarranted in view of the functions and services that secondary hospitals should have. The most frequently cited “unwarranted” reason was the lack of an ICU and related equipment, followed by the lack of a basic blood test facility and a stationary X-ray machine. There were nine hospitals that gave fair reasons only, namely Moneragala DGH and Diyatalawa BH in Uva, Dambadeniya BH and Marawila BH in North West, Nuwaraeliya DGH and Polonnaruwa DGH in North Central, Kalmunai South BH in East, Vavuniya DGH in North, and Karawanella BH in Sabaragamuwa.

Figure 3-5: Reasons for transfers from secondary hospitals



Source: MoH JICA Health Care Facility Survey for Secondary-Level Institutions

⁴³ This was a multiple-answer and open-ended question.

⁴⁴ In view of the chronic nation-wide shortages of manpower, temporary unavailability of personnel such as “weekend manpower shortage” and “consultant on leave” were classified as fair

3.2.9 Health Information Management System

As mentioned earlier, this survey was constrained by the limited availability of standardised data. Many hospitals do not know their own BOR (they only record the mid-night patient counts) and referrals or transfers are not recorded in a standardised manner, if recorded at all. A circular was apparently sent out some time ago urging the hospital managers to institute an appropriate system for transfer-related data collection. Further centralised effort may be needed to establish a standardised system.

On the other hand, it was observed during the visits that most of the registry books are neatly kept and the data required to be reported periodically are manually extracted from them. Currently all the reports that the hospitals generate are on a paper basis.

In Northern and Eastern provinces, the HIMS had to be re-established after the civil war, during which some hospitals were completely destroyed and most others out of contact with MoH. Progress has not been as swift as desired, affected by shortages of human resources among other factors. However, according to the Medical Statistics Unit (MSU) of MoH, the last two districts, namely Kilinochchi and Mullaitivu, finally started to send “Indoor Mortality and Morbidity Return (IMMR)” reports to MSU from the year 2010.

3.2.10 External assistance to the secondary-level Institutions

As mentioned earlier, the World Bank supported the “Health Sector Development Programme (HSDP)”, providing funds for, among other activities, the development of health care institutions for several years. Since the project ended in 2010, the capital development budgets of the provinces have reportedly dropped quite drastically in 2011. UNICEF and UNFPA are also providing funds to improve the services related to maternal and child health, including gender-based violence (GBV) and capacity building. Assistance from these development partners is inclusive of the secondary facilities, rather than specifically targeting them.

Table 3-19: Amount of funding to PCs by World Bank, UNICEF and UNFPA in 2009 (actual) & 2010 (revised budget) (Rs. million)

| | Central | | East | | N. West | | N. Central | | North | | Uva | | Sabaragamuwa | |
|--------|---------|------|------|------|---------|------|------------|------|-------|------|------|------|--------------|------|
| | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 | 2009 | 2010 |
| HSDP | 137 | 149 | 187 | 499 | 104 | 113 | 108 | 116 | 536 | 880 | 56 | 164 | 52 | 118 |
| UNICEF | 20 | 53 | 76 | 153 | 0 | 0 | 2 | 3 | 146 | 200 | 15 | 46 | 0 | 0 |
| UNFPA | 38 | 48 | 37 | 93 | 0 | 0 | 24 | 50 | 16 | 48 | 0 | 0 | 0 | 0 |

Source: MoFP Expenditure Estimate 2011 for Ministry of Local Government and provincial councils

Fourteen (14) secondary-level hospitals reported having externally funded projects either ongoing or confirmed for 2012. PDHS of Northern province also provided us with a list of hospitals which have confirmed funding by the Chinese government in 2012. The information was put together and presented in Table 3-20 as provided.

Table 3-20: Ongoing/confirmed external assistance to secondary hospitals

| Province | Institution | | Facilities to be improved | Amount (Rs. million) | Partner | When |
|----------|-------------|---------------------|--|----------------------|------------------|---------|
| C | BHA | Dickoya | Construction and equipment | 1200 | Indian Gov. | 2011-12 |
| E | DGH | Trincomalee | New ETU, Wards, OT Renovation of wards, equipment & furniture | 350 120 | Americare ADB | 2011 |
| E | BHA | Kanthalai (LM) | Trauma care unit | NA | Chinese Gov. | 2012 |
| E | BHA | Kalmunai South (LM) | Construction, equipment | 150 | NA | 2012 |

| Province | Institution | | Facilities to be improved | Amount (Rs. million) | Partner | When |
|----------|-------------|----------------|--|----------------------|----------------------|---------|
| E | BHB | Samanthurai | OT, ICU, PCU | NA | Chinese Gov. | 2012 |
| E | BHB | Mutur | Renovation and construction of buildings | 100 | NA | 2012 |
| N | DGH | Mullaitivu | Renovation of OPD complex | 20 | Americare | 2010-11 |
| N | DGH | Vavuniya | Construction of surgical theatre, equipment, wards | 300 | Chinese Gov. | 2012 |
| N | DGH | Mannar | Construction of 4-storied ward complex | 250 | Chinese Gov. | 2012 |
| N | DGH | Kilinochchi | Construction of ward and administrative block | 280 | Chinese Gov. | 2012 |
| N | BHA | Point Pedro | Construction of mental health complex | 70 | Chinese Gov. | 2012 |
| N | BHB | Chavakachcheri | Wards (surgical & medical), doctors quarters | 450 | Finland Red Cross | 2010-11 |
| N | BHB | Tellipalai | Construction of blood bank | 20 | Chinese Gov. | 2012 |
| N | BHB | Kayts | Construction of doctors' quarters | 30 | Chinese Gov. | 2012 |
| NC | BHB | Padaviya | Construction of OPD complex, isolation ward, public toilet | 400 | EU, German Red Cross | 2011 |
| NW | BHB | Dambadeniya | Renovation of SBCU | 1.9 | SAARC | 2011 |
| NW | BHB | Marawila | Physiotherapy unit, and surgical theatre | 20 | WHO | 2011 |
| U | BHA | Diyatalawa | Construction of paediatric unit | 2.8 | World Bank | 2011 |
| U | BHB | Wellawaya | Construction, renovation, equipment | NA | Chinese Gov. | 2012 |

Source: MoH JICA Health Care Facility Survey for Secondary-level Institutions

The information on external assistance obtained in this survey may not be exhaustive. Some of the secondary-level hospitals are reportedly receiving regular GoSL funds (around Rs. 40-50 million each) for facility improvements in 2012. As the situation is dynamic, further consultations with NPD and other relevant parties are necessary to avoid duplications when selecting the target hospitals.

CHAPTER 4 State Pharmaceutical Manufacturing Corporation

4.1 Background

Sri Lanka has a total of 81 state owned enterprises (SOEs) in various fields, and the State Pharmaceutical Manufacturing Corporation (SPMC) is one of such SOEs under MoH. SPMC was established in 1987 through the Grant Aid of Japan, equipped for manufacturing, processing, stocking and packing essential medicinal drugs, with a capacity of 550 million tablets/capsules per year, on the basis of 8 working hours per day. While its board members are appointed by the Health Minister, SPMC is financially independent from the government.

SPMC was at its foundation an essential medicine manufacturing department of the State Pharmaceutical Corporation of Sri Lanka (SPC). SPC is also a SOE, which was started in 1971 with a mission to provide safe, effective and affordable medicines to all government health institutions⁴⁵. Though SPC and SPMC were separated by a cabinet decision in 1997, all SPMC products are today bought either by SPC or the Medical Supply Department (MSD) of MoH without being subjected to competition from cheaper Indian and Chinese products. SPMC and SPC remain two separate entities but a merger plan has already been authorised by the present cabinet.

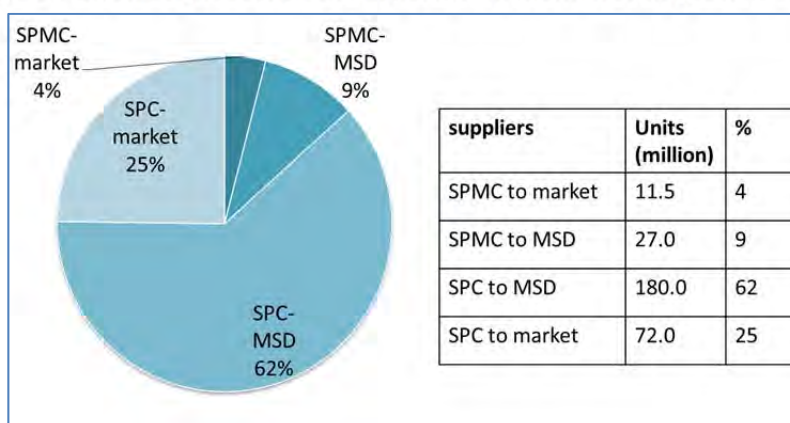
All SPMC products comply with the United States Pharmacopoeia (USP) as well as the British Pharmacopoeia (BP) standards. In addition, the Japanese official standards for microbial limits for oral preparations are also used. The control of temperature, humidity, microbial count and particulate matters are strictly applied. Furthermore the quality control department tests samples every day, and Drug Regulatory Authority (DRA) is regularly inspecting the manufacturing facilities and product quality. Currently all the SPMC products come in the forms of tablets and capsules. SPMC also has the capacity to produce dry syrup but other forms such as oral liquids, external medicines and injections are not possible.

4.2 SPMC and its position in National Drug Security

In Sri Lanka, it is difficult to obtain accurate data on the market share of individual products. However, by way of example, Figure 4-1 and 4-2 roughly depict the market share of two NCD drugs, Metformin 500mg tablets and Atenolol 50mg tablets. Although there are more importing agents than SPC, this analysis does not consider the small and private importers, because SPC dominates the share of imported drugs. These two figures reveal that SPMC products occupy less than a quarter of the national share including private sector sales of these two common NCD drugs. However, if SPMC achieves the goal of meeting MSD needs as planned, the SPMC share will exceed more than half of total market share.

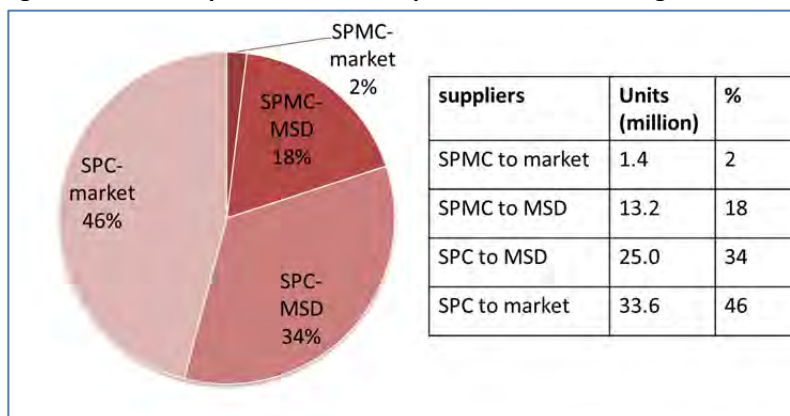
⁴⁵ Today SPC supplies medical products to the private sector as well. It also has its own retail outlets.

Figure 4-1: Annual production and imports of Metformin 500mg tablets in 2010



Source: MSD, SPMC and SPC

Figure 4-2: Annual production and imports of Atenolol 50mg tablets in 2010



Source: MSD, SPMC and SPC

As described in Chapter 2.4.3 and Table 2-13, MSD requires SPMC to expand the production capacity to better meet MSD needs, at least in terms of SPMC producing sufficient quantities to ensure a stable stock management and to decrease the heavy dependence on drug imports. Table 4-1 shows the recent trend of demand-supply ratio between MSD and SPMC. This ratio is described in greater detail in Chapter 7. In this Table, “MSD demand” presents annual requirements for distribution to all governmental health institutions. Although SPMC products for MSD comprise a mere 30 items among the hundreds of drugs in the national essential drug list, SPMC succeeded in doubling this ratio between 2009 and 2011.

Table 4-1: Trend of demand-supply ratio between MSD and SPMC, 2009-2011

| Items | MSD demand (million units) | | | Supply from SPMC (million units) | | | Demand-Supply ratio (%) | | |
|---|-------------------------------|----------------|----------------|-------------------------------------|--------------|---------------|----------------------------|-------------|-------------|
| | 2009 | 2010 | 2011 | 2009 | 2010 | 2011 | 2009 | 2010 | 2011 |
| Aluminium hydro.tab. BP 500mg. | 56.0 | 59.0 | 70.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Amoxicillin tab. USP 125mg. | 21.0 | 18.0 | 19.0 | 2.0 | 3.0 | 4.0 | 9.5 | 16.7 | 21.1 |
| Amoxicillin cap. BP 250mg. | 186.0 | 198.0 | 205.0 | 126.0 | 186.0 | 206.0 | 67.7 | 93.9 | 100.5 |
| Amoxicillin cap. BP 500mg. | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Ascorbic acid tab. BP 100mg. | 164.0 | 183.0 | 196.0 | 38.0 | 32.0 | 50.0 | 23.2 | 17.5 | 25.5 |
| Atenolol tab. BP 50 mg (Blister) | 46.0 | 57.0 | 54.0 | 0.0 | 13.0 | 15.5 | 0.0 | 22.8 | 28.7 |
| Benzhexol tab. BP 2mg. | 30.0 | 29.0 | 35.0 | 0.0 | 23.0 | 18.5 | 0.0 | 79.3 | 52.9 |
| Bisacodyl tab. BP 5mg. | 5.0 | 6.0 | 7.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Carbamazepine tab. BP 200mg | 22.0 | 27.0 | 30.0 | 9.0 | 21.0 | 23.5 | 40.9 | 77.8 | 78.3 |
| Chloramphenicol cap. BP 250mg. | 0.4 | 0.4 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Chloroquine phos. tab. BP 250mg. | 5.0 | 4.5 | 4.5 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Cloxacillin cap. BP 250mg. | 77.0 | 82.0 | 90.0 | 57.0 | 42.5 | 82.0 | 74.0 | 51.8 | 91.1 |
| Co-trimoxazole tab. BP 480mg. (Adult) | 12.0 | 11.0 | 11.0 | 0.0 | 5.0 | 5.0 | 0.0 | 45.5 | 45.5 |
| Diclofenac Sodium tab.USP 50mg. | 117.0 | 112.0 | 118.0 | 7.5 | 34.0 | 40.5 | 6.4 | 30.4 | 34.3 |
| Diethylcarbamazine tab. BP 50mg. | 3.0 | 4.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Diltiazem HCL tab 60 mg (Blister) | 22.0 | 27.0 | 32.0 | 0.0 | 15.0 | 23.0 | 0.0 | 55.6 | 71.9 |
| Erythromycin stearate tab. BP 250mg. | 39.0 | 40.0 | 37.0 | 0.0 | 15.0 | 14.5 | 0.0 | 37.5 | 39.2 |
| Enalapril Maleate tab USP 5 mg | 73.0 | 92.0 | 104.0 | 0.0 | 7.5 | 13.0 | 0.0 | 8.2 | 12.5 |
| Folic acid tab. BP 5mg. | 133.0 | 273.0 | 151.0 | 0.0 | 33.0 | 49.0 | 0.0 | 12.1 | 32.5 |
| Frusemide tab. BP 40mg. | 35.0 | 43.0 | 49.0 | 0.0 | 0.0 | 14.5 | 0.0 | 0.0 | 29.6 |
| Famotidine tab. USP 20mg (Blister) | 91.0 | 91.0 | 109.0 | 0.0 | 0.0 | 44.0 | 0.0 | 0.0 | 40.4 |
| Indometacin cap. BP 25mg. | 22.0 | 18.0 | 18.0 | 0.0 | 17.0 | 6.0 | 0.0 | 94.4 | 33.3 |
| Mebendazole tab. USP 100mg. | 43.0 | 44.0 | 46.0 | 42.0 | 13.0 | 0.8 | 97.7 | 29.5 | 1.7 |
| Metformin tab. BP 500mg. | 189.0 | 239.0 | 280.0 | 58.5 | 27.0 | 26.0 | 31.0 | 11.3 | 9.3 |
| Pae.cotrim tab. 120 mg | 3.0 | 0.0 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Paracetamol tab. BP 500mg. | 550.0 | 538.0 | 572.0 | 63.5 | 121.0 | 196.0 | 11.5 | 22.5 | 34.3 |
| Phenoxymethylpenicillin tab. BP 125mg. | 11.0 | 10.0 | 9.0 | 10.0 | 1.0 | 6.5 | 90.9 | 10.0 | 72.2 |
| Phenoxymethylpenicillin tab. BP 250mg. | 30.0 | 31.0 | 32.0 | 0.0 | 7.0 | 18.0 | 0.0 | 22.6 | 56.3 |
| Prednisolone tab.BP 5mg. | 69.0 | 85.0 | 87.0 | 12.0 | 79.5 | 77.0 | 17.4 | 93.5 | 88.5 |
| Primaquine Phos. Tab. 7.5mg | 0.4 | 0.3 | 0.2 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Propranolol tab. BP 40mg. | 14.0 | 12.0 | 14.0 | 0.0 | 18.0 | 16.0 | 0.0 | 150.0 | 114.3 |
| Propranolol tab. BP 10mg. | 0.6 | 0.4 | 0.9 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Rifampicin cap. BP 150mg. | 0.7 | 0.5 | 0.3 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Salbutamol tab. BP 2mg. | 36.0 | 41.0 | 44.0 | 9.0 | 40.0 | 40.0 | 25.0 | 97.6 | 90.9 |
| Salbutamol tab. BP 4mg. | 80.0 | 86.0 | 86.0 | 20.0 | 57.5 | 93.0 | 25.0 | 66.9 | 108.1 |
| Theophylline (ER) tab. 125mg. | 22.0 | 82.0 | 92.0 | 13.5 | 23.0 | 17.0 | 61.4 | 28.0 | 18.5 |
| Trifluoperazine tab. BP 5mg. | 14.0 | 12.0 | 14.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| Verapamil tab. BP 40mg. | 22.0 | 25.0 | 25.0 | 17.0 | 33.0 | 11.0 | 77.3 | 132.0 | 44.0 |
| Vitamin B complex tab. | 208.0 | 225.0 | 227.0 | 49.0 | 89.0 | 142.5 | 23.6 | 39.6 | 62.8 |
| Total | 2,452.1 | 2,806.1 | 2,873.0 | 534.0 | 956.0 | 1252.8 | 21.8 | 34.1 | 43.6 |

Source: MSD

Table 4-2 shows that SPMC has been selling their products to the private sector though SPC and other retailers. Thus, the total production capacity of SPMC is considered greater than the quantities described in Table 4-1.

Table 4-2: Annual sales of SPMC

| Buyers | | 2009 | % | 2008 | % |
|-------------------------|---|--------|-----|-------|-----|
| MSD | | 723.1 | 63 | 536.8 | 60 |
| SPC | * | 33.6 | 3 | 72.5 | 8 |
| Other private retailers | | 363.3 | 32 | 263.9 | 30 |
| export | | 23.6 | 2 | 17.0 | 2 |
| total | | 1152.7 | 100 | 890.2 | 100 |

Source: SPMC Annual report 2009 (million Rs.)

*all private retailers have been unified with the SPC since 2011

Table 4-3 shows the trend of total production over the last 11 years. With the goal of increasing the production capacity to cater for the needs of MSD (2.9 billion units in 2011) and SPC (0.7 billion units), SPMC made every effort: expansion of manufacturing and store areas, renovation of machinery and facilities and most importantly, increasing factory operation hours from 8 hours (one shift) to 16 hours (two shifts) per day in March 2007. As a result, the output has increased gradually every year and annual production in 2011 reached 1,796 million tablets/capsules, which was more than 3 times greater than the facilities were originally designed to produce. Both MoH and SPMC recognise the needs of more significant and extensive investment to reinforce the original facilities to achieve further production increases.

Table 4-3: Annual production of tablets and capsules over the past 10 years (million units)

| Year of Production | 2001 | 2002 | 2003 | 2004 | 2005 | 2006 | 2007 ⁽¹⁾ | 2008 | 2009 | 2010 | 2011 |
|---------------------------------------|------|------|------|------|------|------|---------------------|-------|-------|-------|-------|
| Annual production of tablets/capsules | 904 | 909 | 811 | 723 | 837 | 752 | 1,025 | 1,032 | 1,195 | 1,625 | 1,796 |

Source - SPMC

4.3 Current Production Capacity

4.3.1 Facilities

To increase the production capacity, SPMC started to expand the production facilities in the early 2000s. In 2004, the construction of the first building of two stories for packaging and storage was completed. The construction of the second building, which is an extension of the production area for general drugs in the original building constructed in 1987, was completed in 2011. A two-storied third building is now almost completed, of which ground floor is designed to house a part of the penicillin production and the first floor offices. The Table below summarises the buildings that SPMC owns today.

Table 4-4: Buildings constructed through the Japanese Grant Aid and buildings constructed by SPMC

| Year of construction | Name of Building | Total Floor Area (approx. m ²) | Remarks |
|------------------------------|--|--|------------------------------|
| By Japanese Grant Aid | | | |
| 1987 | Main Building (production area, laboratories, offices, etc.) | 4,200 | |
| | Utility Building (boiler room, water supply system, etc.) | 300 | |
| | Guard House | 15 | |
| | Sub-Total Floor Area | 4,515 | |
| By SPMC | | | |
| 2004 | 1st Building (packing area, storage, etc.) | 935 | |
| 2011 | 2nd Building (production area of general drugs, storage, etc.) | 785 | |
| 2011 | 3rd Building (production area of penicillin and offices) | 625 | 90% completed in August 2011 |
| | Sub-Total Floor Area | 2,345 | |
| Total Constructed Floor Area | | 6,860 | |

Source – Basic Design Study Report 185 Building Plan by SPMC

All the facilities mentioned above are very well maintained by the technicians of the SPMC maintenance department. The manufacturing facilities of SPMC comply with the requirement of the Good Manufacturing Practices (GMP) by the World Health Organization (WHO) and the products comply with the United States Pharmacopoeia (USP) and British Pharmacopoeia (BP) standards as stated earlier.

4.3.2 Equipment

SPMC started the production of essential medicinal drugs with the machinery and ancillary items supplied through Japanese Grant Aid in 1987. Almost all of the major equipment used in the production facilities is Japanese, except for one item from Germany, as shown in Table 4-5.

Even after 24 years of installation, almost all the equipment listed below that was supplied by Japan is very well maintained. Moreover, it is still in very good condition and could be used for many more years. However, some of the equipment is inevitably out-dated, which hinders optimisation of the SPMC's potential production capacity. In addition, the maintenance cost of the old equipment has gone up significantly due to the high cost of spare parts.

Table 4-5: Major production equipment supplied through Japanese Grant Aid by 1987

| No. | Name of Equipment | Manufacturer | Model | Country of Origin |
|-----|----------------------------------|-------------------------------------|-----------------|-------------------|
| 1 | Bottle Washing Machine | Shibuya Kogyo Co. Ltd. | JBB | Japan |
| 2 | Bottle Drying Oven | Satake Chemical Equipment Mfg. Ltd. | 80 | Japan |
| 3 | Multi Milling Machine | Showa Giken Ltd. | P-3S | Japan |
| 4 | Sifting Machine | San-Ei-Seisakusho Ltd. | 1001 / 701 | Japan |
| 5 | Pneumatic Powder Conveyer | Fuji Paudal Co. Ltd. | HFO-10-PD | Japan |
| 6 | Fine Milling Machine | Fuji Paudal Co. Ltd. | AIIW-5 / KII -1 | Japan |
| 7 | Planetary Mixer | Shinagawa Machinery works | 250 DM-QR | Japan |
| 8 | Oscillating Granulator | Hata Iron Works Ltd. | HRG 125Y-II | Japan |
| 9 | Fluidised Bed Dryer | Freund Flow Coater | FLO-120EX | Japan |
| 10 | Tray Drying | Satake Chemical Equipment Mfg. Ltd. | ST - 80 | Japan |
| 11 | Double Cone Blender | Fuji Paudal Co. Ltd. | 3M 700 (1500 L) | Japan |
| 12 | Double Cone Blender | Fuji Paudal Co. Ltd. | CM-300 (650L) | Japan |
| 13 | Granulator | Turbo Kogyo Co.Ltd | WP160x60B | Japan |
| 14 | Drum Mixer | Nishida Doko Co. Ltd. | DM 200 | Japan |
| 15 | Tablet Compressing Machine | Hata Iron Works Ltd. | HT-AP 45MS-U | Japan |
| 16 | Tablet Compressing Machine | Hata Iron Works Ltd. | HT-AP38MS-U | Japan |
| 17 | Tablet Compressing Machine | Hata Iron Works Ltd. | HT-B29NM | Japan |
| 18 | Capsule Milling Machine | Bosch | GKF 800 | Germany |
| 19 | Film Coating Machine | Hata Iron Works Ltd. | HC -200 | Japan |
| 20 | Capping Machine | OGT Kaikai Seisakusyo Co. Ltd. | OA 03 | Japan |
| 21 | Appearance Inspection Machine | Hayashi Pharmaceutical Machine Ltd. | TCI - 200 | Japan |
| 22 | Paste Preparation Agitation Tank | Nishida Doko | PAT 300 | Japan |
| 23 | SGS Modification Agitation Tank | Nishida Doko | MAT 200 | Japan |

Source: SPMC documents

With the increased demands for drugs and expansion of its facilities, SPMC has started to purchase some additional production equipment since 2004, details of which are found in Table 4-6 below. However, even with this newly acquired equipment, SPMC is not able to meet the

domestic demands as seen in Table 4-1. SPMC is now requesting, through the Government of Sri Lanka, a soft loan of 10 million US dollars from any funding source.

Table 4-6: Major production equipment purchased by SPMC in 2000s

| No. | Name of Equipment | Manufacturer | Model | Country of Origin | Year of Purchase |
|-----|---|-----------------------------|--------------------|-------------------|------------------|
| 1 | Film Coating Machine | Glatt Company Ltd. | GCM-350 | Switzerland | 2004 |
| 2 | Automatic Filling Machine | Countec Co. Ltd. | DMC 120 | Korea | 2006 |
| 3 | Labelling Machine | BRB Globus | UNO- WA -CW | Italy | 2008 |
| 4 | Automatic Capsule Filling Machine | Smajin Pharma Tech Co. Ltd. | SF-135 | Korea | 2009 |
| 5 | Automatic Filling Machine ⁽¹⁾ | Samjin PMS Korea Ltd. | SJ-1201 | Korea | 2009 |
| 6 | Homo Mixer | Primix Co. Ltd | T.K. Auto Mixer 40 | Japan | 2009 |
| 7 | Tablet Compressing Machine ⁽¹⁾ | Samjin PMS Korea Ltd. | ST -49 | Korea | 2010 |
| 8 | Blister Packing Machine ⁽¹⁾ | Pam-Pac Machine Ltd. | BP102 | India | 2010 |

⁽¹⁾ Production equipment for penicillin Source: SPMC document

4.4 Proposed Capacity Strengthening of SPMC

4.4.1 Proposed capacity

SPMC produced 1,796 million tablets/capsules in 2011, and is increasing the annual production by about 100 million units every year, aiming to reach an annual production of 2,100 million tablets/capsules in 2014. Furthermore, SPMC proposes to purchase and install the new equipment listed in the Table 4-7 below by 2014, in order to increase the production capacity to 2,800 and 3,200 million tablets/capsules in the following years (2015 and 2016 respectively), and reach a production capacity of up to 3,500 in the following years. The table below shows the planned and projected annual production from 2011 to 2016.

Table 4-7: Projected annual production quantity of tablets and capsules in 2011 - 2016 (million units)

| Year of Production | 2011 | 2012 | 2013 | 2014 | 2015 | 2016 |
|---------------------------------------|-------|----------------------|----------------------|----------------------|----------------------|----------------------|
| Annual production of tablets/capsules | 1,796 | 1,900 ⁽¹⁾ | 2,000 ⁽¹⁾ | 2,100 ⁽¹⁾ | 2,800 ⁽²⁾ | 3,200 ⁽²⁾ |

Source - SPMC

⁽¹⁾ Planned by SPMC ⁽²⁾ Target (in case the extension is over in 2014)

4.4.2 Justifications

Due to low production capacity of most of the equipment supplied in 1987 and also to the increasing maintenance costs due to high cost of spare parts, SPMC cannot achieve the annual production targets mentioned above. At the same time, in order to reduce the production cost per tablet, manufacturing capacity must be enhanced by adding new production lines and replacing some out-dated equipment. The manufacturing equipment that needs to be replaced includes tableting equipment and packaging line equipment.

Based on the above factors, the Government of Sri Lanka has developed and subsequently revised the "Project Proposal Rehabilitation & Expansion of Production Capacity of State Pharmaceuticals Manufacturing Corporation of Sri Lanka-2009" (Project Proposal-2009). The list of equipment mentioned in the Project Proposal-2009 has been revised as SPMC purchased several items of equipment in 2009 and 2010, as shown in Table 4-6 above. Table 4-8 shows the equipment listed in the Project Proposal of 2009 and the subsequent revisions.

Table 4-8: Comparison between the Equipment List in the Project Proposal-2009 and its revision

| List of Equipment in the Project Proposal – 2009 | | Revised List of Equipment | |
|--|--|---------------------------|---|
| Name of Equipment, etc. | | Name of Equipment, etc. | Major Reasons for Revision |
| 1 | Weighing Equipment | 1 | Weighing Equipment |
| 2 | Fluid Bed Processor, Dry Mixing of Powder, Wet Kneading, Oscillating, Wet Sieving, Fluid Bed Drying, Spray Granulating, Milling and Blending | 2 | High Shear Mixing Granulator Revised the item because some of the equipment has been already purchased by SPMC. |
| 3 | Tablet press – B type | 3 | Tablet Compression Machine Revision of the name of item |
| — | — | 4 | Punches and Dies Additional |
| 4 | Film Coating Machine | 5 | Film Coating Machine |
| 5 | Binder/Paste Preparation Equipment | — | — Deleted. Manufacturer that manufactured this equipment in 1987 does not exist anymore |
| 6 | Homo Mixer | 6 | Homo Mixer |
| 7 | Bottle Washer and Dryer | — | — Deleted. It is not indispensable |
| 8 | Automatic Filling Machine | 7-1 | Automatic Filling, Capping and Labelling Machine (1) 3 items merged together in one because it is one line of packaging |
| 9 | Labelling Machine | 7-2 | Automatic Filling, Capping and Labelling Machine (2) As above |
| 12 | Capping Machine | 8 | Appearance Inspection Machine |
| 10 | Appearance Inspection Machine | — | — Deleted. Existing equipment can be used. |
| 11 | Laboratory Type Tablet Press | 9 | HPLC System |
| 13 | HPLC System | 10 | Dissolution Apparatus |
| 14 | Dissolution Apparatus | 11 | Forklift |
| 15 | Forklift | 12 | Air Compressor |
| 16 | Air Compressor | 13 | Double Cone Blender (1) Additional |
| — | — | 14 | Double Cone Blender (2) Additional |
| — | — | 15 | Ancillary Items “Stainless Steel Container” is included in “Ancillary Items” |
| 17 | Stainless Steel Container for Past Preparation | — | — The item is deleted because it is not equipment. The cost of transportation and installation is included in the cost of the equipment. |
| 18 | Ancillary Equipment | — | — Already purchased by SPMC |
| 19 | Clearing, Transport, Handling, and Installation | — | Refurbishing of Facilities Revision of name of the item |
| 20 | Stand-by Generator | — | Construction of Storage Additional |
| 21 | Building Alterations | | |

The proposed final equipment, facilities and other relevant items, major technical specifications and main purposes are shown in the Table below.

Table 4-9: Proposed equipment

| No. | Description (name of equipment, etc.) | Qty. | Major Specifications | Main Purpose | Priority |
|-----|--|------|--|---|----------|
| 01 | Weighing Equipment | 2 | Stand-type scale: 60kg, 300kg, 600kg; Table-top type scale: 5kg | For weighing materials for production of drugs | A |
| 02 | High Shear Mixing Granulator | 1 | Container volume: 400L approx. Agitating revolutions: 18 to 180 rpm Provided with material transfer device | For granulating and mixing materials for production of drugs | A |
| 03 | Tablet Compression Machine | 5 | Capacity: approx. 460,000 tabs/hr Provided with pneumatic power conveyer | For making tablets from grains | A |
| 04 | Punches and Dies | 1 | 6.5mm double concave, 6.5mm flat bevelled, 8mm double concave, 7mm deep concave, 11.5mm double concave | To be used for tablet compression machines | A |
| 05 | Film Coating Machine | 1 | Type: fully automated Capacity: 550L approx. | For tablet film coating | A |
| 06 | Homo Mixer | 1 | Capacity: 50 litres Provided with stainless container | For preparation of coating solution | B |
| 7-1 | Automatic Filling, Capping and Labelling Machine (1) | 2 | Main composition of the line: bottle drawing machine and turntable, automatic air cleaner, silica gel supply machine, automatic tablet filling and counting machine, tablet supply turning lift, automatic filling machine for polyethylene tube and capper, cap supply turntable, automatic labeller, cap sealer Capacity: approx. 2,000 to 3,600 tablets/min | For filling tablets into bottles, capping and labelling | A |
| 7-2 | Automatic Filling, Capping and Labelling Machine (2) | 1 | Main composition of the line: bottle drawing machine and turntable, automatic air cleaner, automatic tablet filling and counting machine, tablet supply turning lift, capping machine, cap supply turntable, buffer turntable, automatic labeller, cap sealer Capacity: approx. 2,000 to 3,600 tablets/min | For filling tablets into bottles, capping and labelling | A |
| 8 | Appearance Inspection Machine | 1 | Type: Automatic Capacity: 350,000 tablets/hr Equipped with camera | For tablet inspection and sorting | B |
| 9 | HPLC System | 1 | Main composition: Quaternary pump with online degasser, injector, controller, auto-sampler, multi-wave length UV visible detector, thermostat column oven with heating device, etc. | For Quality Control (QC), Quality Assurance (QA) and R&D of drugs | B |
| 10 | Dissolution Apparatus | 1 | Complying with both BP and USP specifications Vessels: 8 for samples Provided with an on line sample collection facility | For performing dissolution testing including dissolution profile testing of solids dosage forms for QC, QA and R&D of drugs | B |
| 11 | Forklift | 1 | Capacity: 1500kg Lifting height: not less than 3000mm | For carrying, lifting and lowering drug material containers from shelves | C |
| 12 | Air Compressor | 1 | Capacity: 8 cubic meter/min at 8 bar Oil-free type Provided with dryer | For supplying compressed air to the production equipment | B |
| 13 | Double Cone Blender (1) | 1 | Capacity: 1,000 L approx. Rotation speed: 18 rpm approx. | For dry powder milling and mixing materials | A |
| 14 | Double Cone Blender (2) | 1 | Capacity: 440 L approx. Rotation speed: 22 rpm approx. | Used for mixing of materials | A |

| No. | Description (name of equipment, etc.) | Qty. | Major Specifications | Main Purpose | Priority |
|-----|---------------------------------------|------|---|--|----------|
| 15 | Ancillary Items | 1 | Total number of items: 15 Composition: humidity/temperature recorder, vacuum cleaner, pallet truck, scale, friability tester, hardness tester, drum porter, portable dehumidifier, carrying cart, stainless steel drum, pallet, laboratory scale | To carry materials, to store materials, etc. | B |

Priority: A – Highly needed B – Can be altered/adjusted C – Can be purchased later by SPMC
Source: SPMC

Most of the items purchased by SPMC shown in Table 4-6 are not made in Japan. However, since the technicians and operators of SPMC are already familiar with the equipment supplied from Japan and Germany, and for ease of maintenance and durability, SPMC proposes to purchase Japanese, German or compatible equipment to minimise the switching and operational costs.

“SPMC – Production Flow Chart for General Drugs” (Annex 10) shows the places where the production equipment listed in the Table above are utilised. The details of proposed items listed in Table 4-9 are presented below.

a) The expansion of the facilities where the production equipment will be installed has already been completed by SPMC, as described above. However, complementary work on the facilities shown in Table 4-10 will be necessary.

Table 4-10: Proposed items for facilities

| No. | Description | No. | Description |
|-----|--|-----|--|
| 1 | Refurbishing of existing facilities: Repair work on floors, walls, ceilings; electrical work and mechanical work required for the installation of production equipment | 2 | Expansion of storage facilities: Construction of a building of two stories for storing the raw materials |

b) In order to increase the manufacturing lines, the items below are the new equipment that should be added. Item 12 (“Compressor”) is required to supply the compressed air needed to operate the equipment.

Table 4-11: Additional new equipment to increase production capacity

| No. | Name of Equipment | No. | Name of Equipment |
|-----|--|-----|-------------------------------|
| 01 | Weighing Equipment | 08 | Appearance Inspection Machine |
| 02 | High Shear Mixing Granulator | 11 | Forklift |
| 03 | Tablet Compression Machine | 12 | Air Compressor |
| 05 | Film Coating Machine | 13 | Double Cone Blender (1) |
| 06 | Homo Mixer | 14 | Double Cone Blender (2) |
| 07 | Automatic Filling, Capping and Labelling Equipment | 15 | Ancillary Items |

c) In order to increase the production capacity, the item below is proposed.

Table 4-12: Accessories, etc. for the existing equipment

| No. | Name of Equipment |
|-----|--|
| 04 | Punches and Dies: Accessories for the existing Tablet Compression Machine. It is preferable to purchase these from the same manufacturer as the existing Tablet Compression Machine. |

d) The items below for “Quality Control” are proposed.

Table 4-13: Equipment for formulation, R&D and quality control

| No. | Name of Equipment | No. | Name of Equipment |
|-----|-------------------|-----|-----------------------|
| 09 | HPLC System | 10 | Dissolution Apparatus |

The HPLC System and Dissolution Apparatus are equipment used for quality control. Both pieces of equipment will be replacements for the equipment supplied in 1987 by Japanese Grant Aid.

4.4.3 Organizational arrangements

The Organization Structure of SPMC is attached as Annex 11. The procurement and installation of the equipment, in principle, will be managed by the engineers and technicians of the Production Department and the Maintenance Department. The Maintenance Department will be responsible for the design and construction of the new facility and also for the refurbishing of the existing facilities.

1) Staffing

The actual number of staff of SPMC is 205 and the proposed total additional number of staff when the expansion is over is 115. Table 4-14 shows staff numbers by the departments.

From the staff list shown in Table 4-14, it is clear that the number of staff in production and maintenance will be almost doubled when the expansion is completed in 2014. SPMC has a staff training program for production. This 18-month training programme is approved by MoH and only trainees who have completed this programme are contracted. In 2011, 8 have completed training, and 10 to 12 trainees will be enrolled by the end of the year. With regard to the maintenance staff, 6 more technicians will be added by the end of 2011.

Table 4-14: Existing number of staff and proposed cadre by the end of 2014

| Destination | Existing No. | To be Added By 2014 | Total by 2014 | Destination | Existing No. | To be Added By 2014 | Total by 2014 |
|---|--------------|---------------------|---------------|------------------------------|------------------|---------------------|-------------------|
| ADMINISTRATION | | | | QUALITY CONTROL DEPT. | | | |
| Chairman/MD | 1 | | 1 | Manager | 1 | | 1 |
| General Manager | 1 | | 1 | Assistant Manager | 0 | | 0 |
| Personal Secretary | 2 | | 2 | Quality Control Officer | 4 | 1 | 5 |
| Data Entry Operator | 1 | | 1 | Quality Control Assistant | 9 | 5 | 14 |
| HUMAN RESOURCES | | | | MAINTENANCE DEPT. | | | |
| Assistant Manager | 1 | | 1 | Manager | 1 | | 1 |
| Administrative Officer | 1 | | 1 | Assistant Manager | <u>1</u> | <u>1</u> | <u>2</u> |
| Rec./Typist/Tele op/Clerk | 7 | 2 | 9 | Assistant Engineer | 1 | | 1 |
| Labourers | 10 | 2 | 12 | Engineering Assistant | <u>2</u> | <u>3</u> | <u>5</u> |
| ACCOUNTS DEPT. | | | | Maintenance Technician | <u>12</u> | <u>10</u> | <u>22</u> |
| Management Accountant | 1 | | 1 | Stores Assistant | 1 | 1 | 2 |
| Factory Accountant | 1 | | 1 | Data Entry Operator | 1 | | 1 |
| Accounts Executive | 1 | | 1 | Driver | 11 | 2 | 13 |
| Accounts Assistant | 2 | | 2 | Labourer | 2 | 1 | 3 |
| Accounts Clerk | 6 | | 6 | MARKETING DEPT. | | | |
| Data Entry Operator | 1 | | 1 | Manager | 0 | | 0 |
| AUDIT DEPT. | | | | Assistant Manager | 0 | | 0 |
| Internal Auditor | 1 | | 1 | Pharmaceutical Tech. | 1 | | 1 |
| Audit Clerk | 2 | | 2 | Marketing Assistant | 2 | | 2 |
| PLANNING & PROCUREMENT DEPT. | | | | Stores Assistant | 1 | | 1 |
| Manager | 1 | | 1 | Data Entry Operator | 1 | | 1 |
| Assistant Manager | 0 | | 0 | Labourer | 2 | | 2 |
| Pharm. Technologist | 3 | | 3 | PRODUCTION DEPT. | | | |
| Planning/Procurement Asst. | 4 | | 4 | Manager | 1 | | 1 |
| Stores Assistant | 6 | 3 | 9 | Assistant Manager | <u>1</u> | <u>2</u> | <u>3</u> |
| Data Entry Operator | 1 | | 1 | Pharmaceutical Tech. | <u>7</u> | <u>5</u> | <u>12</u> |
| Labourers | 3 | 2 | 5 | Production Assistants | <u>80</u> | <u>75</u> | <u>155</u> |
| FORMULATION RESEARCH DEVELOPMENT DEPT. | | | | IT DEPT. | | | |
| Manager | 1 | | 1 | Systems Analyst | 1 | | 1 |
| Asst. Manager | 0 | | 0 | Programme Analyst | 1 | | 1 |
| Assistant Chemist | 2 | | 2 | | | | |
| Technical Assistant | 1 | | 1 | TOTAL | 205 | 115 | 320 |

Source - SPMC

2) Maintenance

The basic maintenance of the facilities is carried out by the maintenance technicians of SPMC and major maintenance work is outsourced. With regard to the maintenance and repair of equipment of production area and quality control is carried out by the SPMC technicians.

3) Construction of new facilities and the refurbishment of existing facilities

SPMC may appoint a company such as the State Engineering Corporation (SEC) as the Consultant for preparation of drawings and supervision of the construction. Tendering and evaluation will be done by SPMC.

4) Procurement of equipment

Preparation of technical specifications, tendering evaluation and procurement will be carried out by SPMC. The installation work and commissioning will be carried out by the equipment supplier.

In SPMC, there are three types of evaluation committees, depending on the engineer's estimation of the cost of construction and procurement. The three types of evaluation committees are as follows.

Table 4-15: Three types of evaluation committees

| Name | Amount | Members |
|---------------------------------|-----------------------------------|---|
| Minor Evaluation Committee | Less than 2 Million Rupees | <ul style="list-style-type: none"> ➤ Production Manager (SPMC) ➤ Executive from Accounting Department (SPMC) ➤ Executive from relevant Department (SPMC) |
| Department Evaluation Committee | Between 2 and 25 Million Rupees | <ul style="list-style-type: none"> ➤ Director of MoH ➤ General Manager (SPMC) ➤ Production Manager (SPMC) ➤ Executive from Accounting Department (SPMC) ➤ Formulation and Development Manager (SPMC) |
| Ministry Evaluation Committee | Between 25 and 150 Million Rupees | <ul style="list-style-type: none"> ➤ Director of MoH ➤ Director of Ministry of Treasury ➤ Medical Doctor ➤ General Manager (SPMC) ➤ Manager from relevant Department (SPMC) |

Source - SPMC

4.5 Financial Analysis

4.5.1 Financial highlights of SPMC in the past 5 years

Table 4-16 below shows past 5 years' financial results of SPMC.

Table 4-16: Financial results of SPMC (Unit: Rs.000)

| | 2005 | 2006 | 2007 | 2008 | 2009 |
|----------------------------|---------|---------|---------|---------|-----------|
| 1 Sales | 387,696 | 411,194 | 599,035 | 890,244 | 1,152,684 |
| 2 Cost of sales | 328,536 | 371,315 | 500,444 | 765,247 | 932,212 |
| 3 Gross profit (1-2) | 59,160 | 39,879 | 98,591 | 124,997 | 220,472 |
| 4 Overheads ¹ | 64,558 | 60,348 | 61,450 | 61,594 | 99,049 |
| 5 Operational profit (3-4) | -5,398 | -20,469 | 37,141 | 63,403 | 121,423 |
| 6 Non-operational income | 20,111 | 30,282 | 41,462 | 60,904 | 33,479 |
| 7 Tax and other costs | 5,486 | 654 | 45,696 | 45,935 | 56,214 |
| 8 Net profit (5+6-7) | 9,227 | 9,159 | 32,907 | 78,372 | 98,688 |
| Gross profit ratio | 15.3% | 9.7% | 16.5% | 14.0% | 19.1% |
| Net profit ratio | 2.38% | 2.23% | 5.49% | 8.80% | 8.56% |

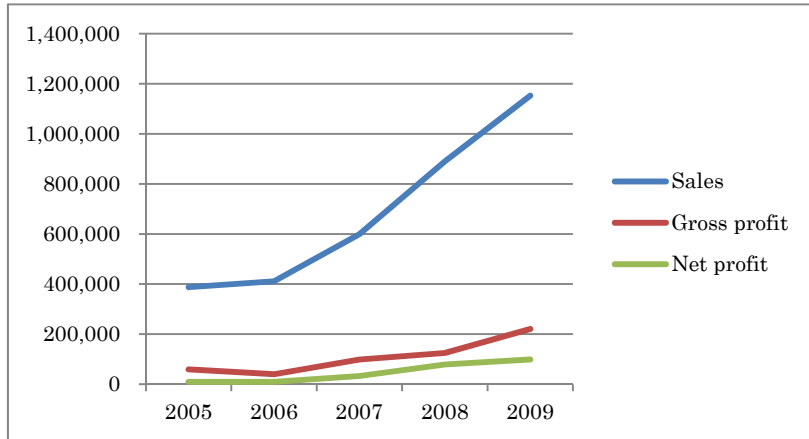
*1: Overheads include Administration expenses, sales & distribution expenses etc.

Source: Annual Report 2009, SPMC

In 2005 and 2006, the operational profit was negative. In this regard, SPMC explained that the decline in profit was caused by institutional factors. Before 1997, SPMC was a wing of the State Pharmaceuticals Corporation (SPC) and SPC bought all products produced by SPMC and distributed them to MSD and private markets. In 1997, however SPMC became independent from SPC and SPC started international competitive bidding to purchase drugs, so SPMC had to compete with other manufacturers to sell the products. Facing severe price competition with cheap drug manufacturers in India, SPMC was making a loss in sales and the volume of imported drugs was increasing. To improve financial condition of SPMC and to ensure a stable supply of drugs from domestic suppliers, the Government of Sri Lanka decided to buy 29 SPMC products directly in 2008. As can be seen in the above Table, sales volume in 2008 was Rs. 890,244 thousand, an increase of 48% from 2007.

The financial results of SPMC over the past 5 years show the operation of SPMC has resulted in a net profit of Rs. 98,688 thousand (2009), as compared with Rs. 9,227 thousand (2005) thus indicating increasing profits during the past 5 years.

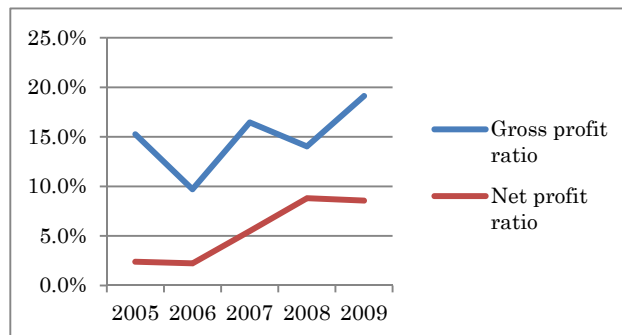
Figure 4-3: Trends in sales, gross profit and net profit



Source: Annual Report 2009, SPMC

Gross profit ratio and net profit ratio are 19.1% and 8.56% respectively in 2009. Compared with the ratio in 2008, gross profit ratio increased by 5.09% while net profit ratio decreased by -0.24%. Generally profit ratios have tended to increase over the past 5 years.

Figure 4-4: Shift of gross profit ratio and net profit ratio



Source: Annual Report 2009, SPMC

4.5.2 Financial analysis of SPMC

(1) Profitability

1) Return on assets (ROA)

Based on the balance sheet (B/S) and profit/loss statement (P/L) of SPMC, return on assets (ROA) is calculated as 6.65% in 2009 and 6.62% in 2008.

Table 4-17: Return on assets (ROA) of SPMC

| Unit: Rs | 2008 | 2009 |
|----------------------|---------------|---------------|
| Net profit | 78,382,032 | 98,688,176 |
| Total asset current | 1,117,587,000 | 1,251,026,999 |
| Total asset previous | 1,251,026,999 | 1,718,461,288 |
| ROA | 6.62% | 6.65% |

Source: Annual Report 2009, SPMC

According to the Performance Report (2009) issued by the Department of Public Enterprises of the Ministry of Finance and Planning in Sri Lanka, ROAs of similar scale companies⁴⁶ were 4.33% and -3.18. Compared with these ratios, the efficiency of capital for SPMC is relatively high, so SPMC is considered to have a good profit performance.

2) Return on equity (ROE)

Based on B/S and P/L of SPMC, return on equity (ROE) is calculated as 2.84% in 2009 and 3.58% in 2008.

Table 4-18: Return on equity

| Unit: Rs. | 2008 | 2009 |
|-------------------------|-------------|-------------|
| Net profit | 78,382,032 | 98,688,176 |
| Equity capital current | 690,079,000 | 690,079,000 |
| Equity capital previous | 690,079,000 | 690,079,000 |
| ROE | 2.84% | 3.58% |

Source: Annual Report 2009, SPMC

According to the Performance Report (2009), ROEs of similar scale companies were 1.98% and -4.22. As the ratio of SPMC is higher than these ratios, SPMC management is considered to be efficient and profitable.

(2) Stability analysis

1) Short-term solvency analysis

a) Current ratio

Table 4-19 shows the current ratio of SPMC calculated based on the B/S.

Table 4-19: Current ratio

| Unit: Rs. | 2008 | 2009 |
|-------------------|-------------|-------------|
| Current assets | 577,004,345 | 701,588,556 |
| Current liability | 67,353,229 | 46,951,145 |
| Current ratio | 857% | 1,494% |

Source: Annual Report 2009, SPMC

Generally speaking, a current ratio of more than 200% indicates the ability of an organisation to pay back short-term debt. The current ratio of SPMC has been remarkable at 1,494% in 2009 and 873% in 2008. This higher ratio is likely to be underpinned by the lower current liability and one of possible reasons is that SPMC does not need to borrow any funds from banks.

⁴⁶ The annual turnover of the State Development and Construction Corporation (SD&CC) is Rs. 1,466 million with 531 employees. The annual turnover of the Sri Lanka Cement Corporation (SLCC) is Rs. 1,071 million with 75 employees.

b) Quick ratio

The quick ratio of SPMC is shown in Table 4-20.

Table 4-20: Quick ratio

| Unit: Rs. | 2008 | 2009 |
|-------------------|-------------|-------------|
| Quick asset | 179,852,881 | 250,642,432 |
| Current liability | 67,353,229 | 46,951,145 |
| Quick ratio | 267% | 534% |

Source: Annual Report 2009, SPMC

A quick ratio of more than 100% is generally desired. Based on the B/S, the ratio is calculated as 267% in 2008 and 534% in 2009. The same factors mentioned for the current ratio are likely to be behind this performance.

As there is no weakness found in the short-term stability of SPMC in terms of current ratio and quick ratio, it could be concluded that SPMC has a sound short-term financial stability.

2) Long term stability analysis

a) Equity ratio

According to B/S, SPMC's equity ratio is estimated as per Table 4-21.

Table 4-21: Equity Ratio

| Unit: Rs. | 2008 | 2009 |
|----------------|---------------|---------------|
| Total assets | 1,251,026,999 | 1,718,461,288 |
| Equity capital | 690,079,000 | 690,079,000 |
| Equity ratio | 55.2% | 40.2% |

Source: Annual Report 2009, SPMC

With an equity ratio of 40% or higher, a firm could be considered financially stable. With an Equity ratio of 55.2% in 2008 and 40.2% in 2009, SPMC is unlikely to run into financial problems in the near future.

b) Fixed asset to equity ratio

Generally speaking, a firm with a fixed asset to equity ratio of less than 100% is financially stable. Based on the B/S, fixed assets to equity ratio of SPMC are shown in Table 4-22.

Table 4-22: Fixed assets to equity ratio

| Unit: Rs. | 2008 | 2009 |
|------------------------|-------------|---------------|
| Fixed assets | 674,022,654 | 1,016,872,732 |
| Equity capital | 690,079,000 | 690,079,000 |
| Assets to equity ratio | 97.7% | 147.4% |

Source: Annual Report 2009, SPMC

In 2008, fixed assets to equity ratio was less than 100%, however it reached 147.4% in 2009. According to the SPMC Annual Report 2009, SPMC started constructing new buildings and purchasing plant and machinery to strengthen production capacity. This investment is likely to be a factor behind the increase in fixed assets between 2008 and 2009. Since SPMC did not borrow any funds from banks, this investment was executed using its own funds from accumulated profits. Hence the high ratio in 2009 is not a serious issue.

All the above figures indicate that SPMC has a sound long-term financial stability.

CHAPTER 5 Selection of Target Institutions

5.1 Selection Criteria

5.1.1 Gaps between the standard and the current conditions

For selection of the target secondary hospitals, MoH suggested the selection be primarily based on the needs of the individual institutions rather than the socio-economic status of their catchment populations, even though the project aims to benefit the poor. The rationale given was that the concept of catchment population does not have much significance under the current “open system” where people can and do visit other hospitals of according to their preferences.

The needs of the institutions were assessed through the secondary hospital survey, in terms of how far away they are from “the standards” prescribed by MoH. The survey found that almost all of the 57 hospitals are lagging behind, albeit to different extents, as already discussed in Chapter 3.

For a fair and objective selection of the target institutions, the 57 hospitals were systematically scored using the following indicators that were determined in discussions with MoH:

- Criteria 1: Frequency of outward transfers (10 points);
- Criteria 2: Bed Occupancy Rate (BOR) (10 points);
- Criteria 3: Availability of consultants (10 points);
- Criteria 4: Catchment population per doctor (10 points); and
- Criteria 5: Availability of the standard facilities that DGH or BH are supposed to have

Table 5-1: Selection criteria and scoring methods

| No. | Criteria | Calculation | |
|-----|-------------------------------------|--|---|
| | | Data /Formula used | Scoring |
| 1 | Frequency of outward transfers | Total number of patients (OPD + Clinics + admission) divided by the number of transfers per month. | Hospital <ul style="list-style-type: none"> • with the most frequent transfers: 10 points • with the least frequent transfers: 0 points • in between: 0.01 – 9.99 points depending on the frequency |
| 2 | BOR | BOR as reported by each institution | Hospital <ul style="list-style-type: none"> • with the lowest BOR: 10 points • with the highest BOR: 0 points • in between: 0.01 – 9.99 points depending on the BOR |
| 3 | Availability of consultants | Number of consultants as reported by each institution | Hospital with <ul style="list-style-type: none"> • no consultants: 10 points • 1 consultant: 7.5 points • 2 consultants: 5 points • 3 consultants: 2.5 points • 4 or more consultants: 0 point |
| 4 | Population per doctor (Pop/Doc) | Catchment population divided by number of MOs including consultants, RMOs, AMOs and intern MOs as reported by each institution | Hospital <ul style="list-style-type: none"> • with the largest population: 10 points • with the smallest population: 0 points • in between: 0.01 - 9.99 points depending on the population size per doctor |
| 5 | Availability of standard facilities | Data provided by each institution on availability of the standard facilities (more details in Table 5-2) | Hospital <ul style="list-style-type: none"> • with the largest gaps to the standard: 20 points • with the smallest gaps to the standard: 0 points • in between: 0.01 - 19.99 points depending on the gaps |

Table 5-2: Scoring methods used for standard facilities

| Facilities | Calculation |
|--|--|
| ETU | Yes: 0 points No: 10 points |
| Exclusive spaces for clinics | Yes: 0 points No: 5 points |
| Medical, Surgical, Paediatrics and Obstetric wards | For each of the speciality wards: Yes: 0 No: 10 |
| Wards for other specialities | For each of the ENT, Eye, Anaesthetic, Dermatology, Rheumatology Orthopaedic, Neonatal wards: Yes: 0 points No: 5 points * Adjustments were made so that the full scores for DGH and BH are equal. |
| Operation Theatres | Yes + sufficient in number: 0 points Yes + insufficient in number: 5 points No OT: 10 points |
| Intensive Care Units (ICU) – Medical and Surgical | Have MICU & SICU + both sufficiently equipped: 0 points Have MICU & SICU + only one sufficiently equipped: 2 points Have MICU & SICU + both not sufficiently equipped: 5 points Have MICU or SICU + sufficiently equipped: 3 points Have MICU or SICU + not sufficiently equipped: 7 points No ICU: 10 points |

The results of this scoring exercise (List A) are presented in Annex 12.

5.1.2 Population size

To maximise the benefits of the project, the catchment population size was used as a secondary criteria. The top 20 hospitals were taken from the list A, and re-organised in order of the catchment population size as shown in Table 5-3 (“List B”).

5.1.3 Priority within a province

The development priorities of each province were used as the third criteria, as aligning the project with the local plan is important in view of maximising and sustaining the effects of the planned project. Moreover, provincial health authorities are in a good position to factor in other important criteria such as the recent investment histories, other resources already earmarked for particular institutions, as well as the transfer networks in their provinces. For this purpose, the health authorities of the seven provinces were asked to name institutions of their highest priority amongst those in the list B⁴⁷.

⁴⁷ Letters from the Additional Secretary, MoH are attached in Annex 13.

Table 5-3: 20 Institutions of highest needs in order of catchment population size (List B)

| Ranking | List A positions | Province | category | Institutions | points | | | | | numerical data | | | | | | | |
|---------|------------------|----------|----------|----------------|----------------------------|-------|----------------|-----------|-------------|--------------------------|----------------------------|--------|-------------------------|---------|---------------------------------|---------------|--------|
| | | | | | 1. Patients / Transfer-out | 2.BOR | 3. Consultants | 4. Pop/MO | 5. Facility | Total points (out of 60) | Catchment population (000) | # Beds | Patients / Transfer-out | BOR (%) | Journey to referral hosp. (min) | # Consultants | pop/MO |
| 1 | 6 | C | BHB | Teldeniya | 9.63 | 7.77 | 10 | 4.87 | 8.50 | 40.77 | 304 | 87 | 67.0 | 39 | 35 | 0 | 27,636 |
| 2 | 13 | NW | BHB | Galgamuwa | 9.63 | 9.09 | 5 | 2.89 | 8.50 | 35.10 | 300 | 131 | 67.4 | 22 | 90 | 2 | 16,667 |
| 3 | 2 | E | BHB | Kaluwanchikudy | 9.69 | 4.62 | 10 | 10.00 | 10.14 | 44.45 | 280 | 150 | 62.0 | 80 | 50 | 0 | 56,000 |
| 4 | 12 | Sab | BHB | Warakapola | 9.03 | 6.68 | 10 | 1.61 | 8.50 | 35.82 | 250 | 138 | 117.7 | 53 | 30 | 0 | 9,615 |
| 5 | 16 | U | BHB | Welimada | 7.55 | 6.15 | 5 | 1.60 | 11.78 | 32.09 | 200 | 114 | 242.1 | 60 | 90 | 2 | 9,524 |
| 6 | 17 | E | BHB | Samanthurai | 8.79 | 5.12 | 7.5 | 1.98 | 6.85 | 30.24 | 186 | 175 | 138.2 | 73 | 30 | 1 | 11,625 |
| 7 | 9 | U | BHB | Wellawaya | 9.30 | 7.23 | 7.5 | 2.34 | 11.78 | 38.15 | 150 | 112 | 95.2 | 46 | 45 | 1 | 13,636 |
| 8 | 19 | N | BHA | Point Pedro | 9.04 | 6.85 | 7.5 | 1.11 | 5.21 | 29.70 | 150 | 264 | 116.8 | 51 | 25 | 1 | 6,818 |
| 9 | 5 | Sab | BHB | Kalawana | 9.24 | 7.85 | 10 | 2.59 | 11.78 | 41.46 | 120 | 82 | 99.9 | 38 | 90 | 0 | 15,000 |
| 10 | 7 | NW | BHB | Polpitigama | 9.86 | 8.15 | 10 | 3.06 | 8.50 | 39.57 | 88 | 110 | 47.5 | 34 | 90 | 0 | 17,600 |
| 11 | 15 | E | BHB | Mutur | 9.79 | 0.74 | 7.5 | 1.32 | 13.43 | 32.78 | 80 | 92 | 53.7 | 130 | 150 | 1 | 8,000 |
| 12 | 14 | N | BHB | Chavakachcheri | 9.73 | 5.68 | 10 | 1.16 | 8.50 | 35.06 | 71 | 104 | 58.9 | 66 | 30 | 0 | 7,100 |
| 13 | 10 | U | BHB | Siyambalanduwa | 9.36 | 7.76 | 10 | 1.25 | 7.84 | 36.21 | 61 | 117 | 90.0 | 39 | 60 | 0 | 7,625 |
| 14 | 20 | NC | BHB | Padaviya | 8.83 | 6.92 | 7.5 | 0.90 | 5.21 | 29.36 | 51 | 195 | 134.5 | 50 | 195 | 1 | 5,667 |
| 15 | 3 | N | BHB | Kayts | 9.85 | 7.69 | 10 | 2.77 | 13.43 | 43.73 | 48 | 59 | 49.0 | 40 | 45 | 0 | 16,000 |
| 16 | 4 | NC | BHB | Welikanda | 9.89 | 7.69 | 10 | 2.59 | 13.43 | 43.59 | 45 | 62 | 45.6 | 40 | 30 | 0 | 15,000 |
| 17 | 7 | E | BHB | Mahaoya | 9.43 | 8.11 | 10 | 0.24 | 11.78 | 39.57 | 40 | 100 | 83.7 | 35 | 90 | 0 | 2,000 |
| 18 | 18 | C | BHB | Hettipola | 7.11 | NA | 10 | 1.32 | 11.78 | 30.21 | 32 | 58 | 279.8 | NA | 40 | 0 | 8,000 |
| 19 | 11 | NC | BHB | Kebitigollewa | 8.54 | 7.69 | 7.5 | 0.38 | 11.78 | 35.90 | 25 | 83 | 158.6 | 40 | 75 | 1 | 2,778 |
| 20 | 1 | N | BHB | Mankulam | 9.76 | 10.00 | 10 | 1.68 | 20.00 | 51.45 | 10 | 40 | 55.8 | 10 | 30 | 0 | 10,000 |

Source: JICA-MoH Survey on Secondary-Level Institutions Long List

5.2 Long List

A long list as is shown in Table 5-4 was compiled with the priority confirmed by the seven provinces in consideration with the List B ranking. As it turned out, the provinces' priorities generally conformed to the ranks in the List B.

Table 5-4: Long list

| | List B rank | Province | District | Category | Institution |
|---|-------------|----------|--------------|----------|----------------|
| 1 | 1 | C | Kandy | BHB | Teldeniya |
| 2 | 2 | NW | Kurunegala | BHB | Galgamuwa |
| 3 | 3 | E | Batticaloa | BHB | Kaluwanchikudy |
| 4 | 4 | Sab | Kegalle | BHB | Warakapola |
| 5 | 5 | U | Badulla | BHB | Welimada |
| 6 | 14 | NC | Anuradhapura | BHB | Padaviya |
| 7 | 16 | N | Jaffna | BHB | Kayts |

5.3 Short List

The estimated costs of upgrading the long-listed hospitals were calculated using the model floor plans and unit costs prepared by the Study Team. In view of the availability of the resources, the top four hospitals in the long list, namely BHB Teldeniya in Central province, BHB Galgamuwa in North Western province, BHB Kaluwanchikudy in Eastern province and BHB Warakapola in Sabaragamuwa province were shortlisted for upgrading under the planned Japanese assistance.

ANNEXES

- Annex 1: Mahinda Chintana (Health Objectives)
- Annex 2: Questionnaires (DGH & BH)
- Annex 3: List of surveyed medical institutions
- Annex 4: Decentralised health administration
- Annex 5: Structure of health administration in Central province
- Annex 6: Recategorization of Hospitals
- Annex 7: Job Description of MO/NCD
- Annex 8: Guidelines for management of NCDs in Primary Level Institutions
- Annex 9: Maintenance arrangements for facilities and equipment of hospitals
- Annex 10: SPMC - Production flow chart for general drugs
- Annex 11: SPMC organisational structure
- Annex 12: Ranking of the surveyed hospitals
- Annex 13: Letters from MoH to provincial health secretaries

Annex 1: Mahinda Chintana (Health Objectives)

Development Initiatives by Time Horizon

Short term (by 2013)

| | |
|--|---|
| <ol style="list-style-type: none"> 1) Expand OPD facilities at primary care institutions 2) Introduce Health Record Card for each citizen 3) Develop and implement an intensified NCD prevention programme 4) Establish Centres of Excellence in Cardiology NHSL Colombo 5) Establish Centres of Excellence in Oncology at TH Batticaloa 6) Establish Centres of Excellence in Neuro-trauma NHSL Colombo 7) Selective upgrading of National and Provincial health facilities 8) Introduce legislation to promote medical research 9) Strengthen mobile healthcare services 10) Ambulatory care unit at NHSL. 11) Provide necessary facilities for doctors in the rural areas 12) Strengthen the existing cancer treatment units. 13) OPD & Clinical complex -Castle Hospital, 14) Theatre Complex TH Kegalle 15) Clinical building GDH Kalutara 16) Ward Complex TH Kalubowila 17) Development of TH Kurunegala 18) Development of Estate Sector Hospitals | <ol style="list-style-type: none"> 19) Theatre complex GH Kandy 20) Theatre complex Ragama 21) Accident service DGH Ratnapura 22) Ward Complex GH Hambantota 23) Emergency & trauma centre Karapitiya 24) Development of Jaffna TH 25) Maternal & child hospital Beliatta 26) National HIV/AIDS prevention programme 27) Nutritional intervention programmes to cover all undernourished expectant mothers 28) Rehabilitation/ improvement of selected MoH offices, MCHs, & other health clinics, provision of necessary equipment & vehicles (New) 29) Recruit and train staff necessary for preventive services in estate sector 30) Recruit and train necessary staff for the hospitals which are being developed in the estate sector as well as in other areas 31) Implement revised drug policy 32) Establish disaster and accident prevention and response programme established 33) Community based programmes for care of elders and disabled |
|--|---|

Medium term (by 2016)

| | |
|---|--|
| <ol style="list-style-type: none"> 34) Establish Centres of Excellence in Cardiology at TH Anuradhapura and Jaffna 35) Establish Centres of Excellence in Oncology TH Kurunegala 36) Establish Epilepsy Center at NHSL Colombo 37) Introduce electronic health record card for every citizen 38) Selective upgrading of National and Provincial health facilities in order to make curative services more accessible to the rural poor 39) Introduce tele-health services to public hospitals 40) Development of Dental Hospital, 41) Development of Panadura Hospital 42) Development of peripheral Blood bank. 43) Development of Moneragala hospital 44) Development of Army Hospital | <ol style="list-style-type: none"> 45) Strengthen maternity care services by providing village level maternity clinics, medical advice and related services 46) Provide necessary facilities for nursing training schools 47) Increase intake of medical students 48) Alternative programmes including increasing scholarships to produce specialist doctors to meet requirements 49) Manufacture locally drugs with a relatively high demand 50) Strengthen the SPMC 51) Malaria, Dengue and Rabies control. 52) Develop a Health Information policy, IT enabled Health Information System connected with all hospitals and strengthen the capacity among managers and users of information |
|---|--|

Long term (by 2020)

| | |
|---|---|
| <ol style="list-style-type: none"> 53) Popularize tele-health services 54) Epidemiological services (on-going) 55) School health programmes (on-going) | <ol style="list-style-type: none"> 56) Oral Health Service Management Project (New) 57) Programmes for total eradication of Malaria, Dengue & Rabies (on-going) |
|---|---|

Annex 2: Questionnaires (DGH & BH)

Japan International Cooperation Agency

Health Care Facility Survey for Secondary-Level Institutions
August 2011

This questionnaire consists of 3 parts:

- (1) This cover page with the Section 1: Contact details (1 page),
- (2) Section 2: Profile (2 pages) and
- (3) Section 3: Facilities for Base Hospital as per the "Recategorization of Hospitals" (4 pages).

Kindly fill all the three sections and email or fax it back to us, together with your latest staffing list, by 26 August 2011.

| | |
|---|--|
| JICA Health Survey Team Team Leader: Ms. Keiko Nishino email: nishino.keiko@glm.co.jp Fax: 11-2369971 Tel: 11-2369970 | |
|---|--|

Section 1: Contact Details

| | | | |
|----------------------|--|-------------|--|
| Name of the Hospital | | | |
| Province | | District | |
| Contact person | | Designation | |
| Tel | | | |
| Fax | | | |
| e-mail | | | |

Section 2: Profile

| Survey Item | | Answer | | Answering criteria | |
|-------------------------|--|--|--------|---------------------|--|
| 1. General Information | 1. Catchment area population (latest) | | | persons | |
| | 2. Number of hospital beds (as of end July 2011) | | | beds | |
| | 3. Bed occupancy rate (2010) | | | % | |
| | 4. OPD attendance (2010) | | | 2010 total | |
| | 5. Number of admissions (2010) | | | 2010 total | |
| | 6. Number of deliveries (2010) | | | 2010 total | |
| | 7. Clinics conducted | | Clinic | Frequency per month | Average number of patients per session |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 8. Staffing | Please attach a latest staffing list showing the approved posts and actual deployment. | | | | |
| 2. Referral / Transfers | 1. How many ambulances does your hospital have? | | | units | |
| | 2. Average number of ambulance transfers to hospitals of higher level | | | cases per month | |
| | 3. To which hospital do you transfer your patients mostly? | | | name of hospital | |
| | 4. Distance to the above mentioned hospital | | | km | |
| | 5. Length of one-way trip to the above-mentioned hospital | | | minutes | |
| | 6. Average number of ambulance transfers to your hospital (if available) | | | cases per month | |
| 3. Drug supplies | 1. How well are your needs for drugs covered by the MSD supplies? | <input type="checkbox"/> 100% <input type="checkbox"/> 90% <input type="checkbox"/> 80% <input type="checkbox"/> 70% <input type="checkbox"/> 60% <input type="checkbox"/> ≤ 50% | | | |
| | 2. Number of items that went out of stock in 2010 | <input type="checkbox"/> none <input type="checkbox"/> 1~10 <input type="checkbox"/> 11~20 <input type="checkbox"/> 21~30 <input type="checkbox"/> ≥ 31 | | | |
| | 3. Items that faced most serious stock-out in 2010 | | | | |

Section 2: Profile

| | | | | |
|--|---|----------|----------------------------|--|
| 4. Construction and/or renovation in the recent years | 1. When did your hospital have major construction/renovation last? | | year | |
| | 2. Name of constructed/renovated buildings (eg. OPD, operation theatre, etc.) | | | |
| | 3. Name of major equipment supplied (eg. X-ray, monitor, operation table, etc.) | Items | Year supplied | |
| | | | | |
| | | | | |
| | | | | |
| 5. Current construction and/or renovation needs | 1. Most urgent construction and/or renovation needs, for which funding sources are <u>not yet</u> identified (list up to 3 items in order of your priority) | 1. | | |
| | | 2. | | |
| | | 3. | | |
| 2. Availability of land for expansion | Yes / No | | | |
| 6. External assistance for physical improvements (i.e. buildings, equipment, etc.) | 1. Do you have any development project with foreign funds either on-going or earmarked for the near future? | Yes / No | | |
| | 2. If yes, who is funding? | | Name(s) of organization(s) | |
| | 3. What is (to be) improved and how (eg. renovation, construction, supply of equipment, etc.)? | | Building or function | |
| | 4. The cost of the above-mentioned intervention(s): | | Rs. | |
| | 5. For which year? | | year | |

Section 3: Facilities for Base Hospital as per the "Recategorization of Hospitals"

This section will identify the gaps, if any, between the current condition of your hospital and the standard of DGH prescribed by the Central Ministry of Health. Kindly fill in the table below with relevant information.

A. Standard Facilities**1 Out Patient Department**

| | Total number of: | | |
|--------------------------------------|------------------|---|--------------------|
| | Rooms | Doctors' desks | Examination tables |
| 1. Consultation rooms | | | |
| Do you have these facilities? | | If you have, are they sufficiently equipped? If no, please list items missing. | |
| 2. Dressing room | Yes/No | Yes/ No | |
| 3. Injection room | Yes/No | Yes/ No | |
| 4. Dispensary | Yes/No | Yes/ No | |
| 5. ECG room | Yes/No | Yes/ No | |
| 6. Dental clinic | Yes/No | Yes/ No | |
| 7. Others (Please specify) | Yes | Yes/ No | |
| 8. | Yes | Yes/ No | |
| 9. | Yes | Yes/ No | |
| 10. | Yes | Yes/ No | |
| 11. A separate Preliminary Care Unit | Yes/No | Yes/ No | |
| 12. A separate Emergency Care Unit | Yes/No | Yes/ No | |
| 13. Screening facilities | Yes/No | Cardio Vascular Diseases | |
| | Yes/No | Cancer | |
| | Yes/No | Diabetis | |
| | Yes/No | Respiratory Diseases | |

2 Clinic facilities

| | |
|--|--|
| 1. Number of rooms exclusively used for clinics (may be shared by several clinics but separate from the OPD) | |
| 2. Number of doctors' desks in the above-mentioned clinic rooms | |

Section 3 (Base Hospital)

3 In-patient facilities

| | Number of: | | | | Are they sufficiently equipped? If not, please list the major items missing. | |
|--------------------------------------|------------|------|-------------|-----|---|--|
| | wards | beds | consultants | MOs | Yes/ No | |
| 1. 2 x Medical units | | | | | Yes/ No | |
| 2. 2 x Surgical units | | | | | Yes/ No | |
| 3. 2 x Gynaecology & Obstetric units | | | | | Yes/ No | |
| 4. 2 x Paediatric units | | | | | Yes/ No | |
| 5. 1 x ENT surgical unit | | | | | Yes/ No | |
| 6. 1 x Eye surgical unit | | | | | Yes/ No | |
| 7. Anaesthesia Unit | | | | | Yes/ No | |
| 8. Others (specify) | | | | | Yes/ No | |
| 9. | | | | | Yes/ No | |
| 10. | | | | | Yes/ No | |
| 11. | | | | | Yes/ No | |

4. Intensive Care units

| Are there these facilities? | | If not | If yes | |
|--|------------|--------------------------------|---|----------------|
| | | why not (prohibiting factors)? | any major equipment needed but missing? | number of beds |
| 1. Medical Intensive Care Unit (MICU) | Yes/ No | | | |
| 2. Surgical Intensive Care Unit (SICU) | Yes/ No | | | |

5. Operation Theatres (only those with operation tables)

| | |
|--|--------|
| 1. Number of OT rooms you currently have: | |
| 2. Number of OT tables in the above-mentioned rooms: | |
| 3. Is the above number sufficient to meet the needs? | Yes/No |
| 4. Issues related to OT, if any. | |

Section 3 (Base Hospital)

6. Diagnostic services

| Are there these facilities? | | If not | If yes |
|--|------------|--------------------------------|---|
| | | why not (prohibiting factors)? | are they well equipped? If not, what are missing? |
| 1. Radiology Department | Yes/ No | | |
| 2. Pathology Dept. with Histopathology, Haematology and Microbiology Units | Yes/ No | | |

7. Other services

| | | | |
|---------------------------------|------------|--|-----------------|
| 1. Medico-legal Department | Yes/ No | | |
| 2. Maxillo Facial Surgical Unit | Yes/ No | | Number of beds: |
| | | | |
| 3. Medical Record Unit | Yes/ No | | |

8. Total number of beds for in-patient care

| | |
|--|--|
| | |
|--|--|

B Additional Facilities

| Are there these facilities? | | Are they well equipped? If not, what are missing? | Number of beds: |
|-----------------------------|------------|---|-----------------|
| 1. Psychiatry Unit | Yes/ No | | |
| 2. Rheumatology Unit | Yes/ No | | |
| 3. STD/AIDS Unit | Yes/ No | | |
| 4. Others (pls. specify) | Yes | | |
| 5. | Yes | | |
| 6. | Yes | | |

C Infrastructure and peripheral facilities

| Are there these facilities? | | Total number | Issues, if any |
|-----------------------------------|--|--|----------------|
| 1. Staff quarters | | | |
| 1a. For consultants | Yes/ No | | |
| 1b. For MOs | Yes/ No | | |
| 1c. For Nurses | Yes/ No | | |
| 1d. For other categories of staff | Yes/ No | | |
| Are there these facilities? | | Issues, if any | |
| 2. | Electricity | | |
| 3. | Generator number of units: | | |
| 4. | Water supply | Source: <input type="checkbox"/> city water <input type="checkbox"/> deep well water <input type="checkbox"/> rain water <input type="checkbox"/> other: Quality: <input type="checkbox"/> satisfactory <input type="checkbox"/> unsatisfactory (pls elaborate) | |
| 5. | Sewage (toxic waste water management) | Yes/ No | |
| 6. | Incinerator (toxic medical waste management) | Yes/ No | |

D Maintenance of the facilities and medical equipment

| Description | Do you have in-house maintenance dept.? If yes, how many engineers/technicians do you have? | | Maintenance provided by Engineering Dept. of the Province or Line Ministry? | Maintenance outsourced? |
|---------------------------------|---|------------------------------|---|----------------------------|
| | Yes/ No | # engineers /technicians: | | |
| 1. Building Maintenance Dept. | Yes/ No | # engineers /technicians: | Yes/No | Yes/No |
| 2. Electrical maintenance Dept. | Yes/ No | # engineers /technicians: | Yes/No | Yes/No |
| 3. Mechanical Maintenance Dept. | Yes/ No | # engineers /technicians: | Yes/No | Yes/No |
| 4. Bio-Medical Equipment Dept. | Yes/ No | # engineers /technicians: | Yes/No | Yes/No |

Japan International Cooperation Agency

Health Care Facility Survey for Secondary-Level Institutions
August 2011

This questionnaire consists of 3 parts:

- (1) This cover page with the Section 1: Contact details (1 page),
- (2) Section 2: Profile (2 pages) and
- (3) Section 3: Facilities for District General Hospital as per the "Recategorization of Hospitals" (5 pages).

Kindly fill all the three sections and email or fax it back to us, together with your latest staffing list, by 26 August 2011.

| |
|---|
| JICA Health Survey Team Team Leader: Ms. Keiko Nishino email: nishino.keiko@glm.co.jp Fax: 11-2369971 Tel: 11-2369970 |
|---|

Section 1: Contact Details

| | | | |
|----------------------|--|-------------|--|
| Name of the Hospital | | | |
| Province | | District | |
| Contact person | | Designation | |
| Tel | | | |
| Fax | | | |
| e-mail | | | |

Section 2: Profile

| Survey Item | | Answer | | Answering criteria | |
|-------------------------|--|--|--------|---------------------|--|
| 1. General Information | 1. Catchment area population (latest) | | | persons | |
| | 2. Number of hospital beds (as of end July 2011) | | | beds | |
| | 3. Bed occupancy rate (2010) | | | % | |
| | 4. OPD attendance (2010) | | | 2010 total | |
| | 5. Number of admissions (2010) | | | 2010 total | |
| | 6. Number of deliveries (2010) | | | 2010 total | |
| | 7. Clinics conducted | | Clinic | Frequency per month | Average number of patients per session |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| | | | | | |
| 8. Staffing | Please attach a latest staffing list showing the approved posts and actual deployment. | | | | |
| 2. Referral / Transfers | 1. How many ambulances does your hospital have? | | | units | |
| | 2. Average number of ambulance transfers to hospitals of higher level | | | cases per month | |
| | 3. To which hospital do you transfer your patients mostly? | | | name of hospital | |
| | 4. Distance to the above mentioned hospital | | | km | |
| | 5. Length of one-way trip to the above-mentioned hospital | | | minutes | |
| | 6. Average number of ambulance transfers to your hospital (if available) | | | cases per month | |
| 3. Drug supplies | 1. How well are your needs for drugs covered by the MSD supplies? | <input type="checkbox"/> 100% <input type="checkbox"/> 90% <input type="checkbox"/> 80% <input type="checkbox"/> 70% <input type="checkbox"/> 60% <input type="checkbox"/> ≤ 50% | | | |
| | 2. Number of items that went out of stock in 2010 | <input type="checkbox"/> none <input type="checkbox"/> 1~10 <input type="checkbox"/> 11~20 <input type="checkbox"/> 21~30 <input type="checkbox"/> ≥ 31 | | | |
| | 3. Items that faced most serious stock-out in 2010 | | | | |

Section 2: Profile

| | | | | |
|--|---|----------|----------------------------|--|
| 4. Construction and/or renovation in the recent years | 1. When did your hospital have major construction/renovation last? | | year | |
| | 2. Name of constructed/renovated buildings (eg. OPD, operation theatre, etc.) | | | |
| | 3. Name of major equipment supplied (eg. X-ray, monitor, operation table, etc.) | Items | Year supplied | |
| | | | | |
| | | | | |
| | | | | |
| 5. Current construction and/or renovation needs | 1. Most urgent construction and/or renovation needs, for which funding sources are <u>not yet</u> identified (list up to 3 items in order of your priority) | 1. | | |
| | | 2. | | |
| | | 3. | | |
| 2. Availability of land for expansion | Yes / No | | | |
| 6. External assistance for physical improvements (i.e. buildings, equipment, etc.) | 1. Do you have any development project with foreign funds either on-going or earmarked for the near future? | Yes / No | | |
| | 2. If yes, who is funding? | | Name(s) of organization(s) | |
| | 3. What is (to be) improved and how (eg. renovation, construction, supply of equipment, etc.)? | | Building or function | |
| | 4. The cost of the above-mentioned intervention(s): | | Rs. | |
| | 5. For which year? | | year | |

Section 3: Facilities for District General Hospital as per the "Recategorization of Hospitals"

This section will identify the gaps, if any, between the current condition of your hospital and the standard of DGH prescribed by the Central Ministry of Health. Kindly fill in the table below with relevant information.

A. Standard Facilities

1 Out Patient Department

| | Total number of: | | |
|--------------------------------------|------------------|---|--------------------|
| | Rooms | Doctors' desks | Examination tables |
| 1. Consultation rooms | | | |
| Do you have these facilities? | | If you have, are they sufficiently equipped? If no, please list items missing. | |
| 2. Dressing room | Yes/No | Yes/ No | |
| 3. Injection room | Yes/No | Yes/ No | |
| 4. Dispensary | Yes/No | Yes/ No | |
| 5. ECG room | Yes/No | Yes/ No | |
| 6. Dental clinic | Yes/No | Yes/ No | |
| 7. Others (Please specify) | Yes | Yes/ No | |
| 8. | Yes | Yes/ No | |
| 9. | Yes | Yes/ No | |
| 10. | Yes | Yes/ No | |
| 11. A separate Preliminary Care Unit | Yes/No | Yes/ No | |
| 12. A separate Emergency Care Unit | Yes/No | Yes/ No | |
| 13. Screening facilities | Yes/No | Cardio Vascular Diseases | |
| | Yes/No | Cancer | |
| | Yes/No | Diabetis | |
| | Yes/No | Respiratory Diseases | |

2 Clinic facilities

| | |
|--|--------|
| 1. Do you have rooms exclusively used for clinics (may be shared by several clinics but separate from the OPD) | Yes/No |
| 2a. If yes, how many such rooms do you have? | |
| 2b. how many doctors' desks do you have in these rooms? | |

Section 3 (DGH)

3 In-patient facilities

| | Number of: | | | | Are they sufficiently equipped? If not, please list the major items missing. | |
|--------------------------------------|------------|------|-------------|-----|---|--|
| | wards | beds | consultants | MOs | Yes/ No | |
| 1. 2 x Medical units | | | | | Yes/ No | |
| 2. 2 x Surgical units | | | | | Yes/ No | |
| 3. 2 x Gynaecology & Obstetric units | | | | | Yes/ No | |
| 4. 2 x Paediatric units | | | | | Yes/ No | |
| 5. 1 x Dermatology unit | | | | | Yes/ No | |
| 6. 1 x Rheumatology unit | | | | | Yes/ No | |
| 7. 1 x STD/AIDS Unit | | | | | Yes/ No | |
| 8. 1 x Orthopaedic surgery unit | | | | | Yes/ No | |
| 9. 1 x ENT surgical unit | | | | | Yes/ No | |
| 10. 1 x Eye surgical unit | | | | | Yes/ No | |
| 11. 1 x Neo-natology unit | | | | | Yes/ No | |
| 12. Anaesthesia Unit | | | | | Yes/ No | |
| 13. Others (specify) | | | | | Yes/ No | |
| 14. | | | | | Yes/ No | |
| 15. | | | | | Yes/ No | |
| 16. | | | | | Yes/ No | |

4. Intensive Care units

| Are there these facilities? | | If not | If yes | |
|--|------------|--------------------------------|---|----------------|
| | | why not (prohibiting factors)? | any major equipment needed but missing? | number of beds |
| 1. Medical Intensive Care Unit (MICU) | Yes/ No | | | |
| 2. Surgical Intensive Care Unit (SICU) | Yes/ No | | | |

Section 3 (DGH)

5. Operation Theatres (only those with operation tables)

| | |
|--|--------|
| 1. Number of OT rooms you currently have: | |
| 2. Total number of OT tables in the above-mentioned rooms: | |
| 3. Is the above sufficient to meet the needs? | Yes/No |
| 4. Issues related to OT, if any. | |

6. Diagnostic services

| Are there these facilities? | | If not | If yes |
|--|------------|--------------------------------|---|
| | | why not (prohibiting factors)? | are they well equipped? If not, what is missing (ECG, X-ray, operation table, etc)? |
| 1. Radiology Department | Yes/ No | | |
| 2. Pathology Dept. with Histopathology, Haematology and Microbiology Units | Yes/ No | | |

7. Other services

| | | | |
|---------------------------------|------------|--|-----------------|
| 1. Medico-legal Department | Yes/ No | | |
| 2. Maxillo Facial Surgical Unit | Yes/ No | | Number of beds: |
| | | | |
| 3. Public Health Unit | Yes/ No | | |
| 4. Medical Record Unit | Yes/ No | | |

8. Total number of beds for in-patient care

| | |
|--|--|
| | |
|--|--|

B Additional Facilities

| Are there these facilities? | | Issues related to facilities and/or equipment, if any | Number of beds: |
|------------------------------|------------|---|-----------------|
| 1. Chest Medicine Unit | Yes/ No | | |
| 2. Neurology Unit | Yes/ No | | |
| 3. Cardiology Unit | Yes/ No | | |
| 4. Transfusion Medicine Unit | Yes/ No | | |
| 5. Others (pls. specify) | Yes | | |
| 6. | Yes | | |
| 7. | Yes | | |

C Infrastructure and peripheral facilities

| Are there these facilities? | | Total number | Issues, if any |
|-----------------------------------|------------|--------------|----------------|
| 1. Staff quarters | | | |
| 1a. For consultants | Yes/ No | | |
| 1b. For MOs | Yes/ No | | |
| 1c. For Nurses | Yes/ No | | |
| 1d. For other categories of staff | Yes/ No | | |

Section 3 (DGH)

| Are there these facilities? | | Issues, if any |
|---|------------|--|
| 2. Electricity | | |
| 3. Generator number of units: | | |
| 4. Water supply | | Source: <input type="checkbox"/> city water <input type="checkbox"/> deep well water <input type="checkbox"/> rain water <input type="checkbox"/> other: Quality: <input type="checkbox"/> satisfactory <input type="checkbox"/> unsatisfactory (pls elaborate) |
| 5. Sewage (toxic waste water management) | Yes/ No | |
| 6. Incinerator (toxic medical waste management) | Yes/ No | |

D Maintenance of the facilities and medical equipment

| Description | Do you have in-house maintenance dept.? If yes, how many engineers/technicians do you have? | | | Maintenance provided by Engineering Dept. of the Province or Line Ministry? | Maintenance outsourced? |
|---------------------------------|--|------------------------------|--|---|-------------------------|
| | Yes/ No | # engineers /technicians: | | | |
| 1. Building Maintenance Dept. | Yes/ No | # engineers /technicians: | | Yes/No | Yes/No |
| 2. Electrical maintenance Dept. | Yes/ No | # engineers /technicians: | | Yes/No | Yes/No |
| 3. Mechanical Maintenance Dept. | Yes/ No | # engineers /technicians: | | Yes/No | Yes/No |
| 4. Bio-Medical Equipment Dept. | Yes/ No | # engineers /technicians: | | Yes/No | Yes/No |

Annex 3: List of surveyed medical institutions

List of the Secondary Hospitals Involved in the Survey

| Prov. | Category | District & Hosp. Names | Q returned by 30 Sep | Prov. | Category | District & Hosp. Names | Q returned |
|--------------------|-----------------------|-------------------------|----------------------|---------------|---------------------|------------------------|------------|
| Central | Kandy | | | North Western | Kurunegala | | |
| | DGH | Nawalapitiya | ✓ | | BHA | Kuliyapitiya | ✓ |
| | BHB | Teldeniya | ✓ | | BHB | Nikawaratiya | ✓ |
| | BHB | Gampola (Line M) | ✓ | | BHB | Dambadeniya | ✓ |
| | Nuwareliya | | | | BHB | Galgamuwa | ✓ |
| | DGH | Nuwareliya (Line M) | ✓ | | BHB | Polpitigama | ✓ |
| | BHA | Dickoya | ✓ | | Puttalam | | |
| | BHB | Rikillagaskada | ✓ | | DGH | Chilaw | ✓ |
| | Matale | | | | BHA | Puttalam | ✓ |
| | DGH | Matale | ✓ | | BHB | Marawila | ✓ |
| Northern | Jaffna | | | North Central | Anuradhapura | | |
| | BHA | Point Pedro | ✓ | | BHB | Padaviya | ✓ |
| | BHA | Telippalai | ✓ | | BHB | Tambuttegama | ✓ |
| | BHB | Chavakachcheri | ✓ | | BHB | Kebitigollewa | ✓ |
| | BHB | Kays | ✓ | | Polonnaruwa | | |
| | Kilinochchi | | | | DGH | Polonnaruwa | ✓ |
| | DGH | Kilinochchi | no | | BHB | Medirigiriya | ✓ |
| | Mannar | | | | BHB | Welikanda | ✓ |
| | DGH | Mannar | ✓ | | Badulla | | |
| | Mullaitivu | | | | BHA | Diyatalawa | ✓ |
| DGH | Mullaitivu | ✓ | BHA | Mahiyangana | ✓ | | |
| BHB | Mankulam | ✓ | BHB | Welimada | ✓ | | |
| Eastern | Vavuniya | | | Uva | Moneragala | | |
| | DGH | Vavuniya | ✓ | | DGH | Moneragala (Line M) | ✓ |
| | BHB | Cheddikulam | ✓ | | BHB | Wellawaya | ✓ |
| | Batticaloa | | | | BHB | Siyambalanduwa | ✓ |
| | BHB | Valachchenai | no | | Kegalle | | |
| | BHB | Kaluwanchikudy | ✓ | | DGH | Kegalle (Line M) | ✓ |
| | Ampara | | | | BHB | Karawanella | ✓ |
| | DGH | Ampara (Line M) | no | | BHB | Warakapola | ✓ |
| | BHA | Kalmunai North (Line M) | ✓ | | BHB | Mawanella | ✓ |
| | BHA | Kalmunai South (Line M) | ✓ | | Ratnapura | | |
| BHB | Mahaoya | ✓ | BHA | Embilipitiya | ✓ | | |
| BHB | Samanthurai | ✓ | BHB | Balangoda | ✓ | | |
| BHB | Pothuvil | no | BHB | Kahawatta | ✓ | | |
| BHB | Dehiattakandiya | ✓ | BHB | Kalawana | ✓ | | |
| BHB | Akkarapatthu (Line M) | ✓ | Summary | | | | |
| Trincomalee | | | Category | Q sent | Returned | | |
| DGH | Trincomalee | ✓ | DGH | 13 | 11 | | |
| BHA | Kanthalai (Line M) | ✓ | BHA | 12 | 12 | | |
| BHB | Mutur | ✓ | BHB | 36 | 34 | | |
| BHB | Kinniya | ✓ | Total | 61 | 57 | | |

Annex 4: Decentralised health administration

Responsibilities related to health care provision in Sri Lanka vested by decentralisation in 1987

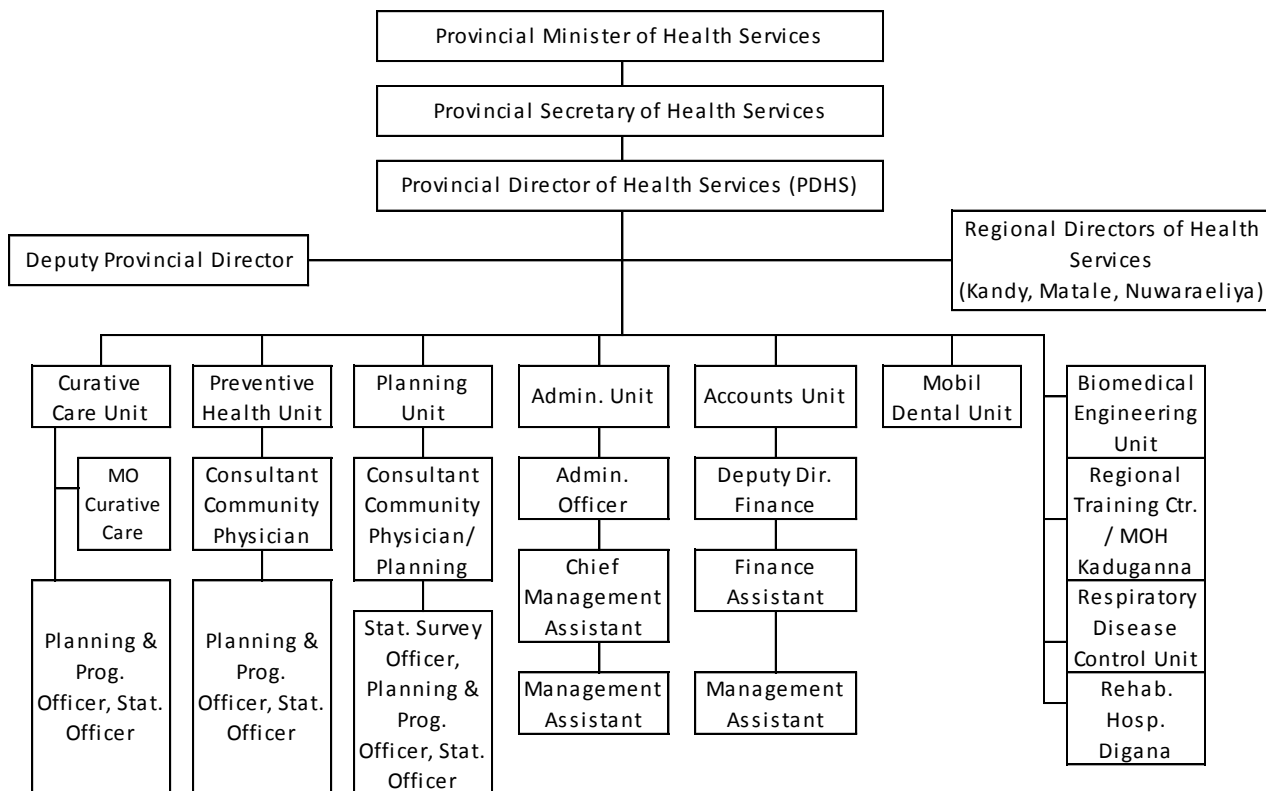
| List I: Provincial Council | List II: Central Government | List III: Concurrent (Central and Provincial) |
|---|---|---|
| <p>Section 11: Health</p> <ol style="list-style-type: none"> 1. The establishment and maintenance of public hospitals, rural hospitals, maternity homes, dispensaries (other than teaching hospitals and hospitals established for special purposes); 2. Public health services, health education, nutrition, family health, maternity and child care, food and food sanitation, environmental health; 3. Formulation and implementation of Health Development Plan and of the Annual Health Plan for the Province; 4. The provision of facilities for all institutions referred to in 1 above within the Province, excluding the procurement of drugs; 5. Awarding of scholarships for post-graduate education within Sri Lanka to personnel attached to the institutions specified in 1 above. | <p>National policy on all subjects and functions</p> <p>Finance in relation to national revenue, monetary policy and external resources; customs</p> <p>Professional occupations and training including;</p> <ol style="list-style-type: none"> (a) institutions such as universities, declared by Parliament by law to be institutions of national importance, (b) Institutions for scientific or technical education by the Government of Sri Lanka wholly or in part and declared by Parliament by law to be institutions of national importance; (c) Provincial agencies and institutions for (i) professional, vocational or technical training, including the training of police officers; (ii) the promotion of special studies or research; or (iii) scientific or technical assistance in the investigation or detection of crime; and (d) Co-ordination and determination of standards in institutions for higher education or research and scientific and technical institutions. <p>* Teaching hospitals, Provincial General Hospitals and hospitals established for specified purposes as well as procurement of drugs come under the central MoH, for they are specifically excluded from List I.</p> | <p>Section 9: Health</p> <ol style="list-style-type: none"> 1. Schools for training of auxiliary medical personnel; 2. The supervision of private medical care, control of nursing homes and of diagnostic facilities within a province; 3. Population control and family planning 4. Constitution of provincial medical boards |

Source: The 9th schedule to the constitution formulated under article 154A of the 13th Amendment

* World Bank "Prevention and Control of Selected Chronic NCDs in Sri Lanka" 2010

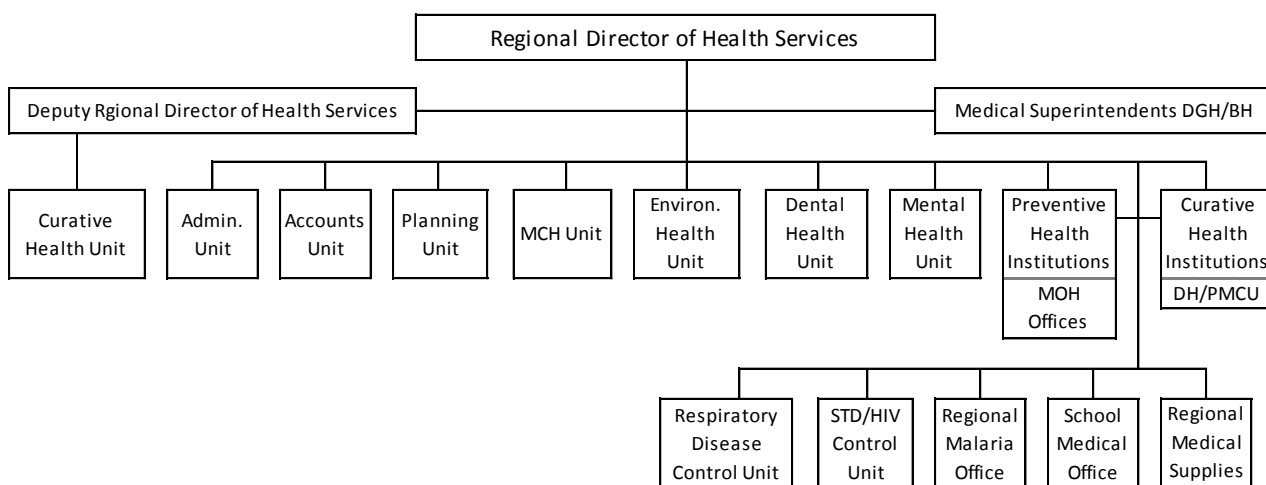
Annex 5: Structure of health administration in
Central Province

Health Administration - Central Province



Source: Central Province Annual Health Bulletin 2009

RDHS - Central Province



Source: Central Province Annual Health Bulletin 2009

Annex 6: Recategorization of hospitals



RECATEGORYIZATION OF HOSPITALS

**Management Development and Planning Unit
Ministry of Health Nutrition and Welfare**

The Proposed Hospital Re-categorization

1. Introduction

The network of Government Hospitals is primarily responsible for carrying out the curative health care delivery system. The range of hospitals includes sophisticated teaching hospitals to maternity homes and central dispensaries, which are scattered in the rural areas. Teaching hospitals, Base hospitals, District General hospitals, District hospitals, Peripheral units, Rural Hospitals, Maternity homes provide in-patient care facilities for over 95 % of the patients who seek admission.

Keeping in line with the Health Policy of Sri Lanka it is essential that these hospitals be developed in-order to ensure equity of health care delivery system. It has been stipulated in the National Health Policy developed in 1996 and the 1998 Presidential Task Force report on Health Policy Implementation, that one District Hospital in every District will be upgraded into a District General Hospital. Presently hospitals are selected for development as a when funds are available. Sometimes opinion based, unorganized hospital development has caused problems such as unavailability of Human Resources and logistical problems leading to under utilization of these developed hospitals.

The door to successful user-friendly hospital system hinges on evidence based, planned hospital development system. Therefore it is proposed that a comprehensive need based, bottom up, hospital development plan to be developed using a participatory approach. This concept paper described the detailed steps in developing a National Hospital Development Plan.

As the first phase of the activity it is proposed to re-categorize the hospitals into four categories, which will provide the foundation for decision making in the hospital developmental process. Once approved it is proposed to workout finer details, the infra structure, human resources, equipment, drugs and supplies, and other logistics which will enable hospitals to be developed in a uniform manner. This proposal explicitly describes the proposed re-categorization of hospitals.

2. The Objective

To re-categorize the hospitals with a view to facilitate planned, organized hospital development mechanism.

3. The Process

- A working group was nominated to look into the hospital re-categorization process. The names of the members are given in Annexure I.
- A series of meetings were conducted with officials representing the Provincial Health and Line Ministry to discuss the re-categorization process.
- The findings were tabled and discussed at the Health Development Committee meeting held on 27th September 2001 at the Health Ministry Auditorium and were modified accordingly. Minutes of the meetings are given in Annexes I I.
- The modified proposal was tabled at the National Hospital Development Committee meeting held on 11th January 2002 at the Ministry auditorium and further discussed. Few additions were made on the requests of the members. Minutes are given in Annexes I I I.

4. The Outcome

The issues agreed upon are given below.

4.1 The nomenclature of hospitals to be changed as follows.

The hospitals will be categorized under the following groups.

4.1.1 Teaching Hospitals/ Provincial Hospitals

Teaching Hospitals are those hospitals where Professorial Wards are established and are engaged in under-graduate and/or post-graduate training. In provinces, which does not have a teaching Hospital, the Provincial Hospital will be developed with similar facilities.

4.1.2 District General/ District Base Hospitals

All existing General and Base Hospitals will be renamed as District General Hospitals or District Base Hospitals. Each district will have one District General Hospital and one to two District Base Hospitals to fulfill the needs of the population.

4.1.3 Divisional Hospitals – All District Hospitals, Rural Hospitals and Peripheral Units will be renamed as Divisional Hospitals, irrespective of the number of beds.

Each DDHS area to be served by one divisional hospital according to availability of resources.

4.1.4 Primary Medical Care Units - (Central Dispensaries & Maternity Homes will be renamed as PCU.

The special hospitals such as Ragama Rehabilitation Hospital, Angoda and Mullariyawa Psychiatry Hospitals, Eye Hospital etc. will remain as it is

5. Facilities offered at different categories of Medical Care Institutions

Minimum facilities recommended to be made available at different levels of curative Medical Institutions in order maintain equity are as follows. However, additional facilities may be provided depending on specific needs.

5.1 Primary Medical Care Units

- Out patient care
- Limited emergency care: facilities for stabilization of patients before referring to secondary or tertiary care medical institutions.
- Facilities for a poly-clinic including Ante-Natal & Post-Natal, Family Planning, Child Health, Well Women etc..

Facilities of a Divisional Hospital

1. Out patient care with a ETU for limited emergency care and screening
2. Basic laboratory facilities
3. Minor operation facilities
4. Labour room
5. Wards:-
One Maternity ward, One male and female Medical and Surgical wards each and one children's ward
6. Dental unit
7. Facilities for continuation of treatment of patients referred by secondary and tertiary medical institutions for a limited period of time
8. Facilities for a polyclinic including Ante-Natal, Post Natal, Family Planning, Child Health, Well Women clinic etc..
9. Ambulance
(Services of visiting consultants will be available in some of these hospitals through out-reach clinics)

Facilities of a Primary Medical Care Unit

1. Out patient care
2. Limited emergency care: facilities for stabilization of patients before referring to secondary or tertiary care medical institutions.
Facilities for a poly-clinic including Ante-Natal & Post-Natal, Family Planning, Child Health, Well Women etc..

Facilities of a District Base Hospital

Each District will have minimum of one to two functional District Base Hospitals.

The proposed facilities for District Base Hospitals are as follows:

1. Out Patient Department with separate Preliminary Care Unit, Emergency Care Unit and screening facilities
2. Clinic facilities
3. In ward facilities
 - 2 Medical unit
 - 2 Surgical unit
 - 2 Gynaecology & Obstetric unit
 - 2 Paediatric unit
 - 1 ENT surgical unit
 - 1 Eye surgical unit
 - Anaesthesia Unit
4. Intensive Care Units
 - Medical Intensive Care Unit (MICU)
 - Surgical Intensive Care Unit (SICU)
5. Operation Theatres
6. Diagnostic services
 - Radiology Dept.
 - Pathology Dept. with Histopathology, Haematology and Microbiology Units
7. Medico-legal Department
8. Maxillo Facial Surgical Unit
9. Medical Records Unit

Psychiatry, Rheumatology, STD/AIDS or any other relevant unit will be added according to the need

Facilities of a District General Hospital

Each District will have one functional District General Hospitals.

The proposed facilities for District General Hospitals are as follows:

1. Out Patient Department with separate Preliminary Care Unit, Emergency Care Unit and screening facilities
2. Clinic facilities
3. In ward facilities
 - 2 Medical units
 - 2 Surgical units
 - 2 Gynaecology & Obstetric units
 - 2 Paediatric units
 - 1 Dermatology unit
 - 1 Psychiatry unit
 - 1 Rheumatology unit
 - 1 STD/AIDS Unit
 - 1 Orthopaedic surgery unit
 - 1 ENT surgical unit
 - 1 Eye surgical unit
 - 1 Neo-natology unit
 - Anaesthesia Unit
4. Intensive Care Units
 - Medical Intensive Care Unit (MICU)
 - Surgical Intensive Care Unit (SICU)
5. Operation Theatres
6. Diagnostic services
 - Radiology Dept.
 - Pathology Dept. with Histopathology, Haematology and Microbiology Units
7. Medico-legal Department
8. Maxillo Facial Surgical Unit
9. Public Health Unit
10. Medical Records Unit

Chest Medicine, Neurology, Cardiology and Transfusion Medicine Units will be added according to the service requirements.

Facilities of a Teaching/ Provincial Hospital

The proposed facilities for Teaching Provincial Hospitals are as follows:

1. Out Patient Department (OPD) with separate Preliminary Care Unit, Emergency Care Unit and Screening Facilities
2. Clinic facilities
3. In ward facilities
 - 3 Medical units
 - 3 Surgical units
 - 3 Gynaecology & Obstetric units
 - 3 Paediatric units
 - 1 Neurology unit
 - 1 Cardiology unit
 - 1 Dermatology unit
 - 1 Psychiatry unit
 - 1 Rheumatology unit
 - 1 Oncology unit
 - 1 STD/AIDS Unit
 - 1 Neuro surgical unit
 - 2 Orthopaedic surgical units
 - 2 ENT surgical units
 - 2 Eye surgical units
 - 1 Genito urinary surgical unit
 - 1 Paediatric surgical unit
 - 1 Nephrology unit
 - 1 Neo-natology unit
 - Chest Medicine
 - Transfusion Medicine
4. Intensive Care Units
 - Medical Intensive Care Unit (MICU)
 - Surgical Intensive Care Unit (SICU)
 - Cardiac Intensive Care Unit (CICU)
 - Coronary Care Unit (CCU)
5. Operation Theatres
6. Diagnostic services
 - Radiology Dept.
 - Pathology Dept. with Histopathology, Haematology and Microbiology Units
7. Accident Service/ Trauma Surgery unit
8. Medico-legal Department
9. Maxillo Facial Surgical Unit
10. Orthodontal Unit
11. Public Health Unit
12. Medical Statistic Unit
13. Dept of Anaesthesia

6. Proposed criteria for selecting hospitals for developing

Following are the criteria that were agreed upon that could be used to justify identification hospitals for upgrading over the next five years. Based on these criteria, the Provincial authorities will identify the hospitals and the scope of development. The Department of Health will provide technical guidance for the activity.

- Number of hospital beds
- OPD attendance
- Number of admissions
- Number of deliveries per month
- Bed occupancy rate
- Number of transfers
- Availability of supportive services such as quarters etc.
- Distance to the nearest tertiary care hospital
- Access to hospitals including availability of Public Transport facilities
- Availability of land for expansion
- Catchment area population and geographical location of the hospital
- Availability of resources (funds, manpower etc.)

The Working Group

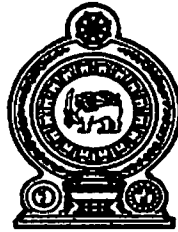
| | | |
|-------------------------------|---|---|
| Dr. K. C. S. Dalpatadu | - | Deputy Director General (Planning) |
| Dr. Terrence de Silva | - | Deputy Director General (Medical Services) |
| Dr H. S. B. Tennakoon | - | Deputy Director General (Medical Services II) |
| Dr. Thushara Fernando | - | Director (Planning) |
| Dr S. M. Samarage | - | Director (Organization Development) |
| Dr Mahipala | - | Director (Tertiary Care Services) |
| Dr. Indrasiri | - | Provincial Director (Western Province) |
| Dr. Beneragama | - | Deputy Provincial Director (Kalutara District) |
| Dr. Lokki Wai | - | WHO Consultant |

Annex 7: Job Description of MO/NCD

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தொலைபேசி } 2669192
Telephone } 2675011

ෆැක්ස් } 2692913
பெக்ஸ் }
Fax }

විද්‍යුත් තැපෑල }
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e-mail }



සුවසිරිපාය
சுவசிரிபாய
SUWASIRIPAYA

මගේ අංකය } NCD/11a/2004
எனது இல }
My No. }

ඔබේ අංකය }
உமது இல }
Your No. : }

දිනය } 2011.02.01
திகதி }
Date }

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சுகாதார அமைச்சு
MINISTRY OF HEALTH

Regional Directors of Health Services

Directors of Hospitals

Job Description of Medical Officers of Non Communicable Diseases

Herewith I am sending the job description of Medical Officers of Non Communicable Diseases.

You are kindly requested to give a copy of the relevant job description to all Medical Officers of Non Communicable Diseases and to ensure relevant officers carry out duties mentioned in the job description.

Dr. R.W. Jayantha
Deputy Director General (Planning)

Dr. R. Wimal Jayantira
Deputy Director General (Planning)
Ministry of Health
385, Ven. Baddegama Wimalawansa Thero Mawatha,
Colombo - 10.

Signed
Dr. U.A. Mendis
Director General of Health Services

Copy: Provincial Directors of Health Services

Ministry of Health

Job Description

Designation : Medical Officer - Non Communicable Diseases

| | | |
|----|--|--|
| 01 | Introduction to the Job <i>Service Category</i> <i>Job Code / Service</i> <i>Date of Preparation</i> | Grade Medical Officer Non Communicable Diseases (NCD) 04.01.2010 |
| 02 | Summary of the Job | <ol style="list-style-type: none">1. Focal point for all activities related to Non Communicable Diseases in the district2. Preparation of District Plans for control of Non Communicable diseases3. Establishment of Screening mechanisms in the district4. To develop and carry out Health Promotion and Health Guidance for needy People in the district5. Monitor and evaluate all programmes related to Non Communicable diseases in the district6. Training and capacity building of health and other staff in the district related to Non Communicable diseases7. Carry out research with regard to Risk Factors and related areas of Non Communicable diseases8. Maintaining records and reporting with regard to NCD situation in the district to appropriate levels9. To work and coordinate with other sectors through a District Steering Committee |
| 03 | Main areas of Responsibilities | <ul style="list-style-type: none">■ Coordinate all NCD activities in the district with all relevant stake holders and function as the main focal point for activities related to Non Communicable Diseases■ Responsible for preparation of Medium –Term and Annual Development Plans for activities related to Non Communicable Diseases■ Responsible for implementation ,monitoring and |

| | | |
|--|--|--|
| | <p>Main areas of Responsibilities</p> | <p>evaluation of the District Plan for control of Non Communicable Diseases</p> <ul style="list-style-type: none"> ■ Liaise with all relevant stakeholders in the district for proper implementation of the activities related to Non Communicable Diseases including Health and other sectors (Public and Private sector, NGOs /CBOs of the area,) ■ Establishment of a proper screening mechanism for Non Communicable Diseases in the relevant institutions of the district and to promote Health checkups in the district ■ Establishment of a proper referral and back referral system within primary secondary and tertiary care institutions of the district for appropriate care of people affected with Non Communicable Diseases ■ Provide leadership to organize health promotion activities at institutional, community and individual levels in the district related to Non Communicable Diseases ■ Facilitate and monitor provision of essential drugs and equipments relevant to Non Communicable Diseases to primary and secondary care institutions by liaising with the Heads of Institutions, Divisional Pharmacists and other relevant officers. ■ Participate in all Continuing Medical Education and service activities conducted by the Directorate of Non Communicable Diseases of the Ministry of Health ■ Provide the leadership for training and educational activities of health workers and the community and to assist in capacity building with regard to Non Communicable Diseases ■ Engage in research and evidence based data collection and analysis for better care of Non Communicable Diseases within the district |
|--|--|--|

| | | |
|----|--|--|
| | <p>Main areas of Responsibilities</p> | <ul style="list-style-type: none"> ■ Responsible for establishment of NCD steering committees at district level and function as the Secretary to the committee and monitor through specific indicators. ■ Responsible for development of health guidance and health promotion settings at different levels within the District in collaboration with other stake holders ■ Responsible for establishing surveillance system at local level according to the national guide lines and carry out data collection, analysis, interpretation, dissemination, monitoring and evaluation of data related to Non Communicable Diseases in the preventive and curative sectors ■ Coordination of activities related to Non Communicable Diseases within the Health sector and outside the Health sector in coordination with Medical Officers of Health, Health care delivery Institutions, Schools , Factories, Government offices etc. ■ Monitoring activities carried out in medical clinics at primary and secondary care institutions in the district for improvement of the quality of care of services related to Non Communicable Diseases in coordination with all relevant officers ■ Responsible for proper record keeping and sending returns such as quarterly annual NCD activity returns to the RDHS ,PDHS and NCD Directorate in time ■ Any other duties assigned by the RDHS on service requirements |
| 04 | Main Functions | Functions related to control and prevention of Non Communicable Diseases in the respective district |
| 05 | Reporting to | Regional Director of Health Services Provincial Director of Health Services Director, Non Communicable Diseases of the Ministry of Health |

| | | |
|----|---|---|
| 06 | Officers Reporting to Medical officer NCD | Programme and Planning Assistant Statistics Officer |
| 07 | Authorizing Officer | Regional Director of Health Services |
| 08 | Responsibility of Facilities and Resources | Office Belongings Official Vehicle |
| 09 | Facilities entitled | Separate NCD Unit within the Public Health Section Vehicle for NCD Activities Staff including PPO and statistics Officer |
| 10 | Special Circumstances Affecting the Job | Need to collaborate with other Health units in the region and the Health Department and specially with other organizations and agencies in the district including Non Governmental Organizations |



Dr. U. A. Mendis
Director General of Health Services

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 Director General of Health Services
 Ministry of Health
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 Colombo 10.

Annex 8: Guidelines for management of NCDs in
Primary-level institutions

Guidelines for Management of NCDs in Primary Level Institutions



**Guidelines for Management of NCDs in Primary
Level Institutions
(Multiple Risk Assessment Approach)**

Ministry of Health

This guideline has been developed by the Ministry of Health for use by Medical Officers in Primary Level health institutions (district hospitals, peripheral units, rural hospitals, central dispensaries). The guideline will be used for opportunistic screening for those presenting for primary care and has adopted a multiple risk assessment approach. An individual's disease will be managed as per the risk assessment. The indications for referral to specialist clinic are also given. A life style modification guide is given separately. The clinic record and patient health record are to be used for documentations.

This guideline should be interpreted along with the Flow chart "Overview" (Refer to pg 2).

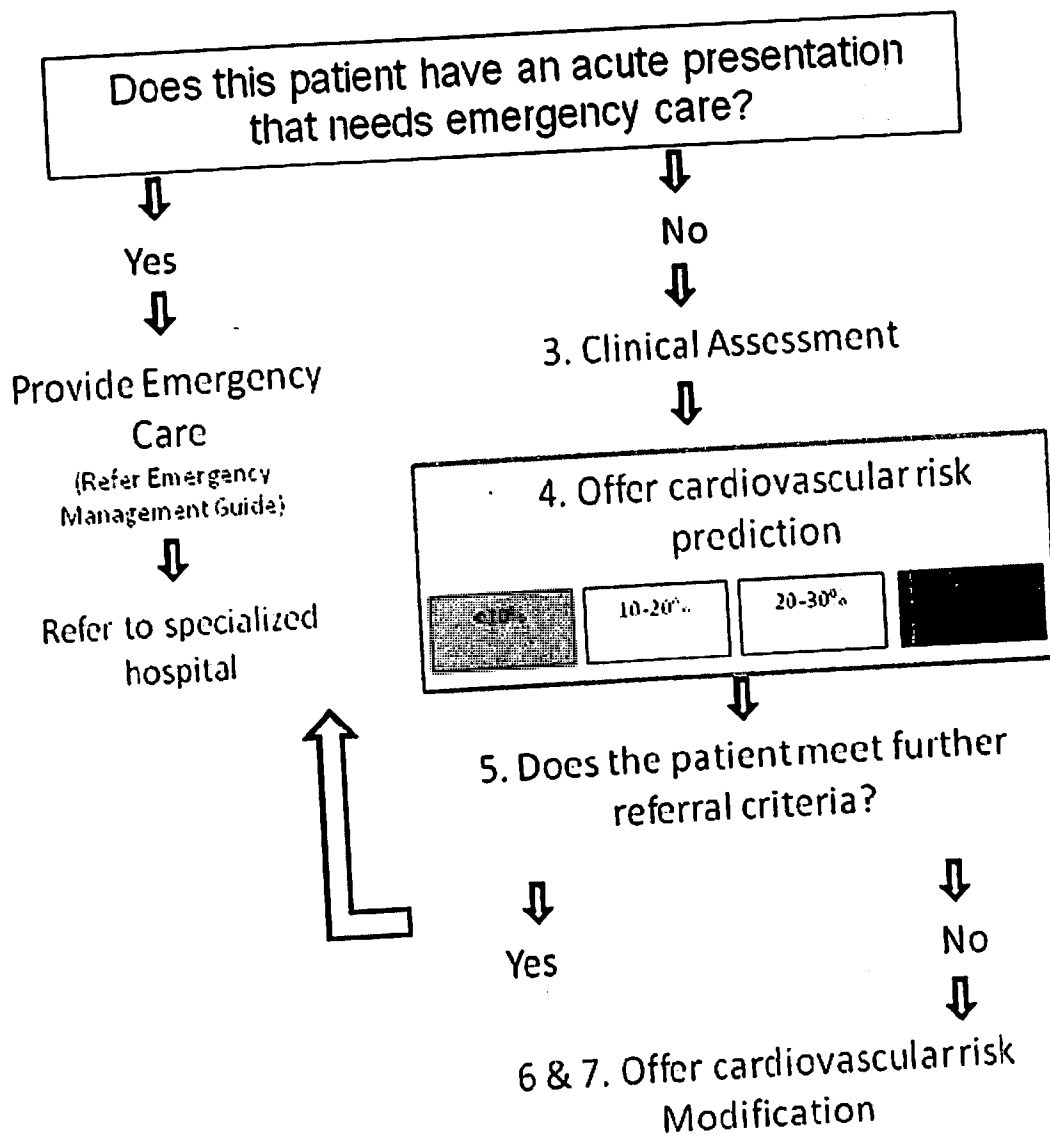
1. Use this guideline for persons with any of the following conditions:

- a. Age >40
- b. Smokers
- c. Obesity (based on waist circumference / BMI)
- d. Raised BP (140/90 in non diabetics, 130/80 in diabetics)
- e. Diabetes or symptoms suggestive of diabetes (Refer to page 10, Fact box 1)
- f. History of Premature Cardiovascular Disease in first degree relatives
- g. History of Diabetes in first degree relatives

2. Check if the patient has an acute presentation.

If yes, provide emergency treatment according to the Guideline on Emergency Care Management at Primary Level (Under construction).
Refer the patient to a specialized unit if needed after stabilization.

OVERVIEW



3. Take a history, perform a clinical examination and do simple investigations.

At the end of the clinical encounter, you should be able to answer the following questions. The personal health record is to be used to document findings of history, examination and investigation.

| History | Documentation |
|---|---|
| Does the patient have a history of heart disease, stroke, TIA, diabetes/ pre-diabetes or kidney disease but not being followed up by a specialist unit? | Record under past medical history |
| Does the patient have chest pain and or/breathlessness on exertion, pain in calf on walking? | Record under past medical history |
| What are the medicines that the patient is currently taking? (This is to ascertain if he/she is currently on medication suggestive of CVD or DM) | Record under current medication section |
| Does the patient currently smoke? | Record under risk chart |
| Does the patient consume alcohol? | Record under risk chart |
| Does the occupation of the patient involve sedentary lifestyle? | Record under risk chart |
| Is the patient engaged in regular (more than 30 minutes) of physical activity daily at least 5 days a week? | Record under risk chart |

Guidelines for Management of NCDs In Primary Level Institutions

| Examinations | Documentation |
|--|--|
| Is the waist circumference more than 94 cm in males and 85 cm in females? | <i>Record under risk chart</i> |
| Is there evidence of heart failure? | <i>Record under examination findings</i> |
| Is there altered sensation of feet and or reduced pulses in feet? | <i>Record under examination findings</i> |
| <p>What is the blood pressure of the patient?</p> <p>To identify hypertension (blood pressure above 140/90 mmHg) repeat measurement at the same visit after 20 minutes.</p> <p>Blood pressure of 130/80 mmHg in diabetics is considered as hypertension.</p> | RECORD? |

| Investigations | Documentation |
|---|--|
| Is FBS (capillary) > 7 mmol (115 mg/dl) or RBS < 10.0 mmol (180 mg/dl) ? | <i>record under investigation findings</i> |
| <p>Is there protein in urine?</p> <p>- <i>test to be performed in the institution</i></p> | <i>record under investigation findings</i> |
| <p>Is total cholesterol more than 200mg/dl?</p> <p>- <i>sample of blood can be sent to closest Base hospital</i></p> | <i>record under investigation findings</i> |

4. Predict the 10 year cardiovascular risk.

Document (record under risk chart) and **communicate** cardiovascular risk status of the patient.

- Use WHO/ISH Cardiovascular Risk Prediction Chart.
- Use age, gender, smoking status, systolic blood pressure, diabetes (yes or no) and blood cholesterol level (if available).
If serum cholesterol level is not available use the mean value 5mmol/l (197- 227 mg/dl).
- For ages 35-40 use age box 40-49
- Categorize cardiovascular risk as <10%, 10-20%, 20-30% and > 30%.
- (Ex. What does <10% risk mean, what does > 30 % risk mean, the adverse outcomes should be explained. This will be part of the training in use of the guidelines).

Note: cardiovascular risk prediction cannot be applied to those who have had a previous vascular event ex. ischemic heart diseases, stroke, and/or peripheral vascular disease.

- Record the cardiovascular risk status in the Personal Health Record.
- Communicate to the patient the cardiovascular risk, the benefits of minimizing the risk and what could be done to minimize the risk.

5. Refer patient for specialist clinic if the history and examination points towards any one of the following :

- BP more than 140 / 90 in people less than 40 yrs
 - to exclude secondary causes of hypertension
- Known heart disease, stroke, TIA, diabetes or kidney disease who are not being followed up by specialist clinic
 - this is to obtain a plan of management which can be continued at the primary level
- Angina, claudication
- Worsening heart failure
- Raised BP (in DM >130/80 mm Hg) in spite of treatment with 2 or 3 drugs

Guidelines for Management of NCDs in Primary Level Institutions

- Any protein in urine
- Newly diagnosed lean patients with DM < 30 years
- DM with fasting blood glucose > 14 mmol/l despite Metformin with or without sulphonylurea
- DM with severe infection and/or foot ulcers
- DM with recent deterioration of vision or no eye examination in 2 years

6. Offer drug treatment to the following patients in spite of their risk category:

- All individuals with persistently raised BP > 160/100 mmHg – These patients are those >40 yrs
 - Refer to notes on drug treatment.
- All patients with established diabetes and cardiovascular disease who are being followed up by a specialist clinic
 - Provide the treatment that the patient is already on.
- All individuals who have a total cholesterol level at or above 8 mmol/l (320 mg/dl)
 - Provide a statin.
- All patients with diabetes who have target organ damage confirmed by a specialist
 - Provide a statin

7. Provide cardiovascular risk management as per the risk status.

The following apply to those without DM

Risk <10%

Risk <10% denotes the green areas of the WHO/ISH Risk Prediction Chart.

Level of risk: LOW

Those who are having blood pressure more than 140/90 mmHg but less than 160/100 mmHg should be offered lifestyle modifications. Repeat BP measurements every 6 months and treat accordingly

Review cardiovascular risk of the guideline. 2-5 yrs

Guidelines for Management of NCDs in Primary Level Institutions

Risk 10%-20%

Risk 10%-20% denotes yellow areas of the WHO/ISH Risk Prediction Chart.

Level of risk: MODERATE for fatal or non-fatal vascular events.

Lifestyle modifications are recommended (Refer guidelines on the lifestyle modification).

Review this patient according to the guideline every 12 months.

Risk 20%>30%

Risk 20%-30 denotes orange areas of the WHO/ISH Risk Prediction Chart.

Level of risk: HIGH for fatal or non-fatal vascular events.

Lifestyle modifications are recommended (See guide).

If patients in this category with BP more than 140/90 mmHg, are unable to achieve good control of hypertension within 4-6 months with professional support, start them on one of the following drugs: thiazide-like diuretic, ACE inhibitor, calcium channel blocker or beta blocker. (Consider thiazide like diuretic, ACE inhibitor, calcium channel blocker as first line drugs.)

Patients who develop cough with ACE inhibitor (Enalapril) can be substituted with Losarten potassium on the advice of a Consultant Physician

Caution: Women of reproductive age if given ACE inhibitors should be advised to discontinue as soon as they are pregnant and seek medical advice.

Review cardiovascular risk of this patient according to the guideline every 6 months.

Risk > 30%

Risk >30% denotes red and maroon areas of WHO/ISH Risk Prediction Chart.

Level of risk: VERY HIGH for fatal or non-fatal vascular events.

Lifestyle modifications are recommended (See guide).

If patients in this category have BP more than 130/80 mmHg, start them on one of the following drugs: thiazide-like diuretic, ACE inhibitor, calcium channel blocker or beta blocker. (Consider thiazide like diuretic, ACE inhibitor, calcium channel blocker as first line drugs.)

Patients who develop cough with ACE inhibitor (Enalapril) can be given substituted with Losarten potassium on the advice of a Consultant Physician

Add Statin (Atorvastatin 10-20 mg daily).

Review this patient according to the guideline every 3 months.

If risk is still >30% after 3-6 months of prescribed interventions at first visit, refer to specialist hospital.

8. In addition to the above interventions, consider the following for individuals with diabetes mellitus:

Fact Box 1

When should diabetes be suspected?

Patients presenting with symptoms of recent loss of weight, polyuria, polydipsia (this triad is typical of type 1) should be suspected. Confirmatory tests should be done.

The medical officers should know the wide variety of symptoms that a patient may come with in early stages of type 2 DM so that they test early to confirm the diagnosis.

They may present one or more symptoms at a given time. These symptoms may be due to DM or its complications.

Symptoms include:

- tiredness and fatigue
- joint pains
- tendency to get skin and genital infections (vaginal thrush)
- pruritus vulvae
- balanitis
- nocturia
- nocturnal enuresis (type 1) blurred vision /visual changes
- pain and or numbness in the feet and hands
- sexual dysfunction (impotence) or symptoms of arterial disease – myocardial and or peripheral ischemia in addition to thirst
- polyuria
- loss of weight.

Guidelines for Management of NCDs in Primary Level Institutions

Goals for Glycaemic Control

| Test | Normal | Goal | Action |
|---------------|---------------|---------------|--------|
| FBS capillary | <90 mg/dl | < 110 mg/dl | >110 |
| FBS (venous) | <100 mg/dl | 90- 130 mg/dl | >130 |
| RBS capillary | 100-150 mg/dl | <160 mg/dl | >160 |
| RBS (venous) | <140 mg/dl | 110-180 mg/dl | >180 |
| Hb A1c | 4-6 | 7-8 | >8 |

**(divide by 18 to convert mg/dl to mmol/l)*

Oral hypoglycemic drugs:

All individuals with persistent fasting blood glucose > 6 mmol/l despite diet should be given metformin. Titrate according to blood glucose control.

If unable to control on maximum doses of metformin and a sulphonylurea, refer to a specialist hospital.

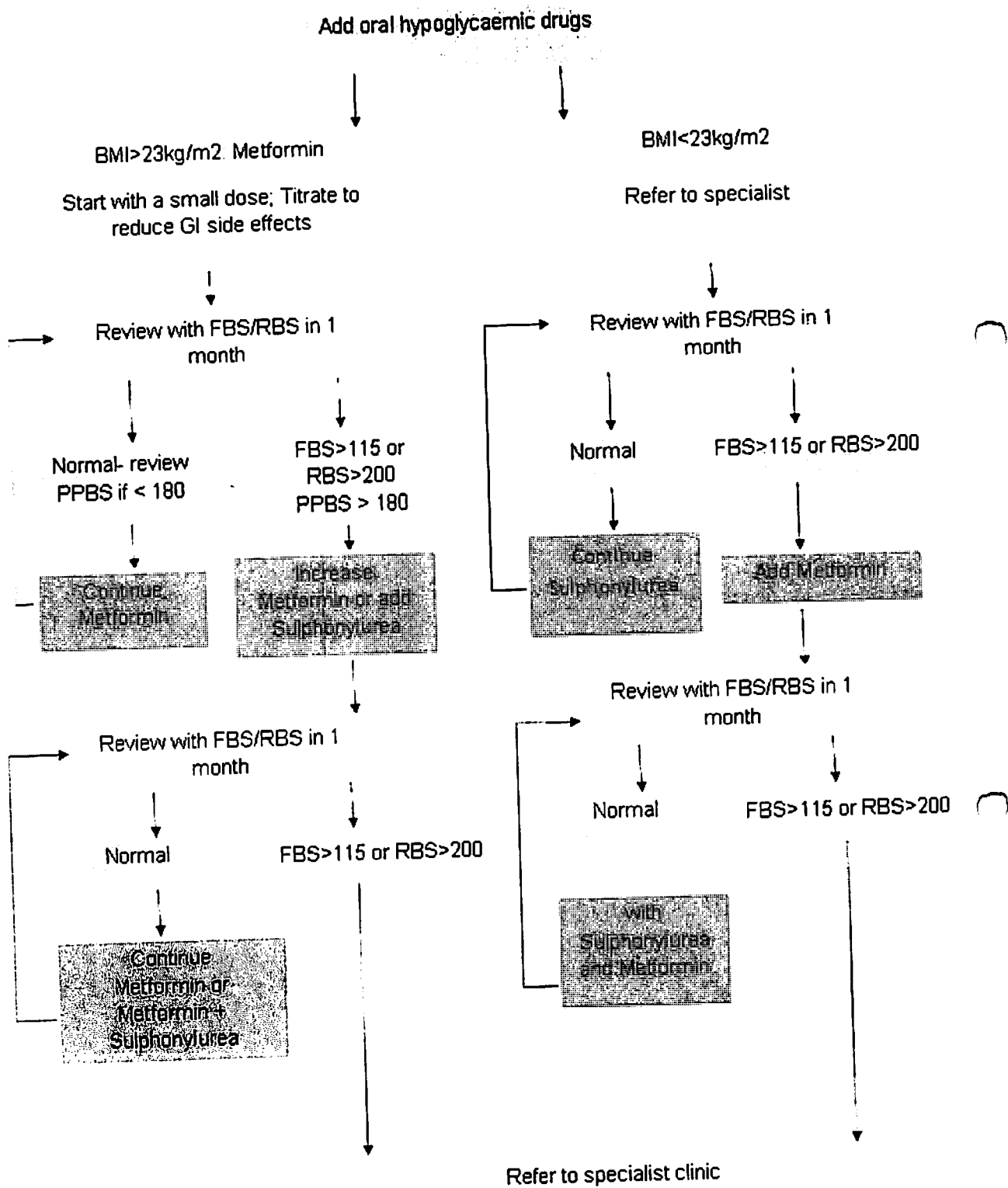
- Give advice on foot care
- Follow up every three months
- Use flow sheet for follow up (use with clinic record)

Diabetes & Statins:

- For those with DM < 5 years if they fall into high CVD risk
- For those with DM > 5 years
- Statins are indicated for diabetics with target organ damage confirmed by a Specialist

Guidelines for Management of NCDs in Primary Level Institutions

Drug treatment of a newly diagnosed patient with diabetes

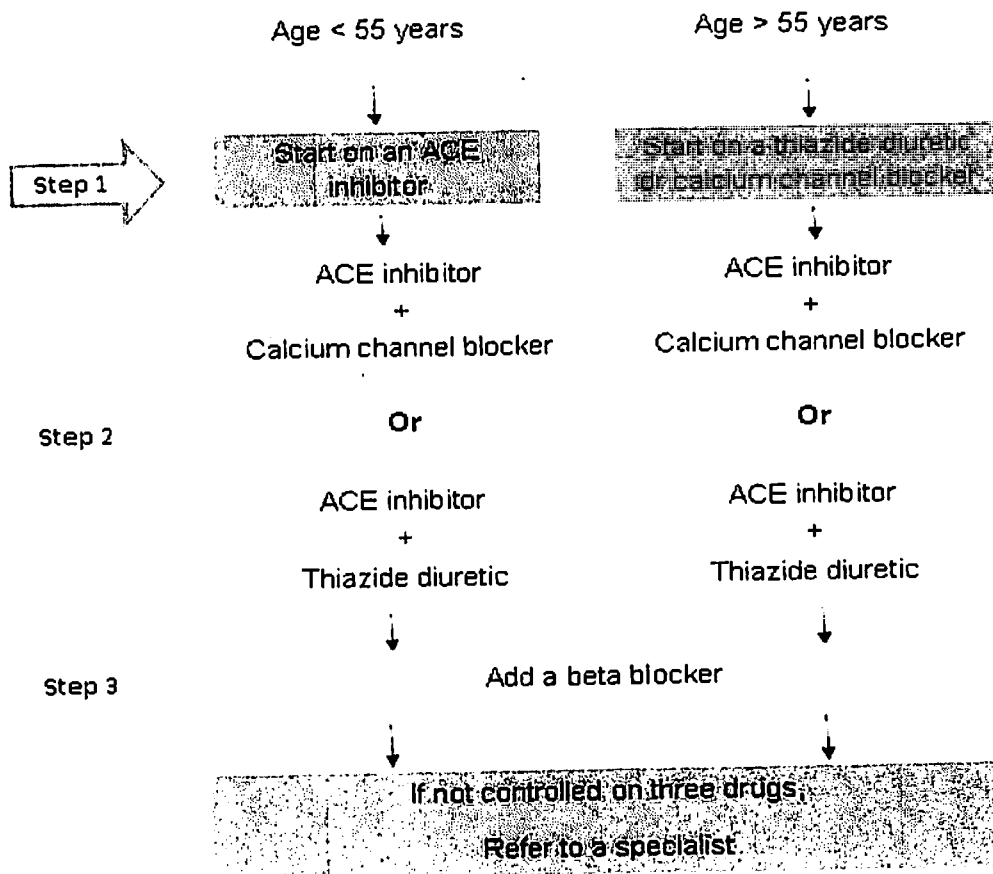


9. Advise the patient and family on the following:

- Importance of smoking cessation, healthy diet, physical activity, weight control, alcohol cessation and stress management.
- Importance of continued treatment (compliance).
- Motivate the patient and family to adhere to the treatment regimens.
- Educate the patient and the family on complications of NCDs with regards to the disease, complications, management and prognosis.
- Appropriate sticker to be pasted as and when each item is done-
- Provide written instructions on the patient health record

10. Select the appropriate antihypertensive drugs.

Drug management of hypertension



11. > 30% cardiovascular risk – Start on lipid lowering drug.

- Repeat risk assessment in one year.
Step up statin dose as required.
If cholesterol level is not controlled on full dose of statin, refer to specialist hospital.
- Consider the possibility of hypothyroidism.
Check liver enzymes every year, stop treatment and refer to specialist if liver enzymes are more than 5 times normal.
 - Blood samples can be collected and sent to closest Base hospital for liver enzymes and serum cholesterol

12. Lifestyle modification.

Lifestyle modification will be carried out in 6 steps as appropriate for the patient's risk factors. A separate life style modification guide is available, please refer to it. This guide also contains key information that any healthcare worker should know before communicating to patients on life style modification.

Guidelines have been prepared by the Ministry of Health in collaboration with Colleges of Physicians, Community physicians, General Practitioners and WHO.

Annex 9: Maintenance arrangements for facilities
and equipment of hospitals

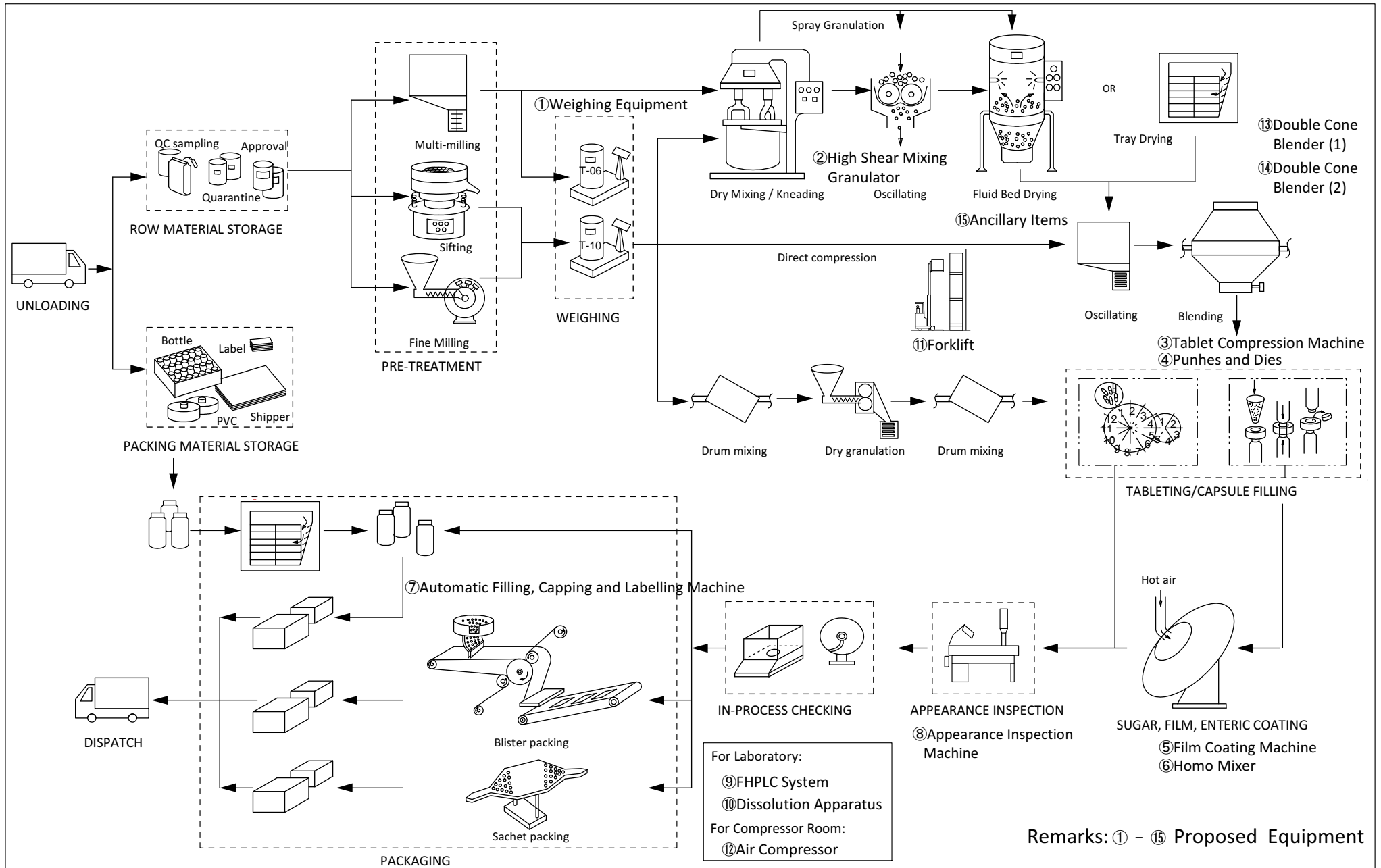
Maintenance Arrangements for facilities and biomedical equipment

| Province/ District | Cat. | Hospital Name | Building | | | Electrical | | | Mechanical | | | Equipment | | | |
|-----------------------|--------------|---------------|-----------------|------|-----|------------|------|-----|------------|------|-----|-----------|------|-----|-----|
| | | | IH | P/LM | OS | IH | P/LM | OS | IH | P/LM | OS | IH | P/LM | OS | |
| C | Kandy | DGH | Nawalapitiya | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| C | Kandy | BHB | Teldeniya | | Yes | | | Yes | | | Yes | | | Yes | |
| C | Kandy | BHB (LM) | Gampola | | Yes | | | Yes | | | Yes | | Yes | Yes | Yes |
| C | Nuwaraeliya | DGH (LM) | Nuwaraeliya | | Yes | | | Yes | | | Yes | | Yes | Yes | |
| C | Nuwara Eliya | BHA | Dickoya | | | Yes | | Yes | | | Yes | | | Yes | |
| C | Nuwara Eliya | BHB | Rikillagaskada | | Yes | | | Yes | | | Yes | | | Yes | |
| C | Matale | DGH | Matale | Yes | Yes | Yes | Yes | Yes | Yes | | | Yes | | Yes | Yes |
| C | Matale | BHA | Dambulla | Yes | Yes | | Yes | Yes | | Yes | Yes | | | Yes | |
| C | Matale | BHB | Hettipola | | Yes | | | Yes | | | Yes | | | Yes | |
| N | Jaffna | BHA | Point Pedro | | | Yes | | Yes | | | | Yes | | | Yes |
| N | Jaffna | BHA | Telippalai | | Yes | | | Yes | | | Yes | | | Yes | |
| N | Jaffna | BHB | Chavakachcheri | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| N | Jaffna | BHB | Kayts | | Yes | | Yes | Yes | | | Yes | | | Yes | Yes |
| N | Mannar | DGH | Mannar | | Yes | | | Yes | | | | Yes | | Yes | Yes |
| N | Mullaitive | DGH | Mullaitive | | Yes | | | Yes | | | Yes | | | Yes | |
| N | Mullaitive | BHB | Mankulam | | Yes | | | Yes | | | Yes | | | Yes | |
| N | Vavuniya | DGH | Vavuniya | | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes | Yes |
| N | Vavuniya | BHB | Cheddikulam | Yes | | | Yes | | | | | Yes | Yes | | Yes |
| E | Batticaloa | BHB | Kaklawanchikudy | | Yes | | | Yes | | | Yes | | | Yes | |
| E | Ampara | BHA (LM) | Kalmunai North | | Yes | | | Yes | | | Yes | Yes | | Yes | Yes |
| E | Ampara | BHA (LM) | Kalmunai South | | Yes | | | | Yes | | Yes | Yes | Yes | Yes | Yes |
| E | Ampara | BHB | Mahaoya | | Yes | | | Yes | | | Yes | | | Yes | |
| E | Ampara | BHB | Samanthurai | | Yes | | | Yes | | | Yes | | Yes | Yes | Yes |
| E | Ampara | BHB | Dehiattakandiya | | Yes | | | Yes | | | Yes | | | Yes | |
| E | Ampara | BHB(LM) | Akkarapatthu | | | Yes | | | Yes | | | Yes | | Yes | Yes |
| E | Trincomalee | DGH | Trincomalee | | Yes | | | Yes | | | Yes | | | Yes | |
| E | Trincomalee | BHA(LM) | Kanthalai | | Yes | | | Yes | | | Yes | | Yes | Yes | Yes |
| E | Trincomalee | BHB | Mutur | | | Yes | | | Yes | | | Yes | | | Yes |
| E | Trincomalee | BHB | Kinniya | | Yes | | | Yes | | | Yes | | | Yes | |
| NW | Kurunegala | BHA | Kuliyapitiya | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| NW | Kurunegala | BHB | Nikawaratiya | Yes | Yes | Yes | Yes | Yes | Yes | | Yes | Yes | | Yes | Yes |
| NW | Kurunegala | BHB | Dambadeniya | | Yes | | Yes | Yes | | | Yes | | | Yes | |
| NW | Kurunegala | BHB | Galgamuwa | | Yes | | | Yes | | | Yes | | | Yes | |
| NW | Kurunegala | BHB | Polpitigama | | Yes | Yes | | Yes | | | Yes | | | Yes | |
| NW | Puttalam | DGH | Chilaw | | | Yes | | | Yes | | | Yes | | Yes | Yes |
| NW | Puttalam | BHA | Puttalam | | Yes | Yes | | Yes | | | Yes | | | Yes | |
| NW | Puttalam | BHB | Marawila | | Yes | | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| NC | Anuradhapura | BHB | Padaviya | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| NC | Anuradhapura | BHB | Tambuttegama | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| NC | Anuradhapura | BHB | Kebitigollewa | | Yes | Yes | | Yes | | | Yes | | | Yes | |
| NC | Polonnaruwa | DGH | Polonnaruwa | Yes | | | Yes | Yes | Yes | | Yes | | Yes | Yes | |
| NC | Polonnaruwa | BHB | Medirigiriya | | Yes | Yes | | Yes | | | Yes | | | Yes | Yes |
| NC | Polonnaruwa | BHB | Welikanda | | Yes | | | Yes | | | Yes | | | Yes | |
| U | Badulla | BHA | Diyatalawa | | Yes | | | Yes | | | Yes | | | Yes | |
| U | Badulla | BHA | Mahiyangana | | Yes | | | Yes | | | Yes | | | Yes | |
| U | Badulla | BHB | Welimada | | Yes | | | Yes | | | Yes | | | Yes | |
| Uva | Moneragala | DGH (LM) | Moneragala | | Yes | | | Yes | | | Yes | | Yes | Yes | |
| Uva | Moneragala | BHB | Wellawaya | | Yes | | | Yes | | | Yes | | | Yes | |
| Uva | Moneragala | BHB | Siyambalanduwa | | Yes | | | Yes | | | Yes | | | Yes | |
| Sa | Kegalle | DGH (LM) | Kegalle | Yes | Yes | Yes | Yes | | Yes | | Yes | | Yes | Yes | |
| Sa | Kegalle | BHB | Karawanella | | Yes | | | Yes | | | Yes | | | Yes | |
| Sa | Kegalle | BHB | Warakapola | | Yes | | | Yes | | | Yes | | | Yes | |
| Sa | Kegalle | BHB | Mawanella | | Yes | | | Yes | | | Yes | | | Yes | |
| Sa | Ratnapura | BHA | Embilipitiya | | Yes | Yes | | Yes | Yes | | Yes | Yes | | Yes | Yes |
| Sa | Ratnapura | BHB | Balangoda | | Yes | | | Yes | | | Yes | | | Yes | |
| Sa | Ratnapura | BHB | Kahawatta | | Yes | | | Yes | | | Yes | | | Yes | |
| Sa | Ratnapura | BHB | Kalawana | | Yes | | | Yes | | | Yes | | | Yes | |

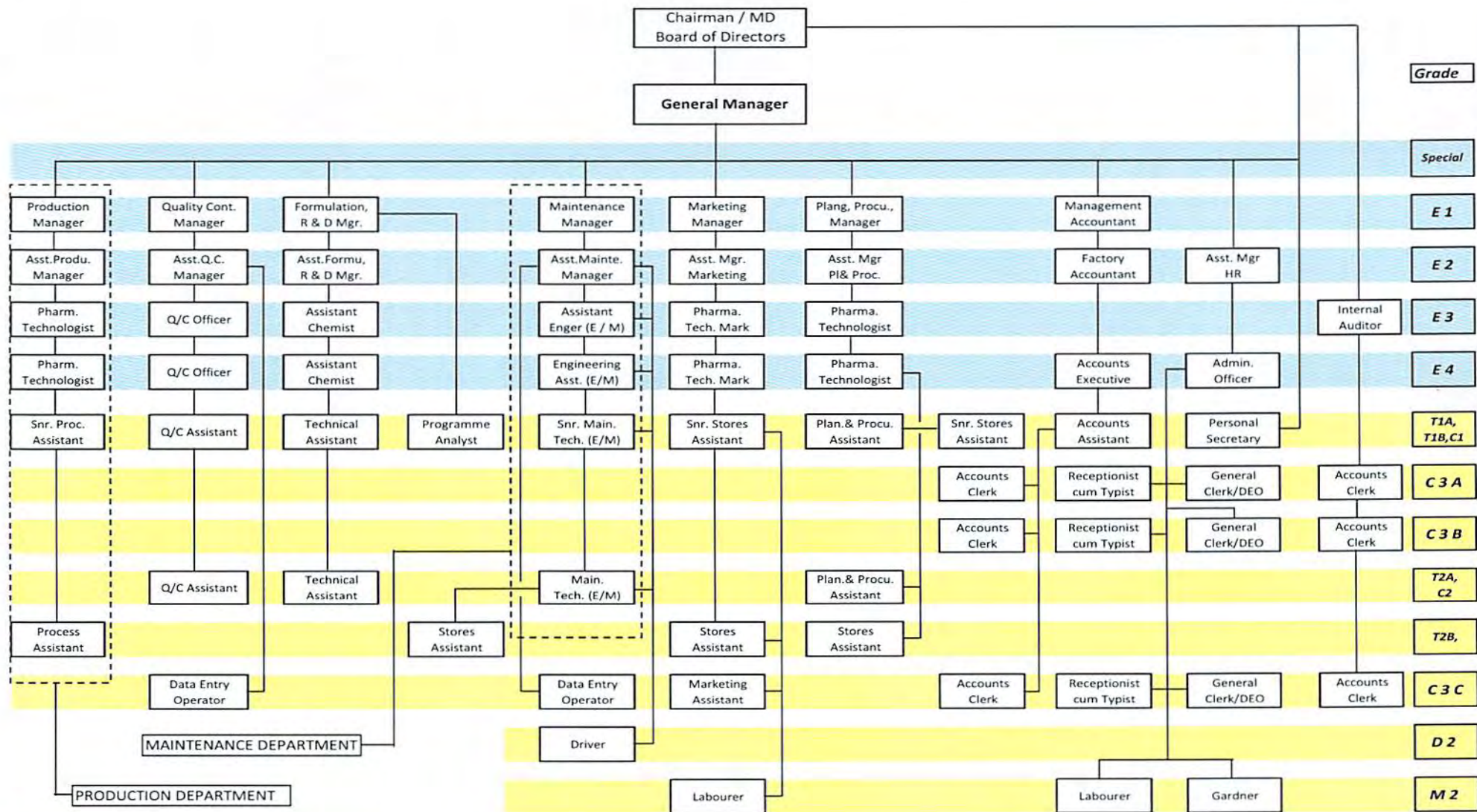
Remarks: IH – Maintenance Dept. in Hospital OS – Outsourcing LM- Line Ministry
P/LM – Maintenance through Engineering Dept. of the Province / MOH

Annex 10: SPMC - Production flow chart for general
drugs

SPMC - PRODUCTION FLOW CHART FOR GENERAL DRUGS



Annex 11: SPMC organisational structure



Executive Staff Non Executive Staff

Annex 12: Ranking of the surveyed hospitals

(1) Scoring methods used for the selected indicators

| No. | indicators | Computation | |
|-----|-------------------------------------|--|---|
| | | Data /Formula used | Scoring |
| 1 | Frequency of outward transfers | Total number of patients (OPD + Clinics + admission) divided by the number of transfers per month. | Hospital <ul style="list-style-type: none"> with the most frequent transfers: 10 points with the least frequent transfers: 0 points in between: 0.01 – 9.99 points depending on the frequency |
| 2 | BOR | BOR as reported by each institution | Hospital <ul style="list-style-type: none"> with the lowest BOR : 10 points with the highest BOR : 0 points in between: 0.01 – 9.99 points depending on the BOR |
| 3 | Availability of consultants | Number of consultants as reported by each institution | Hospital with <ul style="list-style-type: none"> no consultants: 10 points 1 consultant: 7.5 points 2 consultants: 5 points 3 consultants: 2.5 points 4 or more consultants: 0 point |
| 4 | Population per doctor (Pop/Doc) | Catchment population divided by number of MOs including consultants, RMOs, AMOs and intern MOs as reported by each institution | Hospital <ul style="list-style-type: none"> with the largest population : 10 points with the smallest population : 0 points in between: 0.01 - 9.99 points depending on the population size per doctor |
| 5 | Availability of standard facilities | Data provided by each institution on availability of the standard facilities | Hospital <ul style="list-style-type: none"> with the largest gaps to the standard: 20 points with the smallest gaps to the standard: 0 points in between: 0.01 - 19.99 points depending on the gaps |

(2) The standard facilities and the scoring methods

| Facilities | Computation |
|--|--|
| ETU | Yes: 0 points No: 10 points |
| Exclusive spaces for clinics | Yes: 0 points No: 5 points |
| Medical, Surgical, Paediatrics and Obstetric wards | For each of the speciality wards: Yes: 0 No: 10 |
| Wards for other specialities | For each of the ENT, Eye, Anaesthetic, Dermatology, Rheumatology Orthopaedic, Neonatal wards: Yes: 0 points No: 5 points * Adjustments are made so that the full scores for DGH and BH are equal. |
| Operation Theatres | Yes + sufficient in number: 0 points Yes + insufficient in number: 5 points No OT: 10 points |
| Intensive Care Units (ICU) – Medical and Surgical | Have MICU & SICU + both sufficiently equipped: 0 points Have MICU & SICU + only one sufficiently equipped: 2 points Have MICU & SICU + both not sufficiently equipped: 5 points Have MICU or SICU + sufficiently equipped: 3 points Have MICU or SICU + not sufficiently equipped: 7 points No ICU: 10 points |

List A:

| Secondary hospitals ranking | | | | | points | | | | | | numerical data | | | | | | |
|-----------------------------|---------|----------|----------|-------------------|----------------------------|-------|--------------|----------|------------|--------------------------|----------------|--------|----------------------------|---------|---------------------------|---------------|--------|
| Ranking | Sr. No. | Province | category | Institutions | 1. Patients / Transfer-out | 2.BOR | 3.specialist | 4.pop/MO | 5.facility | Total points (out of 60) | Pop (000) | # beds | 1. Patients / Transfer-out | BOR (%) | Journey to referral hosp. | # Consultants | pop/MO |
| 1 | 17 | N | BHB | Mankulam | 9.76 | 10.00 | 10 | 1.68 | 20.00 | 51.45 | 10 | 40 | 55.8 | 10 | 30 | 0 | 10,000 |
| 2 | 21 | E | BHB | Kaluwanchikudy | 9.69 | 4.62 | 10 | 10.00 | 10.14 | 44.45 | 280 | 150 | 62.0 | 80 | 50 | 0 | 56,000 |
| 3 | 13 | N | BHB | Kayts | 9.85 | 7.69 | 10 | 2.77 | 13.43 | 43.73 | 48 | 59 | 49.0 | 40 | 45 | 0 | 16,000 |
| 4 | 47 | NC | BHB | Welikanda | 9.89 | 7.69 | 10 | 2.59 | 13.43 | 43.59 | 45 | 62 | 45.6 | 40 | 30 | 0 | 15,000 |
| 5 | 61 | Sab | BHB | Kalawana | 9.24 | 7.85 | 10 | 2.59 | 11.78 | 41.46 | 120 | 82 | 99.9 | 38 | 90 | 0 | 15,000 |
| 6 | 2 | C | BHB | Teldeniya | 9.63 | 7.77 | 10 | 4.87 | 8.50 | 40.77 | 304 | 87 | 67.0 | 39 | 35 | 0 | 27,636 |
| 7 | 38 | NW | BHB | Polpitigama | 9.86 | 8.15 | 10 | 3.06 | 8.50 | 39.57 | 88 | 110 | 47.5 | 34 | 90 | 0 | 17,600 |
| 7 | 25 | E | BHB | Mahaoya | 9.43 | 8.11 | 10 | 0.24 | 11.78 | 39.57 | 40 | 100 | 83.7 | 34.5 | 90 | 0 | 2,000 |
| 9 | 52 | U | BHB | Mellawaya | 9.30 | 7.23 | 7.5 | 2.34 | 11.78 | 38.15 | 150 | 112 | 95.2 | 46 | 45 | 1 | 13,636 |
| 10 | 53 | U | BHB | Siyambalanduwa | 9.36 | 7.76 | 10 | 1.25 | 7.84 | 36.21 | 61 | 117 | 90.0 | 39.1 | 60 | 0 | 7,625 |
| 11 | 44 | NC | BHB | Kebitigollewa | 8.54 | 7.69 | 7.5 | 0.38 | 11.78 | 35.90 | 25 | 83 | 158.6 | 40 | 75 | 1 | 2,778 |
| 12 | 56 | Sab | BHB | Warakapola | 9.03 | 6.68 | 10 | 1.61 | 8.50 | 35.82 | 250 | 138 | 117.7 | 53.2 | 30 | 0 | 9,615 |
| 13 | 37 | NW | BHB | Galgamuwa | 9.63 | 9.09 | 5 | 2.89 | 8.50 | 35.10 | 300 | 131 | 67.4 | 21.8 | 90 | 2 | 16,667 |
| 14 | 12 | N | BHB | Chavakachcheri | 9.73 | 5.68 | 10 | 1.16 | 8.50 | 35.06 | 71 | 104 | 58.9 | 66.2 | 30 | 0 | 7,100 |
| 15 | 32 | E | BHB | Mutur | 9.79 | 0.74 | 7.5 | 1.32 | 13.43 | 32.78 | 80 | 92 | 53.7 | 130 | 150 | 1 | 8,000 |
| 16 | 50 | U | BHB | Welimada | 7.55 | 6.15 | 5 | 1.60 | 11.78 | 32.09 | 200 | 114 | 242.1 | 60 | 90 | 2 | 9,524 |
| 17 | 26 | E | BHB | Samanthurai | 8.79 | 5.12 | 7.5 | 1.98 | 6.85 | 30.24 | 186 | 175 | 138.2 | 73.5 | 30 | 1 | 11,625 |
| 18 | 9 | C | BHB | Hettipola | 7.11 | NA | 10 | 1.32 | 11.78 | 30.21 | 32 | 58 | 279.8 | NA | 40 | 0 | 8,000 |
| 19 | 10 | N | BHA | Point Pedro | 9.04 | 6.85 | 7.5 | 1.11 | 5.21 | 29.70 | 150 | 264 | 116.8 | 51 | 25 | 1 | 6,818 |
| 20 | 42 | NC | BHB | Padaviya | 8.83 | 6.92 | 7.5 | 0.90 | 5.21 | 29.36 | 51 | 195 | 134.5 | 50 | 195 | 1 | 5,667 |
| 21 | 11 | N | BHA | Telippalai | 9.16 | 4.21 | 7.5 | 1.96 | 6.20 | 29.03 | 80.6 | 102 | 106.7 | 85.2 | 25 | 1 | 11,514 |
| 22 | 43 | NC | BHB | Tambuttegama | 8.61 | 6.44 | 0 | 3.50 | 10.14 | 28.69 | 441 | 146 | 152.9 | 56.3 | 35 | 4 | 20,045 |
| 23 | 5 | C | BHA | Dickoya | 9.50 | 3.48 | 2.5 | 2.59 | 10.14 | 28.21 | 300 | 100 | 78.28 | 94.7 | 90 | 3 | 15,000 |
| 24 | 6 | C | BHB | Rikillagaskada | 9.79 | 7.38 | 2.5 | 0.79 | 6.85 | 27.32 | 106 | 126 | 53.62 | 44 | 45 | 3 | 5,048 |
| 25 | 46 | NC | BHB | Medirigiriya | 9.17 | 6.20 | 0 | 0.59 | 10.14 | 26.10 | 71 | 155 | 106.2 | 59.4 | 60 | 4 | 3,944 |
| 26 | 60 | Sab | BHB | Kahawatta | 8.29 | 5.54 | 5 | 1.17 | 5.21 | 25.21 | 200 | 195 | 179.6 | 68 | 30 | 2 | 7,143 |
| 27 | 19 | N | BHB | Cheddikulam | 10.00 | NA | 7.5 | 0.26 | 6.85 | 24.61 | 38 | 222 | 35.99 | NA | 40 | 1 | 2,111 |
| 28 | 36 | NW | BHB | Dambadeniya | 8.47 | 5.92 | 0 | 2.59 | 6.85 | 23.83 | 300 | 206 | 164.9 | 63 | 45 | 4 | 15,000 |
| 29 | 23 | E | BHA | Kalmunai North LM | 8.84 | 8.23 | 0 | 1.68 | 3.57 | 22.32 | 480 | 413 | 134 | 33 | 60 | 5 | 10,000 |
| 30 | 29 | E | BHB | Akkarapatthu LM | 9.00 | 4.69 | 0 | 0.60 | 6.85 | 21.14 | 250 | 216 | 120.5 | 79.1 | 600 | 4 | 4,032 |
| 31 | 35 | NW | BHB | Nikawaratiya | 7.72 | 5.38 | 0 | 0.65 | 6.85 | 20.61 | 244 | 355 | 227.7 | 70 | 30 | 6 | 4,281 |
| 32 | 51 | U | DGH | Moneragala LM | 8.03 | 3.38 | 0 | 0.59 | 8.45 | 20.45 | 501 | 370 | 202.3 | 96 | 150 | 17 | 3,976 |
| 33 | 16 | N | DGH | Mullaitivu | 9.98 | 4.62 | 0 | 0.54 | 5.21 | 20.35 | 85 | 139 | 38 | 80 | 130 | 7 | 3,696 |
| 34 | 55 | Sab | BHB | Karawanella | 8.54 | 4.87 | 0 | 1.45 | 5.21 | 20.07 | 565 | 305 | 158.5 | 76.7 | 45 | 6 | 8,692 |
| 35 | 58 | Sab | BHA | Embilipitiya | 8.57 | 2.92 | 0 | 1.05 | 7.51 | 20.05 | 637 | 370 | 156.5 | 102 | 105 | 11 | 6,500 |
| 36 | 40 | NW | BHA | Puttalam | 6.43 | 5.15 | 0 | 0.78 | 7.51 | 19.87 | 325 | 328 | 336.5 | 73 | 50 | 11 | 5,000 |
| 37 | 39 | NW | DGH | Chilaw | 7.52 | 5.95 | 0 | 0.00 | 6.34 | 19.81 | 115 | 532 | 244.9 | 62.6 | 120 | 18 | 697 |
| 38 | 28 | E | BHB | Dehiattakandiya | 8.96 | 3.46 | 0 | 0.13 | 6.85 | 19.41 | 70 | 136 | 123.5 | 95 | 60 | 4 | 1,429 |
| 39 | 31 | E | BHA | Kanthalai LM | 8.45 | 6.43 | 0 | 0.39 | 3.57 | 18.83 | 150 | 210 | 166.6 | 56.4 | 60 | 8 | 2,830 |
| 40 | 15 | N | DGH | Mannar | 9.12 | 4.62 | 0 | 0.48 | 4.46 | 18.67 | 160 | 350 | 110.2 | 80 | 120 | 7 | 3,333 |
| 41 | 30 | E | DGH | Trincomalee | 7.65 | 6.08 | 0 | 0.59 | 3.10 | 17.42 | 450 | 446 | 233.8 | 61 | 270 | 15 | 3,982 |
| 42 | 3 | C | BHB | Gampola LM | 7.88 | 4.39 | 0 | 0.51 | 4.55 | 17.34 | 350 | 358 | 214.4 | 82.9 | 30 | 9 | 3,535 |
| 43 | 24 | E | BHA | Kalmunai South LM | 8.25 | 4.54 | 0 | 1.46 | 2.91 | 17.16 | 500 | 328 | 183.1 | 81 | 30 | 6 | 8,772 |
| 44 | 8 | C | BHA | Dambulla | 7.66 | 2.38 | 0 | 1.12 | 5.21 | 16.38 | 380 | 266 | 233.2 | 109 | 45 | 12 | 6,909 |
| 45 | 45 | NC | DGH | Polonnaruwa LM | 6.94 | 4.82 | 0 | 0.35 | 3.99 | 16.10 | 400 | 601 | 293.4 | 77.4 | 90 | 21 | 2,632 |
| 46 | 1 | C | DGH | Nawalapitiya | 6.55 | 5.44 | 0 | 0.65 | 3.15 | 15.78 | 500 | 526 | 326.9 | 69.3 | 45 | 16 | 4,274 |
| 47 | 34 | NW | BHA | Kuliyapitiya | 6.34 | 5.30 | 0 | 0.09 | 3.57 | 15.30 | 140 | 475 | 344.2 | 71.1 | 40 | 11 | 1,207 |
| 48 | 49 | U | BHA | Mahiyangana | 8.17 | 2.69 | 0 | 1.37 | 2.91 | 15.14 | 481 | 261 | 190.3 | 105 | 120 | 8 | 8,293 |
| 49 | 59 | Sab | BHB | Balangoda | 8.82 | 3.54 | 0 | 0.48 | 1.92 | 14.76 | 177 | 258 | 135.6 | 94 | 60 | 7 | 3,340 |
| 50 | 33 | E | BHB | Kinniya | 9.15 | 0.00 | 2.5 | 1.08 | 1.92 | 14.65 | 120 | 160 | 107.8 | 140 | 40 | 3 | 6,667 |
| 51 | 7 | C | DGH | Matale | 7.35 | 6.05 | 0 | 0.39 | 0.75 | 14.55 | 515 | 729 | 258.8 | 61.3 | 20 | 17 | 2,877 |
| 52 | 4 | C | DGH | Nuwaraeliya LM | 8.00 | 3.85 | 0 | 1.50 | 0.80 | 14.14 | 816 | 426 | 204.5 | 90 | 150 | 17 | 8,967 |
| 53 | 48 | U | BHA | Diyatalawa | 8.55 | 3.47 | 0 | 0.74 | 0.28 | 13.04 | 350 | 268 | 158.3 | 94.9 | 45 | 6 | 4,795 |
| 54 | 57 | Sab | BHB | Mawanella | NA | 3.08 | 0 | 0.49 | 9.15 | 12.73 | 250 | 230 | NA | 100 | 30 | 6 | 3,425 |
| 55 | 41 | NW | BHB | Marawila | 0.53 | 5.62 | 0 | 0.33 | 4.55 | 11.02 | 200 | 315 | 833.6 | 67 | 67 | 6 | 2,500 |
| 56 | 18 | N | DGH | Vavuniya | 3.45 | 3.62 | 0 | 0.43 | 3.05 | 10.56 | 220 | 593 | 587.2 | 93 | 60 | 20 | 3,099 |
| 57 | 54 | Sab | DGH | Kegalle LM | 0.00 | 4.31 | 0 | 0.60 | 0.00 | 4.91 | 826 | 747 | 877.8 | 84 | 50 | 21 | 3,990 |

Annex 13: Letters from MoH to provincial health
secretaries

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சுவசிரிபாய
SUWASIRIPAYA

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எனது இல }

My No }
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உமது இல }
Your No. }

දිනය } 28 October 2011

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சுகாதார அமைச்சு
Ministry of Health

Mrs. Shirani Weerakoon,
Health Secretary, Central Province

Re: Development priority among the selected secondary hospitals

Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 9 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central province:

1. Teldeniya Base Hospital (Category B)
2. Hettipola Base Hospital (Category B)
3. Dickoya-Base Hospital (Category A)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by **9 November 2011** either by fax or e-mail to:

JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Reiko Sata,)

Tel: 11-2369970, Fax: 11-2369971,

Email: nishino.keiko@glm.co.jp; sata.reiko@glm.co.jp; imani.naomi@glm.co.jp

Thanking you for your understanding and continued cooperation.

Dr. P.G. Mahipala
Addl. Secretary (Medical Services)
Ministry of Health

- c.c. 1. Hon. Tikiri Kobbekaduwa/Governor, Central Province
2. Hon. Sarath Ekanayake/Chief Minister, Central Province
3. Hon. S.K. Sunil Amarathunga/Health Minister, Central Province
4. Dr. K.S. Shanthi Samarasingha/PD, Central Province .

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சுகாதார அமைச்சு
Ministry of Health

Mrs. G.A.M.S.P. Ambanwala
Health Secretary, Uva Province,

Re: Development priority among the selected secondary hospitals

Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 6 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central Uva province:

1. Welimada Base Hospital (Category B)
2. Wellawaya Base Hospital (Category B)
3. Siyambalanduwa Hospital (Category B)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by **9 November 2011** either by fax or e-mail to:
JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Reiko Sata),
Tel: 11-2369970, Fax: 11-2369971,
Email: nishino.keiko@glm.co.jp; sata.reiko@glm.co.jp; imaninaomi@glm.co.jp

Thanking you for your understanding and continued cooperation.

Dr. P.G. Mahipala
Addl. Secretary (Medical Services)
Ministry of Health

- c.c. 1. Hon. C. Nanda Mathew, Governor, Uva Province
2. Hon. Shasheendra Rajapaksa, Chief Minister, Uva Province
3. A.M. Buddhadasa, Health Minister, Uva Province
4. Dr. N.S.R. Hewagegana, PD, Uva Province

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சுவசிரிபாய
SUWASIRIPAYA

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My No

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உமது இல }
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දිනය } 28 October 2011

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சுகாதார அமைச்சு
Ministry of Health

Mr. U.L.A. Azeeze,
Health Secretary, Eastern Province,

Re: Development priority among the selected secondary hospitals

Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 11 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central Eastern province:

1. Kalawanchikudy Base Hospital (Category B)
2. Samanthurai Base Hospital (Category B)
3. Mutur Base Hospital (Category B)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by 9 November 2011 either by fax or e-mail to:

JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Reiko Sata,)

Tel: 11-2369970, Fax: 11-2369971,

Email: nishino.keiko@plm.co.jp; sata.reiko@plm.co.jp; imani.naomi@plm.co.jp

Thanking you for your understanding and continued cooperation.

Dr. P.G. Mahipala
Addl. Secretary (Medical Services)
Ministry of Health

- c.c. 1. Hon. Rear Admiral Mohan Wijewickrama/Governor, Eastern Province
2. Hon. Sivanesanthurai Chandrakanthan/Chief Minister, Eastern Province
3. Hon. M.S. Subair /Health Minister, Eastern Province
4. Dr. M. Thevarajan/PD, Eastern Province

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சுகாதார அமைச்சு
Ministry of Health

Mr. R.Raveenthiran,
Health Secretary, Northern Province,

Re: Development priority among the selected secondary hospitals

Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 9 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central Northern province:

1. Point Pedro Base Hospital (Category A)
2. Chavakachcheri Base Hospital (Category B)
3. Kays Base Hospital (Category B)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by **2 November 2011** either by fax or e-mail to:
JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Reiko Sata,
Tel: 11-2369970, Fax: 11-2369971,
Email: nishino.keiko@glm.co.jp; sata.reiko@glm.co.jp; imani.naomi@glm.co.jp

Thanking you for your understanding and continued cooperation.

Dr. P.G.Mahipala
Addl.Secretary (Medical Services)
Ministry of Health

- c.c
1. Major General GA Chandrasiri/Governor, Northern Province
 2. Mr. A. Sivaswami/Chief Secretary, Northern Province
 3. Dr. J.S.R Jude/PD, Northern Province

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சுகாதார அமைச்சு
Ministry of Health

Mr. P.M.B.Sirisena,
Health Secretary, North Western Province,

Re: Development priority among the selected secondary hospitals

Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 8 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central North Western province:

1. Galgamuwa Base Hospital (Category B)
2. Polpitiyagama Base Hospital (Category B)
3. Dambadeniya Base Hospital (Category B)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by **9 November 2011** either by fax or e-mail to:
JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Relko Sata,
Tel: 11-2369970, Fax: 11-2369971,
Email: nishino.keiko@glm.co.jp; sata.relko@glm.co.jp; imaninaomi@glm.co.jp

Thanking you for your understanding and continued cooperation.

Dr. P.G. Mahipala
Addl. Secretary (Medical Services)
Ministry of Health

- c.c. 1. Hon. Tissa R. Balalala/Governor, North Western Province
2. Hon. Athula Sarath Kumara Wijesinghe/Chief Minister, North Western Province
3. Hon. Ashoka Wadigamangawa /Health Minister, North Western Province
4. Dr. R.S.M.K. Rathnayake/PD North Western Province

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சுகாதார அமைச்சு
Ministry of Health

Mr. Keerthi Gamage,
Health Secretary, North Central Province,

Re: Development priority among the selected secondary hospitals
Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 6 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central North Central province:

1. Padaviya Base Hospital (Category B)
2. Wellkanda Base Hospital (Category B)
3. Kebittigollewa Base Hospital (Category B)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by **9 November 2011** either by fax or e-mail to:
JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Reiko Sata,
Tel: 11-2369970, Fax: 11-2369971,
Email: nishino.keiko@glm.co.jp; sata.reiko@glm.co.jp; imani.naomi@glm.co.jp

Thanking you for your understanding and continued cooperation.

Dr. P.G. Mahipala
Addl. Secretary (Medical Services)
Ministry of Health

- c.c. 1. Hon. Karunaratne Divulagane /Governor, North Central Province
2. Hon. Berty Premalal Dissanayake/Chief Minister, North Central Province
3. Hon. Peshala Jayarathne Bandara/Health Minister, North Central Province
4. Dr. W. Atapattu/PD, North Central Province

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சுகாதார அமைச்சு
Ministry of Health

Mr. J.A. Ranjith
Health Secretary, Sabaragamuwa Province,

Re: Development priority among the selected secondary hospitals

Reference is made to our request for your cooperation to the health care facility survey by JICA in August 2011. We are pleased to inform you that, with your facilitation, the survey obtained very informative responses from 8 secondary hospitals in your province. Subsequently the information received was analysed by the survey team with close consultations with MoH using internationally accepted criteria, and the following three hospitals have been identified as having high needs for further development in Central Sabaragamuwa province:

1. Warakapola Base Hospital (Category B)
2. Kalawana Base Hospital (Category B)
3. Kahawatta Base Hospital (Category B)

At this juncture, we would like to seek the views of the provincial council regarding the development priorities among the above-mentioned hospitals. Please be informed, however, this does not guarantee any funding at this stage, as the needs across the provinces are high while the resources are limited.

Kindly send your response by 9 November 2011 either by fax or e-mail to:
JICA health sector study team (Contact persons: Ms. Naomi Imani, Dr. Reiko Sata,
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Thanking you for your understanding and continued cooperation.

Dr. P.G. Mahipala
Addl. Secretary (Medical Services)
Ministry of Health

- c.c. 1. Hon. W.J.M. Lokubandara/Governor, Sabaragamuwa Province
2. Hon. Mahipala Hearath /Chief Minister, Sabaragamuwa Province
3. Hon. Bhanu Munipriya/Health Minister, Sabaragamuwa Province
4. Dr. Kapila Bimal Kannangara/PD, Sabaragamuwa Province