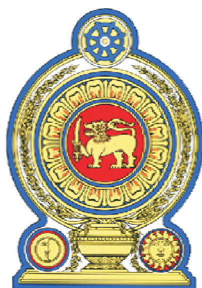


ANNUAL HEALTH BULLETIN 2009

Department of Health Services
Central Province

CONTENTS

	Page
Preface	v-ix
Editorial & Review Committee	x
List of Tables	xi-xiv
List of Figures	xv-xvi
Map of Central Province	xvii
Key Health Related indicators	xviii

1. GENERAL INFORMATION

1.1	Basic Facts	01
1.2	Administrative Divisions	01
1.3	Population	02
	1.3.1 Population Density	02
	1.3.2 Urban Rural Population	02
	1.3.3 Age Composition	02
	1.3.4 Sex Composition	04
	1.3.5 Population by Ethnicity and Religion	04
1.4	Vital Statistics	05
	1.4.1 Crude Birth Rate (CBR)	05
	1.4.2 Crude Death Rate (CDR)	05
	1.4.3 Maternal Mortality Rate (MMR)	05
	1.4.4 Under Five Child Mortality Rate (CMR)	06
	1.4.5 Infant Mortality Rate (IMR) and Neo natal Mortality Rate (NNMR)	06
	1.4.6 Total Fertility Rate (TFR)	06
	1.4.7 Life Expectancy	06
1.5	Socio-Economic Indicators.	07
	1.5.1 Literacy Rate	07
	1.5.2 Level of Education	08
	1.5.3 Household Size	08
	1.5.4 Age dependency ratio	08
	1.5.5 Access to safe drinking water	09
	1.5.6 Sanitation Facilities	09
	1.5.7 Electricity	09
	1.5.8 Source of cooking fuel	09
	1.5.9 Use of mosquito nets and coils	10
	1.5.10 Poverty	10
1.6	Maternal Health	11
	1.6.1 Maternal care	11
	1.6.2 Median age at marriage	11
	1.6.3 Desired family size	11
	1.6.4 Current use of contraception	11
1.7	Child Health and Nutrition	12
	1.7.1 Child Nutrition	13
	1.7.2 Exclusive Breast Feeding	13

1.7.3 Birth Weight 13
1.7.4 Immunization Coverage 13
1.7.5 Anemia 14-16

2. ORGANIZATION OF HEALTH SERVICES.

2.1 Introduction 17
2.2 Provincial Health Policy 17
2.3 Provincial Health Administration. 18
2.4 Health facilities in Central Province 18
2.4.1 Curative health facilities 18
2.4.2 Preventive health facilities 21
2.5 Health Manpower 22-24

3. CURATIVE CARE SERVICES

3.1 Primary Care Services 25
3.1.1 Quality Improvement Project 26
3.1.2 Emergency Treatment Units 30
3.1.3 Laboratory Services 32
3.2 Secondary Care Services 33-38
3.2.1 Supportive services for curative care in secondary care institutions 38
3.2.1.1 Laboratory Investigations 38
3.2.1.2 Radiology Investigations 39
3.2.1.3 Electrocardiography services 40
3.2.1.4 Blood bank services. 41
3.2.1.5 Physiotherapy services 42
3.2.1.6 Special clinics 43
3.2.1.7 Surgeries 44
3.2.1.8 Premature Baby Unit (PBU) 45
3.2.1.9 ICU Care 46
3.2.1.10 Hospital deaths 47
3.3 Upgrading Dickoya and Rikillagaskada Hospitals 48
3.3.1 DBH Rikillagaskada 50
3.3.2 DBH Dickoya 50-53
3.4 Secondary Care Services and Tertiary care Services Managed by the line Ministry of Health 53
3.4.1 Laboratory Investigations 54
3.4.2 Maternity Statistics 55
3.4.3 Radiology Investigations 56
3.4.4 E.C.G Services 56
3.4.5 Blood bank Services 56
3.4.6 Physiotherapy Services 57
3.4.7 Special clinics 57
3.4.8 Surgeries 58
3.4.9 ICU care 58
3.4.10 Premature Baby Unit(PBU) 59
3.4.11 Hospital Deaths 60
3.4.12 Emergency Testament Unit 60

4. MORBIDITY AND MORTALITY

4.1 Inpatient mortality and morbidity 61-64

5. PREVENTIVE HEALTH SERVICES.

5.1 Maternal and Child Health 65-71
5.1.2 Maternal Deaths 71-74
5.2 School Health 75
5.3 Well Woman clinic Services 76-77
5.4 Family Planning 78
5.5 Epidemiological Surveillance 78
5.5.1 Surveillance of Leptospirosis 79
5.5.2 Surveillance of Dysentery 80
5.5.3 Surveillance of Enteric Fever 81
5.5.4 Surveillance of Viral Hepatitis 81
5.5.5 Surveillance of Dengue Fever/Dengue hemorrhagic fever 82-87
5.6. Expanded programme on immunization 88
5.7 Environment Health 90
5.8 Health Promotion Activities 92
5.9 Cosmetics Drugs and Devices 94-96
5.10 Supportive Supervision 96-98

6. SPECIAL ACHIEVEMENTS

6.1 Productivity 99
6.1.1 Divisional Hospital Marassana 99
6.1.2 Office of the Provincial Director of Health Services 100-102
6.1.3 Medical Office of Health Hanguranketha 103-104
6.1.4 Medical Office of Health Hatharaliyadda 105-106
6.1.5 District General Hospital Matale 107-108
6.2 Strengthening Performance appraisal Central Provincial Council 109-110
6.3 Strengthening of Preventive Health Services for the IDPs in chettikulam 111-120
6.4 Report on Pandemic Influenza (H1N1) 121
6.5 Dengue Epidemic 123-124
6.6 Hospital Waste management Project DGH Matale. 125-132

7. SPECIAL CAMPAIGNS

7.1 Respiratory Disease Control Unit 133-135
7.2 Mental Health Services 136
7.2.1 Mental Health Promotion and Prevention 136
7.2.2 Mental Health Care 136-140
7.2.3 Psychiatric Services at TH Kandy and TH Peradeniya 140
7.2.4 Psychiatric Services at Secondary care Institutes 144
7.2.5 Rehabilitation Services 146
7.2.6 Alcohol Rehabilitation 147
7.3 STD HIV/AIDS Control Programme 149
7.4 Malaria Control Programme. 150
7.5 Rabies Control activities 156

8. SPECIAL UNITS

8.1 Patient Rehabilitation Services –Physical Rehabilitation Center Digana 160
8.2 Regional Health Training Centre (RHTC) - Kadugannawa. 166
8.3 Bio-Medical Engineering Services Unit. 169
8.4 Dental Services 173
8.4.1 Preventive and Curative Dental Services 173
8.4.2 Special Dental Services 176
8.4.3 Mobile Dental Services 176
8.4.4 Spacial Dental Units 177

9 ESTATE HEALTH DEVELOPMENT

9.1 Background 180
9.2 Strengthening of Estate Preventive Health Services 181
9.3 Strengthening of Estate Curative care services 183

10. FINANCIAL MANAGEMENT SYSTEM.

10.1 Recurrent Expenditure Summary 187
10.2 Patient Care Services. 188
10.3 Preventive Care Services. 189
10.4 Summary of Health expenditure by Programmes 190
10.5 Development Projects
10.5.1 Health Sector Development Project – World Bank 191
10.5. 2 Health Sector Development Project – Provincial Specific Development Grants (PSDG) 192
10.5.3 Health Sector Development Project- Criteria Based Grants)CBG) 192
10.5.4 Health Sector Development Project -GAVI/UNICEF/UNFPA 193
10.5.5 Health Sector Development Project- Plan Sri Lanka 193

11 DETAILED TABLES 194-221

12 ABBREVIATIONS 222-223

Message from the Hon. Governor of Central Province

It is my privilege and pleasure to convey my appreciation for the Annual Health Bulletin 2009 prepared by the Department of Health, Central Province.

Having monitored the progress of the Department through development reviews and informed discussions, I am quite pleased with its results for the year 2009. The results achieved during the period under review indicate a marked improvement and continued progress in the Department. Therefore, I wish to place on record my commendation for all categories of staff whose dedicated services and teamwork contributed to this development.

The Health Department took a keen interest to eradicate the Dengue epidemic and I am happy that they have been successful to a great extent.

Analyzing the financial disbursement and fund utilization I wish to thank the Hon. Minister of Health, Secretary of Health, Provincial Director, all Regional Directors and all health staff who have given their best to provide quality health services to the people in the Central Province through optimum use of the available resources. I am confident that you will continue to improve on these achievements to reach the level of excellence in the health sector. I am sure that the health staff will work passionately and with team spirit towards providing the best health service to the people of our Province.

Our aim is to be the best Province in the country by year 2015. For this purpose, the health sector needs to play a pivotal role in the Province.

In conclusion, I wish to thank the Provincial Department of Health Services for compiling the Annual Health Bulletin for the fourth consecutive year and wish them well in the coming year.

'If you honour your work, your work will honour you'

Best wishes!

Hon. Tikiri Kobbekaduwa
Governor
Central Province

Message from the Hon. Chief Minister of Central Province

It is my great pleasure and privilege to release this message for the Annual Health Bulletin prepared by the Department of Health Central Province.

Since assuming duties as the Chief Minister once again, I have tried to ensure that the two large Departments, namely Health and Education, are provided with the necessary resources from the Central Provincial Council to ensure that the provision of the respective services go uninterrupted, while facilitating development work through identifying additional funds. Though it has not been an easy task, I am happy to realize that all efforts have turned out to be fruitful when reading through the achievements of the Department. I have also been informed by the Hon. Minister of Healthcare and Nutrition of the exemplary work done by the dedicated team working in the Central Province and I take pride in the fact that the Central Province has one of the best programs in the health sector.

I, as the Chief Minister, have closely monitored the use of funds and results achieved and would like to place on record the exemplary leadership qualities of the Hon. Minister of Health,Secretary Health, Provincial Director, all Regional Directors and all health staff who have given their best despite all odds to provide quality health services to the people in the Central Province.

As we march towards the goal of becoming the best Province in the country by 2015.I am happy to say that the contribution given by the Ministry & Department of Health throughout the years have been most encouraging.

I wish to thank the Provincial Department of Health for publishing the Annual Health Bulletin for the fourth consecutive year and wish them well in the coming years.

Hon. Sarath Ekanayaka
Chief Minister
Central Province

Message from the Hon. Minister of Health Central Province

I am pleased to write this message for the Annual Health Bulletin prepared by the Department of Health -Central Province.

Since assuming duties as the Minister a few months ago, I have read the annual report and am proud that the Department of Health has been able to use the resources optimally for the maximum benefit of the people. I am equally proud to have a dedicated team of health professionals who have worked tirelessly during the previous years to achieve the results which are given in the annual report. I will make it a point to ensure that the Central Provincial Council provides the necessary resources for the health sector, for the provision of curative care and also for preventive health programs. The latter, I believe, is the most cost effective of all interventions as it ensures that the people remain healthy.

During this short period, I have seen the work of the health staff at all levels, who work as teams, which has made it possible to achieve these results despite all odds. I must place on record the exemplary leadership of Hon. Ediriweera Weerawardena, Minister of Health during the period covered in this report, Secretary Health, Provincial Director and all Regional Directors who have given the necessary guidance and who have gone out of their way to ensure that programs and tasks delegated in 2009 were completed.

I wish to thank the Provincial Department of Health for putting out the Annual Health Bulletin for the fourth consecutive year and assure them of my support at all times to make the people in the Central Province healthy.

Hon. Sunil K. Amaratunga
Minister
Ministry of Health , Indigenous Medicine,
Social Services and Probation & Child Care Services
Central Province

Message from the Secretary, Ministry of Health Central Province

It is my great pleasure and privilege to write this message for the Annual Health Bulletin prepared by the Department of Health Central Province.

The Central Provincial Council provides the necessary resources to ensure that equitable health services are provided to all citizens in the Central Province. The Department of Health has been able to use these resources for the maximum benefit of the people and I am extremely proud of the dedicated team of health professionals for putting out the Annual Health Bulletin, which reflects the results achieved during the year. The previous editions of this bulletin have been widely used by healthcare professionals and administrators. I anticipate that this edition too, that has taken into consideration the numerous changes in 2009 will also be well received.

It is my wish that more government Departments would put out their annual reports so that the general public, professionals and decision makers are all made aware of the results achieved during the year.

It is my wish that the Provincial Department of Health with their dedicated staff at Provincial level, District level and Divisional level would continue to provide maximum care to benefit the people in Central Province. The Provincial Department of Health over the last few years have shown exemplary results which was reflected when the Department was adjudged as the best Department for the second consecutive year in the performance appraisal competition conducted by the Central Provincial Council and also received a special merit award at the National level of the National Productivity awards 2009.

I would like to thank Provincial Director of Health Services & staff of the Department of Health Services, Central Province for preparing this valuable compilation and wish the Department greater success in the future years.

Wijitha Bandara Ekanayaka
Secretary
Ministry of Health , Indigenous Medicine,
Social Services and Probation & Child Care Services
Central Province

Message from the Provincial Director of Health Services Central Province

This Annual Bulletin of the Provincial Department of Health Services, Central Province is published for the fourth consecutive year with a view to provide information on the achievements of health services provided during the year.

The bulletin mainly covers the areas of morbidity, mortality, resource availability, provision of services and development projects. Based on the feedback of the previous bulletin we have been able to embody several changes, including the addition of more details on the curative care services, mental health services, dental health services and special achievements etc. We thank all those readers who gave us their feedback which formed a vital part of our efforts to provide an accurate, comprehensive and up-to-date report.

There were many challenges faced during 2009 some of which were the provincial council elections, Dengue and H1N1 epidemics which did not have a major effect on the healthcare services thanks to the dedicated services health staff at all levels.

I would like to record my heartfelt thanks to all the officials in the Central Province, who have given generously their time, knowledge and necessary information for this bulletin. Special thanks are due to the valuable service rendered by the staff of the Planning Unit who have planned and coordinated the Annual Health Bulletin.

I will be failing in my duty if I do not thank the Directors of TH Kandy, TH Peradeniya, Sirimavo Bandaranayke childrens hospital, TH Gampola and DGH Nuwara Eliya and their staff for sharing their hospital information which has made this bulletin more comprehensive of the healthcare services provided in the Central Province.

Dr.(Mrs.) Shanthi Samarasinghe
Provincial Director of Health Services
Central Province.

Editorial Staff

Dr. (Mrs.) Shanthi Samarasinghe	Provincial Director of Health Services
Dr.Gamini Jayakody	Consultant Community Physician-PDHS office
Dr.Sapumal Dhanapala	Consultant Community Physician-PDHS office
Dr. Sameera R. Athapaththu	Medical Officer - PDHS office
Dr. P.H.D. Kusumawathi	Regional Malaria Officer – Kandy
Dr. H.A.D. Hettiarachchi	Regional Dental Surgeon-Kandy
Mrs. Shyamalee Abeyrathne	Statistical Survey Officer - PDHS office

Review Committee

Dr.P.M.A.Samarakkody	Deputy Provincial Director of Health Services
Dr. W.G.A. Dissanayaka	Regional Director of Health Services, Kandy
Dr. Lalith Dissanayaka	Regional Director of Health Services, Matale
Dr. (Mrs)V.S.K. Subasinghe	Regional Director of Health Services, Nuwaraeliya
Dr.W.K.W.S.Kumarawansa	Medical Superintendent DGH Matale
Mr.S.M.Samarakoon Banda	Deputy Director(Finance) - PDHS office
Dr.R.B.Ekanayake	MO/IC , BioMedical Engineerring Unit, Watapuluwa
Dr.(Mrs)A.A.Shantilatha	DRMO,RDHS Office, Kandy
Dr.Lalith Perera	DMO ,Divisional Hospital, Menikhinna
Mrs.Anoma Gurusinghe	Administrative Officer, PDHS Office,Kandy
Mr. H.M.R.S. Heenkenda	Nursing Officer (Sp.Grade), DGH Matale
Mrs.Manel Perera	RSPHNO, RDHS Office, Nuwaraeliya
Mr.Sarath Jayasinghe	Divisional Pharmacist, RDHS Office,Matale

LIST OF TABLES

1 GENERAL INFORMATION **Page**

Table 1.1 Administrative Divisions & Local Government Bodies 01
Table 1.2 Total population and population density 02
Table 1.3. Distribution of population by Age & Sex 03
Table 1.4 Distribution of population by Ethnic Groups 04
Table 1.5 Distribution of population by religion 05
Table 1.6 Live Births Registered in 2009 05
Table 1.7 Deaths Registered in 2009 06
Table 1.8 Literacy rate of persons 10 years and over by 3 Districts 07
Table 1.9 Distribution of population (5 years and over) by educational attainment by sex and District 08
Table 1.10 Age Dependency Ratio by District 08
Table 1.11 Availability of safe drinking water by District 09
Table 1.12 Availability of sanitation facilities by District 09
Table 1.13 Main source of cooking fuel by District 09
Table 1.14 Usage Mosquito nets and coils by District 10
Table 1.15 Per capita expenditure (average monthly) on Housing, Health, Education and Transport by District. 10
Table 1.16 Selected maternal care indicators by District 11
Table 1.17 Currently married women by use of contraceptive methods. 12
Table 1.18 Children under five years classified as malnourished according to 3 anthropometric indices of nutritional status: height-for-age (chronic / stunted), weight-for-height) acute on chronic / underweight) and weight-for-age) acute / wasted), by District 13
Table 1.19 Children aged 12-23 months who received specific vaccines 14
Table 1.20 Prevalence of Anemia in Children aged 6-59 months in the Central Providence 14
Table 1.21 Comparison of prevalence if mild anemia with moderate or severe levels of anemia among anemic children 15
Table 1.22 Prevalence of anemia among non pregnant women aged 15-49 years 15
Table 1.23 Comparison of prevalence if mild anemia with moderate or severe levels of anemia among anemic women 16

2. ORGANIZATION OF HEALTH SERVICES

Table 2.1 Summary of health care institutions and field area by District 21
Table 2.2 Summary of available number of wards and bed strength in institutions under Central Provincial health department 21
Table 2.3 Total number of beds and beds per 1000 population in all government health Institutions (including line ministry institutions) by District 21
Table 2.4 Number of private hospitals and beds by District 22
Table 2.5 The availability of all categories of health staff in Central Provincial health department in 2008 and 2009 22-23
Table 2.6 Cadre information of institutions under line ministry 24

3. CURATIVE CARE SERVICES

Table 3.1 Basic information and services delivered by primary care institutions 27
Table 3.2 Services provided by primary care institutions 30
Table 3.3 Basic information and services provided by secondary care institutions (including line ministry institutions) 33

Table 3.4 Trends of the services provided by secondary care institutions under Central Provincial Health Department 36
Table 3.5 Maternity Statistics of secondary care institutions 37
Table 3.6 Laboratory investigations done in secondary care institutions 38
Table 3.7 Radiology investigations done in secondary care institutions 39
Table 3.8 ECG recordings done in secondary care institutions 41
Table 3.9 Blood bank statistics of secondary care institutions 41
Table 3.10 Physiotherapy services done in secondary care institutions 42
Table 3.11 Special clinics done in secondary care institutions 43
Table 3.12 Surgeries done in secondary care institutions 44
Table 3.13 Statistics of Premature Baby Units in secondary care institutions 45
Table 3.14 ICU statistics in secondary care institutions 46
Table 3.15 Hospital death that occurred in secondary care institutions 47
Table 3.16 Basic data on DBH Rikillagaskada 49
Table 3.17 Basic data on DBH Dickoya 51
Table 3.18 The bed strength and the services provided by tertiary care institutions in Central Province 54

4 MORBIDITY AND MORTALITY

Table 4.1 Leading causes of live discharges (including line ministry institutions) by District 2008 61
Table 4.2 Leading causes of hospital deaths (including line ministry institutions) by District 2008 63

5. PREVENTIVE HEALTH

Table 5.1 The Population statistics, number clinics and estimates 65
Table 5.2 Antenatal Care Services 66
Table 5.3. Delivery and outcome of natal care 67
Table 5.4 Post partum care provided by the public health midwives 68
Table 5.5 Infant care provided by Public Health Midwives 68
Table 5.6 Post partum maternal morbidities 69
Table 5.7 Growth monitoring of children under 5 years by public heath midwives 70
Table 5.8 Distributers of Causes of Maternal Deaths 72
Table 5.9 Maternal Deaths according to classification 73
Table 5.10 School Health Activities 76
Table 5.11 Performance in well woman clinics 77
Table 5.12 Family Planning new acceptors 78
Table 5.13 Selected notifiable diseases reported 79
Table 5.14 Deaths due to DH/DHF From 1999-2008 82
Table 5.15 Dengue Vector Surveillance by type of institution 84
Table 5.16 Dengue Vector Surveillance 86
Table 5.17 Number of rounds of space spraying by MOH areas 87
Table 5.18 Trends on selected vaccine preventable diseases 88
Table 5.19 Immunization coverage 89
Table 5.20 Reporting of Adverse Events 89
Table 5.21 Water & Sanitation activities provided by public health inspector 90
Table 5.22 Food Safety & hygiene activities provided by Public Health Inspector 91
Table 5.23 Health Promotion activities 93
Table 5.24 Activities related to Drugs , Cosmetics & Devices 95

Table 5.25 Supervision of District level staff 97
Table 5.26 Supervision of Divisional level staff 98

6. SPECIAL ACHIEVEMENTS

Table 6.1 Nova Influenza A H1NI Confirmed & suspected deaths in the Central Province 2009 122

7 SPECIAL CAMPAIGNS

Table 7.1 Incidence of Tuberculosis cases by type 133
Table 7.2 Case detection rate per 10000 population of the new smear positive cases 133
Table 7.3 Distribution of new smear positive cases by sex 133
Table 7.4 Distribution of new cases of TB by District 134
Table 7.5 Clinic attendance 134
Table 7.6 Number of investigations carried out and results 135
Table 7.7 Number of functioning clinics by District 136
Table 7.8 Number of new cases referred by category 137
Table 7.9 Diagnosed new cases by type of disease 137
Table 7.10 Number of persons trained by category 138
Table 7.11 Patients Treated by Disease Type of TH Kandy & TH Peradeniya 142
Table 7.12 ICD 10 Code Diagnosis 142
Table 7.13 Special Clinic Held at TH Peradeniya & TH Kandy 143
Table 7.14 Clinic attendance and number of new diagnosed cases by District 149
Table 7.15 Serology test for Syphilis 149
Table 7.16 Serology tests for HIV 149
Table 7.17 Number of malaria cases reported by District from 2001 – 2009 151
Table 7.18 Number of blood films, malaria cases and Annual Parasite Incidence (API) by District 152
Table 7.19 Entomological surveillance by District 153
Table 7.20 Residual Insecticide spraying by District 154
Table 7.21 Impregnation of bed nets with Permethrin by District 154
Table 7.22 . Application of Insect Growth hormone, pyriproxyfen to the gem pits in L/pallegama 155
Table 7.23 Application of larvivorous fish, Poecilia reticulata by District 155
Table 7.24 Health education and community awareness programmes conducted by District 155
Table 7.25 Rabies situation and control activities by District 157
Table 7.26 Post exposure prophylaxis used in the Central Province 2005-2009 158
Table 7.27 The use of Human ARV and ARS by hospital 159

8. SPECIAL UNITS

Table 8.1 Basic information and services delivered at Physical Rehabilitation Center: Digana 163
Table 8.2 Details of Clinics Held in 2009 164
Table 8.3 Training Courses/Programmes 168
Table 8.4 List of medical equipments repaired during the year 2008 and 2009 170
Table 8.5 Dental Services 174
Table 8.6 Performance of Dental Surgeons 175
Table 8.7. Performance of School Dental Therapists 176
Table 8.8 Information in Dental Hospital Peradeniya 179

9 ESTATE HEALTH DEVELOPMENT

Table 9.1 PHM availability in the estate sector by PHDT region 181
Table 9.2 The redemarcation of MOH areas in the Nuwaraeliya District 182
Table 9.3 Services Provided by estate hospitals 184
Table 9.4 Summary of services provided by estate hospitals 184

10. FINANCIAL MANAGEMENT SYSTEM

Table 10.1 General administration 187
Table 10.2 Patient Care Services 188
Table 10.3 Preventive Services 189
Table 10.4 Summary of Health expenditure by Programmes 190
Table 10.5 Distribution of expenditure by Category of Development Projects 191
Table 10.6 Health Sector Development Project – World Bank expenditure by Districts 191
Table 10.7 Progress of the projects under WB –by District 192
Table 10.8 PSDG financial Progress 192
Table 10.9 Progress of the project activities done under the PSDG project 192
Table 10.10 CBG- progress 192
Table 10.11: Progress of the project activities done under the CBG project 193
Table 10.12 GAVI/UNICEF/UNEPA Progress 193
Table 10.13 Project activities done under GAVI/UNICEF/UNEPA 193
Table 10.14 Plan Sri Lanka Project 193

LIST OF FIGURES

		Pages
1.	**GENERAL INFORMATION**	
Fig. 1.1	Age Compositions	03
2.	**ORGANIZATION OF HEALTH SERVICES**	
Fig. 2.1	Provincial Health Organization Structure	19
Fig. 2.2	Regional Health Organization Structure	20
3.	**CURATIVE CARE SERVICES**	
Fig. 3.1	OPD attendance at Primary Care Units by District.	28
Fig. 3.2	Indoor admissions at Primary Care Units by District.	28
Fig. 3.3	Clinic admissions at Primary Care Units by District.	29
Fig. 3.4	Deliveries Conduced in Primary Care Units by District.	29
Fig. 3.5	Number of Patients treaded in ETU	30
Fig. 3.6	Bed occupancy Percentage of Primary Care Units by District.	31
Fig. 3.7	Patient load handled by Secondary Care Institutions	34-35
Fig. 3.8	Investigation handled by the three Secondary Care Hospitals	39
Fig. 3.9	Radiological investigation done in Secondary Care institutions	40
Fig. 3.10	ECG recordings done in secondary care institutions	41
Fig. 3.11	Patients treated in physiotherapy units of secondary care institutions	42
Fig. 3.12	Major surgeries performed by secondary care institutions	44
Fig. 3.13	Minor surgeries performed by secondary care institutions	44
Fig. 3.14	ICU admissions	46
Fig. 3.15	ICU death rates	47
Fig. 3.16	Indoor admissions, OPD attendance , Clinic attendance and total transfers in DBH Rikillagaskada	50
Fig. 3.17	Total deliveries, total deaths within 48 hours after hospital admission and bed occupancy rate in DBH Rikillagaskada	50
Fig. 3.18	Indoor admission, OPD attendance & clinic attendance in DBH Dickoya	52
Fig. 3.19	Total deliveries & total transfers in DBH Dickoya	52
Fig. 3.20	Total deaths & bed occupancy rate in DBH Dickoya	52
5.	**PREVENTIVE HEALTH SERVICES.**	
Fig. 5.1	Trends of Maternal Mortality Ratio by District 2002-2009	74
Fig. 5.2	Cases of Leptospirosis	80
Fig. 5.3	Cases of Dysentery	80
Fig. 5.4	Cases of Enteric Fever	81
Fig. 5.5	Cases of Viral Hepatitis	82
Fig. 5.6	Cases of Dengue	83
Fig. 5.7	Distribution of Dengue cases by Month in Central Province 2006 – 2009	83
6.	**SPECIAL ACHIEVEMENTS**	
Fig.6.1	Daily attendance of out patient department at TH Kandy by Flu Like Illness patients form 19 th November 2009 to 18 th January 2010	122

7. SPECIAL CAMPAIGNS

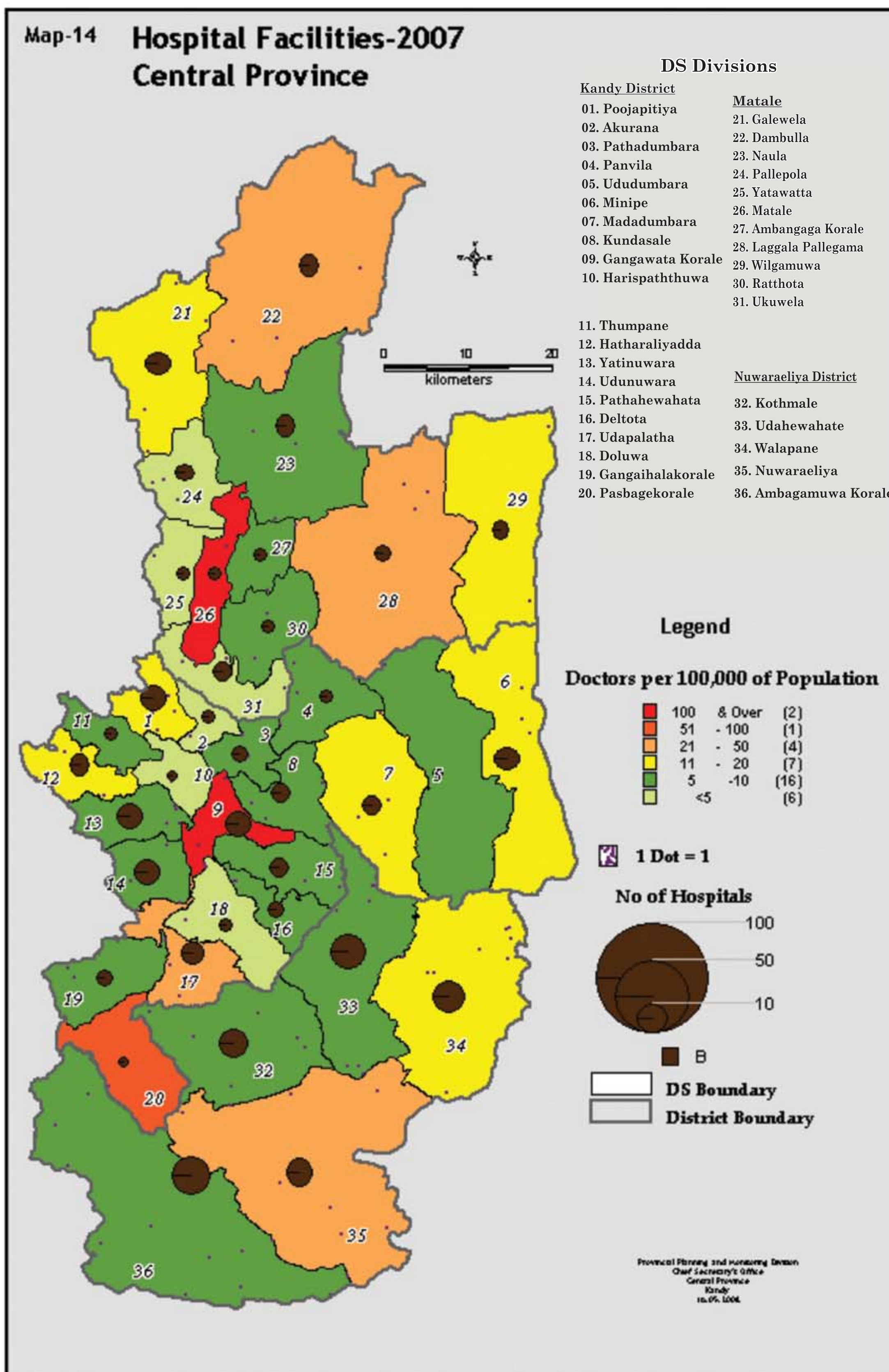
Fig. 7.1 Distribution of new smear positive cases by age 134
Fig. 7.2 Trends of malaria cases reported by District from 1976 - 2008 151
Fig. 7.3 Rabies Control Activities 157

9. ESTATE HEALTH DEVELOPMENT

Fig. 9.1 OPD attendance by estate hospitals 2006-2009 185
Fig. 9.2 Admissions by estate hospitals 2006-2009 185

10. FINANCIAL MANAGEMENT SYSTEM

Fig. 10.1 Recurrent allocation & Recurrent Expenditure for 2007-2009 186
Fig. 10.2 Capital allocation & Capital Expenditure for 2007-2009 186
Fig. 10.3 Expenditure observed during year 2008& 2009, Central Province Health Department. 190
Fig. 10.4 Distribution of Expenditure by Category of Development Projects 2009 191


Map-14
Hospital Facilities-2007
Central Province
DS Divisions
Kandy District
01. Poojapitiya
02. Akurana
03. Pathadumbara
04. Panvila
05. Ududumbara
06. Minipe
07. Madadumbara
08. Kundasale
09. Gangawata Korale
10. Harispaththuwa
11. Thumpane
12. Hatharaliyadda
13. Yatinuwara
14. Udunuwara
15. Pathahewahata
16. Deltota
17. Udapalatha
18. Doluwa
19. Gangaihalakorale
20. Pasbagekorale
Matale
21. Galewela
22. Dambulla
23. Naula
24. Pallepola
25. Yatawatta
26. Matale
27. Ambangaga Korale
28. Laggala Pallegama
29. Wilgamuwa
30. Ratthota
31. Ukuwela
Nuwaraeliya District
32. Kothmale
33. Udahewahate
34. Walapane
35. Nuwaraeliya
36. Ambagamuwa Korale
0 10 20
kilometers
Legend
Doctors per 100,000 of Population
100 & Over (2)
51 - 100 (1)
21 - 50 (4)
11 - 20 (7)
5 -10 (16)
<5 (6)
1 Dot = 1
No of Hospitals
100
50
10
B
DS Boundary
District Boundary

			Districts			Central Province	National	
No.	**Indicator**	**Year**	**Kandy**	**Matale**	**Nuwara Eliya**			
01	Land Areas(sq. km) (Excluding inland waters)	1998	1,917	1,952	1706	5575	62,705	(Survey General's Department 1998)
02	Divisional Secretary Areas	2004	20	11	05	36	324	(Dept of Census and statistic 2004)
03		2004	1,188	545	491	2,224	14,013	(Dept of Census and statistic 2004)
04	Pradesiya Saba	2004	17	11	05	33	256	(Dept of Census and statistic 2004)
05	Villages	2004	2,987	1,355	1,421	5,763	38,259	(Dept of Census and statistic 2004)
06	Municipal Councils	2004	01	01	01	03	18	(Dept of Census and statistic 2004)
07	Urban Councils	2004	04	00	02	06	37	(Dept of Census and statistic 2004)
08	Total population	2001	1,272,500	442,000	703,610	2,418,110	19,886,000	(Registrar General Department-2006)
09	Urban population (%)	2001	12	8	6	10	14.6	(Dept of census and statistics-2001)
10	Rural population (%)	2001	80	87	41	71	80	(Dept of census and statistics-2001)
11	Estate population (%)	2001	7	5	53	20	5	(Dept of census and statistics-2001)
12	Population density (Per sq. km)	2001	663	226	412	433	317.6	(Dept of census and statistics-2001)
13	Population growth rate (%)	2001	1	1.1	0.7	0.9	1.2	(Dept of census and statistics-2001)
14	Crude birth rate (Per 1000 population)	2009	22.1	21.3	14.3	19.8	18.4	(Registrar General Department 2007)
15	Crude death rate (Per 1000 population)	2009	7.4	5.3	5.1	6.4	5.9	(Registrar General Department 2007)
16	Maternal mortality rate (per 100,000 live Births)	2009	36.2	83.7	74.7	55.9	44.3	(Family Health Bureau 2005)
17	Child mortality rate (per 1,000 live births)	2003	17.1	12.0	18.0	16.4	13.4	(Registrar General Department 2003)
18	Infant Mortality Rate per 1000 Live Births	2007	11.1	7.2	14.8	11.3	8.5	(Dept of census and statistics-2007)
19	Neonatal Mortality Rate (per 1,000 live births)	2007	8.5	5.5	10.8	8.5	6.4	(Dept of census and statistics-2007)
20	Number of MOH/DDHS Divisions	2009	23	12	13	48	298	(Medical statistics Unit-2008)
21	Number of Hospitals	2009	53	20	25	98	647	(Medical statistics Unit-2008)
22	Number of Central dispensaries	2009	28	15	22	65	439	(Medical statistics Unit -2008)
23	Medical Officers	2009	1,015	185	186	1,386	12,479	(Medical statistics Unit-2008)
24	Nursing Officers	2009	2,796	422	334	3,552	22,533	(Medical statistics Unit-2008)
25	Medical Officers Per 100000 Population	2009	79.8	41.9	26.4	57.3	61.7	(Medical statistics Unit-2008)
26	Nursing Officers Per 100000 Population	2009	219.7	95.5	47.5	146.9	111.5	(Medical statistics Unit-2008)
27	Number of Inpatients treated	2009	508,979	155,031	1,35,150	799,160	4,897,815	(Medical statistics Unit-2008)
28	Number of outpatients treated	2009	3,810,067	1,459,560	1,362,902	6,632,529	45,381,715	(Medical statistics Unit-2008)
29	Number of Hospital Beds per 1000 people	2009	4.8	3.4	2.5	3.9	3.0	(Medical statistics Unit-2008)

1. GENERAL INFORMATION

1.1 Basic facts

Central Province is located in the central hills of Sri Lanka and consists of the three Districts Kandy, Matale and Nuwara Eliya. The land area of the Province is 5674 square kilometers which is 8.6% of the total land area of Sri Lanka. The Province lies on 6.6°- 7.7° Northern latitude and between 80.5°-80.9° Eastern longitudes. The elevation in the Province ranges from 600 feet to over 6000 feet above sea level in the central hills. The Province is bordered by the North Central Province from the North the Mahaweli river and Uma Oya from the east to the south from the mountain range of Adams peak, Kirigalpottha and Thotupala and the mountain ranges Dolosbage and Galagedera from the west.

The mean temperature ranges from 16°C - 28°C in the Province where lower temperatures are recorded in hills in the Nuwara Eliya District.

The Province is divided into three zones namely wet, dry and intermediate according to the rain fall. The south west monsoon provides most of the rainfall to the central hills where Watawala records the highest rainfall of 5024 mm annually while 80% of the Matale District which shows a rainfall pattern of the dry zone, gets its rainfall from the North East monsoon. The rainfall in Dambulla is reported as 1234 mm.

In the Central Province 52% of the land has been cultivated while another 6.3% has been identified as lands which can be cultivated. Of the lands cultivated more than 35% has been cultivated with tea while 14.8% has been cultivated with paddy. The percentage of lands cultivated with coconut and rubber is 4.8% and 2.3% respectively.

1.2 Administrative Divisions

For the purpose of administration, the Central Province has 36 Divisional Secretary areas in the 3 Districts. The number of GN areas, villages and local government bodies under each District is given in table 1.1

Table 1.1 Administrative Divisions & Local Government Bodies (as at 01st January 2009)

Administrative Areas. (District)	Divisional Secretary Areas.	Grama Niladari Divisions	Pradesiya Saba	Villages	Local Government Bodies	
					MC	UC
Sri Lanka	**327**	**14,013**	**270**	**35,425**	**18**	**42**
Kandy	20	1,188	17	2,737	1	4
Matale	11	545	11	1,364	1	-
Nuwara - Eliya	05	491	05	1,134	1	2
Central Province	**36**	**2,224**	**33**	**5,235**	**3**	**6**

Source - Department of Census & Statistics

The Provincial administration is vested in the Central Provincial Council which comprises of elected representatives of the people, headed by a Governor who is appointed by His Excellency the President.

1.3 Population

According to the census data 2001 the total population of Central Province was 2,418,110 and the estimated midyear population for the Central Province was 2,660,000. The annual growth rate for 2009 was 1.1 %.

Table 1.2 Total population and population density

	Sri Lanka	Kandy	Matale	Nuwara Eliya	Central Province
Total population (census 2001)	18,797,300	1,272,500	442,000	703,610	2,418,110
Estimated population 2009	20,450,000	1,415,000	490,000	755,000	2,660,000
Population density (persons per square Kilometer)	326	663	226	412	433

1.3.1 Population Density

The population density for the Central Province was 433 persons per square kilometer. The density was higher than the national average in the Districts of Kandy and Nuwara Eliya while in the Matale District the population density was lower than the national density.

1.3.2 Urban Rural population

According to the 2001 census data 70.0%, 20.2% and 9.8% of the population were classified as rural, estate and urban respectively.

1.3.3 Age composition

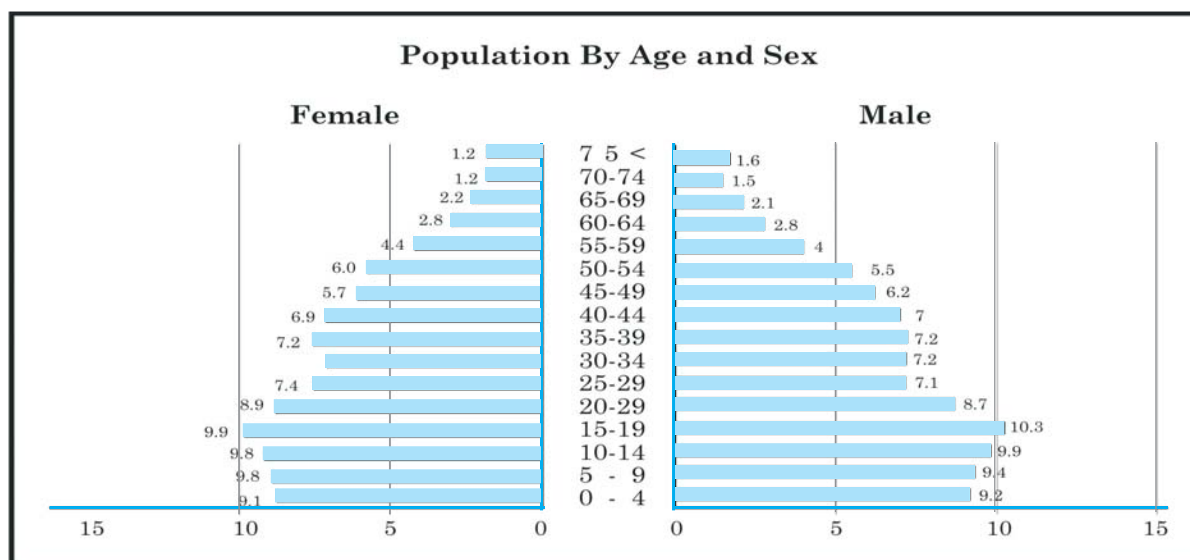
The age distribution is given in fig.1.1.The visible feature of the age distribution is the increase of the proportion of the older age groups. A detailed age breakdown is given in table 1.3.

Table 1.3. Distribution of population of Central Province by Age & Sex .

Year	Kandy		Matale		N. Eliya		Central Province		
	Male	Female	Male	Female	Male	Female	Male	Female	Total
0.4	9.0	8.6	8.6	8.6	9.9	9.1	9.2	8.8	9.0
5.9	9.6	8.7	8.8	8.6	9.8	9.8	9.4	9.6	9.2
10-14	9.6	9.2	9.5	8.7	10.7	9.8	9.9	9.2	9.6
15-19	10.1	9.4	10.9	10.4	10.0	9.9	10.3	9.9	10.1
20-24	9.1	8.9	8.8	8.5	8.3	8.9	8.7	8.8	8.8
25-29	6.8	7.7	7.8	7.4	6.8	7.4	7.1	7.5	7.3
30-34	7.2	7.2	7.3	7.1	7.1	7.2	7.2	7.2	7.2
35-39	7.3	7.5	7.3	7.8	6.9	7.5	7.2	7.6	7.4
40-44	6.9	6.9	7.1	7.5	7.0	6.9	7.0	7.1	7.1
45-49	6.1	6.1	6.7	6.9	5.9	5.7	6.2	6.2	6.2
50-54	5.4	5.8	5.6	5.5	5.5	6.0	5.5	5.8	5.7
55-59	4.0	4.3	3.8	4.1	4.3	4.4	4.0	4.3	4.2
60-64	3.0	3.4	2.6	2.7	2.9	2.8	2.8	3.0	2.9
65-69	2.4	2.5	2.0	2.3	2.0	2.2	2.1	2.3	2.2
70-74	1.6	1.9	1.6	1.9	1.4	1.2	1.5	1.7	1.6
75 <	1.7	2.1	1.7	2.0	1.3	1.2	1.6	1.8	1.7

Source: Census 2001

Fig. 1.1 Age composition



1.3.4 Sex composition

Number of males per 100 females is considered as sex ratio. According to 2001 census the ratio was 97.9 for Sri Lanka and 95.8 for the Central Province. The ratio estimated for 2008 by the Registrar General Department is 97.6

District	Sex ratio
Kandy	94.0
Matale	98.8
Nuwaraeliya	97.1

Source: Census 2001

1.3.5 Population by ethnicity and religion

The 2001 census data shows that 65.3% of the total population living in the Central Province are Sinhalese, while 20.2% are Indian Tamil, 9.3% Sri Lanka Muslim and 4.7% Sri Lanka Tamil. The detailed breakdown by District is given in table 1.4. The distribution of the population in the Central Province according to religion show that 64.5% are Buddhist, while 22.3% , 9.7% and 3.5% practice Hindu, Islam and Christianity respectively.

Table. 1.4 Distribution of population by Ethnicity

	Sinhalese	Sri Lankan Tamil	Indian Tamil	Sri Lankan Moor	Burgher	Malay	Others
Sri Lanka	**82.0**	**4.3**	**5.1**	**7.9**	**0.2**	**.03**	**0.1**
Kandy	74.0	3.9	8.4	13.3	0.2	0.2	0.1
Matale	80.2	5.4	5.3	8.8	0.1	0.1	0.1
Nuwara - Eliya	40.0	5.9	51.3	2.5	0.1	0.1	0.0
Central Province	**65.3**	**4.7**	**20.2**	**9.3**	**0.1**	**0.1**	**0.1**

Source: Census 2001

Table.1.5 Distribution of population by Religion

	Buddhist	Hindu	Islam	Roman Catholic	Others
Sri Lanka	**76.7**	**7.9**	**8.5**	**6.1**	**0.9**
Kandy	73.1	10.7	13.7	0.5	0.05
Matale	79.1	9.7	9.0	2.6	0.01
Nuwara - Eliya	39.5	51.3	2.9	6.2	0.1
Central Province	**64.5**	**22.3**	**9.7**	**3.5**	**0.06**

Source: Census 2001

1.4 Vital Statistics

Registration of births and deaths was made compulsory in 1867 with the enactment of the civil registration laws which conferred the legal sanction for the registration of events namely live births, deaths, still births and marriages. The compilation of vital statistics has a well organized system for the flow of necessary information from registration officers to the statistical branch where compilation of vital statistics is taken place.

1.4.1 Crude Birth Rate (CBR)

The crude birth rate for the Central Province for the year 2009 is calculated as 19.77 per 1000 population which was slightly higher than the CBR of Sri Lanka which is reported as 18.4 per 1000 population. The CBR for Kandy, Matale and Nuwara Eliya is 22.13, 21.34 and 14.32 per 1000 population respectively.

Table.1.6 Live Births Registered in 2009 (Provisional)

	Total	Male	Female
Sri Lanka	**376,843**	**192,097**	**184,746**
Kandy	31,315	15,961	15,354
Matale	10,459	5,320	5,139
Nuwaraeliya	10,815	5,646	5,169

Source: Registrar General Department

1.4.2 Crude Death Rate (CDR)

The crude death rate in the Central Province for the year 2009 is reported as 6.35 per 1000 population which is slightly higher than the national CDR of 5.9 per 1000 population. The CDR for Kandy, Matale and Nuwaraeliya is 7.35, 5.34 and 5. 12 per 1000 population respectively.

Table.1.7 Deaths Registered in 2009 (Provisional)

	Total	Male	Female
Sri Lanka	**120,085**	**69,999**	**50,086**
Kandy	10,403	5,865	4,538
Matale	2,617	1,567	1,050
Nuwaraeliya	3,895	2,123	1,772

Source: Registrar General Department

1.4.3 Maternal Mortality Rate (MMR)

Maternal deaths are reported to three different reporting agencies namely Registrar General's Department, Hospital statistics and Maternal Mortality active surveillance system coordinated by the Family Health Bureau of the Ministry of Healthcare and Nutrition. The most recent MMR released by the Registrar General's office for the year 2002 in the Central Province is 16.2 per 100,000 LB. According to Government hospital statistics the figure for 2003 is reported as 38.2 per 100,000 LB. The MMR for the Central Province through MMR active surveillance system is reported as 55.9 per 100,000 LB For 2009.

1.4.4 Under Five Child Mortality Rate (CMR)

The Child Mortality Rate reported by the Registrar General's Department for the Kandy, Matale, Nuwaraeliya Districts and Central Province for the year 2003 is 17.1, 12.1, 18.0 and 16.4 per 1000 live births respectively while this value for Sri Lanka is 13.5 per 1000 live births.

1.4.5 Infant Mortality Rate (IMR) and Neo natal Mortality Rate (NNMR)

The IMR and NNMR has declined over the last few decades and the figure for the Central Province of IMR for the year 2007 is 11.3 per 1000 LB much higher than the national figure of 8.5 per 1000 LB. The Neonatal Mortality Rate for the Central Province is 8.6 per 1000 LB.for the year 2007

1.4.6 Total Fertility Rate (TFR)

The level of fertility is measured by TFR is estimated as 1.9% for the Central Province for the period 1995 -2000. The estate sector shows a higher TFR of 2.4% during the period 1995-2000.

1.4.7 Life Expectancy

The life expectancy at birth is 71.7 and 76.4 years for males and females respectively. The rapid increase in the average life span together with widening gap between males and females longevity is due to the reduction of infant and child mortality and also the reduction of mortality of women of the child bearing age.

1.5 Socio - Economic Indicators

1.5.1 Literacy Rate

The literacy rate has increased over the last few decades, while the census 2001 report the literacy rate as 91.0% for Sri Lanka. The literacy rate continues to be lowest in the Nuwara Eliya District and was reported as 82.6% while female literacy rate in Nuwaraeliya was only 77.7%.

Table 1.8 Literacy rate of persons 10 years and over (as a percentage) by District

	Total	Male	Female
Sri Lanka	**91.0**	**92.4**	**89.7**
Kandy	90.5	92.4	88.7
Matale	88.3	90.2	86.4
Nuwaraeliya	82.6	87.6	77.7

Source: Census 2001

Computer literacy rate

A person is considered as a computer literate, if he could use computer on his own. For example, even if a 5 year old child can play a computer game, then he is considered as a computer literate person. If a person has heard of any of the wide range of applications computers are used for, (e.g. any use ranging from playing computer games to complicated aeronautic applications) then he is considered as a person with computer awareness.

According to the 3rd computer literacy survey done by the Department of Census and Statistics, computer awareness among 5-69 yrs in Central Province was 34.8% and computer literacy among the same age group was 18% for the year 2009. The national values for the above were 43.8% and 20.3% respectively

Percentage of computer owned households – 2009

	Desktop (%)	Desktop or Laptop
Sri Lanka	10.6	11.4
Central Province	9.7	10.4

Internet and e-mail using household population (percentage) 5-69 years aged -2009

Used in last 12 months %		
	Internet	e-mail
Sri Lanka	13.1	12
Central Province	13.2	12.3

Highest e-mail use is reported from the Western Province (18.5%) followed by the Central Province.

1.5.2 Level of Education

According to the census 2001, out of the population 5 years and above, approximately 6.3 % of Sri Lankans had not been to school and another 22.3 % had not completed their primary education while these values for Nuwaraeliya have increased upto 13.2% and 29.8% respectively adding to a total of 43.0%. In Nuwaraeliya, 46.5% of females have not been to school or not completed primary education.

Table 1.9 Distribution of population (5 years and above) by educational attainment and sex by District

		Sri Lanka	Kandy	Matale	N. eliya
No schooling	All	6.3	6.8	7.3	13.2
	Male	4.7	4.9	5.2	9.4
	Female	7.8	8.6	9.4	17.0
Attended / passed grade 1-5	All	22.3	21.6	25.3	29.8
	Male	23.0	22.7	26.3	30.2
	Female	21.4	20.6	23.8	29.5
Passed grade 6-10	All	39.6	37.9	41.0	35.5
	Male	41.3	40.1	43.2	38.8
	Female	37.9	35.9	38.9	32.3
Passed GCE(O/L)/NCGE/SSC	All	18.8	19.4	16.5	12.1
	Male	18.4	19.1	15.7	12.4
	Female	19.2	19.7	17.2	11.7
Passed GCE(A/L)/HNCE/HSC	All	9.4	10.6	7.5	4.6
	Male	8.6	9.5	6.6	4.5
	Female	10.3	11.6	8.3	4.6
Degree and above	All	1.2	1.5	0.9	0.4
	Male	1.3	1.6	1.0	0.5
	Female	1.1	1.4	0.8	0.3

Source- Census 2001

1.5.3 Household Size

The National average for household size is 4.1 persons per household while this figure for Kandy, Matale and Nuwara Eliya is 4.2, 3.9 and 4.2 persons per household respectively.

1.5.4 Age dependency ratio

Table.1.10 Age Dependency Ratio by District

	National	Kandy	Matale	N'Eliya
Below 15 yrs	39.4	41.4	40.3	40.2
65 yrs or more	10.9	12.0	13.6	8.8

Source: DHS 2006/07

Young age dependency ratio of Kandy and Matale Districts are nearly 3 times greater than that of old age dependency ratio and this value for Nuwaraeliya District has increased up to 4 times.

1.5.5 Access to safe drinking water

89% of households in Sri Lanka have access to a source of safe drinking water while in Kandy this figure is 91.5%, in Matale 81.9% and in Nuwara Eliya it is 72.4 percent.

Table 1.11 Availability of safe drinking water by District

	National	Kandy	Matale	N'Eliya
Protected well	46.4	26.1	43.5	9.4
Tube well / Spring protected	9.7	13.7	16.0	53.0
Piped into dwelling/ yard/Public tap Tap outside dwelling	32.9	51.7	22.4	10.0
Unsafe sources	11.0	8.5	18.1	27.6

Source: DHS 2006/07

1.5.6 Sanitation Facilities

8.5% of the households of Nuwaraeliya District do not have any type of facility for safe sanitation and this value is 3 times higher than the national value which is 2.5%.

Table 1.12 Availability of sanitation facilities by District

	National	Kandy	Matale	N'Eliya
Water sealed	91.7	91.9	75.2	75.7
Pit toilet	5.8	6.7	21.8	15.8
No facility	2.5	1.4	3.0	8.5

Source: DHS 2006/07

1.5.7 Electricity

80.1% Households in Sri Lanka have electricity while this figure for Kandy, Matale and Nuwara Eliya are 84.4%, 67.0% and 79.5% respectively.

1.5.8 Source of cooking fuel

Table 1.13 Main source of cooking fuel by District

	National	Kandy	Matale	N'Eliya
Firewood	78.0%	83.0%	92.0%	89.0%
LP gas	17.0%	15.4%	4.8%	7.4%
Other	5.0%	1.6%	3.2%	3.6%

Source: DHS 2006/07

More than 80% of the households in all 3 Districts use firewood as the main source of cooking.

1.5.9 Use of mosquito nets and coils

Table 1.14 Households using Mosquito nets and coils by District

	National	Kandy	Matale	N'Eliya
Mosquito nets	640	50.0	57.0	24.0
Mosquito coils	12.0	19.7	18.9	22.8
Other	24.0	30.3	24.1	53.2

Source: DHS 2006/07

Only 46.8% households in Nuwaraeliya District use mosquito nets or coils while this value for Kandy and Matale Districts exceeds 70%.

1.5.10 Poverty

Poverty Headcount Index

Percentage of population below the poverty line is defined as the Poverty Headcount Index. According to the Household Income and Expenditure Survey (2006/07) done by Department of Census and Statistics, Poverty Headcount Index for Sri Lanka is 15.2% and the values for Kandy, Matale and Nuwaraeliya Districts are 17.0%, 18.9% and 33.8% respectively. The value for Nuwaraeliya District is about 2 times greater than that of national value

Table 1.15 Per Capita expenditure (average monthly) on Housing, Health, Education and Transport by District

	Per capita expenditure on Housing		Per capita expenditure on Health		Per capita expenditure on Education		Per capita expenditure on Transport	
	Poor	Non Poor	Poor	Non Poor	Poor	Non Poor	Poor	Non Poor
	(Rs)	(Rs)	(Rs)	(Rs)	(Rs)	(Rs)	(Rs)	(Rs)
Sri Lanka	**170**	**735**	**37**	**194**	**31**	**178**	**58**	**530**
Kandy	168	738	31	124	28	173	63	492
Matale	164	506	31	111	20	109	76	453
N. Eliya	167	409	33	107	33	114	38	164

Source: Household Income and Expenditure Survey-2006/07- Department of Census and Statistics

Per capita expenditure on housing, health and education by poor people are almost same in all 3 Districts as well as with the national value. However, expenditure on transport by poor in Nuwaraeliya District is very much lower than the national value.

1.6 Maternal Health

1.6.1 Maternal care

According to DHS 2006/07, aimost all the mothers in 3 Districts have received antenatal care from a health professional. However, only 84% of mothers of Kandy were protected against neonatal tetanus. The survey further reported that more than 95% of the mothers in all 3 Districts have received assistance of a skilled health person at their last delivery. However in Nuwaraeliya, about 5% of the deliveries take place outside a health facility and also without an assistance of a health professional.

Table 1.16 Selected maternal care indicators by District

	Percentage with antenatal care from a health professional	Percentage whose last live birth was protected against neonatal tetanus	Percentage delivered by a health professional	Percentage delivered in a health facility
Sri Lanka	**99.4 %**	**90.6 %**	**95.5%**	**97.9%**
Kandy	99.5 %	84.2%	99.3%	95.5%
Matale	100.0 %	95.5%	98.3%	99.8%
N. Eliya	99.3 %	93.6%	95.8%	95.0%

Source – DHS 2006/07

1.6.2 Median age at marriage

The median age at marriage in women in Sri Lanka is 21.7. This figure for Kandy is 22.2 years while in Matale and Nuwara Eliya it is 21.5yrs.

1.6.3 Desired family size

Currently married women in Sri Lanka prefer small families. 53.2% of women would like to have 2 or less than 2 children while only 18.9% women prefer 4 or more children. In Kandy District the respect Desires were 45.2% and 23.5 % ,In Matale District Desires was 44.7% and 19.5 % while in the Nuwara Eliya District Desires was 45.7% and 17.6 of respectively

1.6.4 Current use of contraception

The total number of estimated currently married women in Sri Lanka is 3,299,875. Out of those 68.3% of women are currently using contraception.

Table 1.17 Currently married women by use of contraceptive methods.

Method	Sri Lanka		Kandy		Matale		N. Eliya	
	No:	%	No:	%	No:	%	No:	%
Total	**3299875**	**100**	**233076**	**100**	**67376**	**100**	**113074**	**100**
Not using*	1045493	31.7	72354	31.0	19425	28.8	34732	30.7
Any method	2254382	68.3	160722	69.0	47951	71.2	78342	69.3
Any modern method	1729711	52.3	132870	57.0	41161	61.1	71269	63.0
Modern permanent methods: Sterilization	560513	17.0	46403	19.9	14243	21.1	43305	38.2
Modern temporary methods:	268266	8.1	21789	9.3	5451	8.1	6243	5.5
PIlls	212491	6.4	14850	6.4	6715	10.0	**	**
IUCD	491713	14.9	34541	14.8	11139	16.5	13533	12.0
Injection	185887	5.6	15288	6.6	**	**	**	**
Condoms	**	**						
Norplant	**	**						
Any traditional method:	524671	16.0	27851	11.9	6790	10.1	7073	6.3
Safe period	332968	10.1	16928	7.3	**	**	**	**
Withdrawal	190014	5.8	10653	4.6	**	**	**	**
Other	**	**	**	**				

Source – DHS 2006/07 - * including pregnant women
** Reliable estimates cannot be provided due to small cell size.

1.7 Child Education, Health and Nutrition

In Sri Lanka, in the 5-15 year age group, about 99% have attended a school. This figure in Kandy, Matale and Nuwara Eliya are 99.2%, 98.5% and 98.1% respectively.

10.3% of currently school attending children in the 5-17 year age group in Sri Lanka do not have enough school books. This figure in Kandy, Matale and Nuwara Eliya are 8.7%, 19.6% and 29.7% respectively.

Fathers of 3.7% of the children in the 0-17 year age group in Sri Lanka were not alive at the time of the survey. This figure for Kandy and Nuwara Eliya is 2.9% for both Districts.

1.7.1 Child Nutrition

The DHS surveys conducted in 1993, 2000 and 2006 have identified that although the nutritional status has improved over the years, the rate of improvement is unacceptably slow. The nutrition indicators in the Central Province is much lower than the national average. Special attention is required to improve the nutrition status of children in the Central Province.

Malnutrition places children at increased risk of morbidity and mortality and has also been shown to be related to impaired mental development. Table 1.18 Shows the nutritional status among children below 5 years of age and it clearly shows that the children in Nuwaraeliya are severly undernourished (height for age) compared to other 2 Districts and also with the national value.

Table 1.18 Children under five years classified as malnourished according to 3 anthropometric indices of nutritional status: height-for-age (chronic /stunted), weight-for-height (acute/wasted) and weight-for-age (acute or chronic/underweight), by District

	Height-for age		Weight-for height		Weight-for age	
	% below 3 SD	% below 2 SD	% below 3 SD	% below 2 SD	% below 3 SD	% below 2 SD
Sri Lanka	**4.2%**	**18.0%**	**3.0%**	**15.0%**	**3.8%**	**21.6%**
Kandy	2.4%	18.1%	2.1%	15.7%	4.4%	25.3%
Matale	6.7%	19.2%	2.5%	11.8%	4.8%	23.2%
N. Eliya	13.5%	40.8%	2.0%	10.5%	5.4%	25.3%

Source – DHS 2006/07

1.7.2 Exclusive Breast Feeding

The proportion of mothers who have exclusively breast fed during the first 4 months at their last birth in Sri Lanka is 82.7 %, This figure for the Kandy District is 84.8% and for the Matale and Nuwara Eliya Districts is 90.3% and 69.5% respectively.

1.7.3 Birth Weight

16.1% of children in Sri Lanka have low birth weight (less than 2.5kg) while this figure for Kandy, Matale and Nuwara Eliya is 19.3%, 21.9% and 33.5% respectively.

1.7.4 Immunization Coverage

97% of children between 12-23 months in Sri Lanka have received specified vaccines BCG, Polio, DPT and Measles by 12 months of age. The figures for Kandy, Matale and Nuwara Eliya Districts are 98.3%, 95.7% and 95.2% respectively.

Table 1.19 Children aged 12-23 months who received specific vaccines

	BCG	DPT 1	DPT 2	DPT 3	Poli o1	Poli o2	Poli o3	Mea sles	All	No vaccinations	% with a vaccination card
Sri Lanka	99.5	99.7	99.6	99.4	99.6	99.6	99.3	97.1	96.9	0.3	93.0
Kandy	99.6	100.0	100.0	100.0	100.0	100.0	100.0	98.8	98.3	0.0	94.1
Matale	100.0	100.0	100.0	100.0	100.0	100.0	100.0	95.7	95.7	0.0	96.8
N. Eliya	97.9	97.9	96.1	96.1	97.9	97.9	95.2	97.0	95.2	2.1	81.7

Source – DHS 2006/07

Nuwara Eliya District has the second highest number of children without any vaccinations, the highest being recorded in Badulla. Nuwara Eliya District also has the highest percentage of children without a vaccination card in Sri Lanka.

1.7.5 Anemia

Anemia can be classified as mild, moderate or severe based on hemoglobin concentration in the blood, according to the classification developed by the World Health Organization (1968). Mild, moderate and severe anemia levels for children age 6-59 months and pregnant women age 15-49 is defined as 10.0-10.9 g/dl, 7.0-9.9 g/dl and below 7.0 g/dl respectively. The corresponding figure for mild anemia level for non pregnant women is slightly changed from the pregnant woman's level which is defined as 10.0-11.9 g/dl. Other levels are same for all women irrespective of their pregnancy status.

In the latest DHS survey, an effort has been taken by the DCS to give National, Province and District level estimates of prevalence of anemia among women and their children for the first time in DCS history. Prevalence rates were provided excluding the Northern Province of the country.

Table 1.20 Prevalence of Anemia in Children aged 6-59 months in the Central Province

	Anemia status by Hemoglobin level				
	Mild (10.0-10.9g/dl)	Moderate (7.0-9.9g/dl)	Severe (below 7.0g/dl)	Any Anemia (below 11.0g/dl)	Number of children (weighted)
Central Province	17.3	10.9	0.0	28.2	684
Kandy	18.3	9.1	0.0	27.4	284
Matale	24.4	10.9	0.0	35.3	107
N. Eliya	13.7	12.7	0.0	26.5	293

Source – DHS 2006/07

Overall prevalence of anemia among children age 6-59 in the country is 33% out of which, the prevalence of mild anemia has been recorded as 22%. The prevalence of moderate and severe anemia among the same age group is recorded as 11% and 0.3% respectively.

Table 1.21 Comparison of prevalence of mild anemia with moderate or severe levels of anemia among anemic children

	Hemoglobin levels		
	Mild (10.0-10.9g/dl)	Moderate and severe (< or =9.9g/dl)	Number of children
Central Province	**61.3%**	**38.7%**	**193**
Kandy	66.9	33.1	**78**
Matale	69.1	30.9	**38**
N. Eliya	51.9	48.1	**78**
Sri Lanka	**66%**	**34%**	**1519**

Source – DHS 2006/07

Prevalence of mild anemia is lowest among anemic children in Central Province (61%) from amongst other Provinces in the country. In contrast, prevalence of moderate or severe anemia is highest among children in Central Province (39%)

Children in Nuwara Eliya District shows the second highest prevalence of moderate or severe anaemia in the country. (Highest prevalence has been recorded in Trincomalee District with nearly 53%)

Table 1.22 Prevalence of anaemia among non pregnant women aged 15-49 years

	Anemia status by Hemoglobin level				
	Mild (10.0-10.9g/dl)	Moderate (7.0-9.9g/dl)	Severe (below 7.0g/dl)	Any Anemia (below 11.0g/dl)	Number of children (weighted)
Central Province	**25.8**	**3**	**0.9**	**30.4**	**1,608**
Kandy	22.2	3.5	0.0	25.7	703
Matale	37.5	2.0	0.3	39.8	351
N. Eliya	23.0	4.9	2.5	30.4	553

Source – DHS 2006/07

According to the study, it has been found that on average, the prevalence of anemia among women steadily increases with increasing age of women. Though this is true for the prevalence of mild and moderate anemia, severe anemia has not been found to change with the age of women.

Table 1.23 Comparison of the Prevalence of mild anemia with moderate or severe anemia among anemic women

	Hemoglobin levels		
	Mild (10.0-10.9g/dl)	**Moderate and severe (< or =9.9g/dl)**	**Number of children**
Central Province	**84.9%**	**15.1%**	**489**
Kandy	86.3	13.7	181
Matale	94.4	5.6	140
N. Eliya	75.5	24.5	168
Sri Lanka	**87.0%**	**13.0 %**	**4,134**

Source – DHS 2006/07

Prevalence of mild anemia among anemic women is highest in Matale District (94 %). However, the prevalence of moderate or severe anemia among anemic women is highest in Nuwara Eliya District (25 %).

2. ORGANIZATION OF HEALTH SERVICES

2.1 Introduction

Both public and private sectors provide health care to the people in Central Province. However, public sector plays the major role in providing health care for the people in this Province. The private sector and estates organizations also provide health care to a lesser extent. The Department of Health Services of Central Government and Provincial Government cover the entire range of preventive, curative, rehabilitative and promotive health services in the Province.

The private sector provides mainly the curative care through outpatient services. This includes few private hospitals with indoor facilities, full-time general practitioners, government doctors who are engaged in part-time private practice outside their duty hours and other private facilities like laboratories and pharmacies. Recently, few of non-government organizations came forward to assist the government to strengthen preventive care services. Nearly 98% of inpatient care is provided by the government institutions.

Western (allopathic), Ayurvedic, Unani, Siddha, and Homeopathy systems of medicine are practiced in Central Province. Of these, Western (allopathic) medicine is the main sector catering for the need of the vast majority of the people. In the Central Province, the Department of Health Services is mainly concerned about western medicine. The Department of Ayurveda Medicine also provides health care for a significant number of people in the Province.

Central Province is equipped with an extensive network of health care institutions. Primary and secondary health care institutions in the curative sector as well as preventive and rehabilitative care institutions are mainly managed by the Provincial Health Department and tertiary care health institutions are managed by the line Ministry.

2.2 Provincial Health Policy

Vision: - Leading the Central Province to prosperity by making its people healthy; physically, mentally, socially and spiritually.

Mission: - To achieve the highest attainable health status by responding to people's needs, working in partnership and ensuring comprehensive high quality , equitable , cost effective and sustainable health service in the Central Province.

Goal: -

- To protect and promote the health of people in the Central Province.

Specific Goal :-

- To create a community which is committed to the prevention of diseases.
- To create a healthy and satisfied community through providing qualitative and proportionately adequate curative care services.
- Upliftment of areas which require special attention in the health sector such as Estate Health Sector, Rehabilitation of physically and mentally disadvantaged patients, Healthy and safe work place
- To develop the quality of the service through a systematically planned human resource development.
- To instill the concept of " customer friendly " health services through the development of the attitudes among all health staff.

2.3 Provincial Health Administration

Previously, the entire health system of Sri Lanka functioned under a Cabinet minister of the Central Government. However, with the implementation of Provincial Council Act in 1989, the health services were devolved, resulting in the Ministry of Health at the national level and separate Ministries of Health in the nine Provinces.

The Central Ministry of Health plays a major role in the development of national health policies and guidelines, training of medical and Para- medical staff, management of teaching hospitals and specialized medical institutions and bulk purchase of medical requisites. The Provincial Health Department is totally responsible for management and effective implementation of health services within the Province, development of policies and guidelines for the Province and also human resource management within the Province.

In the Central Province, the Department of Provincial Health Services is under the Ministry of Health, Indigenous Medicine, Social Welfare, Probation & Child care Services. There is a Minister and a Secretary to the Ministry.

The Provincial Director is the head of the Provincial Department of Health Services. There are 3 Regional Directors of Health Services appointed, one for each District. Each RDHS area is geographically similar to the administrative units of District Secretariats. The Medical officers of Health (MOH) are mainly responsible for the preventive care of the respective Divisional Secretary areas and the medical officers in charge of the hospitals are responsible for provision of curative care through their institutions.

2.4. Health facilities in Central Province

2.4.1 Curative health facilities

The network of curative care institutions ranges from sophisticated Teaching Hospitals with specialized consultative services to small Primary Medical Care units, which provide only outpatient services. The distinction between hospitals are basically made on the size and the range of facilities. There are three levels of curative care institutions.

(a) Primary Care Institutions

- Divisional Hospitals
- Primary Medical Care Units (PMCU)

(b) Secondary Care Institutions

- District General Hospitals (DGH)
- District Base Hospitals (DBH)

(c) Tertiary Care Institutions

- Teaching Hospitals (TH)
- Provincial Hospitals (PH)

Fig 2.1 Provincial Health Organization Structure

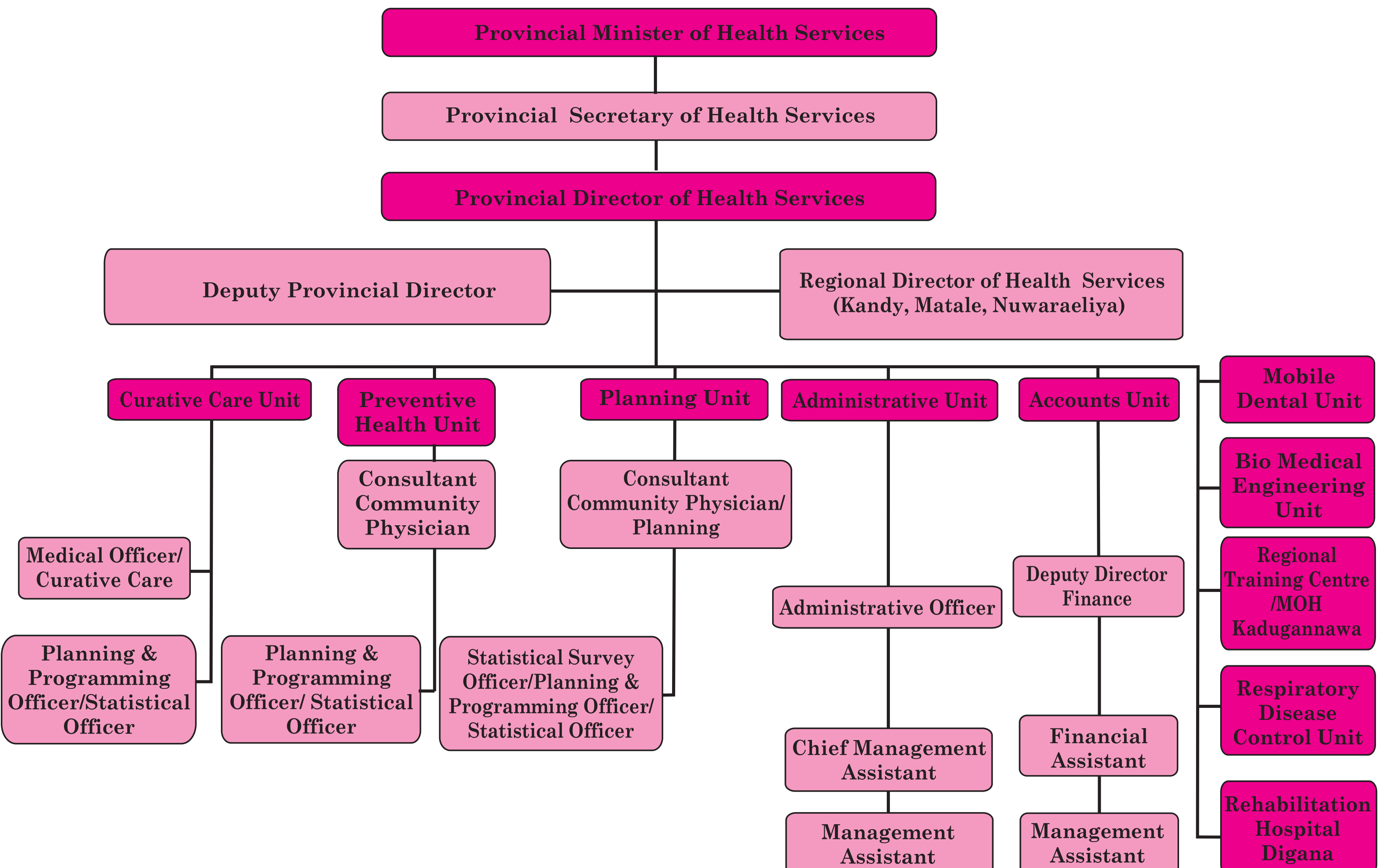
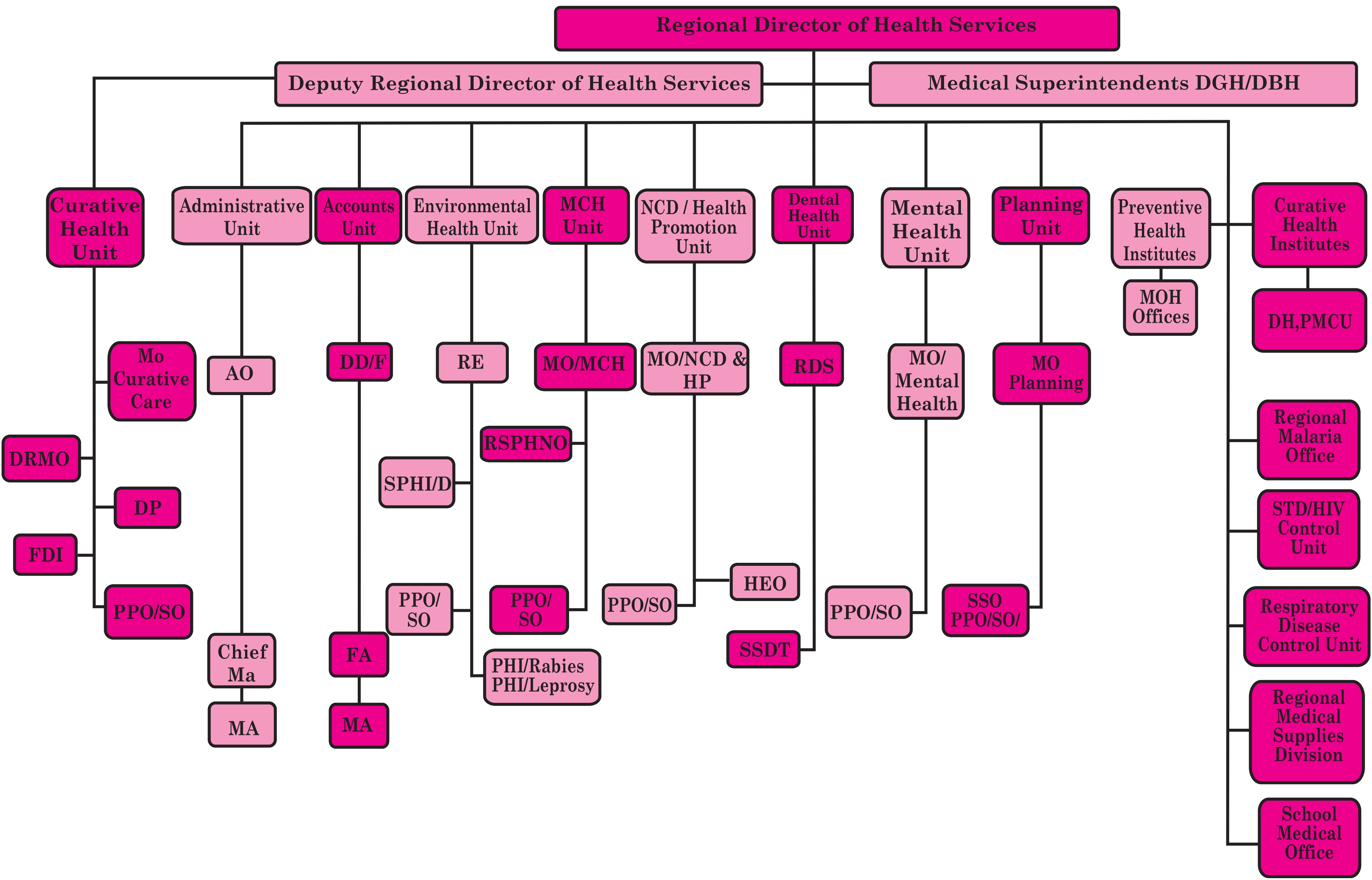


Fig 2.2 Regional Director of Health Services



2.4.2 Preventive health facilities

Preventive health care is provided through a well organized system of MOH offices as described earlier.

Summary of health care institutions and field areas in the three Districts in the Province is given in table 2.1. The details of this table and the names of the curative care institutions are given in annexure 1.

Table 2.1 Summary of health care institutions and field areas by District

	MOH areas	PHI areas	PHM areas	TH	DGH and DBH	DH	PMCU	Specialized Units
Kandy	23	72	454	03	02	48	28	12
Matale	12	36	157	-	02	18	15	04
N.Eliya	13	39	284	-	03	22	22	03
Central province	**48**	**147**	**895**	**03**	**07**	**88**	**65**	**19**

Kandy/Matale/Nuwaraeliya Municipal area comes under local Government. Teaching Hospitals Kandy, Peradeniya and Sirimavo Bandaranayake Hospital for children, DGH Nuwaraeliya and DBH Gampola come under line ministry.

Table 2.2 Availability of wards and bed strength in institutions under Central Provincial Health Department

		No. of institutions		No. of wards		No. of Beds	
		2008	2009	2008	2009	2008	2009
Secondary care institutions	Kandy	01	01	18	18	442	444
	Matale	02	02	30	30	881	919
	N.Eliya	02	02	12	16	206	237
Primary care institutions	Kandy	75	76	181	184	2008	1997
	Matale	33	33	57	57	603	547
	N.Eliya	44	44	94	94	1124	1143
Central Province		**157**	**158**	**392**	**399**	**5264**	**5287**

Table 2.3 Total number of beds and beds per 1000 population in all government health institutions (including line ministry institutions) by District

	No of beds	No. of beds per 1000 population
Kandy	6,058	4.8
Matale	1,493	3.4
N.Eliya	1,788	2.5
Central province	9,339	3.9
Sri Lanka	**67,024**	3.4

Central Province has a total bed strength of 9339 beds which is approximately 3.9 beds per 1000 people higher than the national value. However, there is a large disparity in the number of beds (per 1000 people) within the Nuwara eliya District as compared to the other two Districts and national value. These values do not include the bed strength of the hospitals managed by estates. The Provincial Department of Health has a short term and long term plan to improve the health service more effectively.

Table 2.4 Number of private hospitals and beds by District

	No. of hospitals	No. of beds
Kandy	11	301
Matale	03	17
N.Eliya	03	15
Central province	**17**	**333**

Considering the private sector, Kandy District plays a major role in provision of health care through 11 private hospitals whereas Matale and Nuwaraeliya Districts have 3 private hospitals each.

2.5 Health Manpower

Table 2.5 The numbers of all categories of health staff in the Provincial Department of Health in 2008 and 2009 (as at 31st December)

No	Designation	No. of staff 2008	No. of staff 2009
01	Provincial Director of Health Services	01	01
02	Deputy Provincial Director (Medical Services)	01	01
03	Regional Director of Health Services	03	03
04	Medical superintendents	03	03
05	Medical officers	524	553
06	Medical specialists – Consultants	40	44
07	Dental specialists - Consultants	01	01
08	Dental surgeons	65	85
09	Regional Dental Surgeon	03	03
10	Divisional Registered Medical Officer	03	03
11	Registered/Assistant Medical Officers	224	219
12	Deputy Director (Finance)	04	04
13	Statistical officer	39	39
14	Nursing Officer- special grade	10	08
15	Hospital Sisters	32	32
16	Nursing officer	966	1034
17	Supervising Public Health Midwife	37	34
18	Public Health Midwife	1057	1010
19	Divisional Public Health Inspector	04	04
20	Supervising Public Health Inspector	08	05
21	Public Health Inspector	140	148
22	Regional Supervising Public Nursing Officer	03	03
23	Supervising School Dental Therapist	01	01

No	Designation	No. of staff 2008	No. of staff 2009
24	Public Health Nursing Tutor	05	05
25	Divisional Pharmacist	03	02
26	Public Health Nursing Sister	29	31
27	Pharmacist	37	43
28	Medical Laboratory Technologist	34	36
29	Microscopist (PHLT)	22	32
30	Radiographer	09	11
31	E.C.G. Recordist	07	07
32	Ophthalmic Technologist	05	04
33	Physiotherapist	07	09
34	Special Grade Dispenser	03	01
35	Dispenser	128	144
36	School Dental Therapist	48	51
37	Food & Drug Inspector	04	05
38	Health Education Officer	06	06
39	Hospital Diet Steward	02	03
40	Cooks	04	05
41	House Warden	02	02
42	Hospital Attendants	901	868
43	Packer	02	01
44	Public Veterinary Dog Vaccinator	09	09
45	Unit Controller Supervisor	03	03
46	Entomological Assistant	12	10
47	Regional Malaria Officer	02	01
48	Public Health Field Officer	48	36
49	Spray Machine Operator	143	119
50	Administrative Officer	04	04
51	Management Assistant	224	218
52	Ward Clerk	04	07
53	Driver	218	215
54	Programming & Planning Officer	58	57
55	Statistical Survey Officer	03	03
56	Medical Record Assistant	46	42
57	Programme Assistant	07	09
58	Data Entry Operators	03	02
59	Office Aide /KKS	13	11
60	Hospital Overseer	15	10
61	Watcher	08	05
62	Health Laburers	1423	1779
63	Telephone Operator	03	02
64	Lab Orderly	01	03
65	Circuit Bungalow Keeper	01	01
66	Occupational Therapist	02	03
67	Development Assistant	01	01
68	Bio Medical Engineer	02	02
69	Planning & Programming Assistants	00	00
70	Technical Officer	01	01
71	Medical Record Officer	01	01
72	Translator	01	01
	Grand Total	**6683**	**7059**

There is a considerable increase of some staff categories such as medical officers, nursing officers, paramedical staff categories, Health laborers and Public Health Inspector during 2009.

There were 57 doctors and 147 nurses respectively serving for 100000 people in the Province (including line ministry institutions).

Table 2.6 Cadre information of institutions under line ministry

Designation	EXSISTING CADRE				
	TH Kandy	TH Peradeniya	DBH Gampola	DGH N. Eliya	SBCH Peradeniya
Medical Specialists (Consultants)	68	36	07	17	11
Medical Officers	745	138	65	70	85
Assistant /Registered Medical Officers	02	01	05	00	00
Dental Surgeons	20	52	02	04	01
Nursing Officers	1,551	534	153	159	92
Medical Laboratory Technologists	48	18	06	11	08
Pharmacists	41	25	09	11	05
ECG Technicians	13	05	03	03	02
Radiographers	33	10	02	03	05
Physiotherapists	16	03	00	01	01
Occupational Therapists	01	02	00	00	00
Hospital Midwives	46	47	14	15	NA
Attendants	291	00	28	19	00
Labourers	1,215	350	97	255	93

03. CURATIVE CARE SERVICES

Curative care services are provided to the people in Central Province through a network of institutions. These include 3 tertiary care institutions, 7 secondary care institutions 154 primary care institutions and 17 specialized institutions. Of these, five secondary care institutions, all primary care institutions and all specialized institutions come under Central Provincial Health Department. (Annexure 4)

Being a relatively large Province with diverse climatic and geographic variation, its people are subjected to a wide spectrum of ailments requiring dynamism in the provision of health services. High population density in the region has intensified this challenge with overcrowding of health institutes, causing an increased demand for improved infrastructure and efficient planning. Adding to this is the popular patient behavior pattern of bypassing the sequential process in which health care ought to be sought. This has inevitably led to a further congestion of the tertiary and secondary health care units while causing underutilization of resources at primary care level.

In 2009, 2,111,293 and 525,608 people had received treatment as OPD and in-ward patients respectively from secondary and tertiary care hospitals while the corresponding figures were 4,761,579 and 273,570 for the 153 primary care institutes spread out in the Province.

Secondary care institutions consist of the four common specialties, Medicine, Surgery, Paediatrics, Obstetrics & Gynaecology and other specialties such as Eye, ENT and Dermatology. Essential back up services are available at these institutions including laboratory services and basic radiological services. The laboratory services consist of basic biochemical, haematological, bacterial and histopathological investigations.

A parallel health care is provided by 17 private hospitals based in the urban areas of the Province. Additionally there are 4 medical specialists, 47 general practitioners and 4 dental surgeons providing full time care in the private sector with a relatively larger proportion of medical specialists, medical officers and dental surgeons doing the same on a part time basis. Complementing these services are 14 medical centres and 31 private medical laboratories within the Province.

3.1 Primary care services

Primary care services to the people in Central Province are delivered through Divisional Hospitals (DH) and Primary Medical Care Units (PMCU). In Central Province the total number of Primary care institutes stands at 153 as of 2009.

The Divisional hospitals provide both outpatient and inpatient care including the provision of basic health facilities for the treatment of minor ailments, referral to secondary and tertiary care institutions for further treatment, provision of perinatal care and follow up of patients referred from secondary or tertiary care institutions. On the other hand Primary Medical Care Units concentrate on outpatient services.

Although these institutions are also being developed to provide quality health care for the local population, as aforementioned, the general trend is to seek medical care from secondary or tertiary care institutions, driven by the probable misconception that the

bigger the hospital the better the care. Similarly, a large number of pregnant mothers prefer to deliver at bigger medical institutions based on the lack of faith they have in the quality of care at primary level

This has seen to a significant reduction in the bed occupancy rate at primary care institutions as compared to larger hospitals in urban areas of the Province, attributing to the hazardously disproportionate utilization of available facilities. It is notable that the bed occupancy rate of primary care hospitals in the Province is still below 50%.

3.1.1 Quality Improvement Project

In order to curb this unfavourable trend through investigating the cause and resorting to preventive measures, Provincial Health Department undertook a project which looked into issues with regard to the quality of health services provided to the patient in the primary health care system. The project is based on the hypothesis that 'patient satisfaction' is an outcome which is not only dependent on a pure clinical experience but also on the nonclinical aspects which instill a sense of dignity in the latter. Thus more emphasis was given to areas such as planning, management of human, financial & other resources, quality & safety improvements, institutional organization and attitude development of the staff.

The initial stage of the project involved carrying out a situational analysis of 20 randomly chosen Primary Health Care Institutes in the Province. 43 areas from Divisional Hospitals and 27 areas from PMCUs covering a wide variety of aspects were assessed ranging from the general outlook of the hospital, availability of essential equipment at Emergency Treatment Units /Out Patient Departments to maintenance of Hospital Visitors' comments book.

Further, two audits were conducted separately to assess the satisfaction of the patients who attended the Out Patients Department and those who were treated in wards. Another was conducted to find the reason for patients to bypass the local hospital to attend a 'bigger' hospital elsewhere. Through these studies it was concluded that there was a lot of scope to improve patient and staff satisfaction through the improvement of quality of services delivered by the institute and thereby optimize the utilization of available resources.

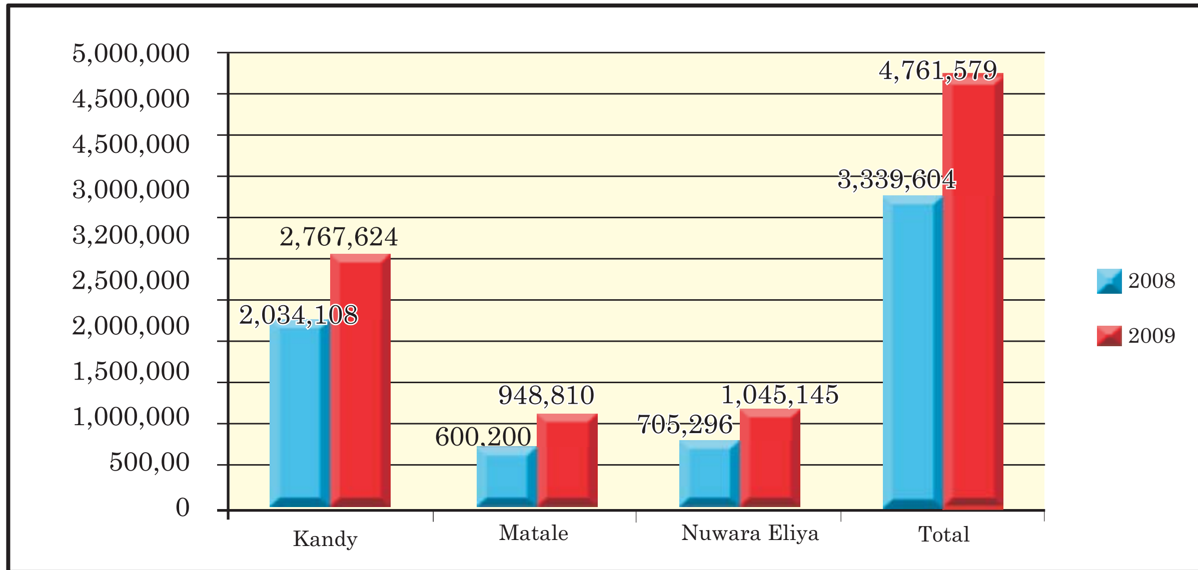
Hence, a plan was drawn out to formulate a guideline for the improvement of quality of Primary Health Care Institutes and implement it in Provincial Hospitals by mid 2010. Further, it was proposed that the latter should be implemented with an accompanying Monitoring System under the direct supervision of a Medical Officer-Medical Services and the guidance of the respective Regional Director of Health Services. A progress of the programme and encouragement to those hospitals which made achievements was to be given as a feedback to all the hospitals under the Provincial Council via a quarterly magazine named “Suwanetha”.

By mid 2009, a parallel project which focused on the improvement of quality and safety of health institutions in Sri Lanka was piloted in 6 Central Provincial Council hospitals. It was implemented by the Ministry of Health, Government of Sri Lanka with the support of the Japan International Cooperation Agency (JICA). The pilot hospitals that were chosen comprised of DGH Matale, DGH Nawalapitiya, DBH Dambulla, DBH Dickoya, DH Galewela and PU Thiththapajjala. DGH Nuwara Eliya which comes under the administration of the line ministry was also included in the study. Through a situational analysis conducted by Dr.W. Karandagoda, the former Director, De Soyza Maternity Hospital, service and infrastructure gaps that existed in these hospitals with regard to provision of quality service were identified. This information was to be used to formulate a National Guideline for the Improvement of Quality and Safety of Health Care Institutions in Sri Lanka. Further to this, the circular “National Quality Assurance Programme in Health” was issued in September 2009 which urged every health institute to begin a Quality Management Unit. The establishment of the latter in the 7 pilot project hospitals was to be facilitated through the equipment provided by the JICA in early 2010.

Table 3.1 Basic information and services delivered in primary care institutions by District

	Kandy	Matale	N. Eliya	Total
No. of Institutions	76	33	44	154
No.of beds	1997	547	1,143	3,698
No.of wards	184	57	94	328
Bed occupancy rate (%)	44.9	41.7	35.8	41.6
No.of Admissions	156,803	45,925	70,842	273,570
OPD Attendance	2,767,624	948,810	1,045,145	4,761,579
Total inpatient days per year	324,770	87,459	149,191	561,420
No.of clinics held	11,961	3,710	4,051	19,722
Clinics Attendance	624,159	143,117	190,963	958,239
Total No. of Deaths	394	79	273	746
Total No. of DeathsWithin 48 hours	177	36	106	315
No.of Deliveries	2,169	552	3,582	6,303
No.of patients transferred out	23,148	6,110	11,550	40,808
No. of Emergency Treatment Units (ETU)	34	10	08	52
No. of patients treated in the ETU	10,520	1,055	547	12,122

Fig. 3.1 OPD attendance to Primary Care Units by District



A significant increase in the OPD attendance (42.6%) is evident over the year and maybe partly attributable to the Dengue epidemic that ravaged most parts of the island. The lessened threshold for admissions due to the same could have resulted in the increase seen in the number of indoor admissions.

Fig. 3.2 Indoor admissions to Primary Care Units by District

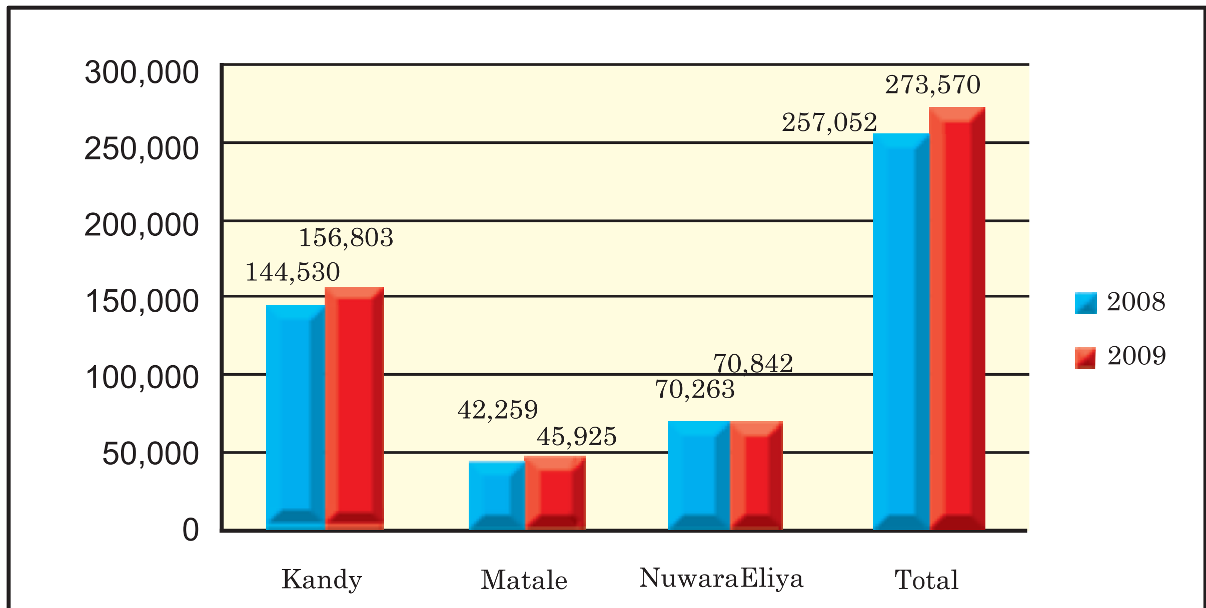
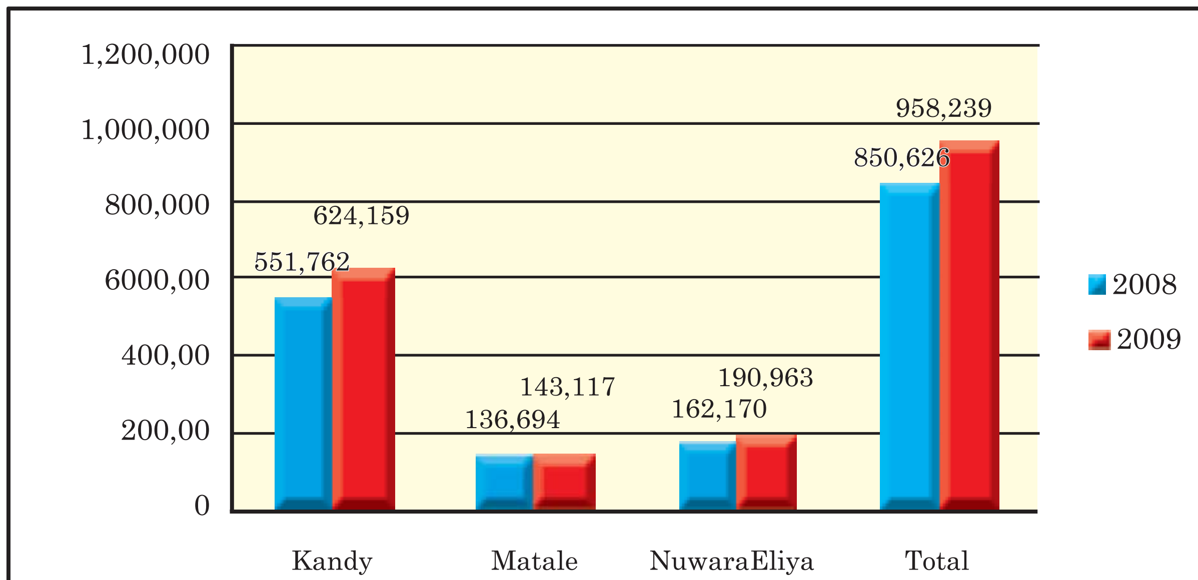
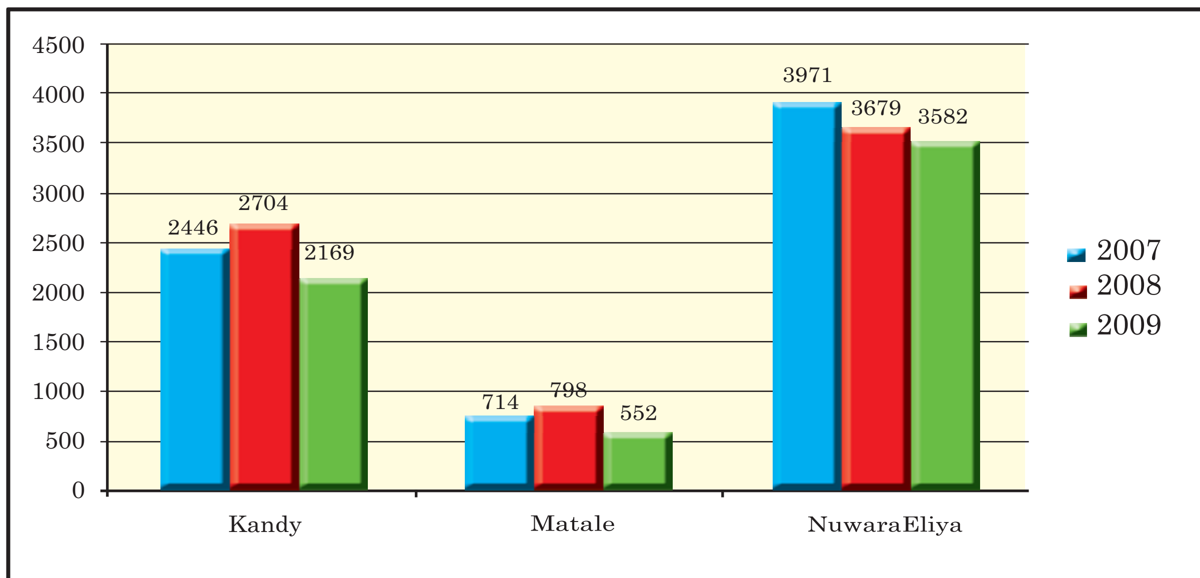


Fig. 3.3 Clinic attendance to Primary Care Units by District



Though the number of clinics held in 2009 in primary care institutes has dropped by 10% (19, 756 in 2009 as opposed to 21,924 in 2008) the total clinic attendance has gone up by 12.7% during 2009.

Fig.3.4 Deliveries Conduced in Primary Care Units by District



A noticeable reduction in the deliveries at Primary Care Institutes is evident with a parallel increase in the deliveries taking place in Secondary Care Institutes. It is hoped that through quality assurance programmes mentioned above, this trend could be curbed in the future, with lesser number of mothers by passing their local hospital in preference for secondary care hospitals for planned, uncomplicated deliveries.

Table 3.2 Services provided by primary care institutions

		OPD attendance	Indoor admissions	Clinic attendance	Deliveries
Kandy	2008	2,034,108	144,530	551,762	2,704
	2009	2,767,624	156,803	624,159	2,169
	% change	36.1	8.5	13.1	-19.8
Matale	2008	600,200	42,259	163,694	798
	2009	948,810	45,925	143,117	552
	% change	58.1	8.7	4.7	-30.8
N. Eliya	2008	705,296	70,263	162,170	6,629
	2009	1,045,145	70,824	190,963	3,582
	% change	48.2	0.8	17.8	-1.3
Total	**2008**	**3,339,604**	**257,052**	**850,626**	**7,131**
	2009	**4,761,579**	**273,570**	**958,239**	**6,303**
	% change	**42.6**	**6.4**	**12.7**	**-13.1**

3.1.2 Emergency Treatment Units

Due to the unplanned nature of patient attendance, hospitals must provide initial treatment for a broad spectrum of illnesses and injuries, some of which may be life-threatening and require immediate attention. Depending on the urgency of the condition it is also necessary to stabilize the patient before transferring to a higher level hospital for optimal management. Further, disorganized health care at the initial point of contact has been recognized as a significant cause of hospital deaths. All above factors have reinforced the importance of establishing Emergency Treatment Units in Primary Health Care Institutions.

By 2009, the total number of Emergency Treatment Units was 52 in the Province and many more were proposed to be built with the ultimate target of an ETU for all hospitals. The almost doubling of the number of patients being treated in the ETUs when compared to 2008 (109 % increase) also reflects the emphasis the Provincial Health Department places on this service.

Fig.3.5 Number of Patients treated in ETU

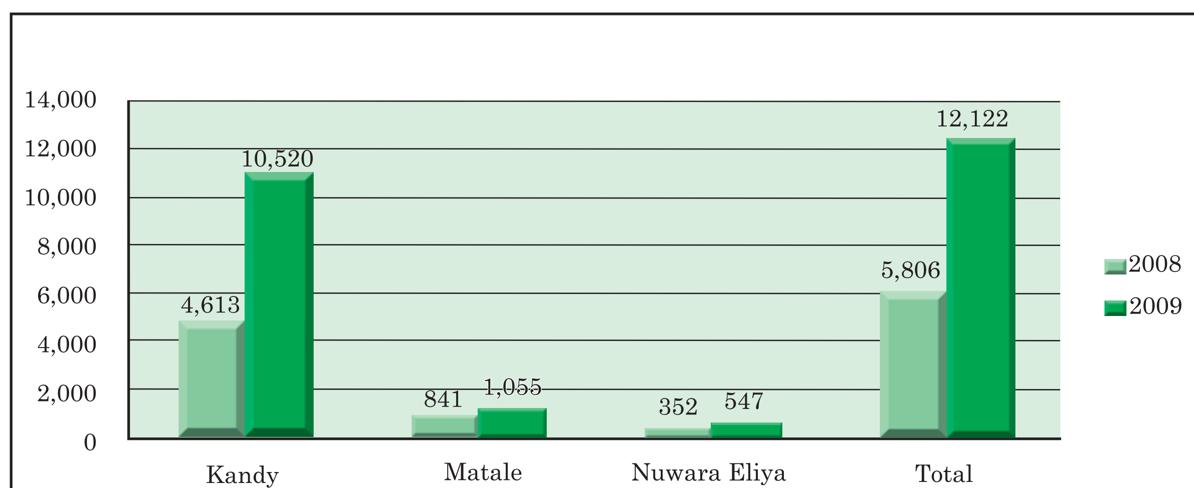
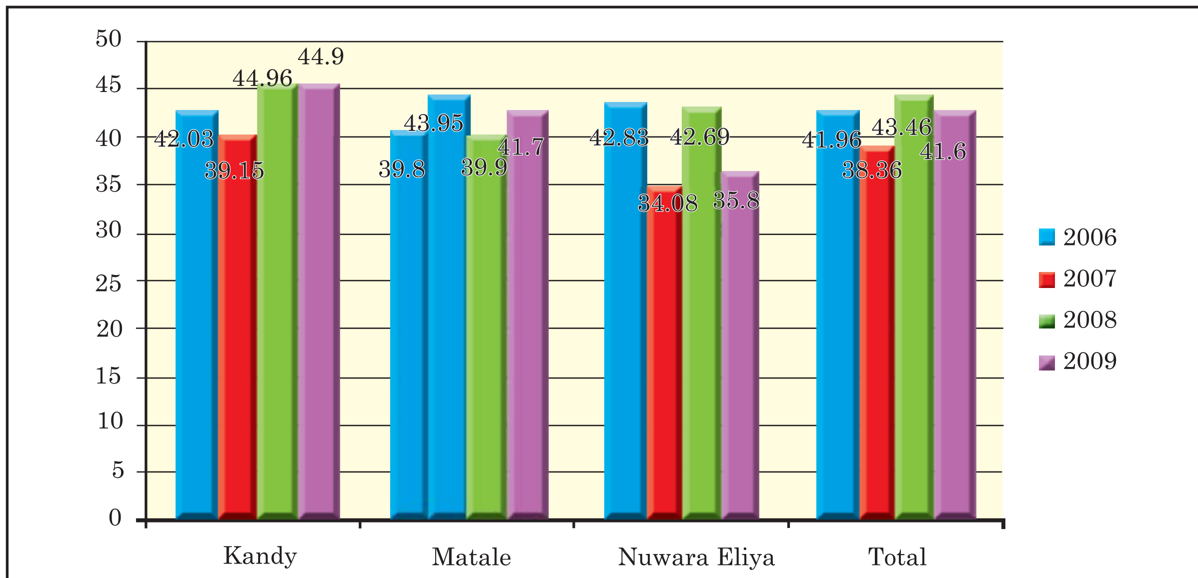
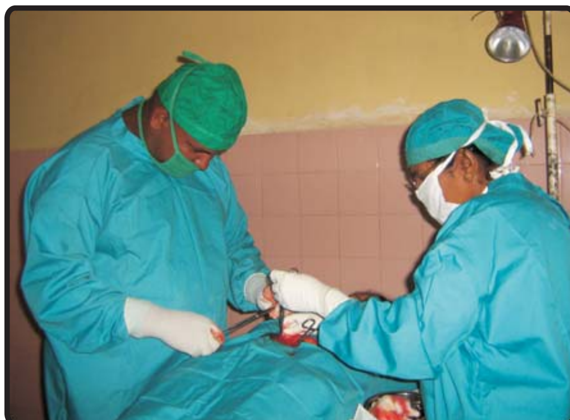


Figure 3.6 bed occupancy percentage of Primary Units by District



The overall bed occupancy in primary care hospitals still remain below 50% with only Matale District indicating a slight rise from last year. This further highlights the need to facilitate the improvement of care given at these institutions over the coming years.

Patients receiving treatment in the Divisional Hospital



DH Marassana

DH Gonaganthanna

3.1. 3 Laboratory Services

Many discussions are underway to upgrade the primary care institutions towards devising a system where the treatment of patients with minor ailments can be supplemented by basic investigations, to improve the quality and timeliness of referrals and to improve the follow-up of back referrals.

To this end, by end of 2009, 09 Divisional Hospitals were offering laboratory services to the catchment population. Further, it was proposed that these hospitals should be able to provide laboratory services not only to patients who attended their institutions but also to Primary Care Units in close proximity without lab facilities via a satellite laboratory system. Thus, the current financial restraint of establishing laboratories in every hospital of the Province with limited the accessibility of this service to all was to be overcome.

	2008 (Number of test)	2009 (Number of test)
DH Wattegama	328	878
DH Akurana	-	8326
DH Kaduganawa	869	468
DH Teldeniya	5400	9998
DH Galagedara	2091	2068
DH Wilgamuwa	-	501
DH Rattota	5939	11772
DH Galewela	5458	2153
DH Walapane	-	15610

3.2 Secondary Care Services

Seven secondary care institutions provide specialized services to the people in the Province. Of these, two hospitals (DGH Nuwaraeliya and DBH Gampola) are managed by line ministry while the rest come under the administration of the Central Provincial Health Department. Those are DGH Matale, DGH Nawalapitiya, DBH Dambulla. DBH Dickoya, and DBH Rikillagaskada. The latter two were upgraded to secondary care units in 2007 and will be discussed separately.

Two other hospitals (DH Teldeniya and DH Hettipola) have also been proposed to be upgraded to District Base Hospital status. These hospitals are currently considered as Divisional hospitals.

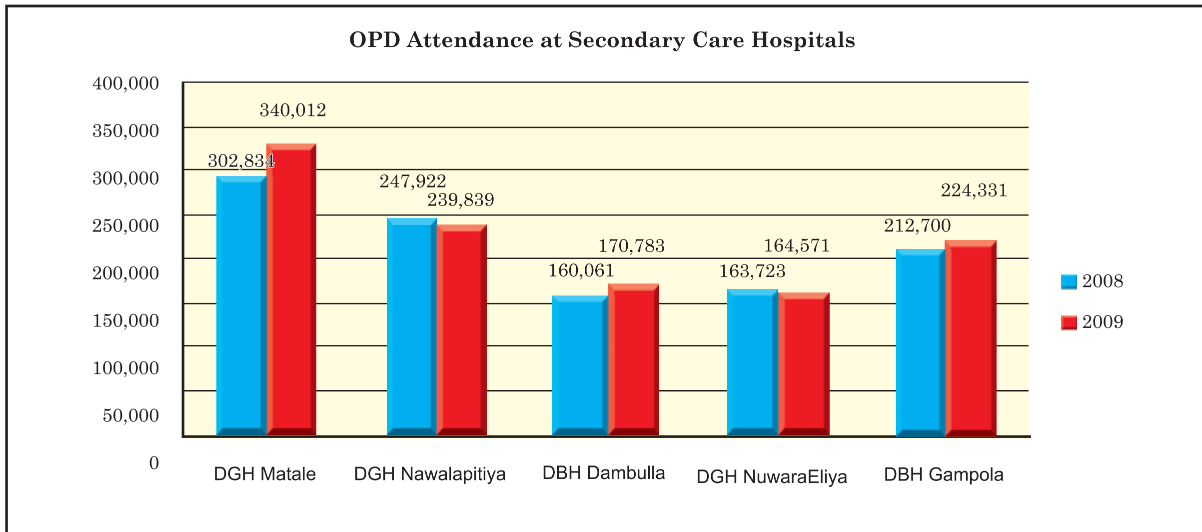
In-ward care provided by secondary care institutions has undergone dramatic change in the last decade as more and more patients seek in-ward care for non-communicable diseases like uncontrolled diabetes mellitus, hypertension which result in a prolonged hospital stay. This accounts partly for the high bed occupancy rate in some specialized units in these institutions.

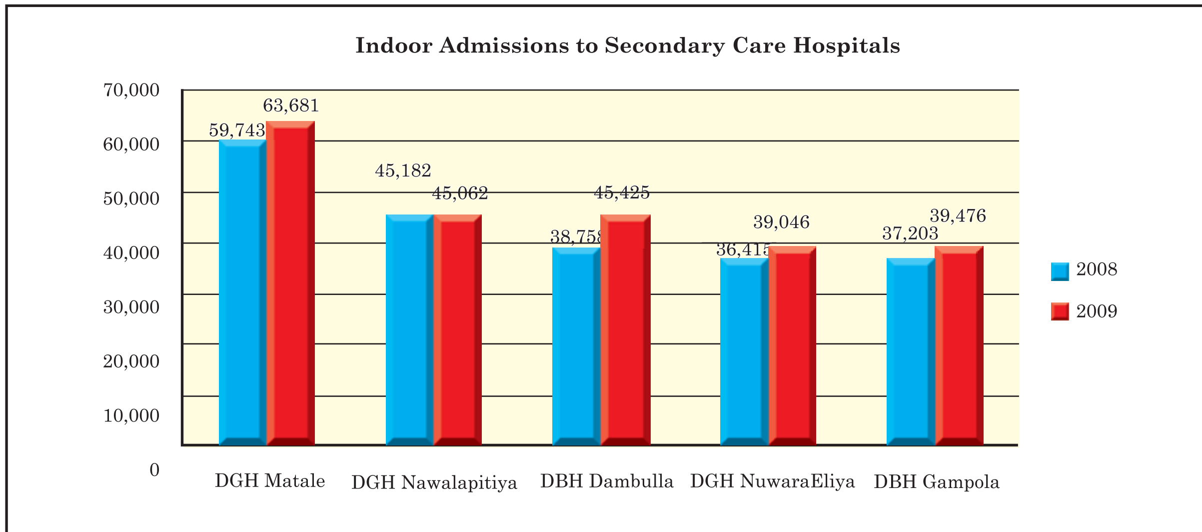
There was an increase in the attendance at specialized clinics in secondary health care institution, probably due to increased awareness and better detection of illnesses.
The summary of the basic information and services provided by these hospitals are shown in table 3.3

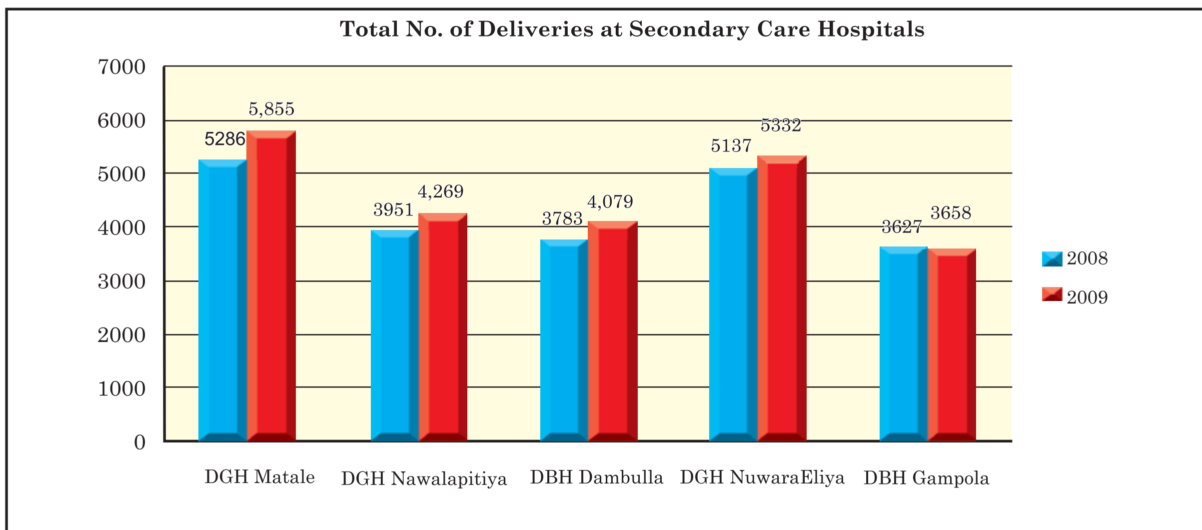
Table 3.3 Basic information and services provided by secondary care institutions (including line ministry institutions)

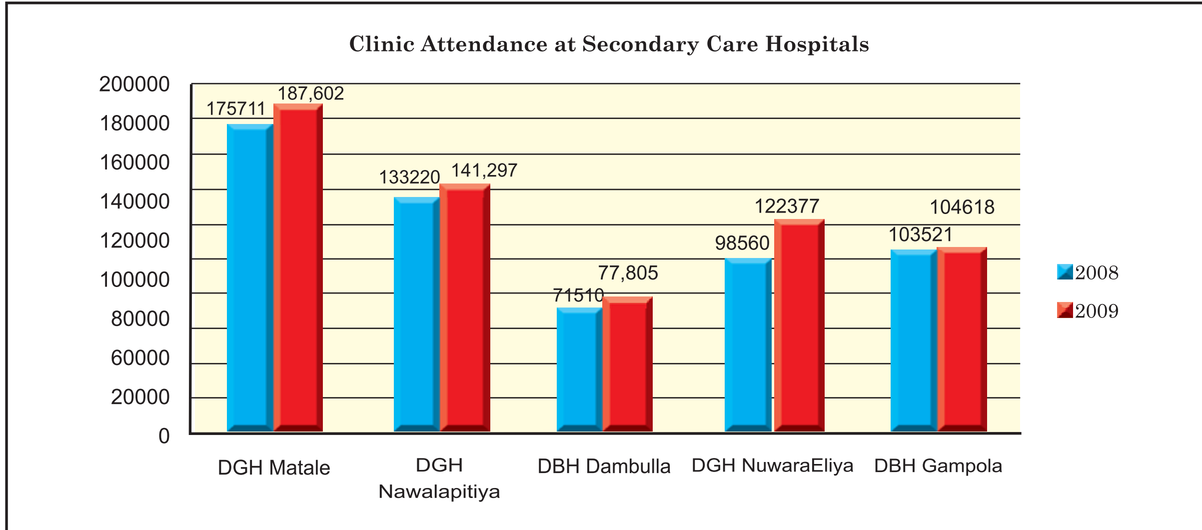
	DGH Matale	DGH Nawalapitiya	DBH Dambulla	DGH Nuwara eliya	DBH Gampola
No. of ward	19	17	09	12	11
No. of beds	683	444	236	408	324
OPD attendance	340,012	239,839	170,738	164,571	224,331
Admissions	63,681	45,062	45,425	39,064	39,476
Bed occupancy rate (%)	79.49	69.3	101,3	84.8	82,7
Total No. of Inpatient Days	198,174	112,334	87,214	126,236	97,798
Total No. of Deaths	429	410	329	400	333
Total No of Deliveries	5,855	4,269	4,079	5,332	3,658
Total No of Live Births	5,787	4,202	4,075	5,283	3,639
Total No of Maternal Deaths	06	04	00	2	00
No of Still Births	42	67	25	59	19
Total No of patients Transferred out	1,112	2,694	1,601	1,605	1,580
Minor operations done	7,800	6,566	5,129	8,534	3,934
Major operations done	4,482	3,438	3,994	1,445	2,069
Total No of Clinics Held	2,726	1,939	1,281	2,405	888
Total No of Clinics Attendance	187,602	141,297	77,805	122,377	104,618
No. of patients treated in the ETU	3,858	2,297	1,020	7,390	575

Fig. 3.7 Patient load handled by Secondary care institutions








Clinic Attendance at Secondary Care Hospitals
200000
180000
160000
140000
120000
100000
80000
60000
20000
0
175711
187,602
133220
141,297
71510
77,805
98560
122377
103521
104618
2008
2009
DGH Matale
DGH Nawalapitiya
DBH Dambulla
DGH NuwaraEliya
DBH Gampola

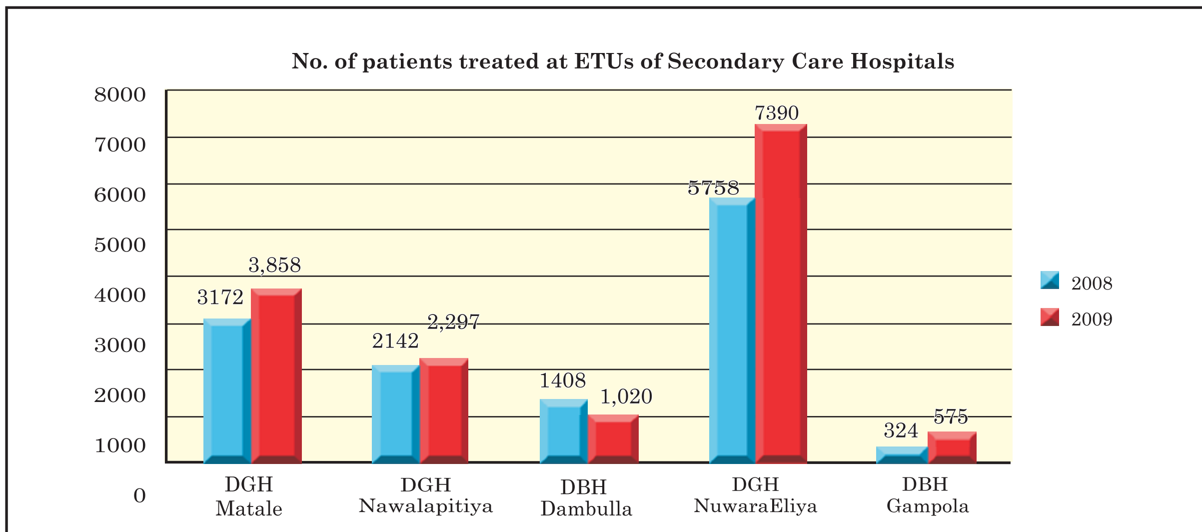

No. of patients treated at ETUs of Secondary Care Hospitals
8000
7000
6000
5000
4000
3000
2000
1000
0
3172
3,858
2142
2,297
1408
1,020
5758
7390
324
575
2008
2009
DGH Matale
DGH Nawalapitiya
DBH Dambulla
DGH NuwaraEliya
DBH Gampola

Table 3.4 Trends of the services provided in secondary care institutions under Central Provincial Health Department.

		DGH Matale	DGH Nawalapitiya	DBH Dambulla
No. of beds	2008	683	442	198
	2009	683	444	236
	% change	00	0.5	19.2
OPD attendance	2008	302,834	247,922	160,061
	2009	340,012	239,839	170,738
	% change	12.3	-3.3	6.7
Admissions	2008	59,743	45,182	38,758
	2009	63,681	45,062	45,425
	% change	6.6	-0.3	17.2
Bed occupancy rate	2008	74.93	68.11	106.25
	2009	79.49	69.32	101.25
	% change	6.1	1.5	-4.7
Clinic attendance	2008	175,711	133,220	71,510
	2009	187,602	141,297	77,805
	% change	6.8	6.1	8.8
Deliveries	2008	5,826	3,951	3,783
	2009	5,855	4,269	4,079
	% change	0.5	8.1	7.8
Major surgeries	2008	5,397	3,456	2,112
	2009	4,482	3,438	3,994
	% change	-20.4	-0.5	89.1
No.of Deaths	2008	427	415	361
	2009	429	410	329
	% change	0.5	-1.2	-8.9
No.of patients transferred out	2008	937	2,498	1,864
	2009	1,112	2,694	1,601
	% change	18.7	7.8	-14.1

In year 2009 there was an increase in the OPD attendance, hospital admissions and clinic attendance from the previous year in DGH Matale and DBH Dambulla. In DGH Nawalapitiya, an increase was seen in the number of clinic patients, whereas the indoor admissions and the OPD attendance had declined.

In DBH Dambulla, though the bed occupancy rate remains above 100%, indicating more patients than the number of beds available, it has dropped by 4.7% probably due to the number of beds being increased by nearly 20%. The lowering number of hospital deaths and the number of patients being transferred out despite the rising patient load handled are all indicative of improvements seen in the health services provided by DBH Dambulla.

Further, there has been a significant rise in the number of major surgeries handled in the latter with an increase of 89%. Further improvement can be expected through the establishment of the new theater complex and the Intensive Care Units in the coming year.

Maternal and child health care services at secondary health care institutions showed a remarkable improvement over the last few years especially in terms of quality of service resulting in a reduction in maternal morbidity, mortality and perinatal deaths in the province.

Table 3.5 Maternal and new born Care Statistics of secondary care institutions under Central Provincial Health Department.

Type of Indicator	DGH Nawalapitiya	DGH Matale	DGH Dambulla
No.of admissions to Obstetric unit	5,234	7,582	5,872
Daily average of maternal admissions	14.34	20.77	16.09
Total no.of deliveries	4,269	5,855	4,079
Single delivery	4,235	5,799	4,057
Twin delivery	33	54	22
Triplet delivery	01	02	00
Mode of delivery			
Spontaneous delivery	2,926	3,792	2951
Forcep delivery	15	26	00
Breech delivery	20	16	00
Vacuum extractions	2,24	68	68
LSCS	1,084	1,953	1060
Caesarean section rate	25.4	33.4	26.0
Total no.of live births	4,202	5787	4075
Total no.of still births	67	42	27
Still birth rate (per 1000 live births)	15.9	7.3	6.6
Total live Births by birth weight			
>2500g	3312	4,704	3,369
<2500g	890	1,139	706
Percentage of low birth weight babies	21.2	19.7	17.3
Neonatal deaths	33	49	20
Early neonatal deaths*	21	44	13
Early neonatal death rate (per 1000 Live Births)	5.0	7.6	3.2
Perinatal Mortality rate (per 1000 Live births)	*20.9*	14.9	9.8
Maternal Deaths	04	06	00
Maternal death rate (per 100,000 Live Births)	95.2	103.7	00
Manual removal of placenta	53	79	80
Postpartum haemorrhage	27	22	22

* Also refer table 3.13

Note: The **perinatal mortality rate** is the sum of neonatal deaths and fetal deaths (stillbirths) per 1000 live births.

In addition to curative care services, secondary healthcare institutions provide special preventive care activities such as Anti-rabies and Anti-tetanus vaccination. Around 17,743 Anti-rabies vaccines and 8,094 Anti-tetanus vaccines have been issued by three provincially managed secondary care hospitals in 2009.

3.2.1 Supportive services for curative care in secondary care institutions:

3.2.1.1 Laboratory Investigations

The facilities required to perform investigations ranging from tests such as urine sugar, blood sugar to the more sophisticated investigations such as renal function tests have been provided.

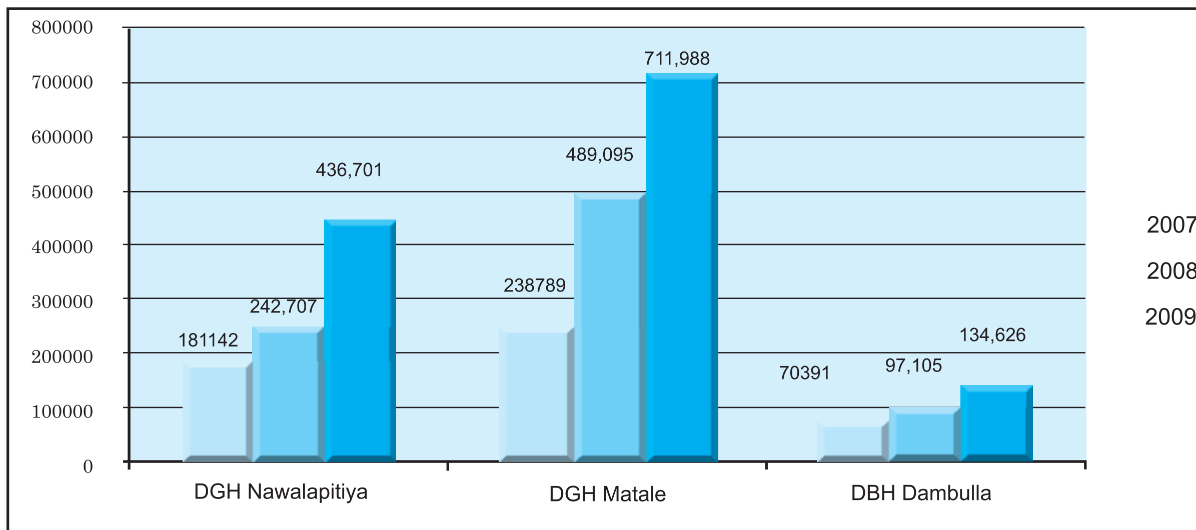
All secondary care institutions have well equipped laboratories with the services of a Consultant Pathologist. Facilities are present to perform investigations in Biochemistry, Microbiology, Haematology, and Histopathology. While most laboratories are equipped with auto analyzers some are yet to receive this facility to replace the manual methods that are in existence. Discussions are under way with a view of improving the quality and overall efficiency in which patient care is given.

In 2009, the provincial secondary hospitals had performed more than 1,280,000 laboratory tests – which is a 55% rise from 2008.

Table 3.6 Summary of Laboratory Investigations done in secondary care institutions under Central Provincial Health Department

Test category	DGH Nawalapitiya	DGH Matale	DBH Dambulla
Biochemistry	71,670	173,379	30,029
Histopathology	-	14,544	-
Bacteriology	6,691	19,242	610
Haematology	231,060	440,767	86,905
Other	127,280	64,056	17,082
Total	**436,701**	**711,988**	**134,626**
Total No of MLTs	10	12	04
No of tests per MLT per year	43,670	59,332	33,657

Fig. 3.8 Investigations handled by the three secondary care hospitals



Discussions are underway to facilitate the laboratory of DBH Dambulla to function in an enhanced capacity by methods of improved infrastructure and an increase of staff.

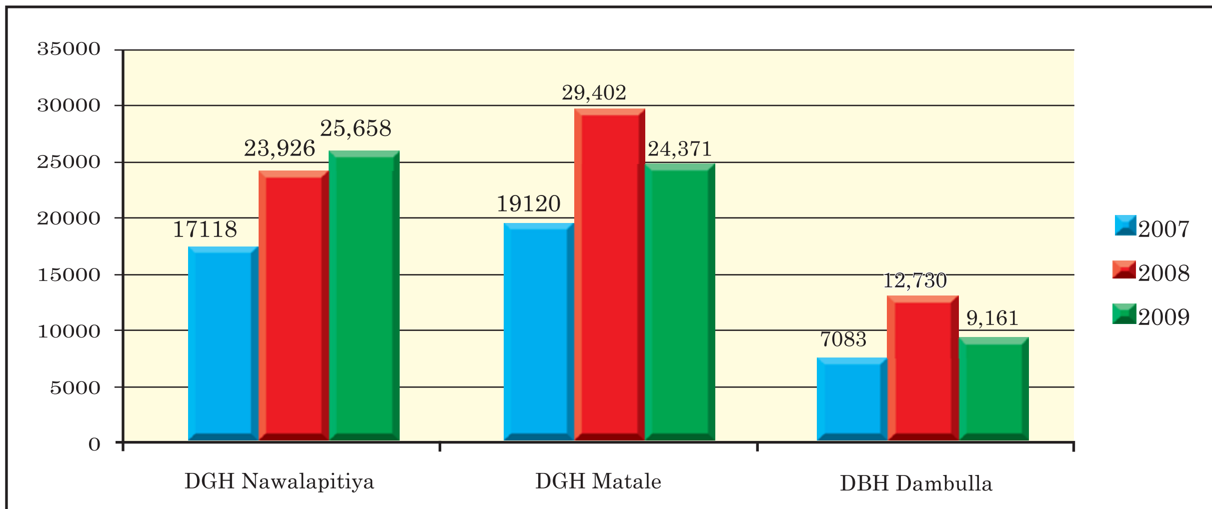
3.2.1.2 Radiology Investigations:

Radiological investigations play a major role in curative care and are available from secondary care hospitals onwards. Provincial secondary care institutions should be able to provide basic radiological investigations including plain X-rays, Barium studies and special procedures like Micturition Cysto-Urethrograms (MCUGs). In addition, these hospitals provide ultrasound scanning facilities. It is planned to improve the existing radiology facilities by way of providing modern equipment (eg. X-ray machines with fluoroscopy facilities) in the near future

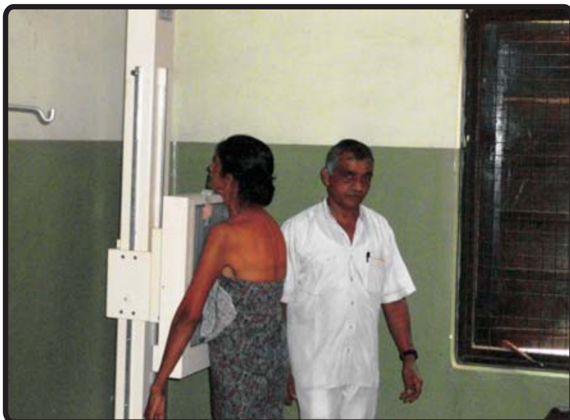
Table 3.7 Radiological investigations done in secondary care institutions under Central Provincial Health Department.

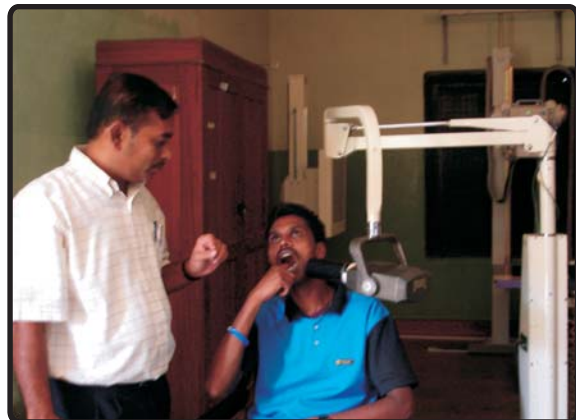
	DGH Nawalapitiya	DGH Matale	DBH Dambulla
No. of OPD & clinic cases	21,154	4,874	1,831
No. of Ward Cases	1,746	19,358	6,626
No. of Other Investigations	2,758	139	704
Total	**25,658**	**24,371**	**9,161**
No. of Radiographers	04	05	01
No. of tests per Radiographer per year	6,415	4,874	9,161

Fig 3.9 Radiological investigations done in secondary care institutions



The high number of tests per radiographer per year in Dambulla may indicate the necessity to expand the cadre of radiographers in this hospital.





3.2.1.3 Electrocardiography services

Electrocardiography (ECG) being an informative investigation for the management of many life threatening conditions ranging from ischaemic heart disease to certain types of poisoning, the requirement of this facility at secondary care units could not be overemphasized. The need to maintain a fully functional status of this service around the clock has been identified.

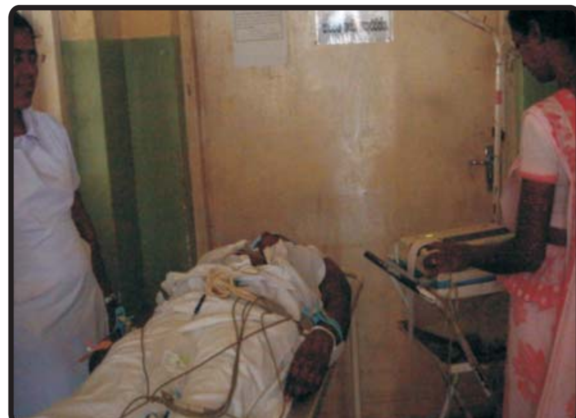
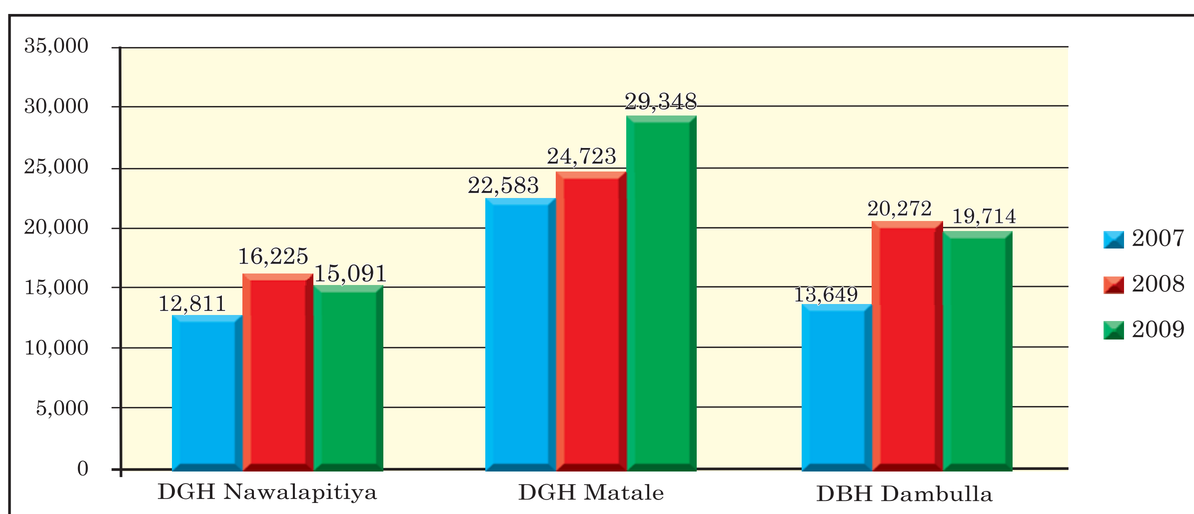


Table 3.8 ECG recordings done in secondary care institutions under Central Provincial Health Department.

	DGH Nawalapitiya	DGH Matale	DGH Dambulla
OPD	2,205	2,601	841
Clinics	2,237	1,116	718
Wards	10,649	25,631	18,155
Total	**15,091**	**29,348**	**19,714**
No. of ECG recordists	02	03	02
No. of ECGs per recordist per year	7,546	9,782	9,857

Fig. 3.10 ECG recordings done in secondary care institutions



3.2.1.4 Blood Bank services

In any institution which provides complete maternal services and operative services, a well established blood bank is a mandatory requirement. At present, all Provincial secondary care institutions have blood banks administered by the Central Blood Bank. The problem of the patient having to find donors prior to surgery or delivery was solved with the establishment of Blood banks. Now the Blood bank has taken over this function by finding volunteer blood donors and maintaining a sufficient reserve of blood.

Table 3.9 Blood bank statistics of secondary care institutions under Central Provincial Health Department

	DGH Matale	DGH Nawalapitiya	DBH Dambulla
No. of donors	1,958	2,400	1,481
No. of blood pints taken from other Blood banks	315	522	424
No. of blood pints issued	1,446	2,730	1,236
No. of blood pints discarded	329	255	476

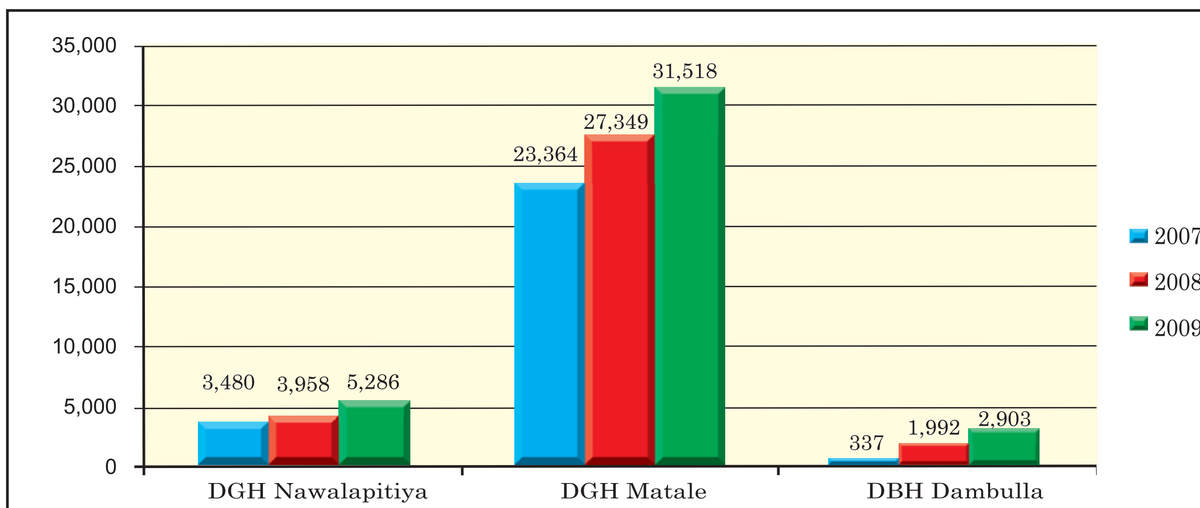
3.2.1.5 Physiotherapy Services

The Physiotherapy units at the DGH Nawalapitiya, DGH Matale and DBH Dambulla provide outpatient as well as inpatient services. These units have well trained physiotherapists supported by other required staff and are equipped to provide the appropriate therapy depending on the needs of the patient.

Table 3.10 Physiotherapy services done in secondary care institutions under Central Provincial Health Department.

	DGH Nawalapitiya	DGH Matale	DBH Dambulla
No of new patients treated	755	2,341	644
No of revisited patients treated	4,420	14,849	2,688
Total No of patients treated	5,286	31,518	2,903
No. of Physiotherapists	03	03	02
Patients per Physiotherapist per year	1,762	10,506	1,452

Fig. 3.11 Patients treated in physiotherapy units of secondary care institutions in 2007, 2008 & 2009



A Patient Receiving Physiotherapy at a Secondary Care Institute

3.2.1.6 Special clinics

Details of the specialized clinics conducted by various specialties are as follows-

Table 3.11 Specialized clinics conducted in secondary care institutions under Central Provincial Health Department

Specialty	DGH Nawalapitiya	DGH Matale	DBH Dambulla
Medical	44,394	41,298	27,766
Surgical	10,831	11,824	4,261
Gynecology and Family Planning	3,436	3,922	2,725
E.N.T	4,046	3,905	923
Eye	12,217	9,268	7,657
Pediatric	12,282	12,271	6,105
Psychiatric	6,182	14,372	4,080
Dental and Maxillofacial (OMF)	12,240	33,254	14,669

3.2.1.7 Surgeries

All three hospitals perform major and minor surgeries under guidance of surgeons specialized on different entities. Surgeries done during 2009 relating to the respective specialties are given below.

Table 3.12 Surgeries done in secondary care institutions under Central Provincial Health Department.

Specialty	DGH Nawalapitiya			DGH Matale			DBH Dambulla		
	Major	Minor	Total	Major	Minor	Total	Major	Minor	Total
General Surgery	1,197	5,725	**6,922**	1,023	4,923	**5,946**	2,171	3,710	**5,881**
Obstetrics	1,107		**1,107**	1,914	332	**2,246**	1,057	-	**1,057**
Gynecology	448	608	**1,056**	393	1,367	**1,760**	168	899	**1,067**
EYE	1,130	245	**1,373**	960	119	**1,079**	598	520	**1,118**
Dental and Maxillofacial	00	00	**00**	77	608	**685**	-	-	**-**
E.N.T.	80	208	**288**	115	451	**566**	-	-	**-**
Other	606	25	**631**						
Total	**4,568**	**6,811**	**11,377**	**4,482**	**7,800**	**12,282**	**3,994**	**5,129**	**9,123**

Fig 3.12 major surgeries Performed in secondary care institutions

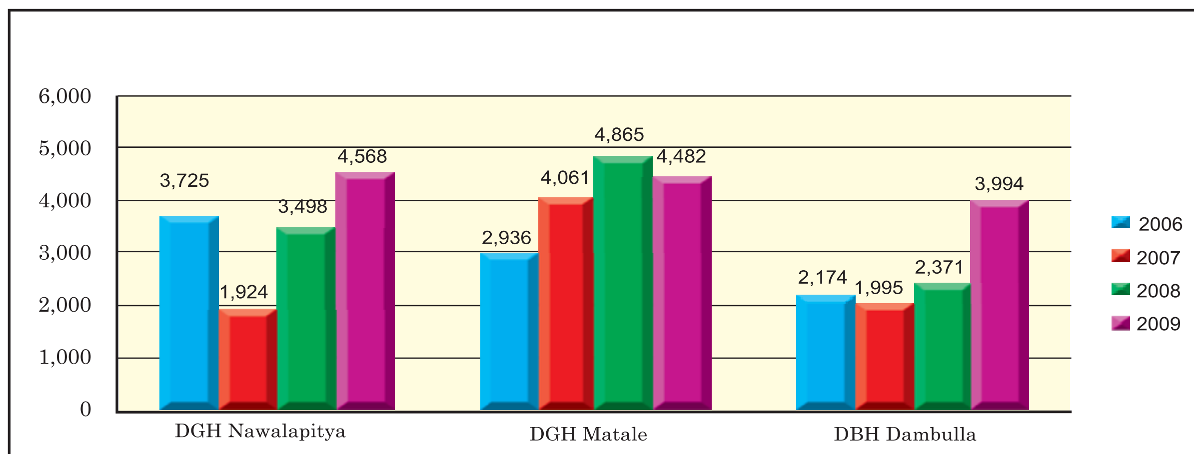
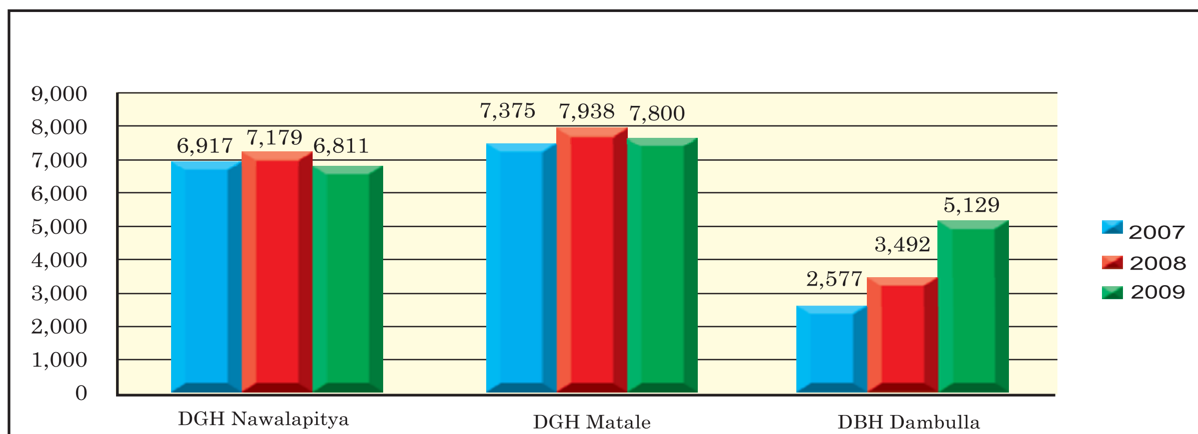


Fig 3.13 Minor surgeries Performed in secondary care institutions



3.2.1.8 Premature Baby Unit (PBU)

The DGH Nawalapitiya, DGH Matale and DBH Dambulla have facilities to care for premature babies. The Premature Baby Units have a staff working around the clock and are equipped with ventilators, incubators and other necessities.

Table 3.13 Premature Baby Care in secondary care institutions under Central Provincial Health Department.

		DGH Nawalapitiya	DGH Matale	DBH Dambulla
1	**Admissions**	530	847	485
2	**Maturity**			
	< 28 weeks	14	13	485
	28-36 weeks	145	215	
	> 36 weeks	371	619	
3	**Weight**			
	< 1000g	12	15	05
	1000 – 1490g	56	43	23
	1500 – 2490g	220	296	83
	>2500g	242	493	374
4	**Reason for admission**			
	Birth Asphyxia	03	42	03
	Meconium Aspiration	16	17	09
	Preterm	106	135	00
	IUGR	58	78	00
	Grunting	42	00	01
	Poor Sucking/lethargy	72	64	06
	Gestational DM	05	19	00
	Congenital anomalies	38	00	00
	Other	190	492	466
5	**Total Number of NND***			
	Number of early NND* Deaths	33	49	20
	within the first 7 days of life)	21	44	13
6	**Cause of Death**			
	Prematurity	17	27	07
	Birth Asphyxia +Septicaemia	08	09	06
	Congenital anomalies	06	13	
	Other	02	00	04
7	**Number Discharged**	447	780	411
8	**Number Transferred out**	50	18	57

* Includes Deaths of Transferred Out babies

Mortality during the neonatal period accounts for a large proportion of child deaths, and is considered to be a useful indicator of maternal and newborn health care. Generally, the proportion of neonatal deaths is expected to increase as countries continue to witness a decline in child mortality.

3.2.1.9 Intensive Care Unit

Out of the 3 secondary care institutions belonging to the Provincial Health Department, DGH Matale and DGH Nawalapitiya had Intensive Care facilities in 2009. A new ICU is being Constructed for DBH Dambulla and will start functioning in the near future.

Table 3.14 ICU statistics in secondary care institutions under Central Provincial Health Department.

There is a notable reduction in the number of ICU deaths in DGH Matale (22.8%) despite the rise of ICU admissions in the same by approximately 68%.

	DGH Matale	DGH Nawalapitiya
No. of ICU beds	06	04
ICU admissions	458	338
ICU deaths	60	95
ICU death rate	13.10	28.1

Fig 3.14 ICU admissions

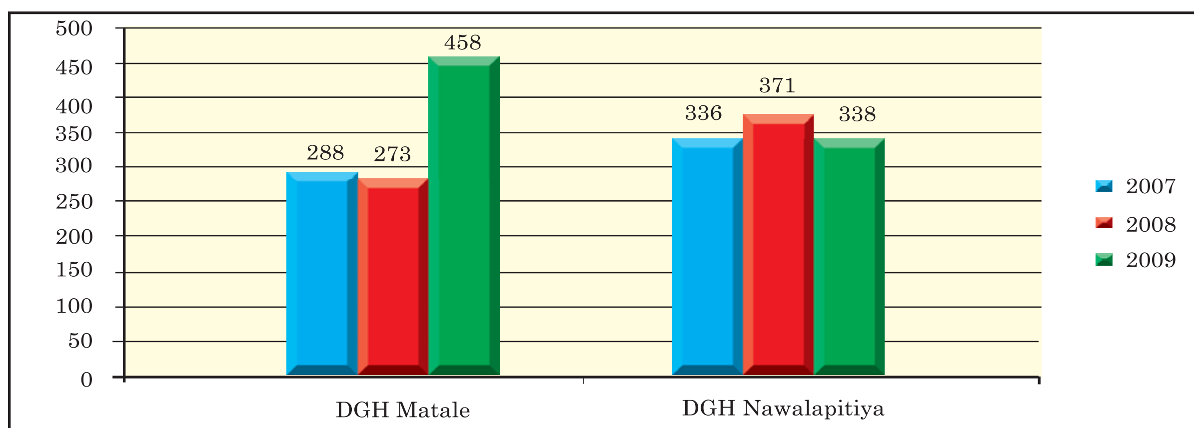
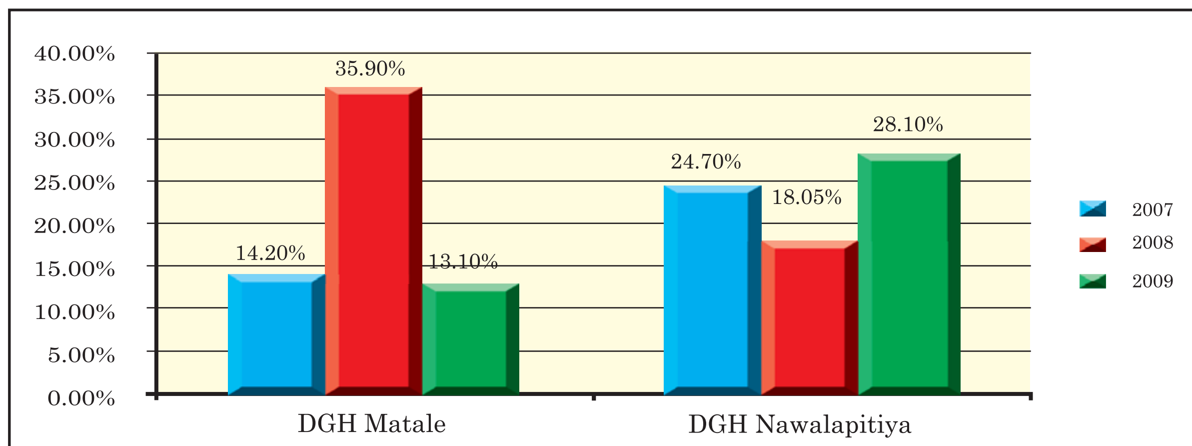
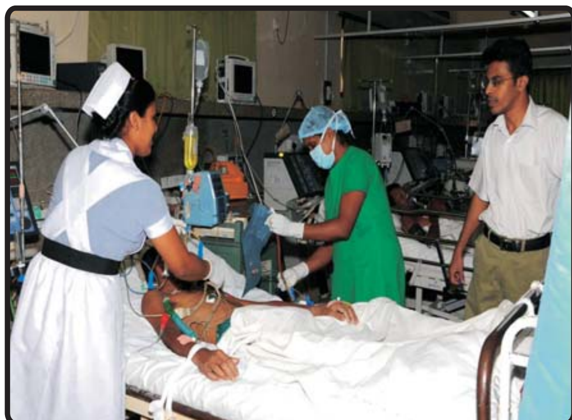


Fig 3.15 ICU death rates



Scene from an Intensive Care Unit



3.2.1.10 Hospital deaths

The number of hospital deaths which took place at DGH Nawalapitiya, DGH Matale and DBH Dambulla are given below:

Table 3.15 Hospital deaths which occurred in secondary care institutions under Central Provincial Health Department.

	DGH Nawalapitiya	DGH Matale	DBH Dambulla
Inpatients deaths	393	392	329
No of Deaths on admission (OPD Deaths)	62	143	86
Deaths within 48 hours of admission	249	198	259
Still births	67	42	27
Infant deaths	61	49	17
Maternal deaths	04	06	00

It is clearly evident that approximately 50% - 75% of the hospital deaths in these institutions occurred within 48 hours of admission which emphasizes the importance of improving emergency care in these hospitals as well as in other primary care hospitals from where they get transferred.

3.3 Upgrading Dickoya and Rikillagaskada Hospitals.

In 2006 it was proposed to upgrade DH Rikillagaskada and DH Dickoya to the level of Base Hospital considering their locations and service need. .

3.3.1 District Base Hospital Rikillagaskada:

DBH Rikillagaskada was started as a rural hospital with a staff of 05 on 28th of August 1951. It was built on a stretch of land called 'waljambugahamulahena' that extended over 1 acre, 2 roods and 893 perches. The land was donated by 3 estate companies and the first building 'Milton Vivian Senanayake memorial building' is named after one of the benefactors.

At the inception, the single building housed the Out Patient Department, the male and female wards and the maternity ward. A Paediatric ward was added to the hospital in 1969 by Hon.Dudley Senanayake, the prime minister of the time. The building that was completed and handed over to the hospital by honourable Prime Minister Mrs.Sirimawo Bandaranayake in April 1975 is currently being used as the female ward (ward number 05) The medical wards were built in 1992 and were handed over to the hospital by Hon. Minister of Health and Women's affairs, Renuka Herath in 2003, the new three story building complex housing the OPD was built replacing several old buildings.

DBH Rikillagaskada, which belongs to Nuwara Eliya District, caters to a population of 170,000 and the nearest hospital to which a patient can be transferred for further management is the Kandy General Hospital which is -40-km away. Therefore the need for a secondary healthcare institution in this area was acknowledged.

After the decision to upgrade Rikillagaskada hospital to this status, a new maternal and child ward complex including a labour room, obstetric theatre and a Paediatric ward was built in 2005 and was opened to the general public on 16th July 2007.

The initial staff in 1951 comprised of an Assistant Medical Officer (AMO), two midwives and three attendants. By 1990, it had expanded to include two medical officers, three AMOs and a dental surgeon. Currently the staff comprises of 146 members which include a District Medical Officer, 10 Medical Officers, 1 dental surgeon and 3 registered medical officers.

During 2007 - 2008

- ★ Acquisition of surgical equipment to initiate provision of surgical facilities in the hospital.
- ★ The introduction of a special grade nursing officer, a pharmacist and a medical laboratory technician to the staff with a total number of staff members being increased by 22 members.
- ★ Completion of a complex of on-call rooms with facilities to accommodate 5 doctors at a time.

★ The establishment of an Emergency Treatment Unit
★ Development of the health education unit to conduct timely programmes pertaining to the prevention of the spread of epidemics and the management of noncommunicable diseases.

The following were done in 2009 to improve the hospital:

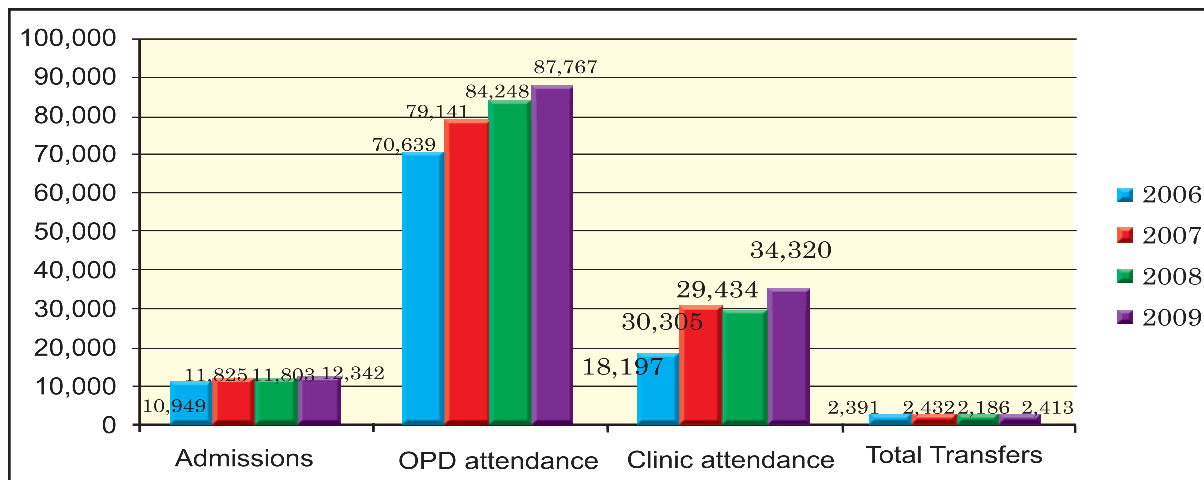
- Conversion of an old ward into a laboratory and a drug store
- Commencing laboratory Services for the patients
- Building an X-ray unit
- Repairing the mortuary
- Building of Consultant quarters & a car park
- Repairing the water pipe line adjacent to the main road

One major drawback that DBH Rikillagaskada is currently facing is the inability to provide continued specialist care despite having adequate support staff for several specialities. However out-reach Obstetric service have been conducted at the hospital with the assistance of Dr. S. Hemapriya (Consultant Obstetrician and Gyanaecologist, Teaching Hospital, Kandy) while Dr. A. Senanayake (Consultant Community Paediatrician) has been conducting an outreach Paediatric Clinic.

Table 3.18 Basic data of DBH Rikillagaskada

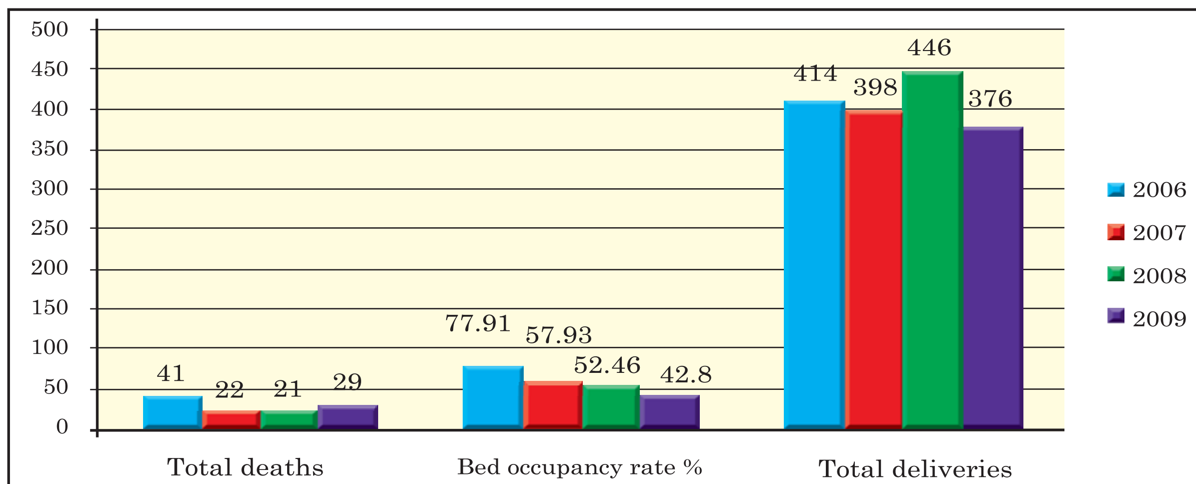
	2007	2008	2009
No of Beds	106	118	146
No of Wards	05	05	06
Bed Occupancy Rate (%)	57.9	52.5	42.8
Admissions	11,825	11,803	12,342
OPD Attendance	79,141	84,248	87,767
Total Inpatient days per year	22,412	22,596	22,793
No of clinic held	196	706	706
Clinic Attendance	30,305	29,434	34,320
Total no of deaths	22	62	29
Total no of deliveries	398	446	376
Total no of Patient Transferred from the institution	2,432	2,413	2,186
No. of patients treated in the ETU	-	3,184	4,217

Fig 3.16 Indoor admissions, OPD attendance, Clinic attendance and total transfers in DBH Rikillagaskada



The OPD attendance, clinic attendance and indoor admissions are on the increase while the number of total transfers show a 9.4% reduction.

Fig 3.17 Total deliveries, total deaths within 48 hours from hospital admission and bed occupancy rate in DBH Rikilgaskada.



Although there is a decline in bed occupancy rate, the number of admissions has increased by 4.5%.

3.3.2 District Base Hospital Dickoya

DBH Dickoya belongs to the Nuwara Eliya District and caters to a population of- 207,500- inclusive of the estate population. The nearest secondary care hospital is DBH Nawalapitiya situated 40 km away.

Having started during the British reign, it operated as a Divisional Hospital which housed 6 wards, an Out Patient Department, a dispensary and a surgical theatre with facilities for major surgeries even in the bygone era.

By year 2004 the importance of upgrading this hospital to a secondary care inistitution had been identified. A major milestone was the signing of the memorandum of understanding between the Government of Sri Lanka and the Government of India to construct a 150 bed hospital in 2004. Furthermore, in 2007 the renovation of the theatre commenced to develop surgical facilities and an improved patient care was enabled for Obstetric & Gynaecological and Paediatric patients through the provision of Essential equipment.

As a result, by 2008 surgeries such as Caesarean Sections, Ligation & Resection of Tubes (LRT) and Evacuation of Retained Products of Conception (ERPC) were taking place in the institute.

During 2008, with the vision of further expanding the hospital, the MOH building was taken over by the hospital administration, a laboratory was established and the number of staff was increased from 30 to 70. A Physician, an Obstetrician and a Paediatrician were appointed to the hospital in 2007/2008 for the provision of continuous specialist care to the people of the region.

Through the funds provided by the Government of Belgium, the year 2008 saw to the construction of a blood bank, a water purification system, solar power enabled hot water system (to two wards) and renovation of toilets in the institution.
Moreover, an intercom system was established to expedite the communication within the premises in 2008.

Table 3.19 Basic data on DBH Dickoya

	2007	2008	2009
No of Beds	88	88	91
No of Wards	07	10	10
Bed Occupancy Rate (%)	86.7	73.2	95.3
Admissions	7,200	10,029	12,920
OPD Attendance	39,887	49,850	65,419
Total Inpatient days per year	27,858	23,522	31,648
No of clinics held	240	247	261
Clinic Attendance	18,173	16,867	21,606
Total no of deaths	36	48	91
Total no of deliveries	948	1,114	1,349
Total no of Patient Transferred from the institution	547	813	1,956

Fig. 3.18 Indoor admissions, OPD attendance & clinic attendance at DBH Dickoya

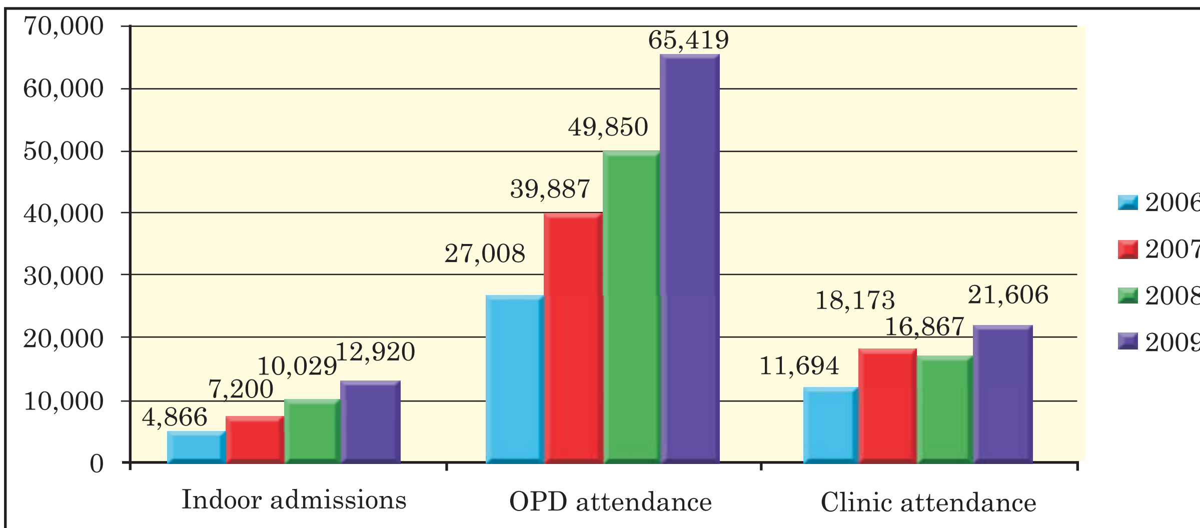


Fig. 3.19 Total deliveries & Total transfers at DBH Dickoya

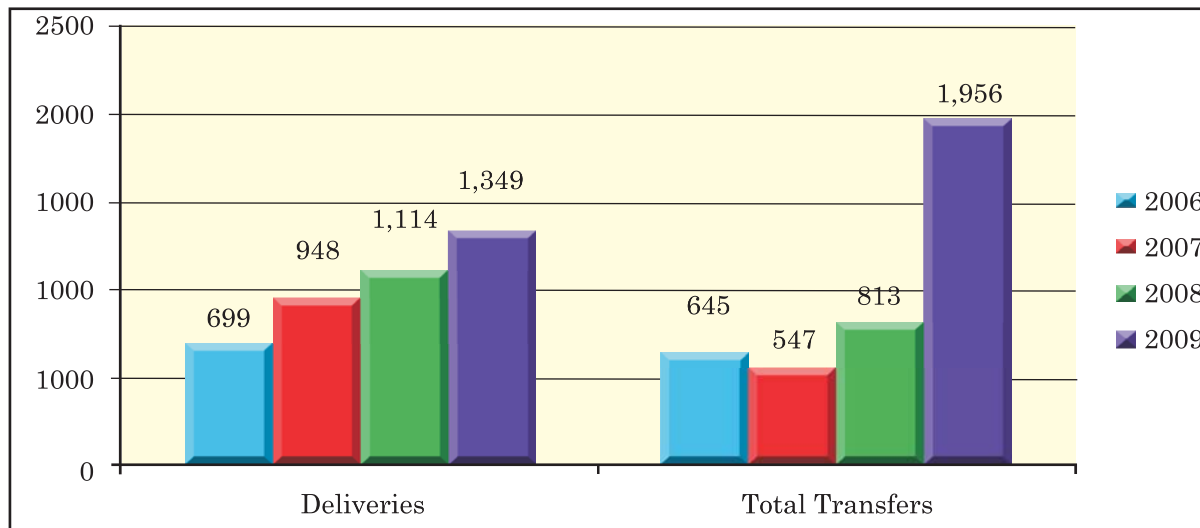
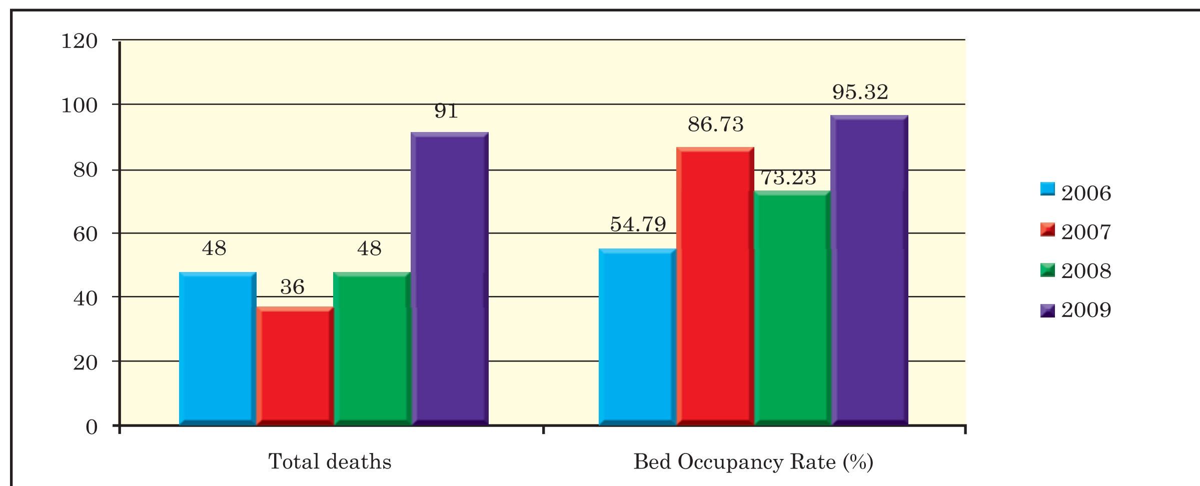
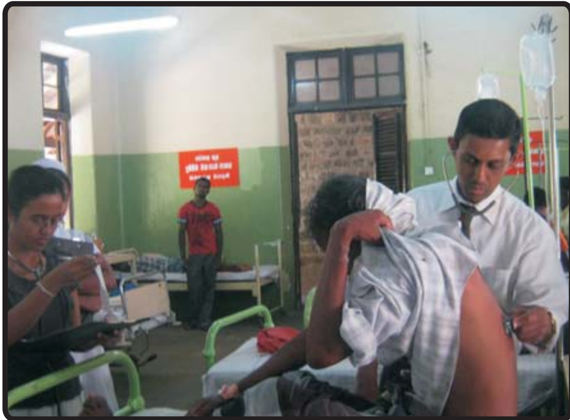


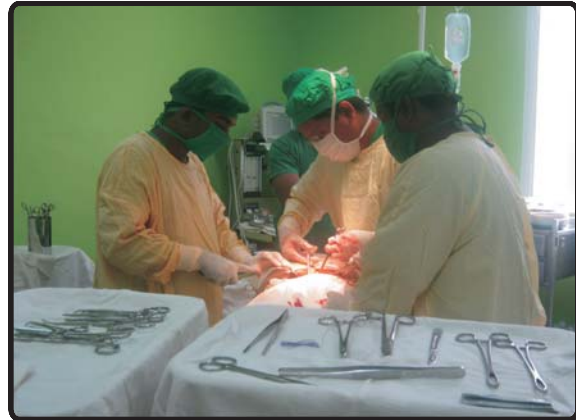
Fig. 3.20 Total deaths & Bed occupancy rate at DBH Dickoya

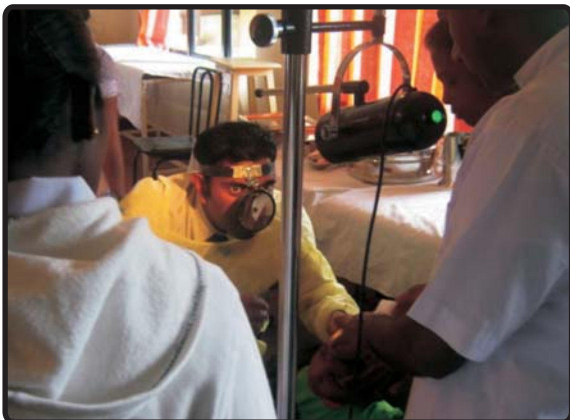


Over the past three years, DBH Dickoya has been handling an increasing number of admissions, OPD attendees, clinic attendance and hospital deliveries.

The bed occupancy rate had increase by 30% during the year 2009 with a concomitant rise in the total inpatient days per year. This increase seen in the patient load thus handled may be accountable for the ~141% rise in the number of patients transferred from the institute.







3.4 Secondary Care Services and Tertiary Care Services Managed by the line Ministry of Health

There are five institutions (TH Kandy and TH Peradeniya & Children's Hospital, Peradeniya DGH Nuwaraeliya & BH Gampola)providing specialized Secondary & tertiary care services to the people in the Central Province. All five are managed by the line ministry. The bed strength and the services provided by these institutions during 2009 are given in table 3.18.

Table 3.18 The bed strength and the services provided by line ministry institutions

	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
No. of wards	78	23	3	12	11
No. of beds	2,284	910	115	408	324
OPD attendance	390,996	300,101	127,519	164,571	224,331
Admissions	190,597	67,521	9,520	39,046	39,476
Bed occupancy rate	95.0%	78.2%	74.4%	84.8%	82.7%
Total No.of Inpatient	791,977	259,635	31,210	126,236	97,798
Total No.of Deaths	3,356	874	67	400	333
Total No of patient Transferred out	4,101	2,038	00	1,605	1,580
Minor operation done	41,668	5,886	585	8,534	3,934
Major operation done	25,452	3,263	00	1,445	2,069
Total No of Clinics Held	9,019	3,681	994	2,405	888
Total No of Clinics Attendance	778,897	285,885	27,005	122,377	104,618

Being the second largest hospital in Sri Lanka, Teaching Hospital Kandy handles the largest number of patients from within the Province

3.4.1 Laboratory Investigations

Test category	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
Biochemistry	438,798	251,617		42,070	52,338
Bacteriology	82,905	16,675		15,102	27
Hematology	5,544,276	334,442		273,183	166,791
Other	3,136,160	33,923		30,770	79,015
Total	**9,202,139**	**636,657**	**51,450**	**361,125**	**298,171**
Total No of MLT	48	18	8	11	6
No of test per MLT per year	191,711	35,370	6,431	32,830	49,695

3.4.2 Maternity Statistics

Type of Indicator	TH Kandy	TH Peradeniya	DGH NuwaraEliya	DBH Gampola
No.of admissions to Obstetric unit	14,090	7,831	6,303	4,662
Daily average of maternal admissions	38	21	17	13
Total no.of deliveries				
Single delivery	11,456	7,241	5,332	3,658
Twin delivery	138	40	5,283	3,600
Triplet delivery	3	04	49	29
Other (4 babies)	1		00	00
Mode of delivery				
Spontaneous delivery	7,036	4,250	4,347	3,639
Forcep delivery	218	95	69	05
Breech delivery	145	00	50	00
Vacuum extractions	40	37	02	14
LSCS	4,017	2,859	864	00
Total no.of live births	11,478	7,159	5,283	3,639
Total no.of still births	125	72	59	19
Still birth rate (per 1000 live births)	10.9	10.1	11.2	5.2
Total live Births by birth weight				
>2500g	9233	5,797	3,500	2,886
<2500g	2245	1,362	1,783	753
low birth weight babies	19.6%	19. 0%	33.8%	20.7%
Neonatal deaths	103	60	60	34
Early neonatal deaths*	87	37	44	28
Early neonatal death rate (per 1000 Live Births)	7.6	5.2	8.3	7.7
Perinatal mortality rate(per 1000 Live Births)	18.5	15.2	19.5	12.9
Maternal Deaths	4	00	02	00
Maternal death rate (per 100,000 Live Births)	34.9	00	37.9	00
Manual removal of placenta	90	47	39	49
Postpartum haemorrhage	51	00		

3.4.3 Radiology Investigations

The total number of radiological investigations performed is significantly higher in the tertiary care units compared to the secondary care units.

	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
No of OPD & clinic cases	105,356	16,130		DNA	3,200
No of Ward Cases	358,452	16,728			9,989
No. of other Investigations	16,137	127,398			47,245
Total	**479,945**	**160,256**	**9,522**		**60,434**
No of Radiographers	33	10	5		2
No. of tests per Radiographer per year	14,544	16,026	1,904		30,217

*** Radiology Investigations Includes X-ray, Ultra Sound Scan ,CT Scan & MRI**
DNA - Data Not Available

3.4.4 E.C.G. services

	TH Kandy	TH Peradeniya	DGH Nuwara Eliya	DBH Gampola
OPD	2,837	5,896	3,882	3,245
Clinics	2,303	2,787	1,466	2,322
Wards	8,122	45,513	11,825	13,416
Total	**16,015**	**54,196**	**17,173**	**18,983**
No. of ECG recordists	13	5	3	3
No. of ECG per recordist per year	1,232	10,839	5,724	6,328

*** TH Peradeniya Provides ECG Facilities for SBCH Peradeniya.**

3.4.5 Blood bank services

	TH Kandy	TH Peradeniya	DGH Nuwara Eliya	DBH Gampola
Blood Balance at the beginning of the year	10,301	277	107	128
Total No.of Blood taken from Donors	18,523	6,673	1,379	1,081
No. of blood pints taken from other Blood banks	1,693	667	286	453
No. of blood pints issued	19,098	7,170	1,295	1,381
No. of blood pints discarded	2,268	970	881	281
Blood balance at the end of the year	6,617	191	125	166

*** No blood bank Services available at SBCH Peradeniya.**

3.4.6 Physiotherapy services

	TH Kandy	TH Peradeniya	DGH Nuwara Eliya
No of OPD Patients	75,036	406	65
No of Clinics Patients		2,124	409
No.of Wards Patients	47,977	2,735	772
No of ICU Patients		368	105
No. of Physiotherapists	16	3	2
Total No of patients treated	**123,013**	**5,633**	**1,351**
Patients per Physiotherapist per year	7,688	1,878	676

*** Note - No Physiotherapy services available at SBCH Peradeniya & DBH Gampola**
DNA - Data Not Available

3.4.7 Special clinics

	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
Medical	291	510	193	99	204
Surgical	291	343	94	95	95
Antenatal	100	236			
Gynecology and Family Planning	399	604		96	97
E.N.T	288	0	115	54	99
Eye	448	0		188	126
Pediatric	708	366		101	52
Psychiatric	147	390		224	52
Dental and Maxillofacial (OMF)	621	1,181	291		
Neonatal Clinic	51		195		
Child Guidance Clinic			47		
Cardiology	702				
Diabetic	128	51			
Hematology	98		12		
Other	4,856				
Total No.of Clinics held	**9,028**	**3,681**	**994**	**808**	**725**

3.4.8 Surgeries

Specialty	TH Kandy			TH Peradeniya			SBCH Peradeniya		
	Major	Minor	Total	Major	Minor	Total	Major	Minor	Total
General Surgery	4,957	21,709	26,666	1,112	3,755	4,865	246	585	831
Obstetric Gynecology	4,108 1,116	485 2,880	4,593 3,996	2,042	1,655	3,697	NA	NA	NA
EYE	8,331	3,002	11,333				NA	NA	NA
Dental and Maxillofacial	167	1,808	1,975	109	478	587	NA	NA	NA
E.N.T.	803	3,353	4,156					128	128
Other Surgery	5,970	8,392	14,362				NA	NA	NA
Total	**25,452**	**41,629**	**67,081**	**3,263**	**5,888**	**9,149**	**246**	**713**	**959**

NA - Not Applicable

Specialty	DGH Nuwara Eliya			DBH Gampola		
	Major	Minor	Total	Major	Minor	Total
General Surgery	189	4,176	4,365	420	3240	3,660
Obstetrics	228	1,760	1,988	1,521	-	1,521
Gynecology				128	612	740
EYE	1,015	105	1,120			
E.N.T.	13	8	21		82	
Total	**1,445**	**6,049**	**7,494**	**2,069**	**3,934**	**5921**

3.4.9 ICU care

	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
ICU admissions	3,327	864	DNA	297	131
ICU deaths	739	226		92	52
ICU death rate	22.2%	26.2%		30.9%	39.7%

*** DNA - Data Not Available**

3.4.10 Premature Baby Unit (PBU)

	TH Kandy	TH Peradeniya	DGH NuwaraEliya	DBH Gampola
Admissions	1,680	1,009	542	522
Maturity				
< 28 weeks	54	51	22	9
28-36 weeks	503	509	237	184
> 36 weeks	1,113	449	283	329
Weight				
< 1000gr.	41	60	16	14
1000 - 1490 gr	263	153	66	33
1500 – 2490 gr.	613	419	251	245
>2500gr.	763	377	209	230
Reason for admission				
Birth Asphyxia	140	16	25	27
Meconium Aspiration	177	25	27	28
Pre Term	307	301	211	108
IUGR	147	51	31	25
Grunting	356	142	41	43
Poor Sucking/lethargy	131	59	66	64
Gestational DM	58	17	-	10
Congen. Abnormality	23	24	28	5
Other	341	374	113	212
*Total Number of NND	103	60	60	34
*Number of early NND (Deaths within the first 7 days of life)	87	37	44	28
Cause of Death				
Prematurity	45	28	27	16
Birth Asphyxia +Septicemia	31	14	13	6
Congen. Abnormality	09	15	13	5
Other	18	03	07	7
Number Discharged	1,514	914	402	473
Number Transferred out	63	35	80	15

Includes Deaths of Transferred Out babies
NND-Neonatal Death

3.4.11. Hospital deaths

	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
Inpatients deaths	3,356	460	63	400	333
No of Deaths on admission (OPD Deaths)	265	106	04	82	70
Deaths within 48 hours of admission	487	414	DNA	DNA	DNA
Still births	125	72		59	19
Infant deaths	87	37		15	34
Maternal deaths	4	00		02	00

DNA - Data Not Available

3.4.12. Emergency Treatment Unit

	TH Kandy	TH Peradeniya	SBCH Peradeniya	DGH Nuwara Eliya	DBH Gampola
No.of beds	7	22	1	DNA	DNA
No.of Patients treated in the ETU	28,311	20,282	51		
No. of Transfers	DNA	676	0		
Total No.of ETU Deaths (Within 24 hours)	133	79	0		

4. MORBIDITY AND MORTALITY

Even though Sri Lanka has a good field surveillance system for communicable diseases, there is no proper field data collection method for other diseases such as non communicable diseases. However, morbidity data is available for the patients taking treatment as inpatients from government hospitals. The data on outpatient attendance is not routinely collected except for special surveys. Apart from these, both inpatient and outpatient data in patients seeking treatment from private institutions are also not available. In the government health system, indoor morbidity and mortality register (IMMR) has become the major source of information.

4.1 Inpatient mortality and morbidity

As described earlier, information on inpatient morbidity and mortality of government health institutions are gathered through IMMR. These data are collected by individual hospital and quarterly returns are sent to medical statistical unit, Colombo for further analysis. The timeliness of sending these data and quality of the available data are still not up to the expected standards.

The summary of Provincial and District data on leading causes of hospitalizations and hospital deaths (including line ministry institutions) during year 2008 are shown in tables 4.1 and 4.2. The details of leading causes of hospitalizations and hospital deaths (including line ministry institutions) during year 2008 of three Districts of Central Province are given in annexure 6-11. As described earlier these data are analyzed by the Medical statistics unit, Colombo and at the moment these data are available only for the year 2008.

Table 4.1 Leading causes of live discharges (including line ministry institutions) by District - 2008

Disease code (IMMR code)	Disease and ICD code	Central Province		Kandy		Matale		Nuwaraeliya	
		No.	Rank	No.	Rank	No.	Rank	No.	Rank
243	Persons encountering health Services for examination, investigation	37907	1	32568	1	3786	8	1573	14
195	Single Spontaneous delivery (080)	33929	2	19315	3	7525	2	7089	1
42	Other Viral diseases (includes viral fever) (A81,A88,A89,B00	32204	3	21654	2	5491	4	5059	4
245	Undiagnosed/Uncoded	32143	4	15618	4	11373	1	5152	3
227	Open wounds and injuries to blood vessels (S01,S11,S15,S21,S25)	24169	5	14961	6	5668	3	3540	7

150	Asthma (J45-J46)	22132	6	13862	8	3983	6	4287	5
196	Other complications of pregnancy and delivery (020-029,060-063,067-071,073-075,081-084)	20356	7	14170	7	4050	5	2136	11
220	Superficial injury (S00,S10,S20,S30,S40,S50,S60,S70,S80,S90,)	19315	8	8918	11	3789	7	6608	2
217	Other signs and symptoms and abnormal clinical findings (R25-R49,R52,R53,R55,R57-R69)	17068	9	15267	5	-	-	-	-
152	Other diseases of the respiratory system(J22,J60-J98)	15759	10	9720	9	2868	13	3171	8
6	Diarrhoea and gastroenteritis of presumed infectious origin (A09)	15199	11	8529	15	2824	14	3846	6
156	Gastritis and duodenitis (K29)	15018	12	8838	12	3059	10	3121	9
125	Essential hypertension (I10)	13724	13	8708	14	-	-	2404	10
230	Other injuries of specified, unspecified and multiple body regions (S09,S16,S19,S29,S39,S46,S49,S56, S59,S66,S69,S76,S79,86,S89,S96,S99,T06.0,T06.1,T06.4-T06.8, T07,T09.3-TO9.5,T09.8,T09.9,T11.5, T11.8,T11.9,T13.5,T13.8,T13.9, T14.6,T14.8,T14.9)	12734	14	9115	10	-	-	-	-
211	Symptoms and signs involving the digestive system and abdomen	12092	15	-	-	2956	12	-	-

Source – Medical statistical unit, Colombo

Table 4.2 Leading causes of hospital deaths (including line ministry institutions) by District - 2008

Disease code (IMMR code)	Disease and ICD code	Central Province		Kandy		Matale		Nuwaraeliya	
		No.	Rank	No.	Rank	No.	Rank	No.	Rank
134	Cerebrovascular disease (I60-I69)	518	1	397	1	68	1	53	3
245	Undiagnosed/Uncoded	436	2	292	2	53	4	91	1
128	Acute myocardial infarction (I21,I22)	411	3	258	3	66	2	87	2
219	Ill-defined and unknown causes of mortality (R95-R99)	254	4	217	4	-	-	25	8
145	Pneumonia (J12-J18)	240	5	177	6	39	7	24	9
129	Other ischaemic heart disease (I20,I23-I25)	238	6	182	5	44	5	12	14
132	Heart failure (I50)	237	7	129	10	63	3	45	5
149	Bronchitis, emphysema and other chronic obstructive pulmonary disease (J40-J44)	225	8	170	7	44	6	11	15
177	Renal failure (N17-N19)	194	9	156	8	20	11	18	11
133	Other heart diseases (127.0-127.8,128-149,151)	169	10	111	11	12	15	46	4
022	Septicemia (A40,A41)	165	11	140	9	-	-	15	12
199	Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05-P07)	118	12	66	15	18	12	34	6
150	Asthma (J45-J46)	112	13	-	-	23	10	31	7
224	Intracranial injuries (SO6)	104	14	104	12	-	-	-	-
090E	Unspecified diabetes mellitus(E14)	102	15	66	14	31	8	-	-

Source – Medical statistical unit, Colombo

According to Table 4.1, it is evident that persons encountering health services for examination, investigation and for specific procedures of health care ranked top in hospital morbidity (specially in Kandy District). These figures provide clear evidence that a large number of patients are admitted to hospitals only for investigations and procedures. This should be an important factor for policy makers to think of an alternative for these types of patients.

Apart from that, viral fevers are also ranked as number 3 in hospital morbidity. Injuries, asthma and other respiratory conditions, gastroenteritis related conditions have been ranked in the top positions in indoor morbidity of the three Districts of the Province. These data also provide some evidence regarding the morbidity pattern of the country and creating the awareness of the policy makers on future planning on inpatient care.

Undiagnosed / uncoded live discharges ranked 4th and signs symptoms ranked 9th at the top of the list of hospital inpatient morbidity in Central Province. This clearly emphasizes the need of increasing awareness among medical officers on proper writing of the diagnosis. The heads of institutions should ensure that monitoring is done by unit to ensure that the "garbage data" is reduced in their respective institutions.

The number 2 and number 4 ranks of hospital deaths are also shown as undiagnosed/ uncoded deaths and ill defined and unknown causes. both Kandy and Nuwara Eliya Districts have contributed to it. This needs to be further analyzed to see whether this is really due to the incapability of the medical officers on proper writing of cause of death or some other factor. If this is a problem of writing the cause of death, proper training in this regard should be provided and closely monitored at institutional level.

Similar to the national trends cardiovascular system related diseases such as acute myocardial infarctions, cerebrovascular diseases, ischemic heart disease, heart failure have ranked in the top list of the hospital mortality in this Province. Deaths due to renal failures and respiratory system diseases such as Pneumonia, bronchitis, emphysemas have also ranked at the top of the inpatient mortality. These factors also need to be considered when planning for future patient care with special emphasis to emergency care.

According to the above data, it is evident that the major contribution for the Provincial data comes from Kandy District. There are two main reasons for this contribution. The first one is the contribution made from the two tertiary care institutions (TH Kandy and TH Peradeniya) situated in the Kandy District. The other reason is the larger number of Divisional hospitals situated in the Kandy District.

5. PREVENTIVE HEALTH SERVICES

This chapter includes information on Maternal and Child Health activities, School Health, Family Planning, Well women services, Epidemiological services, Environment Health, Expanded Programme on Immunization (EPI), Health Promotion activities, cosmetic drugs and devices and supportive supervision.

5.1. Maternal and Child Health

This includes information on family health activities conducted by public health staff in the field and at clinics. (Includes clinics in the field and divisional hospitals)

Table 5.1 The population statistics, number clinics and estimates for 2009

	Kandy	Matale	Nuwara Eliya	Total
Estimated Population*	1,415,000	490,000	755,000	2,660,000
Estimated eligible families	219,325	75,950	117,025	412,300
Estimated number of births	27,593	9,555	14,723	51,871
Number Ante natal clinics (single+combined) clinics	55	04	209	268
Number child welfare clinics (single+combined)	36	11	179	226
Number poly clinic	207	147	71	425
Number field weighing posts	1,700	823	1,008	3,860
Number IUCD clinics	79	50	57	186

Source : *** Department of Census and Statistics**

In 2009 maternal and child health services had been provided through 268 antenatal clinics, 226 child welfare clinics and 425 poly clinics.

Table. 5.2 Ante natal Care Services Provided in the Central Province

Indicator	2008		2009	
	Number	percentage	Number	percentage
Eligible families under care	435,007	109.1	438,800	106.4
Pregnant mothers registered by PHMM	51,516	102.7	50,412	97.2
Pregnant mothers registered at home before 8 weeks POA	31,923	62.0	33,338	66.1
Pregnant mothers registered at home before 12 weeks POA	47,427	92.1	46,893	93.0
Pregnant mothers under care	26,630	106.1	28,716	110.7
Primi registered	17,616	34.2	17,587	34.9
Pregnant mothers tested for VDRL at delivery	42,207	99.0	41,248	99.0
Pregnant mothers blood grouping done at delivery	42,477	99.7	41,663	100.0
Pregnant mothers protected with Rubella	49,564	96.2	48,591	96.4
Teenage pregnancies registered	3,019	5.9	2,808	5.6
Pregnant mothers with BMI < 18.5 kg/m^2	10,848	21.1	10,489	20.9
Pregnant mothers with BMI > 25.0 kg/m^2	5,438	10.6	5,379	10.7

The envisaged improvement in the reporting and care provided by the Primary healthcare teams in the Central Province was affected due to the two epidemics of Dengue and H1N1 which needed mass community level mobilization to minimize the morbidity and mortality. Despite these two epidemics the health sector was able to provide basic Maternal and Child healthcare services to the people in the Central Province. The reported data in 2009 indicate that 100% of the eligible families were under care of the Public Health Midwives. Public health midwives have registered 50,412 pregnant mothers during 2009 which is 97.2% of the estimated figure. The number of pregnant mothers registered has declined in 2009 as compared 2008 and needs to be addressed in 2010. Of the mothers registered 93.0% were registered before 12 weeks of pregnancy, which is higher than the reported figure in 2008.

The registration of pregnant mothers before 8 weeks show that 66.1 % are registered very early and shows that both Public Health Midwives and also families are aware of the importance of registering pregnancies early. Of the pregnant mothers registerd 5.6% were teenage mothers while 34.9% were primi gravida. Service indicators such as VDRL coverage, Blood Grouping & Rh, Rubella were reported as 99.0%, 100% and 96.4% respectively.

The gradual increase in these service indicators show that the PHC teams are even targeting the hard to reach pregnant mothers. The nutrition status of pregnant mothers have not shown a remarkable difference from 2007 where 20.9% did not have adequate Body Mass Index (BMI < 18.5 kg/m²). The nutrition status of adolescents and also pre pregnant women should be targeted as a key intervention to improve nutrition of women prior to pregnancy.

Table 5.3. Delivery & Out Come of natal Care Provided in the Central Province.

Indicator	**2008**		**2009**	
	Number	**Percentage**	**Number**	**Percentage**
Deliveries reported by PHM (hospital and field)	42,619	84.9	41,635	80.3
Home deliveries	190	0.4	200	0.5
Home deliveries receiving untrained assistance	132	69.5	109	54.5
Live births reported	42,405	84.5	41,532	80.1
Multiple births	642	1.5	633	1.5
Still Births reported	501	*11.8	393	*9.5
Abortions reported	3214	*75.8	3261	*78.5
Low birth weight	6988	16.4	6682	16.1

*** per 1000 LB**

PHMM reported a total number of 41,635 deliveries during 2009 which is 80.3% of the estimated number 51,871. Preliminary figures from the Department of Census and statistics have reported 52,589 live births for 2009. The numbers of home deliveries have slightly increased from 190 in 2008 to 200 in 2009. Further efforts should be made to discourage all home deliveries while investigating the causes for home deliveries in the Central Province to take preventive measures. Of the single live births 16.1% were low birth weight (LBW, birth weight less than 2500gr). The LBW reported from hospitals in the CP was 21.97% (2009) which means that the reporting is still low.

Despite all efforts taken to make sure that infant registration and post partum visits are done and compile accurate data on the new born using Provincial guidelines for the improvement of reporting was prepared the envisaged improvement in reporting was not seen due to the mobilization of PHMM for dengue and H1N1 epidemic control measures. It is also envisaged that the reporting will improve in 2010 despite the acute shortage of over 170 PHMM. The still birth ratio reported for Central Province was 9.5 per 1000 LB much lower than the reported figure of 11.8 per 1000LB in 2008. 3261 abortions were reported from the Central Province, which gives an abortion ratio of 78.5 per 1000 LB. The gradual improvement of reporting is seen with the appointment of over 100 new PHMM in 2007 to the remote and vacant areas in the Nuwara Eliya and Kandy Districts and also closer follow up on the reporting of these vital events at MOH level, District and Provincial level.

Table 5.4 Post partum care provided by the Public health midwives

Indicator	2008		2009	
	Number	Percentage	Number	Percentage
At least 1 visit during first 10 days (of reported deliveries)	38,768	91.0	38,014	91.3
At least 1 visit during first 10 days (of estimated deliveries)	38,768	73.0	38,014	73.3
Post natal care around 42 day	31,782	74.6	31,174	74.9

In 2009 the number of post partum visits were conducted for 91.3% of the reported deliveries during the first 10 days. The over all post partum coverage is only 73.3% which still shows that adequate attention is not given by health managers for post partum care. The post natal care reported around the 42nd days has remained static around 74%. The reporting of mothers with complications has decreased during 2009 as compared to 2008

Table 5.5 Infant care provided by Public Health Midwives.

Indicator	2008		2009	
	Number	Percentage	Number	Percentage
Infants registered by PHMM	45,344	90.4	44,890	86.5
Infant deaths reported by PHMM	532	*12.5	481	*11.6
Infant deaths investigated by PH staff	493	92.7	443	89.9
Neonatal Deaths reported	382	*8.9	342	*8.2
Post neonatal deaths reported	149	*3.5	139	*3.3
Perinatal deaths reported	791	*18.7	665	*16.0
Child deaths reported	70	**0.38	82	**0.39

* per 1000 LB** per 1000 children 13-60 month.

Table 5.6 Post partum maternal morbidities reported in the Central Province

Indicator	2008		2009	
	Number	Percentage	Number	Percentage
Fever	538	12.7	423	12.9
Offensive discharge	87	2.1	78	2.4
Excessive bleeding	206	4.9	153	4.7
Dysuria	174	4.1	171	5.2
Infected/ Separated Episiotomy	1092	25.8	759	23.1
Foreign material in vagina	100	2.4	132	4.0
Infected caesarian section	485	11.4	445	13.6
Deep vein thrombosis	19	0.4	27	0.8
Post partum psychosis	70	1.7	97	3.0
Engorged Breast	932	22.0	588	17.9
Breast abscess	151	3.6	94	2.9
Cracked nipple	358	8.4	308	9.4
Heart failure	28	0.7	9	0.3
Total	**4,240**	**100.2**	**3,284**	**100.0**

In 2009 PHMM have registered 86.5% of the estimated infants for routine care as compared to 90.4% in 2008. Despite the improvement in the reporting of infant deaths only 481 (82.1%) has been reported. Out of the infant deaths reported 89.9% has been investigated which shows a slight decline from 2008. 71.1% of the infant deaths are reported to have occurred during the neonatal period. The Perinatal Mortality Rate reported from the field is 16.0 per 1000LB much lower than the figure reported in 2008. The reporting of infant and neonatal deaths from the field health staff as compared to the registrar generals figures show a marked improvement in 2007 (latest data) as compared to 2006. The percentage of infant deaths reported through the routine health system has increased to 82.7% from 66.6% while the neonatal death reporting has increased to 71.6% from 68.7%. This clearly reflects that more attention needs to be paid in reporting all infant deaths. The IMR and NNMR reported for the CP through the Registrar Generals department for the year 2007 is 11.3 and 8.6 per 1000LB.

On average 82.2% infants have been weighed monthly at 542 clinics and 3860 field weighing centers. Out of the infants weighed 10.5% were under weight (<-2Sd) while 1.6% were classified as severe under weight (< - 3Sd). The weighing of infants show a slight improvement in 2009 as compared to 2008.

Table 5.7 Growth Monitoring of Children under 5 years by Public Heath Midwives.

Indicator	**2008**		**2009**	
	Number	**percentage**	**Number**	**percentage**
Average number of infants weighed monthly	35,053	76.1	37,203	85.8
Infants weighing below – 2Sd	3,632	10.4	4,128	11.1
Infants weighed below – 3Sd (severe under weight)	574	1.6	677	1.8
Infants weighed over + 2Sd (over weight)	140	0.4	139	0.4
monthly average children weighed 1-2 yrs	36,730	70.2	37,917	74.7
Number of Children 1-2 yrs weighing below -2Sd (moderate under weight)	10,118	27.4	8,899	23.5
Number of Children 1-2 yrs weighing below -3Sd (severe under weight)	2,673	7.3	2,321	6.1
Number of Children 1-2 yrs weighing over + 2Sd (over weight)	300	0.8	306	0.8
Quarterly average of children 2-5 yrs weighed	124,905	93.8	170,656	*130.5
Number of children 2-5 yrs weighing below – 2Sd (under weight)	46,947	37.6	47,974	28.1
Number of children 2-5 yrs who weighed below – 3Sd (severe under weight)	12,359	9.9	11,043	6.5
Number of children 2-5 yrs weighed who were above + 2 Sd (over weight)	1499	1.2	3,849	0.6

* The calculation based on estimated number of children 2-5yrs under care

The new WHO growth charts for girls and boys were included in the new Child Health Development Record (CHDR) which made it possible to identify children moderately underweight (below – 2Sd), severe under weight (below -3Sd) and also children over weight. The weighing of infants and children 1-2 years has shown a slight increase which reflects that both parents and healthcare workers were focusing on the assessment of nutrition status to identify growth faltering early for action. The high moderate and severe underweight percentages highlight the need to strengthen infant and young child feeding in the Central Province.

Data on Children 2-5yrs weighed, should be interpreted with caution as the reporting system gets only the number of times children are weighed monthly, hence the calculation is based on an assumption that children are weighed only once in three months. The percentage of children 2-5 yrs weighed is 130.5%, which means that some children were weighed more than once during the quarter. With the present health information system it is not possible to identify the percentage of infants who are weighed at least 9 times during their first years nor able to identity the percentage of children who are not weighed regularly. The moderate and severe underweight reported in the Nuwara Eliya District is much higher than the other two Districts, which is in line with all national surveys including the recent DHS 2006. The knowledge and practices on infant young child feeding needs to be strengthened if the key challenge on child under nutrition is to be addressed. A pilot project with the technical support of the Family Health Bureau and UNICEF was initiated in the Nuwara Eliya District known as the Integrated Nutrition package. Components of which include nutrition awareness, nutrition committees at village, Division and District level, Nutrition rehabilitation programme, strengthening growth monitoring and promotion, Multiple micronutrients (MMN) to reduce anaemia among children less than 2 years etc. The initital assessment was completed and the post intervention assessment is planned for late 2010. The preliminary feedback from the PHC staff have noted an improvement in the nutritional status of children less than 5 years. It is strongly recommended that once the post assessment is done that the package will be introduced to rest of the country.

5.1.2 Maternal Deaths :

Pregnancy and childbirth are special events in a women's life and in the lives of their families. Although pregnancy is not a disease but a normal physiological process, it is not free of risk to the health and survival of the mother as well as the unborn child.

Any maternal death is a tragedy and also a social injustice for individual women, their families and their communities. Most maternal deaths are avoidable, and are therefore unacceptable. It has also been estimated that for every woman who dies, 30 – 40 women suffer from life long disability causing them to suffer for the rest of their lives.

Sri Lanka is unique among countries in the South Asia Region in that the maternal mortality has been reduced to a low level of around 35 per 100,000 live births. Despite the low national MMR figure a wide District variation exist. With such low figures of MMR all efforts need to be taken to prevent every death.

During the year 2006 there were 243 maternal deaths notified to the Family Health Bureau through the active surveillance system and 146 confirmed as maternal deaths. 66 percent were direct maternal deaths , 26 percent were classified as indirect maternal deaths. The rest inconclusive. During the year 2007 out of the 239 maternal deaths notified there were 141 confirmed maternal deaths and again 66 percent were classified as direct and 27 percent as indirect.

Table 5.8 Distribution of causes of Maternal Deaths

Cause of Death	**2006***	**%**	**2007***	**%**
Post Partum Haemorrhage (PPH)	19	13.01	21	14.89
Abortion	18	12.33	15	10.64
Cardiovascular disease	12	8.22	20	14.18
Pregnancy Induced Hypertension (PIH)	11	7.53	12	8.51
Embolism (Amniotic fluid / Pulmonary)	10	6.85	18	12.77
Reproductive Sepsis	8	5.48	7	4.96
Sepsis – other	14	9.59	8	5.67
Ante-Partum Haemorrhage	6	4.11	1	0.71
Ectopic pregnancy	6	4.11	6	4.26
Respiratory Tract Infections	6	4.11	3	2.13
Liver disease	4	2.74	2	1.42
Malignancy	3	2.05	5	3.55
Cerebro-vascular disease	2	1.37	3	2.13
DVT	2	1.37	0	0.00
Other medical disorders	10	6.85	11	7.80
Rupture uterus	3	2.05	2	1.42
Deaths related to Anaesthesia	2	1.37	0	0.00
Miscellaneous causes	3	2.05	3	2.13
Inconclusive	7	4.79	4	2.84
Total	**146**	**100.0**	**141**	**100.0**

Source: Family Health Bureau active Maternal Mortality surveillance data base
(* Provisional)

The leading causes of maternal deaths are PPH, Abortion, Cardiovascular diseases, PIH and Embolism. PPH remains the main cause of maternal deaths both in 2006 (13%) and 2007 (15%). Abortion shows a slight reduction while Cardiovascular diseases assuming an upward trend (14.2 % in 2007) to become the second leading cause of maternal deaths. Much attention has to be paid for constant high rates of PPH. This necessitates quality emergency obstetric facilities and the improvement of expertise of healthcare providers.

The high rate of deaths due to unsafe abortions in both years indicates a high prevalence of unmet need for family planning. The highest MMR for the year 2006 was reported in Kilinochchi District while the highest MMR for 2007 was reported in the Kalutara NIHS area.

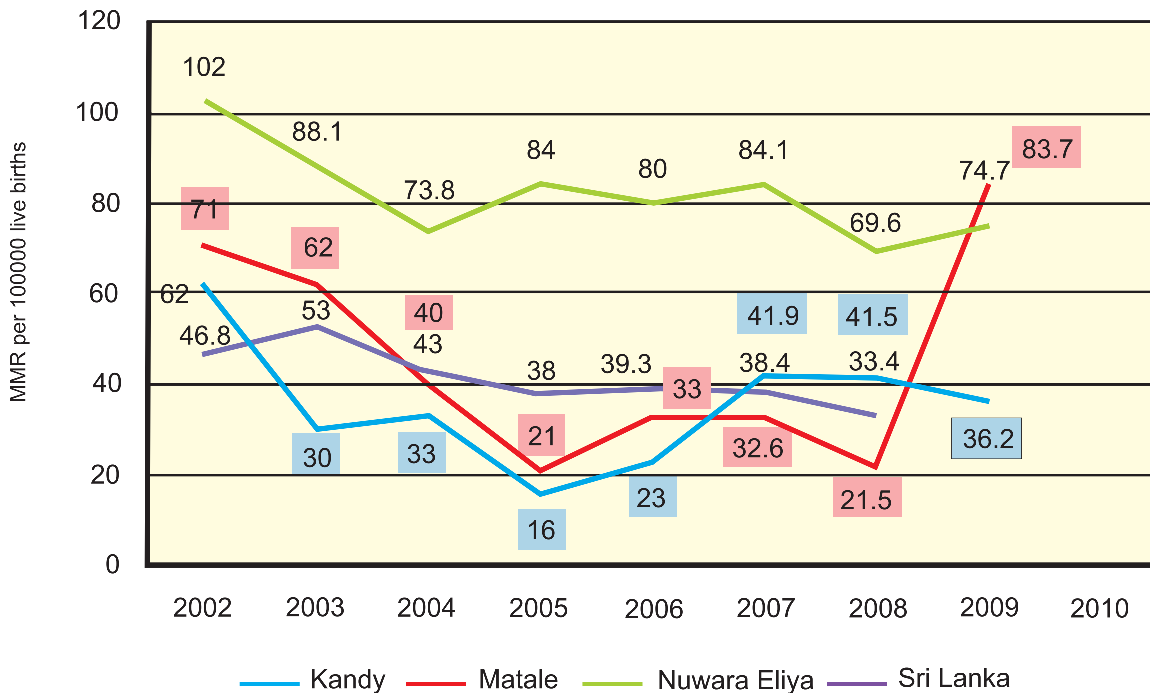
During 2009 the number of maternal related deaths reported from the health staff has increased to 52 from 38 reported in 2008. 27 deaths were confirmed as maternal deaths while 2 deaths classified as inconclusive at the District and National Maternal Mortality Reviews. Based on the national reviews the Provincial MMR of 55.9 per 100,000LB has been calculated. Matale District after several years of having a very low MMR had an increased number of unfortunate deaths. This increase resulted in Matale and Nuwara Eliya Districts reporting a higher MMR than the national ratio. The number of Direct maternal deaths have increased from 12 in 2008 to 18 in 2009. The number of Indirect deaths have decreased from 11 in 2008 to 09 in 2009. Septecemia and pregnancy induced hypertension were the leading cause of deaths reported. All efforts should be taken to minimize the preventable deaths further in the Central Province. There were 4 antenatal suicide deaths reported in 2009 slightly lower than the 7 deaths reported both in 2007 and 2008. These deaths need to be further investigated and early action taken to minimize such deaths. There were two dengue deaths reported during the year.

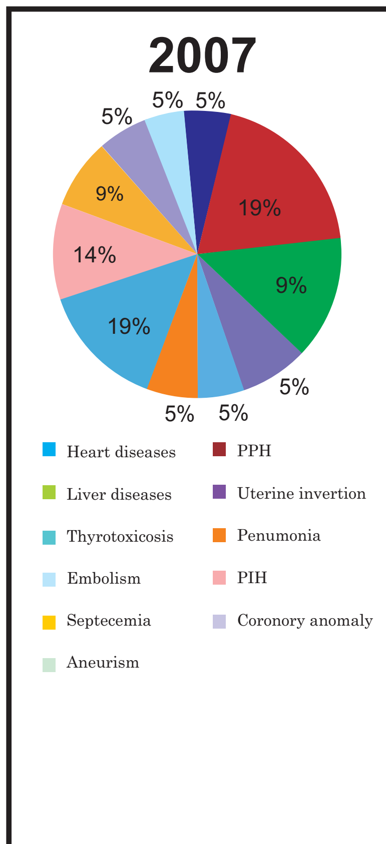
Table 5.9 Maternal Deaths according to classification

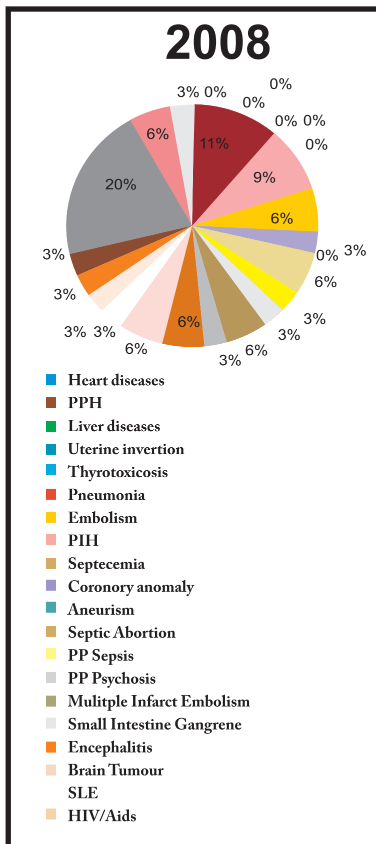
	Kandy	Matale	Nuwara Eliya	Total CP
Maternal related Deaths notified	24	13	15	52
Direct Maternal Deaths	04	05	09	18
Indirect Maternal Deaths	05	03	01	09
Late maternal deaths	Nil	Nil	01	01
Incidental	04	03	Nil	07
Inconclusive	01	Nil	01	02
Estimated Number Births*	27,593	9555	14,723	51,871
MMR (100,000 LB)	36.2	83.7	74.7	55.9

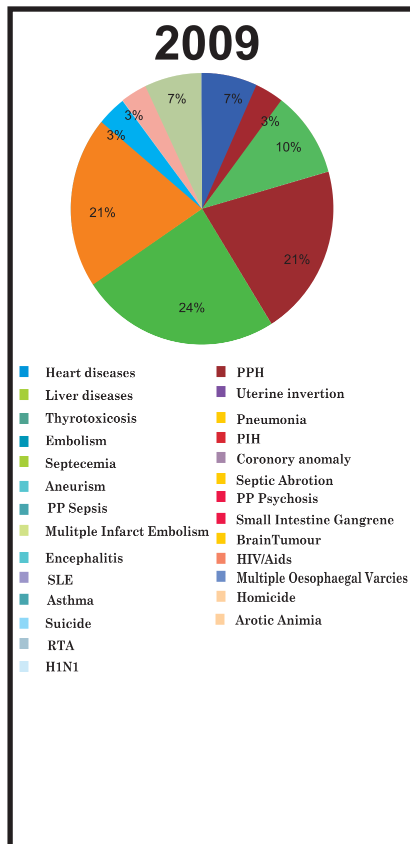
****Estimated Births calculated using Provincial CBR 19.5 per 1000LB***

Fig 5.1 Trends of Maternal Mortality Ratio by District of Central Province 2002-2009









5.2 School Health

The concept of "Kandurata Suwa Kekulu" Health promoting school concept continues to be advocated at Provincial and Zonal level and is done in partnership with the Ministry of Education. At present majority of schools in the Central Province adhere to health promoting school concept in various degrees. Provincial Health and Education Departments work together to strengthen this Concept and Several review meeting were held with officials from both Departments. A national circular from the Ministry of Education was circulated in October 2007 giving national guidelines on Health Promoting schools. The identification of a marking scheme under 23 areas has been circulated and an award scheme as Gold, Silver and Bronze certificates have been identified. The Provincial Departments of Health and Education was hopeful that the schools would be classified and had organized an award ceremony during the later part of 2009. This could not be done due to the lethargy and indifference at Divisional level despite several reminders. It is prudent that we use this to felicitate and recognize those schools which have achieved the cut off levels identified.

School Health includes the areas of Healthful school environment, School medical inspection and follow up, prevention of communicable diseases, Nutritional services, first aid and emergency care, mental health, dental health, eye care, health promotion and use of school health records.

School medical services include medical inspection of children, detection of and correction of health problems, providing immunization , worm treatment, provision of micronutrients to needy children and advice on health issues. The Public Health Inspectors conduct an annual sanitation survey in the schools in their respective areas. In 2009 sanitation survey has been completed in 1471 (99.2%) schools. The number of schools where there are adequate water and sanitation facilities were reported as 1111 (74.9%) and 733 (49.4%) respectively. The SMI coverage in the Central Province had a slight decrease from 95.8% in 2008 to 94.0% in 2009. This high coverage was achieved despite the Primary healthcare teams being involved in the epidemic control of Dengue and H1N1 and also schools being closed one month early due to the H1N1 epidemic. Special mention should be made of the PHC team at Hatharaliyadda which completed all School Medical Inspections during the school first term, which is laudable and also shows that if there is commitment all SMIs could be completed early. The same high coverage with improved quality of care should be strengthened in 2010. Out of the children examined the commonest health problems identified were dental caries, skin diseases, visual defects and heart disease.

Table. 5.10 School Health Activities in the Central Province.

Indicator	2007		2008		2009	
	Number	Percentage	Number	Percentage	Number	Percentage
Total Number of schools	1,488		1,499		1,483	
Total number of schools sanitation survey completed	1,342	90.2	1,472	98.2	1,471	99.2
Total number of schools with adequate drinking water facilities	810	60.4	1,255	83.7	1,111	74.9
Total number of schools with adequate sanitation facilities	747	50.2	766	51.1	733	49.4
Total number of schools SMI completed	1,433	96.6	1,436	95.8	1,394	94.0
Number of children enrolled in year 1,4,7			245,505		126,103	
Number of children examined in year 1,4,7	103,372		*163,885	66.8	106,929	84.8
Stunted	9,176	8.9	*9,449	5.8	6,145	5.7
Wasted	16,983	16.4	*25,359	15.5	16,488	15.4
Over weight	1,052	1.0	*1,973	1.2	1,288	1.2
Total number of defects identified during SMI	67,622		*103,936		84,753	
No. school health clubs functioning	294	22.6	241	16.1	498	33.6
Number of Health promoting schools	408	28.7	540	36.0	533	35.9

· ***included children in year 10***

5.3 Well Women Clinic Services

The concept of well women clinics was introduced in 1996 to screen women for reproductive organ malignancies as part of the reproductive health programme. Ten years after initiation not only in the Central Province but also at national level the progress of programme has been extremely slow. The Family Health Bureau has changed the strategy to target at least the women reaching 35 yrs of age (cohort of 35yrs) during the past few years. In 2009 only 16.2% of the targeted women 35yrs of age have been reached by the WW program. In the Central Province the number of WWC increased to 72 by the end of 2009. The performance reported at WWCs during 2009 is given in the table below.

Table. 5.11 Performance in Well Women Clinics in the Central Province.

Indicator	2008		2009	
	Number	Percentage/ incidence*	Number	Percentage/ incidence*
Total clinic sessions held	1,214		1,137	
First visits to clinic age under 35 yrs	2,318	15.2	1,550	12.1
First visits to clinic age 35 yrs	4,009	26.3	4,310	33.8
First visits to clinic age over 35 yrs	8,927	58.5	6,882	54.0
No. of women subjected to breast examination	15,762	100.0	12,063	94.7
Breast abnormalities detected	310	*2.0	257	*2.1
Number of women subjected to cervical visualization	13,699	89.8	11,049	86.7
Number Pap smear taken	12,290	80.6	10,111	79.4
Number reports received	5,817	47.3	5,598	55.4
Cervical smears reported as CIN positive	45	*0.8	20	*0.2
Diabetes mellitus detected	306	*2.0	326	*2.6
Hypertension detected	785	*5.1	645	*5.1

- *Incidence per 100 women examined*

The above data show a gradual increase in the number of clinics conducted. The take up of these services are extremely slow. Every effort should be taken in 2010 to make sure that at least the cohort of women 35 years of age are alexamined in the WWCs through active outreach services. Pap smear reading in the tertiary care institutions within the Province needs to be advocated and strengthened.

5.4 Family Planning

During 2009 a total of 31,134 new acceptors were recruited which is slightly lower than the new acceptors recorded in 2008. Temporary methods accounted for 92.3% and a slight increase was seen in the number of permanent methods in 2009 as compared to 2008. This was due to the proactive action by the Obstetric departments in the secondary and tertiary care institutes to do sterilizations despite various odds and also the NGOs supporting special FP programmes in the estate sector. This needs to be further strengthened and services made available to all those families requiring permanent methods of family planning. The distribution and pattern of new acceptors are given in the table below.

Table. 5.12 Family Planning new acceptors

	New acceptors for IUCD	New acceptors for injectables	New acceptors for oral pills	New acceptors for Tubectomy	New acceptors for Norplant	Total New acceptors
2005	4,825	16,873	5,754	184	-	27,636
2006	5,169	15,973	5,634	697	-	27,473
2007	7,774	13,647	5,841	702	-	28,124
2008	7,322	14,777	6,057	2,370	3,112	33,638
2009	5,988	14,692	5,445	2,401	2,608	31,134

Of the eligible families under care 222,373 families were reported to be using a modern family planning method thus computing a current user rate of 51.7%. This rate is much lower than the 59.2% reported in 2008. The percentage of families with unmet need of family planning has decreased to 7.1% from 7.5% reported in 2008. A more strategic plan is required at MOH level to reduce the unmet need in 2010.

5.5 Epidemiological surveillance

Surveillance of notifiable diseases is a major routine activity carried out through the public health system, where all Medical Officers of Health send the weekly return on communicable diseases. 93.5% of the weekly returns were received by the Epidemiology unit in 2009 as compared to 90.4% in 2008. Out of the returns sent 8.8% returns were nil returns as compared to 16.3% nil returns in 2008. It is important that all MOHs should ensure that the weekly return is sent on time while also visiting each of the hospitals in the area and all private practitioners to assist in increasing notifications. The number of cases notified in 2009 for selected notifiable diseases in the CP is given below. Out of the notifications majority of the cases reported were Dengue, Leptosprosis and water borne diseases.

This reflects that a strategic approach is required to control dengue, leptospirosis and water borne diseases in the Central Province, while also strengthening the notification system.

Table 5.13 Selected notifiable diseases reported in the Central Province

	2007		2008		2009	
	Number	Incidence per 100,000 pop	Number	Incidenc e per 100,000 pop	Number	Incidence per 100,000 pop
Dengue fever/DHF	577	22.6	612	23.8	6562	252.7
Dysentery	805	31.6	882	34.3	957	36.0
Encephalitis	14	0.5	24	0.9	14	0.5
Enteric Fever	228	8.9	388	15.1	271	10.4
Food Poisoning	398	15.6	287	11.2	909	35.0
Leptospirosis	336	13.2	1468	57.1	628	24.2
Typhus Fever	130	5.1	155	6.0	266	10.2
Viral Hepatitis	2677	104.9	274	10.6	357	13.4

Source: WER

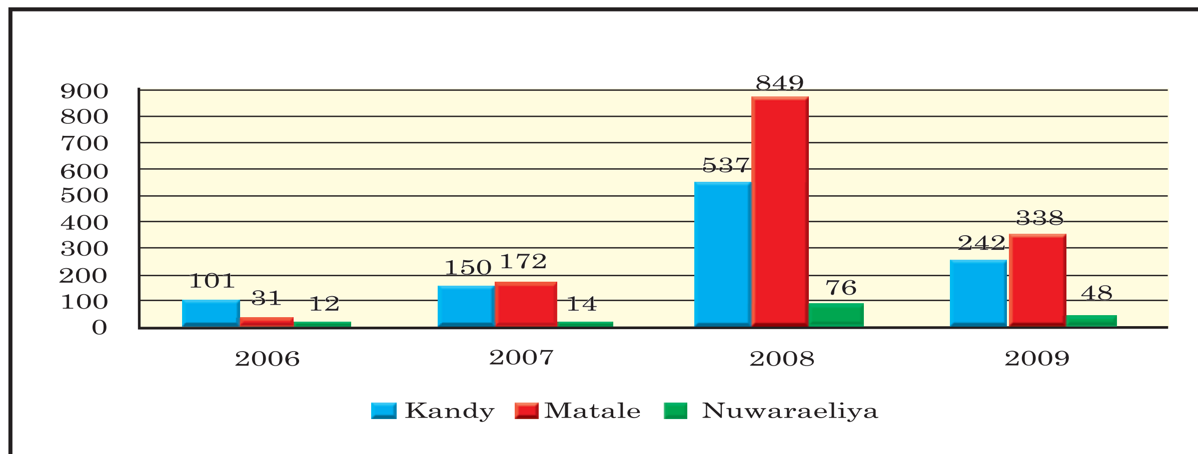
5.5.1 Surveillance of Leptospirosis

The number of leptospirosis cases notified in the Central Province has decreased by 57% from 1468 (57.1 per 100,000 pop) in 2008 to 628 (24.2 per 100,000 pop) in 2009. The total number of leptospirosis cases notified in Sri lanka has also seen an decline of 34% during 2009, from 7421 cases notified in 2008 to 4925 cases in 2009. 12.8% of the total cases in Sri lanka was reported from the CP. Both Matale and Kandy Districts come within the 9 Districts reporting over 200 cases. Over the years, there has been an increase in the number of leptospirosis cases reported. The number of notified cases do not reflect the actual incidence of leptospirosis as patients with the mild form of disease do not seek treatment at all or they are treated at the OPD.

In addition, a large number of patients seek treatment at the private hospitals and these cases are generally not notified. Paddy cultivation takes place in most of the high risk areas and the peak incidence is observed during paddy sowing and harvesting seasons. Increase in the rodent population in and around paddy fields during these periods contributing to this. This seasonal trend is important to be highlighted as it helps in planning prevention activities including provision of chemoprophylaxis to high risk groups.

In addition to routine surveillance activities, hospital- based sentinel surveillance was started in 2004 in order to obtain more information on the epidemiology, exposure history, clinical presentation, laboratory investigation and prophylactic treatment. This information is to facilitate/ revise prevention and control strategies. There are 7 hospitals out of the 52 sentinel hospitals within the CP.

Fig. 5.2 No of Cases of Leptospirosis

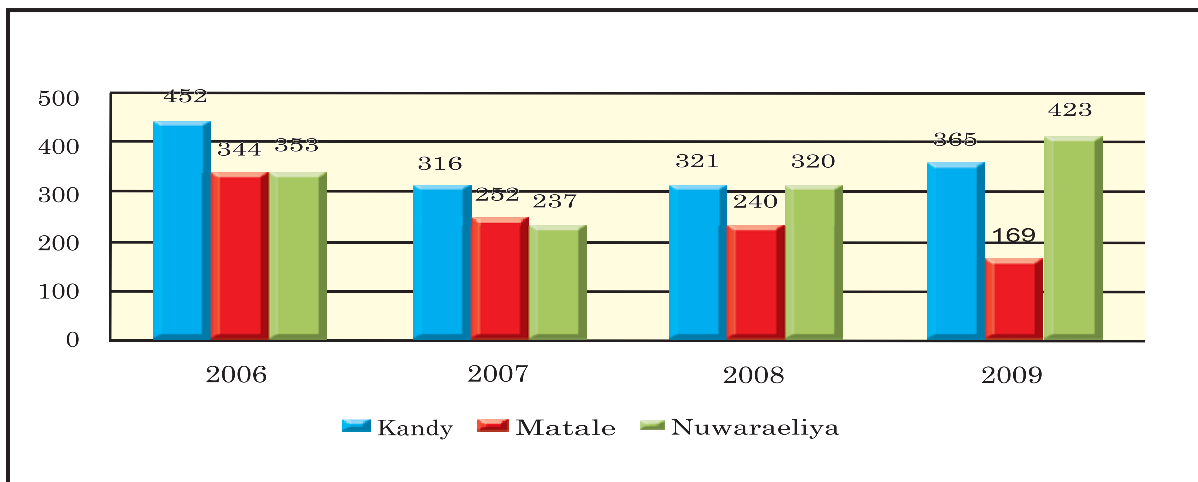


The need to prepare action plans with the support of other relevant sectors was identified in 2008 and in early 2009 a plan focusing more on environmental measures, improved disease surveillance, public awareness, intersectoral coordination, improved clinical management including laboratory surveillance and chemoprophylaxis were implemented which showed a reduction of cases in 2009. These activities should be further strengthened in 2010.

5.5.2 Surveillance of Dysentry

In the 2009, 957 cases of dysentery were notified in the Central Province at a notification rate of 36.0 notifications per 100,000 population. This is 12.7% of the total notifications of 7529 cases reported in Sri Lanka. Dysentry continues to be an endemic disease with gross under reporting due to most patients seeking treatment from the private sector. More effort needs to be taken to ensure that the notification improves in the Province. There were NO out breaks of dysentry reported in the year 2009 despite high risk conditions prevailing. A detailed multi-sectoral medium and long term plan needs to be prepared in the Central Province if the burden of water borne diseases is to be reduced.

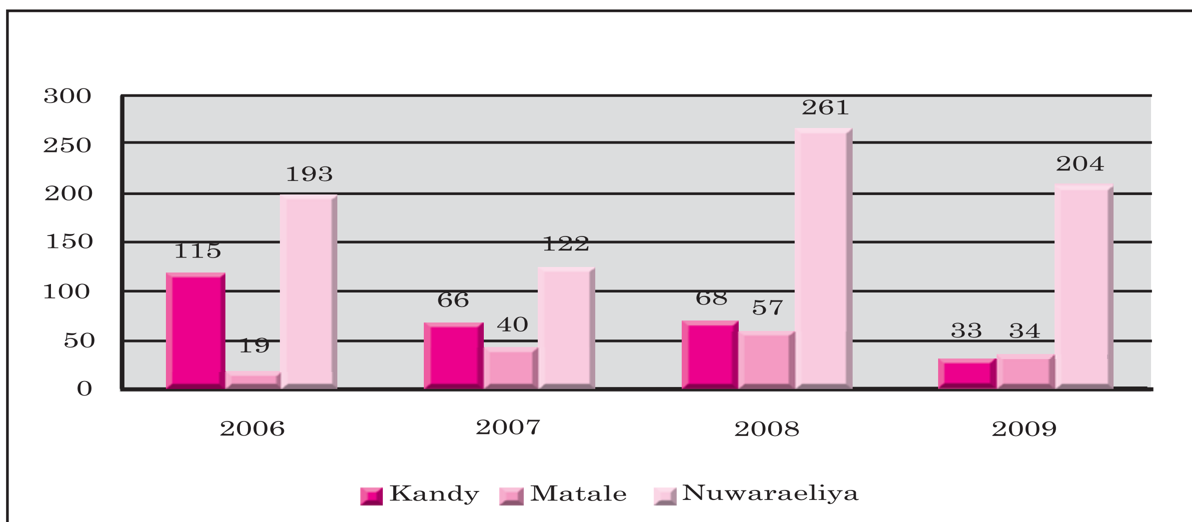
Fig 5.3 No of Cases of Dysentery



5.5.3 Surveillance of Enteric Fever

A total of 271 (notification rate of 10.2 per 100,000 pop) cases were notified in 2009 as compared to 388 cases of Enteric fever notified in 2008. A total of 2362 enteric fever cases were notified in 2009 from the entire country at a notification rate of 11.55 notifications per 100,000 population. Nuwara Eliya District continues to report a high number of cases due to the outbreak of enteric fever in the Walapane MOH area in the Nuwara Eliya District which was controlled thanks to the dedicated effort of the health staff at Divisional and District level. In addition to the 550 toilets constructed in 2008 in the kuruduoya catchment area another 120 toilets were constructed in 2009 with the support of funds from the Ministry of Healthcare and Nutrition. The subsidy of Rs. 15,000/= per toilet (50% of the total cost) was provided to beneficiaries

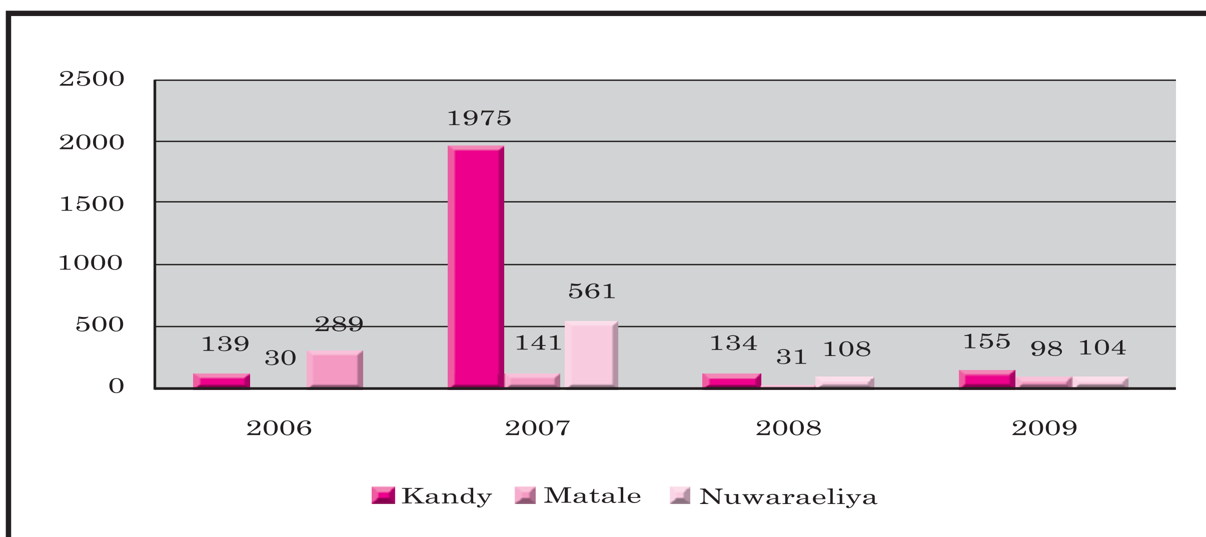
Fig. 5.4 No of Cases of Enteric Fever



5.5.4 Surveillance of Viral Hepatitis

In the year 2009, 357 cases of viral hepatitis were reported from the Central Province with a notification rate of 13.4 per 100,000 Population, compared to 274 cases in the year 2008. The percentage of viral hepatitis patients reported from the Central Province was 5.2% of the national reported figure of 6855. The out break of Hepatitis in 2007 was controlled with short term measures taken in 2007 hence it is important to focus on longer term sustainable measures to ensure similar epidemic would be prevented in the future. The Provincial Department of Health requested the Ministry of Healthcare and Nutrition to support in strengthening the sanitation in the catchment area. Out of the total of 1777 toilets required 950 toilets were constructed in 2008 with the support of the Ministry of Healthcare and Nutrition by providing a subsidy of Rs.15,000/= to beneficiaries. The balance toilets need to be constructed in 2010 while also focusing on strengthening the protection of water sources in the respective MOH areas of Udapalatha , Kothmale and Doluwa.

Fig 5.5 No of Cases of Viral Hepatitis



5.5.5 Surveillance of Dengue Fever/Dengue Haemorrhagic fever

Dengue fever is endemic in the Central Province and epidemics have been occurring with increased magnitudes periodically since 2002. The worst epidemic was reported in 2009 with 39,008 cases and 346 deaths reported in Sri lanka of which 6638 cases and 51 deaths reported in the CP (detailed report provided on page 123 with a morbidity and mortality much higher than the reported epidemic in 2004 where 15,467 suspected cases and 88 deaths were reported in Sri Lanka, while the figure in the CP was reported as 2697 and 10 respectively. The incidence rate and Case fatality rate for the CP is given in the table below. The seasonal increase in the incidence which occurs in relation to the monsoon rains is given below.

Table. 5.14 Deaths due to DH/DHF From 1999-2009 in Central Province

Year	No. of cases	No. of Deaths	CFR%
1999	53	0	0
2000	328	2	0.60
2001	716	4	0.55
2002	950	8	0.84
2003	730	4	0.54
2004	2697	10	0.37
2005	585	3	0.51
2006	1906	9	0.47
2007	565	3	0.53
2008	612	2	0.33
2009	6638	51	0.77

Fig. 5.6 Dengue Cases in Central Province 1999-2009

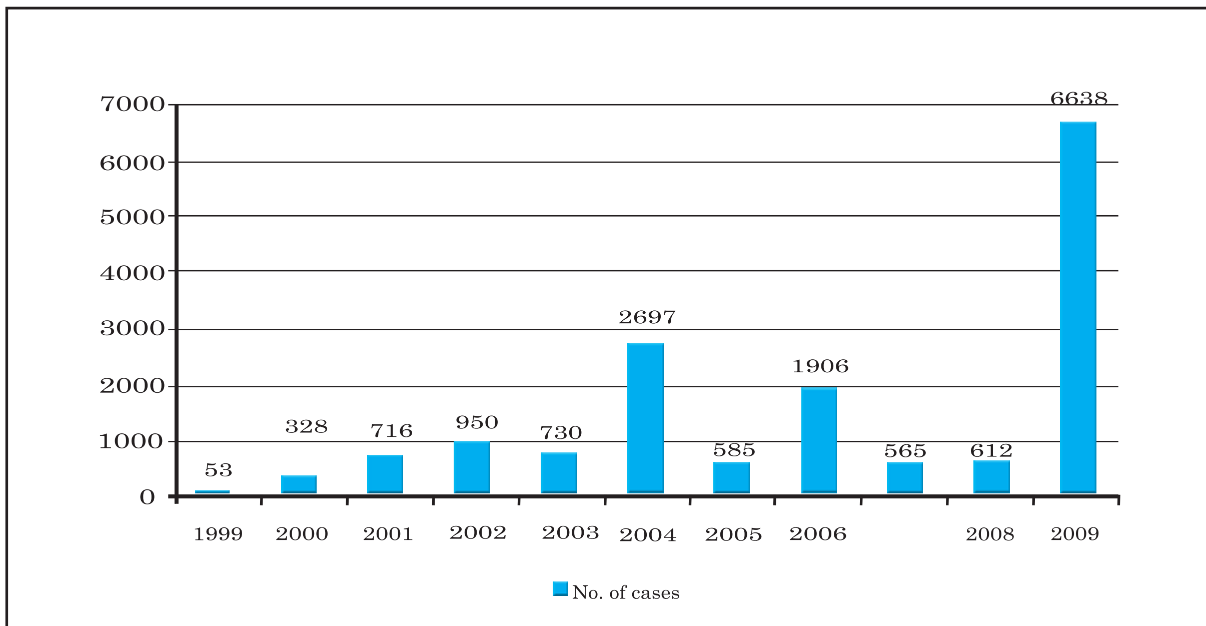
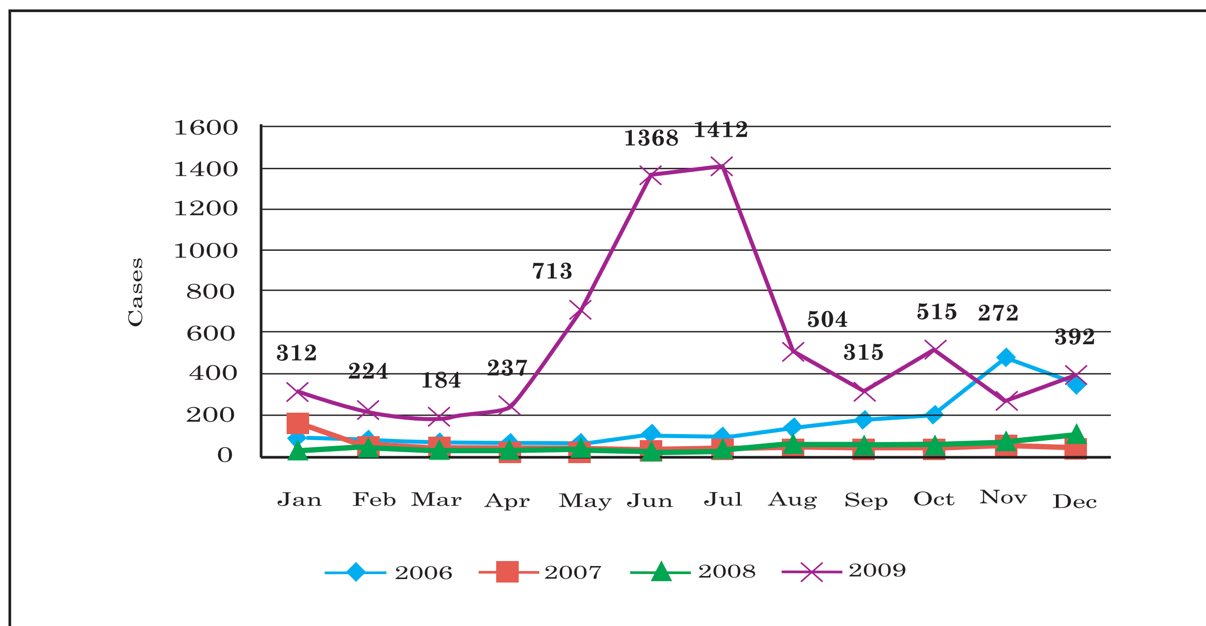


Fig. 5.7 Distribution of Dengue cases by Month in Central Province -2006-2009



The MOH divisions which report a high case load are Kandy Municipal Council, Yatinuwara, Udunuwara, Gangawata Korale, Gampola ,Kundasale, Pathadumbara and Harispattuwa in the Kandy District , Ukuwela, Galewela, Matale, MC Matale and Rattota in the Matale District and Rikillagaskada in the Nuwara Eliya District.

Entomological investigations

Entomological investigations plays a very important role in dengue control. It provides information on the breeding sites and dynamics of breeding sites of dengue vector mosquitoes, Aedes aegypti and Ae. albopictus, vector density (container index, house index and breteau index) and high risk institutions for Aedes aegypti and Ae. albopictus breeding. This information helps to detect the periods of dengue transmission beforehand and thereby to take appropriate action at the correct time. In the year 2009, comparatively high Ae. aegypti and Ae. albopictus density was observed in many MOH areas,namely, Matale and Ukuwela in the Matale District, and Akurana, Gampola, Gangawatakorale, Galagedera, Kundasale, Kurunduwatta, MC Kandy, Menikhinna, Pasbage, Poojapitiya, Talatuoya, Udunuwara, Wattegama, Werellagama and Yatinuwara in the Kandy District. In the Nuwara Eliya District, there is an increase of Ae. aegypti density in recent times. In the year 2008, high Ae. aegypti/ Ae. albopictus density was observed in MOOH areas Ambagamuwa, Hanguranketha and Kotmale. In 2009, 22,988 houses visited with of which 5.0 % are positive for dengue vector breeding. Compared to 2008, more surveys have been carried out in 2009. Nuwara Eliya is established with Ae. aegypti. Since cases are reported from these areas, the areas remain vulnerable for dengue transmission

During the entomological surveys high risk institutions such as temples, schools, government offices, bus depots, private hospitals, factories and business sites were examined in addition to houses in high risk areas. All these types of institutions were found positive for Ae. aegypti and Ae. albopictus breeding making these institutions highly vulnerable for dengue transmission in spite of considerable health education programmes carried out in the year.

Table 5.15. Dengue Vector Surveillance by type of institution

District	Institution	No. examined	No. positive for Ae. aegypti/ Ae. albopictus	% of institutions positive for Ae. aegypti/ Ae. lbopictus
Kandy	Government offices	56	36	64.3
	Schools	40	13	32.5
	CTB Depot	4	3	75.0
	Private hospitals	3	1	33.3
	Temples	1	1	100.0
	River banks	1	1	100.0
	Business sites (factories)	3	3	100.0
Nuwara Eliya	CTB depot	2	1	50.0
Matale	Commercial sites	250	6	2.4%
	Govt.institutions	52	2	3.8%
	Religious sites	1	-	0.0%

Table 5.16 Dengue Vector surveillance

MOH area	No. of surveys done	No. of houses surveyed	No. of houses positive for Ae. aegypti and Ae. a lbopictus	No. of conta iners exam ined	No. of containers positive for Ae. aegypti andAe. albopictus	PI%	CI%	BI
Kandy District								
Akurana	26	2,444	185	1,994	189	1.9 -27	4-46.7	1.9 -16
Doluwa	1	105	1	74	1	1	1.3	1
MC Kandy	32	2,299	131	1,704	153	4-32	1.9 -26.6	4.9-12
Kundasale	5	560	36	429	55	1.9-11.8	2.0-12.3	1.9-28.7
Udunuwara	18	1,938	80	1,392	87	1-14.5	1.7-14.8	1-15.5
Poojapitiya	5	358	32	397	27	2.6-11.6	4.2-26.8	3.5-10
Talatuoya	4	359	29	306	35	3 -7.6	7.4-19.5	6 -7.6
Galagedera	16	1,580	54	1,220	55	0.9-8	2.5-17.3	0.9-8
Gangawatakorale	9	663	42	841	48	4.5-14.2	3.9-30	4.9-12
Kurunduwatta	3	254	16	287	18	6	5.8-7.4	6-7.9
Menikhinna	5	406	31	395	35	4-13.6	4.7-15.5	3.9-14.5
Yatinuwara	13	1,109	40	736	38	0.9 -6	3.1 -9.7	0.9 – 7.9
Gampola	19	2,056	117	1,890	121	1.9-16.7	2-12	1.9-12.7
Nawalapitiya	10	1,176	50	1,131	65	1.4-9.4-14	1.4-11.9	1.8-14
Wattegama	9	853	27	792	30	1.7-5	1.4-6.6	1.7-5
Werallagama	4	363	14	974	15	1.9 -5.9	1.3-15.5	1.9-6.7
NuwaraEliya District								
Kotmale	2	269	28	302	37	9-12	12.1-12.4	11-17.2
Hanguranketha	3	270	7	216	12	1.7-5	1-8	1
Ambagamuwa	1	102	10	111	14	9.8	12.6	12.7
Matale District								
Dambulla	01	103	03	76	03	00	00	00
Galewela	06	588	12	353	11	2-4	2-8.8	2-4
Matale	07	568	39	518	42	2.5-18.33	4-16.21	2.53-20
Matale MC	12	1,058	18	892	21	1.-12	1-13.08	1.-8
Pallepola	03	246	15	102	16	5.61-7.2	11.53-26	6.4-7.2
Rattota	12	1,117	25	940	27	1.16-5	1.04-10	1.16.-7.5
Ukuwela	18	1,524	75	1,332	87	2.04-16	1.8-13	2.04-18
Yatawatta	07	517	30	487	56	2.77-9	3.17-22.2	3.17-4.14
Wilgamuwa	02	103	05	99	24	05	6.32-26.5	4.8
Naula	-	-	-	-	-	-	-	-
L/Pallegama	-	-	-	-	-	-	-	-

Entomological surveys also indicate that there is a high percentage of potential breeding sites in all high risk areas in addition to the actual breeding sites. These containers needs to be eliminated or properly managed in order to achieve effective dengue control in the Province.

Programmes to introduce larvivorous fish Poecilia reticulata were not carried out in Kandy and Nuwara Eliya Districts . In the Matale District 65 fish in the Matale MOH, 8567 fish in the Dambulla MOH,1041 fish in Galewela and 7422 fish in the Laggala Pallegama.

A considerable increase in the number of space spraying (fogging) rounds were carried out in 2009 as compared to that of 2008. This is because in 2009 the Province experienced a severe epidemic of dengue and DHF. The number of rounds of space spraying in each MOH area is given in the table 5.17.

Table. 5.17 Number of rounds of space spraying in the MOH areas

MOH area/ Institution	2008			2009		
	No. of patients covered	No. of rounds	Amount of insecticide used (lit)	No. of patients covered	No. of rounds	Amount of insecticide used (lit)
Kandy District						
Akurana	0	0	0	993	08	8.0
Galagedera	0	0	0	215	01	0.5
Galaha	0	0	0	0	0	0
Gampola	0	0	0	354	08	4.7
Gangawatakorale	0	0	0	136	17	1.841
Poojapitiya	0	0	0	116	02	1.32
Yatinuwara	0	0	0	52	1	0.160
Udunuwara	0	0	0	187	06	9.125
Kandy MC	0	0	0	556	11	4.43
Kundasale	0	0	0	176	15	2.914
Medadumbara	0	0	0	0	0	0
Menikhinna	0	0	0	37	1	0.7
Nawalapitiya	0	0	0	23	01	0.520
Talatuoya	0	0	0	54	2	0.292
Wattegama	0	0	0	52	1	0.192
Werellagama	0	0	0	76	03	1.8
Nuwareliya District						
Rikillagaskada	0	0	0	15	02	0.140
Kotmale	0	0	0	17	01	0.300
Matale District						
MC Matale				32	37	1.08
Matale	8	2 (1)	1.2	18	23	3.71
Ukuwela	6	2	1	38	30	4.4
Rattota				27	11	0.4
Wilgamuwa				6	1	0
Pallepola				2	4	0.4
Yatawatta	1	1	0.2	6	4	0.4
Dambulla				1	1	0
Galewala	2	1	0.5	1	1	0.4

5.6 Expanded programme on immunization

The national immunization programme has been a successful and a model programme for developing countries. According to the routine information system virtually all eligible children and women through out are receiving all the scheduled vaccines. Periodical surveys and the recently concluded DHS 2006 have all verified this high coverage. The high immunization coverage has resulted in the decline in the targeted diseases reported. EPI coverage data based on the EPI quarterly returns show a high coverage for all vaccines given during infancy and childhood despite the negative publicity given by the press for suspected vaccine related deaths reported in 2008. The negative publicity given by the media had a temporary effect on the national programme which is reflected in the vaccination coverage. Primary Healthcare staff need to be vigilant and ensure proper investigation of child deaths are carried out to report any suspected vaccine related death. However the coverage for antigens administered during school years is yet to reach the desired levels which was further affected due to the two suspected vaccine related deaths of school children after the rubella vaccine. District level programe managers and Divisional level staff should ensure that all adverse events are reported early and national guidelines followed in all immunization settings. National, Provincial and District level programme mangers should be trained in risk communication and also have a good rapport with the media to ensure rational media reporting. The Health Department will have to further strengthen the EPI programme at the grass root level to win the confidence of the general public.

Table. 5.18 Trends on selected vaccine preventable diseases

Year	Tetanus		Whooping Cough		Measles		Encephalitis		Viral Hepatitis	
	Central Province	Total Sri lanka	Central Province	Total Sri lanka	Central Province	Total Sri lanka	Central Province	Total Sri lanka	Central Province	Total Sri lanka
1990	5	58	21	281	88	1315	8	310	644	2768
1992	5	77	10	33	11	303	10	195	1676	6895
1996	5	67	2	27	2	55	3	295	662	3690
1997	4	42	29	405	84	147	14	109	1090	3830
1998	7	61	14	152	32	65	15	93	409	2814
1999	3	46	7	85	128	1861	2	89	118	1589
2000	5	45	10	134	661	13216	4	122	167	1486
2001	8	72	3	43	24	267	1	59	396	2034
2002	0	34	1	14	11	139	0	68	810	2936
2003	6	40	5	118	22	114	10	165	725	2984
2004	4	44	9	50	13	86	2	111	324	2220
2005	7	37	1	114	10	48	7	60	131	2294
2006	3	45	2	71	7	36	16	130	462	2765
2007	3	39	2	47	21	81	14	203	2681	5869
2008	9	36	5	57	18	105	24	261	274	1930
2009	3	29	7	66	21	176	14	223	357	6855

Table. 5.19 Immunization coverage in the Central Province

	2008			2009		
Antigen/ Dose	**Number**	**% Coverage estimated births**	**% Coverage DPT 1**	**Number**	**% Coverage estimated births**	**% Coverage DPT 1**
DPT 1	48,850	97.4	100.0	46,436	89.5	100.0
DPT 2	47,401	94.5	97.0	46,318	89.3	99.7
DPT 3	45,728	91.1	93.6	46,042	88.8	99.2
OPV 1	46,999	93.7	96.2	46,241	89.1	99.6
OPV 2	46,840	93.4	95.9	46,091	88.9	99.3
OPV 3	46,216	92.1	94.6	45,801	88.3	98.6
Hep B 1	32,149	64.1	65.8	46,491	89.6	100.1
Hep B 2	39,714	79.1	81.3	46,380	89.4	99.9
Hep B3	45,847	91.4	93.9	46,057	88.8	99.2
Measles	47,087	93.8	96.4	47,186	91.0	101.6
MR	46,359	92.4	94.9	40,593	78.3	87.4
DT 5 years	45,293	90.3	92.7	45,935	88.6	98.9

The reporting of adverse events following immunization (AEFI) has shown a decline in 2009. The AEFI reporting in all 3 Districts have improved in 2009 as compared to 2008 but the reporting in the Nuwara Eliya District still remains relatively low. The reporting of AEFI and the timeliness of the reports needs to be strengthened in 2010. The percentage of nil reports received shows an increase this should be verified at MOH level to minimize under reporting.

Table. 5.20 Reporting of Adverse Events Following Immunization in Central Province

	2008			2009		
	Number	**Percentage**	**Sri Lanka Percentage**	**Number**	**Percentage**	**Sri Lanka Percentage**
Completeness	586	99.7	98.0	583	99.1	95.4
Timeliness	222	37.9	40.8	271	46.1	43.7
Nil Returns	176	30.0	37.0	250	42.5	40.9
Total no. AEFI	1051	*121.9	*97.7	820	*98.8	*97.9
Abscess reported	73	*11.6	*14.7	41	*6.9	*14.4
Severe local actions reported	64	*10.1	*12.2	35	*5.9	*12.2

Source: Epidemiology unit *** Rate per 100,000 doses**

5.7. Environment Health

The Ministry of Health is not directly responsible for the provision of water. However through the primary healthcare workers health education is carried out to motivate people to consume water which is safe. Inadequate latrine facilities are still a problem in the Central Province being more acute in the Nuwara Eliya District. The monitoring of Environmental Health activities are through the quarterly return on Environment Health. It is noted that the District health managers do not give adequate attention to the timely collection and collation of this return. This needs to be addressed as a priority in 2010. Water and sanitation coverage reported for the Province for 2009 was 64.2 % and 79.7% respectively. During the year 3373 latrines were constructed in the Province. The Central Provincial council needs to identify the necessary funds to provide financial assistance of Rs. 6000/= to families with an income of less than Rs. 2500/= to promote the construction and renovation of latrines. During the year the Ministry of Healthcare and Nutrition provided a subsidy of Rs. 15,000/= for the construction of 674 toilets in 2009 mainly in the estate sector to protect the water sources identified for the increase in water bourne diseases in the Nuwara Eliya, Kothmale, Rikillagaskada, Walapane, Rattota and Ukuwela MOH areas.

Table. 5.21 Water & Sanitation activities provided by Public Health Inspector

Indicator	2008		2009	
	Number*	Percentage	Number*	Percentage
Number of Houses in the sanitation Register	533,198		533,911	
Number of houses with sanitary latrines	429,502	80.6	425,776	79.7
Number of houses without sanitary latrines	103,696	19.4	108,135	20.3
Number of latrines constructed during the year	4350		3373	
Number of houses with pipe borne water connection	241,755	45.3	245,713	46.0
Number of houses using water from protected and deep wells	100,974	18.9	97,402	18.2
Number of houses using water from unprotected and other sources	190,469	35.7	190,796	35.7
Number of public water supplies sampled	402		984	
Number of private water supplies sampled	33		279	
Number of wells chlorinated	3957		5048	

* Excluding information from MC Kandy which were not received

Food safety and hygiene activities reported during 2009 show that a gradual improvement in the rating of all types of food establishments. This needs to be further monitored at Divisional and District level in 2010. Closer monitoring using the revised H 800 with sub grouping in "B category" and "C category" would enable to see more clearly the improvement in each of the categories. Inspection of food handling establishments have increased in 2009 as compared to 2008. Details of Food safety and hygiene activities are given in the table below. A total of 2156 formal samples were sent by authorized officers in the Central Province of which 659 were found to be unsatisfactory. A total of 513 prosecutions were done.

Table. 5.22 Food Safety & hygiene activities provided by Public Health Inspector

	2007		2008		2009	
	No. registered	Percentage	No. registered*	percentage	No. registered	percentage
Registration of food handling establishments						
Factories	687		550		622	
A grade satisfactory	317	46.1	270	49.1	211	33.9
B grade fair	358	52.1	238	43.3	352	56.6
C grade unsatisfactory	12	1.7	42	7.6	59	9.5
Bakeries	837		689		640	
A grade satisfactory	329	39.3	310	45.0	286	44.7
B grade fair	419	50.1	319	46.3	303	47.3
C grade unsatisfactory	89	10.6	60	8.7	61	8.0
Hotel, Restaurants	1230		1121		927	
A grade satisfactory	563	45.8	526	46.9	423	45.6
B grade fair	482	39.2	463	41.3	343	37.0
C grade unsatisfactory	185	15.0	132	11.8	161	17.4
Inspection of Food handling establishments						
Number inspections	18452	-	21179		22800	
Number served notice	894	4.8	862	4.1	1055	4.6
Number prosecuted	118	13.2	179	20.8	410	38.9
Number convicted	74	62.7	101	56.4	146	35.6

Food Sampling						
Number formal samples taken	1122	-	1360		2156	
Number unsatisfactory	306	27.3	394	29.0	659	30.6
Number prosecuted	226	73.9	386	98.0	513	77.8
Number convicted	101	44.7	236	61.1	406	79.1
Number of formal iodized salt samples taken	159		190		293	
Food seizures						
Number of food seizures	7130	-	5146		4766	
Number of awareness prg. on food safety						
Traders	943	-	1059		814	
Public and other groups	2186	-	2597		2970	

* Excluding information from the MC Kandy

The area of food safety needs to be further strengthened in 2010.

Occupational Health activities reported show that 920 factories are registered with the Health sector. During inspections 422 defects were found of which 93 were referred to special units.
4147 Environmental pollution problems were reported in 2009 of which 82.6% were investigated by the PHI. 31 were referred for action while 3076 were settled.

238 volunteers were recruited in 2009. By the end of 2009, 4228 Volunteers were reported to be assisting in preventive Health activities in the MOH areas.

5.8 Health Promotion Activities

Health education is an integral part of Healthcare that is concerned with promoting healthy behavior. A person's behavior may be the main cause of the health problem. However it can also be the main solution. Through health education we help people understand their behaviors and how it affects their health. Health education encourages behaviors that promote health, prevent illness, cure diseases and facilitate rehabilitation. Health promotion is defined as the process of enabling people to increase control over and to improve their health. The Ottawa charter for health promotion has identified 5 main actions; Build healthy public policy, Create supportive environment, Strengthen community action, Develop personal skills and Reorient health services.

Health promotion activities have been decentralized to the Provinces and are being coordinated by Health Education Officers. The role of Health Education officers in

planning ,implementing, monitoring and evaluating health promotive programmes are critical if we are to see a behavior change in the community. The new guidelines developed by the Health Education Bureau has paved the way to strengthen health promotion activities in the Province.

Table 5.23 Health Promotion Activities carried out in the Central Province

Indicator	2007		2008		2009	
	Number of Programmes	Number Trained/ participated	Number of Programmes	Number Trained/ participated	Number of Programmes	Number Trained/ participated
1-Public Health staff - B.C.C. Training	12	485	10	382	15	517
- I.E.C. Material production Workshops - Other	08	237	Nil 12	1,250	07	147
2- Hospital H .E. - No. of HE units	18	-	19	-	23	
- B.C.C. Training	03	135	04	130	4	132
- other			01	15	14	273
3- School H.E. - Seminars for students and teachers - Special Programs (ex. Quiz prog., Poster comp.)	159 03	17,817 130	95 04	16,105	53 02	10,154
4- Community Awareness using Mobile van	146	8,716	204	18,442	166	12,839
- Exhibition	10	5,000	09	13,000	05	12,500
5- Government and other departments	20	562	15	737	Nil	
- 6- Special days (Eg. World Health Day….) Activitywalk, Exhibition….	11	2,250	08	2,214	08	2,050
7- Health promoting village programme leaders/volunteer training			03	135	04	118
- No. Programmes initiated			12		14	
- No. functioning			14		14	
8- HE material production & distribution	-	-				
–Material ublication/production - Item No			01		03	115,000
Material distribution (from HEB and other)CDs				738		476
Leaflets				22,350		110,00
Posters				8,020		12,000
Other						5,440
9- Operational Research	Nil		Nil			Nil

Special programmes and exhibitions were conducted to mark special days such as World Health day, World Hand Washing day, Sisu Mahapola Exhibition. The health promotion activities need to be strengthened in 2010. The number of Health Education officers actively providing services is inadequate as 2 officers have been attached to other Departments on secondment. The health Promotion and NCD units need to be strengthened with the required multi disciplinary staff.

5.9 Cosmetics Drugs and Devices

The primary goal of the Cosmetic, Drugs and Devices act No. 27 of 1980 and amendments was the protection of public welfare through regulating control of the manufacturing, importing, transportation, storing and selling of cosmetics, drugs and devices. Few can deny that the public should be protected or that Government should play a role in the protective effort. In Sri Lanka without a license issued by the Drug Regulatory Authority no person can manufacture, import, store, transport or sell cosmetics, drugs and devices. The authorized officers around Sri Lanka such as Provincial Directors of Health Services, Regional Directors of Health Services, Medical Officers of Health and Food and Drug Inspectors ensure that the act is implemented.

The Food and Drug Inspectors play a key role to ensure that regular inspection of premises where cosmetic drugs and devices are manufactured, stored and sold, taking of samples, seizing and detaining any article which is in violation of the act, encourage proper licensing and also create awareness on “responsible pharmacy management”. At present there is great concern among the public and also among the concerned professionals on the

dispensing of drugs over the counter without prescription and also the increasing trend in smuggled drugs.

There are five Food and drug inspectors in the Central Province, two each in the Districts of Kandy and Nuwara Eliya and one in the Matale District.

Table 5.24 Activities related to Drugs , Cosmetics & Devices in the Central Province

	2008				2009			
	Kandy	Matale	N-Eliya	Total	Kandy	Matale	N-Eliya	Tot al
No. of pharmacies	142	41	54	237	143	42	57	242
No. Registered	132	40	52	224	138	40	52	230
No Unregistered	10	01	02	12	05	02	05	12
Drugs								
No.of Manufacturing establishments	01	Nil	Nil	01	Nil	Nil	Nil	Nil
No. Licensed Renewal Retail	132	38	52	222	138	40	42	220
No. Inspected Renewal retail	526	41	54	621	560	40	42	642
Sampling								
Samples sent for analysis – Formal	10	Nil	Nil	10	07	Nil	Nil	07
Samples send for analysis - informal	07	5	05	17	14	Nil	Nil	14
No. Found unsatisfactory	02	Nil	Nil	02	06	Nil	Nil	06
No of items withdrawn/withhold	312	Nil	Nil	312	340	Nil	Nil	340
Quantity withdrawn/withdrawn (Tab/cap	-	Nil	Nil	Nil	Nil	Nil	Nil	Nil
Quantity Failure Drugs Report by the D.R.A.	54	54	54	54	57	51	51	57
No of items withdrawn/withhold	561	03	70	634	87	02	13	102
No of batches withdrawn/withhold	24	05	25	54	43	01	06	50
Quantity withdrawn/withhold	85000	13500	43755	142255	83235	500	3790	87525
Flying Squad Activities								
No of flying squad Activities	21	16	12	49	18	06	07	31
Seizures Under the C.D.D. Act								
Unregistered	10	03	06	19	103	05	08	116
Prohibited	11	05	Nil	16	593	02	01	596
Smuggled	12	02	01	15	nil	01	09	10
Expired	540	40	60	640	25	18	66	109
Spoilt & Damaged	24	15	04	43	Nil	30	09	39
With state logo	Nil	Nil	Nil	Nil	47	Nil	Nil	47
Storing without a license	03	06	84	93	20	03	Nil	23
Others	0	0	0	0	31	Nil	nil	31
Prosecutions								
No of prosecutions	06	09	04	19	08	15	04	27
No Convicted	05	05	04	14	05	13	04	22
No pending	01	04	Nil	05	03	02	Nil	05
Fines imposed(RS)	90,000	35,000	80,000	205,000	96,000	418,000	45,000	559,000
Cosmetics								
No. of Manufacturing establishments	01	Nil	Nil	01	01		Nil	01
Seizures Under the C.D.D. Act								
Smuggled	15	Nil	Nil	15	Nil	05	08	13
Expired	Nil	Nil	Nil	Nil	30	Nil	Nil	30
Spoilt & Damaged	24	Nil	Nil	24	14	Nil	06	20
Storing without licence					15	nil	nil	15

Devices								
No of Manufacturing establishments	01	Nil	Nil	01	01	02	Nil	03
Seizures Under the C.D.D Act								
Smuggled	05	Nil	Nil	Nil	Nil	Nil	Nil	
Expired	Nil	Nil	Nil	Nil	42	Nil	Nil	42
Spoilt & Damaged	07	Nil	04	11	4820	Nil	10	4830
Educational Programmes								
Pharmacy Owners/Assistants	05	03	04	16	04	02	05	11
Schools	04	18	10	32	04	12	10	26
Others	01	Nil	13	14	09	23	12	44

The number of unregistered pharmacies has remained on 12 despite all efforts to register these pharmacies. The strengthening of the quality assurance of cosmetic, drugs and devices need to be strengthened in 2010. It is envisaged that in 2010 more effort will be taken by the Food and Drug Inspectors to ensure " responsible pharmacy management" and also create a scoring system to monitor the improvement and also include a reward system. It is also envisaged that more effort will be taken to remove all drugs which are reported as quality failure from the DRA.

5.10 Supportive Supervision

Supervision is an excellent opportunity to provide follow-up training, improve performance, and solve other systemic problems that contribute to poor quality service. Supportive supervision has been used to improve health worker performance globally. Supportive supervision is a process that promotes sustainable and efficient program management by encouraging effective two-way communication, as well as performance planning and monitoring.

Ongoing supervision is an important, often overlooked, step to ensuring quality of health services. While supervision can be a very participatory process, traditional supervisory visits focus more on inspection and fault finding rather than on problem solving to improve performance. Health workers often receive little guidance or mentoring on how to improve their performance. They are frequently left undirected, with few or no milestones to help assess their performance, until the next supervisory visit. Motivation is hard to maintain in such an atmosphere. Supervisors often lack the technical, managerial, or supervisory skills needed to effectively evaluate health facilities across the many sectors for which they are

responsible. In addition to assessing performance, supervisors are also expected to monitor services, evaluate management, and ensure that the health facility supply chains are working properly all in a short period of time. Consequently, they are able to provide adequate technical guidance and feedback to improve service delivery.

Supportive supervision requires commitment of the supervisory staff. The personal commitment of all programme managers and closer monitoring at Divisional and District level is required to ensure that supportive supervision is strengthened in the Central Province in 2010. The Province initiated a skill building training for all middle level supervisors with the support of Dr. Sarath Amunugama in 2009. It is envisaged that supervisions in 2010 will be done using the skills gained. The supervisions of selected District level staff and MOOH is extremely low hence special attention is required at Provincial and District level to ensure that supervision reports are submitted. (see annex 12-14 For detailed supervisions done by MOH)

Table 5.25 Supervision of District level staff in the Central Province

	Kandy		Matale		Nuwara Eliya	
	Number	%	Number	%	Number	%
MO Planning					34	
MOMCH	(west)28 (east)32	78 89	41	114	15	42
Regional Epidemiologist	21	59	33	92	*2	7
Regional Dental Surgeon	78	82	100	104	48	50
Regional Malaria Officer	55	42	6	9		
RSPHNO	51	85	40	67	63	105
SPHID	(west) (East)	DNA DNA	27	45	24	40
PHI Rabies	74	61.7	Nil		12	10

* post vacant since March DNA - Data Not Available

Source: PDHS office and RDHS office supervision information system

The supervisions of Divisional level supervisory staff show very low supervisions and low levels of supervision reports submitted. The percentage of reported supervisions by MOOH/AMOOH show a low figure of 49.5% while the percentage of supervision reports submitted based on the estimates supervisions were only 20.3%. The supervision reports submitted by MOOH in Kandy District show an extremely low rate. This needs to be closely monitored at District level in 2010. The supervision reports submitted by PHNS and SPHMM is 71.3% and 70.0% respectively and needs closer attention by the respective MOOH.

Table 5.26 Supervisions of Divisional level staff by District

	Kandy	Matale	N' Eliya	Total
Supervisions by DDHS/MOH	N=35	N=15	N=19	N=69
No. PHMM supervised	546	269	274	1089
No. of PHII supervised	138	142	75	355
No. SPHM/PHNS & SPHI supervised	81	62	19	162
No. of institutions supervised	132	105	67	304
% supervisions done based on estimate	41.5	85.6	42.2	49.4
* No. of reports submitted	168	262	355	785
% of reports submitted	18.7	45.3	62.9	41.1
% of supervisions done & reports received based on estimate	7.7	38.8	34.5	20.3
Supervisions by Public Health Nursing sisters	N=21	N=6	N=4	N=31
No. of PHMM supervised	707	141	194	1042
No. of SPHM supervised	46	19	3	68
No. of MCH/FP clinics supervised	772	220	246	1238
% of supervisions completed based on estimate	100.8	88.0	153.8	105.2
Number of reports submitted	1133	252	289	1673
% of reports submitted	74.3	66.3	65.2	71.3
Number of investigations conducted for infant deaths	202	58	54	314
Number of Local conferences conducted	219	160	55	434
Supervision by Supervising Public Health Midwife	N=20	N=10	N=7	N=37
Number of PHMM supervised	1647	858	495	3000
Number of clinics and weighing centres supervised	808	479	305	1592
% of supervisions completed based on estimate	102.3	111.4	95.2	103.4
Number reports submitted	1728	1044	441	3213
% reports submitted	70.4	78.1	55.1	70.0

Source: quarterly statement of supervisory staff – format C * Reports received at the RDHS office

6. SPECIAL ACHIEVEMENTS

This chapter records the special areas which normally do not get documented nor due recognition given for special achievements by institutions or for actions of a group of individuals . In 2009 the following were reported to the Provincial Department. Productivity and Performance appraisal special achievements of the health institutions in the Province, special contributions from staff in the Central Province such as Provision of preventive health service for the internally displaced in the North at Chettikulam, combating the two epidemics of Dengue and H1N1 and also documenting best practices such as the model hospital waste system developed at DGH Matale. We encourage all staff to send in their reports of special achievements to be included in the Provincial Department Annual health report.

6.1 Productivity

The Provincial Department of Health has promoted all health institutions to get assessed in the National Productivity awards 2009. Five institutions excelled and received awards at the Provincial and also at national level. The number of health institutions who have applied have increased in 2009 but the institutions receiving awards has declined in 2009 as compared to 2008 and should be addressed. We urge all Preventive and curative institutions to take the challenge and compete at the National Productivity awards in 2010

6.1.1 Divisional Hospital Marassana

During the initial assessment on taking up the post of District Medical Officer in 2007, Dr. Priyantha S. Uduwela identified the enthusiasm and potential within the staff to make the necessary changes in the hospital. The differences between the different health categories, no encouragement given to do the right thing, poor knowledge and attitudes were some of the key issues noted.

The DMO introduced the concept of controlling stress through positive thinking. Productivity concepts were gradually introduced through the support of Dr.Dissanayake Medical superintendant at DBH Mahiyanganaya and Mr. Mahagedera principal of the Thalathuoya Madya maha vidyalaya. The hospital staff visited other hospitals and institutions which had introduced productivity concepts. With these inputs most staff contributed to the introduction of productivity within the hospital. There were a few staff members who did not support the change initially. During discussion with members of the staff, hidden talents were identified and those staff with creative talents were given additional responsibilities. Eg: Mr. T.M. Sunil Shantha responsible for water distribution, Mr.H.M.P.Rohitha Priyankara electrical issues, Ms.D.G. Suwarna Malkanthi responsible for hand work & sewing and Ms.K.A.Renuka responsible for display of notice boards.

Provincial council funds were used to construct the water storage tower, refurbishment of the outpatient department, renovating part of the maternity ward as a paediatric ward , construction of a low cost incinerator, renovation of the dental unit, reorganization of drug stores, general stores and record room. The Hospital development committee was established in 2008 and supported the initiative through donation of items, finances and

labour in rewiring wards, repair to the entrance roadway, renovation of all toilets and establishment of the emergency treatment unit . With the support of the Rotary repairs to the water distribution system and provision of five 5000l water tanks to increase the water storage was implemented. The staff volunteered and colour washed all buildings, a room not used was converted as a dinning room, landscaping of the hospital.

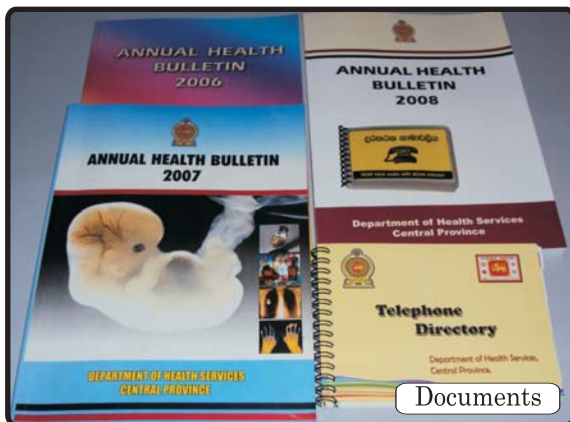
The prompt action of the hospital staff to provide early treatment and care received the appreciation of the general public which further motivated the staff. The establishment of the Emergency treatment unit and providing prompt treatment made the patients and those accompanying the patients happy of the care provided, this inturn has made the staff proud of the services provided. During this short period the team was able to reach the special merit level at the Provincial productivity awards 2009 and the hospital staff is more committed to reach even greater heights in reaching an award at the national productivity awards in 2010.

6.1.2. Office of the Provincial Department of Health

The staff visited the Divisional secretary office Dambulla to see the office system and with the technical input from Mr. Gamini Warnasooriya, the staff were more dedicated to improve the office systems. Gradual inputs in the areas 5S, productivity and sustainability, problem solving methods, quality productivity, corporate social responsibility, 3R's, green productivity, quality circle techniques. The key areas improved under the office systems were the improvement in the filing system, work steps were prepared, time frames for basic

activities identified, management meetings and staff meeting were streamlined, pigeon hole system to improve the letter distribution, establishment of a printing unit, incentive scheme for the best kaizen suggestion on a monthly basis, improved system in the record room and general stores were some of the key areas further improved in 2009. Equipment use & maintenance check lists and cleaning check lists were introduced. The health information display room was established to give all people seeking our services, the basic information of the services provided in the health department. The work processes in all technical units (Planning unit, preventive unit and curative units) were computerized to facilitate the easy storage and retrieval of data. The office established a green productivity circle which initiated the garbage separation and recycling project where all food is composted within the office while all waste paper are sent for recycling. Special projects by each quality circles were the establishment of the website, establishment of an "e kavaya", preparing of the telephone directory, preparation of a documentary on the office and reducing damage by rodents to office equipment.

The Department of Health in 2009 assisted in training over 100 health staff from all 3 offices of the Regional Directors of Health Services, All 5 Secondary care institutes (DGH Matale, DGH Nawalapitiya, DBH Dambulla, DickOya and Rikillagaskada and DH Kolongoda by the Productivity secretariat. The Department also motivated all institutions to come forward to get themselves assessed during the productivity awards 2009. The staff trip to Polonnaruwa, poson bakthi gee, end of the year peduru sajaya were some of the staff team building events organized during the year. A driver's rest room was established. The above activities made it possible for the Department to reach the level of 3rd place at the National Productivity awards Provincial level and also reach the special merit level at the National level. The Department was placed first for the second consecutive year at the Provincial performance appraisal awards and also received the Chief Ministers challenge trophy for the second consecutive year. The staff was extremely pleased with these achievements and are working with dedication towards reaching even higher levels in 2010. The office quality circles have identified the expansion of computerization of the administration and finance units and refurbishment of the office as a priority which have been included in the 2010 plan. The computerization would assist these two units to increase their efficiency.



Documents

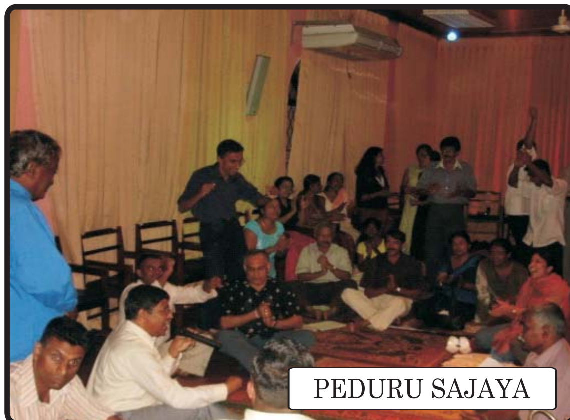
Productivity awards

BEFORE

AFTER

STORES

RECORD ROOM



PEDURU SAJAYA

TRIP TO POLONNARUWA

PRODUCTIVITY TRAINING

AURUDU COMPETITION

6.1.3. Medical officer of Health Hanguranketha

Productivity concepts was introduced gradually from 2007 by the Medical Officer of Health Dr. Chaminda Weerakoon with his experience gained during the middle level management training and hospital visit to DH Agarapatana. He was able to motivate his staff through discussion and sharing of experiences gained. A SWOT analysis was done. The staff requested a field visit to observe a unit practicing productivity. A field visit was arranged to MOH office Rambukkana where the basic concepts of productivity were discussed and experiences shared. The team was motivated and on their return a vision, mission and logo was designed. Mr. Gamini Warnasooriya assisted the office as a Resource person in introducing and monitoring the productivity activities.

The quality circles initiated cleaning of the office and surroundings through a shramadana and a seiri day was used to initiate the '5S' concept in the MOH office. Gradually the MOH office system was improved and used as a model for the concept to be expanded to the clinic level, PHMM and PHI office level and village level. Plan Sri Lanka, business community, banks and well wishers supported this initiative.

In order to improve the quality of services and reducing waiting time , reorganizing the clinic times through an appointment system, providing the telephone number of the MOH and PHM to all clients for health advice and emergency, specific office times for the general public to meet the staff, a printed file cover for all pregnant mothers were some of the key activities implemented. Special programmes to strengthen family planning, healthy ageing, food safety & environmental health, well women programme, mobile clinic visits to the estate sector, special medical examination for school teachers and other government staff were initiated. Poor nutritional status is a key health issue affecting at least 25 percent of the population, the MOH office took steps to provide a nutritious meal and nutrition demonstration to all pregnant mothers, targeted distribution of nutrition supplement, increasing the number of weighing centres, strengthening women's groups and special clinics for children with growth faltering and wasting were also implemented.

Green productivity and '3R' projects were implemented in the office by preparing envelopes from old thriposha bags, reusing of envelopes, steps to monitor and reduce water and electricity wastage, discourage the use of polythene and taking the “suwasitha” programme to the villages for strengthening house hold garbage separation, composting and recycling.
To motivate the staff special activities such as selecting the best performing staff, giving certificates, organizing competitions were done. All staff were given a basic training in computer and also language skills in English and Tamil. Team building activities such as the annual trip, vesak lantern competition, Sinhala/Tamil New year celebration, annual pirith ceremony, scholarships for children were some of the activities conducted in 2009.

All staff were trained on “triple A” to identify community issues while productivity concepts were further strengthened. All primary healthcare staff have used this process and done projects at field level. Activities in strengthening of clinic services included the introduction of a colour card system for each vaccine, measures to reduce the vaccine wastage, demonstration on positioning and attachment to strengthen breast feeding,

strengthening knowledge about delivery and exercises, all clinics promoted “play” through the use of indoor and outdoor play equipment. A dengue prevention street drama was performed during the Hanguranketha esela perahera.

All the above activities were rewarded when the MOH office reached the first place at the National productivity awards Provincial level and second place at the National Productivity awards national level in the Government small scale group. This is an improvement to the placements received at the same awards ceremony in 2008. The team is more dedicated to further improve the quality assurance programme in the area and wish that more health institutions would join the process which will benefit the general population in the Central Province.

6.1.4. Medical officer of Health Hatharaliyadda

The primary healthcare team at Hatharaliyadda continued to excel in providing quality care to the people in the area under the leadership of Dr. Sujeewa Ratnayake. The office layout was changed where office space for the programe planning officer and health management assistant was relocated which made it very convenient for the staff and less inconvenience for the clinic clients. This also made it possible to separate the office from the clinic. The office display boards and notice boards were all improved. the office stores was constructed which made it easy to implement a proper storage of items. The office boundaries were identified and boundary stones placed. It is important to fence the entire compound in 2010. The office direction boards and health education display boards were erected. The office and clinic premises were made child friendly by painting health messages by school children. Green productivity concepts were introduced by composting and use the compost for the model home garden project. Special parenting sessions for pregnant women and their spouses and also newly married couples were strengthened. The office system was strengthened with the receipt of the fixed telephone line, fax machine and photocopy machine. The clinics were improved with the support of the Provincial Department, community and well-wishers. The clinics in Aludeniya, Dedunuptiya, sangarajapura, walpalagolla were all upgraded during the year. A new school dental unit with basic equipment was established at the Hatharaliyadda primary school and as there are no dental therapists, the dental therapist at werellagama visits this clinic once a week. A dental exhibition was held during the year. All PHII and PHM offices have been improved according to the 5S system. Strengthening human resources through change of attitudes was done gradually through in-service training programmes. Special attention was made to reduce the client waiting time in all clinics, examination of all children before vaccination, post natal well baby and mother check up, routine investigations for all pregnant mothers were strengthened. All children were examined during their routine visits to the clinics and marked in the CHDR. All school medical examinations were completed during the first school term with the support of the school principals and staff .This is noteworthy as MOH Hatharaliyadda was the only MOH area to complete all SMI during the first term. Commendations were received from both District level and Provincial level.NCD promotion was done at village level and institutional level. All children in preschools were also examined. Special programmes to strengthen occupational health, active ageing and youth programmes were also conducted. Special attention to conserve /reduce wastage was introduced for fuel, vaccine, water, electricity and telephone usage. Team building activities such as staff with family trips, Avurudu festival and special religious activities to mark Vesak and poson were done.

The continued strengthening of the productivity programme in the area was rewarded when for the second year in succession the office maintained the special merit award level at the National productivity awards provincial level competition. The dedicated team at Hatharaliyadda is the only health unit in the Kandy District to get this award in 2009. The MOH office was placed first in the MOH category at the Provincial performance appraisal awards ceremony. We appeal to all MOHs to apply and join us at the National Productivity Awards in 2010.

6.1.5 District General Hospital, Matale

The District General Hospital, Matale, which is the largest secondary care institution in the Central Province, has been dedicated to provide quality care as exemplified by its mission statement. While committing to ensure care that is accessible, safe, effective, efficient, timely and appropriate, it strives to meet the needs and expectation of thousands of patients in the Matale District.

To achieve this goal, a lot of initiative was taken since 2006, prior to which, "quality management" was very much a novel concept to the institution. Since the introduction of this programme, the hospital environment could be transformed from one which was malodorous due to haphazard disposal of garbage and disease spreading due to the infestation with mosquitoes, flies, cows and goats, to a one which was patient friendly, healthy and safe.

The continued programmes to assure quality within the institute also brought about motivation for the staff to reach higher and to work as a team. As a result, conflicts among the health care members and problems arising due to alcohol addicted staff members could be minimized.

The overall positive attitude the general public, government and non-governmental organizations have developed for DGH Matale in the recent past, is reflective of the encouraging outcome and the success of the quality assurance programme carried out in the hospital.

SWOT analysis in 2006

Strengths

- Skilled staff members
- Hard working
- Inside and out side resources

Weaknesses

- Inadequate infrastructure/financial support
- Poor coordination/collaboration between staff and the leadership
- Poor human resource participation in quality improvement specially middle level management

Opportunities

- Staff members who like to change
- Motivation needed staff

Threats

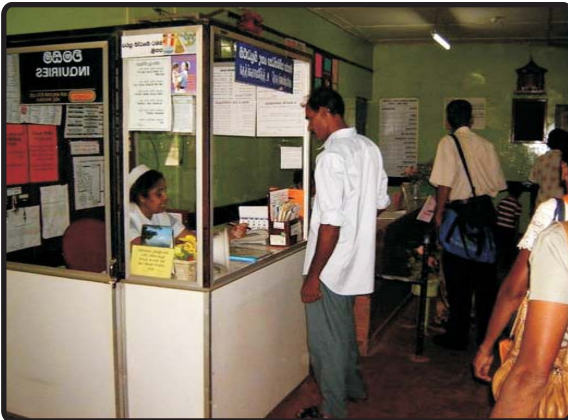
- Dislike to change
- Conflicts between health staff categories

To overcome the above situation, environment management system was implemented as a first step in the changing process. Then, the waste management project was initiated with the guidance of an action committee. Also, a new system for condemning hospital items and repairing system for hospital equipment were established. Attitudes changing programs that empower our staff members, patients and their family members and making strategies to reduce alcohol addicted staff members as well as 5S quality management process were initiated parallel to the waste management project. Concurrently, DGH Matale has started green productivity activities with the aim of becoming an eco friendly hospital.

As a result of the above, the District General Hospital, Matale could achieve several awards including the Certificate of Special Commendation in the Inter Department Category at the Provincial Productivity Awards- 2009, as well as many rewarding public appreciations and positive feedbacks from government & non government organizations. Recently, there have been many frequent visits from the members of these organizations to appreciate the exemplary standards maintained by the institute.

It is hoped that through these programmes , the visionary leadership, motivated managers and staff members with the participation of the community, would enable the realization of the vision of the DGH Matale 'to become the best health care institution in the Central Province'.

Before 2006	**Present Situation**



6.2 Strengthening Performance appraisal Central Provincial Council

The Central Provincial Council has been having the performance appraisal system for Ministries, Departments, District level and Divisional level institutions since 2006. This performance appraisal was introduced as an activity to motivate government institutions to perform more efficiently in the ultimate aim of supporting the Provincial council to become the best Provincial council by the year 2015. This year for the first time offices of the Medical officers of Health were assessed. The following institutions received awards. All 37 MOH offices were assessed (excluding the newly established MOH offices), all office registers, records and returns were assessed.

Inter Department Category :

First Place - Department of Health (for the second consecutive year)

Institutions at District level category :

First place - Regional Director of Health Services Matale
Third place - Regional Director of Health services Nuwara Eliya

Inter Medical officer of Health category :

First place - Hatharaliyadda MOH Office
Second Place - Yatinuwara MOH office
Third place - Naula MOH office

Main subject categories :

Finance and auditing : First place Department of Health

Chief Ministers challenge trophy for the best Department:

Department of Health (for the second consecutive year)

PDHS - Kandy

RDHS - Matale

RDHS- Nuwara Eliya

MOH -Hatharaliyadda

MOH - Yatinuwara

MOH- Naula

6.3 Strengthening of Preventive Health Services for the IDPs in chettikulam (Zone 3) from 8th June to 28th August 2009

The report below details the services provided to strengthen the preventive health services to the IDPs in Zone 3. The health teams provided technical care during the above period and are gratefully acknowledged for the dedicated work despite all constraints , dedicating their valuable time and finances. Supervision and monitoring of the services provided were done by Dr. Shanthi Samarasinghe PDHS, Dr. Sapumal Dhanapala and Dr. Gamini Jayakody Consultant Community Physicians and Dr. Rohan Bandara Regional Epidemiologist Nuwara Eliya. The hard work by the teams despite the difficult conditions and issues made a big difference in Zone 3 as compared to other zones. Special mention of the two MOs from the Zone 3, Dr. Asela and Dr. Chamantha both committed post intern medical officers who have done a yeoman service with the other MOs in provision of care for the IDPs from the inception and who continued to support in the IDP care by taking up MOH posts temporarily in Zone 3 and Zone 5.

A.) Initial assessment

On the request of the Ministry of Healthcare and Nutrition, the Department of Health Central Province undertook to strengthen the Preventive Health Services for the IDPs in Zone 3 which was allocated to the Province. A basic preliminary assessment was undertaken by Dr. S. Dhanapala Consultant Community Physician on the situation of the IDPs in Zone 3 on the 8th and 9th June 2009.

Basic information of Zone 3

The census taken on the IDPs living in Zone 3 was approximately 45,000. The number kept on changing on a daily basis with IDPs being settled in new areas. The Zone was divided into 31 blocks. There were 6363 tents and 13251 families registered in the camp as at 1st June 2009. Other basic information is given below.

Schools – 07
Garbage bins – 644
Water storage tanks – 298
Deep wells with hand pumps – 38
Kitchens – 43
Bathing places – 96
Pregnant mothers – 462
Infants < 6 months - 577

Environment:

The general environment was quite clean despite the large population living in the Zone. Garbage collection was done daily using a tractor. There were dust bins placed in housing units. There were pools of water collected near bathing places and water drainage system needed improvement to reduce breeding of mosquitoes. Fly control measures were inadequate.

Water and Sanitation:

There were bathing places in almost all blocks except in the newly established block 6A & 6B. Drinking water tanks were located in all blocks. Shared latrines had been constructed. An assessment on the adequacy of water (for drinking and bathing) and sanitation needed to be done by block to identify the adequacy of services.

Food sanitation:

Communal cooking was being done with 43 kitchens functioning. Food safety measures were minimal. Special facilities for preparing complimentary food was not available.

Diseases:

The common communicable diseases were seen despite the reduced number of cases now reported with the improvement of water and sanitation situation and also basic health awareness.

Availability of Human resources:

Among displaced population

PHII – 02
PHMM – 10
RHA – 04
Health labourer - NK
Nurses - NK
Dispensers - 02
Pharmacist - NK
(NK- Not Known)

Provision of Healthcare:

Basic outpatient and inpatient care were provided in 3 field hospitals already established in the Zone. A new referral hospital was being constructed in block 31, which was expected to open within a few days. Field clinics were conducted

Activities suggested:

A. Establishment of Administration structure:

- ★ Establish office of the MOH in the existing block 9 with necessary furniture.
- ★ Finalize the redemarcation of the 10 PHMM areas and 3 PHII areas.
- ★ Update the data of basic information to date by block and display in MOH office
- ★ Update maps and charts according to MOH circular

B. MCH services

- ★ Clearly identify the number of poly clinics to be conducted for the population by block and find a suitable location and prepare clinic schedule
- ★ Identify the location for new MCH clinics and PHMM offices.
- ★ Procure the basic equipment required for clinics.
- ★ Establish basic MCH clinic services within one week.

C. Environment Health

- ★ Map the existing water, sanitation and garbage collection bins and identify additional need if any by block using SPHERE standards.
- ★ Ensure availability chlorine tablets H2S tablets for checking of water quality.
- ★ Conduct routine cleaning up campaigns and reduce water collection puddles through "shramadana"
- ★ Strengthen fly control measures within camp

D. Diseases surveillance

- ★ Establish notification system in all 3 hospitals and ensure investigation of all notifiable diseases. Take preventive action to reduce outbreak of diseases.
- ★ Ensure maintenance of graph of daily disease reporting and spot map at MOH office.
- ★ Strengthen health awareness to reduce water borne diseases through volunteers

E. Food safety

- ★ Ensure basic food safety measures are being followed in the communal cooking places daily.
- ★ Ensure food diversity and nutrient balance in the cooked food.
- ★ Establish system for preparing of complimentary food for infants 6 to 9 months.
- ★ Identify separate place with privacy for BF mothers as lactation management centres.

F. School Health

- ★ Prepare school Health advance programme
- ★ Conduct all SMIs before the end of June 2009 ensure the availability of the necessary micronutrients.
- ★ Programme to use school children as change agents in the community through Health awareness programmes.

G. Health volunteers

- ★ Identify all potential volunteers
- ★ Conduct basic awareness on the areas on health, categorize the volunteers based on their choice of areas of work E.g. MCH, EH
- ★ Strengthen the volunteer programme on a regular basic through updates and reviews

H. Special vulnerable population

- ★ Identify within the population those vulnerable population elderly, those without any relatives, disabled, orphans etc.
- ★ Link with appropriate Govt. and NGOs in providing basic care for these special groups

I Mental Health services

- ★ Identify those needing psychosocial support and establish befriending system
- ★ Identify those Patients needing psychiatric support

J. Strengthening Curative care system

- ★ Ensure that the quality of outpatient services are improved through analysis of patient load.
- ★ Ensure triage of patients and establishing a priority line for serious patients, those with Diarrhoea etc. etc.
- ★ Establish Emergency treatment units
- ★ Establish medical clinics for chronic illnesses

K. Health information system

- ★ Establish routine health information system within 14 days
- ★ Ensure the availability of the basic forms required to establish HIS

Provincial level support required

1. Strengthen the existing human resources through providing only the essential staff required to provide basic Preventive Health care
2. Coordinate with the technical units of the MoH&N and establish basic preventive health systems as early as possible.
3. Ensure technical and administrative support from the PDHS office and RDHS offices for the Zone 3
4. Coordinate with other Departments to provide non health related support.
5. Coordinate with the MoH &N to provide basic human needs for the IDP health staff.

B) Implementation of Preventive health programmes from 8th June to 28th August

During this period medical teams from different parts in the Province supported in providing preventive health activities with the support of the IDP health staff. The teams had to be based in Anuradhapura due to unavailability of accommodation facilities and had to travel daily. Based on the initial assessment the MOH office was established in a container in zone 3 from the very first day. The initial teams were able to locate most of the health department staff displaced and were able to solicit their support in providing care. Basic needs of some these staff were provided through a few well-wishers from the Province. During the first two weeks with the support of the Malaria control programe staff fly control activities, strengthening emergency obstetric care , strengthening of food safety measures, environment health activities and disease surveillance and investigation were given priority. Once the communicable disease burden was controlled more emphasis on post natal care , antenatal care, well baby clinics, family planning clinics, school health, health promotion and behavior change programe were introduced gradually. Each health team was stationed in chettikulam for period of one week and handing over taking over was done at the Zone 3 in the presence of either the PDHS, CCP or a District level manager. This made it possible for the new team to continue from where the previous team had completed. Weekly updates were provided to the Provincial authorities, Ministry of Health and Director IDP. Additional PHMM and PHNS were provided through the MoH&N.

7th- 14th June-MOH area Rikillagaskada

Dr. K.G.C.Y.S.B Weerakoon	Medical Officer of Health
Mr .J.A Anura	Public Health Inspector
Mr.L.N Asiri Jayasooriya	Public Health Inspector
M.G. Jayaneris	Spray machine operator
S.Wilbert Silva	Driver

14th- 21st June-MOH area Naula

Dr. E.M.W.M Ekanayake	Medical Officer of Health
Mr. U.K.R.B Ranatunga	Public Health Inspector
Mr.P.M.S.Fernando	Spray Machine Operator
Mr.D.M.S Dassanayake	Driver

21st-28th June-MOH area- Kothmale

Dr. J.S.S Jayasinghe	Medical Officer of Health
Mr. K.A.I Rajapakse	Public Health Inspector
Mr.N .M Marasinghe	Public Health Inspector
Mr. R.D.Rajapakse	Driver

28th June- 5th July-MOH area- Walapane

Dr. D.M.P Disanayake	Medical Officer of Health
Mr. Dipal Daminda	Public Health Inspector
Mr. R.S Mayamurthi	Public Health Inspector
Mr. Punchibanda	Driver

5th – 11 July- MOH area Yatawatte

Dr. Ms. G.K Rathnayake	Medical Officer of Health
Mr.N.I.P. Premachandra	Public Health Inspector
Mrs. K.W.G Sumanawathi	S.P.H.M
Mr. U.C.B Senanayake	Public Health Inspector

12th – 19th July- MOH area Yatinuwara

Dr.K.M.G Kumudu Bandara	Medical Officer of Health
Mr. K.A.D Sarath Manel	Public Health Inspector
Mr.W.M.A.D Wawegama	Public Health Inspector
Mr.P.G.Jayaweera	driver

19th – 26th July- MOH area Bogawanthalawa

Dr M.D.S.W Gunathilake	Medical Officer of Health
Mr.J.M.N.N.U Bandara	Public Health Inspector
Mr. W.M.P.J.Wanninayake	Public Health Inspector
Mr.M.A.Fernando	Driver

26th July – 2nd August –MOH area Nawathispane

Dr.G.D.H.D Pathiragoda	Medical Officer of Health
Mr I.C Wijesinghe	Public Health Inspector
Mr.K.M.A.B.Kollapitiya	Public Health Inspector
Mr.K.A.Lalith Jayasinghe	Driver

2nd – 9th August – MOH area Yatinuwara

Dr.A.W Rajapakse	Medical Officer of Health
Mr.H.W.C.N.Hewawasam	Public Health Inspector
Mr.P.K.T Wasantha	Public Health Inspector
Mr.P.G.Jayaweera	Driver

9th -16th August –MOH area Matale

Dr R.M Tennekoon Banda	Medical Officer of Health
Mr W.M.D.A.B Wijerathne	Public Health Inspector
Mr. W.M.S Warnasooriya	Public Health Inspector
Mr.H.M. Nishantha Janaka	Driver

15th – 22nd August-MOH area Rattota

Dr.K.M.N Perera	Medical Officer of Health
Mrs.J.M Kamala Jayasinghe	Public Health Nursing Officer
Mr.H.M.M.S.Senevirathne	Public Health Inspector
Mr.M.B.Y Weerasekera	Public Health Inspector
Mr.K.M.P. Bandara	Driver

22nd-29th August –MOH area Maskeliya

Dr Sanjaya Gunathilaka	Medical Officer of Health
Mr.Dharmalingam Vardaraja	Public Health Inspector
Mr.R Chestra Kumar	Public Health Inspector

Mr.M.Ajantha Sri Lal Driver

C) Achievements

Establishment of MOH office

The MOH office was established early in a container and the MOH office had all updated maps and charts with the necessary ledgers and registers in place.

Availability of Human resources:

Among displaced population in Zone 3

Programme Assistants – 03
PHII – 02
PHMM – 10
RHA – 04
HMA – 01
Nurses - 08
Dispensers -03
Health labourer - 120
Spray Machine Operator - 25

Environment:

The general environment was quite clean despite the large population living in the Zone. The shramadana conducted every Sunday had been successful. Garbage collection was done daily using tractor and streamlined. Pools of water collected near bathing places and water drainage system had improved thanks to the coordinated effort of the health staff and camp management but long term solutions were required to reduce water collection points especially before the monsoon as part of the camp will be flooded if timely solutions are not found. Despite poor sanitation in selected blocks fly control measures have been successful thanks to initiative of the MOHs and also malaria control spray teams from Vavunia and Colombo. Continued fly control measures were recommended to prevent further outbreak of water borne diseases.

Housing:

Families were still sharing tents which needed to be addressed to ensure family unity and prevent sexual abuse.

Water and sanitation:

There were bathing places in almost all blocks except in the newly established block 6A & 6B. Drinking water tanks were located in all blocks. Shared latrines had been constructed. The shortage of water and sanitation still persisted even after over two months in Block 6A and 6B despite frequent attention on this issue with Rotary who had under taken to support this.

Food sanitation:

Family rations were given for family cooking, which was good for hygiene reasons but separate kitchen areas had not been provided hence it is important to educate families on prevention of home accidents. Only one common kitchen was functioning. H 800 forms had been given and rated in all 11 food establishments.

Disease Control:

The teams with the support of the displaced health workers were able to control all communicable diseases to reasonable levels but epidemics may occur due to the prevailing

	Chicken pox	Dysentery	Enteric fever	Malaria	Viral hepatitis
13th – 19th June	27	35	03	Nil	216
20th – 26th June	13	15	08	03	101
27th June – 4th July	14	34	03	04	71
5th - 11th July	09	04	01	03	49
12th – 18th July	08	10	01	15	32
19th – 25th July	12	04	03	06	13
26th July – 1st Aug	19	03	05	01	01
2nd – 8th Aug	09	08	03	Nil	06
9th – 14th Aug	39	Nil	Nil	Nil	Nil
15th – 21st Aug	36	11	Nil	Nil	01
22nd – 27th Aug	08	03	02	Nil	01

Maternal and Child Health Services:

All basic maternal and child health services were functioning in the Zone according to the schedule. This included ante natal care, immunization and family planning. Post partum care needed strengthening through a reporting system. The areas needing strengthening is given below. IUCD insertion facilities need to be provided. AEFI reporting system needs to be strengthened. School medical inspections in 5 of the 6 schools completed. Weekly iron supplementation programme was initiated.

Provision of Healthcare:

Basic out patient and inpatient care were being provided in 4 field hospitals established in the Zone. The number of out patients had reduced drastically which made it more important to strengthen the quality of care provided to the people. The number of MOs deployed were on 2 week temporarily rotation hence on some days the numbers were grossly inadequate. It is important to appoint the permanent MOs with training as early as possible. Emergency treatment facilities needed to be established.

D. Further recommendations to the Ministry of Health on completion of task

1. MCH services

- ★ Need to establish the additional clinics as per schedule in block 22 and 31 as early as possible.
- ★ Identify the location for new PHMM offices. (Need to give larger tents for office space and name board to PHMM)

- ★ Procure the basic equipment required for clinics. (UNFPA has under taken to provide through FHB)
- ★ To establish the standard poly clinic system as early as possible.
- ★ Strengthen post partum visits to mothers by the PHMM and also establish system of informing the PHMM of mothers returning from the hospital after discharge.
- ★ Unnecessary use of the PHMM time for NRP should be curtailed and only growth monitoring and promotion activities done by PHMM while the distribution of all supplements should be done through volunteers with proper supervision.
- ★ Provision clean delivery kits for pregnant mothers and investigating of all home deliveries, still birth and Infant deaths should be done.
- ★ Need to establish system for doing grouping and Rh for all pregnant women.
- ★ Iron, folate, calcium should be packed earlier at MOH office in polythene sachets and sealed using polythene sealer.

2. Environment Health

- ★ Ensure availability chlorine tablets H2S tablets for checking of water quality.
- ★ Conduct routine cleaning up campaigns and reduce water collection puddles through "shramadana".
- ★ Strengthen fly control measures within camp. Need to ensure the availability chemicals and fuel.

3. Diseases surveillance

- ★ Strengthen notification system in all 4 hospitals and ensure investigation of all notifiable diseases. Take preventive action to reduce out break of diseases.
- ★ Strengthen health awareness to reduce water borne diseases through volunteers. (Need to continue)
- ★ Get the communicable disease information from each hospital for the months March, April and May. Display disease pattern by month on the wall.

4. Food safety

- ★ Ensure basic food safety measures were being followed in the communal cooking places daily.
- ★ Ensure food diversity and nutrient balance in the cooked food. (Make awareness at clinics and through volunteers)
- ★ Establish system for preparing of complimentary food for infants 6 to 9 months. (Need reinforcement at clinics and through volunteers)

5. School Health

- ★ Complete the SMI for the remaining school
- ★ Continue with the weekly iron supplementation programme
- ★ Programme to use school children as change agents in the community through Health awareness programmes.

6. Health volunteers

* Continue basic awareness on the areas on health, categorize the volunteers based on their choice of areas of work E.g. MCH, EH

- ★ Strengthen the volunteer programme on a regular basic through updates and reviews.

7. Special vulnerable population

- ★ Follow up of vulnerable population elderly, those without any relatives, disabled, orphans etc.

8. Mental Health services

- ★ Identify those needing psychosocial support and establish befriending system
- ★ Identify those Patients needing psychiatric support.

9. Strengthening Curative care system

- ★ Ensure triage of patients and establishing a priority line for serious patients, those with Diarrhoea etc. etc.
- ★ Establish Emergency treatment units
- ★ Establish medical clinics for chronic illnesses
- ★ Ensure HIS being implemented in the hospital system

The following additional recommendations were also made in view to improve the system

1. Need to motivate and support the IDP health staff in the camps.
2. MoH&N to provide Hepatitis A vaccine to all health workers deployed/to be deployed to the camps in Chettikulam. NOTE: 12 MOs , 2 IDP PHM and other staff have been infected with Hepatitis A. We also strongly recommend that all security personal are also given the Hepatitis A vaccine
3. The PHMM and PHI are stressed in the camp need to have in-service training in Vavunia or A'pura. (VERY URGENT)
4. Need to establish system for providing spares and repair to bicycles.
5. To provide additional Medical officers to manage the curative healthcare system.
6. Lobby with the Rotary and other NGOs to complete the water and sanitation projects in block 6A & 6B and also bring it to the notice of the highest level coordination meeting.
7. Establish a de-worming day and provide single dose mebendezole for all persons in the camp over 2 years of age.
8. Provide dental unit to strengthen dental care in Zone 3
9. Proper waiting areas with seating facilities to be established for all hospitals. Basic facilities to manage patients need to be strengthened.
10. Long term solutions are required to reduce water collection points especially before the monsoon as part of the camp will be flooded if timely solutions are not found through proper designed water drainage system.

Comment: The health staff from the Central Province were proud of the support in the national humanitarian effort for the displaced people in the Northern Province and were also benefited in getting practical exposure in humanitarian work which will benefit them in any emergency.

NOTE: no photographs were allowed inside the IDP camps and all teams respected the decision and NO photographs were taken of the work done.

6.4 Report on Pandemic Influenza (H1N1) 2009 situation in Central Province

School absenteesm was reported to be considerable during second week of October 2009 due to “flu like illness” among students in most of the schools in the Kandy city area. As there was A/H1N1 Influenza cases among school children in Colombo MC area, 5 samples were obtained from school children to verify the virology. 3 samples came positive in the Kandy City.

An emergency meeting was summoned on 20/10/2009 at Provincial Level with all District health managers and Regional Epidemiologists to address the potential out break of influenza A H1/N1 in the Central Province.

The Epidemiology unit of the MoH&N confirmed that there was on going transmission of “seasonal flu” and A H1N1 which was highly infectious with NO mortality among the general population.

The death of a school child created panic among the medical specialists as large numbers of children and adults were being admitted or seen at the OPD and private sector.

Second emergency meeting was requested by the Specialists at TH Kandy to brief the Hon.Governor on the situation on the 9th November. The governor was informed that due to limited number of tests (20 per day) at MRI the health department sends only samples for virology to confirm the spread in the area and also from those high risk patients with complications. Hence we were unable to give the actual number afected due to A/H1N1

Key decissions

- Hon Governor to brief media and also general public on the current situation and urge general population not to panic and adhere to prevention guidelines
- Inform the Education Department to educate school children and parents on general preventive measures (leaflets provided) and ensure that children with “flu like illness” stay at home. Specialists strongly recommended that schools be closed but the general agreement was to inform principals to close classess or school depending on the absentism.
- With the likely hood of a increased transmission with the year end term tests as children with flu being sent to sit for the exam the Ministry of Education to consider the postponement of the term test.
- Adequete Tamiflu and facilities for universal precuations (masks, gloves, soap etc.) to be provided
- Establish surveillance system to report any unusual events.

5 deaths suspected of A H1N1 including two maternal deaths were reported between 12th – 16th November 2009 at TH Kandy and Peradeniya.

Once again an emergency meeting was requested by all consultant medical officers working at TH Kandy, Peradeniya and Sirimavo Bandaranayake Hospital and a meeting was held at TH Kandy with all consultants, hospital administrators, District and Provincial level Public health technical staff and Medical administrators .

Key recommendations.

- ★ Inform Ministry of Education to give school holidays early
- ★ Inform all political authorites and government ministries to curb on mass gatherings such as exhibitions and fairs.
- ★ Private tution classes to be curbed and special measures to prevent the spread in government and private hospitals.
- ★ Review meeting to be held on a weekly basis with representation from all 3 major hospitals and Provincial health authorities to assess the situation.

An urgent meeting was requested and arranged with the Hon. Governor and Chief Minister on the 19th . All medical specialists and health administrators briefed on the current Epidemic and forcast a higher number of morbidity and mortality if urgent actions were not taken immidietly in the CP to address the issue.

At this meeting a decision was taken to give school holidays early in the Central Province. Reported number of cases and case load of the Influenza like illness patients attended to the OPD were gradually reduced.

Fig : 6.1 Daily attendence of out patient department at TH Kandy by Flu Like Illness patients from 19th November 2009 to 18th January 2010

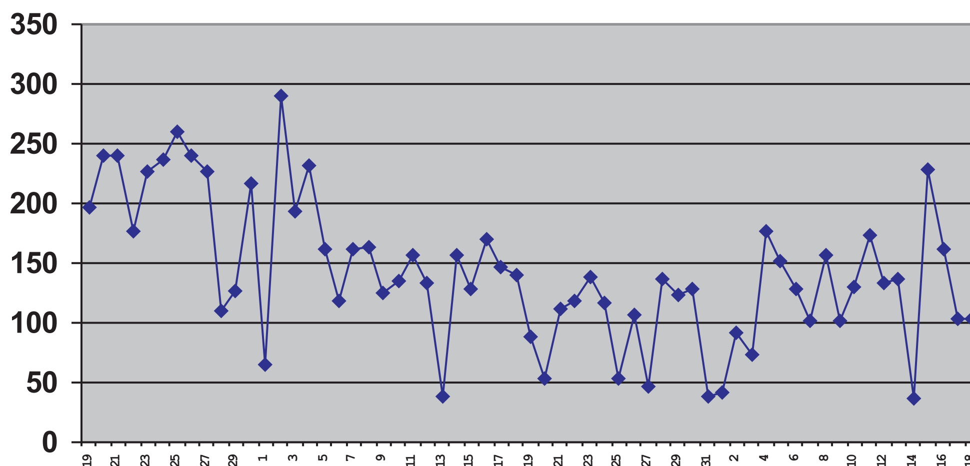


Table 6.1. Noval Influenza A H1N1 confirmed & suspected deaths in the Central Province 2009

	Age in years	Sex	Hospital	Test results	Risk factors	MOH area
1	43	Female	TH Peradeniya			KMC
2	26	Female	TH Peradeniya		Pregnant	Gampola
3	48	Female	TH Peradeniya			Yatinuwara
4	52	Male	TH Peradeniya			Gampola
5	27	Female	TH Peradeniya	Positive	Pregnant	Menkhinna

6	50	Female	TH Peradeniya			Yatinuwara
7	16	Male	TH Kandy	Positive	Congenital abnormality	KMC
8	13	Female	TH Kandy	Positive	Thalasemia	Poojapitiya
9	65	Female	TH Kandy		Bronchial Asthma	Matale
10	40	Female	DGH Nuwareliya	Positive	Anaemia	Kotagala
11	80	Female	TH Kandy			Doluwa
12	73	Female	TH Kandy			KMC
13	58	Male	TH Peradeniya	Positive		Bambaradeniya
14	36	Male	THKurunegala			Dambulla
15	15	Male	DGH Nawlpitiya			Nawalapitiya
16	13	Male	TH Peradeniya	Positive		Peradeniya
17	85	Female	TH Kandy			Wattegama
18	08	Female	BH Mahiyangana	Positive		Hasalaka
19	26	Female	TH Kandy			Eriyagolla
20	64	Female	TH Peradeniya			Yatinuwara
21	26	Female	TH Peradeniya	Positive		Doluwa
22	69	Male	TH Peradeniya		COPD	Yatinuwara
23	06	Male	BH Dikoya	Positive	Congenital abnormality	Maskeliya
24	3/12	Male	TH Peradeniya			Galaha
25	18	Male	TH Peradeniya			Ratthota
26	14	Female	BH Diyatalawa			Hasalaka
27	1. 2	Female	BH Monaragala			Hasalaka

6.5 Dengue Epidemic 2009

The Dengue epidemic which started in all parts of Sri Lanka in December 2008 continued to be a public health problem during the year 2009. There were 6638 cases 51 deaths reported from the Central Province in 2009. In May 2009 Provincial Health Department organized a meeting with Provincial and District level stake holders chaired by the Honorable Governor of the Central Province. Decision was taken to establish Divisional and village level committees to plan, organize, conduct and monitor the dengue control activities at grass root and Divisional level and to strengthen the monitoring of dengue control activities at District and Provincial level. At the District level, review meetings were held fort nightly with participation of Public Health Inspectors, Medical Officers of Health from high risk areas and District level technical staff chaired by the respective Regional

Director of Health Services. Provincial level monthly review meetings were held which was chaired by Provincial Director of Health Services with participation of Medical Officers of Health from high risk areas, District level technical staff, Regional Directors of Health Services from Kandy and Matale and Provincial Consultant Community Physicians.

Monthly feed back was given to all stake holders as a Dengue alert which includes dengue situation, high risk MOH areas and dengue control activities taken place during the particular period.

Village committees actively functioned in most of the high risk MOH areas, where predicted outbreak at the end of the year was prevented successfully. Religious leaders, informal leaders of the villages and volunteers actively contributed to control the expected out break. Government and non government organizations also actively contributed for preventive activities in the respective areas.

To monitor the potential breeding sites in premises house hold cards were printed and distributed for each household and institutions in high risk Grama niladhari divisions and closely monitored by the volunteers, health and non health field staff.

IEC materials like posters and leaflets were printed at Provincial and District level in both Sinhala and Tamil languages. Other government and non government organization also helped to print IEC material at Provincial, District and Divisional level.

To educate the public dengue walks were organized at District and Divisional level with the participation of political leaders.

6.6 Hospital waste management Project - DGH Matale

In appropriate and inadequately managed waste have become a big environment and health issue in Sri Lanka. Continuous environment pollution has contributed to the spread of infectious diseases, creating unpleasant and untidy environment and disturbances of eco system are some of the important issues of a list of hundreds of effects. Sri Lanka has no national policy in waste management other than having isolated projects in some cities and places. It is very hard to see cities, streets of cities or public places free from garbage.

Hospital waste is much more important than general waste because majority of hospital waste is highly hazardous and Exposure to hazardous healthcare waste can result in disease or injury. The hazardous nature of healthcare waste may be due to one or more of the following characteristics: It contains infectious agents; It is geotaxis; It contains toxic or hazardous chemicals or pharmaceuticals; It is radioactive; sharps may carry deadly infections to people. Most of our health institutions depend on local authorities on their waste management without thinking about its negative outcomes and impact for the community. No health institution can state that they provide a high quality health service unless they manage their waste in globally accepted ways. The main groups at risk are medical officers, nurses, health-care auxiliaries and hospital maintenance personnel, Patients in health care establishments or receiving home care, visitors to health care establishments, workers in support services allied to health care establishments, such as laundries, waste handling and transportation; workers in waste disposal facilities (such as landfills or incinerators) including scavengers.

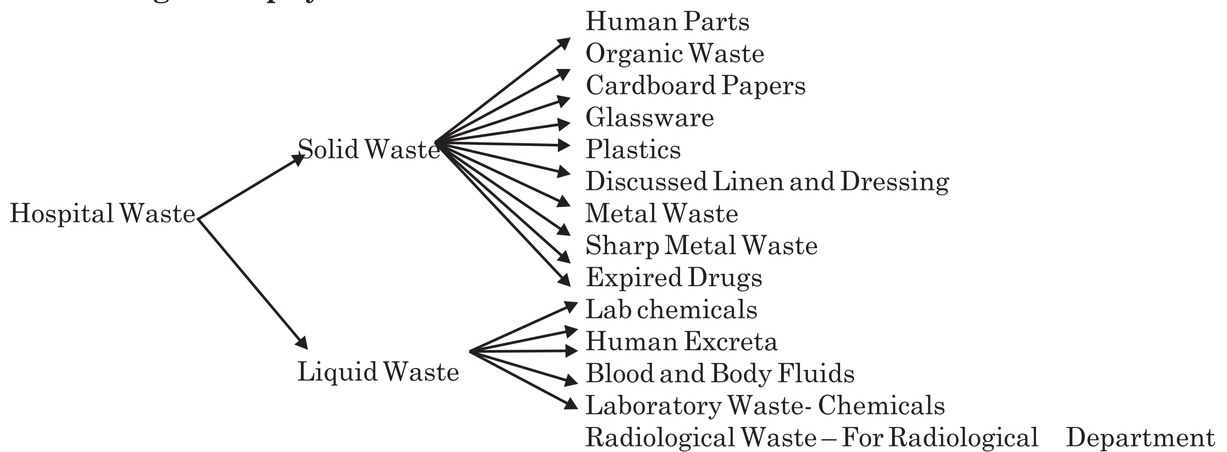
The unpleasant and unsafe situation motivated the hospital administration and the staff to think about this issue and developed a solid and sustainable program to manage hospital waste at DGH Matale. This effort was supported by the Provincial, District Health administration and also by well wishers. DGH Matale has become a model institution in waste management to the other health institutions in the country.

6.6.1 Definition

Healthcare waste includes all the waste generated by healthcare establishments, research facilities and laboratories. In addition, it includes the waste originating from minor or scattered sources such as that produced in the course of health care undertaken in the home (dialysis, Insulin injections etc.).Between 75% and 90% of the waste produced by healthcare providers is non-risk or general healthcare waste, comparable to domestic waste. It comes mostly from the administrative and housekeeping functions of healthcare establishments and may also include waste generated during maintenance of healthcare premises. The remaining 10-25% of healthcare waste is regarded as hazardous and may create a variety of health risks.

6.6.2. Classification

According to the physical nature



According to the composition

i. General Waste
ii. Hazardous waste
A. Pathological
B. Radio-active
C. Chemical
D. Infections to potential infectious waste
E. Sharps
F. Pharmaceutical
G. Pressurized containers

6.6.3 Assessment of waste generation - DGH Matale

Average composition of hospital waste per day

Material	Weight (Kg)
Organic waste	200
Plastics	20
Sharps	02
Infectious waste	30
Paper & cardboard	10
Others	15

6.6.4 Objectives of the project

General Objectives

To implement a sustainable waste management system for the hospital to overcome all problems resulted by improper hospital waste management

Special Objectives

- ★ All sewerage pits are connected to the main sewerage system by 2008.
- ★ All general waste and infectious waste should be managed by using most appropriate and recommended methods by 2009.
- ★ The treatment plant to treat the final discharged water from the hospital main drain including storm water and laundry discharges should be completed by 2012.

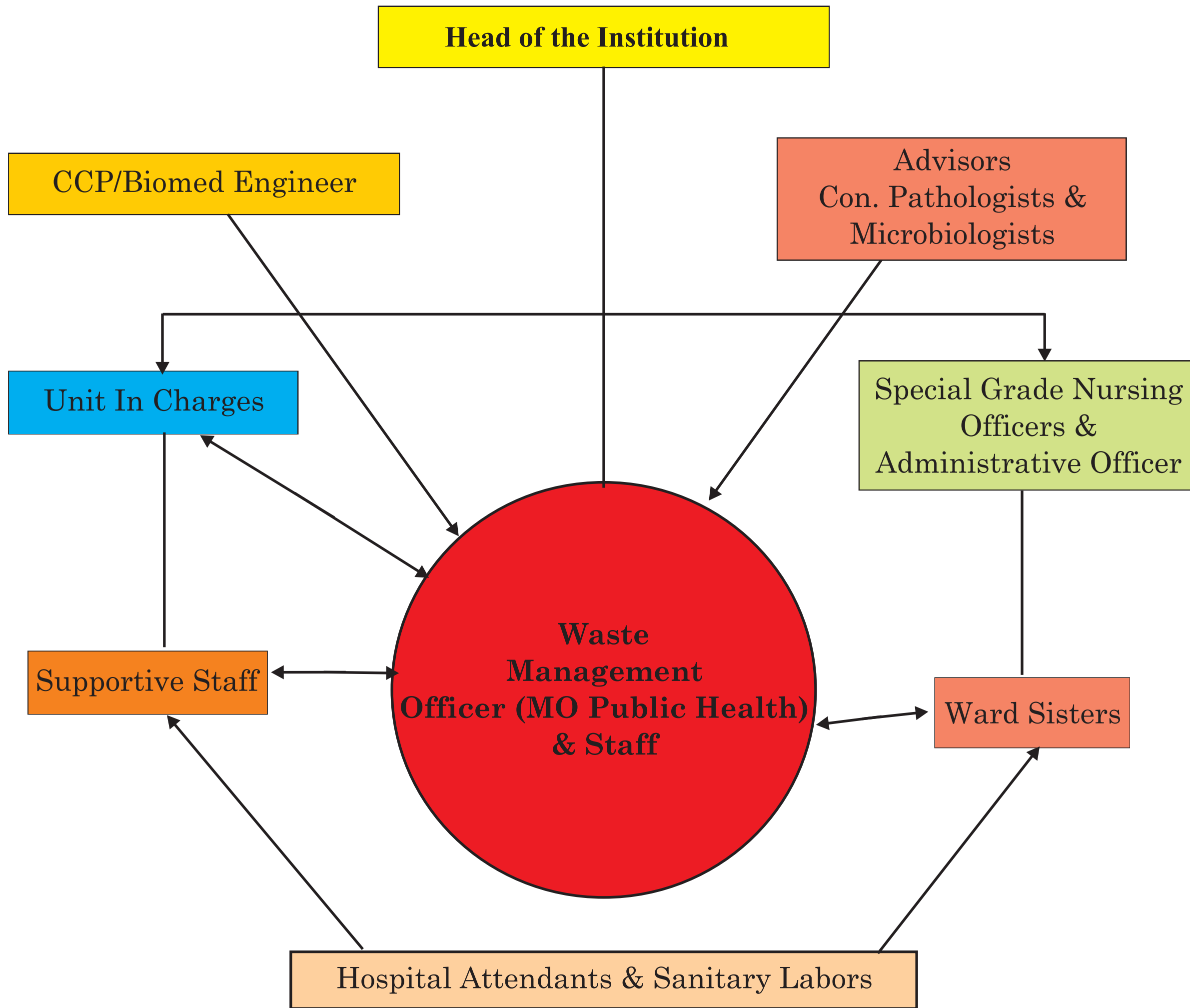
6.6.5 Principles adopted for waste management

- ★ Reduce – Several actions were taken to reduce productions of waste among those actions to restrict visitors, patients and avoid ordering extra or unnecessary diets for patients were stopped.
- ★ Reject – some actions to stop some items being brought to the hospital such as polythene and king coconut shells.
- ★ Reuse – Although the hospital has less opportunity to reuse waste, the hospital always look for opportunities to reuse whatever possible to use with safety. At the moment, we use all small and large discarded plastic containers to collect specimens of patients.
- ★ Recycle – All recyclable waste are sold for recycling especially plastic containers.
- ★ Reclaim – Although it is not possible all the time, items are removal from discarded instruments that can be used for repairing the same instrument or that can be used as substitutes for another instruments.
- ★ Regenerate – The institution is planning to produce bio gas by using all organic waste produced by the hospital for cooking.
- ★ Revenue – The hospital has already earned around Rs. 20,000 – 30,000 by selling waste generated by the hospital including papers, cardboard, plastics, etc.

Hazardous waste

Type of the waste	Methods to be used for disposal
Infectious waste	Incineration
Sharps	Incineration
Human parts (OT/Mortuary)	Safe burial in hospital premises
Placenta	Safe burial in hospital premises
Laboratory waste	Safe burial in hospital premises
Pharmaceutical waste	Return to supplies/ Safe burial in hospital premises

6.6.6. Hospital Waste Management Plan



6.6.7 Action Plan For Implementation of The Project

The action plan to complete the whole project of health care waste management in DGH Matale was designed in three phases

Phase	Identified Activities	Duration	Estimated Cost
1	Construction of the hospital sewerage system	2007- 2008	1.1million
2	Health care waste management system to be established. Construction of incinerator, placenta pit, final waste treatment center, bio gas unit, waste storage center, purchase of waste bins & bag	2008 - 2009	2.4 millions
3	Establishment of discharged water treatment plant	2010 - 2012	1 million

Activities identified in each phase

Phase 1

Construction of sewerage plant – This included the preliminary survey to identify the number of latrines, man holes of the hospital, Identification of the site for the plant, Drawing a map including all man holes to the main sewerage drain, Finalize the location of man holes and drains and the site of the plant after having discussed with all relevant parties including hospital infection control team which includes consultant microbiologists, MO PH and ICN, Construction of man Holes, drains and plant, Staff training, commissioning and running the plant and do the chemical analyze of the final discharge

Phase II

Design and implementation of the hospital waste management system - Several sites were selected to visit by a team including all managers of the hospital. Following places were selected to visit by the team. Castle Street Hospital for Women –Colombo,Teaching Hospital – Karapitiya, General Hospital – Panadura, Kandalama Village Hotel, MOH office – Naula and the Waste Management Site of Matale Municipal Council

The proper management of healthcare waste depends largely on good administration and organization and also requires adequate legislation and financing, as well as active participation by trained and informed staff. The medical superintendant formally appointed the members of the waste management team in writing, informing each of them of their duties and responsibilities. This helped in implementing the project smoothly. Special awareness programs were Conducted to make all the hospital staff aware of the project during the first six months of 2008.

General and infectious waste collection was done at unit level. This includes discarded food, papers, card boards, plastic, glasses and infectious wastes including removed dressings, used swabs etc.

I. Collection

Plastic bins were used to collect waste according to the standard color code at the unit level. In order to maximize the use of the bins, it was decided to use polisac bags according to the same standard color code with the bin. Only the bag will be removed daily to the waste management site and the bin will be fixed to a stand placed in the ward. Waste bin stand was made by the hospital maintenance unit according to the request of the unit.

II. Transportation

Satellite waste bag collecting centers identified as “Pivithuru Center”. Ward staff should send these bags to respective collecting centers before 8.00 am daily. A considerable distance to the final waste management center from these satellite centers was noted and specially designed tractor was organized to transport waste from satellite centers to the final disposal site. There were separate chambers in the tractor to collect waste according to the same standard color code.

III. Final Disposal

All infected waste collected was incinerated. All general waste and discarded food was brought to the final disposal center for final segregation of waste.

All organic waste was handed over to be municipal council after removing all non degradable items very carefully. Reusable waste such as papers, cardboard, polythene, and plastics are cleaned, packed and sent to the temporary store for handing over to the reusable centers.

All the sharp waste including used needles, syringes, intravenous needles, blades are collected into sharp bins which was prepared by the infection control unit of the hospital. All the sharp bins were transported and incinerated every sunday under direct observation and supervision of the ICN of the hospital.

A locally designed placenta pit was made after visiting some hospitals for disposing of placenta. Labor room staff transport and empty the placentas daily into the placenta pit under the supervision and direct observation of the hospital PHI.

All human parts from mortuary and laboratory are with disinfected first and careful burial in the hospital land.

Laboratory Waste (Liquids, Discarded specimens, ABST disks, culture plates, samples and chemicals)-Liquid waste is diverted into a soakage pit and other solid waste buried in the hospital land.

Phase III

This has been designed and has been planned to be implemented in year 2011/2012.

Activity Plane

Activity	Time frame	Budget (RS)
Designing hospital sewerage system	Late 2006	No expenditure
Construction of the hospital sewerage system	2007-2008	1.1millions
Labor training of the hospital sewerage	January 2008	No expenditure
Start operation of the system	February 2008	-
Planning the incinerator and Placenta pits	Mid 2007	No expenditure
Start construction of two units	Beginning of 2007	-
Completion of incinerator and placenta pits	End of the 2007	400,000/=
Start operation of the units (incinerator and placenta pits)	Beginning of 2008	-
Designing the hospital solid waste management system	Beginning of 2008	-
Procurement of the equipments and machines to the waste management system	Mid of 2008	-
Completion of the procurement of equipment and machines	End of 2008	800,000/=
Arrangement of the instruments and machines for waste collection and transport	End of 2008	-
Start construction of the bio gas unit	Mid 2008	-
Completion of the construction of the bio gas unit	End of 2008	800,000/=
Construction of the waste storage site	Mid 2008	-
Completion of the waste storage unit	End of 2008	400,000/=
Starting the hospital waste management	Beginning of 2009	-
Designing treatment plant for the waste water from the hospital premises	Beginning of 2010	-
Construction of the treatment plant for hospital waste water	End of 2012	1,000,000 /=

6.6.8 The following indicators were used to monitor the project

Output Indicators (measureable)

Allocation for emptying septic tank of the pit toilets, Allocation for insecticides for controlling flies, Allocation for providing garbage bins repeatedly, Expenditure for excess water usage for frequently cleaning of wards and drains due to unplanned garbage collection, Excess expenditure for antibiotics to control hospital acquired infections due to unclean environment eg: Neonatal Sepsis

Output Indicators (non measureable)

Clean and attractive environment, Hospital environment free from flies and other insects, animal such as dogs and goats, Creating eco-friendly environment, Building a health protective environment, Good responses from hospital visitors, Development of the attitudes of health staff regarding waste management project, Development of new knowledge of health staff regarding waste management project, Good responses and assistance from the patients and visitors in managing waste, Increase the reputation from various government organizations (Continuous field visits by government organizations, non government organization, etc.), Special recognition for the waste management project in the quality award competition

Indicator	2007	2008	2009
Neonatal infections	32	37	Nil
Insecticide for fly control (Rs.)	10,000	Nil	Nil
Expenditure for garbage bins (Rs.)	132,000	132,000	75,000
Sharp injuries	Records not available	23	11
Revenue from recycling saline bottles	Burned	Burned	2000kg x 45.00
Revenue from recycling waste paper and cardboard	Burned	Burned	120kg x 15.00
Minimizing waste transportation human resources	17X2	20X2	4

The special effort of the medical superintendent Dr.W.K.W.S. Kumarawansa and his team should be commended for the above project which has shown positive results and with the implementation of the biogas project in 2010 it is envisaged that all hospital waste will be managed within the hospital premises. The Department of Health Central Province would encourage all hospitals in the Central Province to learn from this experience and implement similar projects in each hospital to minimize all health and environment hazards due to improper disposal of hospital waste.

7. SPECIAL CAMPAIGNS

7.1 Respiratory Disease Control Unit

The resurgence of tuberculosis globally, and its association with HIV and the emergence of multi-drug resistant TB has made tuberculosis a communicable disease of high priority. Matale and Nuwaraeliya Respiratory Disease control units, are attached to District General Hospitals. Respiratory Disease control unit Kandy is functioning separately at Bogambara while inward patients care located at Teaching Hospital Kandy. All three units are functioning under purview of the consultant chest physicians.

Table. 7.1 Incidence of Tuberculosis cases by type

Type	2008	2009
PTB smear +ve	488	472
PTB smear -ve	388	405
EPTB	298	310
Total	**1,174**	**1,187**

Total number of new Tuberculosis cases has increased in the year 2009 as compared to 2008. Number of smear negative cases and extra pulmonary cases have increased in 2009 compared to 2008, while the smear positive number has decreased.

Table. 7.2 Case detection rate per 10,000 population of the new smear positive cases

District	Estimated target	2008	2009
Kandy	389	275	297
Matale	135	127	111
N-eliya	211	86	64
Central Province	**735**	**488**	**472**

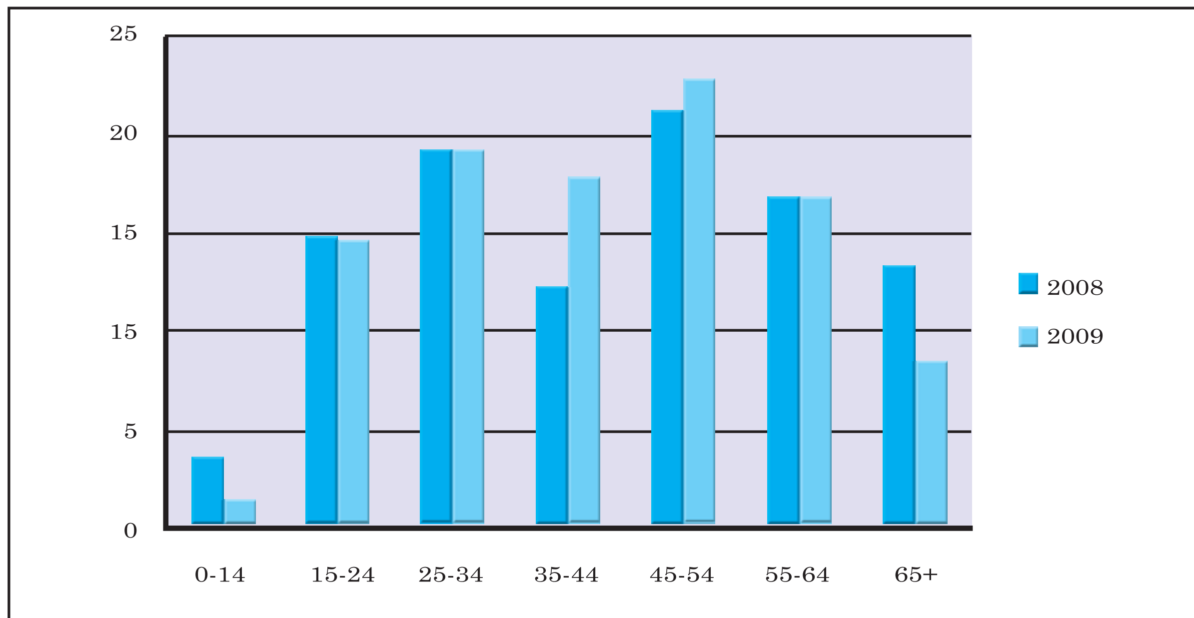
Case detection rate is below the estimated targets in both years and it has decreased in the year 2009 in all three Districts compared to 2008.

Table. 7.3 Distribution of new smear positive cases by sex

District	2008		2009	
	Male	Female	Male	Female
Kandy	62.3	37.7	79.1	20.9
Matale	77.2	22.8	68	32
N-eliya	58.1	41.9	55	45
Central Province	**65.2**	**34.8**	**67.4**	**32.6**

Proportion of females among new smear positive cases has increased in Matale and Nuwaraeliya Districts compared to year 2008, while Proportion of females have decreased markedly in the Kandy District.

Fig. 7.1 Percentage distribution of new smear positive cases by age



Percentage of new smear positive cases among 35 – 44 years and 45 – 54 years age categories have increased in 2009 as compared to 2008.

Table. 7.4 Distribution of new cases of TB by District

	2008	2009
Kandy	769	836
Matale	243	195
Nuwaraeliya	162	156
Central Province	**1,174**	**1,187**

Number of new cases of Tuberculosis diagnosed during the year 2009 has decreased in the Matale and Nuwaraeliya Districts, while the number of new cases detected has increased in the Kandy Districts as compared to 2008.

Table 7.5 Clinic attendance

Category	2008		2009	
	Number	%	Number	%
Referred	7,458	26.2	10,484	29.6
Self referred	14,116	49.6	15,668	44.2
Contacts	2,392	8.4	3,013	8.4
Medicals	4,516	15.8	6,294	12.8
Total	**28,482**	**100**	**35,459**	**100**

Numbers of self referred cases to clinics in the Province have increased compared to year 2008 though it's decreased as a percentage. This is due to awareness programmes conducted for the general population through public health staff and increased number of outreach clinics by the chest clinics in respective Districts.

Table 7.6 No of investigations carried out and results

	2,008	2009
No of smears examined	25,838	41,864
No of smear positive slides	1,175	1,610
No of smear negative slides	24,183	40,254
No of X rays carried out	13,610	14,939
No of films used	14,441	15,694

Number of smears examined has increased while slide positive rate in Matale and Nuwareliya clinics has increased while in Kandy was decreased compare to year 2008. Number of X rays carried out has increased in 2009 as compared to the previous year while the wastage of films was decreased from 6.1% in 2008 to 5.1% in 2009.

7.2 Mental Health Services

In the Central Province in-ward, specialized Mental health services are available only at General Hospital (Teaching), Kandy (GHK) and Teaching Hospital, Peradeniya (THP). Anybody with any mental health problem from all parts in the CP had to come to GHK or THP to receive inpatient care which was a burden to the family.

During 2008, one Medical officer each, from the Community Mental health resource centre, Kandy was requested to coordinate the mental health activities in the Matale and Nuwara Eliya Districts. This improved the coordination and setup the basic system. During 2009, one MO Mental Health was appointed to Nuwara Eliya District and three consultants were appointed to DGH Matale, DGH Nuwara Eliya and DGH Nawalapitiya which had a boosted effect to strengthen the Mental Health Services in the Province.

Special outreach clinics, training programmes and the basic ground work to set up in-ward facilities at DGH Nuwara Eliya and DGH Matale were established in 2009. District Mental Health Steering Committees were established to improve the mental health services at District level. 'Nivahana society of Kandy" (NSK), a local NGO, actively supports the mental health programme in the Province. Voluntary Service Overseas (VSO), through NSK has been providing foreign volunteer experts for the last 16 years. They are from fields like, Community Psychiatric Nursing, Psychiatric Social Workers (PSWs), Occupational Therapists (OTs), Management Consultants, Clinical Psychologists, Child Mental Health trainers, etc. They have also provided training for the PSWs to be master trainers in aggression, prevention and management.

The mental health services being implemented in the Central Province has been identified as a model for other Provinces in Sri Lanka.

7.2.1 Mental health Promotion and Prevention

Strength of the Central Province's Mental Health programme lies on the already established primary health care structure where the MOH is the key person. 30 MOHs in the Province were trained in the annual 4 day Mental Health training programme for Medical Officers. It is planned to assign one MOH for mental health coordination of the area.

PHM's role is crucial in improving the quality of community care of psychiatric patients. Their motivation is to be increased by enlisting the support of the field staff of the AGA office of the relevant MOH area. This is being coordinated by the CMHRC of the District, supported by the District and Provincial management levels.

The well established system of collection of statistics based on the regular sending of mental health returns by PHM, MOH and peripheral clinics to the relevant CMHRC of the District is vital for evaluating the progress of the Community Mental Health Programme.

7.2.2. Mental Health Care

Table .7.7 No of functioning clinics by District

	2008	2009
Kandy	21	21
Matale	10	10
Nuwaraeliya	07	15
Central Province	**38**	**46**

Table 7.8 No of new cases referred by category

Category	2008		2009	
	Number	%	Number	%
From DH	1,561	29	455	12.8
By PHM	2,847	53	416	11.7
Other	967	18	2,678	75.5
Total	**5,375**	**100**	**3,549**	**100**

Table 7.9 Diagnosed new cases by type of disease

ICD 10 code	Diagnosis	Kandy	Matale	Nuwara Eliya	Total Central Province
F00	Dementia	29	9	1	**39**
F05	Delirium	04	24	-	**28**
F10	Alcohol Use Disorders	203	91	17	**311**
F11	Drug Use Disorders	03	12	5	**20**
F17.1	Tobacco Use	01	1	-	**2**
F20	Chronic Psychiatric Disorder	162	298	49	**509**
F23	Acute Psychotic Disorder	37	64	6	**107**
F31	Bipolar Disorders	111	126	47	**284**
F32	Depression	730	452	194	**1376**
F40	Phobia Disorders	12	9	2	**23**
F41.0	Panic Disorder Generalized Anxiety	14	7	12	**33**
F41.1	Generalized anxiety	34	23	-	**57**
F41.2	Mixed anxiety and Depression	19	25	7	**51**
F43	Adjustment Disorder	37	19	7	**63**
F44	Dissociative disorder	08	10	2	**20**
F45	Unexplained Somatic Complaint	25	32	14	**71**
F48	Neurasthenia	-	0	-	**0**
F50	Eating Disorder	01	1	-	**2**
F51	Sleep Problems	02	6	-	**8**
F52	Sexual Disorders	09	9	5	**23**
F70	Mental Retardation	70	26	18	**114**
F90	Hyperkinetic Disorder	34	80	6	**120**
F91	Conduct Disorder	10	0	1	**11**
F98.0	Enuresis	24	8	3	**35**
N.a	Other (please specify)	442	3	124	**569**
F9b	Epilepsy		13	7	**20**
	Delusional Disorders			2	**2**
	Hypomania			1	**1**
	Post partum psychosis			1	**1**
	OCD		28	1	**29**
	Autism			1	**1**
Z93	Breavement Disorders		0		
F9a	Suicide/Para Suicide		24		**24**
Total		**2,021**	**1,400**	**583**	**3,954**

Nearly two third of the newly diagnosed cases in the Central Province comprises of patients with depressive and psychotic disorders.

Table 7.10 No. of persons trained by category

	2008	2009
Medical Officers/ RMO in Hospitals (MO/MOH)	70	59
Other Health staff	766	916
Grama/ Samurdhi Niladhari	75	158
School teachers	65	214
Volunteers	75	75
School children	238	201
Religious leaders	80	-
Nursing Officers	-	103
District Meeting	-	115
World Mental Health day	-	350
Prison Officers	-	116
Police officers	125	117
Total	**1,494**	**2,464**

Mental Health Resource Centre (MHRC) have trained nearly 2,464 people in the Central Province in 2009. This includes school children, volunteers, other government employees and members from various categories of health staff. The MHRC has identified the need to strengthen the training of health workers through the development of skills of the different categories of staff. In year 2009 MHRC have done informal training programmes for field and institutional health staff, figures of which have not been included in the above. With the appointment of District level coordinators for Mental Health, it is envisaged that more training will be done by the District teams in Matale and Nuwara Eliya Districts in 2010.

Kandy District

Number of functioning clinics in the Kandy District has increased with appointment of new Medical Officers (Mental Health) to the Base Hospitals and selected District Hospitals in 2008/2009.

❖ Out Reach Clinics

1. Udadumbara 2. Kuruduwatta 3. Panvilathanna 4. Pussellawa

Matale District

❖ Hospitals covered:

1. DGH Matale 2.DBH Dambulla 3. DH Galewela 4. DH Nalanda
5. DH Koongahawela 6. DH Yatawatta 7. DH Leliambe 8. DH Sigiriya
9. DH Muwandeniya

In the Matale District the total number of patient consultations conducted amounted to 18842 while the number of new patients seen was 1338. Further, 17,504 patients were provided with follow up consultations in the District.

Sources of new referrals were MO/GP (1223), other specialists (150), OPD (127), Self, family, Consultant Psychiatrists (67), DDHS/MOH (36), PHM/PHI (5)

Of those seen at clinics, 79 were admitted to ward, 2764 were given further appointment,11 were referred to consultants Psychiatrists, 105 were referred to MOH and 14 were discharged.

Nuwara Eliya District

❖ **Acute in patient services**

Acute inpatient Unit was inaugurated with the participation of Minister of Health, the Director of Mental Health and other Officials at the DGH NuwarEliya, on 10th November 2009. This project was funded by the Ministry of Health.

A functioning inpatient Unit was a long felt need and it was an essential necessity for Nuwara Eliya to function independently. The Unit consists of both male and female wards; each ward can accommodate at least 10 patients at a given time. The basic plan was designed to accommodate a room for ECT with provisions to add seclusion facilities in future. While in ward, every patient has the opportunity to be seen by the Consultant Psychiatrist.

❖ **Outpatient Services**

At the start of 2009, there were 9 functioning clinics, which included the main clinic at DGH Nuwara Eliya. 6 new clinics were started at the following hospitals during 2009:

1. DH Udupussallawa
2. DH Dayagama
3. DH Agarapathana
4. DH Lindula
5. DH Maskeliya
6. DH Bogawanthalawa

According to the proposed mental health policy, there should be one functioning clinic for mental health in each MOH area. To achieve this target, the number of clinics was increased to 15 in total.

	2008	2009
No. of functioning clinics	09	15
No. of Outreach clinics	03	09
No. attending Outreach clinics	990	1846

❖ **Resource Centre**

A Resource Centre was commenced under a designated Medical Officer who was attached to the Office of the RDHS – Nuwara Eliya. Following activities were commenced and continued:

- Co-ordination of all Mental Health activities in the District
- Maintaining relevant statistics regarding Mental Health Services in Nuwara Eliya District
- Report such data to relevant persons / units / sections
- Prepare District Mental Health plan
- Monitoring the progress of implementation of mental health services
- Provide support and assistance to Mental Health personnel in the District, if the need arises
- Organize District Mental Health review meetings quarterly
- Coordination of distribution and availability of drugs in the District
- Coordination of mental health awareness programmes in the District

❖ **Specialized services**

Following specialized services were started during 2009

1. Child psychiatry clinic at DGH Nuwara Eliya
2. Alcohol rehabilitation clinics at DGH Nuwara Eliya & DBH Dickoya
3. Forensic psychiatric services at DGH Nuwara Eliya
4. Home visits
5. Awareness programmes for nurses and midwives

❖ **Research**

A research project was planned to analyze the trends of deliberate self harm and alcohol use, which were identified as 2 major burdens to the community of the District.

7.2.3 Tertiary Inpatient Psychiatric care Services at TH Kandy and TH Peradeniya

a) Teaching Hospital Kandy

The Psychiatric Department at TH Kandy has 60 beds and two consultant units. Generally, bed occupancy in wards is more than 100% at any given time with a high turnover of patients throughout the year. The average stay of a patient ranges from 1 to 2 weeks.

At Kandy, there is a day center, where day care is provided for patients six days a week. Every friday a part time counselor from the National Youth Council provides counseling service while every Wednesday a voluntary counseling service is provided by final year psycology special degree students from University of Peradeniya. Psychiatric social work is provided by 02 PSWs. They do home visits, help patients to sort out social problems and also organize annual Sinhala/Tamil New Year celebrations and consumer society. The unit liaises with the Social Service Department to obtain self employment allowance, housing allowance etc. for patients. Family meetings and music therapy programs are also organized by PSWs once a month. School children in the Kandy area, in rotation take part in these music programs in the psychiatric wards.

Aggression prevention and management training for hospital staff in the Province and other Province are done by the two PSWs as they are the master trainers.

The Department at Kandy holds a Sinhala/ Tamil New Year celebrations annually in a ground outside the hospital. While being a popular annual event amongst patients, their family members and the staff, it has also being subjected to a wide media coverage.

Another specialized service Provided by this Department is forensic Psychiatric service with a large number of persons being referred from the courts for forensic psychiatric reports.

Psychiatric Department Kandy and Peradeniya are accredited units for postgraduate training in MD Psychiatry, Diploma in psychiatry and Kandy under takes Psychiatric Training for general MD, Diploma in Family Medicine & MSc in Clinical Psychology.

b) Teaching Hospital Peradeniya

Teaching Hospital, Peradeniya (THP) has a male unit (32 beds), a female unit (35 beds) and a Neuro Psychiatry Unit (10 beds). The head of the Department of Psychiatry, Faculty of Medicine, University of Peradeniya also heads the Peradeniya Hospital Psychiatry Unit.

In 2009, following clinics were conducted in the hospital:

1. General Psychiatry Clinic
2. Clinic for slow learners
3. Clinic for sexual disorders
4. Clinic for substance abuse
5. Child Psychiatry Clinic

THP also has an active 6 days a week Day Centre where two Occupational Therapists are based. One Social Worker is supported by two Mental Development Officers who are trained in social work. There are Day Centre based social skills training programmes, alcohol anonymous type Saturday morning Alcohol Programme and exercise programmes for patients conducted in association with the University gymnasium. Teaching and awareness programmes are frequently held for the staff by the Consultant Psychiatrists and Senior Registrars.

The Nursing Officer in Charge of the Clinic has a special interest in the area of slow learners and runs a very successful parental group with the advocacy of the Psychiatrist running the Clinic. The respective clinic also trains the members of the NGO 'Women's Development Centre'.

The Unit works in coordination with the Social Services Department, National Child Protection Authority and some other Governmental and Non Governmental Organizations in Mental Health. (e.g. Nivahana, Provincial Department of Health, Central Province)

THP gives supervision and support to Maampitiya Alcohol Rehabilitation Centre. Together with Teaching Hospital, Kandy, THP also provides support to Deltota Rehabilitation Centre.

Table 7.11 Patients Treated by type of Disease

	TH Kandy	TH Peradeniya
Number of admissions	2402	5365 (including readmissions)
No of ECT	2100	DNA
Discharge	1969	503
Deaths	06	01
Forensic Reports	179	DNA

Table 7.12 ICD 10 code Diagnosis (Admissions)

		TH Kandy	TH Peradeniya
F00	Dementia	11	2
F05	Delirium		2
F10	Alcohol Use Disorders	33	39
F11	Drug Use Disorders		2
F17.1	Tobacco Use		2
F20	Chronic Psychotic Disorder	98	33
F23	Acute Psychotic Disorder		33
F31	Bipolar Disorders	130	473
F32	Depression	569	DNA
F40	Phobia Disorders	49	7
F41.0	Panic Disorder	20	DNA
F41.1	Generalized anxiety	33	DNA
F41.2	Mixed anxiety and Depression		DNA
F43	Adjustment Disorder		DNA
F44	Dissociative disorder	41	DNA
F45	Unexplained Somatic Complaint	20	DNA
F48	Neurasthenia		DNA
F50	Eating Disorder		2
F51	Sleep Problems		DNA
F52	Sexual Disorders		DNA
F70	Mental Retardation	50	3
F90	Hyperkinetic Disorder		2
F91	Conduct Disorder	16	DNA
F98.0	Enuresis		DNA
N.a	Other (please specify)	368	

DNA – Data Not Available

Special Programmes

	TH Kandy	TH Peradeniya
No of home visits by PSW	265	DNA
Musical therapy Programs	10	
Family meetings	15	
General Counseling	325	
Alcohol Clinic	22	
Day Center	New 900 - follow up 5400	
Clinical Psychology	New 42 follow up 74	DNA
Community Awareness Programs	10	
Consumer Group Meetings	11	
Staff Awareness Programs	5	
Sinhala/Tamil New Year Celebration	1	

Table 7.13 Special Clinics

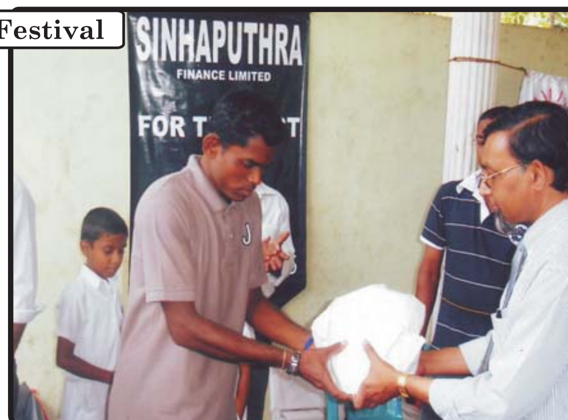
Clinics 2009	TH Kandy		TH Peradeniya
	New patients	follow up patients	New patients
Alcohol Clinic	84	160	73
Sex Clinic			46
Child Psychiatric Clinic	85	360	177
Mental Retardation Clinic			183
Adult Clinic	1,626	26,400	531
Day Center	900	5400	DNA
Clinical psychology	42	74	
General Counseling	98	325	
Total Number of new patients	2,835		1,010

Teaching Hospital Peradeniya -Occupational Therapy unit -2009

	2009
Number of Previously Registered Patients	88
Number of New patients Registered	192
Number of patients Visits	1,487
Number of Treatment Units Given	8,848

Mental Health Wards - TH Kandy

New Year Festival



7.2.4 Psychiatric care service at secondary care institutes

DGH Nawalapitiya, DGH Matale and DGH Nuwara Eliya are the Secondary care hospital that provide Psychiatric services in the Province. In Nuwara Eliya a mental health ward was established in November 2009. However in Matale and Nawalapitiya the patients are admitted to medical wards for initial management and thereon transferred as necessary to tertiary care units.

Acute Psychiatric unit at DGH Matale is under renovation to provide separate inward care for psychiatric patients.

	DGH Nawalapitiya	DGH Matale	DGH Nuwara Eliya
Clinic data			
Total number of patient consultations	6,160.	13,033	5,165
Number of new patients seen	541	737	623
Number followed up	5,619	12,296	4,542
Outcome of Clinic visits			
Admitted to ward	74	79	DNA
Transferred	35	11	DNA

a) Mental Health unit - DGH Nawalapitiya

The Mental health unit of the DGH Nawalapitiya has been functioning since the year 2000. It provides psychiatry clinic care and day centre facilities for the population of the Nawalapitiya area as well as for some areas of the Nuwara Eliya District.

In 2009 the mental health unit was headed by a Consultant Psychiatrist. The staff included 2 Medical Officers of Mental Health, 2 Nursing officers who were trained in Psychiatry, a Volunteer teacher and an alcohol counselor from"Methsevana" – Mampitiya alcohol and drug rehabilitation center. The facilities included a clinic room and a day Centre room.

Patients are referred to the clinic from several sources. Those treated by Consultant psychiatrists in other hospitals are referred for follow up to the clinic. New patients are referred by other specialist/ consultants, GP's, the MOH offices etc. Patients are also sent by the Police, schools and from other non-profit organizations who help the needy. A few patients are reffered by their families or come themselves.

Clinic sessions were held as follows:

A. Adult clinics
B. Child clinics
C. Alcohol clinics

D. Outreach clinics
- BH Gampola
- DH Ginigathhena

The most common psychiatric disorder diagnosed at the clinic is Depression(n=2403). Chronic psychotic disorders (Schizophrenia)(n=1916) and Bipolar affective disorder(n=1146) are the next most common.

- **Day center activities.**

Total number of clients registered was 20. "Nisala" activities were conducted every Tuesday, Thursday, and Saturday. Activities were supervised by the volunteer teacher, the nursing officers and the attendant.

Annual exhibition.

Exhibition of the arts and crafts made by the clients attending the day centre was held at the beginning of the year.

Annual trip

The clients were taken on the annual trip to the Peradeniya botanical gardens under the supervision of the volunteer teacher and the nursing officers and doctors.

7.2.5 Rehabilitation Services

Mental Health rehabilitation services in the Central Province are provided by "Sisila" Rehabilitation and Training Hospital, Delthota, DH Leliambe, and DH Maldeniya. A half way home has been established at DH Muwandeniya and another one is being established at DH Walapane and will be opened in early 2010.

Most of the residents are referred from the acute psychiatric wards at Kandy and Peradeniya Teaching Hospitals. Many of the patients are those who had lost personal, occupational and social skills consequent to the repeated episodes of mental illnesses such as schizophrenia, bipolar disorder or severe depression.

Rehabilitation is based around a structured day involving everyday tasks such as sweeping and cooking, religious activities, personal care activities, outdoor work such as agriculture or caring for the cow, and indoor work such as making rugs or pharmacy bags. In the afternoons and evenings there are recreational, cultural, sports and educational activities for which all residents are encouraged to participate. These include life skills sessions on topics such as money and budgeting, completing forms, and using local facilities.

All cultural and national festivals are celebrated at the centre. World Mental Health Day is celebrated with an exhibition involving the display of awareness raising banners and posters. Family involvement is crucial to the success of rehabilitation. This is made possible through conducting monthly Relatives' Society meetings and encouraging regular family visits. Through helping out with work parties, family members are able to learn about mental illnesses and thereby support the family member to re integrate into society. Families as well as residents benefit from education about psychiatric medication and other health topics. Rehabilitation involves educating neighbours too.

Since October 2008, Sisila Deltota has had a volunteer from Voluntary Services Overseas, working with staff and residents to improve the rehabilitation practices and processes. This volunteer, Ms. Jenny Hulin, was a mental health social worker in the UK and is here for 2 years. She has been carrying out staff training in both knowledge and attitudes, and has established regular staff and residents' meetings. Under her directive there have been improvements to the procedures carried out, such as formulation of admission and discharge checklists, care planning, discharge planning, daily and weekly planning.

With funds from VSO and the use of local resource people from Small Industries and elsewhere, staff and residents have been trained in new rehabilitation activities such as hana and thala kola, recycled paper, and improved techniques for agriculture and horticulture. It is planned to integrate these activities into the regular programmes, to improve income generation capacity of the patients.

Consultants ,Senior Registrars and registrars from Kandy and Peradeniya Hospitals visit Sisila Deltota monthly, while the psychiatric team from Matale visits DH Leliambe and Muwandeniya and the psychiatric team from Nawalapitiya visits DH Maldeniya on a regular basis.

Care provided at Rehabilitation Hospitals

	Sisila Delthota	DH leliambe	DH Muwandeniya	DH Maldeniya
Number beds	39	10	12	20
Number admission	25	35	76	21
Number Discharged	14	35	65	16

Rehabilitation Hospital - Delthota

7.2.6 Alcohol Rehabilitation

Upto mid 2008, Alcohol Rehabilitation Unit at Mampitiya was the only government institute which provided rehabilitation facilities for alchoholic patients. It is located in the Udunuwara Divisional Secretariat, off Peradeniya-Dualagala road adjoining DH Maampitiya, in an environment that is both pleasant and aesthetically soothing to the mind.

It is administered under direct supervision of the Psychiatry Unit of the Peradeniya Teaching Hospital. However, it provides treatment for both mental as well as physical ailments.

Though located in the Central Province, it provided services for persons from any region of the country. Each patient is admitted to the unit under a patient admitting agreement.

Patients are referred to the unit in several ways:

- Referral by Consultant Psychiatrists / Office of the Regional Director of Health Services / hospital Out Patient Departments / other hospitals / MO – Mental Health or other Medical Officers / Government and Non government Organizations
- Self admission
- Through recommendations of past patients or family members

Alchohol rehabilitation service have been strengthened gradually over the past four years and since January 2008, two follow up clinics were started to manage psychiatry patients and alcohol dependent patients separately.

Services provided for inpatients

★ Alcohol detoxification ★ Motivational interviewing
★ Motivational Enhancement Therapy
★ Alcohol Education ★ Simple Advice ★ Brief Counseling ★ Counseling
★ Family meetings ★Health educational programs ★ Life competencies
★ Investigations (with the help of TH Peradeniya) ★ Group meetings
★ Refer to Social Services Department ★ Referrals to other hospitals
★ Library service for patients ★ Sports activities

Services provided for clinic patients

◆ Follow up review ◆ Medications ◆ Referral to hospitals ◆ Counseling

Over the years Mampitiya alcohol rehabilitation centre has been catering to an increasing number of patients as is evident from the rise from 120 in 2002 to 287 patients in 2009. According to the data, the largest number of patients have been aged between 41-50 (123 patients) whereas the lowest number has been in the age categories of 5-20 & >61 years (11 patients) Highest percentage of patients have been Buddhists and the lowest, Muslims. (79.8% and 4.2% respectively). Sinhalese have had the highest admission (82.2%) while 13% had been Tamils and 4.2% had been Muslim. 91% of the total admitted were found to be married.

	2008	2009
New Admission	166	154
Re admission	142	133
Clinic	954	963
• Alcohol Rehabilitation	442	414
• Psychiatry	512	549

Patient Admission according to Districts

	Kandy	Matale	Nuwara Eliya	Other regions	Total
Number of Patients	142	22	10	113	287
Percentage	49.4%	7.6%	3.5%	39.5%	100%

It is notable that the number of patients getting admitted from other regions outside Central Province is more than the admissions from Matale and Nuwara Eliya District.

Rehabilitation Hospital - Mampitiya

7.3 STD HIV/AIDS Control Programme

Early case detection and management, partner notification, contact tracing, health education, counseling, condom promotion, surveillance and dissemination of information are the major strategies adopted by the National Sexually Transmitted Diseases/ AIDS Control Programme (NSACP), for the prevention and control of STI and HIV/AIDS. Main clinic in the Province is situated at the premises of the Teaching Hospital Kandy, while Matale and Nuwaraeliya clinics are situated in the respective District General Hospitals.

Table 7.14 Clinic attendance and no of new diagnosed cases by District

	Kandy		Matale		Nuwaraeliya	
	2008	2009	2008	2009	2008	2009
Total clinic attendance	9,312	9,147	3,951	7,928	2,789	1,597
Syphilis	80	71	08	04	09	08
Gonorrhea	21	37	01	03	02	01
NGU/NGC	178	205	03	05	01	02
Genital Herpes	126	151	39	29	06	17
Candidacies	187	161	13	08	05	21
Other STI	190	244	41	68	02	08
Non STI	454	390	41	00	93	118
Total No of cases	**1,236**	**1,259**	**146**	**141**	**118**	**175**

Total clinic attendance in all three Districts have decreased in year 2009 compared to 2008. Majority of new cases includes Candidacies, Genital Herpes, Syphilis, Gonorrhea and other STI.

Table 7.15 Serology test for Syphilis

	2008		2009	
	Total VDRL	VDRL +ve	Total VDRL	VDRL +ve
STI clinic attendees	3,760	63	2,722	51
Antenatal mothers	3,4298	6	3,8023	48
Pre-employment	3,114	-	4,354	10
Other	3,161	31	3,385	61
Total	**4,4333**	**100**	**4,8484**	**170**

Number of serology tests for Syphilis (VDRL) carried out among antenatal mothers, pre-employment and others have increased in year 2009 compared to 2008. Number of confirmed cases also increased compare to year 2008.

Table 7.16 Serology tests for HIV

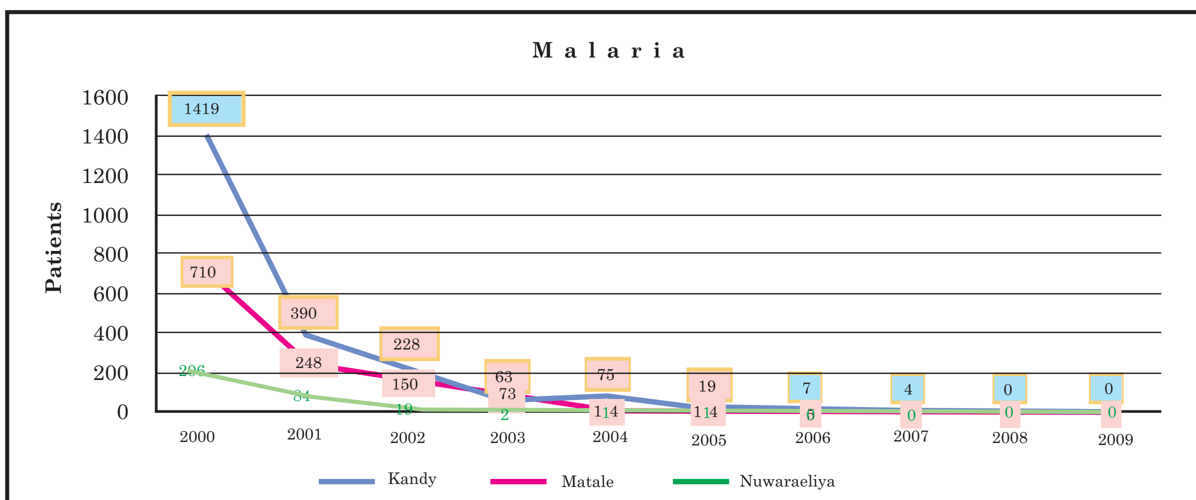
	2008		2009	
	Total HIV tests	HIV +ve	Total HIV tests	HIV +ve
STI clinic attendees	2,937	03	2,086	03
Other	2,958	02	911	00
Sentinel sites	251	-	3,584	03
Total	**6,146**	**05**	**6,581**	**06**

Number of HIV tests done at clinics has increased in 2009 compared to the previous year. The number of diagnosed cases of HIV/AIDS has slightly increased compared to 2008.

7.4 Malaria control programme - Central Province

In the past few years, although malaria shows a declining trend in the Central Province of Sri Lanka, occurrence of vector mosquito species and parasite carriers among national and international migrant populations make the Province always vulnerable for malaria transmission. Prior to 1992, thousands of malaria cases were reported with periodic epidemics at intervals of 3-6 years. Since 1992, the number of malaria cases showed a decreasing trend till 2007. However, in the latter part of 2008, an increase number of malaria cases were reported due to occurrence of malaria mainly among security personnel who came from conflict areas in the North-East Provinces. In the year 2009, fifty malaria cases (46 *P. vivax*, 01 *P. falciparum* and 03 mixed infections with *P. vivax* and *P. falciparum*) were reported in the Province. With the application of timely and appropriate remedial actions, the malaria control programme prevented induced transmission of malaria in the province. This is a great achievement of the malaria control programme in the year 2009. Some of the very important contributory factors for this success were (1) case investigation and follow up of cases to ensure complete treatment, (2) making available of rapid diagnostic test kits for malaria diagnosis at the tertiary care institutions and at the hospitals where microscopy is not available (3) timely application of remedial measures around reported malaria cases, including mobile malaria clinics and focal spraying, (4) institution of evidence based malaria control activities, (5) support given by the Provincial and central government authorities, (6) implementation of global malaria control strategies since 1993 (Round 4 and 8) (7) institution of rotational and rational residual insecticide spraying based on the GN level stratification according to the risk of malaria transmission (8) institution of integrated vector control measures using insecticide treated bed nets, chemical and biological larvicides (larvivorous fish, abate) and source reduction wherever applicable, (9) conducting mobile clinics at remote areas and to cover migratory populations such as security camps, gem mining areas, development project sites and chena cultivation areas, for early detection and prompt treatment of malaria cases in order to reduce the parasite reservoir in the human population and (10) the improvement of the socio economic status in the rural communities.

Fig.7.2 Trends of malaria cases reported by District from 2000-2009



Since April 2008, the Anti malaria programme embarked into pre elimination phase of malaria. Within this concept, the Central Province was placed as an area to maintain zero level indigenous transmission of malaria. Thus, the objective of the malaria control programme in the Central Province is to maintain zero level transmission of malaria in the Province.

Epidemiology of malaria in the Central Province

The number of malaria cases reported from 2001 – 2009 in Kandy, Matale and Nuwara Eliya Districts are shown in Table 7.17

Table 7.17 Number of malaria cases reported by districts from 2001-2009

Year	Kandy	Matale	Nuwara Eliya	Total
2001	248	390	84	722
2002	150	228	19	397
2003	73	63	2	138
2004	14	75	1	90
2005	15	19	0	34
2006	5	7	0	12
2007	0 (4)	0	0	0 (4)
2008	0 (17)	0 (26)	0 (4)	0 (47)
2009	0 (21)	0 (27)	0 (2)	0 (50)

Note : No. of imported cases are shown within brackets

In the year 2009, Kandy 33,502 blood smears were collected in the Kandy District, of which 18 were P. vivax and 01 was P. falciparum and 2 were mixed infection with P. vivax and P. falciparum. All these cases have contracted the disease outside the Province, but treated at the medical institutions in the Central Province. In the Malale district 15903 blood smears were collected and 27 positives were detected while in the Nuwara Eliya District 1,070 blood smears were collected with 2 positives in the year 2009.

Table 7.18 Number of blood films, malaria cases and annual parasite incidence (API) by District

District	Year	No. of Blood smears	No.of positives	P. vivax	P. falciparum	Mix	API
Kandy	2008	2,8503	17	16	0	1	0.012
	2009	3,3502	21	18	01	02	
Matale	2008	1,6973	26	26	0	0	0.06
	2009	1,5903	27	26	0	1	
Nuwara Eliya	2008	543	4	4	0	0	0.006
	2009	1,070	2				

Entomological surveillance

An. culicifacies, the principal vector of malaria and An. subpictus, a secondary vector of malaria in Sri Lanka were encountered in the year 2009 too. In the Kandy and Nuwara Eliya Districts, 15 anopheline species were recorded. In the Kandy district, An. culicifacies was found in Cattle baited traps, Cattle baited huts and in larval surveys and An. subpictus was found only in larval surveys. In the Nuwara Eliya District, An. culicifacies was found in Cattle baited traps, Cattle baited huts, human bait night collections, outdoor collections and in larval surveys and An. subpictus was found in cattle baited traps and larval surveys. An. culicifacies was encountered throughout the year in MOH area Hanguranketha. An. subpictus was also encountered in very low density in Tumpane and Hataraliyadda, An. culicifacies appeared seasonally. In the rest of the area, An. culicifacies appears periodically. This explains the endemic nature of malaria in the areas close to the dry zone (MOH areas Minipe, Hanguranketha and Walapane), epidemic nature of malaria in the wet and intermediate zone located more towards the dry zone) in the Kandy and Nuwara Eliya Districts. The density of An. culicifacies and An. subpictus are shown in Table 3. In Matale District entomological investigations were mainly carried out in Galewela, Dambulla, Naula and Laggala Pallegama MOH areas and main vectors, An.culicifacies and An. subpictus were found scanty. An.culicifacies larvae were found in Dunkoladeniya, Kaluganga Devaladeniya in Laggala Pallegama MOH area and Pallanyaya and Yatigalpotta of Galewela MOH division. However, An. culicifacies and An. subpictus were found in Hand collections, Cattle baited trap collections, cattle baited hut collections, human bait night collections and larval collections. In addition to these techniques, An. subpictus was found in pyrethrum spray sheet collections, light trap collections, window trap collections, and outdoor resting hand collections (Table 7.19).

Table 7.19 Entomological surveillance by District

District	Method	Indicator	2008		2009	
			An. culicifacies	An. subpictus	An. culicifacies	An. subpictus
Kandy	INRC	No/room	00	00	00	00
	PSC	No/room	00	00	00	00
	CBT	No/Trap	00	00	0.58	00
	CBH	No/Hut	1.53	00	2.6	00
	WTC	No/Trap	00	00	00	00
	LS	No/Dip	0.002	00	0.007	0.0004
	HBNC (in)(out)	No/bait/hour	00 0.21	00 00	00 00	00 00
	ODC	No/man hour	Not done	Not done	00	00
Matale	INRC	No/room	00	0.004	0.006	0.48
	PSC	No/room	0.002	0.06	00	0.07
	CBT	No/Trap	00	0.2	0.004	0.75
	CBH	No/Hut	0.06	0.42	0.1	5.22
	WTC	No/Trap	00	00	00	0.04
	LS	No/Dip	0.005	0.003	0.005	0.006
	HBNC (in)(out)	No/bait/hour	0.0009 0.006	0.004 0.008	0.002 0.03	0.001 0.02
Nuwara Eliya	INRC	No/room	00	00	00	00
	PSC	No/room	00	0.02	00	00
	CBT	No/Trap	0.21	0.4	0.17	0.10
	CBH	No/Hut	1.25	0.05	0.24	00
	WTC	No/Trap	00	00	00	00
	LS	No/Dip	0.07	00	0.03	0.0008
	HBNC (in) (out)	No/bait/hour	0.07 2.44	00 00	0.2 11.5	00 00
	ODC	No/man hour	0.26	00	0.018	00

Indoor residual insecticide spraying

In the Kandy and Nuwara Eliya Districts, no residual insecticide spraying was carried out in the year 2009. In the Matale district, 5544 houses were sprayed. The insecticides used in the Matale district were Cyfluthrin, Vectron and Bistar. (Table 7.20).

Table 7.20 Residual insecticide spraying by District

District	Year	Villages	Houses	population	Houses			Population protected	Insecticide used
					Fully	partially	Refused/ closed		
Kandy	2008	5	148	1006	128	2	18	95	Fenitrothio n120 Deltamethr in 225
	2009	Nil							
Matale	2008	49	8300	29696	7650	198	452	93	Vectron 7965 Keothrin 1551
	2009	35	5544	16945	5044	196	304	16034	Cyfluthrin 3370 Vectron, 820 Bistar2485
Nuwar a Eliya	2008	1 (camp)	1	541	1	0	0	100	Deltamethr in 20
	2009	Nil							

Impregnation of bednets with permethrin

In the Matale district1135 nets were impregnated with permethrin and 1594 LLIN were distributed in the year 2009. In the Kandy district no bed net impregnation was carried out in 2009 (Table 7.21)

Table 7.21 Impregnation of bed nets with permethrin by District

District	Year	No. of families	Bed nets	Insceticide (permethrin) used (in litres)
Kandy	2008	1 (Hospital)	190	2
	2009	Nil		
Matale	2008	171	1553	22.9
	2009	466	1135	14.62
Nuwara Eliya	2008	Nil		
	2009	Nil		

Application of insect growth hormone, pyriproxyfen to the gem pits in L/Pallegama

Growth regulator, Pyriproxifen has been used in 1065 gem pits in 11 villages in L/Pallegama in the year 2009*. No application of Insect growth hormone pyriproxifen in the Kandy and Nuwara Eliya districts in the year

Table 7.22 Application of Insect growth hormone Pyriproxifen to the gem pits in L/Pallegama

Year	No. of gem pits	Pyriproxifen used (Kg)	Population protected
2008	00	00	00
2009	2009	1065	41.928

Application of larvivorous fish

Larvivorous fish, Poecilia reticulata was applied in agricultural wells, rock pools, brick fields, small streams and water storage tanks in the Matale district in the year 2009 (Table 7.23).

Table 7.23 Application of larvivorous fish, P.reticulata by district

District	Year	No. of permanent breeding sites	No. of fish introduced
Kandy	2008	20	300
	2009	27	451
Matale	2008	801	9,248
	2009	06	17,435
Nuwara Eliya	2008	00	00
	2009	01	550

Health education and community awareness programmes

Health education and community awareness programmes conducted in the years 2008 and 2009 are shown in table 7.24.

Table 7.24 Health education and community awareness programmes by district

District	Year	Target group	No. of programmes	No. of participants
Kandy	2008	Hospitals	8	349
		Community	13	1102
	2009	Health staff	10	400
Matale	2008	Community	28	678
		Health staff	19	261
		Mothers	16	286
		Students	38	1009
	2009	Health staff	5	99
		General public	193	2060
		Projectworkers (Moragahakanda)	10	368
		Forces	21	309
Nuwara Eliya	2008	Hospitals	2	76
		Community	1	80
	2009	Health staff	2	85

In addition to malaria control, the anti malaria campaign carries out dengue vector surveillance

Since the malaria control programme has embarked into a pre elimination phase, case detection and prompt appropriate treatment is of utmost importance where blood filming of fever cases is of utmost importance. The present number of public health field officers (PHFOs) is inadequate for achieving these target

The anti malaria programmes in Matale, Kandy and Nuwara Eliya Districts needs to be further intensify vector surveillance since monitoring vector density is of utmost importance in preventing malaria outbreaks/ epidemics. Minipe, Adikarigama (river beds below the dams Victoria and Minipe) Hataraliyadda, Kotmale, Nilambe, Ambagamuwa in Kandy and Nuwara Eliya Districts and Galewela, L/Pallegama, Dambulla malaria high risk areas should be surveyed regularly to detect emergence/ increase of An. culicifacies. The anti malaria programme carry out dengue vector surveillance, in addition to the malaria control hence provision of good vehicles for the entomological teams and strengthening data system analysis should be considered as a priority for 2010.

7.5 Rabies Control activities

Rabies control measures were launched in Sri Lanka in 1975 and were decentralized to the Provinces in the early 90s. The Central Province initiated the streamlining of rabies control activities in 1998 through the formation of dog vaccination teams and destruction teams. During mid 2006 the Ministry of Healthcare and Nutrition revised the strategy to be more humane towards dogs by promoting dog birth control measures instead of dog destruction. The CP has already implemented this change of strategy in the Provincial strategy.

The programme by 2009 has gradually been strengthened to include 6 teams for routine dog vaccination, 5 teams mobilized for community dog vaccination using auto plunger. The strengthening of human resources for Rabies control have resulted in a vaccination coverage at 51.8% of the dog population. 3381 female dogs were given temporary birth control injections.

In early 2008 the Ministry of Healthcare and Nutrition identified dog sterilization as a key strategy to eliminate rabies from Sri Lanka and requested Provincial Departs of Health to identify a suitable strategy to implement this strategy .

The Department of Animal Production and Health and the Provincial Department of Animal Production of Health did not have the resources nor a strategy to assist the dog sterilization. Hence the Department requested the support of Non Government Organizations involved in humane control of dog populations. A NGO named “Association of Veterinarians for Humane Management of Animal Population” came forward to assist the Province in this Herculean task.

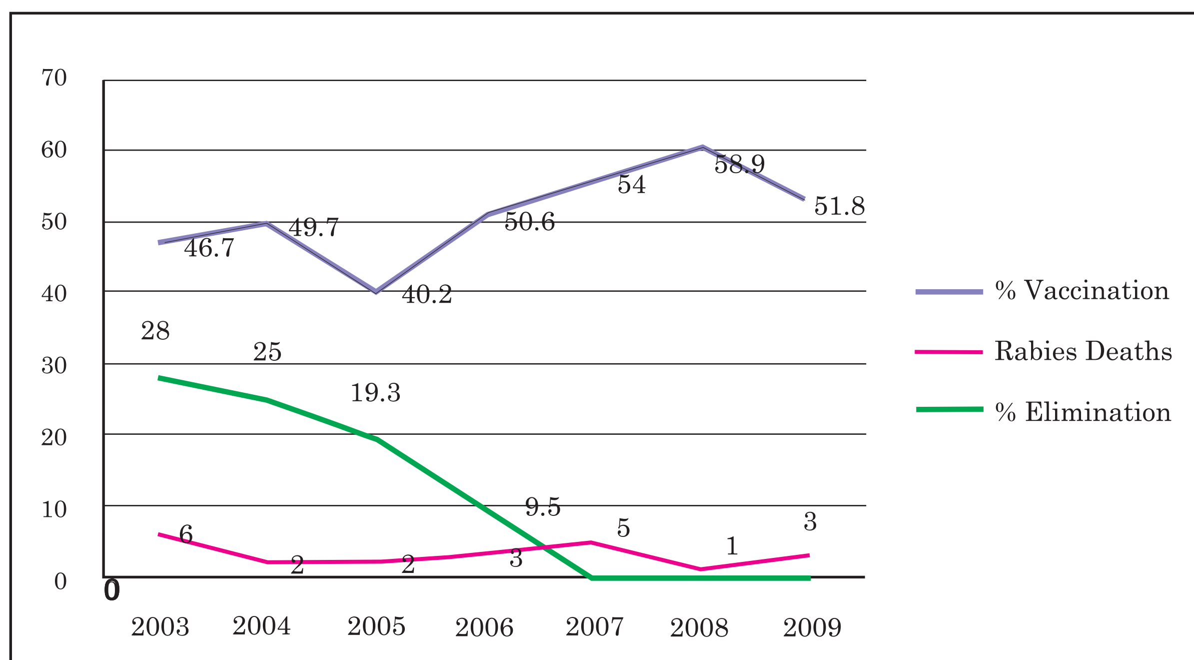
The Primary healthcare staff in MOH areas with the support of the District and Provincial level technical staff, were able to get 35816 sterilizations performed during the year. The sterilization programme was conducted despite various challenges and obstacles. Special mention should be made of the veterinary surgeons who assisted in performing these sterilizations under extremely difficult conditions and traveling to all parts in the Province

Table. 7.25 Rabies Situation and Control activities by Districts in the Central Province.

Activity	2008			2009		
	Estimated DP	Number	%	Estimated DP	Number	%
Dog Vaccination						
Kandy	170,030	97,133	57.1	176,875	89,245	50.5
Matale	59,519	46,227	77.7	61,250	49,831	81.4
Nuwaraeliya	92,095	45,944	49.9	94,375	33,257	35.2
Central Province	**321,644**	**189,304**	**58.9**	**332,500**	**172,333**	51.8
Dog sterilization						
Kandy	51,009	10,196	20.0	53,062	14,422	27.2
Matale	17,885	15,345	85.8	18,375	14,987	81.6
Nuwaraeliya	27,629	20,462	74.1	28,312	6,407	22.6
Central Province	**96,523**	**46,003**	**47.7**	**99,750**	**35,816**	**35.9**
Dog Birth control (temporary method)						
Kandy	40,807	6,048	14.8	42,450	915	2.1
Matale	14,284	3,829	26.8	14,700	1,946	13.2
Nuwaraeliya	22,103	1,892	8.6	22,650	520	2.3
Central Province	**77,194**	**11,769**	**15.2**	**79,800**	**3,381**	**4.2**
Human Rabies Deaths		01	*0.04		03	*0.11

·Incidence rate per 100,000 population

Fig. 7.3 Rabies Control Activities



The number of dog bites, the use of Anti rabies vaccine and Anti rabies serum also shows a decline. (see table below) This clearly shows that Humane dog control programmes and also responsible dog ownership should be strengthened in the Central Province further if we are to succeed in having a model rabies control programme. The Provincial Ministry has already requested the support of the Provincial Department of Animal Health, local governments and NGOs to assist in strengthening the provision of the sterilization programmes further in 2010

Table-7.26 Post exposure prophylaxis used in the Central Province 2005-2009

		2005	2006	2007	2008	2009
Human ARV	No. doses	38,692	69,784	117,923	* 25,720	*27,519
	Approx. cost Rs. Million	4.1	7.5	12.7	16.5	20.0
Human ARS	No. doses	3316	4573	10,992	* 14,580	*9893
	Approx. cost Rs. Million	2.1	2.9	7.1	7.2	4.6
Total cost	**Rs. Million**	**6.2**	**10.4**	**19.8**	**23.7**	**24.6**

*** Number of vials**

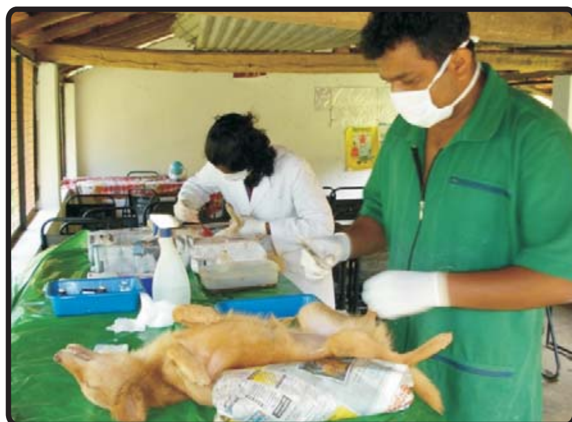
Please note that the cost of a ARV vial increased from Rs.640/= in 2008 to Rs.728.33 in 2009, while the cost of a vial of ARS has reduced from Rs. 497/= in 2008 to Rs.467.56 in 2009.

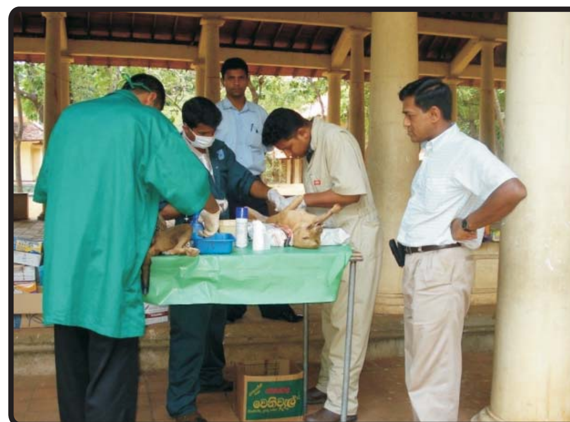
Dog vaccination card and Posters printed for community awareness on dog sterilization and vaccination

Table 7.27 The use of Human ARV and ARS by hospital in the Central Province 2009

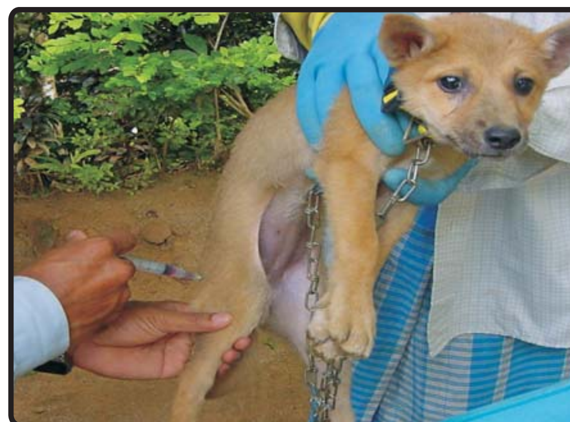
Institution	Human ARV		Human ARS	
	Number of vials	percentage	Number of vials	percentage
TH Kandy	9,038	32.8	3,605	36.4
TH Peradeniya	1,320	4.8	1,591	16.1
TH Gampola	2,223	8.1	631	6.4
DGH Matale	3,921	14.2	1,260	12.7
DGH Nawalapitiya	3,141	11.4	887	9.0
DGH Nuwara Eliya	2,785	10.1	888	9.0
DBH Dambulla	1,083	3.9	1,031	10.4
DBH Rikillagaskada	1,658	6.0	Nil	0.0
DH Udadumbara	160	0.6	Nil	0.0
DH Galewela	633	2.3	Nil	0.0
DH Theldeniya	609	2.2	Nil	0.0
DH Madolkele	480	1.8	Nil	0.0
DH Walapane	468	1.8	Nil	0.0
Total	**27,519**	**100.0**	**9,893**	**100.0**

Dog sterilization programme at field level





Dog Vaccination programme at field level



8. SPECIAL UNITS

8.1 Patient Rehabilitation Services

Physical Rehabilitation Center: Digana.

The rehabilitation of physically disabled patients is an aspect that fails to draw adequate attention in the general health services due to the lack of facilities and trained staff. The long term adverse impact of not addressing this problem was highlighted when statistics showed a significant number of patients needing medium and long term rehabilitation being discharged from tertiary care units without a proper rehabilitation plan resulting in bed ridden or wheel chair bound citizens.

In 2001 with government and other well-wishers' donations, the Department of Health Services Central Province decided to develop a rehabilitation hospital in the underutilized rural hospital at Digana (about 15 km away from Kandy town).

The available services are

1. **Inward facilities:**

   By 2009, the total number of beds of the hospital was increased to 60 with the total inpatient days being recorded as 14,161 for the year.

2. **Medical Management:**

   A main challenge faced when dealing with these patients is being sensitive to the sudden transformation they have undergone from being healthy, independent individuals to those who are physically, mentally and personally disadvantaged. Thus, the management of these patients by the hospital staff extends well beyond the boundaries of straightforward medical treatment.

   Rheumatology Services

   These services are provided for:
   1. Inward patients
   2. Out patients.
   3. Follow up services

   Community Paediatric Services:

   This pilot project involves the early identification of disabled children and education of field officers by the community paediatrician in order to enable early referral of these patients to the rehabilitation centre.
   In addition to inward treatment, clinic services and follow up services are also provided through this department.

Special Ward Rounds

A special ward round is held every friday with the participation of a Consultant Rheumatologist, Paediatrician, the Medical Officer In Charge, Medical Officer of Mental Health, physiotherapist, occupational therapist, planning officer, social service officer and nursing officers. During the ward round, ideas and suggestions from each specialty are shared in order to individualize and optimize patient care services.

3. Physiotherapy:

The objective of physiotherapy is to facilitate the movements of disabled muscles and joints through the use of heat, electricity, gravity, sound, kinetic energy etc. Physiotherapy services are available for outpatients as well as for inpatients in the institution.

4. Occupational Therapy:

Involves specific activities utilized as a mode of treatment with regard to mentally and physically disabled patients. Following are a list of such activities:

★ Provision of special attention and care to stroke patients to improve their mental status
★ Identification and training of specific movements needed by an individual to carry out daily activities of living
★ Patients with paralyzed upper limbs are trained to explore the ability to reuse them with the help of adaptive devices and splinters
★ Assessing the suitability to use a wheel chair and the provision of training once chosen to use one
★ Guiding to improve the movements of the joints, the strengthening of muscles, coordination, balancing when sitting and when changing positions
★ Designing adaptive devices and providing training to use them
★ Assessing the ability to engage in the original job or a new job in order to make the person financially independent

5. Vocational Training :

Most of the patients are unable to engage in the original occupation following the disability. The idea behind vocational training is to enable these patients to lead a productive and independent life in the society while contributing for the development of the country. The patients are given the facility to identify, train and engage in occupations that suite their general condition and liking.
e.g. making candles, cards, mats, envelopes, paper bags, pharmacy covers brooms, soaps, incense sticks and fabric painting etc.

The necessary physical and technical resources for this are provided by the Central Province Social Services Department and the Kandy Women's Development Centre.

6. **Supply of disable appliances free of charge**

7. **Counseling services by professional counselors:**

   The importance of addressing the psychological aspect of a patient who is physically disabled cannot be overemphasized. The patients are provided with the appropriate mental health services and counseling which empower them with the inner strength to face the challenge of living with the handicap. The family of the patient is also counseled to help create an atmosphere where the individual is capable of living an active and dignified life.

8. **Speech therapy**

   With the inception of the programme to rehabilitate disabled paediatric patients since 2008, a large number of patients with speech difficulties and cognitive difficulties have been identified. Provision of speech therapy for such patients has been made possible through the voluntary service provided by the therapist of Kandy Women's Development Centre. Currently the programme has expanded to cover adult patients as well as outpatients.

9. **Training of relatives in the care of the disabled:**

10. **Community Resettlement**

Community resettlement is a crucial factor in the rehabilitation of the disabled and is yet to be addressed even at National level. However it is already underway at Digana Rehabilitation Hospital with 200 resettlement activities been carried out by the end of 2009.

The main objective of this programme is creating a suitable environment for the patient who gets discharged from the ward. E.g. adjusting the doors to enable travelling via wheel chair by self, replacing staircases with ramps, providing easy access to toilets, installing bars to aid walking on patient's own

Resettlement programme also involves identifying a suitable self employment for the patient and conducting discussions with grama niladhari, samurdhi officer, social service officer and Medical Officer of Health to establish the patient in his home environment.

1. Follow Up Services

This involves reviewing the patient's health and life style issues once the patient has been resettled.
The following are done at follow up visits:

1. Advising patients on suitable exercises to speed up the recovery process
2. Rehospitalisation depending on the need
3. Reviewing suitability of the adjustments made in the patient's home environment e.g. ramps

4 Reviewing the mode of self employment introduced to the patient and providing further assistance where necessary
5. Conducting a follow up clinic at the hospital

While catering to the specific needs of rehabilitation, the hospital still maintains the Out Patient Department & clinic services (including dental clinic services) for the general population of Digana.
Additionally, the patients are transferred to Kandy and Peradeniya General Hospitals for clinic services and investigation procedures of specialized nature.

Table 8.1 Summary of basic information and services delivered at Physical Rehabilitation Center: Digana

No	Activity and Description	2006	2007	2008	2009
01	Total No. of Admission	155	213	355	330
02	Discharge With total recovery	87	85	227	245
03	Total No. of Deaths	00	02	03	01
04	Total No. of Vocational Training given	48	50	58	216
05	Total No. appliances given free of charge				
	• Wheelchairs	35	12	16	09
	• Crutches	} 19 (Crutches, Walking aides, Others)	06	10	05
	• Walking aides		00	01	15
	• Others – commode chairs		02	03	10
06	No. of Patients Counseled	23	20	11	114
07	No. of Home Visits	42	24	08	17
08	No. of successfully resettled Patients	28	63	72	200
09	OPD Attendance	3,300	3,630	4,080	72,311
10	Medical clinic Attendance	390	4,380	3,300	3,648
11	Diabetic clinic Attendance	3,605	4,380	6,570	2,787

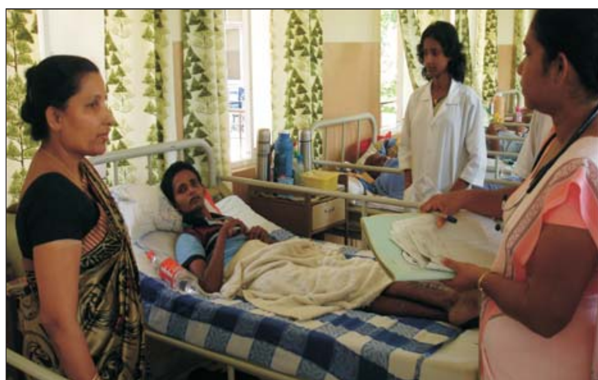


Table 8.2. Details of Clinics Held in 2009

Clinic	Total Number of Clinics held	First Visits	Subsequent Visits	Total Visits	Designation of Officer conducting the clinic
Medical	48	122	3,980	3,648	MO
Diabetic	47	247	2,721	2,787	MO
Dental	237	5,744	1,411	5,769	DS
Rheumatology	75	1,015	2,537	3,552	Consultant Rheumatologist
Paediatric	78	189	384	573	Consultant Paediatrician
Psychiatry	53	202	454	656	MO
OPD	285	-	-	72,311	MO & RMO
Speech Therapy	16	24	41	95	Speech Therapist

Phsyiotherapy and Occupational Therapy

Type of Treatment	No. of Patients	Units
Physiotherapy		
➢ Paediatric	127	657
➢ Adult	333	1,701
Occupational Therapy		
➢ Paediatric	82	614
➢ Adult	63	169

The following were undertaken in 2009 to develop the rehabilitation centre:

1. Taking over the hospital land formerly belonging to Mahaweli Authority by the Central Provincial Health Department and demarcation of boundaries
2. Building of a boundary wall and a gate at the rear of the hospital to improve security
3. Closing of the public road running across the hospital land for security reasons and the provision of an alternative route through the intervention of the Provincial Health Authorities

4. Installation of a new Hospital name board
5. Installation of name and direction boards in the hospital (donation)
6. Renovation of the Out Patient Department (donation)
7. Establishment of a mini theatre for minor surgeries
8. Repairing of the roof of the physiotherapy unit
9. Acquisition of equipment for the physiotherapy Unit through a donation

Interferential therapy machine	02
UST machine	01
Physioball	02
Bolsters	02
Wedge pillows	04
Multi-exercise machine	01

10. Installation of a telephone booth for use by patients and bystanders
11. Making improvements in the diet provided for the inpatients according to their specific needs.
12. Acquisition of the following through donations and wellwishers:
    - Public Announcing system
    - Equipment necessary for the Occupational Training Unit
    - Installation of CFL bulbs in the hospital premises
    - Refrigerator
    - Acquisition of books on Medicine, Physiotherapy & Occupational Therapy for the hospital library

8.2 Regional Health Training Centre (RHTC)-Kadugannawa

The RHTC function as a training centre for conducting both basic and in-service training courses mainly in the Central Province. It was upgraded in 1990. Prior to 1990 only Public Health Midwives basic training Part 2 was conducted in RHTC.Medical Officer of Health division Yatinuwara serves as the field practice area for this purpose.

There are two main areas of services supported by the RHTC.

- ★ **Training** – This involves basic training of primary health care personnel, namely PHMM and PHIs. In addition it conducts basic health field training for medical, dental and nursing students on community health. This centre also coordinated the hospital attendants training for the Provincial Department of Health. The RHTC coordinates all the Provincial level in –service training for both preventive and curative health staff.

- ★ **Provide primary health care services to the public through the field staff.**

Facilities available at Regional Training Center

1. MOH Office
2. Well equipped conference room
3. Well equipped class rooms -2
4. Well equipped class rooms for practical work
5. Well equipped IT Library

During 2009 following training programmes were conducted in the RHTC Kadugannawa

1.Community Health nursing training.

During year 2009 RHTC has conducted 3 community health nursing training in February, May and August 2009. Five hundred and thirty eight (538) student nurses participated in this training.

2.Training of Dispensers (Batch 2008/2009)

Dispensers play an important role in the delivery of health care services in government hospitals. Accordingly RHTC conducted Dispensers basic training during year 2009.
Sixty three trainees successfully Completed the training.

3 In-service Training Programme for Drivers

One day training programme for drivers in the Central Province was conducted by the RHTC kadugannawa with the collaboration of Central Province Heath Department in February Fourty three (43) drivers were trained. During this training road safety, precautions while handing patients was briefed.

4. **Clinical Auditing Training Programme for Medical Officers**

Clinical auditing would benefit the health system in many ways.Clinical auditing will improve performance as a response to the feed back given by an audit. Clinical auditing will initiate logical discussions among different personnel in the health care delivery teams. This will leads to better understanding and bonding among team members. Establishing a culture of clinical auditing is expected to contribute for better health care delivery. In view of importance of clinical auditing, Central Province Health Department and Regional Health Training Centre , Kadugannawa in collaboration with Peradeniya Medical Students Alumni Association, Faculty of Medicine , Peradeniya organized three Clinical Auditing workshops in 2009.Sixty five medical officers from Central Province (both Provincial and line ministry) participated at these workshops. A pre tested course manual has been prepared by the Peradeniya Medical Students Alumni Association, Faculty of Medicine , Peradeniya

5. **In-service Training Programme for Minor Staff on First Aid**

One day in-service training programme for minor staff was conducted by the RHTC Kadugannawa with the collaboration of Central Province Health Department February Fifty nine minor staff from Central Province participated at his training programme.

6. **Central Province Pediatrics Emergencies and Life Support Course (CePELS)**

Central Province Paediatrics Emergencies and Life Support Course is organized by the Central Province Paediatrics Emergencies and Life Support (CePELS) Resource group and RTC Kadugannawa in collaboration with Peradeniya Medical Students Alumni Association, Faculty of Medicine , Peradeniya and Provincial Department of Health Central Province. This workshop was started in 2008 and during 2009, 71 Medical officers were trained. Dr Rasnayaka M. Mudiyanse Consultant Paediatrician is the Course Organizer for this work shop

7. **Neonatal Life Support Training Programme for Medical Officers and Nurses**

Neonatal life support course was held for the first time in Sri Lanka in September 2006 at LRH. During year 2009 total of 36 medical officers and 50 nurses were trained by the perinatal society of Sri Lanka in collaboration with Sri Lanka College of Paediatrician . This one day training programme was organized by RHTC Kadugannawa and sponsored by Central Province Department of Health.The course provides background knowledge and skills on the management of the new born infant during the first 10-20 minutes in a competent manner.This course also covers effective teaching of practical airway management and ventilator support.

8. **Orientation programme for post intern Medical Officers:**

Two days training programme for 38 post intern Medical officers was conducted by the RHTC Kadugannawa in collaboration with Central Province Department of Health in September.

9. In-service training programme for minor staff Ayurvedic Department:

Two in-service training programme for sixty seven Minor staff in the Ayurvedic Department conducted by the RHTC Kadugannawa in collaboration with Ayurvedic Department , Central Province.

10. Pre service training for Newly recruited Minor staff

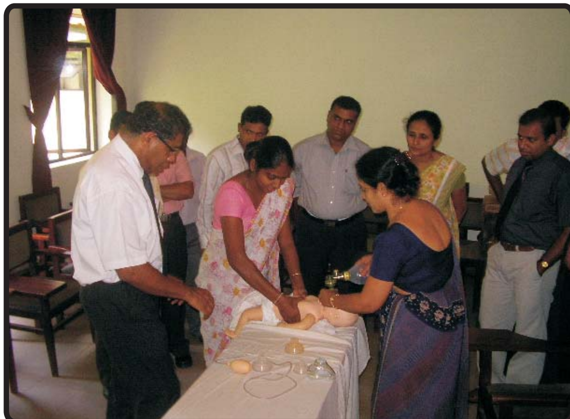
pre service training programme for 375 newly recruited minor staff was conducted by the RHTC Kadugannawa in collaboration with Central Province Department of Health in September

11. Development of Presentation Skills Training Programme

Three days training programme for development of presentation skills for field health staff was organized by the RHTC Kadugannawa in collaboration with Central Province Department of Health in December at RHTC Kadugannawa. Twenty one field health staff participated for this training programme.

Table 8.3 Basic Training Courses / Programmes -2009

Name of Course / Program	**No. of Batches**	**No. of Students**
Medical Students	1	38
Basic Training Courses / Programmes		
Name of Course / Program / Workshop	Target Group	No. of Participants
First aid program	Minor Staff	60
in –service Training program	Drivers	45
In –service Training program	Medical Officers	70
In –service Training program	Nursing officers	24
Management Training program	Nursing officers	46
In –service Training program	Medical officers	22
In –service Training program	Minor Staff	175
CEPELS program	Medical officers	99
In –service Training program	Nursing officers & PHM	27
Other Training Program		
STD/Aids program	Health Staff	38
Presentation improvement programme	Management Staff	27
Food Handling Establishment	Traders	44
Health Promotion School programme	Teachers	28



8.3 Bio-Medical Engineering Services Unit.

The repairing of all medical equipment prior to 2002 was carried out by the Bio- medical Engineering Services unit in Colombo (BES). However, as there are 224 hospitals under the Central Provincial Health Department it was impossible for the BES to take care of repairs and maintenance of all the equipment in these hospitals resulting in a large number of serviceable medical equipment getting stocked in hospitals that were rendered unusable due to minor repair. Medical equipment needing major repairs in secondary care hospitals were done by the BME unit on urgent requests. The Province did not have proper procedures for purchasing, condemning and maintenance of medical equipment. The Central Province Bio - Medical Engineering Services unit was established in November 2002 with the aim providing better coordinated support services within the Province to do equipment purchasing, maintenance and attend to minor repairs to medical equipment and to maximize the equipment usage time.

Major Functions of BME Unit- Central Province

1. Provision of technical guidance on purchasing of new equipment to health institutions.
2. Repair of medical, surgical and other equipment in the health institutions within the Central Province
3. Provision of reports on equipment and other items to be condemned in health institutions
4. Provision of quality reports on newly purchased medical equipment.
5. Distribution of newly purchased equipment to health institutions.
6. Keeping inventory of medical equipment available at institutions.
7. Training health staff on maintenance of medical equipment.

The services provided by the BME unit have gradually improved with the limited staff available. The team of dedicated workers has been working silently and has been instrumental in saving millions of rupees for the healthcare system in the Central Province.

The BME Unit has made progress in 2009 and a very positive feedback from the heads of institutions on the timely back up support provided by the team.

The equipment repaired by type in 2009 is given in the table below.

Table 8.4 List of medical equipments repaired during year 2008 and 2009

Type of Equipment	Name of Equipment	Quantity 2008	2009
General	BP Apparatuses	201	192
	Suckers	51	125
	Nebulizers	40	17
	Autoclaves	32	31
	Boilers	11	11
	Sterilizers	31	41
	Glucometers	2	2
	Spot Lamps	8	12
	Refrigerators	25	17
	Oxygen Regulators	04	14
	Microscopes	16	13
	Centrifuge machines	07	6
High Tech Equipment	Defibrillators	02	-
	High Pressure Sterilizers	02	2
	ECG machines	40	45
	Syringe pumps	03	-
	Infusion pumps	03	2
	Pulse Oxymeters	12	2
	X-ray machines	18	27
	Scanning machines	04	-
Theatre Equipment	Mobile Theatre Lamps	05	0
	Theatre Lamps		2
	Theatre Tables		1
	Anesthetic machines	02	1
Dental Equipment	Dental Chairs	160	154
Pediatric Equipment	Phototherapy units		3
	Infant Warmers		3
	Scales	27	44
Obstetric Equipment	Doppler machines	05	0
	CTG machines	02	0
Ophthalmology Equipment	Slit Lamps	07	
	Ophthalmoscope	02	1
ENT Equipment	Diagnostic Sets		0
	Laryngoscopes	02	
Other		-	160

In addition to the above mentioned medical equipment, the repairs of many nonmedical items have been undertaken by the unit. E.g. generators, water pumps, air-conditioning units in 2009.

By the end of 2008 the BME unit has carried out a Survey on the availability of medical equipment in all key Provincial hospitals and also taken steps to recommend only the essential equipment to be purchased while also supporting in the redistribution of excess equipment.

The BME unit has established a system of quick repair and delivery of damaged medical equipment without a back log. Documentation of equipment received and delivered is being maintained up to date. The BME unit has also taken the challenge regularly checking and servicing of major equipment and also attending to urgent repairs. Equipment which had been deemed beyond repair has been successfully repaired by the team at the Bio-Medical Engineering unit.

Another service provided by the BME unit is establishing lab services and Emergency Treatment Unit services in the hospitals. Under this programme equipment which has maximum benefit to establish these units are identified and procured. Through this programme, Rikillagaskada hospital, Dickoya hospital and many primary care institutes in the Nuwara Eliya District have benefited at numerous levels.

The BME unit continues to hold regular awareness program for hospital staff on the usage and maintenance of medical equipment. This has changed the attitude of the staff using this equipment.

During hospital visits the BME team inspects all the medical instruments used and condemned by that institute. The discarded equipment is brought back to the unit, repaired and re-distributed to other hospitals needing them. A sticker system with the hospital name, type of equipment and inventory number are pasted on each medical instrument belonging to the hospital.

This in the long term will prevent the damage to the equipment by using plasters, cello tape etc for the above purpose.

The cost saving Rs. 4,161,050 to the Department of Health for some of the equipment repaired in 2009, It is important to document the cost saving to the department as a routine system to ensure that due recognition is given to the staff of the BME unit.

The construction of the new BME unit which is near Completing with different areas to handle electronic equipment, high pressure apparatus, generators, dental equipment etc will pave the way for more organized and efficient rendering of services.

ES 3000
PRAMAC
PowerSystems

8.4 Dental Services

8.4.1 Preventive and Curative Dental Services

The major oral diseases identified in Central Province are still dental caries, periodontal disease, malocclusions and oral cancers respectively. The prevalence of dental caries is very high among the school population of which the preschool and children in year one are the most affected population of this disease. Periodontal diseases or gum diseases are common among adult and older population. Early loss of deciduous teeth (milk teeth) due to caries or extraction due to caries has led the way to develop malocclusion among young population because of the growth retardation of jaws, loss of required space for permanent successor, have been identified as a result of early loss of deciduous teeth.
The latest oral health survey, National Oral Health survey conducted in 2003, the key finding given below identifies clearly the need to promote oral health in Sri Lanka.

Caries in adults aged between 35 - 40 yrs - 90%
Periodontal Disease in adults aged 35- 40yrs - 91%
Caries in Children aged 18 - 54 months - 60-70%
Caries in children 60 months - 65.5%
Average number of decayed teeth in children - 03
The percentage of children with caries from 12 months to 24 months increased from 23% to 65%

Oral cancer Prevalence is high among estate workers and farmers in Central Province due to the habits of betel quid chewing, "bedi" & cigar smoking, alcohol consumption as well as keeping under the tongue and chewing of carcinogenic new product like "BABUL" which has been a common habit among some ethnic groups.

The dental clinics in the peripheral hospitals have been provided with modern facilities to perform more advanced treatments like root canal treatment. This has ensured that modern dental treatment is made more accessible to the rural population. However, patients who need consultative advice are referred to General (Teaching) hospitals or Dental Hospital Peradeniya for major surgeries such as ortognathic surgery, excision of oral tumours, cleft palate and lip surgeries, which are performed by maxillofacial surgeons and correction of severe malocclusions, growth modifications are performed by orthodontists.

In the Central Province, dental services are provided both in the public and private sectors. The public sector provides not only curative but also preventive oral healthcare delivered by dental surgeons, dental therapists and dental specialists. Dental services in the public sector are provided through the Hospital Dental Clinics, School Dental Clinics, Community Dental Clinics , Adolescent Dental Clinics. The former delivers mainly curative services while the latter three provide preventive oral health services. Mobile dental and special outreach clinics are provided to areas where routine dental care services are not available.

There are 69 Dental clinics and 50 school dental clinics in the Central Province to deliver oral health services to the general public. The distribution of dental services in the three Districts is given in table 8.5

Table 8.5 Dental Services in Central Province

	Kandy			Matale			Nuwara Eliya		
	2007	2008	2009	2007	2008	2009	2007	2008	2009
Hospital Dental Clinics	29	36	37	09	12	09	22	22	23
Community Dental Clinics	03	03	03	Nil	Nil	Nil	Nil	Nil	Nil
Adolescent Dental Clinics	02	02	02	03	03	03	01	01	01
School Dental Clinics	31	31	32	12	12	12	06	06	06
School dental clinics functioning	25	25	26	10	10	9	05	05	06
Mobile Dental Clinics	01	01	01	01	01	01	01	01	01

As the incidence of dental caries and periodontal disease is on the rise, the delivery of Dental care services is considered a primary health care activity.

One Regional Dental Surgeon is appointed in each District and he participates in the planning and monitoring of dental services in his area and this has helped to establish an effective system to share information and to improve the delivery of dental care services within the District.

In the Central Province, the Provincial Director of Health Services has a preventive health steering committee meeting, which is held once in 3 months with the participation of all Regional Directors, Consultants, All District level technical staff, Regional Dental Surgeons and all Heads of special institutions. This forum has made it possible to table issues and monitor the progress of the Dental Care services in the Province.

Table8.6 Performance of Dental Surgeons-2009

	Kandy	Nuwara Eliya	Matale	Total
EMERGENCY				
No. of extractions-deciduous	3,636	201	13,127	16,964
Permanent: caries	42,383	17,202	21,670	81,255
periodontal	10,461	6,508	2,020	18,989
Other	2,619	695	3,010	6,324
D.A.A Treated	6,384	2,450	2,750	11,584
Fractures treated	173	0	27	200
Medico Legal	45	0	3	48
Post operative :Haeamorrhage	44	48	10	102
Infection	641	301	180	1,122
ORAL MEDICINE				
Premalignant : Leukeplakia	40	0	0	40
Other	125	0	0	125
Oral carcinoma	21	0	0	21
Candida Albicans	68	0	0	68
Restorations Temporary	19,466	5472	8,047	32,985
Permanent : Amalgam	8,696	3,702	6,204	18,602
Composite+GIC	11,202	975	1,631	13,808
Advanced Construction	1,742	1,095	600	3,437
Periodontal Treatment :Scaling	5,596	4,021	3,721	13,338
Surgery	47	0	0	47
SURGERY				
Incision & Drainage	747	820	400	1,967
Impacted	496	145	137	778
Fractures	13	0	0	13
Biopsies	38	0	0	38
Other	343	0	40	383
Indoor	419	0	137	556
All Referrals	3,046	2,975	800	6,821
Miscellaneous	12,516	3,972	4,210	20,698
Prevention : Individual	14,873	7,320	3,250	25,443
Community	2,080	0	120	2,200
First visit	123,714	42,126	54,312	220,152
Second visit	22,880	7,276	5,998	36,154
Total attendance	146,594	49,402	60,310	256,306

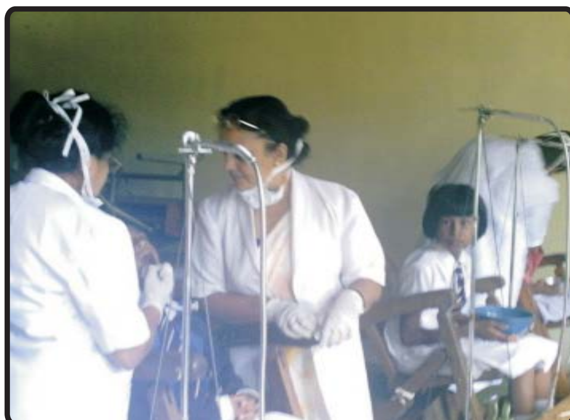


Table 8.7 Performance of School Dental Therapists-2009

	Kandy	Nuwara Eliya	Matale	Total
Permanent filling ; Deciduous	35,775	5,662	8,944	50,381
Permanent	11,537	3,011	3,302	17,850
Dressing Deciduous	23,589	4,223	4,400	32,212
Permanent	1,760	1,989	1,049	4,798
Extractions	0	305	500	805
Complete Scaling	10,730	4,675	3,134	18,539
Miscellaneous	13,797	0	1,673	15,470
Referrals	5,813	612	1,096	7,521
Casual	18,015	4,720	3,900	26,635
Total attendances	87,115	21,375	16,783	125,273
Health education -No of Children	59,747	17,576	15,342	92,665
No of Adults	18,163	4,560	3,700	26,423
No of Teachers	1,585	726	264	2,575
No of Sessions	2,883	821	1,037	4,741
No of outreach Days	1,754	1,836	750	4,340
No of outreach Days	1,964	426	1,912	4,302

8.4.2 Special Dental Programs

To improve the oral health of innocent rural children, maximum number of outreach programs, Dental Exibitions,Preschool teachers training programs, Health education programs for school childrens, workshops are planned annually to cover up the whole school population and educate the staff . Special outreach programmes were held in, Rangala and Galaha. The Rangala out reach clinic covered 07 schools in 5 days with 25 dental therapist working days. In Galaha 05 schools were covered in 5 days 25 dental therapist working days.

Dental exhibitions were held in Madarata Nawodaya -Gatabe, Nugawela central college and Gampola Jinaraja college. Preschool teachers training program were conducted in Udunuwara, Bambaradeniya, Hataraliyadda ,Kadugannawa, Galagedara, Wattegama,and Galaha Preschool teachers. Special Work shops for technical staff- Dental Surgeons, School Dental Therapists and Minor staff in each category two work shops were conducted in Kandy District.

8.4.3 Mobile Dental Services

The Mobile Dental services was established in 2002 to provide satisfactory curative & preventive dental care for the people living in rural and suburban areas where accessibility to dental treatment is minimal.

The areas recognized as very difficult areas due to difficult geographical terrain, poor infrastructure facilities and low socioeconomic and education levels have led to high incidence of dental caries and periodontal disease. The Provincial Department of Health identified these factors and established the first mobile dental unit attached to the PDHS

office to ensure dental services are brought closer to these populations who have no access to regular dental care. Since then two more mobile dental units have been provided to the Matale and Nuwara Eliya Districts.

The mobile dental services consist of a vehicle with fixed and portable dental chairs, essential dental instruments & material. The team consists of 5 personnel: two dental surgeons, a driver, driver's assistant and one minor staff. Services are provided on weekdays and Saturdays. The services are also provided on Sunday and public holidays, if requested by organizations, institution and societies etc.

Education & motivation on oral hygiene , general dental treatments, screening for pre-malignant lesions, diagnosis of oral carcinomas, screening of malocclusions and proper referral for tertiary care are the basic services provided not only to the general public but to the school population as well .

Dental services provided by mobiles in 2009

Number of Patients	Kandy	Matale	Nuwaraeliya
Screened	17, 533	3,600	7,602
Treatments supplied	11,397	2,200	6,025

8.4.4 Special Units

1 General hospital Kandy

The General hospital Kandy which is administered by central government supplies enormous service not only to the people in Central Province but also to the people in adjacent Provinces. The following Dental services are provided at the hospital.

a. Dental Care at OPD level.
b. Surgical and advance treatment through Oral and maxillofacial (OMF)unit.
c. Treatment for malocclusion through Consultant orthodontic unit.

- **Dental services given in OPD unit-General hospital Kandy**

Senior Dental surgeons provide treatment to the patients.

Month	No.of Working days	1 st Visit	2 nd Visit	Total no of Patients treated
January	24	1748	369	2117
February	21	1639	337	1976
March	26	1861	541	2402
April	22	1494	316	1810

Month	No.of Working days	1 st Visit	2 nd Visit	Total no of Patients treated
May	23	1439	308	1747
June	26	1927	413	2340
July	26	1868	423	2291
August	25	2231	358	2589
September	24	2323	486	2809
October	26	1927	509	2436
November	23	814	1061	2880
December	24	1518	952	2470
TOTAL	**290**	**20789**	**6073**	**27867**

Dental services given at OMF unit

One consultant maxillofacial Surgeon and SHOO, HOO provide advanced surgical treatments to the patients.

Dental services delivered at Orthodontic unit

One Consultant Orthodontist ,SRR,SHOO,HOO are provide treatments to public in this unit.

Month	No.of Working days	1 st Visit	2 nd Visit	Total no of Patients treated
January	25	264	1239	1503
February	21	184	1037	1221
March	27	207	1895	2100
April	22	124	1285	1409
May	23	149	1493	1642
June	26	235	2019	2254
July	26	223	1757	1980
August	26	250	1734	1834
September	24	180	1668	1948
October	25	277	1740	2017
November	23	195	1403	1598
December	24	124	1380	1504
TOTAL	**292**	**2412**	**18650**	**21010**

2.Dental Hospital Peradeniya

Dental hospital -Peradeniya is one of the major dental hospitals in Sri Lanka that supplies general and advance dental service to the public. This is the only hospital with the university system to generate dental graduates to the country.

Table 8.8 Some statistics and information in Dental Hospital Peradeniya- 2009

1	Dental Ward beds	36
2	Dental ICU beds	03
3	Dental Ward Admissions	1,524
4	Dental ICU Admissions	269
5	Dental Ward Deaths	00
6	Dental ICU Deaths	28
7	Dental Clinic Total	31,919
8	Operations	974

9. ESTATE HEALTH DEVELOPMENT

9.1 Background

The resident population on plantations in the Central Province constitutes 20% of the total population. Fifty three percent of the population in the Nuwara Eliya District lives on the plantations. 50% of plantation community in Sri Lanka lives in the Central Province. Estate population belongs to a different socio cultural background & has a lower literacy rate than in the general population.

During the British Colonial period very basic curative health services was established in the estates in order to serve the labour population living on the estates and the estate management was held responsible for total health care of the resident populations.

In the early 90's the management of the state owned plantations was privatized while the government retained their ownership. This led to formation of Regional Plantation Companies (RPC), which are private establishments. Plantation Housing & Social Welfare Trust (PHSWT) was established to coordinate the health & welfare activities of these RPC managed plantations. There are 196 such plantations in the Central Province with an approximate population of 500,000. The plantations which were not taken over by the RPC's were bought by individuals and goes as private holdings. There are approximately 232 such private holdings in the Province with an estimated population of 100,000.

There are 188 health institutions in the plantations in Central Province managed by RPC's. All preventive, promotive & basic curative care is provided by the health staff on the plantations. The main problem in the plantation sector is the non availability of qualified staff to deliver the essential preventive & promotive health services and curative health services. Of the plantations managed by RPC's more than 50% have unqualified staff.

The Presidential Task Force that was appointed in mid 90's identified estate health as a thrust area & a decision was taken to take over the estate hospitals with the objective of upgrading the quality of health services on the plantations. A very high level committee, "Estate Health Steering Committee" was established at provincial level in mid 90's in order to facilitate the takeover of hospitals. This committee is chaired by the Chief Secretary of the Province and attended by the officers from Ministry of Health Colombo, Plantation Ministry, Ministry of Estate Infrastructure Development, PHDT, RPCs, Provincial Ministry of Health, Provincial Minister of Health & local politicians

Even on the estates where there are qualified Public Health Midwives, the quality of care is very poor because the decision making regarding referrals & transfers of the maternity cases & children who need specialist care lies not with the Public Health Midwives, but with the medical personnel. Majority of the "medical personnel" employed on the estates are unqualified which has led to poor quality of the maternal & child care services and as a result the Central Province Records a higher Maternal mortality ratio & Infant mortality Rate in comparison to the rest of the country. In the year 2007, of the 26 reported maternal deaths in the Central Province, 13(50%) majority of which are preventable, took place among women from plantation sector.

On several occasions integration of the estate health services into state health services & several other strategies were attempted with the objective of upgrading the health status of the plantation community.

Except for a few small private estates, the health status & the situation in the plantation sector is rarely considered by the Health Department in preparing its health plan & this has resulted in minimum involvement of Department of Health personnel in the delivery of these services on the plantations leading to poor quality services on the plantations. A high level policy decision at national level needs to be taken on the provision of curative care and preventive health services in the estate sector if equitable healthcare is to be provided for people living on estates.

9.2 Strengthening of Estate Preventive Health Services

Poor accessibility to quality of care in the antenatal and natal period and non availability of quality essential obstetric care services along with protocols has resulted in delay in transport of emergency patients to hospitals is one of the main causes for high maternal mortality in the estate sector.

A cabinet decision was taken in 2007 to provide equitable preventive health services to the estate sector like in the rural and urban sectors. This decision made the Medical Officer of Health responsible for the health of the total population including the estate sector. The large populations and terrain of Medical Officer of Health areas which cover the plantation sector prevents (ex: Nuwaraeliya MOH area with 225,000) conducting routine clinics and supervision of preventive health activities on the plantations. The shortage of health staff further aggravated this situation.

Medical officers of Health were able to conduct all field ante natal clinics in the estate sector. Outreach well women clinics were conducted in all MOH areas by the public health staff. Special outreach clinics were conducted by the VOG from DGH Nuwaraeliya and DBH DickOya to selected hospitals in the Nuwaraeliya District.

As there were no public health midwives to provide services to some private establishments in Nuwaraeliya District, with help of the UNFPA Provincial Health Department trained 25 health assistants during 2007 to provide health awareness on Reproductive health.

Table 9.1 PHM availability in estate sector by PHDT region

Region	Number available	Number vacant	Qualified	Trained	Untrained
Nuwaraeliya	52	14	31	11	10
Hatton	52	-	22	21	9
Kandy	49	5	37	12	-
Total	**153**	**19**	**90**	**44**	**19**

The Provincial Department of Health appointed Seventy four Government Public Health Midwives to private estates and vacant PHDT estates during the year 2007. This has strengthened the PHC in the most vulnerable populations within the estate sector. Most of the PHMM were provided with basic facilities like residential and office facilities by the estate management.

The Provincial Health Department has already implemented the proposal to re-demarcate the large MOH areas to more manageable areas. Three new MOH offices namely Kotagala, Nawathispane and Maturata have been established during the year with basic facilities and staff. The Provincial Department has recruited over 8 Public Health Nursing Sisters for the estate sector and currently under training and will be appointed in early 2010. Discussions have been held with the MoH and other relevant departments on the creation of posts, recruitment of the additional staff required filling all vacancies of the PHC teams working in the estate areas. 60 PHMM from the estate sector were recruited for training in 2008 and would be appointed in mid 2010. This will further strengthen the Preventive Health programmes in the estate sector.

UNFPA has supported the Central Province to overcome the acute shortage of PHMM by supporting 60 Rural Health Assistants from the estate sector to provide basic Reproductive health education and support services in the estate areas where there are no PHMM available.

The basic preventive health indicators in the estate sector show a gradual improvement during 2008 and 2009 but more needs to be done in the areas of nutrition, general behavior change to promote healthy life styles. The health Department needs to work closely with the estate health management to maximize the workout put of the PHC staff appointed to the estate sector. Additional Medical Officers of Health needs to be appointed to the estate areas to improve the health system further.

9.2 The MOH areas after re-demarcation in the Nuwaraeliya District.

MOH areas in N'Eliya before re-demarcation	Population	MOH areas in N'Eliya after re-demarcation		Population
Nuwaraeliya	132,054	Rikillagaskada	Maturata	33,237
Kothmale	107,599		Hanguranketha	64,042
Maskeliya	138,826	Talawakale	Kotagala	85,300
Walapane	55,801		Lindula	85,845
Ambagamuwa	92,200	Nuwaraeliya	Nuwaraeliya	64,172
Talawakale	171,145		*Ragala	67,822
Rikillagaskada	97,279	Kothmale	Kothmale	70,407
			Nawathispane	37,192
		Maskeliya	Maskeliya	79,479
			*Bagawantalawa	59,347
		Walapane	Walapane	55,801
		Ambagamuwa	Ambagamuwa	92,200

*To be established in 2010

The UN agencies namely UNICEF and UNFPA have identified Nuwara Eliya District as a focus District to be supported during the country cycle from 2008 - 2012. UNFPA has pledged support to strengthen the areas of Reproductive health, strengthening estate health and gender. UNICEF has pledged support to implement the nutrition intervention package and early childhood development.

At present the burning issue is absorption of the registered public health midwives to Government service which will help to improve the quality of the services provided by them.

9.3 Strengthening of Estate Curative care services

With the purpose of providing every citizen an equitable healthcare service, a proposal was brought forth by the Sri Lankan Government to take selected Estate Hospitals under the purview of the Government and to develop these hospitals to enable them to provide efficient and productive healthcare services to the people in that estates. 10 hospitals were identified to be upgraded in the Central Province by 2012.

The 10 estate hospitals which functioned under the estate administration earlier and taken over by the government are indicated below.
Nuwaraeliya district –

1. Dayagama Estate hospital – Functioning as a Divisional hospital
2. Mooloya Estate hospital – Functioning as a Divisional hospital \
3. High forest Estate hospital – Functioning as a Divisional hospital
4. Gonapitiya Estate hospital - – Functioning as a Divisional hospital
5. North Medakumbura Estate hospital – Functioning as a Divisional hospital
6. Frotoft Estate hospital – Construction completed. services to be established in 2010.
7. Ragala Estate hospital – Functioning as a Primary Medical Care Unit
8. Alma Estate hospital – Not started yet

Matale district :–

1. Bandarapola Estate hospital – Functioning as a Primary Medical Care Unit

Kandy district –

1. West hall Estate hospital – Construction completed. Services to be established in 2010.

With the proposal of improving services of estate hospitals, line ministry has funded over Rs 22 million to improve the existing infrastructure facilities in 6 estate hospitals (North Medakumbura, Dayagama, Mooloya, High forest, Gonapitiya and West hall) during 2008 and 2009. Prior to 2008, then Ministry of development of estate infrastructure has funded Rs 20.5 million to develop infrastructure in these hospitals. With the help of line ministry and Provincial council most of the infrastructure and equipment requirements are fulfilled in these hospitals. Despite acute shortage of staff in the Province, the Department has appointed the basic staff to these hospitals to serve the estate community. However, further upgrading is required especially quarters for the health staff as these hospitals are situated in difficult and remote areas. Services provided by the functioning estate hospitals in 2009 are given below

Table 9.3 Services provided by estate hospitals (taken over by the government)

Hospital	No of wards	No of beds	OPD attendance	Admissions	Bed occupancy rate	Clinic attendance	Total no of deliveries	No of patients transferred out
DH Dayagama	03	26	18677	2143	33.72	2074	93	300
DH North Medakumb ura	03	17	9027	818	30.24	1811	15	138
DH Mooloya	04	22	17012	2318	86.6	2792	7	188
DH High forest	03	24	37173	2204	50.46	14831	65	276
DH Gonapitiya	03	23	14667	904	28.83	6917	22	255
PMCU Ragala			19814					
PMCU Bandarapola			15285					

Table 9.4 Trends of services provided in estate hospitals (taken over by the government) 2006 – 2009

Hospital	Year	OPD attendance	Admissions	Bed occupancy rate	Clinic attendance	Total no of deliveries
DH Dayagama	2006	15,070	2202	83.21	4487	126
	2007	16,426	3287	72.92	4590	181
	2008	20,153	2654	33.77	2650	156
	2009	18,677	2143	33.72	2074	93
DH North Medakumbura	2006	6551	617	9.35	1495	6
	2007	8357	1477	27.04	2282	11
	2008	4674	803	32.00	2327	11
	2009	9027	818	30.24	1811	15
DH Mooloya	2006	13,572	878	46.36	1657	27
	2007	14,855	1557	45.29	2650	40
	2008	13,999	1763	71.8	2881	14
	2009	17,012	2318	86.6	2792	7
DH High forest	2006	25,680	1571	42.91	5723	64
	2007	26,087	1416	43.80	6080	65
	2008	32,430	757	62.9	12,856	81
	2009	37,173	2204	50.46	14,831	65
DH Gonapitiya	2006	7985	797	10.71	1163	34
	2007	10,585	664	13.32	1448	42
	2008	12,053	757	28.0	1528	36
	2009	14,667	904	28.83	6917	22
PMCU Ragala	2006	20,249				
	2007	18,755				
	2008	20,800				
	2009	19,814				
PMCU Bandarapola	2006					
	2007	12,012				
	2008	14,607				
	2009	15,285				

Apart from these recently established hospitals, hospitals such as DGH Nuwaraeliya, DGH Nawalapitiya, DBH Dickoya, DBH Rikillagaskada, Divisional Hospitals such as Agarapathana, Kotagala, Maskeliya, Lindula, Udupussellawa, Walapane, Bagawanthalawa, Lakshapana, Pussellawa, Dolosbage, Rattota and a large number of PMCUs in the estate areas continue to provide quality health services to the estate sector.

Fig 9.1 OPD Attendance by estate hospital 2006 – 2009

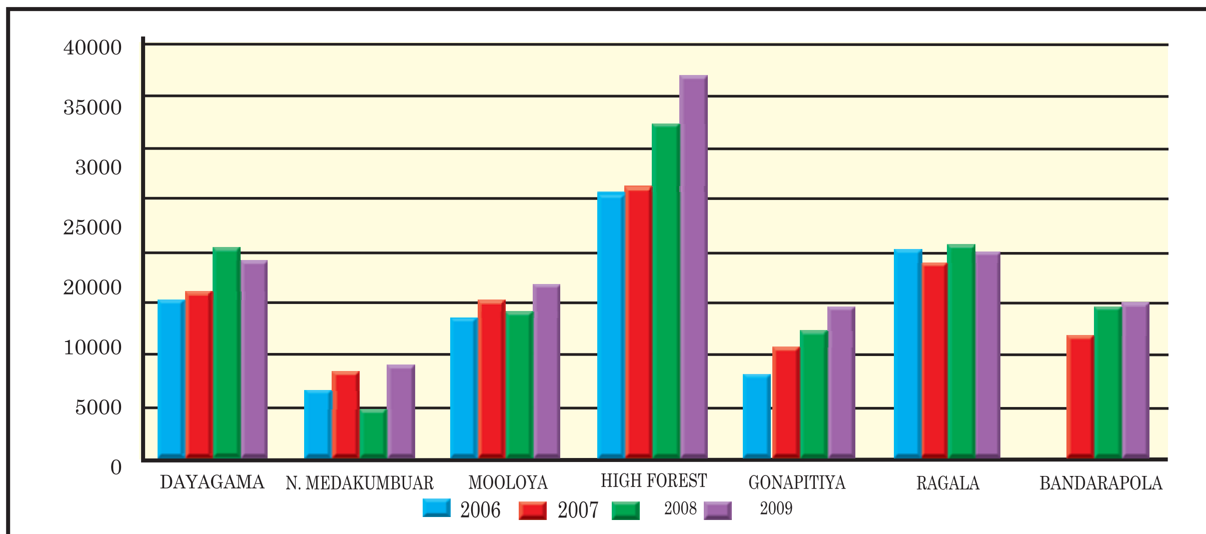
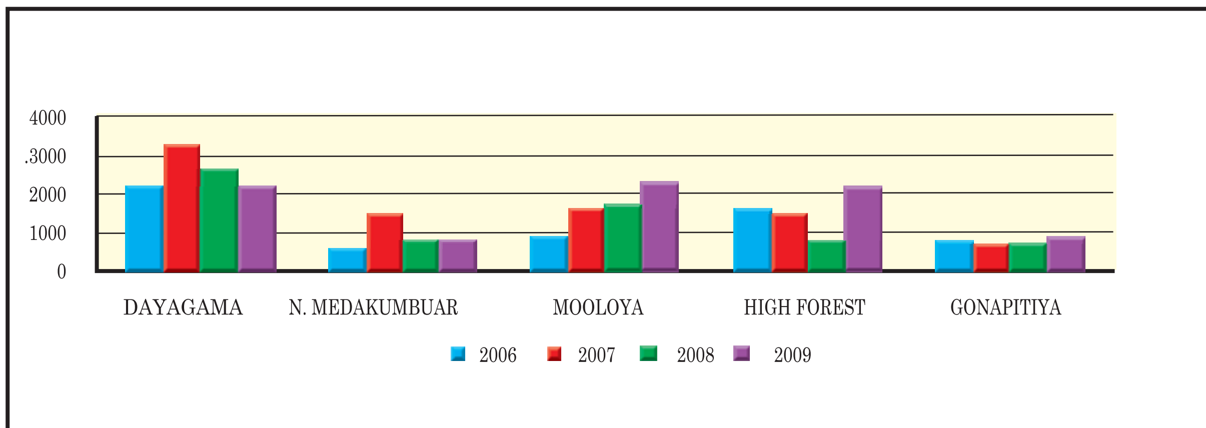


Fig 9.2 Admissions by estate hospital 2006 – 2009



The Provincial Department ofHealth is in the process of identifying strategic key hospitals that needs upgrading to further strengthen curative care services in the Central Province.

10. FINANCIAL MANAGEMENT SYSTEM

Financial Management system mainly comprised of two categories. Recurrent management system mainly involves in maintaining the existing health system and capital financial management involves in activities related to development of the health system. Total allocation (both capital and recurrent) for the province is indicated below.

1. Recurrent allocation – Rs 3,042,021,475.00
2. Capital allocation – Rs 419,440,000.00

Fig 10.1 Recurrent allocation & Recurrent Expenditure 2007- 2009

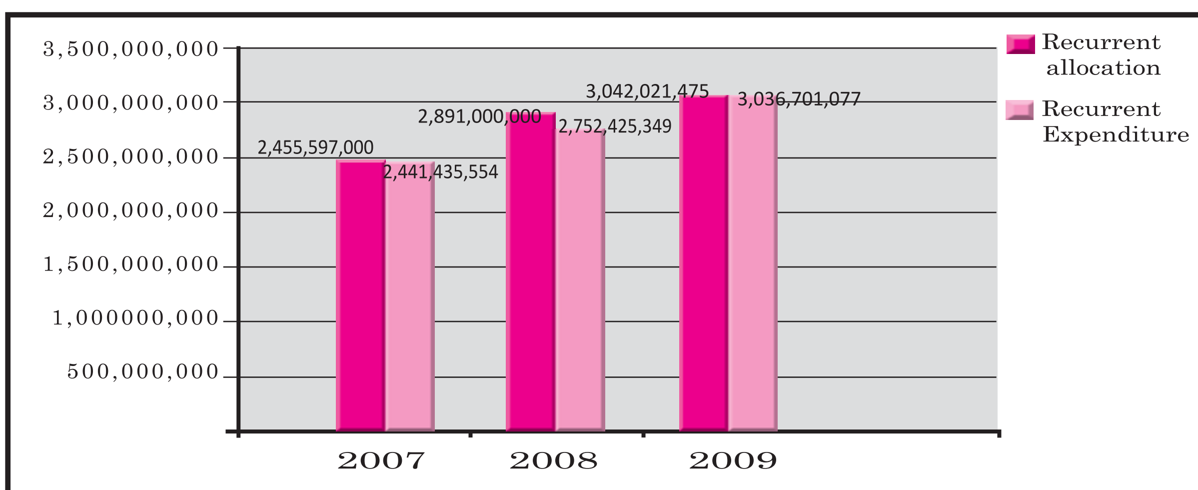
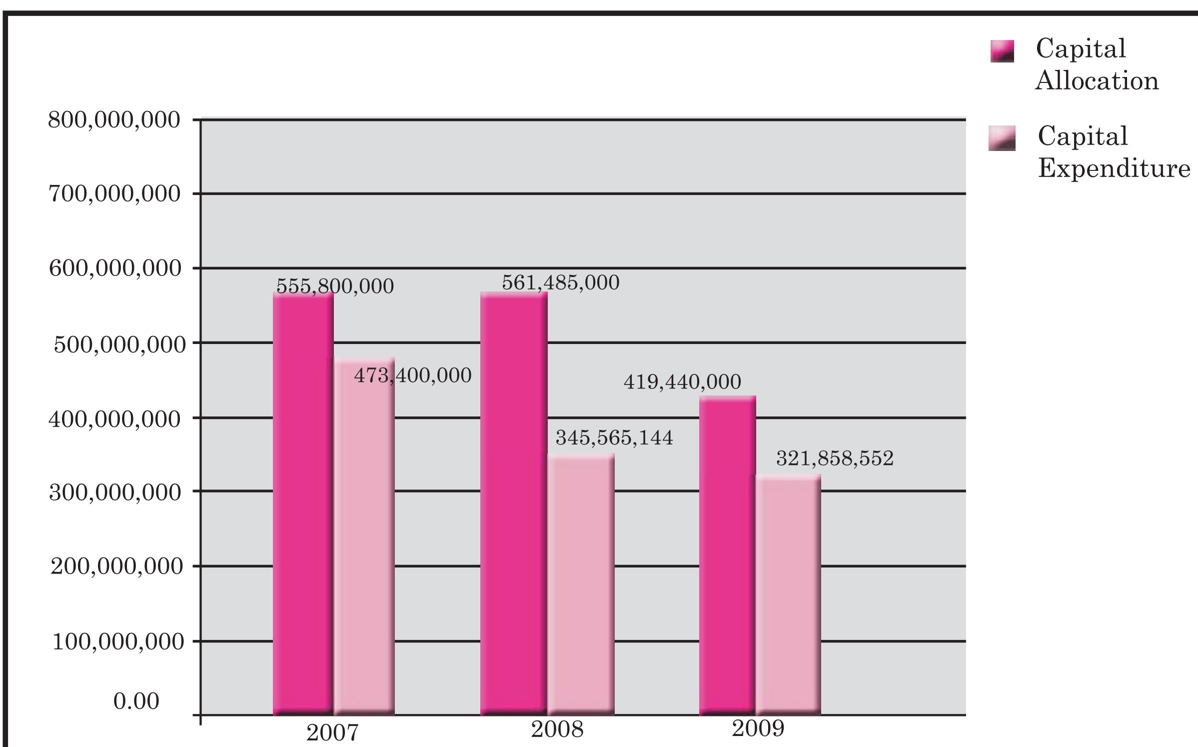


Fig 10.2 Capital allocation & Capital Expenditure 2007- 2009



10.1 Recurrent Expenditure Summary

Table 10.1 General administration

Object	Title	Total Estimate	Total Expenditure	Balance Rs
561-1-1-0-1001	Salaries and Wages	72,008,000.00	71,862,831.42	145,168.58
1002	Overtime Holiday pay	14,050,000.00	14,034,430.72	15,569.28
1003-1	Cost of living Allowances	19,171,000.00	19,120,969.34	50,030.66
1003-11	Other Allowances	3,858,000.00	3,845,905.36	12,094.64
1101	Traveling Expen. Domestic	8,548,000.00	8,519,531.84	28,468.16
1201	Stationary & Office Requisites	3,449,000.00	3,384,150.00	64,850.00
1202	Fuel and Lubricant	10,196,000.00	10,149,811.30	46,188.70
1203	Uniform	96,500.00	95,650.00	850.00
1204	Diets	.00	.00	.00
1205	Medical Supplies	.00	.00	.00
1206	Mechanical & Electrical goods	251,000.00	246,072.50	4,927.50
1207	Other Supplies	1,180,000.00	1,105,640.00	74,360.00
1301	Vehicles	6,799,000.00	6,795,940.30	3,059.70
1302	Plant Machinery & Equipment	749,000.00	732,372.58	16,627.42
1303	Building & Structure	1,416,000.00	1,410,375.67	5,624.33
1304	Others	337,000.00	332,915.82	4,084.18
1401	Transport	.00	.00	.00
1402	Telecommunication	2,229,000.00	2,228,313.02	686.98
1403	Postal Charges	896,400.00	883,305.50	13,094.50
1404	Electricity & water	1,777,000.00	1,697,582.74	79,417.26
1405	Rental & Hire Charges	813,800.00	803,374.72	10,425.28
1406	Rates & Taxes to local authorities	959,100.00	947,104.80	11,995.20
1407	Other Contractual Services	2,880,100.00	2,871,733.79	8,366.21
1506	Property lone interest	1,123,000.00	1,120,343.95	2,656.05
1903	Holiday Warrants	100,000.00	91,695.00	8,305.00
1905	Other	1,864,000.00	1,827,744.52	36,255.48
	Total	**154,750,900.00**	**154,107,794.89**	**643,105.11**

10.2 Patient Care Services

Table 10.2 Patient Care Services

Object	Title	Total Estimate	Total Expenditure	Balance Rs
561-71-1-0-1001	Salaries and Wages	1,074,590,000.00	1,073,881,495.52	708,504.48
1002	Overtime & Holiday pay	514,355,000.00	514,226,911.30	128,088.70
1003-1	Cost of living Allowances	259,327,000.00	259,091,046.43	235,953.57
1003-11	Other Allowances	144,003,000.00	143,923,673.80	79,326.20
1101	Traveling Expenditure Domestic	12,896,000.00	12,895,247.11	752.89
1201	Stationary & Office Requisites	2,675,000.00	2,651,556.83	23,443.17
1202	Fuel and Lubricant	24,785,000.00	24,739,927.48	45,072.52
1203	Uniform	2,282,000.00	2,270,925.00	11,075.00
1204	Diets	77,649,500.00	77,313,822.41	335,677.59
1205	Medical Supplies	5,831,000.00	5,806,470.46	24,529.54
1206	Mechanical & Electrical	1,135,000.00	1,133,670.84	1,329.16
1207	Other Supplies	10,290,500.00	10,078,987.28	211,512.72
1301	Vehicles	10,412,500.00	10,221,778.35	190,721.65
1302	Plant Machinery & Equipment	5,369,500.00	5,369,479.80	20.20
1303	Building & Structures	7,721,500.00	7,683,727.41	37,772.59
1304	Others	2,768,500.00	2,635,520.81	132,979.19
1401	Transport	55,000.00	49,175.50	5,824.50
1402	Telecommunication	5,925,500.00	5,881,630.37	43,869.63
1403	Postal Charges	310,000.00	307,964.20	2,035.80
1404	Electricity & water	61,931,000.00	61,905,676.32	25,323.68
1405	Rental & Hire Charge	628,000.00	625,133.50	2,866.50
1406	Rates & Taxes to local authorities	286,000.00	221,333.84	64,666.16
1407	Other Contractual Services	20,355,000.00	20,253,686.75	101,313.25
1506	Property loan interest	18,202,000.00	18,201,948.84	51.16
1903	Holiday warrants	443,000.00	430,378.20	12,621.80
1905	Others	1,951,575.00	1,890,507.04	61,067.96
	Total	**2,266,178,075.00**	**2,263,691,675.39**	**2,486,399.61**

10.3 Preventive Care Services

Table 10.3 Preventive Care Services

Object	Title	Total Estimate	Total Expenditure	Balance Rs
561-72-1-0-1001	*Salaries and Wages*	392,540,000.00	391,734,937.23	805,062.77
1002	*Overtime Holiday pay*	22,787,000.00	22,733,286.71	53,713.29
1003-1	*Cost of living Allowances*	89,144,000.00	89,120,572.47	23,427.53
1003-11	*Other Allowances*	28,330,000.00	28,015,992.12	314,007.88
1101	*Traveling Expenditure.Demestic*	45,453,000.00	45,405,144.84	47,855.16
1201	*Stationary & Office Requisites*	946,000.00	884,388.45	61,611.55
1202	*Fuel and Lubricant*	10,742,000.00	10,687,011.85	54,988.15
1203	*Uniform*	740,000.00	546,302.50	193,697.50
1204	*Diets*	.00	.00	.00
1205	*Medical Supplies*	5,000.00	2,961.00	2,039.00
1206	*Mechanical & Electrical*	146,000.00	136,323.50	9,676.50
1207	*Other Supplies*	1,060,000.00	896,235.50	163,764.50
1301	*Vehicles*	11,519,000.00	11,419,059.49	99,940.51
1302	*Plant Machinery & Equipment*	418,000.00	394,823.08	23,176.92
1303	*Building & Structure*	3,484,000.00	3,371,286.80	112,713.20
1304	*Others*	65,000.00	60,862.91	4,137.09
1401	*Transport*	2,887,000.00	2,886,694.00	306.00
1402	*Telecommunication*	1,556,500.00	1,548,602.53	7,897.47
1403	*Postal Charges*	169,000.00	163,186.50	5,813.50
1404	*Electricity & water*	3,271,000.00	3,270,627.18	372.82
1405	*Rental & Hire Charge*	1,000.00	.00	1,000.00
1406	*Rates & Taxes to local authorities*	87,000.00	82,661.20	4,338.80
1407	*Other Contractual Services*	548,000.00	547,568.00	432.00
1506	*Property loan interest*	4,607,000.00	4,606,407.28	592.72
1903	*Holiday warrants*	338,000.00	138,025.00	199,975.00
1905	*Others*	249,000.00	248,646.58	353.42
	Total	**621,092,500.00**	**618,901,606.72**	**2,190,893.28**

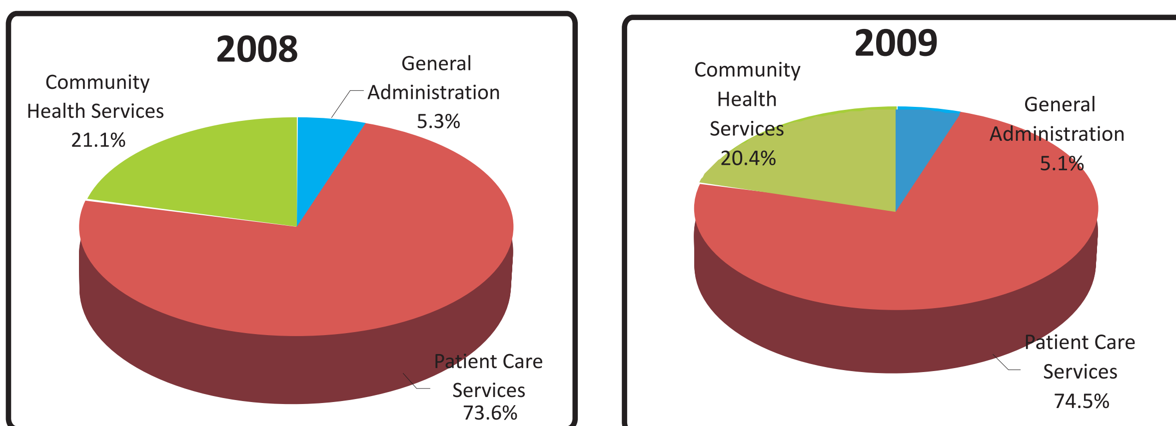
10.4 Summary of Health expenditure by Programmes

Table 10.4 Summary of Health expenditure by Programmes

	Programme	Total expenditure Rs	
		2008	2009
Recurrent Expenditure	General Administration	145,061,610.00	154,107,794.89
	Patient care services	2,026,041,067.00	2,263,691,675.39
	Community Health services	581,322,671.00	618,901,606.72
	Total	**2,752,425,348.00**	**3,036,701,077.00**

There is a 10 % increase of recurrent expenditure observed during year 2009, compared to 2008 in the Central Provincial Health Department. Out of the total recurrent expenditure, 74.5 % was spent on patient care services (curative care services) whereas 20.4% was spent on community health services (public health services).

Fig 10.3 Expenditure observed during year 2009, compared to 2008 in the Central Provincial Health Department.



10.5 DEVELOPMENT PROJECTS

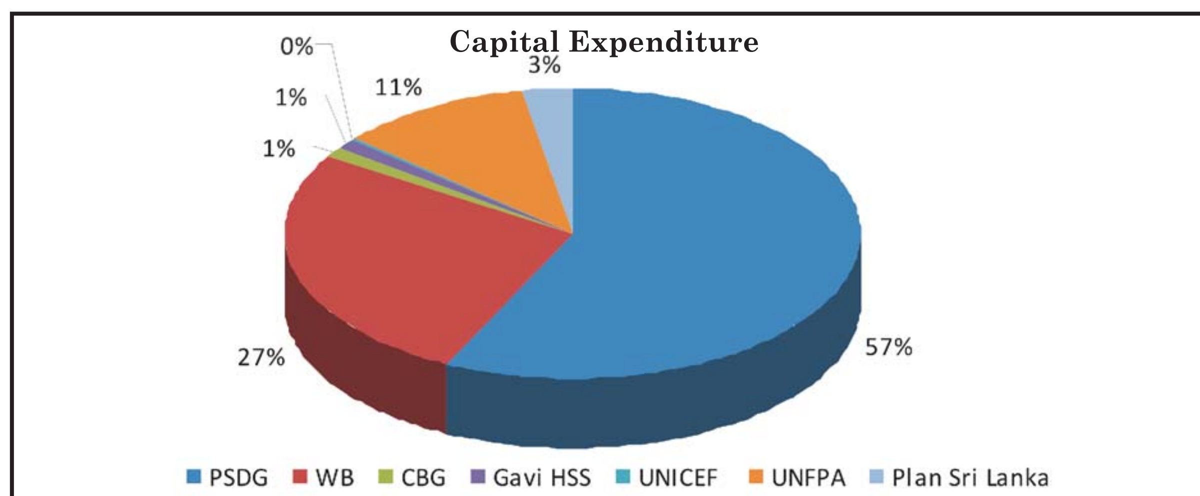
For the development of health sector in Central Province, different types of sources of funds for capital expenditure were utilized during the year 2009.The major contributions for these were from Provincial Specific Development Grants (PSDG) and World Bank. The other sources included Gavi, Criteria Based Grants, UNICEF and UNFPA projects.

Table 10.5 Distribution of expenditure by Category of Development Projects – 2009 (RS. Million)

Expenditure Category	Approved Amount (Rs million)	Received Amount	Expenditure (as at December 31st 2009)	Percentage %
Provincial Specific Development Grants (PSDG)	209,950,000	189,541,634	189,541,634	100.00%
World Bank (WB)	144,000,000	107,679,456	88,406,507	82.10%
Criteria Based Grants (CBG)	8,500,000	3,775,687	3,775,687	100.00%
Gavi HSS	11,390,000	3,538,000	3,538,000	100.00%
UNICEF	7,600,000	1,200,000	1,200,000	100.00%
UNFPA	38,000,000	38,173,577	35,396,724	92.73%
Total	**419,440,000**	**343,908,354**	**321,858,552**	**93.59%**
*Plan Sri Lanka	NA	NA	9,724,850	NA
Grand Total			**331,583,402**	

*Plan Sri Lanka has Provided Support to improve the Health Sector in Selected MOH Divisions and a Total of Rs. 9,724,850 has been directly paid to the vendors.

Fig 10.4 ***Distribution of expenditure by Category of Development Projects – 2009(RS. Million)***



10.5.1 Health Sector Development Project – World Bank –2009

Table 10.6 Health Sector Development Project – World Bank –expenditure by Districts 2009

	PDHS Office	Kandy	Matale	N'Eliya
Approved Amount (Rs)	10,420,568	53,997,912	45,963,475	41,861,651
Actual Expenditure (Rs)	4,797,125	28,691,761	25,306,825	29,610,796
Progress (%)	46.04%	53.13%	55.06%	70.73%

Table 10.7 Progress of the projects under WB - by District

	NO .OF. PROJECTS-UNDER THE WB							
	PDHS Office		Kandy		Matale		N'Eliya	
	No. of. Projects	Completed by 31.12.2009	No. of. Projects	Completed by 31.12.2009	No. of. Projects	Completed by 31.12.2009	No. of. Projects	Completed by 31.12.2009
Constructions & Repairs	1		45	34	38	27	16	12
Provision of Surgical Equipments	-		28	24	16	12	17	13
Training Programmes	4	4	56	53	25	18	34	29
Other	-		4	4			2	2
Total	5	4	133	115	79	57	69	56

The details of activities done under this project is described in annexure15 .

10.5.2 Health Sector Development Project – Provincial Specific Development Grants (PSDG) - 2009

Table 10.8* PSDG *Financial Progress

	PDHS Office	Kandy	Matale	N'Eliya
Approved Amount (Rs)	57,509,638	33,731,173	102,674,189	16,035,000
Actual Expenditure (Rs) (2009/12/31)	54,241,039	25,934,352	95,582,324	13,783,919
Progress (%)	94.32%	76.89%	93.09%	85.96%

Table 10.9 Progress of the project activities done under* PSDG *project

	No.of. projects- Central province							
	PDHS Office		Kandy		Matale		N'Eliya	
	No.of Projects	Completed	No.of Projects	Completed	No. of. Projects	Completed	No.of. Projects	Completed
Construction & Repairs Procument of Equipments	3	1	25	14	24	6	12	2

10.5.3 Health Sector Development Project- Criteria Based Grants (CBG) -2009

Table 10.10 CBG - Progress

	Kandy	Matale	N'Eliya
Approved Amount (Rs)	5,178,000	6,469,600	64,000
Actual Expenditure (Rs) (2009/12/31)	3,169,265	3,004,654	-
Progress %	61.21%	46.44%	-

Table 10.11 Progress of the project activities done under CBG project .

	No.of. projects- Central province			
	Kandy		Matale	
	No.of Projects	Completed	No. of. Projects	Completed
Construction & Repairs	3	3	3	3

10.5. 4 Health Sector Development Project -GAVI / UNICEF/ *UNFPA*

Table 10.12 GAVI / UNICEF/ UNFPA Progress

	GAVI Regional Training Center Kadugannawa/ N'Eliya	UNICEF Nuwara Eliya	*UNFPA Nuwara Eliya*
Approved Amount (Rs)	3,538,000	1,200,000	38,173,577
Actual Expenditure (Rs) (2009/12/31)	3,538,000	1,200,000	35,396,724
Progress %	100.00%	100.00%	92.73%

Table 10.13 Project activities done under GAVI / UNICEF/ UNFPA

	GAVI RTC Kadugannawa/ N'Eliya		UNICEF N' Eliya		UNFPA N' Eliya	
	No. of Projects	Completed	No. of Projects	Completed	No. of Projects	Completed
Construction Repairs	6	6			9	8
Procument	2	2			65	50
Training	4	4	8	8	-	-
Other	-	-			1	1
Total	12	12	12	8	75	59

10.5.5 Health Sector Development Project - Plan Sri Lanka

Table 10.5.5 Health Sector Development Project - Plan Sri Lanka Progress

	Kandy	Matale	Nuwara Eliya	Central Province	Total
Expenditure	5,726,823	1,051,815	1,550,000	1,396,212	9,724,850

Table 10.5.6 Project activities done under Plan Sri Lanka

	Kandy	Matale	Nuwara Eliya
Construction	5	1	2
Procument	5	2	2
Training	4	1	2
Total	14	4	6

DETAILED

TABLES

Annexure (1) Number of Health Institutions and Field Areas in the Kandy District (under Central Province Health department) in 2009

No	DDHS Areas	No of PHI Areas	No of PHM Areas	No of District General Hospitals	No of District Base Hospitals	No of Divisional Hospitals	No of Primary Medical Care Unit
1	Akurana	03	18	-	-	01	03
2	Galagedara	03	15	-	-	01	01
3	GangaIhala	03	23	-	-	03	-
4	Hatharaliyadde	02	17	-	-	02	02
5	GangawataKorale	02	18	-	-	01	02
6	Hasalaka	5	18	-	-	06	-
7	Kundasale	2	15	-	-	04	01
8	Medadumbara	04	26	-	-	03	02
9	Nawalapitiya	4	26	01	-	1	01
10	Panvila	02	15	-	-	01	-
11	Poojapitiya	3	22	-	-	02	04
12	Thalathuoya	4	22	-	-	03	01
13	Udadumbara	02	15	-	-	01	-
14	Gampola	05	22	-	-	02	01
15	Udunuwara	3	15	-	-	05	02
16	Wattegama	04	31	-	-	02	02
17	Warallagama	06	28	-	-	02	01
18	Yatinuwara	6	36	-	-	03	03
19	Doluwa	04	16	-	-	03	01
20	Deltota	02	14	-	-	03	00
21	Manikhinna	02	20			04	00
22	Bambaradeniya	02	16			02	01
	Total	**73**	**448**	**1**	**-**	**55**	**28**

- Kandy Municipal Council comes under Local government.
- T.H. Kandy, T.H. Peradeniya, Sirimawo Bandaranayaka Childrens Hospital & B.H. Gampola come under Line Ministry

Annexure (2) Number of Health Institutions and Field Areas in the Nuwaraeliya District (under Central Province Health department) in 2009

No.	Name of DDHS Areas	No of PHI Areas	No of PHM Areas	No of District General Hospitals	No of District Base Hospitals	No of Divisional Hospitals	No of Primary Medical Care Unit
1	NuwaraEliya	03	22	-	-	00	03
2	Kothmale	3	25	-	-	03	06
3	Maskeliya	3	29	-	01	03	01
4	Ambagamuwa	06	41	-	-	03	03
5	walapane	04	39	-	-	04	04
6	Maturata	02	18			03	01
7	Nawatispane	02	24			01	04
8	Haguranketa	2	16		01	04	00
9	Bagawantalawa	02	22			01	00
10	Ragala	04	30			03	03
11	Lidula	03	28			03	00
12	Kotagala	03	24			01	00
	Total	**37**	**318**	**-**	**02**	**29**	**25**

➢ DGH Nuwaraeliya comes under Line Ministry

Annexure (3) Number of Health Institutions and Field Areas in the Matale District (under Central Province Health department) in 2009

No	Name of DDHS Areas	No of PHI Areas	No of PHM Areas	No of District General Hospitals	No of District Base Hospitals	No of Divisional Hospitals	No of Primary Medical Care Unit
1	Matale	3	11	01	-	-	02
2	Rattota	03	18	-	-	02	02
3	Galewela	5	25	-	-	02	03
4	Dambulla	4	22	-	01	02	02
5	Naula	02	12	-	-	02	01
6	Laggala Pallegama	02	8	-	-	03	-
7	Yatawatte	02	11	-	-	01	01
8	Ukuwela	04	22	-	-	02	02
9	Pallepola	02	12	-	-	-	02
10	Wilgamuwa	02	11	-	-	03	-
11	Abangagakoralaya	1	6	-	-	-	-
	Total	**30**	**158**	**01**	**01**	**17**	**15**

➢ Matale Municipal Council comes under Local government.

Annexure (4) Curative Care Institutions in Central Province by District

CATEGORY	KANDY	MATALE	NUWARAELIYA
PRIMARY CARE	DH DELTOTA DH AKURANA DH ANKUMBURA DH DOLOSBAGE DH GALAGEDARA DH KADUGANNAWA DH MADOLKELE DH MAMPITIYA DH MENIKHINNA DH PUSSALLAWA DH UDADUMBARA DH KATUGASTHOTA DH WATTEGAMA DH SANGARAJAPURA DH MEDAWALA DH MINIPE DH PANVILATENNA DH MARASSANA DH HASALAKA DH TITHTHAPAJJALA DH WATTAPPOLA DH KOTALIGODA DH PAMUNUWA DH GELIOYA DH BAMBARADENIYA DH HATHARALIYADDA DH THALATHUOYA DH UDUWELA DH GALAHA DH YAKGAHAPITIYA DH NARAMPANAWA DH GALPIHILLA DH JAMBUGAHAPITIYA DH KURUDUWATTE DH KAHAWATTE DH UDAGAMA ATABAGE DH BATUMULLA DH MEDAMAHANUWARA DH AMBAGAHAPALASSA DH KOLONGODA DH MORAHENA DH BOKKAWALA DH DUNHINNA DH THELDENIYA DH ULAPANE DH MURUTHALAWA DH PATTIYAGAMA PALLEGAMA DH WESTHALL PMCU ALAWATHUGODA PMCU KURUGODA PMCU MAHAKANDA PMCU MAILAPITIYA PMCU MAKULDENIYA PMCU MADAWALA BAZAR PMCU MAWATHURA PMCU POOJAPITIYA PMCU RAMBUKEELA PMCU RAJAWALLA PMCU SUDUHUMPOLA PMCU WELAMBODA PMCU YAHALATENNA PMCU KOTIKAMBE PMCU UDATHALAWINNA PMCU SANDASIRIDUNUVILA PMCU ELAMALDENIYA PMCU MAPAKANDA PMCU BALANA PMCU DODAMWELA PMCU DEDUNUPITIYA PMCU GIRIHAGAMA PMCU GODAHENA PMCU GALHINNA PMCU GOHAGODA PMCU MEEMURE PMCU MEGODA KALUGAMUWA	DH GALEWELA DH RATTOTA DH LAGGALA PALLEGAMA DH NALANDA DH MADIPOLA DH HETTIPOLA DH KONGAHAWELA DH MUWANDENIYA DH YATAWATHTA DH HADUNGAMUWA DH OVILIKANDA DH LENADORA DH MARAKA DH HATTOTAAMUNA DH GAMMADUWA DH ILUKKUMBURA DH SIGIRIYA PMCU ALUVIHARE PMCU DULLEWA PMCU ELKADUWA PMCU KALUNDEWA PMCU ALUTHWEWA PMCU MADAWALA ULPATHE PMCU OPALGALA PMCU PALDENIYA PMCU PALLEPOLA PMCU WAHAKOTTE PMCU WAWALAWEWA PMCU UKUWELA PMCU GURUBABILA PMCU DEWAHUWA PMCU KANDENUWARA	DH AGARAPATHANA DH BAGAWANTHALAWA DH NILDANDAHINNA DH KOTAGALA DH LIDULA DH MASKELIYA DH MATURATA DH UDUPUSSALLAWA DH WALAPANE DH THERIPAHA DH MALDENIYA DH WATAWALA DH KOTHMALE DH GINIGATHHENA DH LAXAPANA DH HIGHFOREST DH GONAPITIYA DH N/ MEDAKUMBURA DH DAYAGAMA DH GONAGANTENNA DH HANGURANKETHE DH MOOLOYA DH MANDARANNUWARA PMCU AMBEWELA PMCU HATTON PMCU HANGARAPITIYA PMCU KANDAPOLA PMCU KURUPANAWELA PMCU KEERTHIBANDARAPURA PMCU KATABULAWA PMCU KALAGANWATTE PMCU MADULLA PMCU MUNWATTE PMCU MANAKOLA PMCU MASWELA PMCU NAWATHISPANE PMCU WIDULIPURA PMCU NANUOYA PMCU PUNDALUOYA PMCU RAGALA PMCU RUPAHA PMCU UPKOT PMCU WIJEBAHUKANDA PMCU HAPUGASTHALAWA

CATEGORY	KANDY	MATALE	NUWARAELIYA
SECONDARY CARE INSTITUTIONS	DGH NAWALAPITIYA DBH GAMPOLA	DGH MATALE DBH DAMBULLA	DGH NUWARAELIYA DBH DICKOYA DBH RIKILLAGASKADA
TERTIARY CARE INSTITUTIONS	TH KANDY TH PERADENIYA SIRIMAWO BANDARANAYAKE CHILDRENS HOSPITAL		
SPECIAL UNITS	CHEST CLINIC DRUG STORES KANDY A.M.C KANDY SISILA MENTAL HEALTH DELTOTA SCHOOL MEDICAL OFFICE STD CLINIC KANDY DIGANA REHABILITATION MENTAL HEALTH KATUGASTOTA TRAINING CENTER KADUGANNAWA B.M.E.S UNIT WATAPULUWA	CHEST CLINIC DRUG STORES MATALE A.M.C MATALE MENTAL REHABILITATION CENTRE LALIABE STD CLINIC-MATALE	CHEST CLINIC DRUG STORES N'ELIYA STD CLINIC-N'ELIYA

Annexure (5) Information of primary care institutions - Kandy / Matale / Nuwara Eliya
Information of primary care institutions in Kandy District - 2009

	INSTITUTIONS	NO. OF WARDS	NO. OF BEDS	BED OCCUPANCY RATE (%)	ADMISSIONS	OPD ATTENDANCE	TOTAL IN PATIENT DAYS PER YEAR	NO. OF CLINICS HELD	CLINIC ATTENDANCE	TOTAL NO. OF DEATHS	NUMBER OF DEATHS WITHIN 48 HOURS	TOTAL NO.OF DELIVERIES	TOTAL NO. OF. PATIENT TRANSFERS FORM THE INSTITUTIONS
1	DH-ANKUMBURA	06	67	45.61	4747	57632	11155	330	21531	30	21	146	558
2	DH-PUSSALLAWA	05	65	40.53	5561	56924	9616	335	19537	11	06	176	1236
3	DH-DOLOSBAGE	03	52	23.23	2035	29536	4409	388	7278	01	00	36	573
4	DH-DELTHOTA	04	62	45.04	3623	43630	10193	300	13739	14	07	139	702
5	DH-MADOLKELE	05	80	39.56	5656	46514	11551	306	10677	21	00	206	812
6	DH-THELDENIYA	07	97	37.92	8228	75975	13425	689	40352	28	13	112	1474
7	DH-GALAGEDARA	05	66	50.49	6455	68800	12162	380	23571	30	02	64	1684
8	DH-UDADUMBARA	04	86	25.54	3576	48000	8016	146	20564	13	08	121	518
9	DH-MENIKHINNA	05	66	41.88	6269	75628	10067	562	27654	27	25	99	541
10	DH-AKURANA	06	81	51.4	8517	108883	15193	447	27006	16	01	227	1118
11	DH-KADUGANNAWA	05	66	36.20	4653	72866	8720	642	30390	16	13	43	587
12	DH-MAMPITIYA	04	50	37.08	3594	51239	6899	303	9367	04	03	03	358
13	DH-KATUGASTOTA	05	56	66.99	6531	120251	13694	550	15957	29	12	56	328
14	DH-WATTEGAMA	05	59	38.05	4601	60839	8308	138	12068	10	06	54	861
15	DH SANGARAJAPURA	03	33	27.23	1577	25512	3280	148	8443	02	02	01	339

	INSTITUTIONS	NO. OF WARDS	NO. OF BEDS	BED OCCUPANCY RATE (%)	ADMISSIONS	OPD ATTENDANCE	TOTAL IN PATIENT DAYS PER YEAR	NO. OF CLINICS HELD	CLINIC ATTENDANCE	TOTAL NO. OF DEATHS	NUMBER OF DEATHS WITHIN 48 HOURS	TOTAL NO.OF DELIVERIES	TOTAL NO. OF. PATIENT TRANSFERS FORM THE INSTITUTIONS
16	DH-MEDAWALA	05	42	63.28	3551	61959	9702	120	1200	05	02	17	455
17	DH-MINIPE	05	40	32.07	2433	33393	4682	48	9782	02	01	17	100
18	DH-MARASSANA	04	35	83.46	4532	48726	10680	96	15581	10	05	42	465
19	DH-PANWILATHENNA	03	30	38.47	1187	32469	4212	72	5423	02	01	01	135
20	DH-HASALAKA	04	50	58.13	4959	59219	10610	92	11154	32	04	134	877
21	DH-THITTAPAJJALA	04	54	45.97	5020	82345	9061	391	20489	06	05	64	870
22	DH-JAMBUGAHAPITIYA	03	24	69.93	2617	25567	6126	53	7252	00	00	05	580
23	DH-WATTAPPOLA	03	17	66.62	1376	19158	4134	88	8414	04	01	00	140
24	DH-KOTALIGODA	04	36	77.95	5786	42549	10242	410	14493	05	04	20	920
25	DH-PAMUNUWA	03	24	78.66	3336	36023	6891	149	14032	00	00	00	278
26	DH-GELIOYA	03	24	31.74	1215	34032	2780	456	16807	05	01	0	45
27	DH-BAMBARADENIYA	03	35	30.70	2826	45263	3922	322	17835	07	02	03	510
28	DH-HATHARALIYADDA	04	45	29.72	3462	39864	4887	50	8012	11	01	27	492
29	DH-THALATUOYA	03	29	52.22	3572	53790	5528	338	22375	09	07	17	841
30	DH-UDUWELA	03	29	36.78	2082	44785	3894	168	7705	03	01	17	69
31	DH-GALAHA	03	40	63.10	2791	42788	9212	227	12682	03	03	61	574
32	DH-YAKGAHAPITIYA	03	26	36.06	1341	46861	3481	577	21515	03	02	01	179
33	DH-NARAMPANAWA	03	32	20.34	1193	24116	2376	121	5670	07	03	07	144
34	DH-GALPIHILLA	03	22	66.81	2681	36399	5365	192	8468	01	01	34	523

	INSTITUTIONS	NO. OF WARDS	NO. OF BEDS	BED OCCUPANCY RATE (%)	ADMISSIONS	OPD ATTENDANCE	TOTAL IN PATIENT DAYS PER YEAR	NO. OF CLINICS HELD	CLINIC ATTENDANCE	TOTAL NO. OF DEATHS	NUMBER OF DEATHS WITHIN 48 HOURS	TOTAL NO.OF DELIVERIES	TOTAL NO. OF. PATIENT TRANSFERS FORM THE INSTITUTIONS
35	DH-KURUNDUWATTHA	04	40	73.15	3334	74010	10680	499	14106	06	05	38	478
36	DH-KAHAWATTHA	02	14	7.22	156	33293	369	122	3694	02	01	00	00
37	DH-UDAGAMA ATABAGE	03	23	23.73	664	25635	1992	137	21563	00	00	01	12
38	DH-MORAHENA	02	14	45.91	1468	15034	2346	94	4570	00	00	0	6
39	DH-BATUMULLA	03	24	26.66	670	1278	2335	102	102	00	00	03	52
40	DH-MADAMAHANUWARA	04	29	26.03	2489	32103	2755	225	8985	00	00	47	611
41	DH-AMBAGAHAPELASSA	04	40	54.14	2470	32433	7904	48	7083	00	00	42	162
42	DH-KOLONGODA	03	34	50.73	3887	49427	6296	240	5388	04	04	66	880
43	DH-BOKKAWALA	04	36	52.23	3128	42105	6877	346	14357	05	02	20	420
44	DH-DUNHINNA	03	12	22.40	596	17131	982	141	4558	00	00	02	85
45	DH-ULAPANE	02	12	59.89	1468	21812	2623	48	7314	00	00	00	114
46	DH-MURUTHALAWA	02	13	48.74	2046	36059	2313	96	7016	03	01	00	130
47	DH-PATTIYAGAMA PALLEGAMA	02	12	64.66	1040	26242	2832	82	5491	04	01	00	78
48	PRISON HOSPITAL KANDY	04	48	57.04	1804	43550	9993	145	2409	03	00	00	134
49	PRISON HOSPITAL PALLEKALE	01	10	00	00	17650	00	02	500	00	00	00	100
	TOTAL	**181**	**1981**	**44.97**	**156803**	**2219297**	**324770**	**11961**	**624159**	**394**	**177**	**2169**	**23148**

Information of primary care institutions in Matale District – 2009

	INSTITUTIONS	NO. OF WARDS	NO. OF BEDS	BED OCCUPANCY RATE (%)	ADMISSIONS	OPD ATTENDANCE	TOTAL IN PATIENT DAYS PER YEAR	NO. OF CLINICS HELD	CLINIC ATTENDANCE	TOTAL NO. OF DEATHS	NUMBER OF DEATHS WITHIN 48 HOURS	TOTAL NO.OF DELIVERIES	TOTAL NO. OF. PATIENT TRANSFERS FORM THE INSTITUTIONS
1	DBH-HETTIPOLA	04	48	36.33	4149	54900	6365	123	4530	17	12	107	530
2	DH- RATTOTA	04	65	36.01	5486	98455	8544	456	21722	16	03	33	616
3	DH-LAGGALA/PALLEGAMA	04	62	19.93	3196	27037	4510	140	7144	01	01	23	679
4	DH-GALEWELA	05	85	54.23	10330	135982	16824	454	29445	00	00	214	1708
5	DH-NALANDA	04	44	53.91	3060	37217	8655	362	10367	12	10	57	245
6	DH-MADIPOLA	04	58	48.67	5288	41305	10287	144	10996	09	00	26	387
7	DH-KONGAHAWELA	04	53	44.34	2129	36689	8577	211	8775	07	01	41	277
8	DH-ILLUKKUMBURA	02	04	5.00	72	7351	73	88	2479	01	00	00	11
9	DH-YATAWATTE	03	35	19.44	1634	38272	2483	421	15196	11	06	18	252
10	DH-HADUNGAMUWA	03	14	82.39	2509	24454	4210	150	4306	00	00	28	306
11	DH-MARAKA	02	10	51.51	684	14775	1880	41	5500	00	00	00	26
12	DH-GAMMADUWA	02	09	38.81	275	10648	1275	62	1205	00	00	00	00
13	DH-LENADORA	02	11	74.26	1344	35008	2723	149	6123	02	01	00	194
14	DH-OVILKANDA	03	18	3.88	245	12372	255	128	3877	01	00	00	00
15	DH-HATTOTA AMUNA	03	13	38.10	903	19497	1808	76	3314	01	01	05	151
16	DH-MUWANDENIYA	2	16	6.46	278	14594	377	168	4154	00	00	00	5
17	DH-SIGIRIYA	02	19	73.22	4327	43467	5078	393	6971	01	01	00	723
18	DH- LALIAMBE	02	10	96.85	34	11887	3535	144	4013	00	00	00	00
	TOTAL	**55**	**574**	**41.72**	**45925**	**663911**	**87459**	**3710**	**143117**	**79**	**36**	**552**	**6110**

Information of primary care institutions in NuwaraEliya District – 2009

	INSTITUTIONS	NO. OF WARDS	NO. OF BEDS	BED OCCUPANCY RATE (%)	ADMISSIONS	OPD ATTENDANCE	TOTAL IN PATIENT DAYS PER YEAR	NO. OF CLINICS HELD	CLINIC ATTENDANCE	TOTAL NO. OF DEATHS	NUMBER OF DEATHS WITHIN 48 HOURS	TOTAL NO.OF DELIVERIES	TOTAL NO. OF. PATIENT TRANSFERS FORM THE INSTITUTIONS
1	DH- LINDULA	06	74	52.79	6156	46990	14258	110	7029	26	23	481	1409
2	DH-KOTAGALA	05	59	30.51	3668	45862	6570	411	11338	24	16	386	747
3	DH-AGARAPATHANA	04	40	46.46	4194	36269	6783	84	1627	26	14	268	619
4	DH-WALAPANE	06	105	29.34	4019	51536	9961	420	15811	08	05	137	959
5	DH-UDUPUSSELLAWA	08	95	27.69	3005	28344	9603	105	4606	13	00	173	560
6	DH-MATHURATA	06	105	18.22	3878	38328	6785	232	6179	06	01	92	644
7	DH-KOTHMALE	04	54	41.3	3726	37673	7845	251	9610	03	02	75	656
8	DH-MALDENIYA	06	84	25.45	1968	30909	7617	162	6230	05	00	52	435
9	DH-MASKELIYA	06	126	22.85	4867	39796	10009	207	10387	50	01	609	833
10	DH-BOGAWANTHALAWA	04	75	56.58	7784	52779	14869	198	19921	29	11	404	718
11	DH-WATAWALA	04	60	51.13	3514	43264	10825	182	7525	18	15	308	468
12	DH-GINIGATHHENA	04	56	49.69	3162	64177	10157	389	11418	05	02	49	400
13	DH-LAXAPANA	03	30	70.14	5218	17569	7680	76	4552	00	00	09	428
14	DH-HANGURANKETHA	03	25	49.08	2660	44559	4479	441	15786	04	03	14	376
15	DH-GONAGANTHENNA	02	21	39.65	2005	22069	3039	133	8760	13	02	43	498
16	DH-GONAPITIYA	03	28	21.50	304	14667	1805	72	6917	04	01	255	22
17	DH-MULOYA	04	22	86.60	2618	17012	6954	55	3018	07	03	07	188
18	DH-N/MEDAKUMBURA	03	17	14.13	818	9027	877	112	1811	01	01	25	138
19	DH-DAYAGAMA	03	26	33.72	2143	18677	3200	158	2174	16	03	103	421
20	DH-HIGH FOREST	03	24	30.71	2204	37173	2690	102	14831	03	01	84	276
21	DH-THERIPEHE	02	28	09.39	375	14595	960	72	2079	01	00	03	120
22	DH- NILDANDAHINNA	02	12	23.29	1848	52929	1020	55	4653	11	02	07	355
23	DH-MANDARAMNUWARA	01	12	27.51	708	30415	1205	24	14701	00	00	08	180
	TOTAL	**94**	**1143**	**35.83**	**70842**	**794619**	**149191**	**4051**	**190963**	**273**	**106**	**3582**	**11550**

OPD ATTENDANCE OF PRIMERY MEDICAL CARE UNIT (PMCU) BY DISTRICT - 2009

	Kandy		Matale		N'Eliya	
	INSTITUTIONS	OPD ATTENDANCE	INSTITUTIONS	OPD ATTENDANCE	INSTITUTIONS	OPD ATTENDANCE
1	PMCU-DEDUNUPITIYA	14998	PMCU-ALUVIHARE	52534	PMCU-RAGALA	19814
2	PMCU-KOTIKAMBE	20503	PMCU-DULLEWA	7433	PMCU-RUPAHA	8092
3	PMCU-GIRIHAGAMA	17916	PMCU-ELKADUWA	7332	PMCU-KEERTHIBANDARAPURA	9358
4	PMCU-SANDASIRIDUNUWILA	11526	PMCU-ALUTWEWA	9255	PMCU-KURUPANAWELA	7440
5	PMCU-MAKULDENIYA	13505	PMCU-MADAWALA-ULPATA	38820	PMCU-UPCOT	9714
6	PMCU-DODAMWELA	19401	PMCU-OPALGALA	1255	PMCU-MADULLA	13761
7	PMCU-BALANA	17712	PMCU- PALDENIYA	11745	PMCU-KALAGANWATTHA	7785
8	PMCU- YAHALATHENNA	12571	PMCU –PALLEPOLA	24242	PMCU-MUNWATTHA	6153
9	PMCU-MAILAPITIYA	25614	PMCU-WAHAKOTTE	10377	PMCU-MANAKOLA	10778
10	PMCU-UDATHALAWINNA	23200	PMCU-WAWALA WAWA	11810	PMCU-KANDAPOLA	22969
11	PMCU-ELAMALDENIYA	21155	PMCU-UKUWELA	46704	PMCU-NANUOYA	13308
12	PMCU-RAJAWELLA	14476	PMCU-GURUBABILA	7926	PMCU-AMBEWELA	5320
13	PMCU-SUDUHUMPOLA	46072	PMCU-DEWAHUWA	34244	PMCU-HAPUGASTHALAWA	26760
14	PMCU-MAWATHURA	8400	PMCU-KALUNDEWA	5938	PMCU-PUNDALUOYA	20379
15	PMCU-KURUGODA	12319	PMCU-KANDENUWARA	15282	PMCU-KATABULA	7628

16	PMCU-RAMBUKEWELA	8414			PMCU-MASWELA	10048
17	PMCU-ALAWATHUGODA	12892			PMCU-WIJEBAHUKANDA	8496
18	PMCU-GOHAGODA	30810			PMCU-NAWATHISPANE	6070
19	PMCU-MAHAKANDA	17991			PMCU-HATTON	19745
20	PMCU-GALHINNA	16076			PMCU-HANGARAPITIYA	5424
21	PMCU-WELAMBODA	14754			PMCU-WIDULIPURA	11484
22	PMCU-RAMBUKE ELA	6663				
23	PMCU-GODAHENA	14998				
24	PMCU-POOJAPITIYA	19263				
25	PMCU – MAPAKANDA	9553				
26	PMCU-KALUGAMUWA	97380				
27	PMCU-MEMURE	707				
28	PMCU-MADAWALA BAZAR	19458				
	TOTAL	**548327**		**284899**		**250526**

Annexure (6) Leading Causes of live Discharges for the year 2008 in Kandy District.

Diseases Code (IMMR Code)	Diseases and ICD code	Rank	Number
243	Persons encountering health services for examination, invest	1	32568
042	Other viral diseases(includes viral fever)(A81,A88,A89,B00,B	2	21654
195	Single spontaneous delivery (O80)	3	19315
245	Undiagnosed / Uncoded	4	15618
217	Other signs and symptoms and abnormal clinical findings (R25	5	15267
227	Open wounds and injuries to blood vessels (S01,S11,S15,S21,S	6	14961
196	Other complications of pregnancy and delivery (020-029,060-	7	14170
150	Asthma (J45-J46)	8	13862
152	Other diseases of the respiratory system(J22,J60-J98)	9	9720
230	Other injuries of specified, unspecified and multiple body r	10	9115
220	Superficial injury (S00,S10,S20,S30,S40,S50,S60,S70,S80,S90,	11	8918
156	Gastritis and duodenitis (K29)	12	8838
115	Cataract and other disorders of lens (H25-H27)	13	8776
125	Essential hypertension (I10)	14	8708
006	Diarrhoea and gastroenteritis of presumed infectious origin	15	8529

Annexure (7) Leading Causes of live Discharges for the year 2008 in Matale District.

Diseases Code (IMMR Code)	Diseases and ICD code	Rank	Number
245	Undiagnosed / Uncoded	1	11373
195	Single spontaneous delivery (O80)	2	7525
227	Open wounds and injuries to blood vessels (S01,S11,S15,S21,S	3	5668
042	Other viral diseases(includes viral fever)(A81,A88,A89,B00,B	4	5491
196	Other complications of pregnancy and delivery (020-029,060-	5	4050
150	Asthma (J45-J46)	6	3983
220	Superficial injury (S00,S10,S20,S30,S40,S50,S60,S70,S80,S90,	7	3789
243	Persons encountering health services for examination, invest	8	3766
119	Other diseases of the eye and adnexa (H00-H11,H20,H21,H30,H3	9	3185
156	Gastritis and duodenitis (K29)	10	3059
143	Other acute upper respiratory infections (J00,J02,J04-J06)	11	3054
211	Symptoms and signs involving the digestive system and abdome	12	2956
152	Other diseases of the respiratory system(J22,J60-J98)	13	2868
006	Diarrhoea and gastroenteritis of presumed infectious origin	14	2824
167	Infections of skin and subcutaneous tissue (L00-L08)	15	2668

Annexure (8) Leading Causes of live Discharges for the year 2008 in Nuwaraeliya District.

Diseases Code (IMMR Code)	Diseases and ICD code	Rank	Number
195	Single spontaneous delivery (O80)	1	7089
220	Superficial injury (S00,S10,S20,S30,S40,S50,S60,S70,S80,S90,	2	6608
245	Undiagnosed / Uncoded	3	5152
042	Other viral diseases(includes viral fever)(A81,A88,A89,B00,B	4	5059
150	Asthma (J45-J46)	5	4287
006	Diarrhoea and gastroenteritis of presumed infectious origin	6	3846
227	Open wounds and injuries to blood vessels (S01,S11,S15,S21,S	7	3540
152	Other diseases of the respiratory system(J22,J60-J98)	8	3171
156	Gastritis and duodenitis (K29)	9	3121
125	Essential hypertension (I10)	10	2404
196	Other complications of pregnancy and delivery (020-029,060-	11	2136
213	Fever of unknown origin (R50)	12	1708
143	Other acute upper respiratory infections (J00,J02,J04-J06)	13	1702
243	Persons encountering health services for examination, invest	14	1573
132	Heart failure (I50)	15	1497

Annexure (9) Leading Causes of Hospital Deaths for the year 2008 in Kandy District.

Diseases Code (IMMR Code)	Diseases and ICD code	Rank	Number
134	Cerebroavascular disease (I60-I69)	1	397
245	Undiagnosed / Uncoded	2	292
128	Acute myocardial infarction (I21,I22)	3	258
219	Ill-defined and unknown causes of mortality (R95-R99)	4	217
129	Other ischaemic heart disease (I20,I23-I25)	5	182
145	Pneumonia (J12-J18)	6	177
149	Bronchitis, emphysema and other chronic obstructive pulmonar	7	170
177	Renal failure (N17-N19)	8	156
022	Septicaemia (A40,A41)	9	140
132	Heart failure (I50)	10	129
133	Other heart diseases (I27.0-I27.8, I28-I49,I51)	11	111
224	Intracranial injuries (S06)	12	104
163	Other diseases of liver (K71-K76)	13	86
090E	Unspecified diabetes mellitus(E14)	14	66
199	Slow fetal growth, fetal malnutrition and disorders related	15	66

Annexure (10) Leading Causes of Hospital Deaths for the year 2008 in Matale District.

Diseases Code (IMMR Code)	Diseases and ICD code	Rank	Number
134	Cerebroavascular disease (I60-I69)	1	68
128	Acute myocardial infarction (I21,I22)	2	66
132	Heart failure (I50)	3	63
245	Undiagnosed / Uncoded	4	53
129	Other ischaemic heart disease (I20,I23-I25)	5	44
149	Bronchitis, emphysema and other chronic obstructive pulmonar	6	44
145	Pneumonia (J12-J18)	7	39
090E	Unspecified diabetes mellitus(E14)	8	31
125	Essential hypertension (I10)	9	24
150	Asthma (J45-J46)	10	23
177	Renal failure (N17-N19)	11	20
199	Slow fetal growth, fetal malnutrition and disorders related	12	18
235	Toxic effects of organophosphate and carbamate insecticides	13	18
203	Other conditions originating in the perinatal period (P08,P2	14	17
133	Other heart diseases (I27.0-I27.8, I28-I49,I51)	15	12

Annexure (11) Leading Causes of Hospital Deaths for the year 2008 in Nuwaraeliya District.

Diseases Code (IMMR Code)	Diseases and ICD code	Rank	Number
245	Undiagnosed / Uncoded	1	91
128	Acute myocardial infarction (I21,I22)	2	87
134	Cerebroavascular disease (I60-I69)	3	53
133	Other heart diseases (I27.0-I27.8, I28-I49,I51)	4	46
132	Heart failure (I50)	5	45
199	Slow fetal growth, fetal malnutrition and disorders related	6	34
150	Asthma (J45-J46)	7	31
219	Ill-defined and unknown causes of mortality (R95-R99)	8	25
145	Pneumonia (J12-J18)	9	24
235	Toxic effects of organophosphate and carbamate insecticides	10	22
177	Renal failure (N17-N19)	11	18
022	Septicaemia (A40,A41)	12	15
125	Essential hypertension (I10)	13	12
129	Other ischaemic heart disease (I20,I23-I25)	14	12
149	Bronchitis, emphysema and other chronic obstructive pulmonar	15	11

Annexure (12) Supervisions of MOH & AMOH in the Kandy District

MOH Area	Designation	Name	Minimum no. Of supervision reports to be completed	Recieved during Year 2009	Percentage
Akurana	MOH	Dr. H.W.S. Jayasingha	60	0	0
	AMOH	Dr. K.H.P. Mendis	60	5	8%
	AMOH	Dr. M.R.H. Wimalasiri	60	12	20%
Doluwa	MOH	Dr. Nayana Danapala	60	4	7%
	AMOH	Dr. W.G. Ranjani	60	0	0
Galagedara	MOH	Dr. M.B.U.I. Bandara	60	0	0
	AMOH	Dr.U.H.G.I. Dayarathna	60	0	0
Galaha	MOH	Dr. W.H.S. Fernando	60	6	10%
	AMOH	Vacant	60		0
Gampola	MOH	Dr.M.H.N. Nazeem	60	2	3%
	AMOH	Dr. M.S.K. Weerasekara	60	3	5%
Gangawatakorale	MOH	Dr. W.W.R. Weerasooriya	60	0	0
	AMOH	Vacant	60	0	0
Hasalaka	MOH	Dr. N.G.M. Jayathilake	60	5	8%
	AMOH	Dr. P.C. Mapalagama	60	0	0
Hatharaliyadda	MOH	Dr. R.M.S.P. Rathnayake	60	29	48.3%
	AMOH	Vacant	60		
Yatinuwara	MOH	Dr. Rajapaksha	60	0	0
	AMOH	Dr. C. Bandusena	60	47	78%
	AMOH	Dr.K.M.G.K. Bandara	60	0	0
Kundasale	MOH	Dr. A.A. Chandrajayantha	60	2	3%
	AMOH	Vacant	60	0	
Kuruduwatta	MOH	Dr. K.M. Aberathna	60	0	0
	AMOH	Vacant	60	1	
Madamahanuwara	MOH	Dr. A.M. Dissanayake	60	8	13%
	AMOH	Vacant	60	2	
Nawalapitiya	MOH	Dr. G.O.A.S. Bandara	60	5	8%
	AMOH	Dr.K.M.N. Dissanayake	60	0	0%
Panvila	MOH	Dr. R.M. Samarasekara	60	4	7%
	AMOH	Dr. W.G.S.N. Bandara	60	0	0
Poojapitiya	MOH	Dr. D.R. Wijesingha	60	6	10%
	AMOH	Vacant	60	0	

MOH Area	Designation	Name	Minimum no. Of supervision reports to be completed	Recieved during Year 2009	Percentage
Thalathuoya	MOH	Dr. A.V.G.S. Shriyani	60	4	7%
	AMOH	Vacant	60	0	
Udunuwara	MOH	Dr. G.A..S.Rathnayake	60	32	53%
	AMOH	Vacant	60	0	
Wattegama	MOH	Dr.K.P.N. I. Prmasiri	60	19	32%
	AMOH	Dr.J.P.K. Anagmmana	60	0	0
Warallagama	MOH	Dr.P.G.N. Weerakkody	60	0	0%
	AMOH	Dr. W.C.N.Ranaweera	60	0	0%
Bambaradeniya	MOH	Dr. Nidarshani	60	0	0%
	AMOH	Vacant	60	0	
Manikhinna	MOH	Dr. Jayathilaka Banda	60	1	2%
	AMOH	Vacant	60	0	

Annexure (13) Supervisions of MOH & AMOH in the Matale District

MOH Area	Designation	Name	Minimum no.Of supervision reports to be completed	Received during Year 2009	Percentage
MOH Matale	MOH	Dr. R.M. Thennakoon	35	4	11%
	AMOH	Vacant			
MOH Ukuwela	MOH	Dr. M.I.M. Jifri	60	14	23%
	AMOH	Vacant			
MOH Rattota	MOH	Vacant			
	AMOH	Dr.K.M.N. Perera	45	19	42%
MOH Ambanganga	MOH	Vacant			
	AMOH	Dr. K.M. Jayarathna	45	1	2%
MOH yatawatta	MOH	Dr. G. K. Rathnayake	60	66	110%
	AMOH	Dr. B.Y.Y. Perera	60	15	25%
MOH Pallepola	MOH	Dr. K.H.S. Jayasekara	60	25	42%
	AMOH	Vacant			
MOH Galewela	MOH	Dr. J. Peeris	60	62	103%
	AMOH	Vacant			
MOH Dambulla	MOH	Dr. J.M.S.J.B. Jayasundara	60	16	27%
	AMOH	Vacant			
MOH Laggalapallegama	MOH	Dr. S.B. Senarathna	60	10	17%
	MOH	Dr. K.T.W.A. Jayasooriya	10	3	30%
	AMOH	Vacant			
MOH Wilgamuwa	MOH	Dr. L.C.J. Wijesooriya	60	10	17%
	AMOH	Vacant			
MOH Naula	MOH	Dr. E.M.V.M. Ekanayake	60	17	28%
	AMOH	Vacant			

Annexure (14) Supervisions of MOH & AMOH in the NuwaraEliya District

MOH Area	Designation	Name	Minimum no. Of supervision reports to be completed	Received during year 2009	Percentage
Ambagamuwa	MOH	Dr. U.K. Rajapaksha	55	20	36%
	AMOH	Dr.N.P. Amarasena	60	31	52%
Kothmale	MOH	Dr. Munir	15	0	0%
	AMOH	Dr.J.S.S. Jayasinghe	60	24	40%
	AMOH	Dr.T. Galahitiyawa	45	29	64%
Nawathispane	MOH	Dr. J.S.S. Jayasingha	60	22	37%
	AMOH	Dr.ASN Senavirathna	60	6	10%
Maskeliya	MOH	Dr.N. Gunawardana	45	12	27%
	AMOH	Vacant	60		
Bagawanthalawa	MOH	Dr. S. Gunathilake	60	7	12%
	AMOH	Vacant	60		
Nuwaraeliya	MOH	Dr. A.V.A.M. Wijesingha	60	21	35%
	AMOH	Vacant	60		
Hanguranketha	MOH	Dr.Chaminda Weerakoon	60	52	87%
	AMOH	Dr. Mithila Sugathadasa	60	18	30%
Mathurata	MOH	Vacant	60		
	AMOH	Vacant	60		
Lindula	MOH	Dr.MG Jayaweera	60	27	45%
	AMOH	Dr.J. Abegunawardana	60	12	20%
Kotagala	MOH	Dr. V Savithri	60	26	43%
	AMOH	Vacant	60		
Walapane	MOH	Dr. Gamini Disanayake	60	31	52%
	AMOH	Dr.K Weerasingha	30	17	57%
Ragala	MOH	Vacant	60		
	AMOH	Vacant	60		

Annexure (15) World Bank-Provincial Director of Health Services Office

- Construction of retaining wall at PDHS premises (Stage II) & Procurement of other equipments.
- Provincial training programmes, workshop & exhibition
- Provincial Progress review, publishing of annual report and telephone directory.
- Web site design of Department of Health Services.

World Bank-Kandy District

(I) Constructions & Repairs

- Contraction of a new MOH office Gampola (1 st Stage)
- Improvement of immunization clinic in ten hospitals.
- Construction of retaining wall at MOH Wattegama (second stage)
- Repair of Setunga Bungalow at DGH Nawalapitiya (2 nd Stage)
- Renovation of Water supply system at DH Uduwela
- Essential Repairs & establishing a ETU at DH Dunhinna
- Renovation of internal road system at DGH Nawalapitiya
- Purchasing of Essential general items for Health institute
- Modification of 08 ETUs at Divisional Hospitals

(II) Provision of Surgical & Other Equipments

- Supplying Photocopy Machine ,Multimedia Projector & Cupboard for School Medical Office.
- Purchasing four wheel double cab for MOH Manikhinna.
- Purchasing of 25 refrigerators for vaccine
- Supplying HB Meters for MCH Activities
- Purchasing Furniture for health institutions.
- Purchasing Furniture for Dental clinics
- Purchasing equipments for Dental clinics
- Purchasing Dental Units 05
- Purchasing Four wheel single cab for Regional Dental Surgeon
- Purchasing Furniture & equpments for STD clinic Kandy
- Purchasing Machine, Speakers , Computer & Printer for Regional Malaria Office
- Digital camera with accessories for epidemiology unit.
- Purchasing of Public addressing systems for rabies unit.
- Purchasing photocopy Machine ,laptop computer ,colour printer for NCD unit
- Purchasing Drugs trolleys for hospitals
- Purchasing Computer & Printer for prison Hospital Kandy Purchasing
- Suckers ,ECG machines & CDMA telephone for prison hospital Pallekale.
- Purchasing Tools kits & sawing machines for Mampitiya Rehabilitation unit & Deltota Sisila Hospital.
- Renovation of the intercom system of RDHS Office Kandy
- One Computer & Multimedia projector for regional Dental Surgeon
- Purchasing 2 laptop computers for PPOO & one colour printer & one laser jet printer for planning unit-RDHS office
- Purchasing 2 Desktop computers & printers for RDHS office & one printer for DRMO-RDHS office · Installation of a Computer Network system for RDHS Office

- ❖ Purchasing 20 wall fans for RDHS office
- ❖ Purchasing Fax machines for all MOH offices Special campaigns
- ❖ Purchasing Desktop computer & printer for DH Teldeniya & DGH Nawalapitiya
- ❖ Purchasing Photocopy machine , laptop computer for Preventive health unit-RDHS office

(III) Training Programmes

- ❖PHNS Review 2
- ❖PHNS and SPHM Review 1
- ❖SPHM in -Service 2
- ❖MCH Review 3
- ❖District MM Review 1
- ❖District EPI Review 1
- ❖Conducting three day training on Adolescent health for public health staff -10
- ❖Training programme for School Dental Therapists 2
- ❖Training programme for dental clinic assistants 2
- ❖Advance restoration of primary teeth for dental surgeons 2
- ❖Conducting awareness programmes about STD for public staff, three wheeler drivers, heavy vehicle drivers, Sex workers & community leaders. 45
- ❖Review meeting on diseases surveillance and environment heath 04
- ❖District level review meeting on dengue/Leptospirosis/food & water Sanitation and other environment health problems.
- ❖In service Training programmes for Vaccinates rabies control Programme 01.
- ❖In service Training programmes /review meetings for PHII/SPHII -6
- ❖Awarence programmes for School prifect & teachers on Drugs Abuse -4
- ❖Awarence programmes for food handles 23.
- ❖Awarence programmes on communicable & non communicable diseases for MOO/RMOO -3
- ❖Mental health awareness programmes for women care officers-01,School children-5, police officers 3, Nursing officers 2.
- ❖Mental health review meeting 1
- ❖Training programmes for hospital staff on BCC & HE -2
- ❖Screening programmes on Healthy lifestyle for Health Staff-23/Public staff/Principals/AGAs/School children -10,
- ❖Conductive Preventive health & administrative review meeting among MOOH-4
- ❖Training on health promoting schools to school staff 23
- ❖Special days programmes-20
- ❖Awareness programme for RDHS office staff
- ❖Awareness programmes for mental health disease for prisoners -2
- ❖prevention of Communicable diseases & non communicable diseases programmes for prisoners-2
- ❖Conductive review meeting on administrative and other problems on project-4
- ❖Conducting Training on drugs management balancing ,5s concept for dispensers-2
- ❖Conductive review meeting on curative health issues among MOICsof health
- ❖Overseas training for health staff.
- ❖In-service training for PPOO & SSOO-4/MROO -2, Hospital overseers,Hospital & MOH Clerical staff
- ❖Training on government payroll Management system, Conducted by INGAF (Ministryof finance & planning)

- Training on computerized integrated Gove.Accounting System(CIGAS), Conducted by INGAF (Ministry of finance & planning)

- Training on Maintenance of personal files conducted by INGAF(Ministry of finance & planning)

World Bank-Matale District

(I) Constructions & Repairs

- Renovation of CD Elkaduwa
- Expanded preventive health unit.

(II) Provision of Surgical & Other Equipments

- Provision of necessary equipments to ANC clinics
- Provision of equipments to PBU at DGH Matale & DBH Dambulla
- Provision of Fax machines to MOH Office-10
- Provision of dental equipments to regional dental services.
- Provision of a vehicle to mobile clinic
- Provision of equipments to Eye units of DGH Matale and DBH Dambulla.
- Provision of equipments to examine water samples.
- Provision of equipments for quality improvement in DGH Matale & DBH Dambulla

(III) Training Programmes

- Conduct health promotion programmes to pregnant mothers-44
- Staff training on emergency obstetric and pediatric care.
- Awareness programme for newly married and elderly mothers on reproductive health -44
- Conduct early childhood carries prevention programmes-20
- Conduct Health Promoting village programmes/Health institution programmes /School programmes
- Conduct staff training on office management-2
- Conduct training program on planing and project management for district planners-2
- conduct advocacy and Awareness programmes to the public to prevent Leptospirosis -44/Dengue 44
- Conduct foreign training programmes for district planers and managers
- Conduct monitoring and evaluation of the programmes
- Conduct dog Vaccination programmes-5
- Conduct advocacy and awareness and behavioral change programs to the public in the high risk area to prevent Hepatitis. 44

World Bank-Nuwara Eliya District

(I) Constructions & Repairs

- Construction of consultant quarters at DBH Dickoya.
- Contruction of blood bank at DBH Dickoya (Second Stage)

- ❖Renovation & procurement of equipments 5 ETU in the district
- ❖Renovation of all buildings at DBH Dickoya
- ❖Repair of quarters at DH Gonaganthanne
- ❖Repair of building at CD Rupaha
- ❖Repair of access road at DH Gonaganthane
- ❖Repair of quarters at DH Lidula

(II) Provision of Surgical and other Equipments

- ❖Provision of neonatal Warmer
- ❖Provision of public addressing systems at DBH Dickoy
- ❖Provision of photocopy machine Multimedia projector.
- ❖Provision of Gluco strips,HB strip ,Uring Albumin Sugar Nitrate strip
- ❖Provision of laboratory equipments.
- ❖Provision of Dental Unit.
- ❖Provision of X-ray Machine at DBH Dickoya
- ❖Provision of 13 Suckers
- ❖Provision of Computer Multi Photocopier
- ❖Provision of Computer for RDHS office
- ❖Provision of colour inject printer
- ❖Provision of duple machine
- ❖Provision of motor bike
- ❖Provision of podium with microphone
- ❖Provision of laptop computer & multimedia for STD unit in nuwaraeliya

(III) Training Programmes

- ❖Continuation VOG Strengthened out reach clinics
- ❖Awareness programmes for PHM on anaemia prevention of pregnant mother
- ❖Awareness programmes for dengue.
- ❖Awareness programmes for leptospirosis
- ❖Awareness programmes for food & water born diseases.
- ❖Awareness programmes for PHI on food & water sampling
- ❖Awareness programmes for food handlers.
- ❖Drugs review meeting
- ❖Training for MOH staff on occupational health
- ❖Training on disaster management
- ❖Training on oral cancer detection programmes
- ❖Participatory training techniques & health planning
- ❖Training on behavior change and communication for estate heath PHC staff
- ❖Awareness programmes on gender base violence and it's prevention.
- ❖Awareness programmes on active ageing and chronic diseases prevention
- ❖Programms on healthy life style & health promotion
- ❖Strengthening effective communication & public relation skills of hospital staff
- ❖Preparation of leaflets & exhibit
- ❖Computer training for office Staff
- ❖Research & Development -03
- ❖Conduct monitoring and evaluation programs (Expansion)
- ❖Productivity training for RDHS Office Staff

- ❖Productivity training for best MOH Office
- ❖Office Systems training for Office Staff
- ❖Conduct training Program on Planning and Project management for district planners (new)
- ❖Conduct foreign training program for district planers and managers (Expansion)

Annexure (16) Health Sector Development Project –PSDG-PDHS Office

- Provision of Surgical equipments to PDHS Office
- Construction of Bio Medical Engineering Unit (Stage I)
- Improve infrastructure facilities to chest clinic -Kandy
- Repair of roof ,Construction of retaining wall ,Improve infrastructure facilities to Physical Rehabilitation Hospital-Digana
- Provision of Office equipments & Communication facilities for Health Institutions.
- Made of name board for PHI/PHM Office

Health Sector Development Project –PSDG-Kandy

(I) Constructions & Repairs

- Construction of a new MOH office on the top of MCH clinic at R.H. Bambaradeniya.
- Construction of a drugs Stores at MOH Nawalapitiya
- Construction of retaining Wall at MOH Wattegame
- Repairs of Kitchen & Ambulance Garage of DH Akurana.
- Repairs of Kitchen & Toilet to Rehabilitation Hospital Sisila Delthota
- Repairs of the entrance road of CD Balana
- Repairs of MOIC Quarters at DH Pamunuwa.
- Repairs of Wards & Mortuary at DH Narampanawa
- Repairs of 10 dental clinics in ten Hospitals (Madolkale, Marassana, Manikhinna, teldeniya, bokkawala, Kotaligoda, Hatharaliyadda, Gelioya, Dolosbage)
- Repairs of a retaining Wall at DH Manikhinna

(II) Other

- Supplying tow water pumping motors for DH Bokkawala & DH Tiththapajjala
- Purchasing of CDMA telephones for DH Westhall ,CD Balana, MOMCH Kandy.
- Supplying fixed telephone for hatharaliyadda MOH
- Supplying internet Connection for MOH & Other Special Units.

Health Sector Development Project –PSDG-Matale

- Construction of OPD Patients for a toilet & repairs of toilet System to DH Maraka.
- Repairs of quarters to MOH Matale.
- Repairs of DH Gammaduwa
- Repairs of Mortuary to DBH Dambulla
- Repairs of Surgical equipment , Service agreement for maintain & Provision of equipments.
- Provision of Generator to DH Gallewala
- Provision of Highpeser Sterilizer for theater to DBH Dambulla

- provision of equipment for ICU Unit to DGH Matale
- provision of two X-Ray Maching to DGH Matale @ DBH Dambulla
- Provision of Surgical equipments
- Provision of equipments for OPD at DGH Matale

Health Sector Development Project –PSDG-N' Eliya District

- Renovation of Nurses quarters at DBH Dickoya
- Renovation of RMSD at Nuwaraeliya
- Construction of fens at RDHS office Nuwaraeliya
- Construction of Access road & Renovation of OPD at DBH Dickoya

Annexure (17) CBG

PDHS Office and institutions directly under PDHS office

- The project done under the Productivity Programme to Purchases of Information display board to be exhibited in the board room.
- The project done under the Productivity Programme to Purchases of Magazine file & other equipment to record room.
- Provision of Library books to Kadugannawa training center

CBG –Kandy District

- Construction of Pediatric word & Repair of Word No 3 to DH Kuruduwatta.
- Construction of retaining wall at CD Guhagoda.
- Repair of Quarters No.4 to MOH Kadugannawa.

CBG –Matale District

- Repair of ward & OPD building at DH Muwandeniya/DH Laliambe/DH Handungamuwa/DH Hattotaamuna

CBG –N'Eliya District

- Repair of building at CD Munwatta.

Annexure (18)GAVI HSS

- Renovation of RTC kadugannawa.
- Purchasing of equipments-RTC Kadugannawa

]

- Training for PHC Staff-40
- Repair of Health Center – Batagolla,Ragala,Ambanella-Nildandahinna, Kalapitiya.
- Supply of equipments for MCH Clinics
- Conduct quarterly district review meeting
- Conduct training programme for supervising staff
- Train district level managers and supervisors on PA tool.

Annexure (19) Health Sector Development Project -UNICEF

Nuwara Eliya District.

- Training on labour room management & infection control
- A Programme to reduce illegal termination of pregnancy conduct in 40 estates.
- 80 Mothers groups have improved Knowledge on adolescent nutrition and infant and young child feeding.

- 100 School adolescents and 60 teachers have improved knowledge on BCC life skills based
- 10 programme for PHC staff and institutional staff in each MOOH
- Establish NRP feeding centre in DGH N'Eliya inculding milk room and storing facilities.
- Provision of Stationary for monitoring formats & NRP calculation charts for the NRP

Annexure (20) Health Sector Development Project -UNFPA

Nuwara Eliya District.

- Establish additional outreach ante-natal clinics conducted by the consultant obstetricians in additional strategic locations through purchasing a probes US scanner with abdominal and vaginal probes.
- Establish basic investigation facilities at divisional hospitals and at ante -natal clinics by purchasing equipment for provision of basic
- investigation including test kits.
- Establish CEMONC services at BH Dickoya with the exisiting infrastructure facilities by provision of essential equipment and establish clinic services.
- Establish outreach family planning clinics in 5 newly established MOH areas and 10 divisional level hospitals.
- Establish 5 central clinics in the newly demarcated MOH areas of Bogowanthalawa, Kotagala, Nawathispane,Ragala and Maturata through floor tiling and provision of basic water/sanitation.
- Provide essenial equipment and supplies to 10 divisional hospitalals to strengthen BEMONC services.
- Promote male participation in hospital clinics, especially ANC,MCH,FP, by providing AV equipment for health education and seating capacities for husbands.
- Improve commodity security by strengthening of manually operated MIS and introducing in phased manner computerization of LMIS through provision of computers at provincial,district level and at the divisional drug stores.
- Provision of basic investigation facilities by procuring necessary equipment and supplies to integrate WWC services to family planning clinics and hospitals and conduct special out reach clinics and ensure that all WWC provide FP services.

- Strengthen pap smear reading facilities in DGH nuwaraeliya and BH Nawalapitiya by procuring necessary equipment including two microscopes, automated slide stainers.
- Strengthen the provision of RH services on estates by provision of basic equipment.
- Establish e-mail connectivity with two computers.
- Develop protocols for timely referral and transfer of mothers within the
- District through two consultative workshops and training.
- Skill based training for labour room staff on safe delivery care and post partum care and for field staff on key RH issues.
- Develop and print an investigation form and train public Health Midwives to pilot the proper follow up for side effects, discontinuation and contraceptive failures,etc.
- Conduct awareness programmes for hospital staff with technical assistance of the college of obstetricians and Gynecologists on WWC to ensure smooth functioning of clinics.
- Advocacy meetings with health authorities and key hospital staff to plan for the setting up of a GBV center in the Nuwaraeliya hospital based on the matara model.
- Support deployment of 34 rural Health Assistants to ensure RH services are promoted in remote areas without trained PHMM .
- Regular monitoring and supervision and quarterly monitoring meetings at provincial district level.
- Enable access to permanent sterilization services in base hospital and general hospital by providing transport for referral.

ure (21) Primary Health Care activities implemented with Department of Health Year 2009 Plan Sri Lanka, Program Unit

Implemented Activities	Budget spent for Kandy	Budget spent for Matale	Budget spent for Nuwaraeliya (Rikillagaskade MOH)	Total for year 2009
Infrastructure development work / Furniture & Equipment / Clinic Equipment				
• Improvement of Rikillgaskada MOH clinic room and toilet facilities. • Perpetration of Children' Play area with wire Fence & Provision of Play Equipments. • Provision of LAP TOP Computer, Dental Chair and Generator, Conference hall chairs. • Provision of Dental Chair to Poramadulla Central Collage.			**Rs.15,50,000.00**	**Rs.15,50,000.00**
Madulkale Hospital • Improvements of Madulkalle Hospital Pediatrics ward. • Perpetration of Children' Play area & Provision of Play Equipments. • Provision of necessary clinic equipments and furniture	**Rs.24,15787.00**			**Rs.24,15787.00**
Doluwa MOH • Provision of Multi Media Projector and LAP TOP Computer.	**Rs.228,736.00**			**Rs.228,736.00**
• Provision of Equipment to Panwilathanne Hospital.	**Rs.95,000.00**			**Rs.95,000.00**
• Part payment for Doluwa New MOH Building Construction	**Rs.1,900,000.00**			**Rs.1,900,000.00**
• Provision of Clinic Equipments & Furniture for Pupurassa Clinic.	**Rs.187,300.00**			**Rs.187,300.00**
Panwila MOH • Perpetration of Children' Play area with wire fence & Provision of Play Equipments.	**Rs.130,000.00**			**Rs.130,000.00**
• Upgrading of Baddegama clinic 50% work completed.	**Rs.290,000.00**			**Rs.290,000.00**
• Provision of Dental chair with all accessories to MOH Panwila.	**Rs.480,000.00**			**Rs.480,000.00**
• Provision of necessary clinic equipments and furniture to Kandenuwara Hospital.		**Rs.350.000.00**		**Rs.350.000.00**
• Provision of Photocopy machines to Ukuwela and Rattota MOH Offices.		**Rs.254,430.00**		**Rs.254,430.00**

• Provision of necessary clinic equipments and furniture to Kandenuwara Hospital. • Provision of Photocopy machines to Ukuwela and Rattota MOH Offices. • . Upgrading of Hunugala Estate Dispensary		**Rs.350.000.00** **Rs.254,430.00** **Rs.447,385.00**		**Rs.350.00** **Rs.254,43** **Rs.447,38**
Training and Mobile clinic services. • Productivity & Quality Develop Training for Health Staff. Panwila, Doluwa, Rikillagaskada and Madulkale Staff. • Well women and well baby clinic for Estate communities. (Rikillagaskada MOH area) • Pre conceptual Training programme in Dolouwa MOH. (Printed necessary materials for the Programme) • Reproductive Health Training programme for Estate Youth & Adolescents. • Develop Street Drama in Hantana Estate. • Conducted World AIDS Day programme with STD AIDS prevention unit, Kandy. • Conducted First AID Training programme for Health staff and Youth.				**Rs.1,396,2**
Total	**Rs.5,726,823.00**	**Rs.1,051,815.00**	**Rs.1,550,000.00**	**Rs.972485**

ABBREVIATIONS

1.	ANC	Ante Natal Clinic.
2.	AMC	Anti Malaria Campaign.
3.	BCG	Bacillus Calmette and Guanine Vaccine
4.	BH	Base Hospital.
5.	CBR	Crude Birth Rate.
6.	CDR	Crude Death Rate.
7.	CP	Central Province.
8.	CD&MH	Central Dispensary & Maternity Home.
9.	PMCU	Primary Medical Care Unit.
10.	DPDHS	Deputy Provincial Director of Health Services.
11.	DDHS/MOH	Divisional Director of Health Services /Medical Officer of Health.
12.	DBH	District Base Hospital
13.	DGH	District General Hospital
14.	DMO	District Medical Officer
15.	DH	Divisional Hospital.
16.	DF	Dengue Fever.
17.	DHF	Dengue Hemorrhagic Fever.
18.	DPT	Diphtheria Polio Tetanus Vaccine.
19.	DT	Diphtheria, Tetanus Vaccine.
20.	ECG	Electro Cardio Gram.
21.	ENT	Ear Nose Throat.
22.	FHB	Family Health Bureau.
23.	FDI	Food & Drug Inspector
24.	HIV	Human Immune Deficiency Virus.
25.	HEO	Health Education Officer
26.	HP	Health Promotion
27.	IUCD	Intra Uterine Contraceptive Device.
28.	IMR	Infant Mortality Rate
29.	JE	Japanese Encephalitis.
30.	MMR	Maternity Mortality Rate.
31.	MC	Municipal Council
32.	MR	Measles Rubella Vaccine.
33.	MB	Multi Bacillus
34.	MC	Medical Clinic
35.	MOH	Medical Officer of Health
36.	MOIC	Medical Officer Incharge
37.	MCH	Maternal & Child Health
38.	MA	Management Assistant
39.	NGO	Non Government Organization
40.	NCD	Non Communicable Disease
41.	NSACP	National STD/AIDS Control Programme
42.	OPD	Out Patient Department
43.	OPV	Oral Polio Vaccine
44.	PB	Pausy Bacillus.

45.	PDHS	Provincial Director of Health Services.
46.	PPO	Planning & Programming Officer
47.	PHM	Public Health Midwife.
48.	PHI	Public Health Inspector.
49.	PHNS	Public Health Nursing Sister.
50.	RMOIC	Registered Medical officer Incharge
51.	RSPHNO	Regional Supervising Public Health Nursing Officer
52.	RH	Rural Hospital.
53.	SC	Surgical Clinic.
54.	SPHM	Supervising Public Health Midwife.
55.	SPHI	Supervising Public Health Inspector
56.	SPHI/D	Supervising Public Health Inspector/Divisional
57.	STD/AIDS	Sexually Transmitted Disease /Acquired Immune Deficiency Syndrome.
58.	SDT	School Dental Therapist
59.	SSDT	Supervising School Dental Therapist
60.	SSO	Statistical Survey Officer
61.	SO	Statistical Officer
62.	TH	Teaching Hospital.
63.	TT	Tetanus Toxoide Vaccine.
64.	TB	Tuberculosis