ANNUAL HEALTH BULLETIN

2008

SRI LANKA

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Preface

The Annual Health Bulletin, is the main comprehensive report which gives comprehensive information of the health sector in Sri Lanka.

The Bulletin is mainly confined to the government health sector and presents information on four major areas, morbidity, mortality, resource availability and provision of services. The information has been revised and brought up to date to reflect, as far as possible the situation during 2008 and trends over the period as well.

I wish to place on record my appreciation and grateful thanks to all officials who gave generously of their time and knowledge, providing data from their surveys and programmes. My thanks are also due to the valuable services rendered by the staff of Medical Statistics Unit that has planned and co-coordinated the preperation of this Bulletin since 1985 and also the planning unit of the Ministry of Health for the great support extended in publishing the Annual Health Bulletine - 2008.

Dr. U. Ajith Mendis

Director General of Health Services

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Indicator		Year	Data	Source
Demographic Indicators				
Total population (in thousands)		2008*	20,217	Registrar General's Department
Land area (Sq. km)		1988	62,705	Survey General's Department
Population density (persons per sq. km)		2008	322.4	Department of Census & Statistics
Population growth rate (%)		2008	1.1	
Crude birth rate (per 1000 population)		2008	18.8	Registrar General's Department
Crude death rate (per 1000 population)		2008	5.9	
Urban population (%)		2001	16.3	Population Census 2001
Sex ratio (No of men per 100 femals)		2008	97.5	Labour Force Survey 2008
Child population (under 5 years) %		2006/07	9.0	Demographic and Health Survey[1] 2006/07
Women in the reproductive age group (15-49 years) %		2006/07	51.4	
Average household size (Number of persons per family)		2006/07	4.0	Demographic and Health Survey[1] 2006/07
Socio-economic Indicators				
GNP per capita at current prices (Rs)		2008*	213,262	Department of Census & Statistics
Human development index		2006	0.742	UNDP, Human Development Report
Unemployment rate	Total	2008	5.2	Department of Census & Statistics
	Female		8.0	
	Male		3.6	
Dependency ratio	Total	2006/07	50.8	Demographic and Health Survey[1] 2006/07
	Old-age		10.9	
	Young		28.4	
Adult literacy rate (%)	Total	2001	90.7	Population Census 2001
	Female		89.2	
	Male		92.2	
Pupil Teacher Ratio in	Government Schools	2008*	18	Ministry of Education
	Private Schools		21	
	Pirivenas		10	
Singulate Mean age at Marriage (years.)	Female	2006/07	23.5	Demographic & Health Survey[1] 2006/07
Health and Nutrition Indicators				
Life expectancy at birth (years)		2001		Department of Census and Statistics
	Female	to	76.4	
	Male	2006	71.7	
Neonatal mortality rate (per 1,000 live births)		2008	6.2	Registrar General's Department
Infant mortality rate (per 1,000 live births)		2008	9.0	
Under-five mortality rate (per 1,000 live births)		2008	11.1	
Total fertility rate (per woman)		2006/07	2.3	Demographic and Health Survey[1] 2006/07
Maternal mortality rate (per 100,000 live births)		2006	14.2	Registrar General's Department
Low-birth-weight per 100 live births in government hospitals %		2008	17.6	Medical Statistics Unit
% of Children (below - 2SD)		2006/07	21.1	Demographic and Health Survey[1] 2006/07
Under Weight (weight-for- age)			14.7	
Wasting (Acute Undernutrtion or weight-for-height)				
Stunting (Chronic Malnutrition or height-for-age)			17.3	

Note : 1 Demographic and Health Survey 2006/07 - Exclude Northern Province

Indicator	Year	Data	Source
Primary Health Care Coverage Indicators			
Percentage of pregnant women attended by Skilled Provider	2006/07	98.6	Demographic and Health Survey 2006/07
Percentage of live births in government hospitals	2008	92.8	Medical Statistics Unit
Women of childbearing age using contraceptives (%) Modern Method	2006/ 07	52.5	Demographic and Health Survey 2006/07
Traditional method		15.9	
Population with access to safe water (%)	2006/07	89.1	
Health Resources			
Government health expenditure as % of GNP	2008	1.59	Department of Health Services
Government health expenditure as % of total government expenditure	2008	6.9	
Per capita health expenditure (Rs)	2008	3,393	
Medical Officers per 100,000 population	2008	61.7	Medical Statistics Unit
Population per Medical Officer	2008	1,620	
Dental Surgeons per 100,000 population	2008	4.2	
Nurses per 100,000 population	2008	148.7	
Public Health Midwives per 100,000 population	2008	26.4	
Number of hospitals	2008	647	
Number of hospital beds	2008	67,942	
Hospital beds per 1,000 population	2008	3.36	
Number of MOH/DDHS Divisions	2008	324	

*Provisional

1. General Information

1.1 Country Background

Sri Lanka is a pear-shaped beautiful small island situated in the Indian Ocean. It is separated from Indian subcontinent by a narrow strip of shallow water, which is about 35 kilometers wide, known as the Palk Straight.

Location :

Northern latitudes 5° 55′ and 9° 50′
Eastern longitudes 79° 42′ and 81° 52′

Fig 1.1 - Location of Sri Lanka

Maximum width : 225 km from Colombo in Western to Sandamankanda in the East.

Maximum length : 435 km from Point Perdo in the North and Dondra Point in South.

Total land area is 65,610 suqare kilometers including inland water.

The mean temperature ranges from 26° C to 28° C (79° F to 82° F) in the low country, and from 14° C to 24° C (58° F to 75° F) in the hill country.

The country has much natural scenic beauty such as tropical forests, beaches and the central mountainous region with peaks.

In addition the country has a rich cultural heritage with much evidence in historical places like Sigiriya, Polonnaruwa and Anuradhapura. The hill country as well as the South West region receives sufficient rain. The rest of the island, mainly the North, North Central and Eastern parts remain dry for a considerable period of the year.

1.2 Administrative Setup

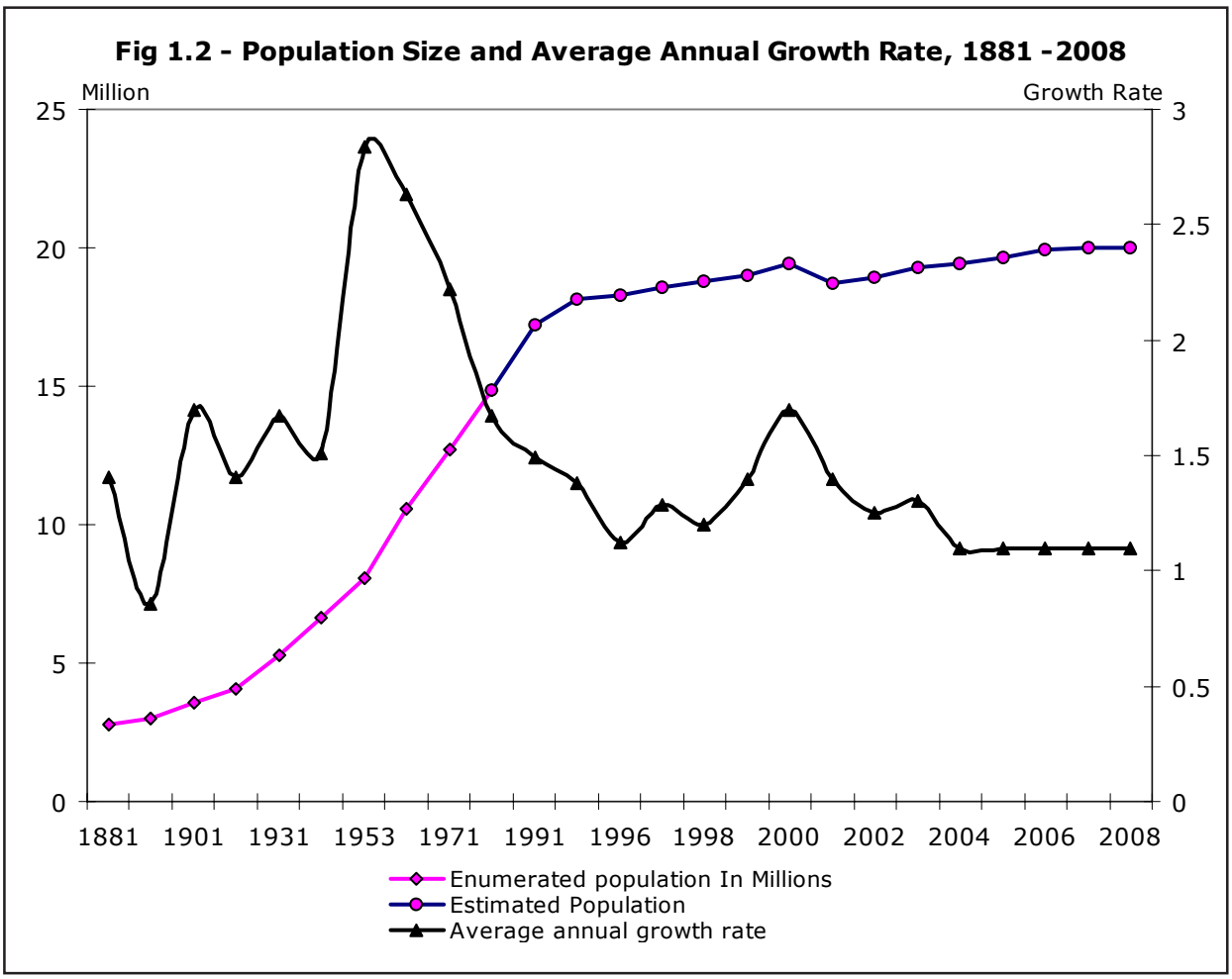
For purposes of administration, Sri Lanka is divided into 9 Provinces, 25 Districts (26 DPDHS Areas), and 326 Divisional Secretary areas. See Detailed Table 1. The provincial administration is vested in the Provincial Councils, composed of elected representatives of the people, headed by a Governor who is nominated by the Central Government.

Sri Lanka has a parliamentary democratic system of government in which, sovereignty of the people and legislative powers are vested in parliament. The executive authority is exercised by a Cabinet of Ministers, presided over by an Executive President. The President and Members of the Parliament are elected directly by the people. His Excellency President Mahinda Rajapaksha, the present president of the country, defeated the brutal terrorism in the year 2009 which destroyed the country during the past 30 years. The present government leads the country according to the "Mahinda Chinthana" development agenda.

The health status to be achieved by Sri Lankans according to the "Mahinda Chintana" is given under the "Suva Sevana Programme". The main items of this program are listed below.

- This programme consists of two aspects namely curative and preventive care. Both aspects would be accorded equal priority.
- Implementation of programmes for total eradication of polio, malaria, dengue and rabies.
- Strengthening the Public Sector Programmes for prevention of cancer.
- Take the immediate action to prevent and save Sri Lankan youth from HIV Aids.
- Recruiting more doctors, particularly in view of their acute shortage in the rural areas and providing the required facilities.
- Arrange for more scholarships for doctors to increase the number of specialists.

Fig 1.2 - Population Size and Average Annual Growth Rate, 1881 -2008



Source : Department of Census and Statistics

1.3 Population

The population of Sri Lanka for the year 2008 is estimated as 20.2 million (Table1.4). The average annual growth rate has reached 1.1 in 2008, which remained static from 2005. Kilinochchi district shows the highest average annual population growth rate in 2008 which was 2.9 (Detailed Table 2).

1.3.1 Population Density

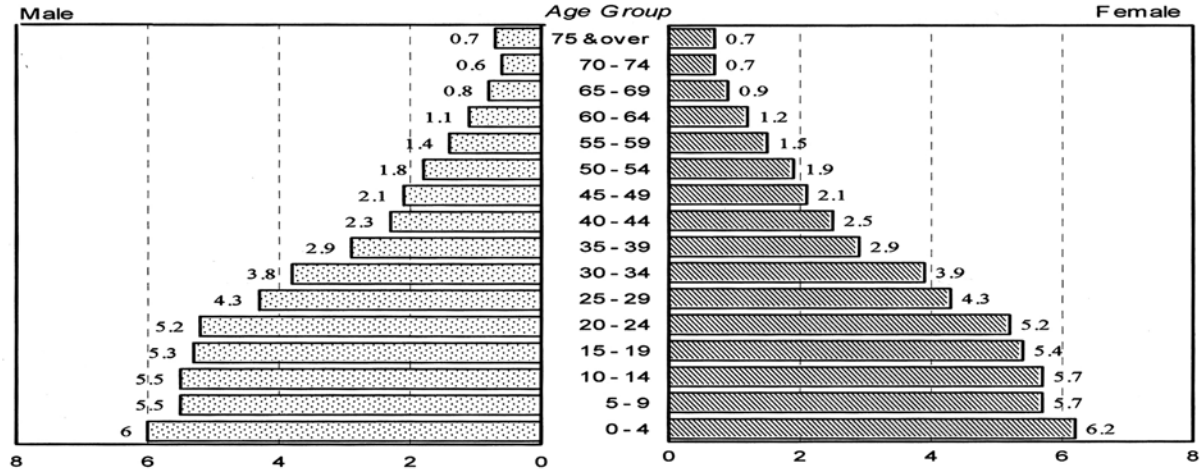
Population density of Sri Lanka per square kilometer in 2005 was 313 and it has increased to 322 per square kilometer in 2008.

During this 3 year period the density of the country has incresed by 3 perecent. District level density shows huge regional variations.

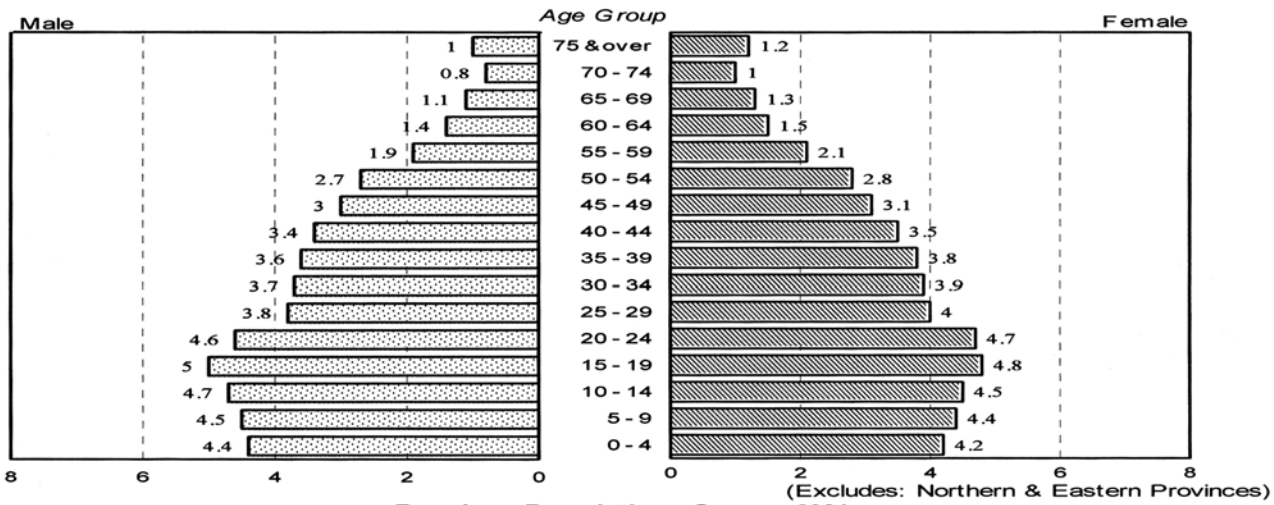
For instance, Colombo district shows the highest density of 3,680 persons per square kilometer in 2008 while the corresponding figure for Mannar district was 54 persons per square kilometer which reported the lowest density.

The district of Colombo attracts people from other regions due to various reasons like higher employment opportunities in the district, popular schools and universities and better health facilities compared to other districts. However, due to urbanization and over crowding of people in this district, a large number of social and health hazards are also high in this district compared to other regions of the country. To overcome this problem, development of infrastruture and provision of equal facilities should reach other regions too.

Fig 1.3 - Population of Sri Lanka by Age and Sex, 1981, 2001 and 2008

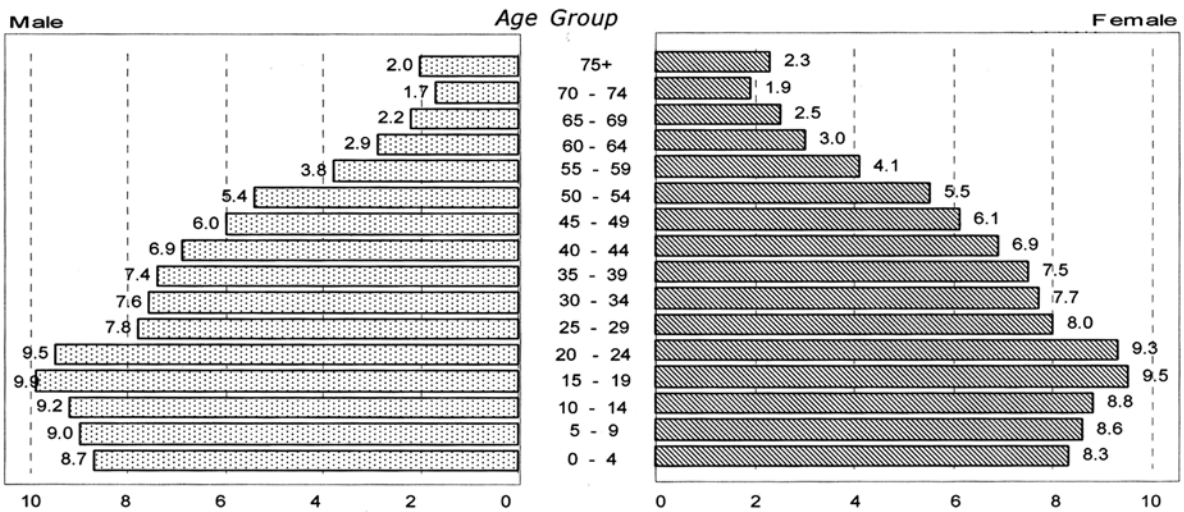


Census 1981
Percentage of population



(Excludes: Northern & Eastern Provinces)

Based on Population Census 2001
Percentage of population



Based on mid year estimates 2008
Percentage of population

Source : Department of Census and Statistics

1.3.2 Age Composition

Age composition of the population has changed over the period. For instance median age which remained around 21.3 years untill 1981, has shifted to 26.9 years in year 2008. Aging Index reflects the increase in older population compared to young population. (Table 1.1)

Age index is defined as the ratio between the 65 years and over population to 0-14 year population in a given year. Following table shows this trend clearly.

Table 1.1 : Population by broad age groups and Aging Index

Year	Population (in thousand)			Aging Index
	0 - 14 yrs (A)	15 - 64 yrs (B)	65 yrs and over (C)	(C/A)
1911	1,680	2,332	94	5.6
1946	2,478	3,949	229	9.3
1971	4,945	7,206	539	10.9
1981	5,227	8,979	641	12.3
2001*	4,449	11,413	1,068	24.0
2008**	5,315	13,625	1,277	24.0

* Excludes Northern province, Batticaloa and Trincomalee districts in Eastern Province

** Estimated Values

1.3.3 Age-Sex Pyramid

Age-sex pyramid showed in Fig 1.3 shows the shift of age cohorts over the years. The percentage of the base shows the under 5 births in the corresponding year. The base population in 1981 is greater than that of 2001 and it does not changed much in 2008.

A detailed age breakdown obtained from the mid year population estimates are given in Detailed Table 3.

1.3.4 Trends in Age specific Sex Ratio

Sex composition is another indicator which describe the composition of the population. Age Specific Sex Ratio is defined as number of males per 100 females in each group.

According to the Table 1.2, the overall sex ratio in Sri Lanka is reported as 97.5 in 2008. The sex ratio is declining gradually with increasing the age with fluctuations in some age groups.

Table 1.2 : Age Specific Sex Ratio 1981, 2001 and 2008

Age Group in years	Sex Ratio in year		
	1981[1]	2001[1]	2008[2]
All Ages	103.9	97.9	97.5
Under 1	104.1	104.5	103.8
1 - 4	103.8	…..	…..
5 - 9	103.6	103.1	102.1
10 - 14	104.1	104.5	101.9
15 - 19	102.7	103.6	101.7
20 - 14	100.3	98.0	99.6
25 - 29	99.8	93.8	95.0
30 - 34	102.0	95.4	96.2
35 - 39	100.6	95.2	96.2
40 - 44	106.0	96.6	97.6
45 - 49	102.0	97.1	96.0
50 - 54	111.1	95.9	95.7
55 - 59	110.2	92.8	90.2
60 - 64	116.2	92.7	94.1
65 - 69	111.0	88.0	85.9
70 - 74	115.7	85.0	87.2
75 and Over	107.3	84.6	84.8

Source :1 Population Census

2 Estimated from Labour Force Survey 2008

Sex ratio under 1 year, exceeds the value 100, reflects more males among infants which was the natural trend in most countries. However, with the increase of age, the sex ratio shows a decreasing trend indicating more females than males in older age groups. This trend could be attributed to increase in life expectancy at birth among females (76.4years) than that of males (71.7 years) during the 2001-2006 period.

1.3.5 Trends in Life expectancy

Life expectancy for both males and females have been increased for the past decades. During the past 60 years, the life expectancy has increased by 30 years for both sexes. Before 1963, the life expectancy for males was higher than that of females and after 1963 females life expectacy has surpassed that of males. Latest figures show that females live 5 more years than males. (Table 1.3)

Table 1.3 : Expectancy of Life at Birth 1946 - 2001

Year	Male	Female
1946	43.9	41.6
1953	58.8	57.5
1963	61.9	61.4
1967	64.8	66.9
1971	64.2	67.1
1981	67.8	71.7
1991-1996	69.5	74.2
1996-2001	70.7	75.4
2001-2006	71.7	76.4

Source: Department of Census & Statistics

1.4 Vital Statistics

In Sri lanka, registration of vital events commenced in 1867 with the enactment of civil registration laws which conferred the legal sanction for the registration of events namely, live births, deaths, still births and marriages.

According to the law, every live birth has to be registered within 42 days and a death within 5 days from the date of occurrence. Still births are registered in areas where there is a Medical Registrar. The act specify all the action necessary with regard to appointment of staff, creation of registration divisions, reporting, issuing of certificates, late registration, penalties etc.

With respect to the compilation of vital statistics, there is 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.

Although there is a well organized system for the registration and compilation of vital events, lot of improvements are needed to assure timely and more complete vital statistics in Sri Lanka.

Table 1.4 : Vital Statistics, 1960 - 2008

Year	Estimated Mid-year Population	Crude Birth Rate	Crude Death Rate	Maternal Mortality Ratio Per 100,000 Live Births	Infant Mortality Rate	Neo-natal Mortality Rate
	'000	Per 1,000 Population			Per 1,000 Live Births	
1960	9,896	36.6	8.6	302	57.0	34.2
1965	11,164	33.1	8.2	239	53.2	33.3
1970	12,516	29.4	7.5	145	47.5	29.7
1975	13,496	27.8	8.5	102	45.1	27.0
1980	14,747	28.4	6.2	64	34.4	22.7
1985	15,842	24.6	6.2	51	24.2	16.2
1990	17,015	19.9	5.7	...	19.3	...
1991	17,267	20.7	5.5	42	17.7	12.8
1992	17,426	20.5	5.6	27	17.9	13.0
1993	17,646	19.9	5.5	25	16.3	12.0
1994	17,891	19.9	5.6	21	16.9	12.9
1995	18,136	18.9	5.8	24	16.5	12.5
1996	18,336	18.6	6.7	23	17.3	13.0
1997	18,568	17.9	6.2	35	16.3	12.8
1998	18,787	17.2	6.0	27	14.3	10.5
1999	19,056	17.3	6.1	19	13.8	10.6
2000	19,359	17.6	5.8	20	13.3	9.9
2001	18,732	18.9	5.9	18	12.2	9.6
2002	18,955	19.1	5.8	16	11.4	8.4
2003	19,252	18.9	5.9	19	11.3	8.7
2004	19,462	18.5	5.8	12	9.8	7.2
2005	19,668	18.8	6.6	12	11.2	7.2
2006	19,886	18.7	5.8	14	10.0	7.4
2007	20,010	18.3	5.9	...	8.5	5.9
2008	20,217	18.8	5.9	...	9.0	6.2

Source: Registrar General's Department

1.4.1 Crude Birth Rate (CBR)

CBR is defined as the number of live births in a particular year divided by the Mid Year Population in the same year per 1,000 persons. Trends in crude birth and crude death rates during the period 1960-2008 are presented in Table 1.4.

The Crude Birth Rate in Sri Lanka between 1900 and 1951 was high, fluctuating between 33 in 1912 and 42 in 1926. The first significant decline in CBR began in 1952 (Fig 1.4). However, the fertility decline gathered momentum in 1960s, recording a 16 percent drop in the CBR. In the 1970s, it remained more or less stable around 28. Subsequently, a drastic decline was recorded in fertility in the 1980s, where the CBR declined by about 27 per cent from 28.2 in 1981, to 20.7 in 1991 with introduction of family planning programmes. It continued to decline further in the next decade. This declining trend in fertility is evident in all the Demographic and Health Surveys conducted since 1987. Crude Birth Rate in 2008 is 18.8 per 1,000 persons. Killinochchi district shows the highest CBR (32.8) whereas the lowest CBR reported was in Jaffna district (12.5) for the year 2008 (Fig 1.5).

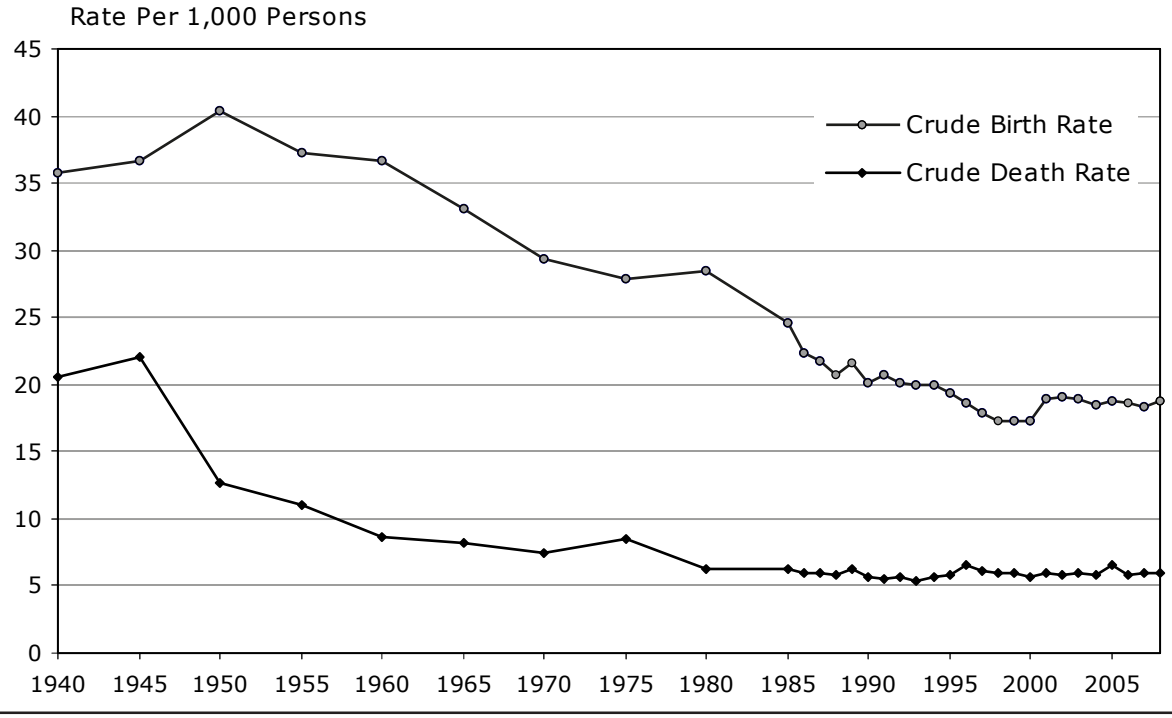
1.4.2 Crude Death Rate (CDR)

CDR is defined as the number of deaths in a particular year divided by the Mid Year Population in the same year. Similar to CBR, CDR is also expressed per 1,000 persons.

The mortality level during 1900 - 1945 was generally high, fluctuating between 36.5 in 1935 and 18.5 in 1942. This was followed by a drastic fall of death rates in the immediate post-war years.

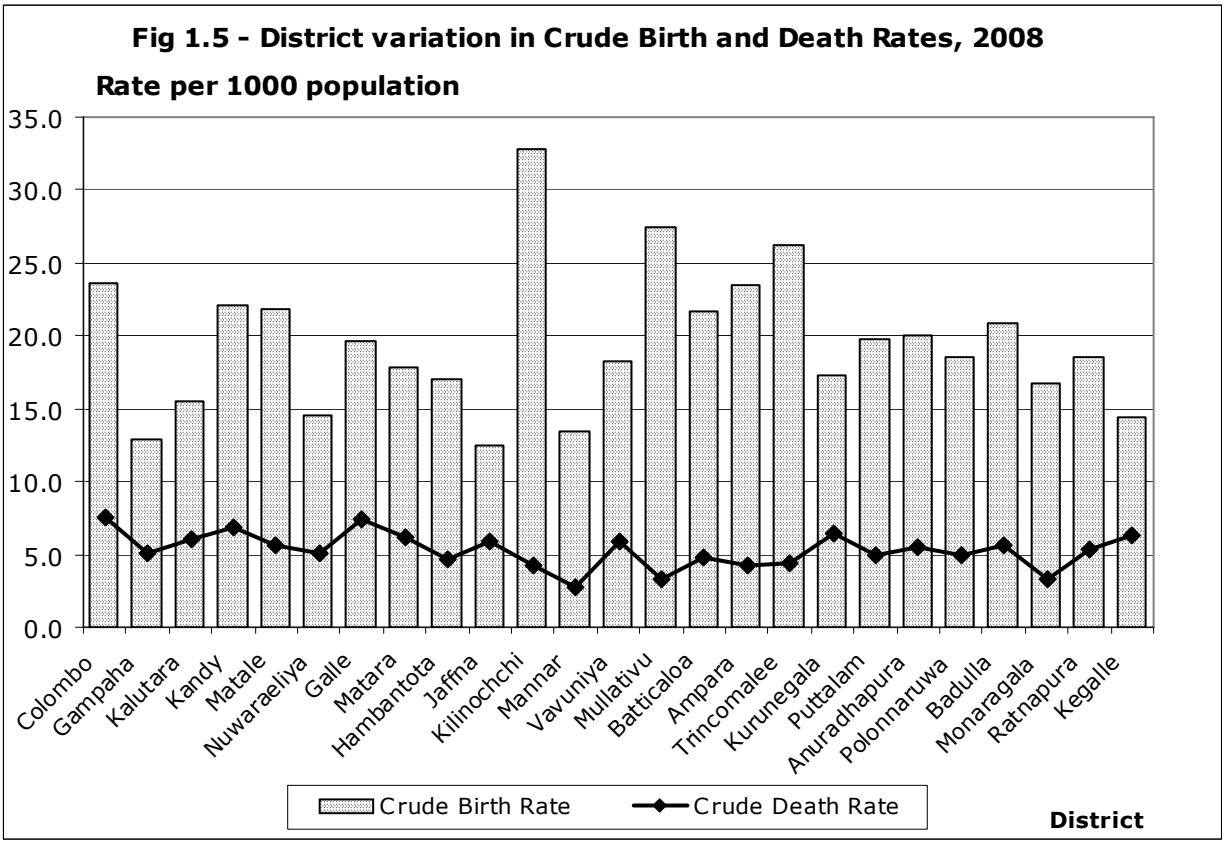
Between 1946 and 1949, the crude death rate (CDR) fell from 19.8 to 12.4, mainly due to the eradication of malaria, extension of health services in the rural areas, and improved nutrition. The mortality continued to decline during the last few decades, although the pace of decline has lowered. Provisional CDR for 2008 is 5.9 per 1,000 persons (Table 1.4 and Fig 1.4). The Colombo district shows the highest CDR (7.6) for the year 2008 (Fig 1.5).

Fig 1.4 - Crude Birth and Death Rates, 1940 - 2008



Source : Registrar General's Department

Fig 1.5 - District variation in Crude Birth and Death Rates, 2008



Source : Registrar General's Department

1.4.3 Maternal Mortality Ratio (MMR)

Maternal mortality ratio is defined as the number of women dying of pregnancy-related causes for every 100,000 live births. The maternal mortality ratio (MMR) has been very high in the past, fluctuating between 2650 in 1935 and 1550 in 1946 per 100,000 live births. A dramatic fall in the MMR in the post world war period is observed.

At present maternal deaths are reported to three different institutions by different reporting agents. These institutions are Registrar General's Department, Medical Statistics Unit and Family Health Bureau (FHB).

1. The most recent MMR released by the Registrar General's Department is for 2006 and the MMR reported is 14 per 100,000 live births (Table 1.4).

2. According to government hospital statistics (government institutions only) the corresponding MMR is 20.1 per 100,000 live births (Detailed Table 36) for the year 2008.

3. Maternal Mortality Ratio (MMR) reported by Family Health Bureau (FHB) for the year 2007 is 37.4 per 100,000 live births.

FHB has developed a system to monitor maternal deaths and Section 5.1.1.4 gives details of maternal deaths reported to FHB during 2008. The Institute of Health Metrics and Evaluation has estimated the MMR using all available sources in each country and estimated MMR for Sri Lanka as 30 per 100,000 live births for 2008 which is closer to the value obtained from the FHB. According to these global estimates, Sri Lanka stands at 68th position in terms of MMR.

It should be stated here that more than 90 per cent of registered live births occur in government institutions.

A comprehensive study carried out in 2000 primarily to obtain an accurate estimate of maternal deaths, disclosed that the actual number of maternal deaths is 3.9 times the number reported in the Registrar General's Department.

The latest available statistics for the year 2006 from the Registrar General's Department on the causes of maternal deaths is given in the Table 1.5.

Table 1.5 : Causes of Maternal Deaths , 2006

Cause of Death	No. of Deaths	%
Pregnancy with abortive outcome O00-O07	9	17.0
Other direct obstetric deaths O10-O92	39	73.6
Indirect obstetric deaths O98-O99	4	7.5
Remainder of Pregnancy childbirth and the puerperium O95-O97	1	1.9
Total	53	100.0

Source: Registrar General's Department

It further states that non-identification of maternal deaths, non-registration, problems associated with reporting of causes of death and erronious coding are the main reasons for low reporting of maternal deaths in vital registration system.

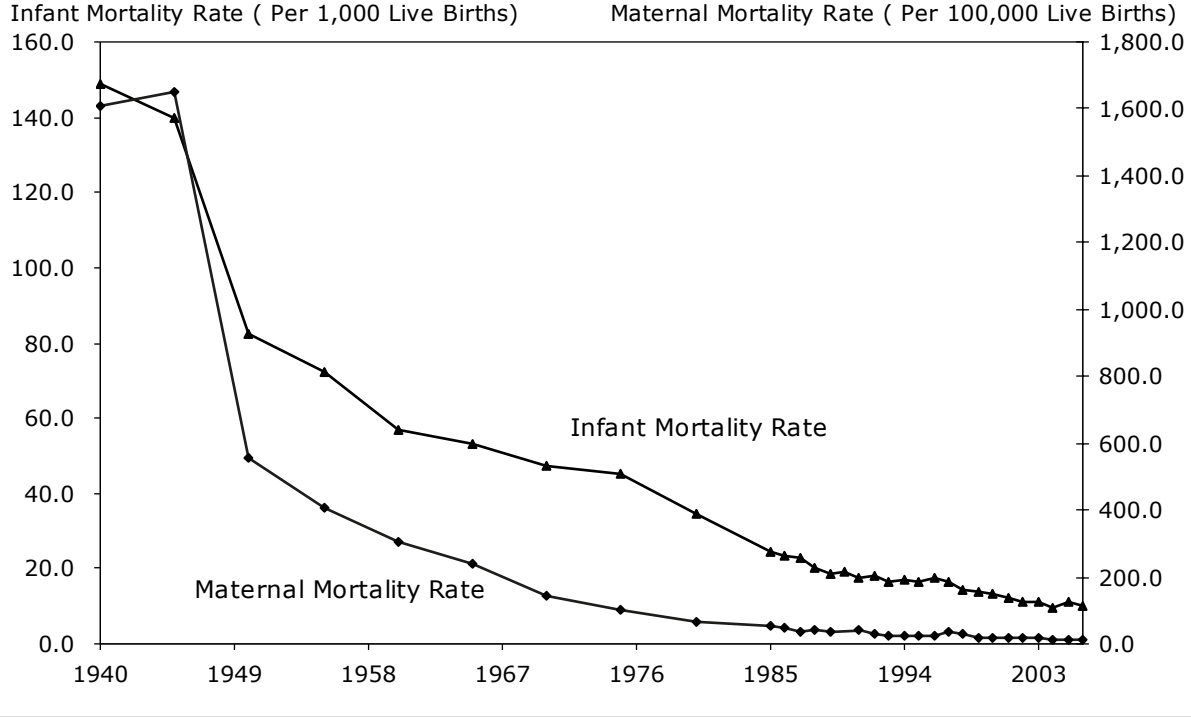
1.4.4 Child Mortality Rate (CMR)

The child mortality rate is the number of deaths occured for children under 5 years, per 1,000 live births. Latest information on child mortality published by the Registrar General's Department is given below.Except in the year 2005, child mortality has reduced steadily from the year 2000. The higher rate reported in the year 2005 reflect the deaths due to the Tsunami disaster which occured in 2004.

The child mortality rate reflects the adverse environmental health hazards e.g. malnutrition, poor hygiene, infections and accidents.

It has been observed that there is a inverse relationship between the mother's educational attainment and the probability of death of the child. Mother's age, birth order and birth interval are some of the key factors affecting child mortality. (Demographic & Health Survey 2006/ 07)

Fig 1.6 - Trends in Maternal and Infant Mortality Rates, 1940 - 2006



Source: Registrar General's Department

Table 1.6 : Under Five Child Mortality Rate and Infant Mortality Rate per 1,000 live births

Year	CMR	IMR
2000	16.3	13.3
2001	15.2	12.2
2002	13.7	11.4
2003	13.5	11.3
2004	12.6	9.8
2005	19.0	11.2
2006	12.0	10.0
2007	10.4	8.5
2008	11.1	9.0

Source : Registrar General's Department

1.4.5 Infant Mortality Rate (IMR)

Infant mortality rate is defined as the number of deaths occuring among infants under one year of age per 1,000 live births in that year. The trend in infant mortality rate (IMR) is similar to the MMR. In 1935, a very high IMR (263) was recorded. A decline in the IMR is observed after 1946. It continued to decline during the past few decades (Table 1.4). Fig. 1.6 illustrates the trend graphically.

The IMR for the year 2008 produced by the Registrar General's Department by districts are given in detailed Table 4. IMR for 2008 is 9.0 per 1,000 livebirths. The corresponding figures for males and females are 9.9 and 8.1 respectively (Registrar General's Department, 2008)

1.4.6 Neo-natal Mortality Rate (NNMR) and Perinatal Mortality Rate

Neo-natal mortality rate is defined as the number of deaths among live births during the first 28 completed days of life per 1,000 live births. Most of the deaths among new born children are likely to occur at birth or during the first week after birth. These deaths are called early neo-natal deaths.

A decreasing trend is observed in the neo-natal mortality rate (NNMR) according to the Registrar General's Department.

The NNMR rate recorded for 2008 is 6.2 per 1,000 live births. Kurunegala and Vavunia districts recorded the highest NNMR of 12.0 and 11.2 respectively (Detailed Table 4) in 2008.

Perinatal mortality is an indicator measuring the mortality at the period of time surrounding birth i.e still births (Deaths after 28th week of pregnancy) and deaths in the first week of life.

Due to the importance of this indicator, perinatal mortality rate was estimated for births in government medical institutions by the Registrar General's Department. The estimated perinatal mortality rates for Sri Lanka are given below.

Table 1.7 : Perinatal Mortality Rate

Perinatal Mortality Rate /1000 births			
Year	Rate	Year	Rate
1999	8.6	2004	5.6
2000	7.8	2005	5.6
2001	7.5	2006	5.8
2002	6.7	2007	4.5
2003	6.8	2008	4.6

Source : Registrar General's Department

These rates show a steady decline during the period. The district figures show that it is very high in Kurunegala (10.9) district in the year 2008 (Detailed Table 4).

1.5. Health Survey conducted by the Departement of Census and Statistics

Demographic and Health Surveys are especially designed to collect information on current fertility and health status of the population in the country. This survey is conducted by DCS once every five years. A brief history of fertility surveys are given below.

Department of Census and Statistics has conducted several surveys related to fertility starting from 'The World Fertility Survey' in 1975.The World Bank Fertility Survey (1979), The Contraceptive Prevalence Survey (1980), and the Sri Lanka Contraceptive Prevalence Survey (1985). Then a series of Demographic and Health Surveys (DHS) was carried out in 1987, 1993, 2000 and 2006/7 with additional models.

DHS surveys collect information from eligible respondents defined as ever-married women aged 15-49 years and their children below 5 years of age. A nationally representative sample was drawn using stratified two-stage sampling design for the latest DHS to provide information for the whole country, and for sectors (Urban, rural and, estate) and Districts. The total number of households in 2006/7 was 19,862.

The findings of the latest DHS was published under 14 main topics. They were-

- Introduction, Household population and housing characteristics, characteristics of respondents, fertility levels, trends and differentials, family planning, other proximate determinants of fertility, fertility preferences, infant and child's mortality, reproductive health, child health, nutrition of children and women, malaria, HIV/AIDS related knowledge, attitude and behaviour, women's empowerment and demographic and health.

Several internationally comparable key health indicators were produced including Millenium Development Goals from this survey to monitor the progress of the health sector.

1.6 Current Health Status of Household Population

Department of Census & Statistics under the National Household Survey Programme conducts Household Income and Expenditure Survey (HIES) once every five years.

The HIES survey was conducted in 2006/7 throughout the island excluding the Northern Province and Trincomalee district in the Eastern province. In this survey information related to health was also collected and some of the important findings are included in this report.

A sample of 2,200 primary sampling units were selected initially and the frame updated. From each primary sampling unit 10 housing units were selected amounting to 22,000 housing units for the final interview. The main results relating to household health status is given in the Table 1.8 of this publication. The final report of this survey could be obtained from the Census and Statistics Web Site(www.statistics.gov.lk).

Main Findings :

- On an average 30.3 percent of the population has taken some out-patient health care one month prior to the survey,from some health facility.
- On an average 10.5 percent of population has stayed as an inpatient during the 12 months prior to the survey period, in some health facility
- 14.4 percent of the household population has suffered from chronic illness or disability at the time of the survey.
- Population in North Central Province has obtained a higher percentage of out patient care (33.5%) from some health facility than the other provinces while the population in the Eastern Province has sought the highest inpatient care (14.8%)
- The household population in the Western Province shows the highest percentage of (15.7%) those suffering from chronic illness or disability, while the corresponding lowest percentage was reported from the Eastern Province(11.8%)
- The household population in the Hambantota district had obtained the highest percentage (38.7%) of outpatient care from a health facility during one month prior to the survey, while the corresponding lowest percentage was reported from the Kegalle (22.7%) district.
- The Population in the Ampara district, has obtained the highest inpatient care (16%) from a health facility while the corresponding lowest percentage was reported from the Matara district (7.1%).
- The highest percentage of population who suffered from chronic illness or disability is reported from the Gampaha district (17.7%) followed by the Polonnaruwa and Hambantota districts (17.1% each) and the Kurunegala district (16.3%). The corresponding lowest percentage is reported from the Moneragala district (11.1%).

1.7 Social Indicators

1.7.1. Literacy Rate

Literacy is an important factor to maintain proper health care of each person.

In Sri Lanka Labour force Survey 2008, conducted by the Department of Census and Statistics a "Literate" person is defined as a person who can both read and write a short statement with understanding. Among persons 10 years and above, the estimated all island literacy rate in the year 2008 is 91.3 percent. The literacy rate for males is relatively high (92.8 percent) when compared with that of females (90.0 percent).

In 2008, the Colombo district recorded the highest literacy rate (95.3 per cent). The lowest literacy rate is reported from the Badulla District (83.2 percent)

1.7.2. Level of Education

According to the DHS 2006/7, 6.6 percent of the female population aged 3 years and over and 3.3 percent of the male population aged 3 years and over had not been to school.

Nearly 20 percent of females in the estate sector were reported to have had no education at all. Highest percentage of females with no formal education (14 percent) were found among the women who were in the lowest wealth quantile.

1.8 Water Supply and Sanitation

1.8.1. Source of Water Supply for Drinking

According to the Income and Expenditure survey 2006/7, 98 percent of the urban sector households have access to an improved source of drinking water compared to, 17 percent of estate sector households.

The 'well' is the most common source of water for drinking. This can be observed in the past censuses (1971, 1981, 2001) and surveys (1994 DHS, 2000 DHS and DHS 2006/7). Yet the percentage getting drinking water from a protected well is 50 percent.

The percentage getting water for drinking purposes from a main line is 27 per cent. Still around 29 percent get drinking water either from an unprotected well or from such sources as rivers, tanks or stream (Detailed Table 5). However an improvement could be seen during the period from 1981 to 2006/7.

1.8.2 Toilet Facilities

DHS 2006/7 reveals that only 2.2 percent of households did not have toilet facilities (Excluding Northern Province).

According to the Census of Population and Housing 2001, the percentage of households which did not have toilet facilities is 4.3, and the number of households not using a toilet is 1,88,131. Hence, the number of persons may be 4 times than this as the average number of persons per household is 4. The situation is worse in districts such as Ampara, Nuwara-Eliya, Puttalam and Anuradhapura.

Table 1.8 : Household Health Status of Household Population - 2006/7
Distribution of household population by Sectors, Provinces and Districts

Sector, province and District.	Household Health Status		
	Obtained out-patient care (Last month) (%)	Stayed at a hospital as an in-patient (12 month) (%)	Suffering from chronic illness/ disability (%)
Sri Lanka	**30.3**	**10.5**	**14.4**
Sector			
Urban	29.2	9.2	14.6
Rural	30.8	10.7	14.6
Estate	25.3	10.9	10.9
Province			
Western	30.5	10.3	15.7
Central	28.5	10.7	13.1
Southern	31.8	9.1	14.8
Eastern	32.9	14.8	11.8
North Western	32.1	11.0	15.3
North Central	33.5	13.4	14.6
Uva	29.6	10.2	13.0
Sabaragamuwa	25.3	8.3	12.6
District			
Colombo	28.8	8.9	15.4
Gampaha	33.3	10.2	17.7
Kalutara	28.2	13.1	12.5
Kandy	28.2	10.2	13.7
Matale	31.3	11.2	14.1
Nuwara Eliya	27.2	11.2	11.3
Galle	30.0	8.4	15.1
Matara	29.2	7.1	12.7
Hambantota	38.7	13.4	17.1
Baticaloa	27.1	12.7	11.7
Ampara	36.2	16.0	11.8
Kurunegala	34.4	11.6	16.3
Puttalm	27.4	9.9	13.2
Anuradhapura	33.3	13.4	13.4
Polonnaruwa	33.8	13.5	17.1
Badulla	32.9	10.5	14.0
Monaragala	23.4	9.6	11.1
Ratnapura	27.3	9.0	12.6
Kegalle	22.7	7.4	12.6

Source : Income and Expenditure Survey, Department of Census and Statistics

2. Organization of Health Services

In Sri Lanka, both the public and private sector provide health care. The public sector provides health care for nearly 60 percent of the population. The Department of health services and the provincial health sector encompass the entire range of preventive, curative and rehabilitative health care provision.

The private sector provides mainly curative care, which is estimated to be nearly 50 percent of the out-patient care of the population and is largely concentrated in the urban and suburban areas. The one–day General Practice Morbidity Survey in Sri Lanka, 1998 estimated that General Practitioners in Sri Lanka handle at least 26.5 percent of primary care consultations per year.

Ninety five percent of inpatient care is provided by the public sector. In addition to the services provided by the Department of Health Services, provincial councils and the local authorities, there are service provisions especially for armed forces and police personnel and the estate population.

Western, Ayurvedic, Unani, Siddha and Homeopathy systems of medicine are practiced in Sri Lanka. Of these, Western medicine is the main sector catering to the needs of a vast majority of people. The public sector comprises Western and Ayurvedic systems, while the private sector consists of practitioners in all types of medicine. This provides the people an opportunity to seek medical care from various sources, under the different systems of medicine.

Sri Lanka possesses an extensive network of health care institutions. As such, the majority of the population has easy access to a reasonable level of health care facilities provided by both state and private sector through the extension of services to every corner of the country. A health care unit can be found on an average not further than 1.4 km from any home and free Western type government health care services are available within 4.8 km of a patient's home.

2.1 National Health Policy

The broad aim of the health policy of Sri Lanka is to increase life expectancy and improve quality of life in the entire country, irrespective of the geographic locations and socio economic differences. This to be achieved by controlling preventable diseases and by health promotion activities. However, the concern of the Sri Lankan government is to address health problems like iniquities in health services provision and accessibility, care of the elderly and disabled, non-communicable diseases, accidents and suicides, substance abuse, mental problems and malnutrition.

The president appointed a Presidential Task Force in 1997 to formulate a health policy and to suggest strategies to address health problems and issues as mentioned above. After reviewing the recommendation made by the Task Force, the following thrust areas have been identified for immediate implementation.

1. Improve one government hospital in each district in a planned manner, to reduce inequities in the distribution of facilities and to provide high quality services to people living in remote areas.
2. Expand the services to areas of special needs (e.g. the elderly, disabled, victims of war and conflict, occupational health problems, mental health and estate health services).
3. Develop health promotional programmes with special emphasis on revitalizing the school health programmes.
4. Reform of the organizational structure to improve efficiency and effectiveness, especially in the context of devolution.
5. Resource mobilization and management, including alternative financing mechanisms, resources sharing between public and private sector and rationalized human resources development.

Later in 2003, the Health Master Plan development studies commenced based on the strategic directions of the health sector. Under this, a vision and mission for the Health sector were formulated.

2.1.1 Vision

A healthier nation that contributes to its economic, social, mental and spiritual development.

2.1.2 Mission:

To achieve the highest attainable health states by responding to people's needs, working in partnership, to ensure access to comprehensive, high quality, equitable, cost effective and sustainable health services.

Five main strategic areas were recognized for the development of a detailed plan under several projects and programmes.

2.1.3. Strategic Areas

- ♦ Ensuring delivery of comprehensive health services, which reduce the diseases burden and promote health.
- ♦ Empowering communities towards more active participation in maintaining their health.
- ♦ Strengthening the stewardship and management functions of the health system.
- ♦ Improving Human resources for health development and management
- ♦ Improving health financing, mobilization, allocation and utilization of resources.

The thrust areas will be addressed through Western, Ayurvedic and all other systems of medicine.

The government will make every effort to maximize the financial allocations on health development. This will enable the government to provide an efficient health service throughout the country, accessible to the needy people.

2.2 Health Administration

The health services of the government function under a cabinet Minister, with the implementation of the Provincial Councils Act. In 1989, the health services were devolved, resulting in the Ministry of Health at the National level and separate provincial Ministries of Health in the eight provinces.

The central Ministry of Health is primarily responsible for the protection and promotion of people's health.

Its key functions are setting policy guidelines, medical and paramedical education, management of teaching and specialized medical institutions, and bulk purchase of medical requisites. The nine Provincial Directors of Health Services (PDHS) are totally responsible for management and effective implementation of Health Services in the respective provinces. The PDHS is responsible for the management of hospitals (Provincial, Base and District Hospitals, Peripheral unit, Rural hospitals and Maternity Homes) and out-patient facilities such as Central Dispensaries and visiting stations.

During 2008 there were twenty six Regional Directors of Health Services (RDHS) to assist the nine Provincial Directors of Health Services. RDHS are similar to administrative districts, except for Ampara district, which is subdivided to form two RDHS areas; Ampara and Kalmunai. Killinochchi and Mannar districts started functioning as two RDHS from 2002. Each RDHS area is sub-divided into several Medical Officer of Health areas(MOH).

The MOH is responsible for the preventive and promotional health care in a defined area and carry out the action through the trained field staff working at field level.

According to the size of the population MOHs can be grouped under five categories shown below.

Size of Population	Number of MOHs
More than 600,000	2
200,000 - 600,000	4
100,000 - 200,000	43
50,000 - 100,000	95
Less than 50,000	75
Total	219

Note :

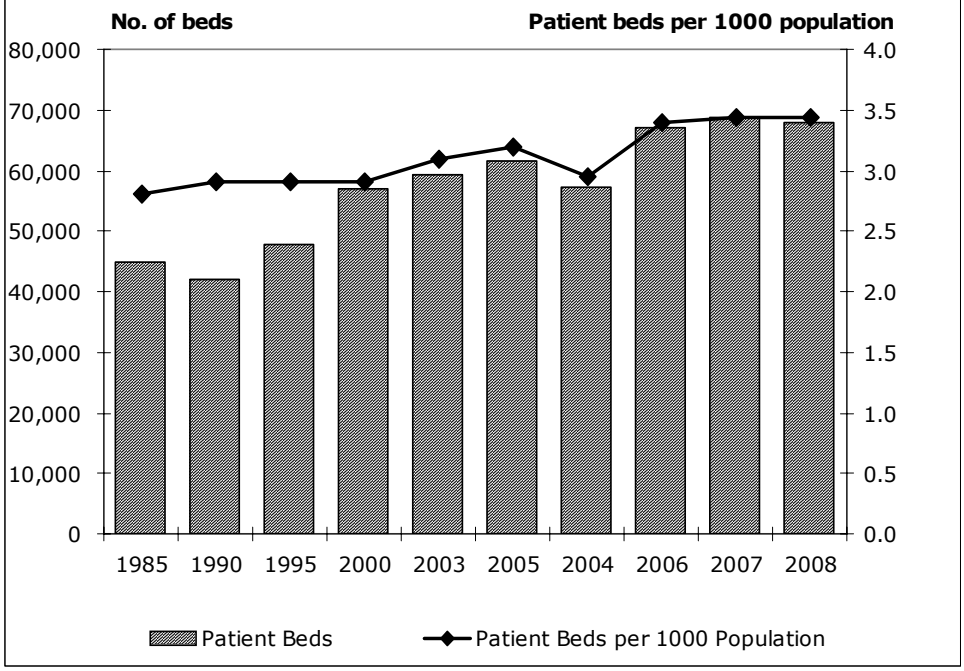
1. Excluding Northern and Eastern Province.
2. Provisional figures.

Table 2.2 : Availability of Patient Beds by Type of Institution, 2007 & 2008

Type of Institution	Total number of institutions		Patient Beds (Range)		Average Number of Patient Beds		Number of Hospitals Having Less Than Average Number of Patient Beds	
	2007	2008	2007	2008	2007	2008	2007	2008
Teaching Hospitals	16	17	257 - 3,264	259 - 3,264	1153.2	1142.8	10	10
Provincial Hospitals	12	4	225 - 1,328	817 - 1,331	709.0	1043.3	6	4
General Hospitals	-	16	- - -	202 - 1,384	-	535.8	-	9
Base Hospitals	44	41	67 - 816	70 - 562	288.2	243.3	25	22
District Hospitals	161	151	16 - 484	30 - 285	92.4	92.1	90	78
Peripheral Unit	95	97	17 - 147	21 - 101	54.0	54.0	53	49
Rural Hospital	182	192	4 - 112	1 - 67	29.4	28.5	104	93
CD & MH	59	67	1 41	2 74	13.5	16.3	25	30
Others	46	62	11 - 1,325	2 - 977	249.1	198.1	14	18

Source : Medical Statistics Unit

Fig 2.2 - Number of beds and patient beds per 1000 population, 1985 - 2008



Source : Medical Statistics Unit

Among the primary health care institutions, the DHs are the largest. District Hospital at Udugama, Chavakachcheri and Eheliyagoda have wards to treat TB patients, while DHs Unawatuna and Tellippalai have wards for psychiatric patients. District Hospitals Tangalle and Marawila provide a few basic specialties.

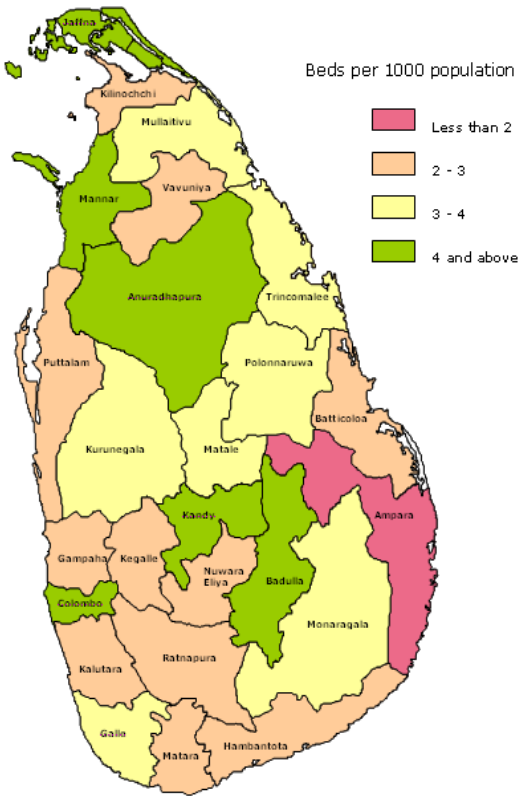
The Provincial Hospitals have specialties like general medicine, surgery, obstetrics, gynaecology, ophthalmology, ENT and paediatrics and also have well-equipped pathological laboratories and other auxiliary services. Among the Base Hospitals, only a few institutions provide basic specialties.

The distinction between District Hospitals (DH), Peripheral Units (PU) and Rural Hospitals (RH) is made on their size and the range of facilities available. The total care available in DHs and PUs, are far superior to RHs because of the availability of nursing personnel in these institutions.

During 2008 Sri Lanka had 97 PUs with a total of 5,080 patients beds and 192 RHs with a total of 5,161 patient beds (Detailed Table 7). The average number of beds in a RH in 2008 was 29. More than 50 per cent of RHs had beds less than the average amount.

These institutions very often do not have a separate maternity ward. In the past the RHs were managed by Assistant / Registered Medical Officers. During 2008, RHs also had Medical Officers in charge. In order to improve the health conditions of the estate workers, by the end of 2001, 15 Estate Hospitals were acquired by the government and manned with qualified medical personnel.

Fig- 2.3: Distribution of Hospital Beds by District



Source : Medical Statistics Unit

Most of these hospitals were not functioning fully due to the lack of adequate buildings and equipment.

The smallest type of institution with inpatient facilities is the Central Dispensary and Maternity Homes (CD & MH). During 2007, Medical Officers were appointed to some CD & MHs. Many of these institutions have been upgraded by providing better facilities. Hence, in 2008 there were 67 CD & MHs compared with 59 in 2007.

In 2008 there were two hundred and ninty eight (298) Health Units (MOH offices) headed by Medical Officers of Health, carrying out preventive services in Sri Lanka.

2.5 Health Manpower

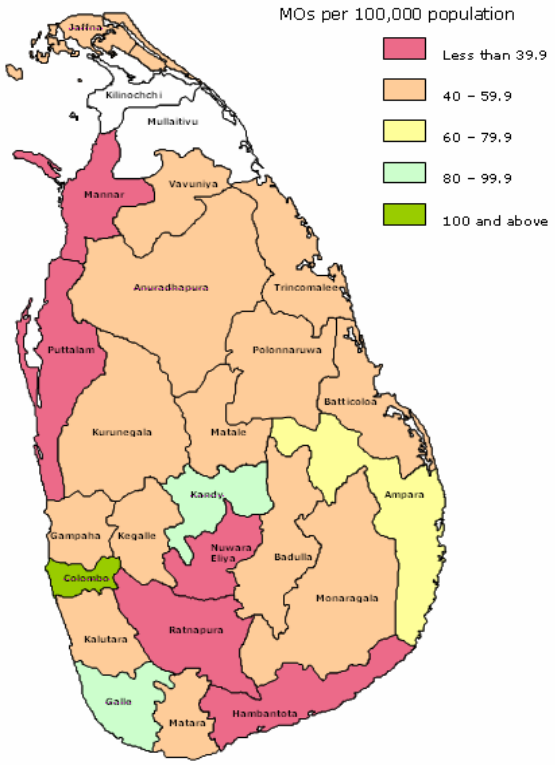
In the area of health manpower, numbers in most categories have increased. The government has made a decision to absorb all Medical Graduates passing out from the universities until 2009.

The total number of Medical Officers increased from 11,023 in 2007 to 12,479 in 2008. Accordingly, population per medical officer also increased. In 2008 this figure was 1,620 as compared to 1,815 in 2007. (Detailed Table 9)

The number of Nurses per 100,000 population has decreased from 157 in 2007 to 149 in 2008. A shortage of qualified paramedical staff, such as Pharmacists, Medical Laboratory Technicians, Radiographers, Physiotherapists and ECG Recordists still exists. (Detailed Table 10)

A wide disparity in the regional distribution of health personnel is evident. The Colombo district has a high concentration of most categories of health personnel except public health staff. In Colombo, the municipal staff supplements these categories. Kandy and Galle District, too, have comparatively higher numbers of health personnel. The Nuwara Eliya district had the lowest number of Medical Officers and Nurses except for some districts of the North East Province.

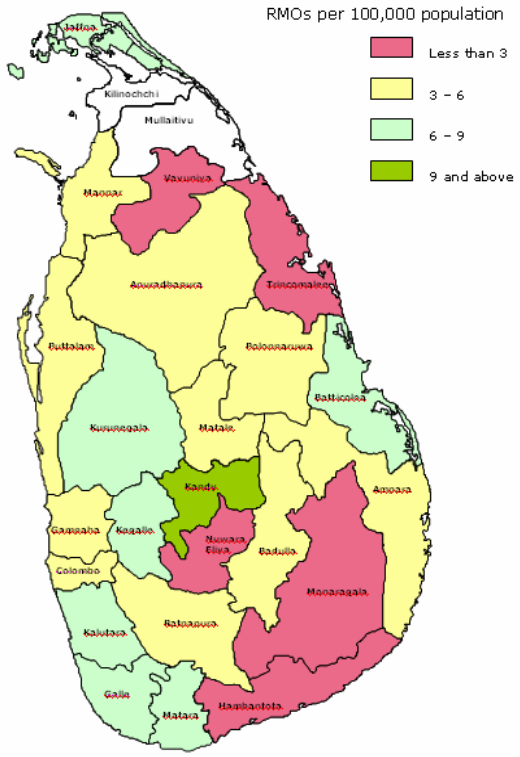
Fig- 2.4: Distribution of Medical Officers (MO) December 2008



These data were not reported from Kilinochchi and Mullaitivu districts due to the disturbances prevailing in 2008.

Source : Medical Statistics Unit

Fig- 2.5: Distribution of Registered Medical Officers (RMO) - December 2008



These data were not reported from Kilinochchi and Mullaitivu districts due to the disturbances prevailing in 2008.

Source : Medical Statistics Unit

The distribution of specialists in curative services as of December 2008 is presented in Detailed Table 11. Of the specialists, 35 percent of the medical specialist in the curative sector are concentrated in the Colombo district. The districts of Kilinochchi, Mullativu and Mannar did not have a single specialist, and absence of certain common specialties such as general medicine and surgery, obstetrics, and paediatrics in some districts is also noteworthy.

2.6 Health Manpower Training

2.6.1 Basic Training

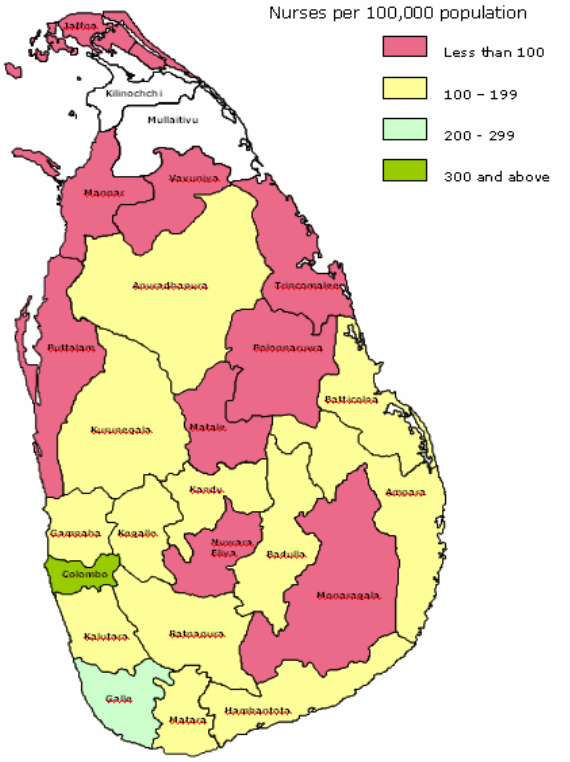
The Government of Sri Lanka has provided for the training of Medical Officers, Dental Surgeons, Assistant Medical Officers, Nurses and other paramedical personnel. The Medical Officers and the Dental Surgeons are trained at the Universities. The Assistant Medical Officers, Pharmacists and Medical Laboratory Technologists are trained at the universities and in other training institutions.

All other paramedical personnel are trained at the training institutions coming directly under the purview of the Department of Health Services.

2.6.2 Postgraduate Training

Postgraduate Training is conducted both locally and abroad. The Postgraduate Institute of Medicine follows the practice of awarding academic degrees, following the successful completion of the academic courses and the final examination. For Board Certification in their respective disciplines, these trainees have to undergo local and overseas training after the post-graduate degree.

Fig- 2.6: Distribution of Nursing Staff December 2008



These data were not reported from Kilinochchi and Mullaitivu districts due to the disturbances prevailing in 2008.

Source : Medical Statistics Unit

2.6.2.1. Postgraduate Training by the PGIM

The Postgraduate Institute of Medicine affiliated to the University of Colombo is the National Institute which trains Medical and Dental doctors leading to Specialist status. It trains doctors leading to the academic distinctions of Doctor of Medicine, Master of Science, Postgraduates Diplomas and Certificate of Competence. On successful completion of the degree of Doctor of Medicine and the prescribed Post MD training, the trainees are Board Certified as specialists in the respective specialties. The Post MD training programmes leading to specialist status consists of 1 – 2 years of overseas training as a pre-requisite for Board Certification.

For this purpose, the state sponsors trainees by awarding scholarships and granting them financial assistance, thus facilitating overseas training in recognized specialized institutions.

PGIM board Certification is necessary to work as a consultant.

New courses at Postgraduate Institute of Medicine

- MSc Biomedical Informatics
- MSc Medical Toxicology
- Diploma in Critical Care Medicine
- MSc Molecular Medicine
- Postgraduate Certificate in Medical Education/ Certificate in Health Professions Education
- Postgraduate Diploma in Medical Education
- Diploma in Family Medicine(Online)

PGIM launched MSc Biomedical Informatics, Postgraduate Diploma in Critical Care Medicine, MSc/Diploma in Molecular Medicine, Postgraduate Certificate in Medical Education/Certificate in Health Professions Education, Postgraduate Diploma in Medical Education, MSc in Medical Toxicology (Online) under the Board of Study in Multi Disciplinary Study Courses together with Diploma in Family Medicine (Online).

2.6.2.2 Number of trainees undergoing courses in 2008 and the examinations held

Trainees, 2008

Total No. of Trainees	2,158
New entrance for year 2008	
For In-service Programmes	22
For Diploma Programmes	209
For MSc Programmes	44
For MD and MS Programmes	255
Total In-service	80
Total Diploma	357
Total MSc	44
Total Pre MD/MS	861
Total Post MD/MS Locally	399
Total MD/MS Overseas	417

Examination held, 2008

No. of Examinations in 2008	98
Certificate	5
Postgraduate Diploma	13
Module I	1
Module II	1
Module III	1
Part I	12
Part II/Module IV	31
Part 1A	2
Part 1B	2
Selection	30

Post Graduates Trained, 1980 - 2008

Post Graduates trained	1980 – 2007	2008	Total
Total No. of Postgraduate Qualifications	5,607	478	6,085
Total No. of MD	2,047	204	2,251
Total No. of MS	506	31	537
Total No. of MSc	568	22	568
Total No. of Diplomas	2,486	221	2,707

Table 2.3 : Board Certified Medical Specialists, 1980 - 2008

Specialties	Period 1980-2007	Year 2008	Total
Anaesthesiology	125	7	132
Community Medicine	111	11	122
Community Dentistry	7	-	7
Dental Surgery	27	-	27
Oral Surgery	9	1	10
Orthodontics	17	-	17
Restorative Dentistry	8	1	9
Dermatology	26	6	32
Family Medicine	18	-	18
Forensic Medicine	53	1	54
General Medicine	188	34	222
Cardiology	35	2	37
Cardiac Electro-Physiology	3	-	3
Neurology	23	-	23
Nephrology	5	1	6
Neurophysiology	2	-	2
Respiratory Medicine	15	-	15
Rheumatology &Rehabilitation	16	-	16
Gastroenterology	2	1	3
Endocrinology	2	2	4
Medical Administration	1	-	1
Medical Microbiology	51	4	55
Medical Parasitology	3	-	3
Obstetrics & Gynaecology	169	9	178
Gynaecological Oncology	2	-	2
Ophthalmology	63	9	72
Otolaryngology	31	1	32
Paediatrics	174	8	182
Paediatrics (Cardiology)	-	1	1
Paediatrics (Neurology)	-	2	2
Pathology			
Histopathology	64	8	72
Haematology	32	1	33
Chemical Pathology	4	2	6
Psychiatry	39	4	43
Radiology	72	12	84
Clinical Oncology	23	1	24
General Surgery	115	10	125
Cardiothoracic Surgery	15	1	16
Cancer Surgery	7	-	7
Genito Urinary Surgery	15	1	16
Gastroenterological Surgery	8	-	8
Neuro Surgery	12	-	12
Orthopaedic Surgery	32	-	32
Paediatric Surgery	13	-	13
Plastic Surgery	7	-	7
Vascular & Transplantation	2	-	2
Thoracic Surgery	1	-	1
Total	**1,647**	**141**	**1,788**

Source : Post Graduate Institute of Medicine

Table 2.4: Examinations Performance (Final Exams) - 2008

Exam Type	Exam Date	Examination	SAT	PASS	%
Certificate	03/10/2008	Certificate in Computer Applications	15	13	86.67
	06/2/2008	Certificate of Compitence in Anaesthesiology	45	25	55.56
	06/16/2008	Certificate in Computer Applications	11	9	81.82
	08/12/2008	Certificate in Computer Applications	10	10	100.00
	10/20/2008	Certificate in Computer Applications	8	7	87.50
PG DIPLOMA	01/02/2008	Diploma in Hospital Dental Practice	25	24	96.00
	03/17/2008	Diploma in Transfusion Medicine	4	3	75.00
	04/12/2008	Diploma in Legal Medicine	3	1	33.33
	04/21/2008	Diploma in Venerology	9	8	88.89
	05/9/2008	Diploma in Reproductive Health	8	8	100.00
	05/12/2008	Diploma in Legal Medicine	1		
	07/14/2008	Diploma in Psychiatry	45	38	84.44
	09/13/2008	Diploma in Medical Microbiology	12	9	75.00
	10/6/2008	Diploma in Legal Medicine	7	2	28.57
	10/28/2008	Diploma in Child Health	46	28	60.87
	11/03/2008	Diploma in Family Medicine	55	54	98.18
	11/03/2008	Diploma in Pathology	22	18	81.82
	12/01/2008	Diploma in Family Medicine	28	28	100.00
MASTER	11/24/2008	M.Sc Community Medicine	43	23	53.49
	11/24/2008	M.Sc Community Dentistry	6	1	16.67
MD/MS Final	01/07/2008	MD (Pathology) Haematology	5	4	80.00
	01/07/2008	MD Obstetrics & Gynaecology	14	12	85.71
	01/14/2008	MD Dermatology	11	6	54.54
	01/17/2008	MD Medicine	56	11	19.64
	01/21/2008	MD Paediatrics	29	11	37.93
	01/23/2008	MD Medical Microbiology	5	3	60.00
	02/11/2008	MD Community Medicine	5	5	100.00
	02/11/2008	MS Surgery	30	11	36.67
	02/18/2008	MD Medical Administration	4	3	75.00
	02/25/2008	MS Orthodontics	3	2	66.67
	02/25/2008	MS Restorative Dentistry	1	1	100.00
	03/10/2008	MD Anaesthesiology	13	7	53.85
	03/24/2008	MD Transfusion Medicine	9	7	77.78
	04/28/2008	MD Psychiatry	8	6	75.00
	05/05/2008	MD Venerology	5	1	20.00
	05/12/2008	MD Medical Administration	14	11	78.57
	06/23/2008	MS Otorhinolaryngology	1	1	100.00
	07/14/2008	MS Surgery	40	15	37.50
	07/21/2008	MD Paediatrics	20	12	60.00
	07/29/2008	MD Medicine	76	39	51.32
	08/11/2008	MD Anaesthesiology	16	10	62.50
	08/11/2008	MD Community Dentistry	3	3	100.00
	08/11/2008	MD Community Medicine	4	4	100.00
	08/25/2008	MD Clinical Oncology	8	7	87.50
	10/06/2008	MD Psychiatry	12	7	58.33
	10/20/2008	MD Ophthalmology	4	4	100.00
	10/20/2008	MD Ophthalmology	1	1	100.00
	11/17/2008	MD Forensic Medicine	7	3	42.86
	11/24/2008	MD (Pathology) Histopathology	13	12	92.31
	12/01/2008	MD Radiology	25	15	60.00
	12/01/2008	MS Otorhinolaryngology	1	1	100.00
Total			**846**	**544**	

Source : Post Graduate Institute of Medicine

2.6.3 Post-Basic Training

The Post-Basic School of Nursing (PBS) and National Institute of Health Sciences (NIHS) conduct post-basic training programmes for nursing personnel and public health staff respectively.

2.6.4 In- service Training

In- service Training programmes are conducted for most categories of staff. Some of the courses are conducted on a regular basis. Some courses are conducted according to request, through workshops and seminars, organized by the respective programmes and organizations.

2.7 Health Finance (2008)

The health expenditure for 2008 was Rs 68,604 million, which is an increase of 8.09 per cent over the previous year. This increase is lower compared with the increase of 2007 (16.74 per cent) over 2006. During 2008, the proportion of public expenditure on health services was 1.59 per cent of the GNP and 6.88 per cent of the national expenditure. The per capita health expenditure was Rs 3,393 in 2008.

The Recurrent expenditure accounted for 84.57 percent of the total expenditure. A major proportion of the health expenditure is utilized by the patient care services. In 2008 patient care services utilized 66.2 per cent of the health expenditure. Of the balance 8 percent were for general administration**.**

2.8 Sri Lanka National Health Accounts System

During 2001, the Department of Health services of the Ministry of Health released the first estimates from the Sri Lanka National Health Accounts System (SLNHA). This system was developed to establish a permanent expenditure monitoring system for the country and also to meet international standards for reporting of health expenditure data. Its framework is based on the "System of Health Accounts" published by the Organization of Economic Development and Cooperation (OECD) in 2000.

SLNHA have identified the financial burden that falls upon the key players such as government, the private sector including households, the insurers and non-governmental bodies. It provides information of the health spending over the years in the context of the political, economic and social structure of the country. In the framework these expenditures are classified into three dimensions which according to ICHA such as source of funding, functional use of expenditure and provider entity.

The first release of SLNHA consists of final estimates for 1990-1997, and provisional estimates for 1998-1999. In future, updates will be issued on an annual basis. Currently the 2003-2004 report was published and the 2005-2006 report was drafted. Unlike previously published figures, the SLNHA estimates are comprehensive for the government sector, including expenditures by all ministries, provincial councils and local governments.

SLNHA estimates are derived from multiple data sources consisting of state accounts, household surveys, and census of service providers, enterprises, insurance agencies and direct contacts on other surveys.

2.8.1 Total National Health Expenditure

Total Expenditure on Health (THE) is defined to include all expenditure on personal health services, community (public health and preventive) health services and gross capital formation in health care providers. Total expenditure on health (THE) were estimated to be Rs 68 billion in 2008, with per capita spending equivalent to Rs 3,393 This was equivalent to US $ 29 Per capita, or 1.55 per cent GDP.

2.8.2 Funding of National Health Expenditure

Public expenditure on health grew from Rs 5.6 billion in 1990, to Rs 68 billion in 2008. In 2008 the public health expenditure as a ratio of GDP is 1.64 per cent. Central government ministries and departments accounted for a growing share of total public sector expenditures during 2000-2008.As far as the share of public expenditure on health by institutional types is concerned, the

central government hospital share is 51 per cent and the provincial hospital share is 27 per cent.

2.8.3 Expenditure by Provider and by functional Use

Inpatient expenditure account for 50.7 per cent. Preventive and public health expenditure declined as a share of the national total from 9.9 percent in 2007 to 9.2 percent in 2008. The bulk of preventive health expenditure and most inpatient expenditure are funded by the government sector. Most private expenditure is for outpatient primary care service, and purchase of medicines from pharmacies and shops.

2.9 Foreign Aid Utilization

Each year, the Ministry of Health receives foreign aid in the form of money, materials, drugs, medical equipment and technical input. During 2008 the foreign aid component of the health expenditure was Rs. 2,927 million (National). This accounted for 4.26 percent of the health expenditure. There is a marked increase over the previous year. The foreign aid component during 2007 was 3.99 of the total health expenditure.

References

1. Central Bank of Sri Lanka , Annual Report 2008. Sarvodaya Vishva Lekha (Pvt) Ltd
2. Department of National Budget, Budget Estimate 2009.
3. Health Policy Research Associates, Sri Lanka Health Public Expenditure Review, 2009.

2.10 Medical Statistics Unit (MSU)

Medical Statistics Unit has been established in the Ministry of Healthcare and Nutrition around the 1960s.

The vision of this Unit is to provide accurate unbiased, reliable and timely statistics related to the Health Sector in Sri Lanka. These statistics will be used by health planners and many other researchers.

The Medical Statistics Unit collects only government hospital statistics from statistical returns as mentioned below.

1. Maternal Statistics *Monthly*
2. Dental Statistics *Monthly*
3. Indoor Morbidity and Mortality Statistics (IMMR) *Quarterly*
4. Out Patient Statistics (OPD) *Quarterly*
5. Clinic Statistics *Quarterly*
6. Bed Strength *Quarterly & Annually*
7. Statistics on Specialists *Annualy*
8. Staff Statistics *Annualy*

After receiving Statistical returns to the Medical Statistical Unit, statistical staff of the MSU commence data entry, editing and processing data in order to provide statistics for the Annual Health Bulletin. In addition to this task, the MSU is responsible for various activities such as arranging the printing of returns, sending and receiving returns and providing data for various users.

The staff of the MSU consists of a Deputy Director, a Senior Statistician, Statistical Officers, Statistical Assistants and data entry operators provided by the Department of Census & Statistics. The Ministry of Healthcare and Nutrition has provided clerical staff.

The MSU has many challenges. For instance it tries to update its data collection procedures to carter to the needs of the current demands of users jointly with other units of the Ministry of Healthcare and Nutrition.

The MSU is attempting to revise data capturing and processing techniques by using new technology, to minimize delays in process of producing health statistics.

It should be noted that due to the many disturbances prevailing in the Northern and Eastern Provinces during 2008, some hospital returns were not received by the Medical Statistics Unit. Therefore comparisons between 2007 and 2008 should be done with care taking this factor into account.

3. Morbidity and Mortality

Introduction of Mortality

Mortality plays a vital role in determining the size, growth and structure of national populations. It is considered as the most striking demographic event all over the world.

Mortality trends reflect health statistics of any country. Mortality Statistics, are used in areas such as public health administration to identify health sector needs and to evaluate the progress of public health programmes in different areas.

Further more, collecting and analysis of mortality information would help:

(a) To identify levels and trends of mortality

(b) To identify patterns and trends in the causes of death and their impact on mortality

(c) To observe age patterns of mortality

(d) To identify deferentials in mortality between populations

(e) To identify the demographic, social,economic, behavioural and environment factors which influence levels and trends in mortality

(f) To compare mortality levels between different populations.

(g) To measure the strengths and weaknesses of hospitals.

Mortality statistics are mainly collected from vital registration system. However, in some countries if there is no proper vital registration system, mortality data collection will be done through census or surveys.

In Sri Lanka hospital mortality information are collected using the IMMR (Indoor Morbidity and Mortality Return) in each government hospital and processed by the MSU. This system has been collecting morbidity and mortality data since 1985.

Mortality information collected from the vital registration system was established in 1867. It was actually implimented in 1897 to collect all births, deaths and marriages of the Sri Lankan population. The main mortality indicators computed are age-sex specific mortality rates and number of deaths.

Introduction of Morbidity

Morbidity information reflects the disease patterns of the population. Collecting and analysis of morbidity information would help

1. To identify national levels of health and patterns of diseases.

2. To plan or improve the sectors which need high priority.

3. To plan future health programmes.

4. To compare morbidity trends and patterns across countries.

5. To identify social and spatial circumstances and variations of morbidity within countries.

6. To formulate health policies and financing of health services.

The main morbidity indicators computed include incident rates ,prevelence rates, cause specific death rates, cause specific death ratios etc.

In addition, various indicators are computed using both morbidity and mortality information such as cause-specific death rates and leading causes of hospital deaths etc.

3.1 Hospital Morbidity and Mortality

In Sri Lanka, morbidity data is available only for patients seeking treatment as inpatients in government hospitals. Morbidity data of patients attending the outpatient departments of government hospitals, ayurvedic institutions and the private sector are not routinely collected. Other than the limited information collected through surveys, registers are maintained by the special campaigns and programmes for control of diseases such as TB, Cancer and Leprosy and from notifications. The Indoor Morbidity and Mortality Return (IMMR) is on the whole the main source of morbidity data. This return is collected quarterly from all government hospitals except for Central Dispensaries and Maternity Homes and prossesed by the Medical Statistics Unit.

The IMMR used since 1996 is based on the 10th revision of the International Classification of Diseases (ICD).

The final diagnosis recorded in the patients' records is analyzed in order to complete this Return. In the Teaching Hospitals, Provincial and some Base Hospitals, the IMMR is prepared by Medical Record Officers and the Medical Record Assistants. Planning and Programming Officers and Planning and Programming Assistants are also engaged in recording statistics. Registered / Assistant Medical Officers are still utilized to do the compilation of inpatient statistics in the hospitals and these officers are mainly employed to attend to patients care, and so, they perform the statistical activities as an additional duty.

During the year under review, 6.4 percent of the discharges, and 13.9 per cent of the deaths in government hospitals are recorded as undiagnosed or uncoded. This was more pronounced in the large hospitals. This lapse is mainly due to reasons such as incomplete patient records, shortage of statistical staff, lack of supervision at all levels, lack of facilities, patient records retained in wards for a long period and not sent in time to be analysed, etc. It is also attributed to poor commitment and data not being used for the management of the hospitals by those involved.

It should be noted that repeat visits, transfers and multiple admissions of the same patient for the same disease are reflected in the morbidity data as additional cases. Therefore, the morbidity data available in Sri Lanka should be interpreted with caution, considering the above limitations.

3.1.1 Inpatient Morbidity

Detailed Table 16 gives trends in hospital morbidity and mortality by ICD broad disease groups for the period 1995 – 2008.

An **increasing trend** is seen in hospitalization due to the following diseases per 100,000 population compared to the year 2007.

- Certain infections and parasitic diseases (21.8% increase compared to 2007)
- Neoplasms (9.2% increase compared to 2007)
- Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (1.6% increase compared to 2007)
- Diseases of the eye and adnexa (13.4% increase compared to 2007)
- Diseases of the circulatory system (1.3% increase compared to 2007)
- Diseases of the respiratory system (14.4% increase compared to 2007)
- Diseases of musculoskeletal system and connective tissue (4.7% increase compared to 2007)
- Congenital malformations, deformations and chromosomal abnormalities (0.3% increase compared to 2007)
- Injury, poisoning and certain other consequences of external causes (2.7% increase compared to 2007)
- Diseases of the digestive system (0.2% increase compared to 2007)

In spite of the effort taken to improve the quality of the final diagnosis and cause of death given by doctors in the patient record, symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified has increased by 11.9% compared to the year 2007.

Lack of hospital supervision, and delay in writing the final diagnosis on discharge of the patients, have mainly contributed to this situation.

A **decreasing trend** is seen in hospitalization due to the following diseases per 100,000 populations compared to the year 2007.

- Endocrine, nutritional and metabolic diseases (1.7% decrease compared to 2007)
- Mental and behavioral disorders(0.9% decrease compared to 2007)
- Diseases of nervous system (1.1% decrease compared to 2007)
- Diseases of the skin and sub cutaneous tissue (0.7% decrease compared to 2007)
- Diseases of Genitourinary system (3.9% decrease compared to 2007)
- Pregnancy, childbirth and the puerperium (4.5% decrease compared to 2007)

According to the Detailed Table 16, highest number of deaths per 100,000 population has been reported due to diseases of the circulatory system which was 59 followed by deaths due to diseases of the respiratory system (25), neoplasm's (17) and injury, poisoning and certain other consequences of external causes (14.8) per 100,000 population.

Detailed Table 17 shows the trends for important diseases. Increase is shown in hospitalization per 100,000 population due to following diseases compared to (compared to) 2007

- Septicemia (16.7% increase compared to 2007)
- Nutritional Deficiencies (9.7% increase compared to 2007)
- Anaemias (3.6% increase compared to 2007)
- Asthma (8.6% increase compared to 2007)
- Abortions (1.3% increase compared to 2007)

3.1.1.1 Leading Causes of Hospitalization

Detailed Table 18 gives the leading causes of hospitalization of the country and Detailed Table 22 indicates the district profile of the same.

Detailed Table 20 presents trends in leading causes of hospitalization during the period 1995-2008. There is no change in the ten leading causes of hospitalization for 2008, compared with 2007, except for the change in the rank position of a few diseases.

Traumatic injuries ranked as the first leding cause while diseases of the respiratory system ranked as the second. Symptoms, signs and abnormal clinical and laboratory findings has become the third leading cause in the last 5 years. Hospitalization due to viral diseases have remained as the fourth leading cause in 2008, like in 2007. But it was the fifth leading cause in 2005.

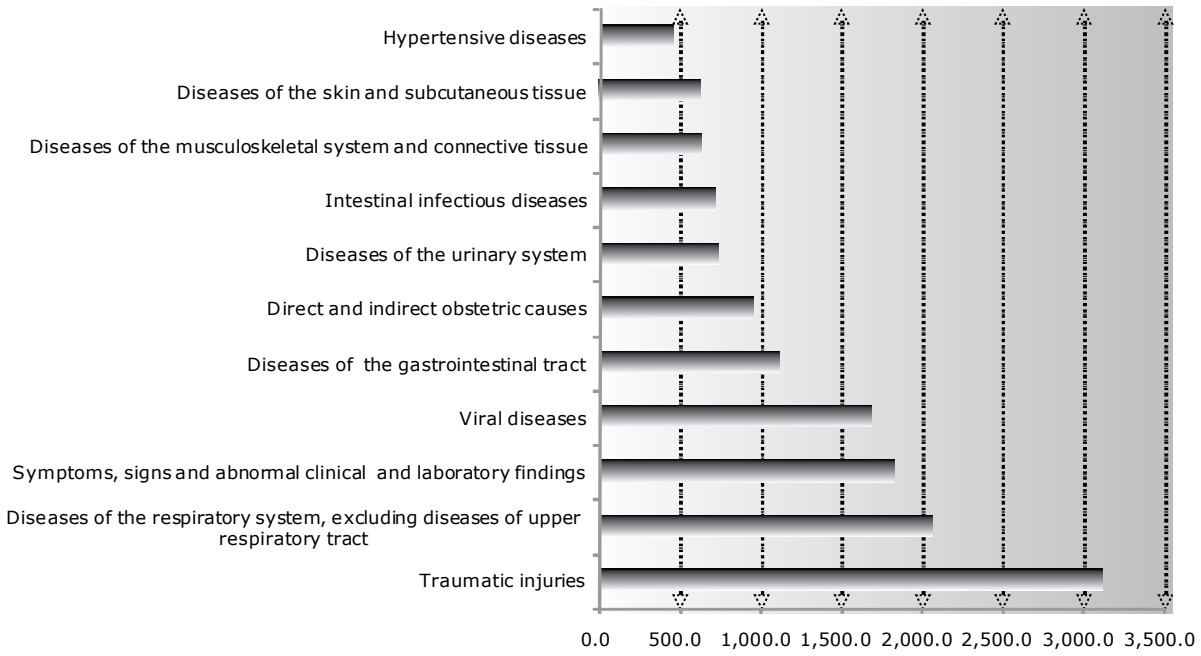
During 2008, diseases of the gastrointestinal tract remained as the fifth leading cause of hospitalization as in 2007. It was one of the major causes of hospitalization in many districts. (Information on leading cause of hospitalization by district is given in Detailed Table 22). Intestinal infectious diseases are still an important cause of hospitalization. It ranked as the eight leading cause of hospitalization and accounted for 3.7 per cent of the analyzed discharges in 2008.

According to the Detailed Table 22, traumatic injuries have remained the leading cause of hospitalization.Traumatic injuries is the main leading cause of hospitalization in all the districts except Batticaloa, Ampara and Kegalle districts in 2008.

Diseases of the respiratory system and symptoms, signs and abnormal clinical and laboratory findings are ranked as second or third for most of the districts in 2008. In 2008 Symptoms, signs and abnormal clinical and laboratory findings was the third major cause of hospitalization in most districts. As this does not indicates proper cause, all hospitals should take necessary actions to minimize this factor in order to improve hospital statistics.

During 2008, Poisoning and toxic effects excluding toxic effects of pesticides, snake bites, mental and behavioral disorders and other

Fig 3.1 - Leading Couses of Hospitalization 2008
Rate per 100,000 Population



Source: Medical Statistics Unit

diseases of the circulatory system have not ranked within the first ten leading causes in all districts except in Mullativu in which poisoning and toxic effcts is in the eight position.

Hypertensive diseases, and diseases of the upper respiratory tract ranked within the first ten leading causes of hospitalization in a few districts.The Colombo and Nuwara Eliya districts show a higher rank than others in this aspect.

3.1.2 Outpatient Morbidity

Data on outpatient attendance analysed by diseases are not collected routinely by Government Hospitals. Out-patient morbidity data obtained from surveys carried out in the past compared with inpatient morbidity data, indicates that there is not much of a difference.

3.1.3 Hospital Mortality

It is estimated that only 30-40 per cent of registered deaths occur in government hospitals. This proportion is higher for deaths related to puerperal causes, heart diseases, respiratory diseases, etc. The leading causes of hospital mortality in the country, the trends and the districts are given in Detailed Tables 19, 21 and 23 respectively.

According to Detailed Table 19 in 2008, Ischaemic heart diseases, Pulmonary heart disease and diseases of the pulmonary circulation, Neoplasms and Cerebrovascular diseases, ranked as the first few leading causes of hospital deaths. These diseases accounted for about 41 per cent of analyzed deaths. Additionally, these diseases together with the diseases of the respiratory system have become the ten leading causes for all districts.

Diseases of the ischemic heart have ranked as the first leading cause of death since 1995. Neoplasms ranked as the third leading cause of death in 2008.

A higher death rate associated with neoplasm in Kandy and Galle districts is a result of cancer patients being transferred to the Teaching Hospitals in Kandy and Karapitiya where advance facilities for the treatment of neoplasms is available.

Pesticide poisoning has remained as the fifth or the sixth leading cause of death during the period 1993-1998 and as the seventh leading cause of death until 2002. According to 2008 data, this cause ranked in the 12th position.

Pesticide poisoning was among the five leading cause of deaths in some Districts. (eg:Mullativu and Anuradhapura)

Conditions originating in the perinatal period (excluding disorders related to short gestation, low birth weight, slow fetal growth and fetal malnutrition) is ranked as the 8th leading cause of mortality in some districts. (eg: Matara, Hambantota, Matale and Vavuniya)

3.2 Mortality (Registered Deaths)

Registration of births and deaths was made compulsory in 1897. In Sri Lanka 80 percent of Registrars who register deaths, are Non-Medical Registrars. The cause of death given by the Non-Medical Registrars may not be as accurate as desired. This is evident by the large number ascribed to symptoms, signs and ill-defined conditions. What is disturbing is the relatively large number of such causes of death among the urban deaths, which are predominantly medically confirmed or at least medically examined.

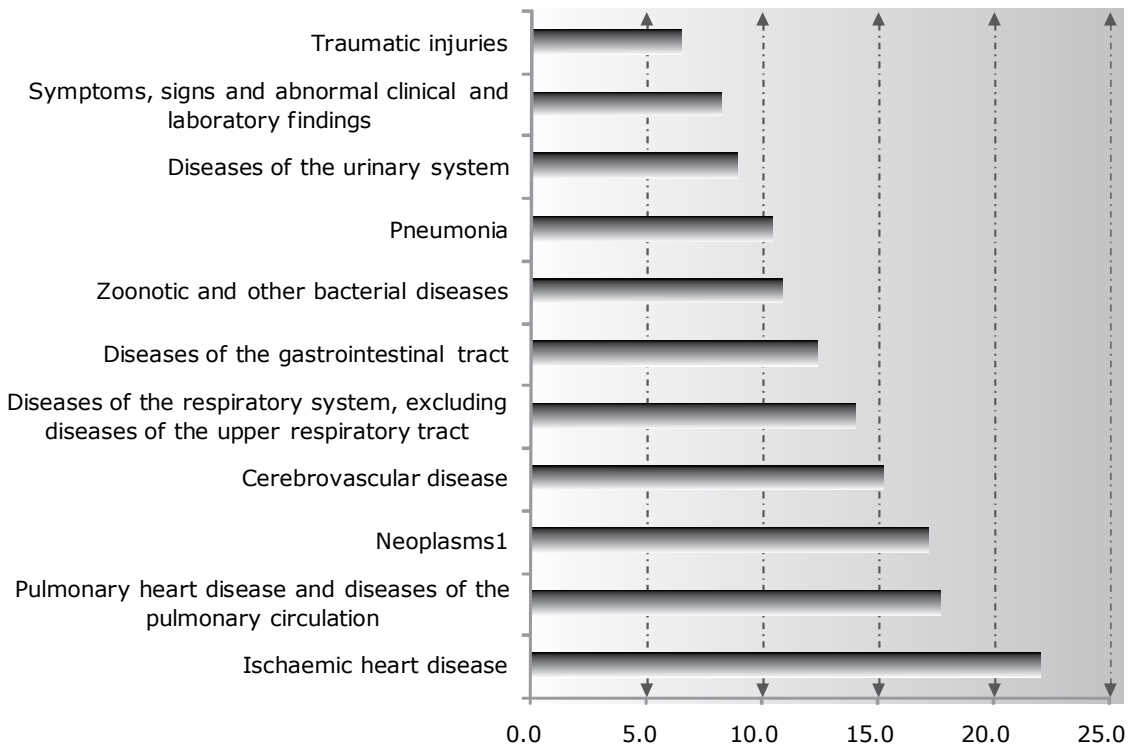
3.2.1 Trends in Mortality

The mortality pattern in Sri Lanka is in a transitional stage. It appears to be changing from a pattern seen in developing countries to a pattern in developed countries. The trends in mortality indicate a decrease in deaths resulting from infectious and parasitic diseases, whereas a substantial increase in the death rates associated with diseases of the circulatory system and injury and poisoning is evident.

3.2.2 Case Fertility Rate

Accrding to 2008 hospital statistics, septicaemia case fatality rate reported the higest rate of 37.9 in Detailed Table 26. The next highest case fatality rate was due to disease of the liver, with a case fatality rate of 12.1.

Fig 3.2 - Leading Couses of Hospital Deaths 2008
Rate per 100,000 Population



Source: Medical Statistics Unit

4. Patient Care Services

4.1. Hospital Services

In Sri Lanka patient care services are provided to patient under two categories namely inpatient care and out-patient care. During the past five years the government curative care institutions have been providing annually, services to around 4 million inpatients, 45 million out-patients and about 18 million patients attending various clinics. The hierarchy of institutions providing patient care services is given in chapter 2, section 2.3.

Between 2000 to 2008 inpatient admissions showed slight incrase over the period and it is close to 5 million in 2008, while outpatient visits increased by 5% in year 2008 when comparing with 2007 (Table 4.1).

According to Detailed Table 27, in 2008, the Polonnaruwa district recorded the highest inpatients per 1000 population.

There were twelve districts which recorded higher rates than the national figure of 242 inpatients per 1,000 population for the year 2008 (Detailed Table 27).

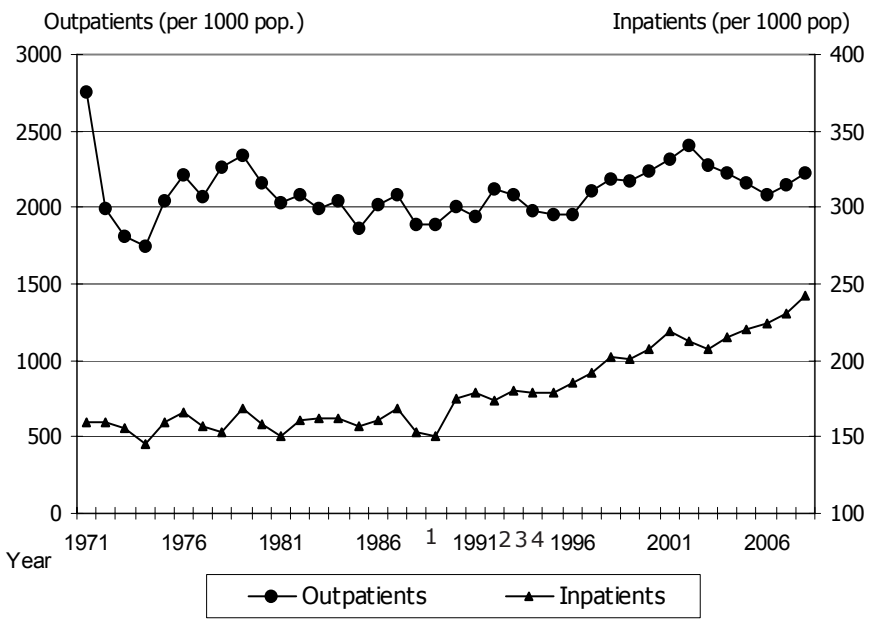
Table 4.1 : Trends in Inpatient and Outpatient Attendance and Rates Per 1,000 Population, 1975 -2008

Year	Inpatients Treated		Outpatient Attendance [1]	
	Number '000	Rate	Number '000	Rate
1975	2,146	159.0	27,654	2,049.1
1980	2,335	158.3	31,892	2,162.6
1985	2,494	157.4	29,570	1,867.1
1990 [2]	2,533	174.6	28,401	2,000.5
1995 [3]	2,953	179.3	32,084	1,947.7
1996 [4]	3,339	184.5	35,348	1,953.2
1997 [5]	3,454	191.7	38,078	2,114.0
1998	3,791	201.9	41,071	2,187.7
1999	3,825	200.9	41,323	2,170.1
2000	4,015	207.4	43,329	2,238.2
2001	4,092	218.6	43,350	2,315.6
2002	4,032	212.7	45,681	2,409.9
2003	3,993	207.4	43,765	2,273.3
2004	4,242	218.0	43,392	2,229.6
2005	4,345	220.9	42,482	2,160.0
2006	4,463	224.4	41,429	2,083.3
2007	4,609	230.3	43,073	2,152.6
2008	4,898	242.3	45,381	2,219.2

Excludes: *Source: Medical Statistics Unit.*

[1] Clinic Attendance
[2] Northern and Eastern Provinces
[3] Jaffna, Kilinochchi, Mullaitivu and Ampara Districts
[4] Kilinochchi and Mullaitivu Districts
[5] Ampara District

Fig 4.1 - Inpatient and Outpatient attendance in Government Medical Institutions, 1971 - 2008



Source : Medical Statistics Unit

Excludes :
1 : Northern & Eastern Province
2 : Jaffna, Kilinochchi, Mullaitivu & Ampara districts
3 : Kilinochchi and Mullativu Districs
4 : Ampara District

Highest outpatient attendence per 1000 population is observed in Mannar district in 2008 followed by the Moneragala district. Districts of Trincomalee, Hambantota, Kandy and Matale also recorded a high number of outpatient attendance per 1000 population which was more than 2,500 (Detailed Table 28). Killinochchi district shows the least out-patient attendance per 1000 population and this may be due to the civil disturbances in these areas during that period, and may be due to incomplete receipt of returns from that district.

It is apparent that the outpatient attendance is low in "Other Hospitals" such as cancer, leprosy, mental etc. The highest attendance can be seen in District Hospitals followed by Central Dispensaries (Detailed Table 30).

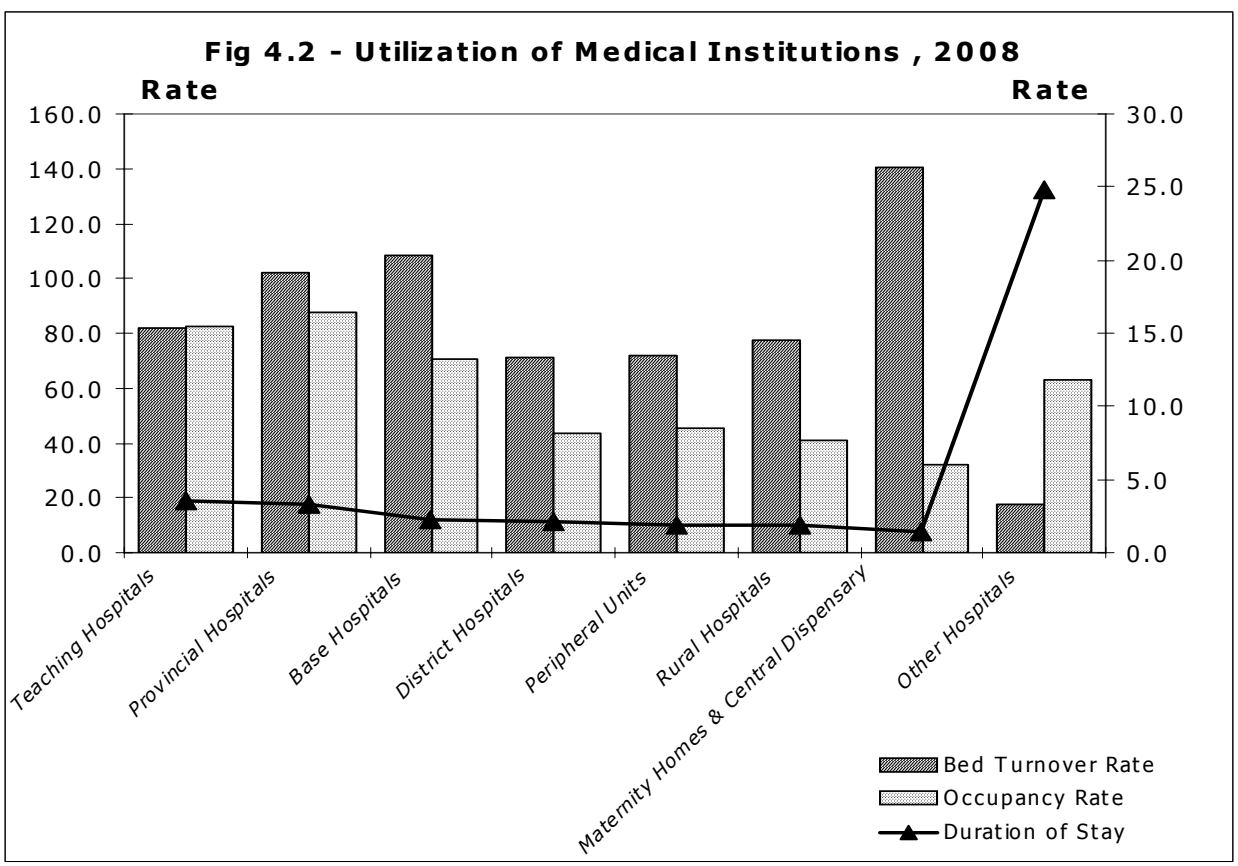
Information on clinics visits in 2008 shows an increasing trend compared to previous years and visits are higher in Teaching Hospitals (Detailed Table 31 and 32).

In Sri Lanka a referral system is not enforced. Hence, patients bypass small medical institutions, particularly those in the rural areas that have only minimal facilities for patient care. This leads to under-utilization of small institutions and overcrowding in the bigger institutions.

The average duration of stay varies with the type of hospital and accordingly, average duration of stay is higher in Teaching, Provincial and Base Hospitals than District Hospitals, Peripheral Units, Rural Hospitals and Centrel Dispensaries and Maternity Homes (Detailed Table 33). It is significantly longer in the specialized hospitals such as Mental, Chest, Cancer, Leprosy, Eye and Rehabilitation. However, the long-term trend shows a decline in the duration of stay in all types of hospitals except the Mental and the Leprosy hospitals (Detailed Table 34).

As shown in Detailed Table 33, Teaching Hospitals, Provincial Hospitals and Base Hospitals have a higher bed occupancy rates (83, 87, 71) while District Hospitals, Peripheral Units and Rural Hospitals have comparatively a low figure (43, 45, 40).

Fig 4.2 - Utilization of Medical Institutions , 2008



Source : Medical Statistics Unit

In 2008, bed occupancy rates are higher in all teaching hospitals. Teaching hospitals in Galle and Kurunegala districts indicate bed occupancy rates close to 100%. Though all provincial hospitals indicate a fairly high bed occupancy rates, all are less than 100%. When base hospitals are considered, Galle and Vavunia districts show higher bed occupancy rates more than 100% (Detailed Table 33).

District hospitals of Matale has a fairly high Bed Occupancy Rate (63%) when compare with other District Hospitals. Among the Rural Hospitals, Gampaha and Mullativu Districts show higher bed occupancies, but below 100%. When Maternity Homes and Central Dispensaries are considered, Baticaloa district shows a higher bed occupancy (Detailed Table 33).

As previous years, in 2008, specialized hospitals are the most overcrowded institutions in Sri Lanka. Among these hospitals, Cancer Hospital is the most overcrowded hospital with a bed occupancy rate of 113.0, followed by Mental Hospital (101.7) and Leprosy hospital (92.9).

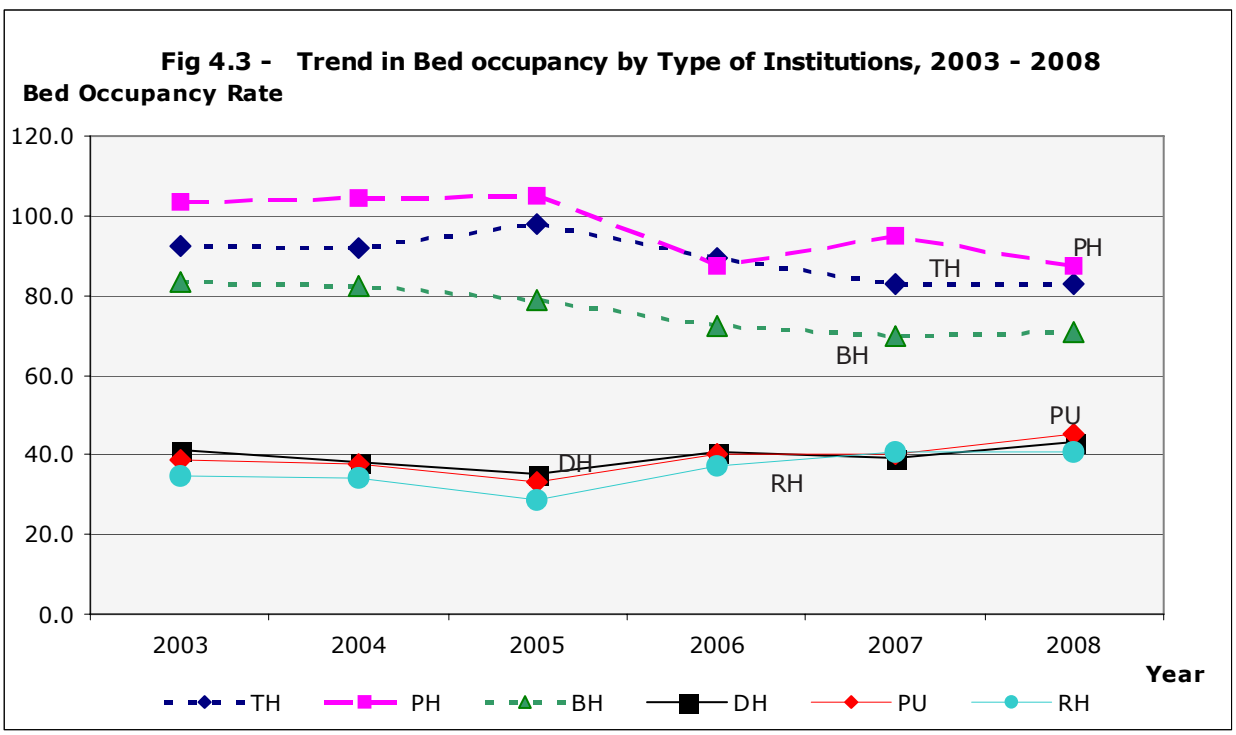
According to the Detailed Table 33, it is also noteworthy that utilization of hospitals varies from district to district, irrespective of the type of hospitals.

Also, it could be observed that in some instances Bed Occupancy Rates are higher in District hospitals and Peripheral units when there are no higher order hospitals in the districts (Detailed Table 33). According to the Figure 4.3, it is clearly shown that the overall bed occupancy shows a decreasing trend in Teacing Hospitals . In District , Peripharal and Rual Hospitals, apperent increasing trend is observed in bed occupancy with almost same values.

Table 4.2 illustrates the maternal services provided by type of hospital. When compared with 2007, in 2008 a decrease in total number of delevaries occured in all government institutions is observed. Significant difference can not be seen in number of deliveries in 2008 for Teaching Hospitals comparing 2007. It is evident that the Teaching Hospitals and the four Maternity Hospitals accounted nearly 34 per cent of the deliveries.

Because of changing the type of institutions, a decrease in the number of deliveries is observed in Provincial Hospitals and Base Hospitals when compared with 2007. But when the delevaries in Provincial Hospitals, General Hospitals and Base Hospitlals are considered together, slight increase in number of delivaries can be seen in 2008 (Table 4.2).

Fig 4.3 - Trend in Bed occupancy by Type of Institutions, 2003 - 2008



Source : Medical Statistics Unit

Table 4.2 : Maternal Services By Type of Hospital, 2008

Type of Institution	Method of Deliveries			Total Deliveries		Outcome of Delivery		
	Single	Twin	Other			Normal	Forceps	Caesarean
Teaching Hospitals	117,299	1,141	44	118,484	(33.6%)	78,749	1,788	37,947
Provincial Hospitals	36,285	382	5	36,672	(10.4%)	25,152	99	11,421
General Hospitals	73,463	745	7	74,215	(21.0%)	54,794	571	18,850
Base Hospitals	83,944	593	2	84,539	(23.9%)	61,993	470	22,076
District Hospitals	25,210	56	-	25,266	(7.2%)	25,057	50	159
Peripheral Units	5,304	10	-	5,314	(1.5%)	5,285	17	12
Rural Hospitals	6,228	19	-	6,247	(2.8%)	6,116	7	124
Maternity Homes	1,635	7	-	1,642	(0.5%)	1,642	-	-
Cenrel Dispensary	120	-	-	120	(0.0%)	120	-	-
Sri Lanka	349,488	2,953	58	352,499	(100%)	258,908	3,002	90,589

Source: Medical Statistics Unit

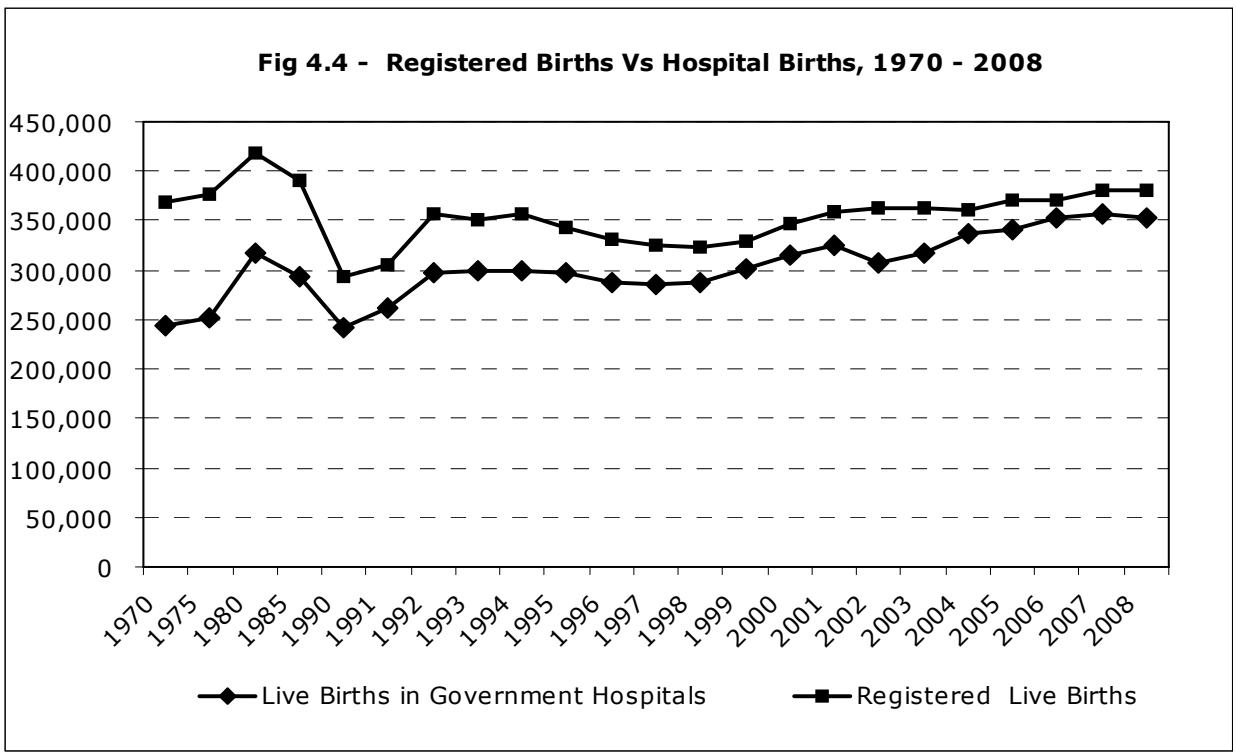
The caesarean section rate was highest in the Teaching Hospitals and Provincial Hospitals also had a value close to the rate in Teaching Hospitals in the year 2008. As in previous years, Sri Jayawardenapura Teaching Hospital recorded a comparatively higher caesarean section rate of 51 per 100 deliveries. Over all, the caesarean section rate has increased in all types of institutions. (Processed from maternal returns,2008)

Forceps deliveries are higher in Teaching Hospitals as in prevoius years and significant numbers can be seen in the General and Base Hospitals. Caesarean section deliveries or forceps deliveries did not take place in Central Dispensaries and Maternity Homes in 2008 (Table 4.2).

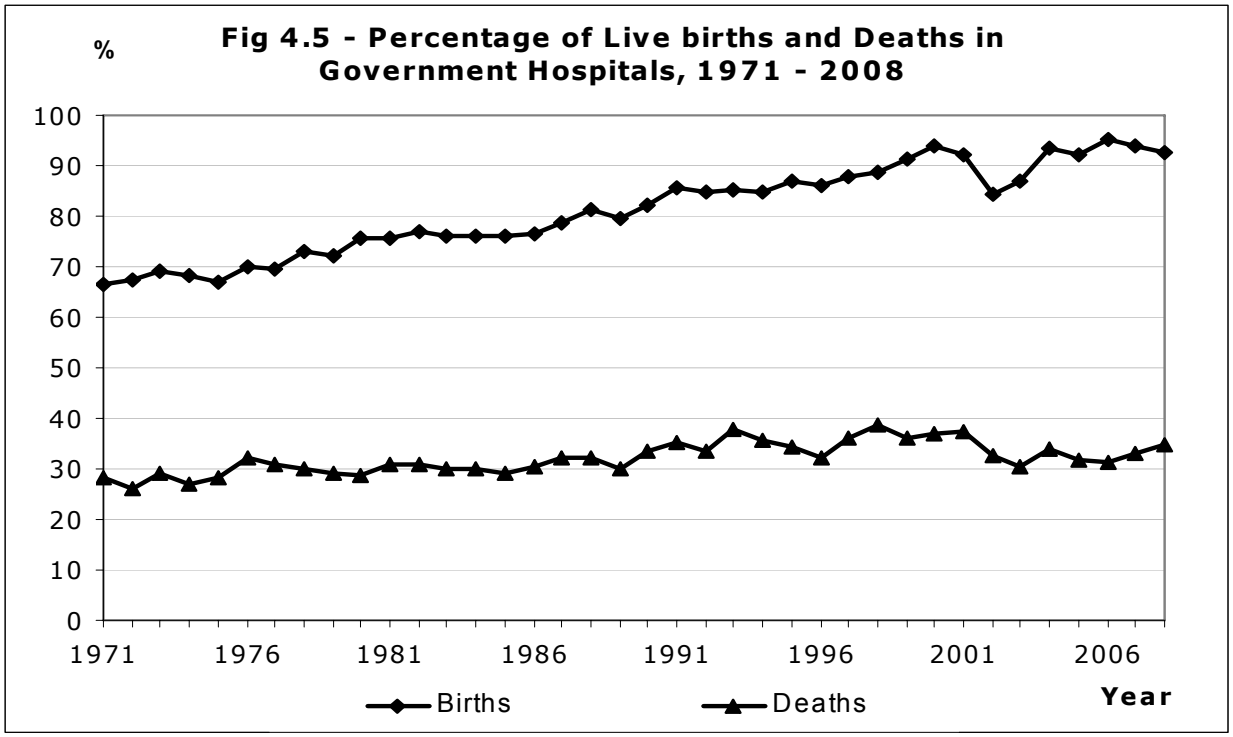
During 2008, a total of 352,523 live births and 3,046 still births took place in government hospitals (Detailed Table 36).

Even though upto 2007 the (population of) births occurring in government hospitals was increasing, from 2007 to 2008 it has decreased. The registered births also show the same pattern for the year 2008. According to the government hospital information, 93% of the live births occured in the government hospitals in 2008 (Detailed Table 35). Fig 4.4 shows the trends in registered live births in the Registrar General's Department vs live births occured in government hosptals.

Fig 4.4 - Registered Births Vs Hospital Births, 1970 - 2008



Source : Registrar General's Department and Medical Statistics Unit



Source : Medical Statistics Unit

Excludes :

1 : Northern & Eastern Province
2 : Jaffna, Kilinochchi, Mullaitivu & Ampara Districts
3 : Kilinochchi and Mullativu Districs
4 : Ampara District

The still birth rate per 1,000 births in government hospitals for 2008 is 8.8 and it is the same as the rate in 2007. (Detailed Table 36).

A slight increase in Low Birth Weight Rate of 17.6 is observed in government hospitals in 2008 when compared to 2007 when it was 17.3.

Fig 4.5 shows the trends in live births and deaths in government hospitals. It is noted that in the live births or deaths distribution, still births were not included.

According to the trend of live births, it is clearly shown that overall, the percentage distribution of live births occuring in government hospitals has an increasing trend from the past. In 2001, a slight decreasing trend in the distribution was observed and in 2002, a further decrease was observed. From 2003 the percentage distribution began to increase untill 2007 and a slight decrease has been observed in 2008.

The percentage distribution of deaths occuring in the government hospitals does not show an apparent increase or decrease in trend. It was around 30% in the past and in 2008, the percentage distribution of deaths occuring in government hospitals is 35% of registered deaths. At a glance of the graph, fluctuations could be observed in the trend line but these fluctuations are not highly significant.

4.2 Dental Health Services

Dental Health services are provided by the government sector as well as the private sector. But the government sector is the predominant player in the provision of care both in urban and rural areas as it handles 60- 65 % of the service provision. The majority of the doctors that provide service in the private sector are doing this part time while working in the government sector. Nearly 2% of the service is provided by universities, security forces and non-governmental organizations. The service provided by the security forces are almost entirely for their personnel.

The Oral Health Services in the public sector provided by the government consists of two components:

1. Curative care services-mainly provided through clinics located in Government Hospitals of different categories such as peripheral units, district hospitals, base hospitals, provincial hospitals and Teaching Hospitals.

2. Preventive care services-mainly provided through
   - School Dental Clinics
   - Adolescent Dental clinics
   - Community Dental Clinics

The oral health care for school children is provided by the School Dental Therapists (SDT) in School Dental Clinics (SDC) and Dental Surgeons working in the Adolescent Dental clinics (ADC) with a discernible preventive component.

The School Dental Clinics are located in the school premises providing oral health care to children between 3-13 years. During the year 2008, there were 379 School Dental Clinics serviced by 360 SDTs. The 62 ADCs were manned by Dental Surgeons catering to children above 13 years of age and the complicated cases referred by SDTs. Community Dental Clinics are located in highly populated metropolitan areas and the Dental Surgeons working in these clinics concentrate on providing preventive care for all age groups in the population.

The administration of the entire oral health care delivery system by the Ministry of Health of Sri Lanka was brought under the authority of the Deputy Director General of Dental Services (DDG/ DS) which was created in the year 2002 thus upgrading then existing post of Director Dental Services.

No new dental graduates were recruited during the year 2008 and at the end of the year 2008, a total of 1030 Dental Surgeons worked in the public sector.

4.2.1 Specialist Services

There are four main specialties in the oral health care service: Oral and Maxillo-facial Surgery (OMF), Orthodontics, Community Dentistry and Restorative Dentistry. In the year 2008, there were 40 Dental specialists belonging to these four specialties serving under the Ministry of Health. They were attached to Teaching, General and some Base Hospitals and were distributed as follows:

Table 4.3 : Distribution of dental specialists by specialty

Specialty	Number
Oral & Maxiilo-facial Surgery	24
Orthodontics	9
Community Dentistry	2
Restorative Dentistry	5
Total	**40**

Source : DDG (DS) Offfice

The Dental Institute, Colombo and Maharagama, and the Dental Hospital (Teaching) Peradeniya are the premier institutions for oral health care in Sri Lanka. Both out-patient and in-patient treatment are provided by these institutions except at the Dental Institute Maharagama.

4.2.2 Mobile Dental Services

In addition to different types of dental clinics located in hospitals, mobile oral health programmes cover the entire island. The Mobile Dental Unit at the Dental Institute, Colombo is deployed to any destination of the country on request. During the year 2008, the unit has conducted more than 100 mobile dental clinics and provided dental care for about 20,000 individuals from different age groups.

Treatment modalities carried out were deciduous and permanent extractions, fillings, scaling and oral hygiene instructions.

Moreover, several other health regions have their own mobile units catering to target groups such as school children, adolescents, ante natal mothers, adult groups (particularly in work places). In addition some programmes are being carried out to attend to underserved communities such as institutionalized elderly, differently abled people, children with special needs, and internally displaced people.

4.2.2.1 Special Projects

During the year 2008, dental instruments worth Rs.38 million were distributed to healthcare institutions island wide in view to improve the patient care services.

4.2.2.2 Oral Disease Trends

Ministry of Health in collaboration with the World Health Organization has conducted three National Oral Health Surveys including the present survey in 1983/84, 1994/95 and 2002/ 2003. These surveys indicate overall declining trend in prevalence and severity of dental caries yet marking a substantial problem among all age groups.

It is very important to note the DMFT of 12 year olds which have gone below 1.

Similarly, subsequent surveys revealed an improvement in periodontal health among children and adults. However, still a considerable percentage of population is affected by some form of periodontal disease.

Perceived awareness about presence of oral disease

In overall perceived awareness on presence of oral diseases was low among all age groups except among the adults: 74.09% of 5-year-olds, 79.44% of 12 year-olds, 73.91% of 15-year-olds, 44.39% of adults and 71.15% of elderly were unaware of presence of any oral disease.

4.2.2.3 Oral Health Related Behaviours

Use of fluoridated tooth paste and toothbrush was high among all age groups except among elderly: 73.93%, 76.64% and 79.81% of children aged 5, 12 and 15 years respectively reported to be using tooth brush and fluoride tooth paste. This percentage was 71.52% among adults but only 30.82% among elderly. Moreover, the highest prevalence of betel chewing was reported (49.15%) among elderly.

Table 4.4 : Prevalence and Severity of Dental Caries by National Oral Health surveys

Age group	Prevalence & severity	1983/84	1994/95	2002/2003
6 yrs	Prevalence (%)	78	76.4	65.5 (5-yrs)
	DMFT *	4.4	4.1	3.6 (5-yrs)
12 yrs	Prevalence (%)	67	53.1	40.0
	DMFT *	1.9	1.4	0.9
35 - 44 yrs	Prevalence (%)	92	91.1	91.5
	DMFT *	9.2	10.1	8.4

** Decade, Missing, Filled Teeth*

Table 4.5 : Prevalence of Healthy Gums in 12 and 35-44 Year-Olds

Age group	1983/84 (%)	1994/95 (%)	2002/2003 (%)
12 years	12	13.3	27.2
35 - 44 years	65	2.1	10.1

Teeth present, Tooth loss and Prosthetic Treatment Need

- The mean number of deciduous teeth present among 5-year-old children was 19.5.
- The mean number of permanent teeth present among 12-year-olds and it was 24.96, 27.80 among 15 year-olds. Among adults and elderly the mean number of teeth present was 26.36 and 12.15 respectively.
- Prevalence of edentulousness was very low: 0.10% among adults. However, this percentage was 21.8 among elderly.

Table 4.6 : Percentage of Children 5 years with Caries, Active Caries and Treat Caries

Age	No	Percentage		
		with Caries	Active Caries	Treat Caries
05 decid.	1995	65.31	63.51	1.8
05 perm.	1995	2.21	1.95	0.26
12	1999	39.17	34.32	4.85

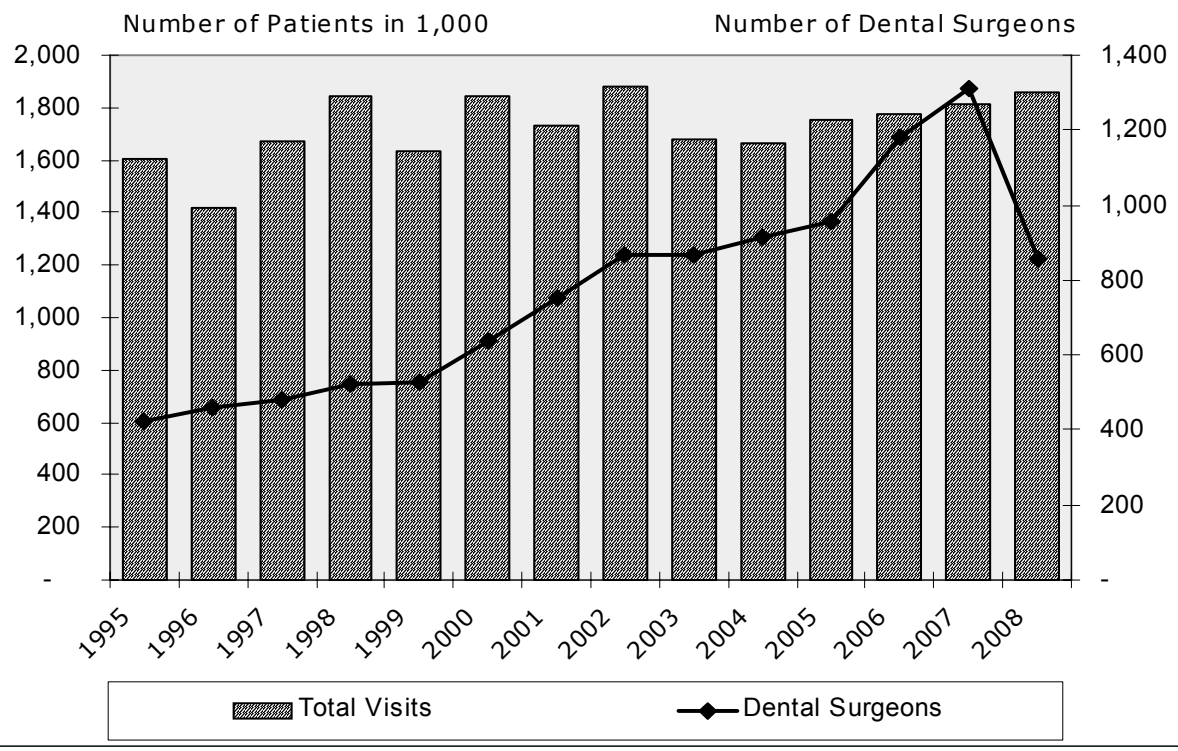
These data from National Oral Health Survey 2002/2003 reveals that treatment alone cannot reduce the disease burden as shown above in the table. It shows that only 1.8, 0.26, and 4.85% of caries have been treated. Hence the Ministry of Health has decided to launch a new profile for oral health care service delivery system using a strategic plan based on three major components which lean toward more in the prevention of common oral disease. It will be implemented from year 2008 based on a 10 year plan.

School Dental Programme

In addition to above activities MCH programme carried out activities to strengthen the school dental service.

1. Development and implementation of an MIS in the school dental service. 366 (95%) school dental therapists were trained under this programme
2. Development of indicators for monitoring and evaluation of the programme.
3. Development and printing of MIS formats.
4. Hands on training of ART (Atraumatic restorative treatment) for dental therapists.
5. Distribution of tooth brushing demonstration models.
6. Production and of Oral Health wall chart

Fig 4.5 - OPD, Dental Patients and Number of Dental Surgeons, 1995 - 2008



Source : Medical Statistics Unit

Note :
All PGIM trainees were included in Dental Surgens category in 2007 based on 2006 estimates which was not correct. In 2008, this was revised by including PGIM trainees in Medical Officers category. Therefore the Total Dental Surgeons category has reduced in 2008.

5. Public Health Services

The main functions of the Public Health Services are promotion of health and prevention of diseases. Health Units headed by Medical Officers of Health (MOH) carry out these services in Sri Lanka.

Supervisory Public Health Inspectors, Public Health Inspectors, Public Health Nursing Sisters, Supervisory Public Health Midwives and Public Health Midwives assist the Medical Offices of Health.

The Public Health Midwife (PHM) / Family Health Worker is the health worker for family health care at the grass-roots level and provides domiciliary services, mainly to mothers and infants and maintains the link between the clinic and the community. The Public Health Nursing Sisters and the Supervisory Public Health Midwives supervise the work of the PHMs and also see to the care of the pre school and school children. The Public Health Inspectors are primarily responsible for environmental sanitation, food sanitation, school health work and the control of communicable diseases.

The programme for preventive work provides for the control of communicable diseases, sanitation, school health work, epidemiological surveillance, family health, health education and the enforcement of the Food Act. These services are delivered to the community through both, the general Community Health Services, as well as through the Specialized Services executed by separate agencies in liaison with the MOH.

Following the devolution of power, the local staff involved in the control of certain special diseases like malaria and filariasis come under the direct administration of the MOH/DDHS, while those involved in the control of diseases like rabies, tuberculosis, sexually transmitted diseases and leprosy, come under the Provincial Directors of Health Services. The Directorate of the special control programmes at the central level, functions mainly in an advisory and supportive capacity.

National Dengue Control Unit

The National Dengue Control Unit was established in 2005 as a decision taken by the Ministry of Health following the major Dengue Fever/Dengue Hemorrhagic Fever (DF/DHF) outbreak which occurred in 2004 (Developing a sustainable effective dengue control program). It is responsible at central level for the coordination of control and preventive activities related to dengue between different stakeholders.

Main goal of the National Dengue Control Unit is the prevention and control of DF/DHF in the country. To achieve this goal the following specific objectives were identified; they are enhancing disease surveillance, implementation of integrated vector management, proper case management, inter-sectoral coordination and social mobilization, outbreak response and research.

The National Dengue Control Unit coordinates with the Epidemiology Unit, Regional Epidemiologists and Medical Officers of Health in carrying out dengue fever surveillance activities in the country and gives the necessary guidance in conducting control activities as early as possible. Vector management activities are done by the Anti-Malaria campaign and Anti-Filaria campaign at the central level and Regional Malaria and Filaria Officers, Entomologists and their teams at district level, are assisting dengue vector control activities in addition to malaria and filarial control activates in the district.

The National Dengue Control Unit with the Epidemiological Unit coordinate with donor agencies, such as World Health Organization, in conducting preventive and control activities in the country including training of curative health care staff on proper management of DF/DHF cases. Furthermore, the National Dengue Control Unit facilitates the district and divisional health authorities to conduct various awareness programs for control and prevention of DF/DHF as well as to promote health seeking behavior in the community.

5.1 Community Health Services

5.1.1 Family Health Services

The Family Health Bureau (FHB) is the central organization responsible for the planning coordination, direction, monitoring and evaluation of the Family Health Programme in the country.

Family Health covers a wide spectrum of services comprising of:

1. Maternal and newborn health
2. Infant and child health
3. School and adolescent health
4. Family planning.
5. Women's health

5.1.1.1 Roles and responsibilities of the FHB

- Advocate on issues relevant to Maternal and Child Health
- Provide guidance and technical expertise to the Ministry of Health and other relevant ministries for the formulation/revision of policies related to Maternal and Child Health (MCH)
- Develop strategies based on national policies
- Formulate national medium-term and annual plans for MCH and facilitate the development of provincial/district plans relevant to Maternal and Child Health (MCH)
- Identify, pilot test and integrate best practices on MCH into the national health system
- Establish and maintain partnership networks within and between government ministries, private organizations, development partners and NGOs
- Direct, guide, coordinate and support the peripheral managers to implement national programmes
- Build capacities of relevant staff at pre-service, in-service and post-graduate levels on MCH.
- Manage logistic requirements related to the MCH/FP service delivery
- Advocate for Mobilisation of funds from the Government of Sri Lanka(GoSL) and other national and international sources
- Ensure the restoration and functioning of MCH services in emergency and special situations
- Maintain surveillance systems relevant to MCH
- Monitor and evaluate MCH/FP programmes at central level
- Identify the areas that need investigation and conduct operational research

In performing these roles, it works in close collaboration with the Epidemiological Unit, Health Education Bureau, Provincial health authorities, Development partners and other related organizations.

5.1.1.2 Performance of Maternal and Child Health activities in 2008

A summary of MCH activities performed by the public health staff in the periphery during 2008 is given in Table 5.1.1. These data are reported by all Medical Officers of Health through their Maternal and Child Health return, H509, quarterly.

It is interesting to note that early registration of pregnant mothers has been improved over the years, registering almost 90 percent of mothers by 12 weeks of pregnancy. The antenatal screening for syphilis and blood group testing has also shown an improvement. The coverage of rubella immunization before pregnancy has been increased to 93 percent.

5.1.1.3 Performance in Family Planning (FP) - 2008

A total of 248,897 and 267,133 new acceptors have been recruited through the national family planning programme during 2007 and 2008 respectively. This includes those clients recruited by non-governmental organizations as well. The number of new acceptors of FP in the last two years has shown a significant increase.

Table 5.1.1 : Important MCH Indicators Reported by MOOH, 2008

Indicator	2008	
	Number	%
Pregnant Mothers(PMs) Registered by PHMs	397,527	95.1
Pregnant Mothers Registered at		
< 8 weeks	244,078	61.4
8 - 12 weeks	113,261	28.5
Teenage pregnant mothers (of all registered PMs)	26,751	6.7
Pregnant mothers protected with Rubella	370,816	93.3
Pregnant mothers tested for VDRL (at the time of delivery)	307,213	93.9
Pregnant mothers blood group tested (at the time of delivery)	325,565	95.5
Post natal care by Public Health Midwife (PHM) at least one visit during 1st 10 days (of the estimated deliveries)	296,577	78.0
Infants Registered by PHMs	350,665	92.0
Infant Deaths Reported by PHMs	3,506	91.0
Infants receiving care at clinics At least once (first visits)	349,478	92.0
Pre school children receiving clinic care At least once (first visits)	283,585	75.0
Infants underweight (<-2Standard Deviation)	24,380	9.2
Preschoolers with underweight (<-2Standard Deviation)	72,700 (1-2 years)	28.0
	349,720 (2-5 years)	27.0

Source : Family Health Bureau

Table 5.1.2 : Family Planning New Acceptors by Method 2002 -2008

Method	2002	2003	2004	2005	2006	2007	2008
Permanent methods							
Vasectomy	120	116	97	99	78	115	129
Tubectomy	14,949	10,940	10,879	10,228	11,535	15,119	23,351
Temporary methods							
IUD	39,385	38,608	34,785	39,109	41,018	55,941	58,770
Contraceptive							
Oral Contraceptive pills	49,972	44,961	44,094	46,688	47,403	54,725	53,594
Injectables	145,202	127,380	119,714	123,101	121,544	120,679	120,004
Implant	1,476	1,673	1,985	1,791	777	2,318	11,285
Total	251,104	223,678	211,554	221,016	222,355	248,897	267,133

Source: Family Health Bureau

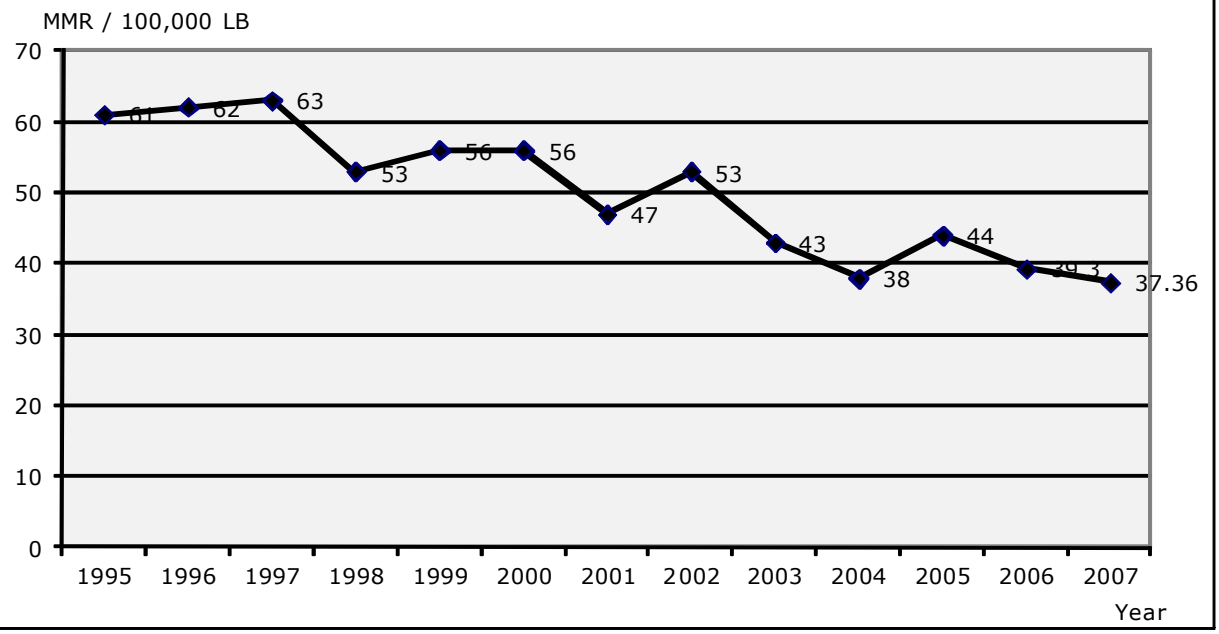
5.1.1.4 Maternal Mortality Statistics, 2007

Maternal deaths occurring all over the country are notified to the Family Health Bureau and at all maternal deaths are annually reviewed and discussed in detail at the Maternal Mortality Reviews conducted by the Family Health Bureau (FHB) in collaboration with the Sri Lanka College of Obstetricians and Gynaecologists and other relevant professional bodies. The cause of death is confirmed and the associated factors that may have contributed to the deaths are discussed to prevent such deaths in the future.

National Maternal Mortality reviews form a platform to learn lessons from the mistakes made over each maternal death. It is encouraging to note that there has been a marked improvement in the reporting of maternal deaths through the present surveillance system.

The results show a maternal mortality ratio (MMR) estimated at 39.3 for 100,000 live births in year 2006. Provisional MMR for the year 2007 is given as 37.4 per 100,000 live births highlighting a further reduction. Sri Lanka has achieved one of the lowest maternal mortality rates in the developing world at a very low cost.

Fig 5.1.1 - Maternal Mortality Ratio in Sri Lanka, 1995 - 2007



The data show that, in 2006 out of confirmed 146 deaths 66 percent are direct maternal deaths and 26 percent are indirect maternal deaths. Comparatively in the year 2007, there were 141 confirmed maternal deaths and again 66 percent were classified as direct and 27 percent as indirect.

The table (Table 5.1.3) below indicates the distribution of maternal deaths by causes for the year 2006 and 2007 (Provisional). The leading causes of maternal deaths are Post Partum Haemorrhage (PPH), Abortion, Cardiovascular diseases, Pregnancy Induced Hypertension (PIH) and Embolism.

Table 5.1.3 : Causes of Maternal Deaths, 2006 - 2007

Cause of Death	2006		2007	
	No.	%	No.	%
Post Partum Haemorrhage (PPH)	19	13.01	21	14.89
Cardiovascular disease	12	8.22	20	14.18
Embolism (Amniotic fluid / Pulmonary)	10	6.85	18	12.77
Abortion	18	12.33	15	10.64
Pregnancy induced hypertension (PIH)	11	7.53	12	8.51
Sepsis - other	14	9.59	8	5.67
Reproductive Sepsis	8	5.48	7	4.96
Ectopic pregnancy	6	4.11	6	4.26
Malignancy	3	2.05	5	3.55
Respiratory Tract Infection	6	4.11	3	2.13
Cerebro-vascular Disease	2	1.37	3	2.13
Liver Disease	4	2.74	2	1.42
Ante-Partum Haemorrhage	6	4.11	1	0.71
DVT	2	1.37	-	
Other medical disorders	10	6.85	11	7.80
Ruptured Uterus	3	2.05	2	1.42
Deaths related to Anesthesia	2	1.37	-	
Miscellaneous causes	3	2.05	3	2.13
Inconclusive	7	4.79	4	2.84
Total	**146**	**100.00**	**141**	**100.00**

Source : Family Health Bureau

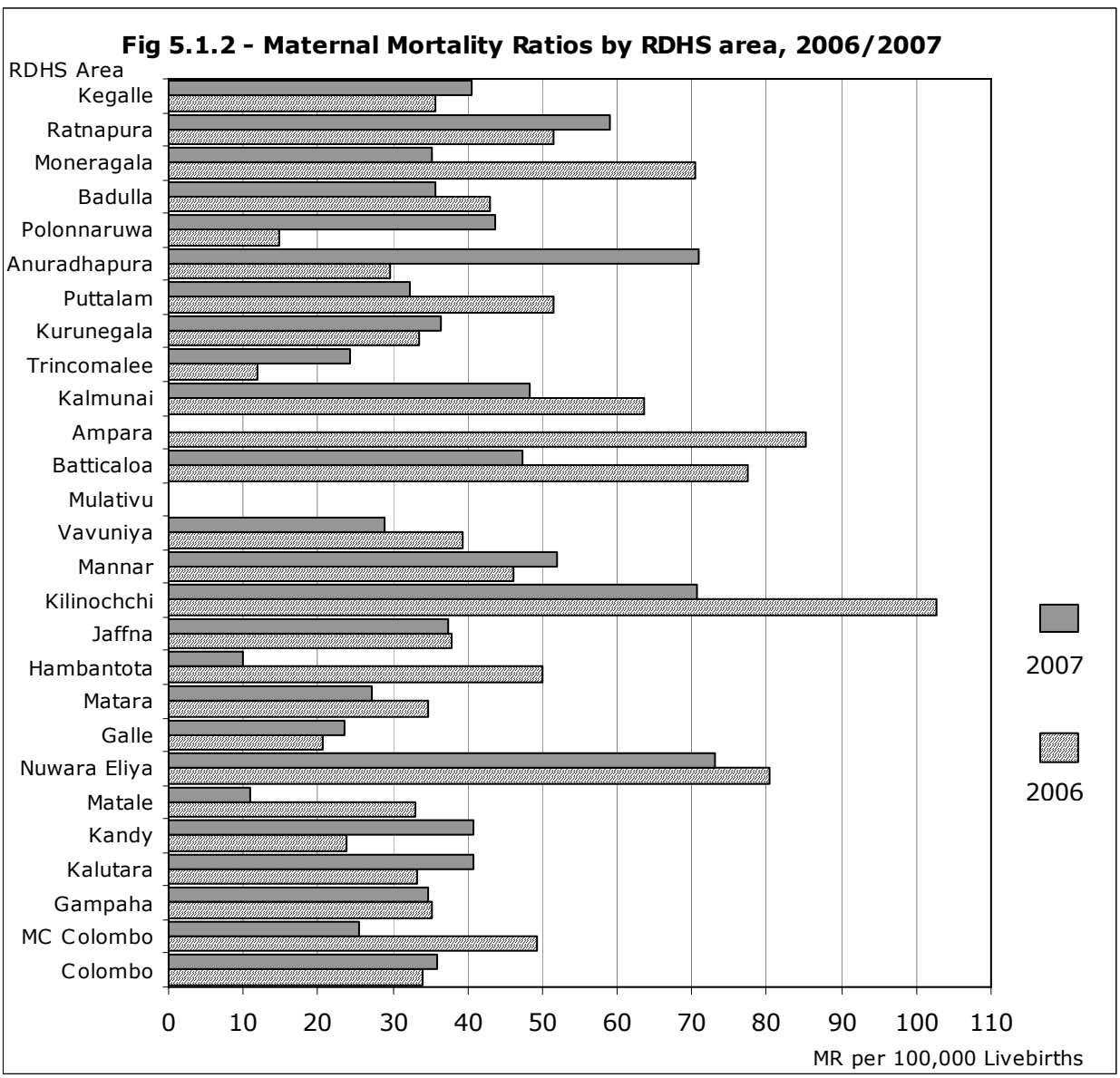
Post-Partum Haemorrhage (PPH) remains the main cause of maternal deaths both in 2006 (13%) and 2007 (15%). Abortion shows a slight reduction, while Cardiovascular diseases is reporting an upward trend (14.2 % in 2007), to become the second leading cause of maternal deaths. It is alarming to note that the doubling of Embolism (amniotic fluid /pulmonary) as a cause of maternal deaths from 2006 (7%) to 2007 (13%). Majority of maternal deaths have occurred during the post-natal period, 57 percent in 2006 compared to 52 percent in 2007.

This shows that there is a great need for interventions to prevent maternal deaths during the post-natal period. Maternal Mortality ratios analyzed by RDHS area in 2006 and 2007 are illustrated in figure 5.1.2.

It is obvious that there is a wide disparity in regional MMRs in both years under review. The highest MMR for the year 2006 was reported in the Kilinochchi district while the highest MMR for 2007 was experienced in the Nuwara Eliya RDHS area. A significant reduction of maternal mortality was seen in 2007 compared to 2006 in many districts. The effort taken by the health authorities in Kilinochchi, Nuwara Eliya, Moneragala and Batticoloa districts for reduction of MMR in 2007 is commendable.

However, more attention has to be paid to the regions of Ratnapura, Mannar, Kegalle, Colombo, Anuradhapura, Kandy, Galle, Polonnaruwa and Trincomalee districts where MMRs of 2007 were higher compared to the figures in 2006.

Fig 5.1.2 - Maternal Mortality Ratios by RDHS area, 2006/2007



5.1.1.5 School Health Programme

School Health is a shared responsibility of the Ministries of Health and Education and is implemented by the Provincial Health and Education authorities as a collaborative programme. The FHB is the focal point for the school health programme and the services are delivered through the primary health care infrastructure. The National Working Group which was established in year 2001 meets regularly and attends to issues related to the programme. The National Steering Committee was formed in 2004 which addresses the major issues related to the School Health Programme in order to take policy decisions.

The goals of the programme is to ensure that children are healthy, capable of promoting their own health and health of the family and community, and are able to optimally benefit from educational opportunities provided. Establishment of Health Promoting Schools has been identified as the strategy to achieve the goal of the programme.

The following major areas are identified as components of this programme.

1. Healthy School Policies
2. School Medical Inspection (S.M.I) and Counseling
3. Health Education and development of life skills for reduction of risk behavior
4. Healthy School Environment, and
5. School Community Participation

The school population in Sri Lanka is about 3.84 million distributed in 9,714 schools (school census 2006) island-wide. About 65 percent of them are in the adolescent age group (10-19 years). In 2008, School Medical Inspections (SMI) were conducted in 8,383 schools giving a total coverage of 88 percent.

5.1.1.6 Well Woman Clinic Services

Well woman clinics (WWC) were incorporated into the Family Health Services with the introduction of the concept of Reproductive Health from 1996. At the end of year 2008, 617 well women clinics were functioning in the country, mostly based at MOH offices. These clinics provide screening services for women over 35 years of age against common non-communicable diseases. The diseases screened in the clinics are diabetes mellitus, hypertension, breast and cervical cancers.

A total of 111,789 women attended Well Woman Clinics island wide during 2008. The performance in Well Woman Clinics during 2008 is indicated in Table 5.1.4.

Table 5.1.4 : Performance in Well Woman Clinics in 2008

Activity	2008	
	Number	Percent
Total attending clinics	111,789	-
Attendance to clinics		
Under 35	21,818	19.5
35 years	17,948	16.1
Over 35	72,023	64.4
No. of women subjected to breast examination	118,742	106.2
Breast abnormalities detected	2,124	1.9
No. of women subjected to cervical visualization	102,175	91.4
Number of pap smears taken	94,156	84.2
Number of reports received	60,355	54.0
Cervical smears reported as and low and high grade lesions	288	0.1
No. of cases reported as malignant	22	
Diabetes mellitus detected	2,525	2.0
Hypertension detected	5,201	4.7

Source : Family Health Bureau

5.1.1.7 In-Service Training Programmes and other special activities conducted by the FHB in 2008

The programmes were conducted for health personnel (field and institution) by the FHB during 2008.

1. Conduction of National Maternal Mortality Reviews in all districts for the year 2008.
2. Development of Guide lines on Maternal Autopsy to improve the quality of causes of maternal deaths.

3. Establishment of a programme to improve the quality of life of maternally bereaved children.
4. Adaptation of the weight gain chart to monitor the maternal weight gain during pregnancy.
5. Formulation of the guideline for Post-natal care clinics.
6. Conduction of Training Programmes on Labour Room Management at central and district levels.
7. Conduction of training programmes on Early Childhood Care & Development.
8. Conduction of training of trainers programmes on Infant and Young Child Feeding during emergencies in order to improve practices of infant and young child feeding during emergency situations.
9. Conduction of a training programme on Integrated Infant and Young Child Feeding.
10. Launching of Nutrition Month and conduct of special activities during the month.
11. Master training on Neonatal Ventilation for the Consultant Paediatricians conducted by an international team of resource persons.
12. Master training on Continuous Positive Airway Pressure ventilation for the Consultant Paediatricians, Medical Officers and Nursing Officers conducted by an international team of resource persons.
13. Training of trainers programmes on Essential Newborn Care for the Consultant Paediatricians, Medical Officers, Nursing Tutors and Nursing Officers conducted by local master trainers.
14. Neonatal Advaned Life Support training for the Consultant Paediatricians, Medical Officers, Nursing Tutors and Nursing Officers.
15. Special activities in relation to the World Breastfeeding Week.
16. Strengthening Partnership between Health and Education Ministries Six meetings of the National Coordinating Committee on School Health held and important decisions taken with regard to school health.
17. Preparation of Guidelines on Health Promoting Schools for Public Health Staff and teachers.
18. Assessment of Health Promoting Schools initiated in 18 zones with funds sent to relevant MOO/MCH to carry out the survey.
19. Iron-folate supplementation to school children from Grade 6 to Grade 13. Late procurement of Iron-folate stocks has become a constraint to carry out this programme effectively.
20. A pilot project carried out to Extend the disease screening services to school teachers (Cervical cancer and breast cancer screening done on school teachers within the Colombo district during November 2008).
21. Awareness Programmes and a media seminar held on Adolescent Nutrition during the Nutrition month in 2008.
22. Preparation of Mental health booklets for Adolescent school children, parents and teachers.
23. Global School Based Health Survey done in 2008.
24. Training programmes on modern contraceptive technology including IUD insertions and the advanced subdermal implant (Implanon).
25. In 2008, 54 new family planning clinic centers were established and equipped, and in addition 120 clinics were supplied with equipment.
26. Technical guidelines were developed and disseminated for Depo Medroxy Progesterone Acetate(DMPA) and Oral Contraceptive Pills(OCP) use.
27. Contraceptives (OCPs, Condoms and IUDs) were purchased spending approximately a sum of Rupees 158 million in 2008. In addition, Family planning equipment amounting to Rupees 27 million was purchased in 2008.
28. Conduction of Review workshops for MO/ MCHs and RSPHNOs at district level.
29. Circulated Quarterly feed back from MCH quarterly returns and School Health returns
30. Conduction of a rapid assessment survey for evaluation of MCH services in the Galle district.

5.1.2 Environmental Health.

5.1.2.1 Water Supply and Sanitation Programme.

The Ministry of Health is not directly responsible for the provision of water to the country. However, through its field health personnel health education is carried out for people to consume water that is safe to drink, usually boiled water.

Public Health Inspectors (PHII) conduct routine tests for chlorine adequacy of sources of drinking water and also during epidemics of diarrhoeal diseases and other disaster situations like floods, tsunami etc.

Inadequate latrine facilities are still a problem. Use of sanitary latrines by the community is promoted through health education as well as by enforcing the provision of relevant legislation related to housing. All new houses have to possess toilet facilities in order to obtain approval by local authorities, assistance is provided by many organizations, both state and private to the poor for construction of sanitary latrines. Water quality testing kits are provided to PHII and routine testing of water samples are carried out for biological contamination. Capacities were strengthened among health staff in relation to water supply and sanitation. Public awareness programmes were conducted to improve proper hygienic practices.

The International Year of Sanitation was launched with a view to improving sanitary conditions of the country in collaboration of other relevant stake holders. In addition it was noted that water quality of most of the community water supply schemes were not up to standard. Therefore a National Steering Committee on Water Quality Surveillance was established in order to improve the water quality of the country including community water supply schemes.

To improve the water quality surveillance, existing laboratories were strengthened and new laboratories were established .

5.1.2.2 Healthcare Waste Management

Although the disposal of solid waste is the responsibility of the local authority, disposal of healthcare waste is a resposibility of the Ministry of Health. There is a Steering Committee on Healthcare Waste Management with representation from all the relevant stake-holders. Disinfection of waste by autoclaving is identified by the Ministry for the Colombo CMC area, which is in progress. The National Colour Code on healthcare waste has been established for waste separation. Technical guidance and financial assistance had been provided to selected provinces as an initial step to improve existing waste management practices which will be extended to the whole island based on the National Policy. Methods for final disposal of clinical waste are being explored for implementation. Budgetary allocation are provided for hospitals for healthcare waste management under the regular budget. Training programmes are conducted for Base, District and Teaching hospitals.

A Cleaner Production Policy for the Health Sector was developed in order to improve environmental healthy practices in the health sector.

A study was carried out to find out the environmental issues in the estate sector in collaboration with the Plantation Trust. Actions were taken to improve the environmental conditions of the estate sector based on the findings of the study.

5.1.2.3 Training on Air Pollution Prevention

A draft national action plan on indoor air pollution was developed with the relevant stake holders.

Training of trainers programme (TOT) was carried out for regional public health staff on prevention of indoor and out-door air pollution.

5.1.2.4 Inter Agency Co-ordination

Technical guidance and awareness is provided to other Ministries,relevant agencies,and the general public on environmental health. Inter-Ministrial coordination activities were carried out in the areas of solid and hazardous waste management,bio safety,water supply and sanitation,climate change,environment and health,toxicology,air and water pollution and International conventions held in Basel,Stockholm, Rotterdam etc., to strengthen the environmental condition in this country.

5.1.2.5 Elimination of Iodine Deficiency Disorders (IDD)

Training of trainers programme (TOT) was carried out for health staff on IDD in order to re-orientate health staff on preventive activities. Public awareness was created using tele-spots, which was found to be effective.

5.1.2.6 Food Safety and Hygiene

The Food Control Administration Unit of the Ministry of Healthcare and Nutrition is the entity charged with the administration aspect of the Food Safety activities of the country. The main tasks entrusted are mostly related to policy matters.

1. Food Safety & Hygiene activities through the Food Control Administration Unit (FCAU) are aimed at ensuring the availability of safe and wholesome food to the consumers. While the Health Sector plays the major role, the contributions from other government and non-government sectors are of immense value.

2. The main Food Law is the Food Act No. 26 of 1980 with its related regulations published in terms of section 32 of the Food Act. The Act was once amended by Food (Amendment) Act No. 20 of 1991. The Act is currently being further amended.

3. The Food Advisory Committee established in terms of the Act,advises the Hon. Minister on policy matters relating to food safety. Several Food regulations were reviewed / framed and drafted during the period under review. Review of all the current regulations has been completed and the following regulations were drafted, reviewed and prepared for publication.

* Food (Bottled or Packaged Water)
* Food (Colouring Substances) Regulations;
* Food (Control of Import, Labelling and Sale of Genetically Modified Foods) Regulations;
* Food (Vinegar) regulation
* Food (Irradiation) Regulations

4. The following regulations have been reviewed under a special (WHO) programme for publication. The Legal draftsman is being consulted for finalization of these regulations:

   a) Food (Meat & Meat Products) Regulations
   b) Food (Fish & Fish Products) Regulations
   c) Food (Sugar & Sugar Products) Regulations
   d) Food (Additives- Emulsifying Agents) Regulations
   e) Food (Milk & Milk Products) Regulations
   f) Food (Hygiene) Regulations
   g) Food (Additives – General) Regulations
   h) Food (Tea, Coffee, Cocoa and their products) Regulations;

5. The FCAU also conducts Training Programmes on Food Safety for health personnel as part of the routine activities.

   The following training programmes were conducted during the period in review:

   a) Five Days Training Programmes on Food Safety and Hygiene to PHII = 05
   b) Three Days Training Programmes on Food Safety & Hygiene to MOOH = 04
   c) Awareness Programmes for Food Handlers = 12
   d) Review Meetings for Food & Drugs Inspectors = 08

6. The FCAU also publishes educational material promoting the understanding of proper food handling and food hygiene. In this series a Training Manual for Food Handlers was prepared for publication with the assistance of the WHO. Another manual for Training of Trainers in Food Safety is currently under preparation under the WHO Programme

7. The FCAU being the administrative arm of the Chief Food Authority, facilitates conducting of the Food Advisory Committee (FAC) meetings, and expedites decisions taken at the FAC meetings.

   a) No. of FAC meetings held during the period = 13
   b) No. of FAC Sub Committee Meetings held during the period = 12
   c) No. of Special Meetings held = 04

8. The FCAU is directly involved in the Import / Export inspection and certification of food and also in registration of bottled or packaged water manufacturing premises in addition to the administrative work. Under these programmes the following activities were carried out:

I - Imports

a) No. of consignments of imported food items inspected = 24,237
b) No. samples drawn from inspected consignments = 3,324
c) No. of consignments detected as not conforming to requirements = 18
d) No. rejected = 32

II - Exports

a) No. of applications received for Export certification = 5,700
b) No. of inspections carried out = 275
c) No.of certificates issued = 5,093
d) Total amount of collected fees credited to consolidated fund = Rs. 5,093,000

III – Registration of Bottled or Packaged Water manufacturing Premises-

a) No. of applications received = 82
b) No. of assessments carried out = 76
c) No. of premises registered = 72
d) Total amount of collected fees credited to consolidated fund = 72,000

IV – Issue of Permits for Edible Common Salt for industries :- 148

As per the provisions of the Food (Iodization of Salt) Regulations, Import, Sale, Manufacture etc. of edible common salt is prohibited to implement the Universal Iodization of Salt. It is therefore necessary that appropriate authorization should be issued for obtaining required quantities of salt for various industries including iodization of salt.

a) No. of applications received = 68
   No. of applications for Renewals = 198
b) No. of inspections carried out = 68
c) No. of permits issued = 198
d) Quantity of salt for which permits issued = 123,000MT

1. Under the assistance of the WHO funds the following programes were conducted successfully by the FCAU.
   a) Training of Staff
   b) (Three Months Training Course on Food & Drug Inspection)
   c) Consultative Workshop on Food Safety Regulations
   d) Technical Support to Food Safety Regulations
   e) Monitoring and evaluation of Food safety Programes
   f) Develop Manual for risk food sampling protocol
   g) Printing & Distribution of Revised Regulations
   h) Develop and Review Food Safety Surveillance System
   i) Training staff on food safety surveillance
   j) Developing advocacy Programme Including Materials

5.1.2.7 Occupational Health

Occupational Health and Safety is a multidisciplinary area involving many stakeholders. The main government stakeholders are the Ministry of Health and the Department of Labour. Occupational health is a rapidly developing discipline worldwide and much attention is being given to prevent diseases and accidents due to a persons occupation.

The Ministry of Health has embarked on a programme to develop occupational health in Sri Lanka. It is planned to setup occupational health units in each district and the first unit has been set up at Gampaha district. The main objectives of the occupational health programme are

1. Prevent occupational diseases and accidents
2. Create awareness on occupational health among the workers, employers and general public
3. Promote creation and maintenance of healthy work settings

The implementation of occupational health activities in the public health sector are done mainly through the MOH Offices. The Medical Officers of Health (MOOH) and the Public Health Inspectors (PHII) are the two main categories of staff who implement occupational health activities at the grass root level. The MOOH and PHII are expected to visit the workplaces, identify occupational health issues, advise on basic remedial measures and carry out health promotive activities targeting the workforce and the management. In addition to these, many special health promotion/health education programmes are being carried out for workers on important health issues such as nutrition, mental health at workplace, reproductive health etc.

Currently there is no separate specialty for occupational health in the curative sector. Treatment of diseases and injuries related to occupation is integrated into the existing curative heath system. For example; injuries are taken care of by the surgical units, medical problems such as occupational asthma by the medical units and rehabilitation by the physiotherapy and rehabilitation units.

The Occupational Health Unit of the Directorate of Environmental & Occupational Health has embarked on a programme to provide training for MOOH and PHII. The National Training Programme on Occupational Health is carried out at district level to provide training on occupational health uniformly to all Range PHI at district level. The training provided has greatly facilitated the implementation of occupational health activities by the public health staff.

5.1.3 Epidemiology

The Epidemiology Unit is the focal point for disease surveillance in the Ministry of Health, Sri Lanka. The goal of the Epidemiology Unit is to improve the health of the Sri Lankan population by collection, analysis, interpretation and dissemination of best possible information on communicable diseases prevalent in the country. This is achieved mainly through surveillance, epidemiological investigation, research and training.

5.1.3.1 Activities conducted by the Epidemiology Unit in 2008

Epidemiology Unit is the institution responsible for implementation of the expanded programme on Immunization (EPI). In January 2008, Hib vaccine was introduced to the National Immunization Programme as a combined vaccine in the form of Pentavalent. However the vaccine had to be withdrawn a few months later as a result of speculated safety concerns. Following extensive investigations involving local and international experts, it was found that there was no evidence to conclude causal relationship between the adverse events and the vaccine.

Two Regional Epidemiologists' quarterly review meetings were held at the Epidemiology Unit, Colombo. District review meetings with MOH Office surveys were done in Hambantota and Matale districts.

Provincial level dengue review meetings were held in all high risk provinces with the collaboration of the National Dengue Coordination Unit to help them to asses their dengue control activities. In addition, dengue surveillance review meetings were held in high risk MOH areas in selected districts.

Consultative meetings, district-level reviews and experts meetings were held to strengthen surveillance of Acute Flaccid Paralysis (AFP), Measles, Rubella, Dengue Fever/Dengue Haemorrhagic Fever(DF/DHF), Leptospirosis and other endemic diseases.

Under Pandemic preparedness activities, training of hospital staff of two sentinel hospitals, namely TH Batticoloa and GH Nuwara Eliya, on pandemic influenza preparedness were completed. A separate Influenza Cell consisting of support personnel was formed at the Epidemiology Unit. Under the National Influenza Pandemic Preparedness Plan (NIPP), establishment of isolation units in sentinel hospitals, upgrading of virological diagnostic facilities at MRI and two other regional laboratories, strengthening influenza surveillance activities by providing logistic support to sentinel hospitals were carried out during the year. A training programme for infection control nursing officers in sentinel hospitals was conducted in October 2008.

A meeting for microbiologists in all 20 sentinel hospitals was conducted in November 2008 with the objective of improving Influenza surveillance. These activities were funded by the World Bank.

Monthly meetings of the National Technical Committee on AI preparedness were held to review progress of preparedness activities in the country. A workshop on Rapid Containment of Pandemic Influenza was organized in July 2008 to train Epidemiologists at central and regional level. This activity was funded by the WHO. An assessment of emerging disease surveillance activities in the country under the Asia Pacific Strategy for Emerging Diseases was carried out by a visiting team from SEARO in June 2008.

Under the Immunization Sub-component of the Sri Lanka Health Sector Development Project (HSDP), as the Project Management Unit, Epidemiology Unit succeeded in utilizing over Rs. 48 million for the "Establishment of Best Practice Immunization Clinics" Initiative, implemented in 21 RDHS divisions in the country. An amount of Rs. 250,000 each was allocated for each MOH area for improvement of infrastructure of a selected MCH clinic which had been identified for the initiative. The overall objective of the Project Component was to improve the quality of immunization services delivered at field clinic level.

Evaluation of the Diarrhoeal Diseases Control Programme was carried out in the Badulla and Anuradhapura districts. Participatory approach to diarrhoeal diseases control programmes were started in the Medical Officer of Health areas of Haputale and Horowpathana.

Epidemiology unit functions as the main national research centre on epidemiology and a training centre for postgraduate research students and fellows involved in epidemiological studies. Apart from research studies, national surveys on immunization coverage and cold chain maintenance are routinely carried out by the unit. This year we successfully conducted the immunization coverage survey in Ampara RDHS division.

Under South Asian Pneumococcal Network Alliance (SAPNA) funded programmes,the following activities were conducted.

- Upgraded laboratory facilities – Purchased and installed automated blood culture machine at the pneumococcal surveillance lab at the Lady Ridgeway Hospital
- Trained laboratory staff at the pneumococcal surveillance lab at the LRH on using the automated blood culture machine for the study site to enhance isolation rates
- Initiated forwarding of positive isolates for sero-typing to WHO reference laboratory at the Christian Medical College, Vellore, India
- Sent pneumococcal isolates obtained from conjunctivitis and cornea ulcers at the Eye Hospital, Colombo for sero typing to Christina Medical College, Vellore, India
- Initiated study on Cost Effectiveness of introducing Pneumococcal vaccine into the EPI in Sri Lanka.

Rotavirus surveillance was conducted at the Lady Ridgeway Hospital with a proportion of children under 5 year of age with rotavirus diarrhoea, among all children who were admitted and treated for acute diarrhoea.

A clinical trial was conducted for assessment of immunogenicity and safety of Japanese Encephalitis (JE) live attenuated SA-14-14-2 vaccine in children in Sri Lanka. Based on the results of the clinical trial,the JE live vaccine was introduced in to the EPI programme in Sri Lanka.

Table 5.1.5 : Cases, Deaths and Case Fatality Rate (CFR) of Japanese Encephalitis and Dengue Haemorrhagic Fever, 1992 - 2008

Year	Japanese Encephalitis				Dengue Haemorrhagic Fever			
	Cases		Deaths	C.F.R.	Cases		Deaths	C.F.R.
	No.	Rate			No.	Rate		
1991	325	1.9	25	7.7	1,048	6.1	31	3.0
1992	291	1.7	27	9.3	656	3.8	15	2.3
1993	289	1.6	52	18.0	756	4.3	7	0.9
1994	230	1.3	41	17.6	582	3.3	7	1.2
1995	173	1.0	32	18.5	440	2.4	11	2.5
1996	307	1.7	44	14.4	1,294	7.1	54	4.2
1997	164	0.9	19	11.9	980	5.3	17	1.7
1998	122	0.7	3	2.5	1,275	6.9	8	0.6
1999	102	0.5	3	2.9	1,688	6.8	14	0.8
2000	83	0.5	2	2.4	3,333	19.8	37	1.1
2001	66	0.4	9	13.6	3,771	19.9	47	1.3
2002	113	0.6	15	13.2	2,977	15.6	64	2.2
2003	133	0.7	20	15.0	1,605	8.3	32	2.0
2004	129	0.7	9	6.9	4,001	20.5	88	2.2
2005	65	0.3	6	9.2	2,039	10.4	34	1.6
2006	26	0.1	1	3.8	5,646	28.4	48	0.2
2007	49	0.3	6	12.2	3,250	16.3	24	0.7
2008	31	0.2	6	19.4	3,138	15.3	38	0.9

Based on Special surveillance
Source : Epidemiological Unit
Incidence rate per 100,000 population
Case fatality rate (CFR) percentage

Table 5.1.6 : Distribution of Cases and Deaths due to Japanese Encephalitis and Dengue Haemorrhagic Fever by DPDHS Divisions, 2008

Division	Japanese Encephalitis			Dengue Haemorrhagic Fever		
	Suspected Cases	Positives*	Deaths	Suspected cases *	Confirmed cases **	Deaths
Colombo	2	-	-	1,647	1,003	8
Gampaha	10	2	-	971	464	1
Kalutara	9	4	1	478	310	3
Kandy	4	-	-	370	130	-
Matale	-	-	-	212	3	-
Nuwara Eliya	1	-	-	30	12	-
Galle	9	2	1	108	39	-
Matara	2	-	-	394	88	2
Hambantota	3	1	-	136	318	-
Jaffna	1	-	-	60	19	-
Kilinochchi	-	-	-	1	-	-
Mannar	-	-	-	38	-	-
Vavuniya	3	1	1	12	3	-
Mullativu	-	-	-	-	65	-
Batticaloa	3	-	-	89	-	2
Ampara	-	-	-	33	4	-
Kalmunai	3	-	-	38	9	1
Trincomalee	-	1	1	185	43	1
Kurunegala	8	1	-	362	58	-
Puttalam	8	1	-	291	51	3
Anuradhapura	4	-	-	122	48	-
Polonnaruwa	1	1	1	67	21	-
Badulla	3	-	-	109	10	-
Moneragala	4	-	-	64	7	-
Ratnapura	19	4	1	316	29	-
Kegalle	21	1	-	474	364	17
Unknown	-	12	-	-	40	-
Total	118	31	6	6,607	3,138	38

Based on Special surveillance
Source: Epidemological Unit
* Weekly returns of communicable diseases
** Data received from the Medical Research Institute

Table 5.1.7 : Cases and Deaths of Japanese Encephalitis and Dengue Haemorrhagic Fever by Months, 2008

Month	Japanese Encephalitis			Dengue Haemorrhagic Fever		
	Suspected Cases	Positives*	Deaths	Suspected cases *	Confirmed cases **	Deaths
January	43	13	2	728	346	5
February	12	1	1	838	324	8
March	13	-	-	598	289	2
April	17	1	1	601	250	1
May	12	-	-	639	205	5
June	7	-	-	400	176	1
July	9	-	-	487	256	1
August	3	-	-	559	183	2
September	2	-	-	393	129	3
October	-	5	1	423	184	1
November	-	-	-	421	262	4
December	-	4	-	520	534	5
Unknown	-	7	1	-	-	-
Total	118	31	6	6,607	3,138	38

Based on Special Surveillance *Source :Epidemiological Unit.*

* Weekly returns of communicable diseases

** Data received from the Medical Research Institute

Table 5.1.8 : Cases and Deaths of Japanese Encephalitis and Dengue Haemorrhagic Fever by Age Groups, 2008

Age Group	Japanese Encephalitis				Dengue Haemorrhagic Fever			
	Cases		Deaths		Cases		Deaths	
	No	%	No	%	No	%	No	%
under 1	1	3.23	-	-	4	0.1	-	-
1 - 4	2	6.45	1	16.67	269	8.6	4	10.5
5 - 9	-	-	-	-	320	10.2	3	7.9
10 - 14	1	3.23	-	-	250	8.0	4	10.5
15 - 19	1	3.23	-	-	298	9.5	4	10.5
20 - 24	3	9.68	2	33.33	388	12.4	1	2.6
25 - 29	1	3.23	-	-	363	11.6	1	2.6
30 - 34	-	-	-	-	281	9.0	7	18.4
35 - 39	1	3.23	-	-	214	6.8	1	2.6
40 - 44	2	6.45	-	-	197	6.3	1	2.6
45 - 49	-	-	-	-	139	4.4	4	10.5
50 - 54	-	-	-	-	120	3.8	2	5.3
55 -59	1	3.23	-	-	81	2.6	-	-
> 60	6	19.35	3	50.00	134	4.3	4	10.5
Unknown	12	38.71	-	-	80	2.5	2	5.3
Total	31	100.00	6	100.00	3,138	100.00	38	100.00

Based on Special Surveillance *Source : Epidemiological Unit*

Table 5.1.9 : Distribution of Notifiable[1] Diseases by Month, 2008

Month	Dysentery [1]	Encephalitis [2]	Enteric Fever [1]	Food Poisoning [1]	Human Rabies [2]	Leptospirosis [2]	Measles [2]	Tetanus [2]	Viral Hepatitis [1]	Dengue Haemorragic Fever [2]	Simple Continued Fever [1]
January	136	43	33	9	3	57	-	2	32	346	5
February	113	12	34	45	8	163	9	6	35	324	6
March	302	13	138	48	5	214	2	2	139	289	16
April	52	17	14	6	3	205	2	2	57	250	3
May	36	12	18	9	3	259	6	7	18	205	2
June	100	7	43	9	3	115	2	2	74	176	6
July	255	9	64	54	3	108	2	1	145	256	6
August	175	3	37	92	4	297	6	4	52	183	6
September	253	2	46	12	8	337	1		77	129	9
October	181	-	50	51	7	253	2	3	41	184	3
November	234	-	62	34	3	171	1		66	262	8
December	544	-	105	96	1	16	1	1	111	534	17
Unknown	-	-	-	-	-	-	-	-	-	-	-
Total	2,381	118	644	465	51	2,195	34	30	847	3,138	87

[1] Confirmed Cases

[2] From special surveillance

Source : Epidemiological Unit

Table 5.1.10. : Age Distribution of Notifiable Diseases[1], 2008

Age Group	Dysentery[1]		Enteric Fever[1]		Food Poisoning[1]		Human Rabies[2]		Leptospirosis[2]		Measles[2]		Tetanus[2]	
	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%	Cases	%
Under 1	78	3.3	1	0.2	0	0.0	0	0.0	0	0.0	9	26.5	0	0.0
1-4	983	41.3	56	8.7	28	6.0	3	5.9	0	0.0	3	8.8	0	0.0
5-14	485	20.4	168	26.1	129	27.7	2	3.9	50	2.3	3	8.8	1	3.3
15-24	200	8.4	97	15.1	168	36.1	11	21.6	316	14.4	8	23.5	1	3.3
25-49	334	14.0	239	37.1	110	23.7	17	33.3	1,222	55.7	11	32.4	10	33.3
50-59	136	5.7	50	7.8	14	3.0	10	19.6	393	17.9	0	0.0	11	36.7
60 and over	165	6.9	33	5.1	16	3.4	8	15.7	209	9.5	0	0.0	6	20.0
Unknown	0	0.0	0	0.0	0	0.0	0	0.0	5	0.2	0	0.0	1	3.3
All ages	2,381	100.0	644	100.0	465	100.0	51	100.0	2,195	100.0	34	100.0	30	100.0

[1] Confirmed cases- H411a

[2] From special surveillance

Source : Epidemiological Unit

Table 5.1.11. : Incidence of EPI Target Diseases, 1955-2008

Year	Poliomyelitis*		Diphtheria		Whooping Cough		Tetanus		Tetanus Neo-natorum		Tuberculosis		Measles*	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate[1]	Cases	Rate	Cases	Rate
1955	155	1.8	1,179	13.5	1,941	22.2	873	10.0	-	-	-	-	3,499	40.1
1960	303	3.1	1,042	10.5	1,786	18.0	1,435	14.5	-	-	10,519	106.3	3,060	30.9
1965	494	4.4	1,232	11.0	2,109	18.9	1,812	16.2	-	-	6,927	62.0	2,037	18.2
1970	405	3.2	986	7.9	1,651	13.2	1,441	11.5	847	230.20	5,762	46.0	4,086	32.6
1975	396	2.9	310	2.3	1,341	9.9	1,186	8.8	812	216.00	7,324	54.3	5,000	37.0
1980	262	1.8	37	0.3	542	3.7	892	6.0	351	83.90	6,212	42.1	5,032	34.1
1985	40	0.3	10	0.1	536	3.4	405	2.6	76	19.50	5,889	37.2	9,398	59.3
1986	34	0.2	3	0.0	161	1.0	453	2.8	49	13.60	6,596	40.9	6,235	38.7
1987	149	0.9	-	-	31	0.2	258	1.6	37	10.30	6,411	39.2	3,508	21.4
1988	25	0.2	-	-	25	0.2	273	1.6	39	12.80	6,092	36.7	2,650	16.0
1989	16	0.1	-	-	61	0.4	295	1.8	19	5.30	6,429	38.2	780	4.6
1990	9	0.1	-	-	271	1.9	183	1.1	5	4.70	6,666	39.2	4,004	27.6
1991	1	0.0	1	-	25	0.2	188	1.3	10	3.70	6,174	35.7	1,896	12.8
1992	12	0.1	-	-	6	0.0	231	1.3	14	2.60	6,802	39.0	701	4.0
1993	15	0.1	1	-	18	0.1	196	1.1	11	3.70	6,885	39.0	558	3.2
1994	-	-	-	-	34	0.3	156	1.1	11	2.00	6,121	34.3	390	2.2
1995	-	-	-	-	171	1.0	167	1.0	2	3.00	5,869	31.5	465	2.6
1996	-	-	1	-	33	0.2	97	0.7	6	4.80	5,366	29.3	158	0.9
1997	-	-	-	-	205	1.8	23	0.5	4	3.50	6,547	35.6	66	0.4
1998	-	-	-	-	94	0.5	24	0.1	4	4.50	6,925	36.9	23	0.1
1999	-	-	-	-	61	0.3	23	0.1	3	4.00	7,157	37.6	2,341	12.5
2000	-	-	-	-	88	0.5	38	0.2	1	0.30	8,129	42.9	4,096	21.2
2001	-	-	-	-	52	0.3	75	0.4	3	0.85	8,418	45.0	309	1.7
2002	-	-	-	-	16	0.1	34	0.2	2	0.55	8,884	46.9	139	0.7
2003	-	-	-	-	-	-	30	0.2	2	0.57	9,312	48.4	65	0.4
2004	-	-	-	-	-	-	32	0.2	1	0.57	8,639	48.4	35	0.4
2005	-	-	-	-	-	-	25	0.1	1	0.57	9,448	48.4	24	0.4
2006	-	-	-	-	48	-	38	0.2	2	0.01	10,016	48.1	21	0.1
2007	-	-	-	-	21	0.11	16	0.1	0	-	9,817	47.9	37	0.2
2008	-	-	-	-	16	0.08	22	0.1	1	0.005	8,181	39.5	2	-

Rate per 100,000 population *Source : Epidemiological Unit*

Data from year 1990 to 2002, are based on hospital admissions and confirmed with special surveillance

[1] Rate per 100,000 live births * Cases are lab confirmed while other are clinically confirmed

5.1.4 Health Education Bureau

The main role of the Health Education Bureau (HEB) is building the capacities of personnel, both in the government and the non government sectors, who are engaged in health development of people. In addition, the HEB contributes to policy development on communication and mass media, conducts behavioural research and publishes materials on health related issues.

5.1.4.1 Vision of the Health Education Bureau

Foster a healthier nation that contributes to its economic, social, mental and spiritual well-being.

5.1.4.2 Mission of the Health Education Bureau

Building the capacities of health and health related sectors to promote the health of the people through advocacy, behaviour change communication(BCC), social marketing and community mobilization and intersectoral coordination.

5.1.4.3 Objectives of the Health Education Bureau

To be the centre of excellence in promoting health of the people through capacity building of health and health related sectors on advocacy, behavior change communication, social marketing and community mobilization and intersectoral coordination.

5.1.4.4 Specific Objectives

- To provide technical advice on policy formulation, planning and programming on promotion of health through advocacy, behavior change communication, social marketing counselling and community mobilization and intersectoral coordination.

- To support various health programmes conducted by the Department of Health Services and other health related sectors through advocacy, behavior change communication, counselling and community mobilization for health action and intersectoral coordination.

- To promote, support and undertake planning, implementing, monitoring and evaluation of health promotion programmes in different settings.

- To promote health care consciousness among the general public through the mass media.

- To assist in the production of communication materials and develop communication materials required for health promotion and behavior change communication.

- To develop the capacities of manpower, both within and outside the Department of Health Services as health promoters and change agents through advocacy, behavior change communication and intersectoral coordination.

- To educate and empower the public on health issues, to enable a greater control over their health and to promote community health.

- To coordinate with governmental, non-governmental and international agencies in promoting the health of the people.

- To develop managerial capacities of health and health related sectors to manage health promotive programmes.

- To monitor and evaluate health promotive programmes and facilitate monitoring and evaluation of the health promotive programmes at different levels.

- To support and undertake research on behavior change of the community and on social mobilization.

5.1.4.5 Advocacy, behaviour change communication, counselling and social mobilization for health action

Consultative meetings	No. of programmes
• Consultative meeting to design & pretest TV and radio spots, and for production of TV & Radio spots	02
• Consultative meeting to design, pre-test AI Leaflet wall chart	02
• Consultative meeting to design of advocacy package	01
• Consultative meeting to pretest and discuss the booklet on maternal and child health	01
• Consultative meetings to develop Posters and leaflets on Social responsibility regarding safe water	04
• Consultative meetings on Development of Training manual and policy guidelines for National Programme for prevention of Thalassaemia	02
• Consultative meetings on Steps in Planning and Delivering Behaviour Change Communication and Health Educational Activities at district/ central level	02

Field visits	No. of programmes
• Visit to Dikoya MOH office for the development of a maternal health and child health booklet	01
• Visit to Dikoya with the advertising company to take photographs for the development of the maternal health and child health booklet	01

Technical evaluation committee (TEC) meetings	No. of programmes
• TEC meeting to design, pre-test AI Leaflet wall chart	01
• TEC meeting for production of TV & radio spots	01

Advocacy programmes

• Advocacy Seminars to health authorities on environmental risk reduction programme for hospital health promotion	02
• Advocacy programmes for relevant stakeholders in Nuwara Eliya, Badulla and Monaragala districts with the objective of improving the nutritional status of communities in these districts	03
• Increase the awareness in Avian influenza among media personnel and journalists at the central level in Sinhala, Tamil and English and at district level in the Colombo, Kalutara and Gampaha districts.	03
• Conducting Health Education Planning Workshop for 2009 for the HEOO	01

5.1.4.6 Planning, implementation, monitoring and evaluation of health promotion programmes in different settings

Subject area	No.of programmes
• Consultative meeting to develop checklists to assess health promotion settings	05
• Consultative meeting to prepare draft on hospital health promotion policy	02
• Consultative meeting to review and identify the important areas under environmental risk reduction programme for hospital health promotion	01
• Consultative meeting to finalize the draft on the hospital health promotion policy under the hospital environmental risk reduction	02
• Consultative Training Workshops for hospital health education Unit staff on best practices and core competencies of health promotion to prevent non-communicable diseases	02
• Field visits to measure existing best practices at health promotion settings (schools, hospital)	03
• Hospital staff training on health promotion competencies at Matara and Gampaha districts	02
• Capacity building of health staff on health promotive settings	02
• Programme at Sethsiripaya in commemoration of World Women's Day	01
• Programme at De Soysa maternity hospital on health promotion	01
• Development of a model for a health promotive hospital	03
• Regular monitoring meetings at Kamburupitiya, Morawaka, Dompe and Gampaha	04
• Development of a tool to observe health promotion in school settings at the Gampaha and Kalutara districts	04
• Coordinated and conducted drafting of guidelines for conduct of focus group discussions for health promoting settings	
• Introduction of the health promotion and life skills to the selected settings at Lady Rideway hospital, Gampaha Base Hospital, Kegalle MOH and the supervisory staff of the DPDHS division	
• Training of Health staff on Health Promotion at BH Nikeweratiya	01
• Life skill development and promotion of healthy life styles at work places for Secrity personnel attached to Kelanithissa Power Plant, Govt. media institutions, Ports authority, Sri Lanka Telecom and Ceylon Petroleum Corporation, Biyagama Free Trade Zone working Youth counseling etc..	08
• Conducting Health Education and Health Promotion and BCC work shop for Badulla district public health supervisory staff	01
• National Poster competition for World Health Day	01

5.1.4.7 Mass media

Media seminars on	No. of seminars	No. of participants
• World TB Day	01	85
• World Health Day	01	83
• World Mental Health Day	01	83
• World Hand Washing Day	01	72
• Dengue Control week	02	146
• World Food Day	01	78
• World Sight Day	01	67
• International Women's Day	01	82
• Ergonomics in School Education environment	01	70
• World Rabies Day	01	73
• Nutrition month	01	78
• World Diabetes day	01	80
• Vision 2020	01	68
• Breast feeding week	01	82
• World Asthma Day	01	68
• Prevention of Malaria in Sri Lanka	01	95
• National Poison Prevention week	01	75
• Media visit programme on hand washing at Kalutara District	01	15

- Mass media activities (20 TV and 96 Radio programmes) on health education and health promotion
- Newspaper supplement for World Food Day
- Newspaper supplements in three languages on World Health Day
- Newspaper supplements in three languages for nutrition month
- Newspaper supplement for World Health Day in three languages
- Media Programmes on various current issues targeting the life skill development and behavioural change.

5.1.4.8 Production of communication material

- Development of models of Health Promotive city and Health Promotive village
- Development of a manual on community mobilization for improvement of Nutrition for grass root level health workers
- Translation of three manuals on interpersonal and group communication, community mobilization and 'Tripple A' for improvement of Nutrition for grass root level health workers into Tamil and one into Sinhala
- Development of a radio TV spot on iodine deficiency
- Avian/Pandemic Influenza Preparedness and Response activities regarding the communication component – Development of IEC material on risk communication
- Development of banners, dockets, panels, paper supplements on Nutrition for the Nutrition month
- Development of 2 posters on oral health & good childhood habits for school children
- Preparation of TV and radio advertisements on Leptospirosis
- Development of 2 leaflets on Leptospirosis & Chikungunia
- Development of 2 posters on Leptospirosis & Chikungunia
- Development of a banner on Suwa Udana Suwa Pana Wisadum Tharagaya
- Development of messages for banners for international breast feeding week 2008

- Work on handbook for primary health care workers on maternal and child nutrition (Integrated Nutrition Package)
- Development of flash cards, posters, TV & Radio spots, TV documentaries on Avian Influenza
- Development of leaflets on A- H1N1 virus
- Development of Communication material on Leishmaniasis
- Development of IEC material on Family planning

1. Development of book for newly married couples (FHB being focal point)
2. Work on lesson plan on Communication Skills for training manual for Primary Health Care Staff (under GAVI project with focal point being FHB)
3. Work on developing reading material for parents of adolescents to improve mental health of adolescents (focal point School Health Unit of FHB)
4. Work on Volunteer's Manual for the improvement of nutrition at grass root level
5. Formulating banner messages for international breastfeeding week 2008

5.1.4.9. Develop the capacities of personnel, educate and empower the public

	No. of programmes	No. of Participants
• Three day consultative workshop for training of trainers on development of health promotion settings	01	63
• Training of primary health care staff by trained health promoting officers at Yatiyanthota and Mundel	04	390
• Training of relevant health care staff on hospital environmental risk reduction and health promotion	03	103
• Behavioural Change communication (BCC) training at SLIDA, ARTII	02	70
• Workshops on health promotion to prevent Non-Communicable Diseases for hospital health education unit staff – Kurunegala	01	23
• Consultative workshop for HEOO and other health care workers on world tobacco day	01	87
• Consultative workshop for HEOO on planning activities on World Health day	01	30
• Awareness programmes on life skill development for health staff in hospitals	10	300
• Programmes on Communication skills (interpersonal & Small group, with the main focus being the development of nutritional status of communities) and Community Planning in Nuwara Eliya, Monaragala, Badulla, Ampara, Hambantota, Trincomalee, and Batticaloa districts	03	42

	No. of programmes	No. of Participants
• Programme on Communication skills (interpersonal & small group, with the main focus being the development of nutritional status of communities) and Community Planning- Tamil medium	01	
• Training of Trainers on Behavioural Change Communication and Health Education at district level		
Kalutara	02	
Colombo	02	
Kurunegala	02	
Polonnaruwa	02	
Monaragala	02	
Puttalam	02	
Anuradhapura	02	
Badulla	02	
Ampara	02	
Kandy	01	
• Community Health Orientation Programmes for MOOH	04	
• Training programmes for intern pharmacy students	01	
• Training of trainers on risk communication in Avian Influenza at central and district level in Ratnapura , Kegalle, Kurunegala,Monaragala, Anuradhapura, Matale, NuwaraEliya, Matara,Puttalam, Kandy, NIHS(Kalutara), Batticaloa, Kalmunai	26	520
• Providing training in Health Education and Health Promotion to Health Education Nursing Officers .	02	60
• Two day consultative workshop for training of trainers on Social responsibility regarding safe water	01	30
• Training of Trainers programme in 21 districts for world hand washing day	23	1300

	No. of programmes
• Life Skills Development Workshops for the Hospital Staff / Public Health staff	08
• Life skills in Reproductive health education / Master teachers and Teachers	06
• Special TOT workshops on life skills development Medical officers - Mental Health Directorate	12
• Skill development and Health Education programmes at the IDP camps in Settikulam	02
• A TOT workshops on skill development and education for the supervisory health staff of the Southern province (Balapitiya Hikkaduwa, Galle, Matara, Tangalle, Habaraduwa, Hambanthota, and Katharagama MOH areas)	08

5.1.4.10 Educate and empower the public

Exhibitions	No. of programmes
• Deyata Kirula National exhibition at BMICH	02
• Thalassaemia Prevention – Exhibition (One week) at SLECC	01
• Welimada Pradeshiya Sabha - Health Exhibition (One week)	01
• Hali Ela Pradeshiya Sabha - Health Exhibition (One week)	01
• Passara Pradeshiya Sabha - Health Exhibition (One week)	01
• Kalawana M.Vidyalaya - Health Exhibition (One week)	01
• Thissamaharamaya Temple - Health Exhibition and health camp	01
• Bandarawela Town Hall- Exhibition to commemorate World Women's day (One week)	01
• Biyagama Free Trade Zone working Youth- Health Exhibition	01
• Suwa Udana Health Education and life skill building programmes of remote villages Kollonne ,Kalthota Hingurakgoda Health camp Sindathriya Elders programme, Dambana Traditional village	05
• Participation in "Suwa udana" programs conducted during 2008 all over the country	25
• School Life Skill development /Health education Activities in Western, Sabaragamuwa, Uva, North central, Southern, Eastern Provinces	24
• Life Skills development in Marginal communities – Youth Working with Sarvodaya at Mattakkuliya area	
• Life skill development towards lifestyle modification. Village Level activities on Health promotive village settings.	03

5.1.4.11 Monitoring, evaluation and review

- Consultative meetings to develop a tool to evaluate the existing community best practices 04
- Field visits to review health promotion activities 03
- Reviewing of draft handbook for volunteers 02
- Evaluation of Hospital Health Education unit check list
- Supervision of Health Education and Health promotional activities at Provincial level - Uva Province
- Regular review meetings of Health Education activities at district level
- Quarterly reviews of districts, hospitals and mobile health education units and hospital health education units to review and guide on health education and behaviour change communication activities
- Quarterly reviews of Health Education Officers (HEOs)
- Supervision, monitoring and guidance for the behavioral survey on Avian influenza
- Visit to Kegalle for on-site inspection of a health promotive school and field resource centers

5.1.4.12 Developments and maintenance

1 Development of course unit curricula for Social and Behavioural Sciences and for Disaster Management for Community Medicine/ Community Dentistry courses of the Postgraduate Institute of Medicine
2 Development of plan of distribution of IEC materials list.(banners, posters , flip charts)
3 Development of National Action Plan for Elders
4 Participated in development of Health Sector National Plan on Disaster Management
5 Participated in preparation of communication material and data collection tools
6 Maintenance of HEB website
7 Development of strategies in the programme on Avian Influenza
8 Programme planning and coordination
9 Preparation and maintenance of Data Bases on;

- √ Quarterly Return on Health Promotion and Health Education sent by HEOO
- √ Information about MCH clinic resource centres
- √ Information on type of hospitals, MOH areas, MCH clinics, PHM staff, PHI staff in each district.
- √ Information on Hospital Health Education units.
- √ Health Education equipments at RDHS office and HEOO
- √ Preparation of a list of hospitals with Health Education Units in the country
- √ Compiling data on Health Education Units in districts in regard to MOH areas
- √ Preperation and submission of budget proposals
  - To HSDP to obtain funds for infrastructure development
  - Development of resources at divisional level for 08 districts (Nuwara Eliya, Badulla, Monaragala, Hambantota, Ampara, Trincomalee, Batticaloa and Kalmunai) – conducted at divisional level
  - Delopment of resource groups from Ampara and Hambabtota (conducted in Colombo)
  - For training of HEO for Nutrition Week 2009
- √ Quarterly reports sent to Samurdhi division on Progress Monitoring of the National Plan of Actions for Poverty Reduction under the SAARC Social Charter (2008-2015)

5.1.4.13 Coordination

- Coordinating the National Programme on Nutrition Month by Holding consultative meetings. (No. of Programmes - 05)
- Coordination of activities of Avian Influenza national programme with Provinces, districts and releavent stake holders
- Coordination of activities of national programme for prevention of Thalassaemia
- Planning and participation at technical evaluation meetings to build up the institutional capacity of HEB in Avian Influenza programme
- Initiation of island wide Health Promotion training to medical officers attached to Public Health/ Health Education units from Teaching hospital level down to Base Hospitals.

5.1.4.14 Upgrading the existing facilities

Purchasing office equipment worth Rs. 19.2 million for development of the audio and video material production unit.

5.1.4.15 Academic contributions and research by HEB staff

- Oral presentation 'Challenges faced by public health midwives in Sri Lanka: a qualitative research using novel Photovoice© methodology' at the 121st Annual Scientific Sessions of the Sri Lanka Medical Association
- Training programme in Community Paediatrics for MD (Paediatrics) trainees.
- Lecturing and coordination of Social and Behavioral Science Module in MSc (Community Medicine/ Community Dentistry)
- Lecturing for MSc (Medical Administration)
- Examiner for Qualifying examination for MSc (Community Medicine/ Community Dentistry) and for the MSc (Community Medicine/ Community Dentistry) examination
- Lectures for 3rd year medical undergraduates of Sri Jayawardanapura University
- Coordination and presentation – Continuous Professional Development Programme at the HEB
- Conducting consultative workshops on Developing Health Promotion Research Agenda.

  Resource person

  Communication for Behavioural Impact (COMBI)

  Health Promotion programme at the Lady Ridgeway Hospital for Children National Policy for Non communicable disease prevention (Life Skills provisions)
- Member, National resource pool on Disaster Management training
- Convener, Communication and Publications subcommittee of the National Task Force on Health Sector Disaster Preparedness and Response
- Invited lecture on 'Diseases associated with water' on World Water Day, at the Irrigation Department
- Edited chapter on Disaster Management for the PHI manual prepared by the NIHS
- Member in the activities in the Board of Study in Community Medicine.
- Lecture on "Introduction to behavioural modification in NCD" at 122th Annual Scientific Sessions of the Sri Lanka – 12th March 2009
- The research on childhood diabetes/ prediabetes-Prevalence survey of the National Diabetic Centre
- Training sessions for MD(Community Medicine & Community Dentristry) Trainees
- Supervision of trainees/ students for MD (Community Medicine), MSc (Community Medicine), MSc (Medical Administration) and Electives for Medical student of the Faculty of Medicine, University of Colombo
- Training programmes for MOHH, M.S.C. and M.D.(Com.Medicine./Denistry), Social paediatrics and M.S.C.(Medical Administration) on Health Education and Health

  Promotion
- Workshop of LS for medical administrators and MD, MSc students of PGIM
- Life skill development and life skills assessment tool development and validation study with the preparation of the life skills promotion package for mid-adolescents is being conducted at the moment in the Kalutara district.
- Resource Lectures on Empathy and skills towards Rabies prevention and responsible pet care
- Participated for the curriculum development consultative meetings for the school children on Life Skill and reproductive health education
- Act as the member of the resource committee in exhibit development in Rabies Prevention

5.1.4.16 Training and Supervision

- Hospital Health Education training programmes. (Anuradhapura)
- Community Health Orientation for Medical Officers of Health on Health Education and Health Promotion
- Training on Behaviour Change Communication at district level for supervisory public health staff
- Public Health Emergency Management in Asia and the Pacific course Coordinators workshop, Thailand
- Coordination and organization of training programmes to MOOH and other staff in the field of Health Education, Intern Pharmacy Students

5.1.5 Nutrition Coordination

Nutrition Coordination Division, which was handled by the Ministry of Plan Implementation earlier, has been transferred to the Ministry of Healthcare and Nutrition under the Extra Ordinary Gazette of the Democratic Socialist Republic of Sri Lanka, number 1.215/14 and dated 20th December 2001.

The Nutrition Coordination Division is located at 7th Floor, Public Health Complex in Narahenpita.

Planning, monitoring, coordination and facilitation of nutrition related activities implemented by various agencies are the main function of this Division. It has already been identified that improvement of nutritional status of people is a coordinated effort of all stakeholders. Therefore, the Nutrition Coordination Division is mandated to coordinate all nutrition and related activities with institutions at Ministry of Health – FHB, HEB, MRI, Non-Communicable Diseases Unit, Food Control Unit, Nutrition Unit, Young Elderly Displaced & Disabled Unit, Provincial Authorities, different Ministries and Non-governmental Organizations.

Mainly two programmes were implemented by the Nutrition Coordination Division namely Government Assisted *National Supplementary Feeding Programme* "*Thriposha Programme*" and World Bank Health Sector Development Project (Nutrition Component) 2005-2009.

5.1.5.1 National Supplementary Feeding Programme "Thriposha Programme"

The first comprehensive island-wide nutrition supplementary food intervention known as the "Thriposha Programme" was initiated by the Sri Lankan government in 1973 with donor assistance (CARE & USAID) to combat the high incidence of protein energy malnutrition (PEM) and micro nutrient deficiencies. However, since 1979 it has been fully funded by the Government of Sri Lanka.

"Thriposha" means triple nutrients as it provides energy, protein and micro-nutrients as a pre-cooked, ready to eat, cereal legume based food. Thriposha consist of Maize, Soya, Full cream milk powder & Vitamin Mineral Premix. The Thriposha Plant is situated at Kapuwatta, Ja Ela and it caters only to about 650,000 beneficiaries against the target population of approximately 1.1Million. Thriposha is distributed through 750 centres under the Ministry of Health & 500 estates, pre schools & orphanages under the Dept. of Probation & Child Care & Mahaweli Authorities.

The objective of the Thriposha programme is to provide an energy and reference protein-dense food with all required micro-nutrients as a supplement to the most nutritionally vulnerable segments of the population such as pregnant & lactating mothers and children from 6 months to 5 years of age

5.1.5.2 Health Sector Development Project (HSDP) 2005 – 2009

5.1.5.2.1 National Nutrition Surveillance System (NNSS)

In the past, several attempts have been made to establish a National Nutrition Surveillance System. But this could not be achieved or sustained due to various reasons. The Nutrition Coordination Division took the initiative of coordinating activities which targeted the establishing of a Surveillance system for the country. This Division consulted major stakeholders including nutrition professionals as well as international agencies who readily pledged their assistance.

The general objective is to establish a sustainable National Nutritional Surveillance System which will enable obtaining ongoing information on nutritional status and factors influencing them. The National Nutrition Surveillance System was established successfully in 30 Divisional Secretariat Divisions and is currently in operation.

The Action Plan was prepared based on the meeting conducted with the professionals as well as international agencies. The Nutrition Coordination Division is of the firm opinion that a concerted effort is the best form of action and the unit will play the role of the main coordinating body. Although the web site provides timely information it is proposed that periodic reports should be prepared for the use of managers and policy makers at all levels. This may take the form of a bulletin published periodically. Provincial Authorities can prepare their plans according to the timely information.

Table 5.1.12 : Sites of National Nutrition Surveillance System (NNSS) in Operation

Districts	D. S. Divisions	Districts	D. S. Divisions
1. Ampara	1. Uhana 2. Padiyatalawa	12. Galle	18. Thawalama 19. Neluwa
2. Jaffna	3. Koppai	13. Matara	20.Deikwella
3. Mannar	4. Mannar Town	14. Hambantota	21. Katuwana
4. Matale	5. Wilgamuwa		22. Beliatta
5. Nuwara-Eliya	6. Ambagamuwa		23. Suriyawewa
6. Anuradhapura	7. Galenbidunuwewa	15. Moneragala	24. Siyabalanduwa
7. Polonnaruwa	8. Dimbulagala		25. Madulla
8. Kurunegala	9. Polpitigama	16. Badulla	26. Meegahakivula
9. Puttalam	10. Mundel		27. Redeemaliyadda
	11. Kalpitiya	17. Vavuniya	28. Vavuniya Town
10. Kegalle	12. Deraniyagala	18.Trincomalee	29. Muthur
	13. Yatiyantota	19. Batticoloa	30. Vakarai
11. Ratnapura	14. Ayagama 15. Imbulpe 16. Kalawana 17. Weligepola	It has planned to expand it to all D. S. Divisions.	

5.1.5.2.2. Nutrition Oriented School Garden Programme

With the collaboration of the Ministry of Education, Ministry of Agriculture, the Nutrition Coordination Division conducted a nutrition oriented school gardening programme in selected schools in the Colombo and Gampaha educational zones. The main objective of this programme was to enhance the nutrition status of the school children, their family members and the community as whole by incorporating nutritional considerations into gardening.

As dietary inadequacy is one of the basic causes for malnutrition in Sri Lanka. The School gardening programme which provides children with knowledge and skills in developing a garden to meet the daily food requirements, will be a new approach. The main activities implanted under this programme were orientation programmes, awareness programme on nutrition for principals, teachers and students, distribution of seeds, plant materials, organic fertilizers & tools, Hands-on training on preparing organic fertilizer, Essay competitions, the Establishment of model school gardens, selection of the best school gardens and a prize giving.

5.1.5.2.3. Revision of the Nutrition Curriculum for the Public Health Midwife(PHM) basic Training at the Nurses Training School

The new nutrition curriculum and a set of lesson plans had been developed with the participation of experts in the field of nutrition, to be used for the part I - basic training programme of PHMs. This was completed and printed during the year 2008. Printed study materials (nutrition curriculum, lesson plans) were officially handed-over to the Education, Training & Research unit of the Ministry of Healthcare & Nutrition, along with a 3-day workshop to familiarize island-wide tutors (nutrition) of the part I training programme of PHMs.

5.1.5.2.4 Nutrition Education Programme to Combat Childhood Obesity

With the collaboration of the Ministry of Education and the National Institute of Education, the Nutrition Coordination Division conducted a pilot study to reduce over weight and obesity among primary school children in 8 National schools in the Colombo district. In this study 1,355 students, 32 teachers and 336 parents were trained under 10 modules, all based on Healthy eating and Healthy lifestyle. Skills of the staff in the Nutrition Coordination Division and the school teachers were improved and updated during this exercise. The Ministry of Education is expected to absorb the methods used into the primary school curriculum in order to improve the nutritional status of children.

5.1.5.2.5 Develop & Implement Nutrition Training Modules for Pre-School Teachers

With the assistance of the Ministry of Child Development & Women's Empowerment, the Open University, the Ministry of Education and the Ministry of Agriculture, the National Institute of Education and the Western Province Pre-school Statute, the Nutrition Coordination Division prepared three nutrition training manuals for preschool teachers, parents & preschool children. This programme had been implemented in 375 Pre-schools in the Western Province as a pilot project to create awareness among pre-school teachers on nutrition and through them it was expected to educate children & parents.

Lectures were given by the following resource persons:-MOH, PHNS, NCD Officers, ECCD Officers, SPHI, Staff officers from the Agriculture training centre. The teachers training course comprised of 3 stages.

Stage I:	Nutrition	-	3 days
Stage II:	Nutrition Action Plan	-	2 days
Stage III:	Urban Agriculture	-	2 days

The Nutrition Action Plan that was prepared by the teachers were sent to us.

Things that were included in the action plan:- Awareness, Growth Monitoring, Health care practices, Supplementary food, Food demonstration, Home gardening, Teachers creativities on nutrition (e.g Poems, posters, leaflets)

5.1.5.3 National Nutrition Policy & Strategic Plan

The National Nutrition Policy & Strategic Plan is a prerequisite for effective programme implementation & management. The Nutrition Coordination Division has completed this task with the support of all stake holders and Development Partners and obtained Cabinet approval.

5.1.5.4 Coordination & Collaboration with other Agencies

- The Nutrition Coordination Division is conducting lectures in Undergraduate & Postgraduate Institutions.
- Take part in Awareness Exhibitions & campaigns on nutrition and National level Steering Committees.
- The Nutrition Coordination Division is the Secretariat to the National Nutrition Steering Committee which is chaired by the Secretary to the Ministry of Healthcare and Nutrition.
- Provide Technical support to other Ministries e.g Ministry of Nation Building and Estate Infrastructure Development

5.2 Specialised Public Health Programmes

5.2.1 Malaria Campaign 2008

The number of malaria cases reported during the year 2008 was affected by the escalation of the conflict situation in the Northern Province. The total number of reported cases was 670 positives, which comprised of 520 cases among armed forces personnel engaged in operations and 150 cases among civilians. The highest reported number of cases was from the district of Kilinochchi.

Although the total reported malaria incidence has markedly increased in comparison to the year 2007, the total number of cases reported from among civilians continues to decline, maintaining the trend of previous years. However, there continues to exist many natural and social factors that could influence a resurgence of malaria in the island. The Campaign continues to develop and implement a programme of work that can be successfully implemented in most parts of the country not affected by intensive military operations. This programme has taken into account the difficulties faced in implementing a control programme in the conflict-affected areas of the country and the recently-cleared eastern districts and has succeeded in reducing the burden of the disease in these areas as well.

Considering the present favourable malaria situation in the country the Anti-Malaria Campaign reorganized the objectives and strategies of the Campaign at the end of 2006. The revised objectives and strategies of the Anti-Malaria Campaign are as follows;

5.2.1.1. Objectives of the Anti-Malaria Campaign.

1. To eliminate indigenous P. falciparum malaria by the year 2012 in non-conflict & transitional areas of the country.
2. To eliminate indigenous P. vivax malaria by the year 2012 in 75% of non-conflict & transitional areas of the country
3. To reduce API in conflict affected areas to 75% of the API reported in 2007, by the year 2012.
4. To maintain zero mortality from malaria in Sri Lanka

5.2.1.2. Strategies for malaria elimination in non-conflict & transitional areas in Sri Lanka

- Ensure 100% case detection and confirmation by microscopy or RDT, notification and radical cure.
- Strengthening malaria surveillance system
- Implement radical treatment policy for all *P. vivax* infections
- Continue ACT and gametocyte treatment policy for *P. falciparum* malaria.
- Implementing a quality control and quality assurance for diagnostic and treatment services including anti-malarial drugs.
- Ensure total indoor residual spray coverage in and around each malaria case and implementing an integrated vector management strategy including the distribution of Long Lasting Insecticide-treated Nets/Insecticide Treated Nets (LLINs/ITNs) where appropriate to control vector densities and eliminate disease transmission.
- Implementation of an outbreak preparedness and rapid response strategy for early containment of outbreaks
- Prevention of malaria in travellers
- Re-orienting public and private health sector staff towards the new goals of malaria elimination.
- Advocacy for political commitment, partnerships and enhancing community participation
- Human resource development and capacity building

5.2.1.3. Strategies for malaria control in conflict-affected areas in Sri Lanka

- Strengthening case detection and confirmation by microscopy or RDT, notification and radical cure.
- Strengthening the malaria surveillance system
- Implement radical treatment policy for all *P. vivax* infections
- Continue ACT and gametocyte treatment policy for *P. falciparum* malaria.
- Increase Indoor Residual Spraying(IRS) coverage and the distribution of LLINs/ITNs and other vector control measures based on an integrated vector management strategy in conflict-affected areas where feasible.

- Advocacy for political commitment, partnerships and enhancing community participation
- Human resource development and capacity building
- Operational research

5.2.1.4. Epidemiology

A total of 1,047,104 blood smears were examined by the departmental staff attached to medical institutions and the Anti-Malaria Campaign including its regional offices during the year 2008. Following this screening,670 confirmed malaria cases were detected. This included 623 *P. vivax* infections and 47 *P. falciparum* or mixed infections (29- *Pf, 1-Pm* and 17-mixed infection). Significantly, of 47 *P. falciparum* or mixed infections, 21 infections were imported from other countries. Importantly it should also be noted that 520 of the 670 cases detected during the year (78%) were infections in armed forces personnel engaged in the liberation of the Northern Province.

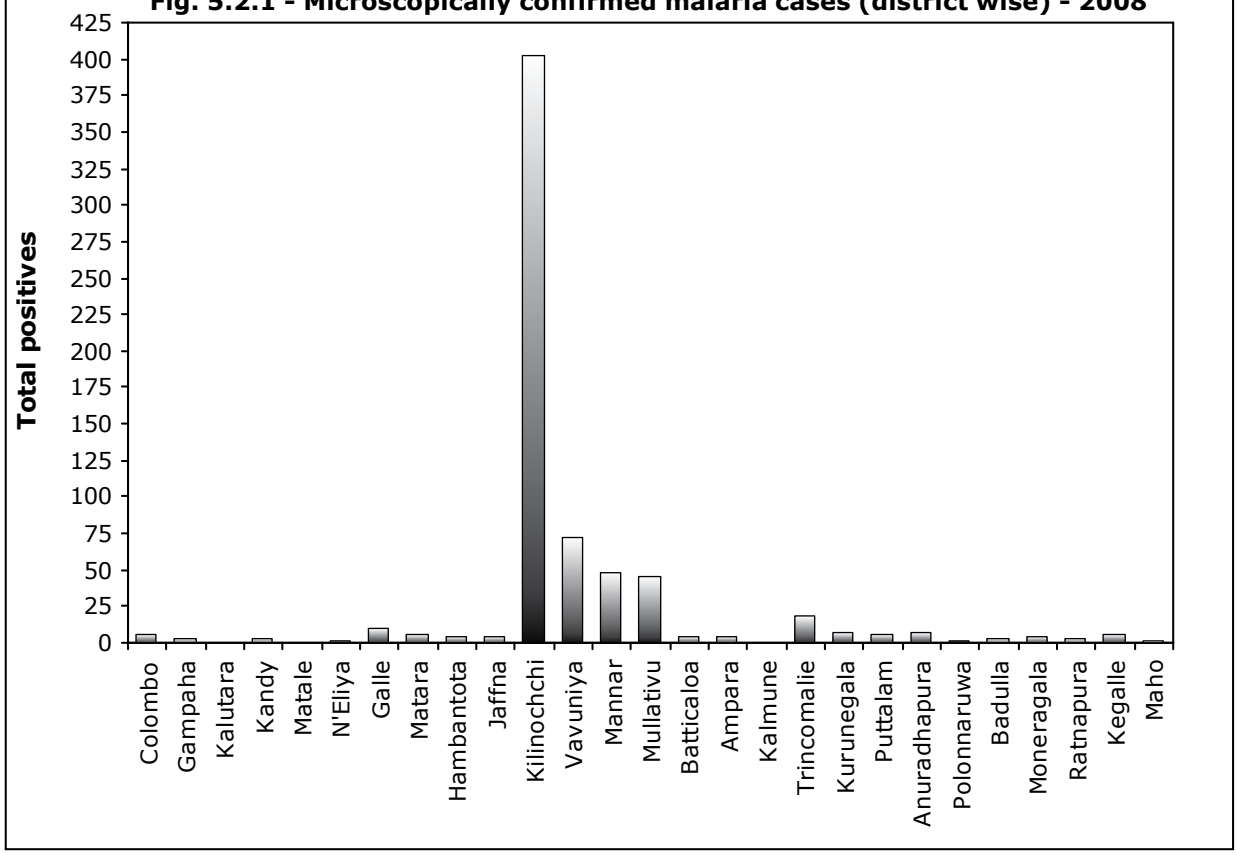
Accordingly the highest number of cases reported were from the districts of Kilinochchi, Vavuniya, Mannar & Mulaitivu.

Table 5.2.1 : Parasite formula, 2007- 2008

Year	Proportion of P.vivax infections	Proportion of P.falciparum infections
2007	97	3
2008	93	7

Six hundred and ten (91%) of the 670 reported cases recorded in 2008 were detected in males and 60 cases were detected in females (9%). All the reported falciparum cases were detected among males. The most affected age group was patients over 15 years of age who comprised 638 of the 670 cases reported (95.2%), while patients between 10 - 14 years comprised 4 cases (0.6%), 6 – 9 years comprised 9 cases (1.3%), 1 – 5 years comprised 15 cases (2.3%) and under 01 years comprised 4 (0.6).

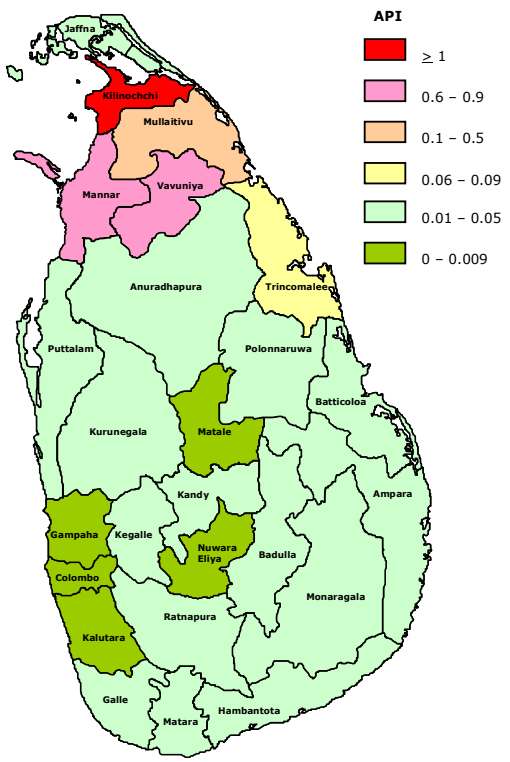
Fig. 5.2.1 - Microscopically confirmed malaria cases (district wise) - 2008



5.2.1.5 Surveillance

The surveillance mechanism of the malaria control programme is implemented mainly through Activated Passive Case Detection (APCD). All fever patients attending State Medical Institutions located in malarious areas,suspected of having a malaria infection,are screened for malaria parasites by microscopical examination of a peripheral blood smear or through the use of rapid diagnostic test kits. In addition Passive Case Detection (PCD) is also carried out in the regional offices of the Anti Malaria Campaign by screening suspected malaria patients who seek treatment at these offices. Active Case Detection (ACD) is carried out through Mobile Malaria Clinics which are conducted in hard to access localities situated away from Medical Institutions. Detection of cases by home visits is done under special circumstances (eg. outbreaks). The Anti-Malaria Campaign recommends screening all fever patients suspected of having malaria, especially security forces personnel and patients with a history of recent fever seeking treatment from medical institutions in areas where malaria outbreaks occur.

Fig- 5.2.2: Population Rates Reflecting District Wise Reported Malaria Incidence in Sri Lanka 2008



Source : Anti Maleria Campaign

5.2.1.6 Vector control activities

In Sri Lanka, malaria vectors are mainly controlled by a strategy of integrated vector management. Integral components of this strategy are the rational use of insecticides in rotation for indoor residual spraying (IRS), distributing long lasting insecticide-treated nets (LLINs), breeding and introduction of larvivorous fish, environmental modulation and modification through the filling of abandoned gem pits, impregnation of mosquito nets with permethrin and space spraying for special occasions.

In the year 2008, Deltamethrin 5% wdp, Fenitrothion 40% wdp, Lambda cyhalothrin 10% wdp and Etofenprox 20% wdp were used for indoor residual spraying in rotation in malarial districts. Fenitrothion was used in Matale, Kurunegala, Kilinochchi, Batticoloa, Hambanthota, Kalmunai, Jaffna and Vavuniya districts and Etofenprox was used in Puttalum, Matale, Mannar and Moneragala districts. In Ampara, Anuradhapura, Hambanthota, Kurunegala, Trincomalee, Vavuniya, Polonnaruwa and Puttalum districts Deltamethrin was used. Lambda cyhalothrin was used in Moneragala district. About 206,641 houses were sprayed (fully and partially) and the total population covered under the IRS programme was 727,431.

Five hundred & three thousand five hundred Deltamethrin impregnated long lasting insecticide impregnated nets, which were procured using funds from the GFATM were distributed among malarious areas in the Northern, Eastern, North Central, Wayamba, Uva, Sabaragamuwa & Southern Provinces. The protected population is approx. 2 million.

Larvivorous fish mainly "Guppi" (*Poecilia reticulata*) were introduced into wells and abandoned gem-pits as a biological method of vector control and environmental modulation and modifications was done by the filling of abandoned gem pits. Space spraying was done in special situations particularly around the camps of displaced persons and during festival seasons eg: Kataragama and Madu festival.

5.2.1.7 Entomological services

The entomology division contributed to the national malaria control efforts during the year by conducting entomological investigations. Field investigations were carried out by the three entomological teams attached to the Anti-Malaria Campaign Directorate under the supervision of two Entomologists.

During the year 2008, Global Fund to Fight AIds ,TB and Malaria(GFATM) and WHO assisted malaria control activities in Sri Lanka. During the year 2008, the National Malaria Control Programme continued to receive support from the GFATM in the form of two grants for malaria control under the Round 1 and Round 4. Both assistance projects are jointly implemented through a partnership between the Ministry of Healthcare & Nutrition and Lanka Jathika Sarvodaya Shramadana Sangamaya of Sri Lanka.

5.2.2 National programme for Tuberculosis Control and Chest diseases

Tuberculosis control activities in Sri Lanka are operated through National Programme for Tuberculosis control and Chest Diseases (NPTCCD) which is a decentralized unit in the Ministry of Health and headed by the Director/ NPTCCD. The program functions under the DDG (PHS 1). The District Chest Clinics (DCCs) of Colombo & Gampaha, Chest hospital, Welisara (National Reference Hospital), the National Tuberculosis Reference Laboratory, Welisara, Central Drug Stores, Welisara and the TB wards in Jaffna are under the direct administration of the Director/NPTCCD.

TB control services in the country are delivered through the District Chest Clinics and the District Tuberculosis Control Officer (DTCO) who is a Medical Officer responsible for TB control at the district level. There are 26 district chest clinics in 25 districts.

Apart from TB control activities the chest clinics are involved in the diagnosis and management of other respiratory diseases. District Chest Clinics (except Colombo and Gampaha) are administratively under the Provincial health authority and the Director /NPTCCD provides technical guidance and funds obtained from international sources for implementation of the control activities at the district level.

In addition to the funding from the government for NPTCCD, TB control activities are supported by the Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and World Bank through NHAPP. WHO provided technical assistance to the program and the Global Grug Facility(GDF) provided fixed dose combination (FDC) anti –TB drugs as a grant in 2007.

5.2.2.1 Goal

The overall medium-term goal for TB control is to reduce morbidity, mortality and transmission of TB until it is no longer a public health problem in the country. Elimination of TB, defined as less than one case per million population, is a long-term goal targeted for 2050.

5.2.2.2 Objectives

- To ensure that every TB patient has access to effective diagnosis, treatment and cure;
- To interrupt the transmission of TB;
- To prevent the emergence of drug resistance;
- To reduce the social and economic burden caused by TB.

5.2.2.3 Targets

- To reach and thereafter to sustain the 2005 global targets-achieving at least 70% case detection and at least 85% treatment success among TB cases under DOTS; in order
- To reach the interim targets of at least halving TB deaths and prevalence by 2010, relative to 1990 level.
- To halt and reverse the incidence of TB as stated in the Millennium Development Goals (MDGs) set for 2015.

Table 5.2.2 : MDG Targets Set for the Year 2010 and 2015

Indicator	1990 Estimates	2010 Targets	2015 Targets
Case Detection Rate under DOTS	N/A	86%	90%
Treatment Success Rate	N/A	> 85%	> 85%
Incidence	60/100k	42/100k	30/100k
Mortality	10/100k	2.2/100k	2.0/100k

Source : National Programme for TB Control and chest diseases

Data on case detection, sputum conversion and treatment outcome from District Chest Clinics are collected quarterly and compiled to gather annual figures.

5.2.2.4 DOTS population coverage

The number of districts implementing DOTS has not changed in 2008. Except for Mannar, Mullaitivu and Kilinochchi, all other districts are under DOTS implementation. The DOTS population coverage remains at 97.6% as in the previous year.

5.2.2.5 Indicators

The most important performance indicators are;

1 Case detection rate
2 Treatment success rate
3 Smear conversion rate
4 Default rate
5 Death rate

Case *notifications*

In 2008, 9,214 new cases of Tuberculosis of all forms have been notified to the centre. Out of this 4,941 were sputum smear positive pulmonary tuberculosis cases. The notification rate was 44.9 per 100,000 population. This shows a slight increase in the notification rate when compared with the 43.5 per 100,000 populations in 2007. The total number of notified smear-positive cases has increased by 2.83 % (4,805 in 2007 and 4,941 in 2008).

Case *detection*

A total number of 9,614 of all forms of TB cases has been reported from DCCs in the quarterly reports in 2008. This consists of 8,996 (93.7%) new cases, and 394 (4.1%) retreatment cases (relapses 202, 2.1%; treatment after failure 64, 0.7%; treatment after default 128, 1.3%). The remaining 224 (2.3%) were other cases that did not belong to any of the above categories. Among new cases, 4,683 (52.1%) were sputum smear positive pulmonary TB (PTB) cases while 2,146 and 2,167 were sputum smear negative PTB (23.9%) and extra pulmonary TB (24.1%) cases respectively. The highest incidence of TB as well as new smear positive PTB cases were reported from the Colombo District where as the lowest was from Mannar. (Table 5.2.3)

Table 5.2.3 : Tuberculosis Case Detection by the District of Registration - 2008

District	New Cases				Relapse	Others				Treatment After Failure	Treatment After Default	TOTAL
	PTB sp+ ve	PTB sp-ve	EPTB	TOTAL		sp+ve	sp-ve	EPTB	TOTAL			
Colombo	1,071	273	465	**1,809**	54	7	16	20	43	8	48	**1,962**
Gampaha	557	135	245	**937**	18	3	5	17	25	3	28	**1,011**
Kalutara	392	89	166	**647**	13	0	5	5	10	15	2	**687**
Kandy	275	271	223	**769**	18	0	8	8	16	5	7	**815**
Matale	127	70	44	**241**	6	0	0	1	1	4	0	**252**
Nuwara Eliya	86	48	28	**162**	2	4	3	6	13	1	2	**180**
Galle	233	108	106	**447**	18	1	1	3	5	0	3	**473**
Matara	143	65	55	**263**	7	0	11	8	19	0	0	**289**
Hambantota	66	59	38	**163**	2	0	0	1	1	0	0	**166**
Jaffna	110	193	64	**367**	8	1	9	4	14	0	1	**390**
Vavuniya	52	19	15	**86**	1	1	1	1	3	0	1	**91**
Batticaloa	69	33	35	**137**	9	2	7	1	10	1	3	**160**
Ampara	37	28	26	**91**	0	0	1	0	1	1	1	**94**
Kalmunai	73	162	16	**251**	2	0	0	0	0	1	10	**264**
Trincomalee	63	96	9	**168**	1	0	1	4	5	0	0	**174**
Kurunegala	246	135	130	**511**	14	1	4	5	10	6	9	**550**
Puttalam	77	24	38	**139**	2	0	0	0	0	0	0	**141**
Anuradhapura	153	69	82	**304**	0	2	9	8	19	8	1	**332**
Polonnaruwa	88	26	21	**135**	1	0	1	2	3	0	0	**139**
Badulla	139	54	76	**269**	6	3	7	2	12	1	0	**288**
Monaragala	51	24	19	**94**	3	0	0	2	2	2	0	**101**
Ratnapura	335	89	155	**579**	8	0	0	1	1	7	7	**602**
Kegalle	203	61	105	**369**	8	1	2	7	10	1	5	**393**
Mannar	13	4	3	**20**	1	0	1	0	1	0	0	**22**
Mullaitivu	0	0	0	**0**	0	0	0	0	0	0	0	**0**
Kilinochchi	24	11	3	**38**	0	0	0	0	0	0	0	**38**
Total	**4,683**	**2,146**	**2,167**	**8,996**	**202**	**26**	**92**	**106**	**224**	**64**	**128**	**9,614**

Source : Data from Quarterly Reports of Case Finding from districts.

The highest number of new TB cases was in 45-54 age group (1,873, 20.3%). However, for both males and females, the highest incidence rate is reported in 55-64 age group. (Table 5.2.4). One third of all new cases (67%) were males.

Table 5.2.4 : Incidence Rates (per 100,000 population) of New TB Cases by Age and Sex- 2008

Age group	Male	Female	Total
0-14	5.7	5.5	5.6
15-24	26.6	26.1	26.4
25-34	53.0	34.8	43.9
35-44	103.5	43.5	74.0
45-54	166.2	62.7	116.0
55-64	186.9	79.5	136.0
65+	186.9	79.5	136.0
Total	**59.1**	**30.2**	**44.9**

Treatment outcome

In 2007, 4447 new sputum smear positive cases were registered under Directly Observed Therapy Short Course (DOTS) for treatment. The cure rate among them was 83.6% and a further 2.5% completed treatment (no laboratory confirmation of cure), giving an overall treatment success rate of 86.1%. The failure rate remained low at 1.2% with 10 districts having none of the cases treatment failure. However, the defaulter rate is 7.1% and is considered high. The highest defaulter rate was reported from Batticaloa District (19.1%) and Colombo (11.8%), Gampaha (12.5%), Puttalam (11.1%) and Trincomalee (9.8%) are the other districts with high defaulter rates. (Table 5.2.5).

Fig 5.2.3 : Case Detection Rate of All New TB Cases per 100,000 Population

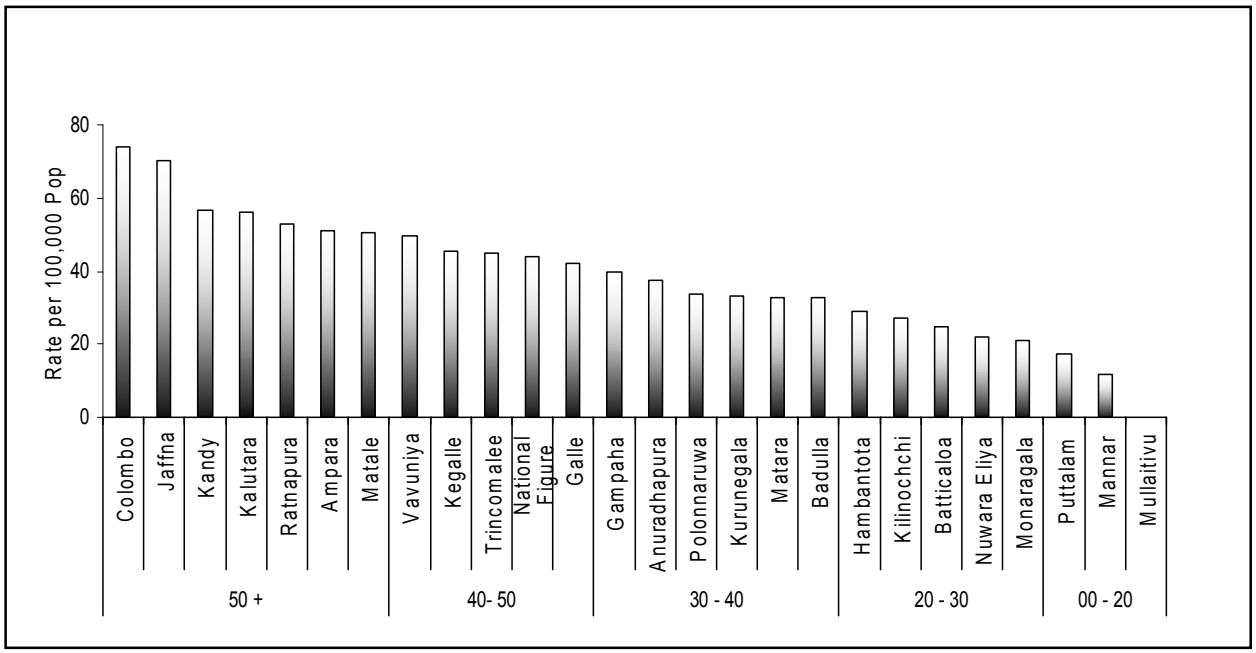


Table 5.2.5 : Treatment Outcome of New Sputum Smear Positive PTB Cases by District – 2008

District	Cured		Treatment Completed		Died		Failure		Defaulted		Transferred out		Not evaluated		Total
	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	
Colombo	738	77.7	45	4.7	29	3.1	9	0.9	112	11.8	0	0	17	1.8	950
Gampaha	455	78.7	26	4.5	23	4	2	0.3	72	12.5	0	0	0	0	578
Kalutara	312	86.2	0	0	25	6.9	9	2.5	16	4.4	0	0	0	0	362
Kandy	265	87.5	1	0.3	19	6.3	2	0.7	16	5.3	0	0	0	0	303
Matale	70	81.4	7	8.1	4	4.7	0	0	4	4.7	1	1.2	0	0	86
Nuwara Eliya	73	90.1	0	0	4	4.9	1	1.2	3	3.7	0	0	0	0	81
Galle	225	91.1	0	0	9	3.6	3	1.2	8	3.2	1	0.4	1	0.4	247
Matara	110	88	0	0	10	8	1	0.8	4	3.2	0	0	0	0	125
Hambantota	54	87.1	0	0	5	8.1	0	0	3	4.8	0	0	0	0	62
Jaffna	106	84.1	1	0.8	8	6.3	0	0	5	4	1	0.8	5	4	126
Vavuniya	39	84.8	1	2.2	3	6.5	0	0	3	6.5	0	0	0	0	46
Batticaloa	69	77.5	1	1.1	2	2.2	0	0	17	19.1	0	0	0	0	89
Ampara	19	63.3	3	10	4	13.3	0	0	2	6.7	0	0	2	6.7	30
Kalmunai	87	90.6	0	0	4	4.2	2	2.1	3	3.1	0	0	0	0	96
Trincomalee	36	87.8	0	0	0	0	0	0	4	9.8	1	2.4	0	0	41
Kurunegala	199	87.7	5	2.2	8	3.5	9	4	5	2.2	1	0.4	0	0	227
Puttalam	62	76.5	6	7.4	4	4.9	0	0	9	11.1	0	0	0	0	81
Anuradhapura	133	85.3	0	0	14	9	8	5.1	1	0.6	0	0	0	0	156
Polonnaruwa	74	94.9	0	0	4	5.1	0	0	0	0	0	0	0	0	78
Badulla	103	89.6	4	3.5	6	5.2	2	1.7	0	0	0	0	0	0	115
Monaragala	58	93.5	1	1.6	3	4.8	0	0	0	0	0	0	0	0	62
Ratnapura	256	84.5	0	0	21	6.9	1	0.3	25	8.3	0	0	0	0	303
Kegalle	201	86.3	11	4.7	12	5.2	3	1.3	6	2.6	0	0	0	0	233
Total	**3,744**	**83.6**	**112**	**2.5**	**221**	**4.9**	**52**	**1.2**	**318**	**7.1**	**5**	**0.1**	**25**	**0.6**	**4477**

5.2.2.6 Drugs & Supplies

Government of Sri Lanka provides 1st line individual Anti-TB drugs, and 2nd line Anti TB drugs and laboratory reagents for sputum microscopy, culture & DST. Global Drug Facility (GDF), in 2007 provided fixed dose combination anti TB drugs as a grant.

Table 5.2.6 : Key achievements – 2006 - 2008

Indicator	2006	2007	2008
DOTS coverage	97.60%	97.60%	97.60%
No. of sputum +ve cases detected under DOTS	4,431	4,477	4,646
Case Detection Rate under DOTS	78.50%	85.60%	88.40%
Treatment Success Rate	86.30%	87%	86.10%
Default Rate	6.30%	6.70%	7.10%

5.2.2.7 Finances.

The TB control activities were adequately financed in 2008. The sources of finances were, the Governement of Sri Lanka, World Health Organization and the Global Fund to Fight AIDS, Tuberculosis and Malaria.

Table 5.2.7 : Financing of TB Control Activities - 2008

CATEGORY	GOVERNMENT	WHO	GFATM
Personal Emoluments	+		+
Infra structure development	+		+
Commodities and products	+	+	+
Drugs and supplies	+		+
Capacity building	+	+	+
Supervision, monitoring and evaluation		+	+
Administration	+		+

5.2.2.8 Constraints and Challenges

Inequity of services, high turnover of staff, inadequate technical capacity of the health personnel, poor involvement of other sectors in TB control, low public awareness and poor community participation were the key factors identified that cause constraints in an effective TB control in Sri Lanka.

5.2.2.9 Activities

In order to achieve an improved case detection and favourable treatment outcome, the following activities were carried out in the year 2008.

5.2.2.10 Guidelines for Management of Tuberculosis in Children

This Guideline was prepared by the NPTCCD and 2,500 copies were printed and distributed among relevant health care facilities both in the public and private sector.

5.2.2.11 Advocacy, Communication and Social Mobilization (ACSM)

A large scale social marketing program covering the whole country was launched in order to overcome the stigma associated with the disease, to improve the case detection, to increase the compliance to anti-TB drugs and to minimize the defaulter rate. Accordingly, a series of advocacy programmes were held for district level stakeholders and higher level policy makers with a view to get their support for TB control activities.

Table 5.2.8 : ACSM Activities Conducted in 2008

Programme category	No. of Programmes	No. of Participants
IEC programmes for the health staff	101	4839
Advocacy programmes for the district level stakeholders	64	2515
Advocacy Programmes for High-level policy makers	7	298

Communication programmes for the general public

- The following activities were carried out targeting the general public.
- Awareness programmes were conducted through mass media and by face to face communication through community outreach.
- Newly produced TV spots, Radio spots and Jingles were telecasted and broadcasted.
- Two new documentaries and two TB songs were produced and telecasted.
- Two street dramas in Sinhala and Tamil were displayed at places of public gathering.
- Leaflets were produced in three languages (Sinhala, Tamil and English) and were widely distributed.
- Media conferences for journalists were held motivating them to make the public aware through the mass media.

Health Education & Exhibitions

An exhibition stall was set up at 'Deyata Kirula 2008', the national exhibition held at BMICH to commemorate the Independence Day in Sri Lanka. In addition, exhibition stalls were set up at exhibitions held in schools and in the community. Awareness talks were also delivered at these sites.

5.2.2.12 Commemoration of the World TB Day

A national programme was organized on the World TB day, 2008 with the participation of the Hon. Minister of Healthcare and Nutrition and the Ministry officials. The main event was held at the Sri Lanka Foundation Institute, Colombo under the theme of "***I am Stopping TB***". Apart from the National event, a variety of activities were held at district levels.

5.2.2.13 Training Programmes

The following training activities were carried out in 2008 to improve the awareness and skills of healthcare staff.

- In service training was done for the health staff and community DOT providers using the modules prepared for each category.
- In service training for the Microscopists were carried out at the central laboratory.
- Training of the health staff on "Counselling and Health education" was done at district level.
- The training on Drug Supply Management was conducted with the participation of 35 DTCOs and Pharmacists. This was done in parallel to the GDF mission in 2008.
- Modular trainings for DTCOO, MOs and RMOs attached to the chest clinics were held.

5.2.2.14 Sensitization of General Practitioners

The Independent Medical Practitioners' Association (IMPA) built up a partnership with the National Programme to enhance case detection and to improve treatment success by utilizing the general practitioners' (GP) clinics as DOT centres. Ten sensitization programs for GPs were held in Galle, Gampaha, Kegalle, Badulla, Puttlam, Monaragala, Matara, Nuwara Eliya, Ampara and Hambantota districts with the participation of dd281 GPs.

5.2.2.15 Laboratory Services

Decentralization of TB culture facilities

It was decided to establish a culture laboratory in the Teaching Hospital, Kandy. Procurement of equipment for the culture lab was in progress in 2008 and it is planned to be complete by 2009. Twenty six refrigerators were also procured in 2008 to enhance the district-level sputum storage for culture.

Sputum Microscopy Services

Since 2005, Microscopy Centres were established in primary healthcare centres in order to improve case detection. TB Assistants recruited with GFATM funds were deployed in these Microscopy Centres. A group of 35 new TB Assistants were trained in 2008 to cover service deficient areas. In 2008, 67 TB Assistants carried out their services in Microscopy Centres located in 23 Districts.

External Quality Assurance (EQA) of the Sputum Microscopy

This is one of the very important parts of the National Programme and it was introduced to all Microscopy Centres island-wide. Sputum smears done in Microscopy Centres attached to general health institutions were sent to the laboratories at District Chest Clinic for EQA. Slides from all the laboratories at District Chest Clinics were sent to the central laboratory for EQA. In total 98 microscopy centres were involved in EQA up to December 2008.

5.2.2.16 TB Control in Prisons

Two workshops were held for Chief Jailors and Superintendents in prisons all over the country.

5.2.2.17 Operational Research

A national survey on the effectiveness of the FDC chemotherapy and factors affecting treatment outcome of PTB was commenced in 2008. An analytical study on TB case detection & projection for the future was commenced in 2008. The feasibility study on the Annual Risk of TB Infection was started in 2008 and it was planned to implement the survey in 2009.

5.2.2.18 Supervision, Monitoring and Evaluation

District Chest Clinics were regularly supervised from the centre. District Tuberculosis Control Officers carried out supervision of the DOT centres and the microscopists in the District Chest Clinics carried out supervision of the peripheral microscopy centres

5.2.2.19 National Monitoring and Evaluation (M & E) Plan for TB control

The joint Monitoring and Evaluation (M&E) tools which was prepared by the NPTCCD and Sarvodaya was submitted to the Global Fund with the final M & E plan.

5.2.2.20 GDF Monitoring Mission - 2008

The GDF monitoring mission was held in the country from 17 -21 November 2008. The objective of the mission was to monitor TB control activities and to provide recommendations for the TB control programme.

5.2.2.21 GLC (Green Light Committee) initiative

It was planned to procure second line drugs for the management of drug-resistance TB cases through the GLC/GDF mechanism. Initial preparatory work was carried out in this respect in 2008.

5.2.2.22 Recruitments of the project staff under GFATM R-06 grant

One Planning Assistant and one Research Coordinator were recruited to improve the performance of GFATM related activities.

5.2.2.23 Refurbishment under the TB control programme

Refurbishment of the Central Laboratory of the National Programme was completed with the support of the World Bank through NHAPP. Part of the minor civil works in the central laboratory was completed with funds from the GFATM. Refurbishment of the MDR TB ward at the Chest Hospital, Welisara and the Central Drug Stores, Welisara were initiated in 2008 and constructions and tendering procedures will be commenced in 2009. As well as the refurbishment of microscopes, minor civil works at District Chest Clinics could be completed in 2008.

5.2.2.24 Patients Information Management System (PIMS)

The comprehensive computerized system which was in operation at the Centre and at District Chest Clinics was upgraded.

5.2.2.25 B.C.G. Vaccination

The BCG vaccination is included in the Expanded Programme of Immunization. All newborn children are being vaccinated within 24 hours after delivery. The BCG vaccination protects the child from two deadly forms of Tuberculosis, i.e.; TB Meningitis and Milliary TB.

5.2.2.26 Other Respiratory Diseases

Though tuberculosis control is the main activity of the programme, all other respiratory diseases are being treated at the chest hospitals and chest clinics.

5.2.3 Anti Filariasis Campaign – 2008

5.2.3.1 Background Information

Lymphatic Filariasis (LF), one of the most disfiguring diseases in the world is the world's second leading cause of permanent disability leading to social stigma, and economic loss with a heavy burden on the health system. Being endemic in 83 countries, more than a billion people are at the risk of LF infection.

In 1997, as a result of advances in diagnostics and treatment of LF, the disease was classed as one of the six infectious diseases considered to be 'potentially eradicable'. The 50th World Health Assembly (WHA) adapted a resolution (WHA 50.29) calling all member states to work towards elimination of LF as a public health problem by 2020. Elimination was defined as a microfilaria rate of < 1/100 population.

One of the main strategies adapted for elimination was the interruption of transmission through Mass Drug Administration (MDA) of a once yearly single dose, two drug regimen with DEC and Albendazole to the entire endemic population for at least five years.

The term 'Elephantiasis' was found in the ancient chronicles written in Sri Lanka in 400 B.C. But the first authentic description of the disease was that of a survey conducted in 1936 to measure the extent of the problem. The Microfilaria rate (percentage of blood films positive for the parasite) was found to be between 20-25% but it has declined to 5-10% a few years after the establishment of a vertical programme – the Anti Filariasis Campaign (AFC) - to control the disease in 1947. With the support of the international partners and WHO, Sri Lanka successfully completed five rounds of MDA in 2006 which covered more than 80% of the population residing in eight endemic districts, in the Western, Southern and Wayamba Provinces.

Lymphatic Filariasis is caused by the parasite *Wucheraria banorofti,* the adult of which lives usually in the lymphatic system of a person.

The adult produces live embryos, which find their way into the blood stream, where they are capable of living for a considerable period of time, without developing further. The life span of the microfilaria is about a year at the most.

The only insect vector responsible for the spread of urban filariasis in Sri Lanka is the *Culex quinquefasciatus mosquito*, which serves as the intermediate host, in which the microfilaria count coincides with the biting habits of the vector. This mosquito breeds in highly polluted collections of water, such as blocked drains, damage septic tanks, and latrine pits etc., which abound in urban habitats.

5.2.3.2 Vision

Sri Lanka-free of Filariasis and associated complications, including stigma

5.2.3.3 Mission

To achieve zero transmission by the control of parasites and vectors

5.2.3.4 General Objective

Interrupt transmission, sustain elimination of LF , and the alleviation of suffering of patients affected with disabilities

5.2.3.5 Specific Objectives

a. To interrupt transmission by the vector and parasite control activities
b. To reduce the suffering of patients with lymphodema
c. To strengthen laboratory facilities for Xenomonitoring by establishing PCR techniques
d. To train health workers (capacity building)
e. To conduct social mobilization activities for the prevention of disability and stigma associated with the disease
f. To conduct operational research

5.2.3.6 Strategies

1. Vector surveillance - Routine activities in endemic areas and periodic activities in non-endemic areas
2. Parasite surveillance - Routine activities in endemic areas and periodic activities in non-endemic areas
3. Capacity building – (Vertical as General health staff)
4. Social Mobilization Campaign – (destigamatization and de-linking Filariasis with lymphodema)
5. Inter-sectoral coordination
6. Monitoring and evaluation
7. Integration of all possible activities into the General Health Service

5.2.3.7 Major Activities Implemented in 2008

a. Routine night blood filming in endemic areas and special programmes
b. Treating of all Microfilaria + ve and clinically suspected cases
c. Prevention of further deterioration of lymphodema among ex-patients
d. Vector surveillance in vulnerable areas
e. Awareness programmes on basic facts and services among health staff and the general public especially in endemic areas
f. Strengthen laboratory diagnosis with the latest technologies and trained human resources
g. Monitoring and evaluation - review and planning meetings

Review meetings with the Regional Medical Officers (Filariasis) were held regularly at the headquarters of the AFC. Patients and health workers were trained on the management of lymphodema legs . Further, review meetings were held with the staff attached to 7 AF units.

5.2.3.8 Special Activities

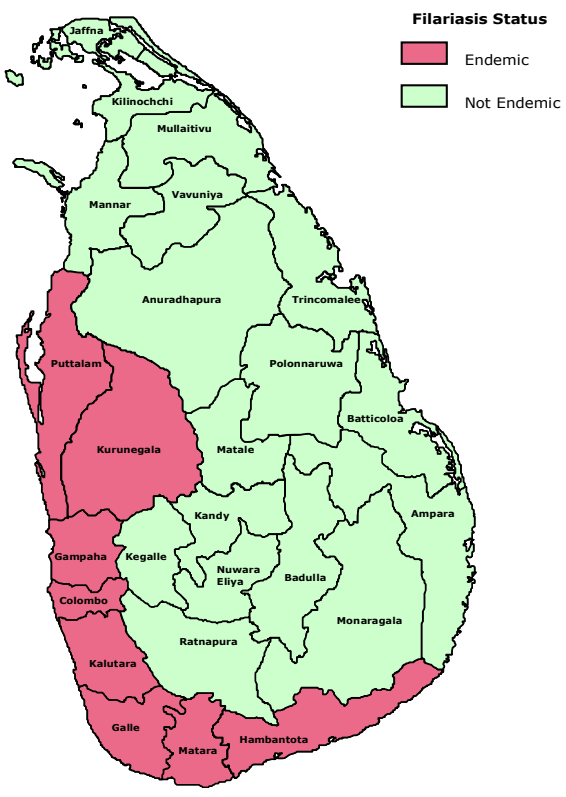
AFC conducted a study to find out the prevalence of antigenemia using Immunological Chromatological test (ICT) kits among a sample of grade 1 school children in all 7 endemic districts. This was sponsored by the Global Alliance for Elimination of Lymphatic Filariasis (GAELF) and a team of experts visited Sri Lanka to assist the local staff. No positive cases were found among school children, indicating the interruption of transmission of the disease.

Another study was conducted in a high endemic area (Peliyagoda- Gampaha district). The Antigen test was carried out, not only among school children but also among adults in the area. Further, Mosquitoes were collected using gravid traps to conduct PCR tests. All samples of blood smears and mosquitoes were shipped to the USA for laboratory tests. The results would be available in 2009.

5.2.3.9 Morbidity

In Sri Lanka, the highest endemicity is found in the Western , Southern and the North-western Provinces . It is mainly seen in these areas due to rapid and unplanned urbanization. The migration of people to and from the endemic zone has resulted in spreading the disease to other areas as well.

Fig 5.2.4 : Endemic Areas by District



5.2.3.10 Microfilaria Rate (Figure 5.2.5)

During the year under review, 512,988 night blood films were examined for microfilaria by the thick blood smear technique. This includes cases screened at the night blood filming centres and by special surveys conducted in the endemic areas. The trend of the Microfilaria Rate from 1981 to 2008 is shown in the Figure 5.2.5.

5.2.3.11 Infected and Infective Rates (Figure 5.2.6 and Table 5.2.9)

Infected rate (percentage of mosquitoes with all larval stages) and infective rate (percentage of L3 stage) from the indoor resting *Culex quinquefasciatus* mosquitoes collected were 0.67 % and 0.05% respectively

Fig 5.2.5 - Microfilaria Rate, 1981 - 2008

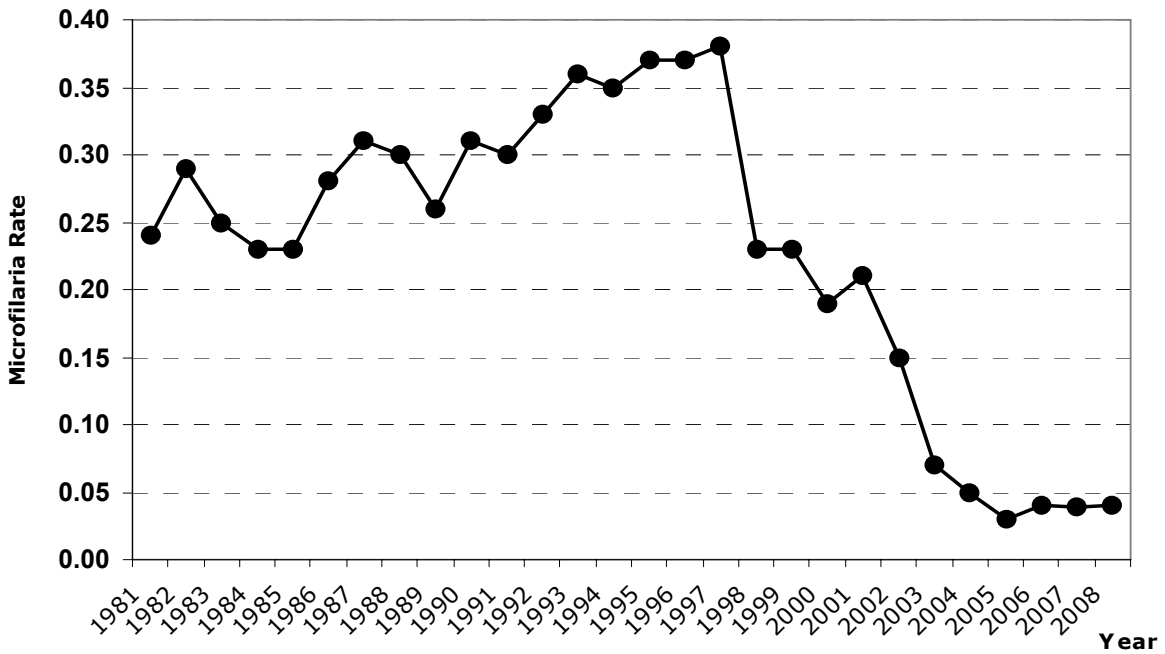


Table 5.2.9 - Trends in Entomological Indicators

Year	Mosquitoes Dissected	Infection Rate	Infective Rate
1995	32,419	0.63	0.06
1996	56,587	0.72	0.06
1997	48,671	0.55	0.05
1998	49,238	0.56	0.05
1999	52,621	0.49	0.04
2000	45,539	0.47	0.07
2001	43,347	0.46	0.03
2002	38,012	0.8	0.05
2003	30,125	0.4	0.05
2004	33,446	0.73	0.05
2005	36,334	0.7	0.04
2006	38,284	0.76	0.05
2007	38,654	0.74	0.04
2008	42,853	0.67	0.05

5.2.3.12 First visit to clinics by lymphodema patients (Figure 5.2.7)

In 2008 the number of patient with clinical manifestations who visited the AFC clinics are 1,346 when compared to 1,125 in 2007.

Fig 5.2.6 - Entomological Indicators from 1981 - 2008

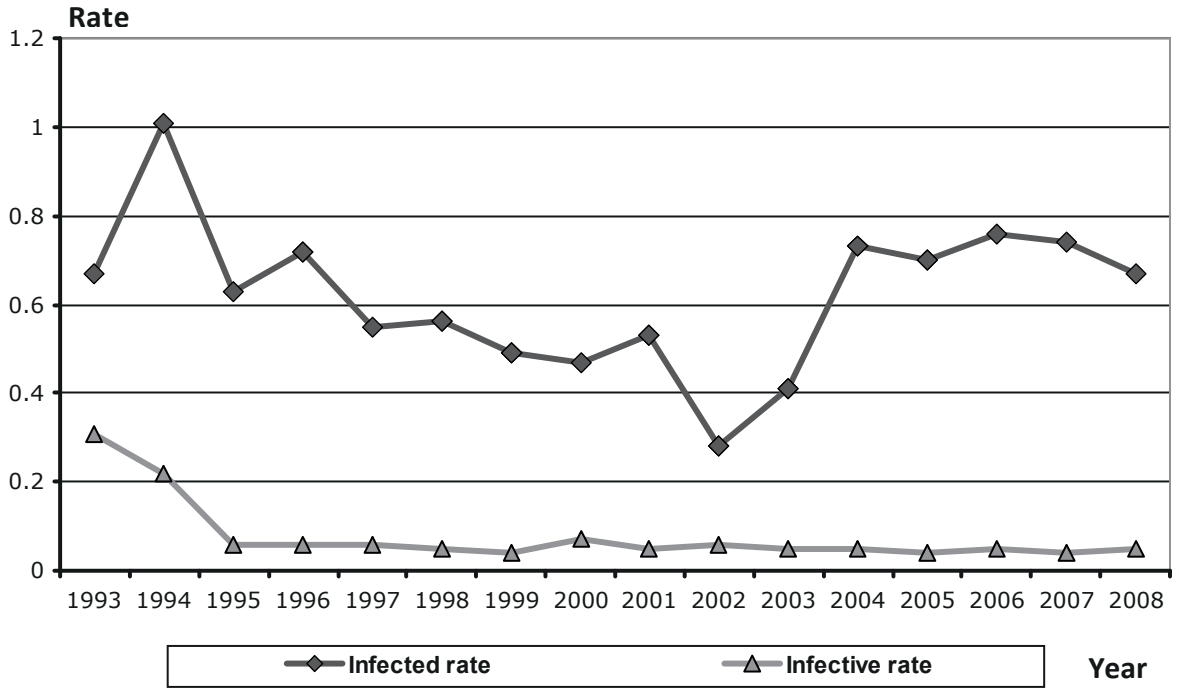
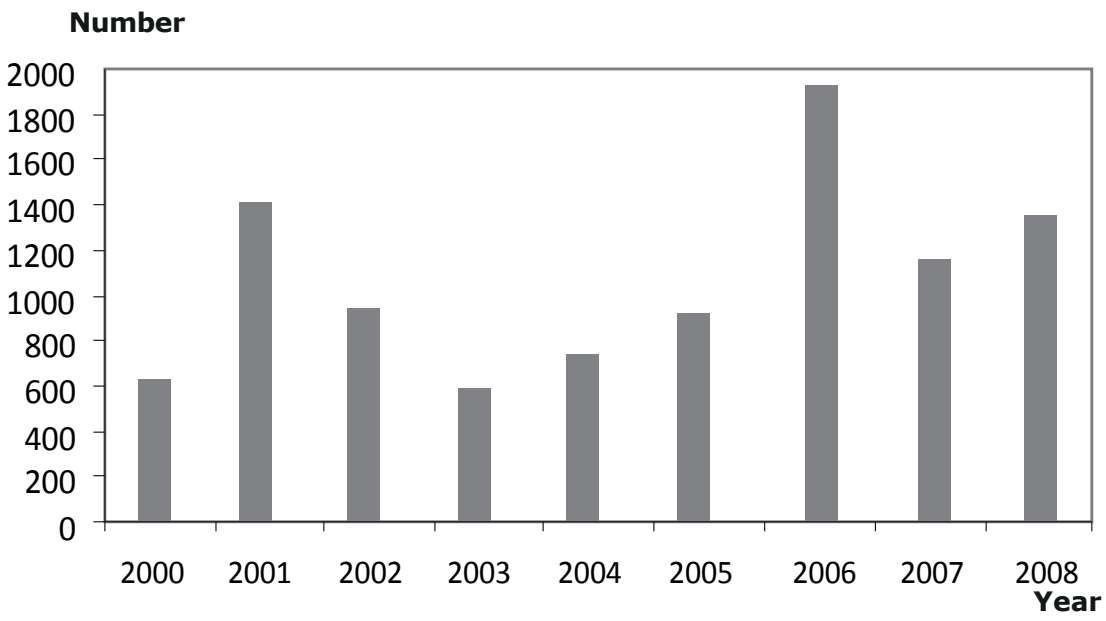


Fig 5.2.7 - First Visits of Lymphodema Patients, 2000-2008



5.2.4 Leprosy

5.2.4.1 History of Leprosy in Sri Lanka

The history of leprosy in Sri Lanka dates back to 1708 when Dutch rulers set up a leprosy asylum in order to segregate the patients as a mode controlling the disease. British rulers made admission compulsory with the introduction of the lepers' ordinance in 1901 and also established the second leprosy asylum in the Mantivu Island, Batticaola. The first effective chemotherapy, Dapsone, was introduced in late 1940s; however, the monotherapy was of no use by 1960s due to emergences of drug resistant strains due to prolong uses of dapsone immunotherapy. In 1964, the vertical structure, Anti Leprosy Campaign (ALC), was started as the national programme for Leprosy control activities.

The island-wide introduction of short term effective chemotherapy- Multi drug Therapy (MDT) – for all diagnosed patients in 1983 and the launching of the Social Marketing Campaign in 1990 to create awareness of early signs of leprosy among the general public and to dispel the myths and misconception surrounding the disease, paved the way for achieving the elimination target in 1995. Leprosy control activities hitherto implemented through the vertical organization ALC, was integrated into the General Health Service (GHS) in 2001.

5.2.4.2 Vision of the programme

To reduce Leprosy and related distress, by reducing the reservoir of leprosy and by improving the quality of life of people affected by leprosy.

5.2.4.3 General objective

To reach the elimination target at sub-national level (in remaining endemic MOH areas) with the integration of elimination activities into the General Health Services

5.2.4.4 Special objectives

1. To re-orientate curative care medical officers of the GHS in the diagnosis and management of leprosy. (Capacity Building –MOO and RMOO of the curative sector)
2. To train Regional Epidemiologists (RE), Medical Officers of Health (MOH) and the staff attached to those offices in the epidemiological assessment of leprosy at local level (Capacity Building –MOO and other staff attached preventive sector)
3. To regularly monitor the epidemiological situation, both at local and central levels, using the simplified registers and software on Leprosy Management Information System (MIS) which facilitates Monitoring the leprosy situation and maintaining surveillance (Monitoring and Evaluation)
4. To conduct awareness programmes for the general public to reduce the stigma, to give information about early signs and the availability of drugs in all health units(Social Marketing Campaign)
5. To make leprosy drugs (MDT blister packs) available in health institutions (Easy Accessibility to MDT)
6. To provide rehabilitative care for 'cured' patients with disabilities (Care after Cure)

5.2.4.5 Current Status

The reported prevalence at the beginning of 2008 was 0.7 per 10,000. The number of new cases detected in 2008 was 1954 (9.57/100,000). From the second year of integration i.e. 2002, the annual new case detection was fluctuating around 2000. A total of 7 of provinces and 21 of the 26 districts (including Kalmunai) reported prevalence of<1/10,000 (target for elimination as a public health problem).

The new case detection has remained more or less static during the last 6 years. The current New Case Detection Rate(NCDR) is 9.57 per 100,000 population. Seven districts i.e. Colombo (392), Gampaha (287), Kalutara (186), Batticaola (123), Kurunegala (180) and Rathnapura (103) have reported over 100 patients and in total accounted for 61 percent of the total new cases during the year 2008. Four provinces i.e. Western (865), Eastern(269), southern (178) and North-Western (225) accounted for 80 percent of the total new case detected during 2007. The percentage of new patients in all other provinces is less than 10 percent.

High population density which favors the transmission through air droplets, availability of dermatologists both in the government and private sectors, high literacy rate, trained medical officers and easy accessibility (good network of roads) to health centers are some of the reasons for high case detection rates.

Though treatment facilities were available in all health institutions up to 2006, 90 percent of the patients have sought treatment from tertiary care centers (Teaching and Base Hospitals). At the end of 2008, with the appointment of new Dermatologists (permanent and visiting), it was observed, that more and more patients have been diagnosed at the Base Hospitals and Tertiary care hospitals.

5.2.4.6 The main challenges for leprosy control activities at district level are as follows

Reducing the burden :
Coverage of leprosy control activities to be maintained or improved in some districts to ensure further reduction of the disease burden. The burden should be regarded in terms of disabilities, child cases and leprosy-related disability and discrimination.

Integration :
District level authorities have taken measures such as the inclusion of leprosy in their district plans, conducting of skin camps and other field-level activities with funds generated from sources other than ALC and WHO. This indicates that under integration they have taken ownership of the programme. It is important that the district level authorities sustain these activities and be assured that the ALC will continue to provide technical guidance. Continued support from the ALC may ensure that leprosy remains on the health agenda and that success does not lead to complacency.

Capacity building:
Training of staff will be continued not only in high endemic areas but in low endemic pockets also. The RE and PHI are to identify the areas from which MO's are to be trained.

Referral system :
Sri Lanka is unique when compared to other endemic countries as 90% of new patients are detected and followed up by Consultant Dermatologists available in all districts, except for the 4 districts in the Northern Province. The referral system is already functioning; however, it is important to provided feed back information to those who refer cases.

MDT Logistics :
The Un-interrupted supply of MDT blister packs is one of the priority activities of a leprosy control programme. Contrary to the concerns that the smooth functioning of MDT logistics will be severely affected with integration, the team work of staff attached to skin units, PHI/ Leprosy and pharmacists who provides relevant information on MDT stock, is commendable. No shortage of MDT was reported during the year 2008.

Cure rate :
The problems encountered in compilation of the cure rate in the past have been solved to a greater extent with the support from the staff of skin units. New recruits i.e. MO's, nurses and pharmacists have to be trained on regular basis to sustain the collection of information to compile the cure rate, one of the important indicators in the post-integration period.

Table 5.2 10 - Basic Indicators in Leprosy

year	Prevalence	Incidence	Multibacillary	Child rate	Deformity rate
	For 10,000 population		rate		
1991	1.5	1.7	15.0	18.0	6.8
1992	1.2	1.4	15.0	16.0	8.8
1993	1.0	1.1	16.1	13.5	11.3
1994	1.1	1.2	17.1	14.0	8.2
1995	1.0	1.0	22.4	11.8	8.3
1996	0.9	0.8	21.2	11.9	10.8
1997	0.9	0.8	24.0	9.2	9.8
1998	0.7	0.7	29.0	11.5	11.3
1999	0.6	0.8	35.6	10.9	11.4
2000	0.6	0.9	36.5	11.3	9.6
2001	0.8	1.2	35.0	7.0	8.0
2002	0.9	1.2	35.1	10.1	9.7
2003	0.7	1.0	37.7	11.5	8.2
2004	0.7	1.0	41.6	8.4	6.7
2005	0.7	1.0	41.7	10.5	5.7
2006	0.7	1.0	43.9	10.3	5.4
2007	0.7	1.0	44.8	10.0	6.0
2008	0.7	1.0	45.37	10.39	8.10

Table 5.2 11 - Epidemiological Profile of Leprosy by Province, 2008

Province	Prevalence		Total		MB		Child		Grade 2		Female		Early		Late	
	No	Rate[1]	No	Rate[2]	No	Rate[3]	No	Rate[3]	No	Rate[3]	No	Rate[3]	No	Rate[3]	No	Rate[3]
Central	48	0.21	74	3.3	35	47.3	6	8.11	11	14.86	27	36.49	50	67.5	8	10.81
East	175	0.78	269	12.03	118	43.87	32	11.9	22	8.18	121	44.98	190	70.6	38	14.13
North	18	0.14	25	1.93	13	52	0	0	4	16	12	48	15	60	6	24
Western	100	0.77	142	11	64	45.07	10	7.04	14	9.86	56	39.44	76	53.5	35	24.65
North Central	183	0.73	225	8.93	153	68	12	5.33	33	14.67	93	41.33	145	64.4	45	20
North Western	107	0.56	139	7.23	82	58.99	10	7.19	16	11.51	50	35.97	114	82	15	10.79
Sabaragamuwa	104	0.42	178	7.26	57	32.02	24	13.48	9	5.06	78	43.82	121	67.9	31	17.42
Southern	29	0.21	47	3.4	18	38.3	2	4.26	9	19.15	24	51.06	30	63.8	8	17.02
Uva	565	1.09	865	16.69	351	40.58	108	12.49	41	4.74	372	43.01	557	64.3	154	17.8
Total	1329	0.7	1964	9.57	891	45.37	204	10.39	159	8.1	833	42.41	1298	66	340	17.31

Source: Anti-Leprosy Campaign

1 Per 10,000 Population

2 Per 100,000 Population

3 Percentage among new cases

5.2.5 Public Health Veterinary Services - Rabies Control Programme

The Public Health Veterinary Services(PHVS) of the Ministry of Healthcare and Nutrition is the main body responsible for preventing human and animal rabies and controlling other zoonotic diseases in Sri Lanka.

There is a strong evidence to suggest that the menace of rabies had been in existence in Sri Lanka for centuries. The Colonial Rulers had been compelled to adopt legislation to combat the disease. The Rabies Ordinance of 1893 and the Dog Registration Ordinance of 1904 are clear indicators of this.

Official statistics are not available to gauge the rabies situation that prevailed in the country till 1970s. Existing records indicate that rabies had been recognized as an important public Health problem in Sri Lanka from early 1950s.

Rabies is a zoonotic viral disease which infects domestic and wild animals. It is transmitted to other animals and humans through close contact with saliva from infected animals (i.e. bites, scratches, licks on broken skin and mucous membranes). World- wide the dog is the principal vector in transmitting rabies to man. Once the symptoms of the disease develop, rabies is fatal to both animals and humans.

5.2.5.1 Status of Human Rabies

Rabies control measures launched in Sri Lanka since 1975 have had a tremendous effect on the incidence of human rabies. The number of human rabies deaths declined from 377 in 1973 to 51 rabies deaths in the country in 2008.

5.2.5.2 Status of Animal Rabies

The dog is the main reservoir as well as the transmitter of rabies in Sri Lanka. A dog ecology study conducted in the 1980s, has revealed a dog to human population of 1:8. Further, the study indicates that 20 per cent of the dogs were ownerless.

Table 5.2.12 - Human Rabies Deaths Distribution by districts

District	2002	2003	2004	2005	2006	2007	2008
Ampara	2	3	0	0	3	0	0
Anuradhapura	1	2	4	7	4	4	3
Badulla	3	2	2	6	3	0	1
Batticaloa	0	1	2	0	2	6	7
Colombo	4	3	9	2	4	1	0
Galle	4	7	11	1	6	5	5
Gampaha	7	7	6	4	7	8	7
Hambantota	1	1	2	1	1	2	1
Jaffna	8	6	14	5	8	1	0
Kalutara	1	2	12	1	1	5	2
Kandy	7	4	1	1	1	2	2
Kegalle	1	2	2	1	2	0	1
Kilinochchi	0	3	0	4	3	2	0
Kurunegala	7	8	4	5	4	8	11
Matale	1	0	0	1	1	2	0
Matara	1	1	8	0	6	2	1
Mannar	0	2	0	1	3	1	1
Monaragala	1	6	3	2	0	2	2
Mulathivu	3	2	2	0	2	0	1
N'Eliya	2	2		0	1	1	1
Polonnaruwa	1	4	2	1	2	0	0
Puttalam	2	3	1	2	3	0	5
Ratnapura	2	4	4	4	3	3	0
Trincomalee	1	3	6	4	3	1	0
Vavuniya	4	0	3	2	0	0	0
Grand Total	**64**	**76**	**98**	**55**	**73**	**56**	**51**

During 2008, about 90 % of animal rabies was reported among dogs. The reported positive animals were, 681 dogs (89.6 %), 62 cats (8.1 %), 13 cows, 1 mongoose, 2 goats and 1 Pony.

Mainly the dogs have transmitted the disease to humans. The dog was responsible for about 86% of human rabies deaths reported in 2008.

5.2.5.3 Vision of the program

Assure maximum protection to the public from deadly rabies and other zoonotic diseases causing disability.

5.2.5.4 Mission of the program

Monitor , promote and facilitate implementation of Rabies control strategies, stipulated by the Ministry of Health, to reach high coverage involving provincial health services, whilst ensuring high community effort and promotion of rabies post-exposure treatment involving government hospitals, whilst ensuring cost effectiveness

5.2.5.5 Policy goal

Elimination of Rabies from Sri Lanka by 2016

5.2.5.6 National Program objectives

1. To ensure protection for those exposed to suspected rabies infection
2. To ensure protection for those who are at a higher risk of contacting rabies
3. To establish herd immunity in animal reservoirs with special emphasis on dogs
4. To control the population of animal reservoirs with special emphasis on dogs, through appropriate methods
5. To humanely remove all rabies suspected dogs

5.2.5.7 Strategies

1. Proper screening of animal bite victims for decision making on post-exposure management.
2. Provide appropriate post-exposure treatment equitably to the population of Sri Lanka.
3. Encourage pre-exposure prophylaxis for those engaged in occupations at higher risk of exposure of rabies infections
4. Immunize all dogs (domestic, community and stray) through mass vaccination campaigns to achieve 75% coverage.
5. Encourage the participation of both private and public sector veterinary services in providing vaccinations to dogs.
6. Sterilize dogs through appropriate chemical and surgical methods.
7. Control of environmental conditions in public places conducive to propagation of dogs.
8. Removal of nuisance dogs by proper authorities in a humane manner
9. Develop a mechanism to identify and dispose of all suspected or rabid animals.
10. Strengthen the Rabies surveillance system
11. Enact appropriate legislation to implement the national rabies policy.
12. Strengthen the governence and stewardship for Rabies elimination.
13. Control of Japanese Encephalitis among pigs.

5.2.5.8 Activities

The activities are implemented by the Line Ministry & Provincial Health Authorities.

Activities pertaining to policy development, strategy development, training (curative and preventive staff), mass awareness campaigns, supply of drugs, vaccines and other major inputs, research and supervision are carried out by the PHVS office of the Ministry of Healthcare & Nutrition.

Provincial Health Services are responsible for implementation of awareness programmes, vaccination (Anti-Rabies) of dogs and Animal birth control programmes with regard to rabies elimination.

Provision of Post-Exposure Treatment is carried out by both line ministry and provincial hospitals

5.2.5.9 Training Programs, Health Education and other activities

The following trainings, health education programs and other activities were conducted during 2008 for primary Health care staff, curative staff and public.

1. Conduction of a Rabies awareness week to mark the World Rabies Day. Educated 500,000 school children on rabies prevention. 500,000 hand bills were distributed. Vehicle parades, dramas, debates and competitions were conducted
2. Four quarterly project development meetings were held with district rabies control officers.
3. Training of curative staff on Economical Rabies Post Exposure treatment
4. Training of staff on domestic and stray dog vaccination
5. Training of Primary health care staff on effective mass vaccination

5.2.5.10 Special activities

Government allocated 100 million rupees for rabies control activities. Major portion of this allocation was utilized for female dog sterilization. Sterilization of female dogs: Limited to Sabaragamuwa and Central Provinces due to non availability of veterinary officers

Table 5.2.13 - Trends in Rabies Control Activities and Human Deaths from Rabies, 1970 - 2008

Year	Vaccination of Dogs	Elimination of Dogs	Dog Heads Examined at MRI		Human Rabies Deaths	
			Number	% Positive	Number +	Rate [1]
1970	11,844	688	535	62.1	262	2.1
1975	42,252	1,610	456	64.7	288	2.1
1980	120,143	36,845	420	52.5	209	1.4
1985	268,561	58,238	344	55.5	113	0.7
1987	293,603	88,919	415	56.4	158	0.9
1988	268,717	55,803	367	66.7	113	0.7
1989	236,728	47,175	734	87.1	173	1.0
1990	412,586	63,233	963	70.2	154	0.9
1991	336,053	102,292	1,222	67.8	136	0.7
1992	453,958	98,881	591	60.8	112	0.6
1993	491,690	112,098	664	71.8	98	0.5
1994	435,204	104,941	702	77.1	105	0.5
1995	452,828	106,862	1,217	69.7	124	0.7
1996	606,520	114,337	795	59.7	110	0.8
1997	553,468	91,215	934	85.5	135	0.7
1998	578,825	106,245	581	73.4	111	0.6
1999	667,270	106,699	672	70.3	110	0.6
2000	657,597	117,790	559	88.5	109	0.6
2001	770,375	119,761	737	69.0	83	0.4
2002	797,565	117,790	670	71.0	64	0.3
2003	664,493	83,350	897	60.0	76	0.4
2004	843,906	89,530	1105*	58.0	98	0.5
2005	818,162	62,675	472**	42.6	55	0.3
2006	971,442	12,791	788***	55.3	73	0.4
2007	1,037,617	-	659	63.0	56	0.3
2008	1,103,258	-	681	61.9	51	0.3

Source: Rabies Control Programme

* * The new Laboratory at Galle started functioning
*** Galle laboratory was washed away by the tsunami
**** Re commence of Galle Laboratory

5.2.5.11 Surveys on dog population size and structure

A dog ecology study conducted during 1997, in Mirigama, a recently urbanized area, reveals an increased dog population of 1:4.6.

Two dog population surveys were conducted in the Ja-Ela and Ingiriya MOH areas and results are as follows. It revealed that the human to dog population varies in different MOH areas in different districts.

In the Ja-Ela MOH area, the ratio of human to total dog population was 3:1. The ratio of human to domestic dog population was 5 : 1. About 42% of the dog population was stray dogs. Average age of the dog was 3 years. Out of the domestic dogs, 79% of the dogs were males. The JaEla MOH area is situated in a costal area and the above finding shows that this area is a high risk area for rabies transmission.

In the Ingiriya MOH area, the ratio of human to total dog population was 6:1. The ratio of human to domestic dog population was 7 : 1. About 20% of the dog population was stray dogs. Average age of the dog was 3 years. Out of the domestic dogs, 88% of the dogs were males. The above finding shows that this area is a moderate risk area for rabies transmission when compared to JaEla.

5.2.5.12 Achievements in 2008

- Reduction of human rabies incidence from 0.28 per 100,000 Population in 2007 to 0.25 per 100,000 Population in 2008. This shows in 2008 there was about a 9% reduction in human deaths compared to 2007.
- It was possible to achieve human rabies free status in Colombo, Polonnaruwa, Rathnapura, Trincomalle, Vavunia, Matale and Ampara districts and the Jaffna Peninsula.
- A reduction in human deaths was achieved in Colombo, Gampaha, Kalutara, Rathnapura, Anuradhapura, Matale, Matara, Hambantota, Jaffna and Trincomalee in 2008 when compared to 2007.
- Female surgical sterilization coverage in 2008 was 3.47% compared to 0.12% in 2007.

Control of Japanese Encephalitis (J.E.)

The Public Health Veterinary Services also handle the control of Japanese Encephalitis among pigs. This programme was implemented in collaboration with the department of Animal Production and Health. During 2008, 70,000 doses of J.E. swine vaccine were issued to the Western, Southern, Sabaragamuwa and North Western Provinces. Funds were provided by the Provincial Health Services and the Department of the Animal Production and Health provided the human resources.

Table 5.2.14 - Results of Dog Population Surveys, 2008

MOH Area	Province	Human to dog (Total) ratio	Human to dog (Owned) ratio	% of female dogs out of house hold dogs	Mean age of dogs	% of Free Roaming dog out of all dogs
JaEla	Western	3:01	6:01	21%	3 y	42%
Ingiriya	Western	6:01	7:01	12%	4 y	20%

Table 5.2.15 - History of Human Rabies and Control Activities

Year	Deaths	Dog Vaccination	Dog Elimination
1969	235	-	-
1970	262	-	-
1971	270	-	-
1972	295	-	-
1973	377	75,386	3,128
1974	347	31,617	312
1975	288	42,252	1,608
1976	257	60,932	2,223
1977	312	85,798	278
1978	241	111,289	7,986
1979	266	130,070	22,431
1980	191	105,287	35,156
1981	216	135,266	37,633
1982	196	189,600	48,353
1983	174	194,146	42,237
1984	143	195,696	62,962
1985	113	268,561	58,238
1986	163	216,243	73,750
1987	158	293,603	88,919
1988	113	268,717	55,803
1989	173	236,728	47,175
1990	154	408,086	63,233
1991	136	336,052	100,340
1992	112	453,891	96,861
1993	98	491,871	112,098
1994	105	435,204	105,133
1995	151	452,828	106,862
1996	152	603,108	114,337
1997	135	553,468	91,215
1998	79	578,825	129,773
1999	110	667,270	106,699
2000	109	657,597	117,790
2001	83	770,375	119,761
2002	64	797,565	96,202
2003	76	664,993	84,350
2004	98	844,123	89,530
2005	55	818,162	62,675
2006	73	971,442	12,791
2007	56	1,037,617	-
2008	51	1,103,258	-

Fig 5.2.8 : Rabies Deaths 2008

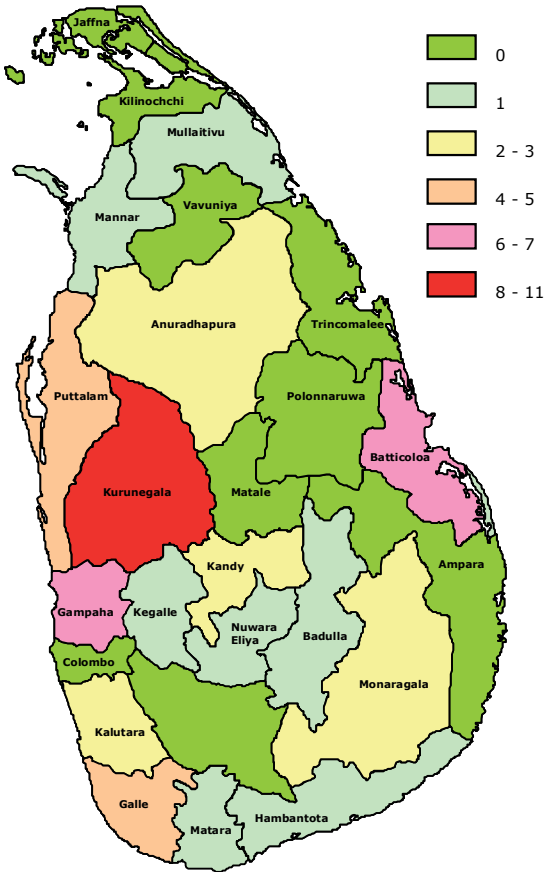


Fig 5.2.9 - Trend of Human Rabies

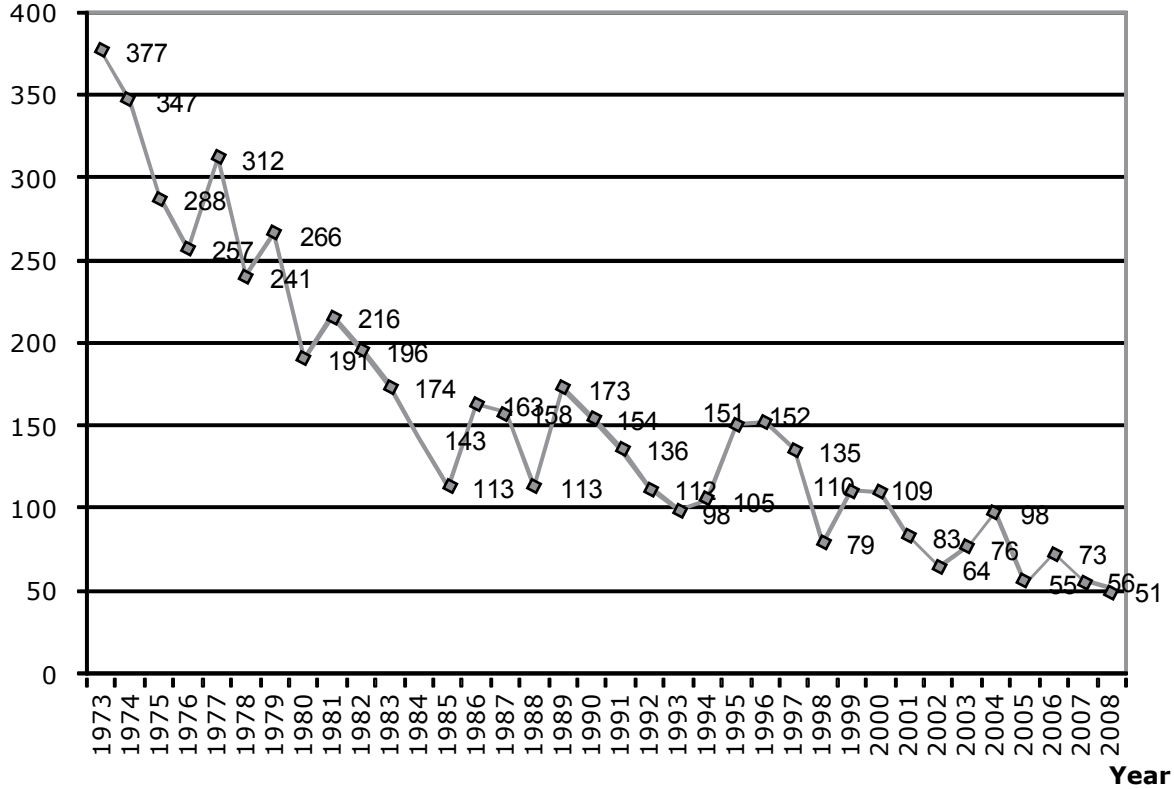


Fig 5.2.10 - Dog vaccination

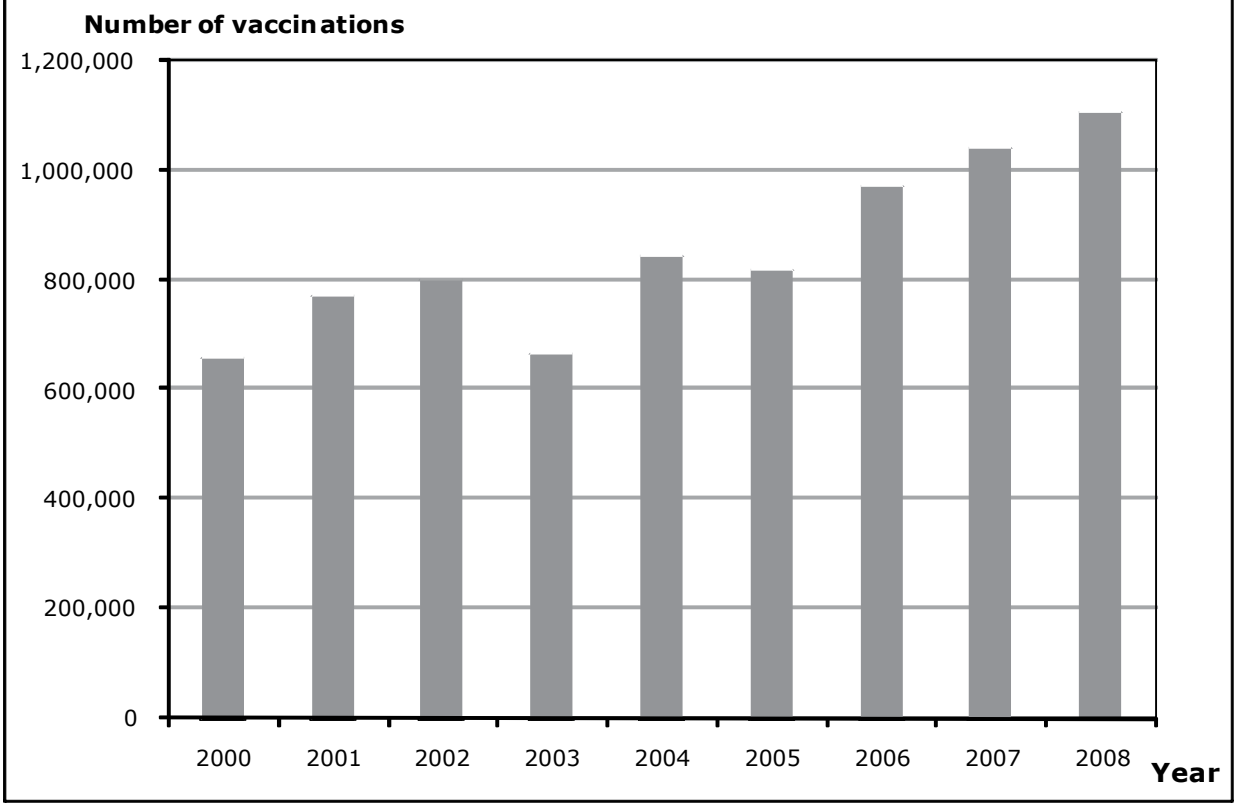


Table 5.2.16 - Comparison of Rabies Control Activities by District

District	Dog Vaccination		Surgical Birth Control		Chemical Birth Control	
	2007	2008	2007	2008	2007	2008
Ampara	6,915	13,261	6	461	0	75
Anuradhapura	47,716	56,971	0	4,960	2,993	4,383
Badulla	36,744	35,417	45	5,019	5,273	4,331
Batticaloa	0	6,739	0	70	0	0
Colombo	84,622	61,716	85	2,860	9,131	7,138
Galle	36,362	50,238	0	2,034	2,444	3,275
Gampaha	100,697	110,777	46	1,422	2,341	8,272
Hambantota	63,155	66,468	20	227	3,481	8,901
Jaffna	57,803	38,610	0	481	0	0
Kalutara	67,153	52,577	0	0	5,462	3,581
Kandy	90,132	92,789	3,721	13,115	7,549	4,439
Kegalle	59,993	52,678	0	6,163	7,055	1,129
Kilinochchi	0	0	0	0	0	0
Kurunegala	85,382	128,458	33	15,568	8,280	9,804
Mannar	1,784	1,810	0	1,508	0	0
Matale	44,816	46,764	0	17,369	5,523	3,824
Matara	46,889	47,225	0	1,423	2,964	4,899
Monaragala	15,157	22,379	42	713	1,866	2,358
Mulativu	0	0	0	0	0	0
N'Eliya	53,074	48,803	0	22,007	3,893	1,678
Polonnaruwa	52,021	51,666	18	1,185	20,698	6,225
Puttalam	61,563	76,602	0	4,076	9,588	8,146
Ratnapura	29,053	33,795	72	15,199	3,110	2,310
Trincomallee	0	3,917	0	172	0	157
Vavuniya	3,474	3,498	0	606	467	356
Grand Total	**1,044,505**	**1,103,158**	**4,088**	**116,638**	**102,118**	**85,281**

5.2.6 Directorate of Youth, Elderly, Disabled and Displaced persons

To improve the quality of life of Youth, Elderly, Disabled and Displaced persons through improvement of health facilities, disease prevention and health promotion according to the Health Master Plan of Sri Lanka.

5.2.6.1 Youth

5.2.6.1.1 Vision

A healthy & Productive adolescent and Youth population.

5.2.6.1.2 General Objectives

To improve knowledge, attitude and Life Skills (LS) among school & out of school children as a means of reducing adolescent and youth problems & improving their well being.

5.2.6.1.3 Specific Objective

- To improve the capacity of the health staff on youth friendliness and promoting life skills among school and out of school adolescent and youth.
- To implement programmes on adolescent health and life skills education, through the school curriculum, teacher training and through advocacy awareness programmes for young people, parents and community leaders, through the provincial health authorities and the heads of the health institutions.
- To establish the Youth Friendly Health Services (YFHS) in the country with the support of the central and provincial health authorities.

5.2.6.1.4 Activities

1. Conducted Planning workshops for AFHS on SRH for regional stakeholders in Kurunegala, Badulla, Ampara, Kegalle & Polonnaruwa.
2. Conducted Community Research on SRH among youth.
3. Conducted Awareness programmes for Administrative, Community leaders, Healthcare workers, young persons and parents.
4. Conducted Regional Training of Trainers (in different sectors) for AFHS on SRH to design, implement and monitor programmes based on research findings.
5. Conducting life skills in RH programmes for health care workers and young persons in different settings.
6. Conducted Review meetings with regional staff for monitoring.
7. Printing of resource materials & guideline leaflets.
8. Training teacher counselors on Reproductive Health (RH), Counseling and LS in collaboration with the NIE.
9. Training peer communicators on RH and LS in collaboration with the NIE.
10. Lectures for graduates on health of adolescents and youth in collaboration with the University of Kelaniya.

5.2.6.2 Elderly

5.2.6.2.1 Vision

A Healthy, Active & Productive Elderly population

5.2.6.2.2 General Objectives

- To improve the physical, mental and social well being of the present Elders.
- To achieve a healthier more active and more productive elderly population in the future.

5.2.6.2.3 Specific Objective

- To improve awareness among all age groups regarding "Active Aging" and promotion of a healthy life style.
- To improve awareness among elders and their family members regarding common health problems of the elderly.
- To improve early detection of common health problems of the elderly and referral for treatment; and through timely management of common impairment to minimize & postpone disability.
- To promote the physical, mental & social well being of the elderly by the establishment of day centers.

5.2.6.2.4 Activities

1. Conducting programmes with the Ministry of social services, for training carers for the Elders.
2. Conduct awareness programmes with the help of the Ministry of Social Services for retirees on 'Active Aging'.
3. Conduct mobile cataract camps for reducing disability in old age .
4. Lectures for undergraduates on the health of the elderly in collaboration with the University of Kelaniya.
5. Conduct training of Trainers programme for carers for the Elders.

5.2.6.3 Disabled

5.2.6.3.1 Vision

Improve the quality of life of disabled persons.

5.2.6.3.2 General Objectives

To improve the health services for disabled persons.

5.2.6.3.3 Specific Objective

- To improve awareness among all age groups regarding "Active Aging" and through the promotion of a healthy life style.
- To improve awareness among members of the community, regarding common health problems of the elderly and their family members.
- To improve early detection of common health problems of the elderly and referral for treatment; and through timely management of common impairment to minimize & postpone disability.
- To promote the physical, mental & social well being of the elderly by the establishment of day centers.

5.2.6.3.4 Activities

1. Conducting awareness programme for parents of disabled children.
2. Organizing & conducting a medical camp with assistance of Kosala Dullewa Foundation for children affected with Down's syndrome.
3. Development & printing of material and guidelines.
4. Conducting training for occupational therapist (OTs) on community based rehabilitation.
5. Training of health care providers at Digana hospital to improve their skills and service provision in rehabilitation in collaboration with the PDHS
6. Training relevant Nursing Officers of the National Hospital of Sri Lanka to improve their skills for service provision on spinal cord injury management in collaboration with the Orthopedic Surgeons, Neurosurgeons and Neurologists (western province).

5.2.7 National STD/AIDS Control Programme 2008

The National STD/AIDS Control Programme (NSACP) is responsible for the implementation and co-ordination of activities at national and regional level related to Sexually Transmitted Diseases (STD) including Human Immunodeficiency Virus (HIV).

The overall goal of the NSACP is to reduce the impact of Sexually Transmitted Infections STIs including HIV/AIDS on the social and development of the country.

The main objectives are:

1. To maintain the low HIV prevalence among most-at-risk groups and the general population.
2. To increase the quality of life of those already infected.

These objectives are achieved through 2 core strategies.

1. Increased coverage and quality of prevention interventions.
2. Increased coverage and quality of care, support and treatment interventions.

To support the above, four additional strategies are identified:

1. Improved generation and use of information for planning and policy development.
2. Increased involvement of relevant sectors and levels of government in the response.
3. More supportive public policy and legal environment for HIV/AIDS control.
4. Improved management and coordination of the response.

Implementation of the above strategies depends on the efforts of many government departments, non-government organizations, people living with HIV, the private sector and Sri Lanka's development partners.

The NSACP provides both preventive and curative services with a net work of 31 full time STD clinics and 16 branch clinics in operation all over the country.

The following programme areas continued to function in 2008.

- Prevention, control and provision of care for STI,
- HIV care, support, and treatment,
- Counseling services,
- IEC activities targeting the general population and risk groups,
- STD/HIV surveillance system,
- Condom promotion in prevention of transmission of STD/HIV infections,
- Laboratory facilities,
- Screening blood and blood products,
- Instituting infection control and providing post-exposure prophylaxis for occupational exposures for health care workers in medical institutions.

5.2.7.1 Sexually Transmitted Infections (STI) in Sri Lanka – 2008

There were 16,501 new persons registered in the government STD clinics, and almost 50% of clinic attendees were diagnosed as having at least one STI in 2008.

Candidiasis was the commonest reproductive tract infection and genital herpes was the commonest STI diagnosed in 2008.

The Table 5.2.17 shows the declining trends of some of the bacterial STI's as compared to viral STI's.

All new female STD clinic attendees at the central STD clinic, Colombo, undergo cervical cytology screening (Pap smear screening). Table 5.2.18 depicts the results of Pap smears taken in year 2008.

Table 5.2.17 - Rates of Selected Sexually Transmitted Infections per 100,000 Population, 2000 - 2008

STI	2000	2001	2002	2003	2004	2005	2006	2007	2008
Infectious Syphilis	1.43	0.98	1.09	0.72	0.67	0.82	1.8	1.31	0.75
Gonorrhoea	3.49	2.8	3.95	4.95	7.81	6.1	10.6	6.2	2.77
Non-Gonococcal Infections	4.87	6.53	9.07	6.76	8.09	8.77	13.8	15.1	9.27
Genital Herpes	6.92	7.17	7.77	7.39	0.79	0.79	18.0	19.5	11.23
Genital Warts	2.61	3.17	3.2	3.28	7.43	7.81	9.6	11.5	6.72
Trichomoniasis	1.04	1.01	1.01	0.63	3.91	4.83	1.4	1.7	0.82

Table 5.2.18 - Result of Abnormal Pap Smears in 2008

Total Pap smears	NSI/SI*	LSIL#	HSIL##	Carcinoma	HPV** effect
779	150	20	6	4	14

*NSI /SI
– Non Specific Infection/ Specific Infection

#LSIL
– Low grade squamous intraepithelial lesion

##HSIL
- High grade squamous intraepithelial lesion

**HPV
- Human papilloma virus

5.2.7.2 Monitoring of Antibiotic sensitivity Neisseria gonorrhoeae

Antibiotic sensitivity monitoring of Neisseria gonorrhoeae is routinely carried out by the National reference laboratory of the NSACP. This information is useful for all clinicians treating patients with gonococcal infections. The antibiotic sensitivity pattern for the period of 2000 to 2008 is given in Table 5.2.19.

Table 5.2.19 - Percentage of Gonorrhoea Strains Resistant to Antibiotics 2000-2008

Year	Penicillin	Tetracycline	Ciprofloxacin	Cefuroxime	Ceftraxone	Spectinomycin	Percentage of PPNG*
2000	0.0	0.0	8.2	10.3	0.0	0.0	13.0
2001	79.2	1.7	6.1	3.4	0.0	0.0	9.0
2002	86.3	35.8	38.9	0.0	0.0	0.0	38.0
2003	94.2	56.3	82.1	0.0	0.0	0.0	62.0
2004	95.1	59.6	92.7	0.0	0.0	0.0	93.4
2005	89.2	43.6	88.7	0.0	0.0	0.0	85.0
2006	89.2	22.7	83.0	0.0	0.0	0.0	88.0
2007	69.3	24.2	81.9	0.0	0.0	0.0	61.0
2008	57.7	11.6	82.7	0.0	0.0	0.0	64.5

* Penicillinase producing Nisseria gonorrhoea

5.2.7.3 Overview of HIV/AIDS situation in Sri Lanka as of end year 2008

Sri Lanka is classified as a country with low level epidemic of HIV in the South- East Asia region. The estimated HIV prevalence among adults (15-49 years) is less than 0.1%. The HIV prevalence among individuals considered at higher risk of infection on the basis of occupation, behavoiurs, and practices is below 1%.

Since the detection of first HIV infection in 1987, a cumulative total of 1,059 HIV infections were reported as at end 2008. Of them 289 have been reported as AIDS and 186 have died of the illness. Heterosexual mode transmission was the commonest way of acquisition of HIV. Cumulative HIV Cases by Age and Sex as of end December 2008 is shown in the Table 5.2.20.

Table 5.2.20 - Cumulative HIV Cases by Age and Sex as end of December 2008

Age	Male	Female	Total
0-9	22	9	31
10-14	2	0	2
15-19	2	2	4
20-24	31	26	57
25-29	79	62	141
30-34	102	98	200
35-39	117	96	213
40-44	105	67	172
45-49	58	33	91
50+	63	30	93
Unknown	34	21	55
Total	**615**	**444**	**1,059**

First line and second line regimens of Highly Active Anti Retro Viral Treatment (HAART) is available in five centers and a total of 154 HIV positive people were on HAART as of end 2008.

5.2.7.4 HIV sentinel surveillance

In order to tract the level of HIV infection in different sub populations and to provide strategic information for policy and programme development annual HIV sentinel unlinked surveillance is carried out since 1993. During 2008, two high risk population groups were included in the HIV sentinel survey. Low HIV prevalence was observed in men sex with men 0% (0/242)] and drug users 0.19% (1/539).

5.3 Medical Supplies and Logistic

5.3.1 Medical Supplies Division

5.3.1.1 Objectives

The Medical Supplies Division (MSD) of the Ministry of Healthcare & Nutrition (MOH) is the central organization mainly responsible for the distribution of medical requirements to all state sector health institutions and narcotic drugs to both state and private sector health institutions. The number of items supplied is more than 20,000, and these are supplied quarterly, annually or on need and request basis.

Additionally donations of medical items and hospital supplies are cleared from Port / Air Port, and distributed by MSD in keeping with the preplanned programmes.

The MSD is guided by the Cosmetics, Devices and Drug Act, Poisons Opium and Dangerous Drug ordinance, Manual on Management of Drugs, Establishment code, Financial Regulations and Circulars issued by Public Administration and Ministry of Healthcare and Nutrition.

Medical Supplies Items

Medical Supplies Items could be broadly categorized as :

Pharmaceuticals
- Drugs
- Dressing
- Narcotic
- X-ray Items

Dental Items
- Dental Consumables
- Dental Non-Consumables (instruments)

Surgical Items
- Surgical Consumables
- Surgical Non-Consumables (instruments)

Laboratory Items
- Lab Consumables
- Lab Non-Consumables (instruments)
- Lab chemicals

5.3.1.2 Main Functions of MSD

5.3.1.2.1 The Main Functions

- Estimates the annual national demand for the each medical item based on institutional estimates, trends and drugs consumption patterns.
- Places orders with SPC, monitors the progress and makes the necessary arrangements based on past statistics of estimates, issues and forecasts of the national demand for the following year while considering the stock availability and balance due on order for supplies.
  (Procurement of all Medical Items are done through State Pharmaceutical Corporation (SPC) which calls for worldwide tenders. Procurements are not done by the MSD except in very urgent instances and where the SPC had failed to supply the items on time. The procurement is usually done once a year. It takes more than 12 months lead time for the SPC to supply MSD orders.)
- Receipt of Medical Items from SPC and Storage.
- Identify deficits in supply and demand for the year concerned with respect to national demand and place additional orders for supply during the year.
- Programme and distribute medical supplies items based on the estimates received.
- Review supplies/issues in mid-year and take appropriate action to ensure continuous availability of items to the hospitals.

5.3.1.2.2 Other functions

- Regular meeting with SPC representatives and representatives of the MoH to review and decide on the action in times of short supply.
- Prepare annual price list for all medical items.
- Coordinate with MoH, SPC and Treasury regarding cash flow for procurement of Medical Supplies.
- Financial control of purchases and issues of medical items and preparation of reports.
- Support for the Quality assurance of medical items.

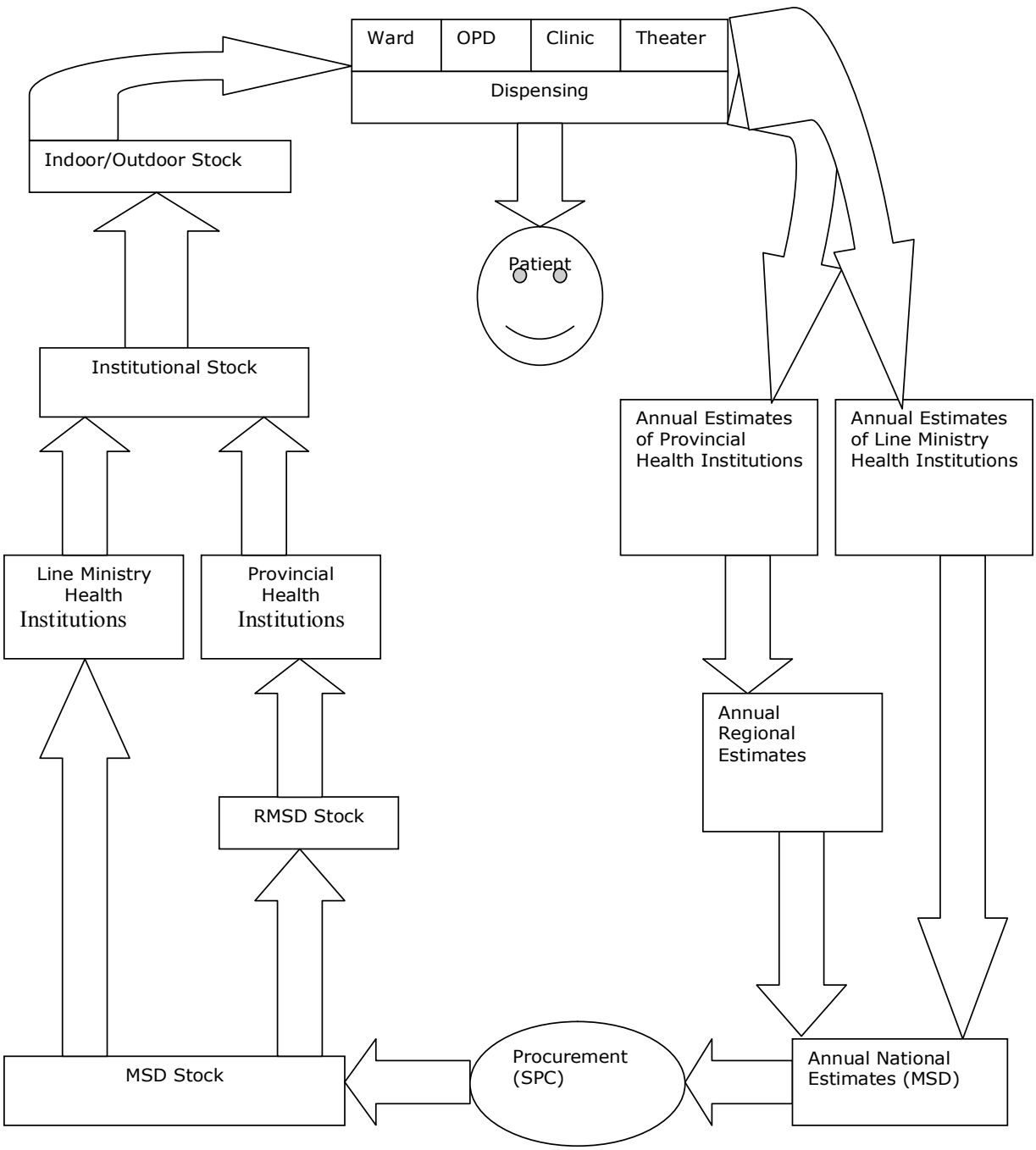
- Coordinate and prepare Quality reports to the International Narcotic Control Board in Vienna.
- Medical Donations from various donors (local/foreign; persons/organizations) are received, stored and redistributed by MSD to all govt. Health Institutions under guidance of the Minister, Secretary or Director General of Health Services.

5.3.1.3 Distribution of Medical Supplies

The distribution of Medical Supplies are :

- Direct to Line Ministry Institutions,
- Direct to Regional Medical Supplies Division(RMSD),
- Direct to Armed Forces, Police and Prison Health institutions.

Fig 5.3.1 - Management Cycle



The objective is to ensure that all vital and essential medical items are made available in all government. hospitals within the financial allocation of the year. Stock control and distribution of medical items are computerized. The computer system is used to prepare all necessary documents for issues. Quarterly distribution programmes are prepared and followed.

The Table 5.3.1 shows the allocation and the expenditure for the year 2000 to 2008.

Table 5.3.1 : Total allocation and expenditure of medical suppliers, 2000 - 2008

Years	Allocation (Rs. In Millions)	Expenditure (Rs. In Millons)
2000	4,500	4,428
2001	4,700	4,187
2002	5,000	4,286
2003	5,500	4,840
2004	6,000	5,950
2005	6,500	6,269
2006	7,400	7,752
2007	10,100	9,595
2008	13,000	11,221

5.3.1.4 Stores of MSD

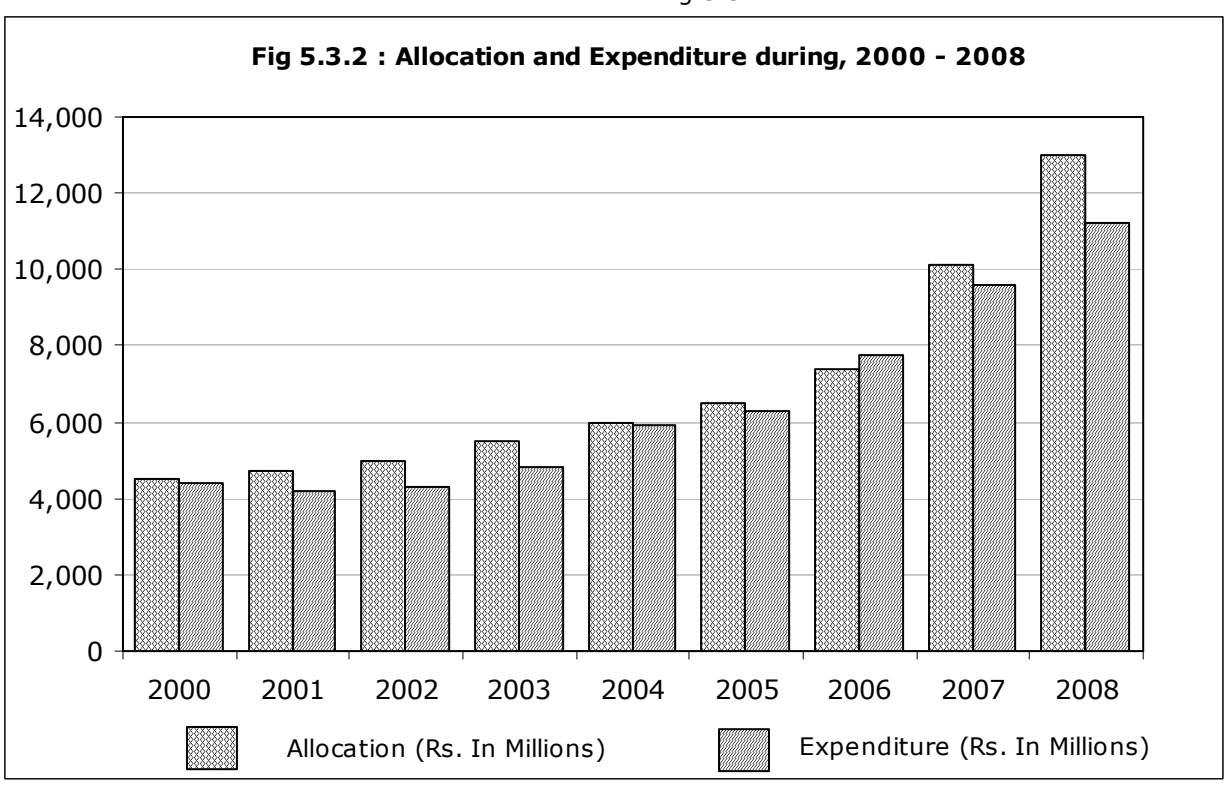
Storage of items is done at MSD stores, which are located in following places.

1. Main stores complex of MSD is at 357, Dean's Road road, Colombo – 10. ; Drugs, Surgical instruments & consumables, and Dental items.
2. Wellawatta store- Laboratory items (Glassware and Lab. Chemicals) Surgical non-consumables, miscellaneous items, Printed forms and gift items.
3. Digana (Kandy) store-bulky items for mainly line Ministry hospitals in the Central Province.
4. Angoda store is a newly built one. – Surgical Items, X-ray films, Contrast media, and Drugs.
5. Welisara store is used to store unserviceable office equipment.

5.3.1.5 Financial situations

The total budget of MSD is approximately 24% of the budget of the Ministry of Healthcare and Nutrition. The MSD handled approximately Sri Lanka Rs. 14 Billion worth of medical items in 2008. The total allocation and Expenditure on Medical Supplies, during 2000-2008 are shown in Fig 5.3.2.

Fig 5.3.2 : Allocation and Expenditure during, 2000 - 2008



5.3.1.6 New Developments

A. The computerization of the Drug Distribution and Store Management Activities is conducted to link 82 health institutions including 26 RMSDs, National Hospital of Sri Lanka, all Teaching Hospitals and General Hospitals, Specialized campaigns (Malaria control, Filariasis control, etc.), National Drug Quality Assurance Laboratory, Drug Authority and SPC, in order to increase efficiency and effectiveness of the Drug Management System.
B. A new stores complex is to be built adjoining the existing Angoda Stores complex.

5.3.1.7 New Developments

The management cycle shows how the drug procured from SPC and manufactured by SPMC, is directed to the patient.

5.3.1.8 Problems

The main problems in Medical Supplies are;

- Supplies are not received as scheduled,
- Unrealistic and high variation in estimates,
- Lack of storage facilities in MSD, Hospitals and some RMSD's.
- Unavailability of stores to keep medical items as per requirement with respect to temperature and humidi ty,
- Lack of cold storage space at MSD/Hospital and other health institutions,
- Inadequate pre-marketing quality assurance.

5.3.1.9 General observations

- National Demand of Medical supplies is rapidly increasing.
- Storage facilities are highly limited both of the MSD and other relevant Health Institutions.
- Proposed attendance at monthly drug review committee meetings of institutions to follow up on the usage of medical items and ensure that it is within allocation, and for the better management of Medical Supplies.

5.3.2 Logistic Division

5.3.2.1 The allocation made to the Ministry of Health in 2008

Name of the Activity	Rs. Mn.
Building and Structures	1,055.00
Plant Machinery & Equipment	230.00
Supply, Installation and Repairs of Air conditioners	55.00
Supply, Installation and Repairs of Medical Gas System	53.80
Water Supply and Sewerage System	65.00
Repair, Supply and Installation of Mortuary Coolers, Generators, Lift, Incinerators, and Laundry equipment	102.69

There allocation have been used for the development of 14 hospitals in under developed areas under the" Mahinda Chinthana Program" .

01. BH Kuliyapitiya	08. BH Balapitiya
02. BH Puttalam	09. BH Embilipitiya
03. BH Dabulla	10. BH Homagama
04. BH Mahiyanganaya	11. BH Kanthale
05. BH Kalmunai North	12. BH Wathupitiwala
06. BH Avissawella	13. BH Diyathalawa
07. BH Panadura	14. BH Horana

The progress in the construction of Medical Officers' quarters in 2008 under " Mahinda Chinthana Progrmme" are as follows.

Construction of Consultant quarters

BH Kalmunai North	Completed
BH Dambulla	Completed
BH Puttalam	Completed
BH Embilipitiya	Completed
BH Balapitiya	Completed
BH Mahiyanganaya	Completed

Construction of on call rooms

BH Homagama	Completed
BH Avissawella	Completed

Construction of MO quarters

BH Kuliyapitiya	Completed
BH Panadura	Completed
TH Colombo South	Completed
Castle street hospital	Completed
GH Badulla	Completed

Renovation of quarters

GH Matara	Completed
On call room BH Gampola	Completed

5.3.2.2 The allocation for supply and installation & repair of Air Condition System for the year 2008

Name of the Activity	Rs. Mn.
Air conditioning of main surgical theatre of the General Hospital Peradeniya	7.6
Supply and Installation of Air conditioning system for Maternity Ward District Hospital Nuwara Eliya	6.7
Supply and Installation of Air conditioning and ventilation system JMO's office	2.12

Out of the allocation of Rs. 53.80 Million for supply and Installation of Medical Gas system in hospitals, the following activities are being carried out in addition to their repairs.

5.3.2.3 Supply and instalation of medical gas system in hospitals

Name of the Activity	Rs. Mn.
Supply, Installation and commissioning of Bulk liquid O_2 system for LRH Colombo 08.	17.78
Supply and Installation of compressed Air and vacuum system , LP Gas system with Renovation of Restorative Dental Laboratory, Restorative Dental clinic and Public Health Unit National Institute for Dental Services(NIDS) Maharagama.	18.64

Also the progress of the works started from the allocation of Rs. 2013.75 Million for Construction of new Buildings in hospitals under the ministry is as follow

5.3.2.4 Construction and Rehabilitation of building 2008 (ongoing project)

Name of the Activity	Contract Sum Rs. Mn.	Financial progress
Development of hospital in less priviledged areas	284.80	79.08%
Neprology Unit at Maligawatta	403.00	100%
Millenium ward complex – TH Kalubowila	398.13	74.90%
Accident Ward – TH Kurunegala	81.53	36.92%
Construction of new drug stores	225.00	37.49%
Staff quarters for medical officers	44.00	24.86%
Cardiology unit – TH Kurunegala	181.56	50.24%
Maternity ward complex – TH Kurunegala	156.62	61.63%
Oncology unit –TH Kurunegala	118.22	50.76%
Theatre complex at TH Kandy	171.06	95.60%
Nurses quarters – CI Maharagama	71.75	22.85%
Third medical ward complex at NHSL	462.63	68.40%
Chest clinic at Badulla PGH	131.21	95.60%
Drug stores at Mulleriyawa MSD	336.80	18.49%
Sirimavo Bandaranayaka Hospital Stage I & II	464.80	39.15%
Construction of Korea-Sri Lanka Friendship Hospital – Godagama, Matara	300.00	53.14%
Renovation works at TH Anuradhapura	66.78	95.00%
Construction of Renal Care & Research Center at GH Anuradhapura	22.95	84.70%
Construction of proposed ward complex GH Hambantota	247.06	50.44%

5.4 Laboratory and Bio Medical Services

5.4.1 Laboratory Services

5.4.1.1 Activities Conducted in year 2008 under Director Lab Services

Health laboratory services is an essential component in the health care services and is committed to providing a quantitative and qualitative essential laboratory support to health care providers both in the patient care services and public health sector, through a network of state and private health institutions. The Ministry of Health is responsible for the establishment and enactment of essential and relevant legislation and also for providing technical and managerial guidelines for the maintenance of laboratories in compliance with nationally and internationally accepted standards.

5.4.1.2 Following activities were carried out under the directorate of Laboratory services in the year 2008

Reorganizing and Strengthening laboratory services was carried out in the following manner.

5.4.1.2.1 By appointing a committee to strengthen and reorganize the laboratory services in government and private health sector

The committee consists of key officials in the Ministry, laboratory specialists in the respective fields and heads of private health sector institutions.

5.4.1.2.2 By formulating a National laboratory policy

The National Laboratory Policy was drafted by the above committee. Now this committee is in the process of formulating the National Laboratory Act and the regulations.

5.4.1 By Appointing New MLT's After Training to Hospitals Around the Country

Type of Hospital	No. of MLTT appointed
TH	17
GH	15
BH	2
Special Institutions	11
Provincial Councils	50
Total	95

5.4.2 By Improving the Laboratory Specialists Services in Provinces

Type of Hospital	No. of MLT's appointed	No. of MLT's appointed
Histopathology	Central	02
	Sourthern	01
	North Central	01
Haematology	Western	01
	Central	01
	Sabaragamuwa	01
	Sourthern	02
	North Western	01
Microbiology	Central	01
	Sourthern	01
	North Central	01

- Essential laboratory equipments and reagents were purchased under the DDG (LS) vote.
- Allocations were released to the line ministry institutions by DDG (LS) and allocation for chemical reagents was released to MSD for purchasing purposes.
- All funds released to the MSD for purchased chemical reagents under the DDG (LS) vote.
- The procurement procedures are carried out by the hospitals, with the participation of the end - users (Hospital Consultants)

5.4.1.2.5 By establishing satellite laboratory services

- Under this scheme, well-equipped Teaching, General and Base hospitals were identified as satellite centers to network with smaller hospitals around the major ones.
- Samples collected by the peripheral unit will be transported to major hospitals for investigations on a daily basis.
- Investigation reports will be delivered on the same day by fax to the relevant unit.
- This project has been implemented in Provincial General Hospital (PGH) – Badulla, PGH – Rathnapura, and District General Hospital(DGH) - Monaragala

Table 5.4.3 : By Providing Essential Laboratory Equipments to Upgrade Lab Services in Major Hospitals

Date	Institution	Purchasing Equipments	Released Amnt.(Rs)
18/01/2008	TH_-Kandy	Fully Automated Chem.Analyser	3,600,000.00
18/01/2008	GH-Ampara	Fully Automated Chem.Analyser	2,990,000.00
18/01/2008	NIHS- Kalutara	Analytical balance	175,000
18/01/2008	NHSL	5 Part fully Auto.Haem. Analyser	
		Platelet Aggregometer	8,122,000.00
18/01/2008	TH-Ragama	Binocular Microscope(6)	1,038,450.00
18/01/2008	GH-Matara	Fully Automated Chem.Analyser	5,864,283.00
21/01/2008	TH-Karapitiya	Upright Freezer-80C	2,055,493.25
24/01/2008	GH-Nuwara Eliya	Flame Photometer,	
		Rotary Microtome,Tissue	
		Proceeser,Tisssue Embeding S.	6,272,500.00
24/01/2008	GH-Kandy	BioChemistry Analyser	3,600,000.00
24/01/2008	TH-Ragama	Binocular Microscope(3)	483,000.00
28/01/2008	TH-Jaffna	Spectrophotometer	414,000.00
31/01/2008	GH-Matara	Tissue Processor	1,840,000.00
31/01/2008	GH-Matara	Rotary Microtome	1,840,000.00
31/01/2008	GH-Matara	Slide Stainer	2,978,500.00
15/02/2008	Ashraff Memorial	Fully Auto Bio. Chem.Analyser	2,990,000.00
15/02/2008	TH-Mahamodara	Laboratory Equipments	872,269.00
28/02/2008	TH-Kandy	Microscope 3	458,850.00
29/02/2008	Cancer Hospital	Dual Headed Microscope 2	1,104,000.00
12/03/2008	Ashraff Memorial	Fully Automated Haem. Analyzer	2,996,000.00
12/3/2008	TH-Kalubowila	Flame Photometer,	1,894,782.61
13/03/2008	TH-Kurunegela	Elevtrolyte Laboratory Balance,Laboratory Incubator,Hot Air Oven, Water Distiller, Constant Temperature Water Bath and Semi-Hematology Analyzer	2,280,755.00
24/03/2008	BH-Mulleriyawa	Bio-Chemistry Analyzer	1,125,000.00
02/04/2008	TH-Kalubowila	VAT of Flame Photometer	284,217.39
02/04/2008	CI-Maharagama	Tissue Processor	996,000.00
02/04/2008	NDQAL	Microplate with UV visible Spectrophotometer	2,713,448.00
04/04/2008	TH-Kurunegela	2 Flame Photometer and 1 Laboroary Centrifuge	2,631,076.00
07/04/2008	CI-Maharagama	Automated BioChemistry Analyzer	5,860,000.00
05/05/2008	CI-Maharagama	Serum Protein Electrophoresis	2,990,000.00
06/05/2008	TH-Kurunegela	Automatic Chemistry Analyzer	3,421,250.00
06/05/2008	PGH-Badulla	Safety Cabinet(1),Vortex Mixure(4),Hot Air Oven(1),Incubator(1),Microsecope (4) and Dual Headed Microscope(1)	2,628,322.00
06/05/2008	GH-Hambantota	Fully Automated Bio Chemistry Analyzer	2,990,000.00
15/05/2008	DMH	03 Part Haematology Analyzer	1,280,000.00
15/05/2008	PGH-Badulla	Flame Photometer	2,932,500.00
03/06/2008	TH-Kegalle	Tissue Processor and Tissue Embedding System	2,009,044.00

Table 5.4.3 : By Providing Essential Laboratory Equipments to Upgrade Lab Services in Major Hospitals (Ctd.)

Date	Institution	Purchasing Equipments	Released Amnt.(Rs)
03/06/2008	PGH-Badulla	Micro pet corris(3),Differential Counter(06),Tissue Embedding System (1),Photometer(1), Colori-meter(4), Electrical Balance(1) and Baby Billirubin Meter(1)	2,576,363.00
03/06/2008	GH-Ratnapura	Elisa Reader(1),Elisa Washer(1) and Dengue 1g capture elisa Kits(5)	1,321,480.43
03/06/2008	LRH	Freezing Microtome	2,202,223.55
05/06/2008	GH-Hambantota	5 Part fully Auto.Haem. Analyser	2,900,000.00
04/06/2008	TH-Kandy	Polaroid attachment	51,750.00
07/06/2008	Ashraff Memorial	Tissue Processer	1,753,750.00
21/07/2008	GH-Ratnapura	Automatic tissue Processor,Tisssue Embedding System, Floating water bath and Rotary microtome	3,760,869.55
28/07/2008	PGH-Badulla	Centrifuge,Electrophoresis unit	1,770,250.00
28/07/2008	NIHS- Kalutara	Analytical balance(Remaining)	950.00
28/07/2008	TH-Kurunegala	Dual Headed Microscope , Rotary Microtome,Tissue floating Water Bath & Cooling Incubator	2,664,574.00
05/08/2008	GH-Gampola	Rotary Microtome	1,610,000.00
05/08/2008	Ashraff Memorial	Tissue Embedding System	1,943,500.00
20/08/2008	TH-Kegalle	5 Part fully Auto.Haem. Analyser	3,596,929.00
15/09/2008	TH-Mahamodara	Fully auto chemistry Analyzer	2,990,000.00
15/09/2008	TH-Mahamodara	Hematology Analyzer	2,500,000.00
30/09/2008	TH-Kandy	Haemoglobin Analyzer	3,990,000.00
16/10/2008	TH-Kurunegala	Binocular Microscope(4), Cyto Centrifuge, Spectrophotometer,Haematocrit Centrifuge,Colorimeter,PH meter, Slide Storing Cabinet, Low Temperature Refrigerator and Semi Auto Chemistry Analyzer (WET)	3,574,249.00
07/112008	TH. Ragama	Roller Mixture,Cell Counter 5 Keys and Cell Counter 8 Keys	293,100.00
07/11/2008	TH-kurunegala	Fully auto chemistry Analyzer	4,989,999.00
24/11/2008	GH-Ampara	Slide Stainer,Slide store cupboard,Slide Warmer & Cyto Centrifuge	3,801,975.00
24/11/2008	TH-Kurunegala	Oxygen Concentrater	2,587,500.00
02/12/2008	BH-Mulleriyawa	Haematology Analyser	1,351,093.00
05/12/2008	TH-Ragama	Cytocentrifuge & Tissue Processor	2,017,050.00
Total			**139,978,345.78**

5.4.1.2.6 By Provision of Mobile Laboratory Services

There are 5 mobile laboratories deployed for mobile services in the provinces in following manner.
Four mobile labs are operating under the supervision of RDHS Galle, Kandy, Hambantota and Ampara.

The mobile lab operating under the director laboratory services provided services to the following mobile clinics.

a. Staff attached to various departments in the state sector
   (Railway Department, Ministry of Media and Information etc)
b. Low income groups in the,
   - **Western Province**
     Padukka, Hanwella, Colombo city, Bellanwila Raja Maha Viharaya, Nalanda College
   - **Southern Province**
     Embilipitiya, Thanamalwila, Katharagama
   - **Uva province**,
     Badulla, Bandarawela & Monaragala, Mahiyanganaya, Dehaaththakandiya
   - **Sabaragamuwa Province**
     Aranayaka, Deraniyagala, Kaltota, Kolonna, Yatiyantota, Wennappuwa, Kahawaththa
   - **Central Province**
     Kothmale, Hanguranketa, Agarapathana, Walapane, Amagamuwa, Ginigathhena
   - **North Central Province**
     Hingurakgoda
c. Health education programmes for school children in remote areas such as Bandarawela, Padiyatalawa, Hakmana, Pannala

5.4.1.2.7 By regular supervision of hospital laboratories

The DDG (LS), Director (LS) and the National Advisor for Laboratory Services with relevant hospital Consultants supervised the hospital laboratories under the line Ministry and Provincial Councils to identify shortcomings and to recommend improvements.

5.4.2 Bio Medical Services

The mission of the Bio Medical Engineering (BME) services is to be an organization that provides excellent services in the procurement of medical equipment, planning, training and development of employees, in order to provide the highest quality Biomedical Engineering services to the health sector of the country.

The ultimate goal is to achieve zero breakdowns and 100% availability of the optimum level of equipment for patient care.

5.4.2.1 National Program Strategic Objectives

1. Ensure timely availability of medical equipment for line ministry hospitals through procurement.
2. Ensure availability of space parts and accessories through procurement.
3. Maintenance of medical, dental and laboratory equipment in line ministry institutions on a regular basis and attend to breakdowns within 24 hours.
4. Training personal, and the coordination of training of end users.
5. Providing technical guidance to the Ministry and PHAs.
6. Assist the provincial authorities for procurement of equipment.

5.4.2.2 Major achievements

Establishment of the Regional Biomedical Units was started last year and it was expanded to the North Central and Southern Provinces this year by allocating Engineering and other staff. These units are located at Anuradhapura TH and Mahamodara GH.

Forman	01
Technician	02
Driver	01

Table 5.4.4 : Brief Activity Description List , 2008 / 2009

Major Activities	Source of founds (amount) /Rs. Mn			
	Local		Foreign	
	Allocation	Expenditure	Allocation	Expenditure
Strengthening the Provincial Healthcare Services in the Northern Province		50.5		
Work Related to Humanization Relief Operation in the North		7.6		
Urgent requirement of Medical Equipment to the Rural Hospitals in RDHS Ampara.		0.5		
Urgent requirement of Medical Equipment to the Army Hospital.		7.5		
Eqipment for OT and ICU		100.7		
Eqipment for Ophthalmic Unit		33.9		

Table 5.4.5 : Trends of Selected Impact / Outcome Indicator for the Period, 1994 - 2008

Description	2000	2001	2002	2003	2004	2005	2006	2007	2008
Expenditure for Major equipment to line ministry hospitals / Rs. Mn	514	713	668	730	378	964	713	1,172	339
Allocation for Major equipment to line ministry hospitals / Rs. Mn	661	760	700	732	284	2,510	1,500	1,648	1,288
Expenditure for spare parts and maintain service agreements / Rs Mn	106	129	121	156	124	203	249	348	421
Allocation for spare parts and maintain service agreements / Rs. Mn	420	150	280	151	108	267	380	697	550
# of decentralized BME units established							11	17	18

6. Education, Training & Research (E.T. & R.) Services

6.1 Education, Training & Research Unit

The Education, Training and Research Unit (ET & R) co-ordinates and monitors the basic training programmes for Nurses, Professions Supplementary to Medicine (PSM), Paramedical and selected Technical categories coming under the purview of the Ministry of Health. This unit is responsible for training health manpower (Nursing & Allied Health) for the Department of Health Services.

The ET&R Unit also is functions to promote health research.

6.1.1 Basic Training Programme

- **Nursing**

  There are 18 Nursing Training Schools island-wide in which a 3 year basic nursing diploma course is conducted. The Post-Basic School of Nursing placed in Colombo is the centre for post-basic training for nurses.

- **Professions Suplementary to Medicine**

  Medical Laboratory Technology
  Pharmacy
  Radiography
  Physiotherapy
  Occupational Therapy

  Two-year diploma courses are conducted for all the above PSM categories.

- **Paramedical Categories**

  Ophthalmic Technology
  ECG recorder
  Entomological Assistants
  School Dental Therapists
  Dental Technicians
  Public Health Inspectors
  Public Health Midwife
  Public Health Laboratory Technicians
  EEG Technicians

  Proficiency certificate or diploma courses (1 to 2 years duration) are conducted for the paramedical categories.

Table 6.1 Health Man Power Training, 2004-2008

Category	Intake			Output		
	2006	2007	2008	2006	2007	2008
1. Nursing	6,310	1,966	1,680	1,262	1,155	3,177
2. Medical Laboratory Services	-	400	-	-	122	101
3. Pharmacy	210	215	-	-	89	42
4. Radiography	40	200	-	-	69	35
5. Physiotherapy	-	150	-	-	48	-
6. Occupational Therapy	-	50	-	-	13	-
7. Cardiography	40	47	-	39	36	44
8. Ophthalmic Technology	-	35	-	-	38	-
9. Entomological Assistants	-	50	-	-	5	-
10. Public Health Inspectors	-	18	-	289	33	-
11. Public Health Midwives	800	26	45	570	1,498	79
12. Public Health Laboratory Technicians	-	-	-	35	-	-
13. EEG Recordist	8	9	-	-	8	9
14. Dispensers	100	187	190	-	93	-
15. Dental Technicians	-	-	6	-	-	-
16. Speech & Language Therapists	-	-	6	-	-	-
17. Dental Therapist	-	-	80	-	-	-

Technical Services

Dispensers
Public Health Field Officers
Audiology Technicians

Proficiency certificate courses of one year duration are conducted for the technical categories.

6.1.2 Improving the quality of Basic Training Courses

The following activities were conducted to improve the quality of the basic training courses.

- Reviewing and upgrading the curricula of basic training courses
- Provision of text books
- Provision of equipment
- Tutor Training Programmes – Local and overseas

6.1.3 Health Research

The ET&R Unit functions in collaboration with the National Health Research Council to promote Health Research Activities.

Research grants are made available through the funds of the Ministry of Health.

6.2 Medical Research Institute (MRI)

The Medical Research Institute is the Premiere institute for biomedical research in Sri Lanka. It is the reference laboratory for polio surveillance for the Asian region and the National Reference Laboratory for influenza measles, rabies and iodine.

MRI has 14 main divisions in relation to different disciplines. The department of vaccine functions as the National Control Laboratory for Biological (Vaccines etc) used in humans. The department of Immunology is the only such laboratory in Sri lanka providing specialized laboratory testing and attending to referrals from both the state and private sector. MRI also has a well equipped animal centre in which animals are especially maintained for animal experiments.

In addition to carrying out laboratory investigations on samples from both state and private sector, MRI handles out-break investigations, teaching and training of scientists, technologists and post graduates, attending to referrals of patients for expert opinion, carrying out quality assurance programmes for other laboratories, and surveillance of disease and research.

The priorities of the institute include reference functions, laboratory quality assurance, disease surveillance, outbreak investigations and research on topics of national relevance. Identification of manpower and other resources in these areas are essential for improving them. A separate functional research arm and a laboratory quality assurance arm need to be developed. The latter is absolutely essential in the present state of uncontrolled expansion of the private laboratories.

6.2.1 Services provided during this period.

6.2.1.1 Department of Rabies and Vaccine

6.2.1.1.1 Rabies Diagnosis

Test performed	**2008**
Direct smears for rabies diagnosis (screening test)	1,524
FAT (Confirmatory test for rabies)	1,180
Mouse inoculation test (MIT)	8
RT-PCR	4
Rabies specific antibody testing by RFFIT on serum + CSF	39

6.2.1.1.2 Vaccine Quality Control

	2008
Number of vaccine batches lot release	39
Number of vaccine batches tested	12

6.2.1.1.3 Production of Pharmaceuticals

	2008
Distilled water	6,592 liters
Normal Saline	651 liters

6.2.1.1.4 Rabies post-exposure advice clinic

	2008
Number of patients examined	3,612

6.2.1.1.5 On going research projects

1. Evaluation of an immunochromatographic assay for the diagnosis of human rabies and its application to facilitate the molecular epidemiology of rabies; A multi-center study in Asian countries.

2. Immunogenicity study to determine the persistence of rabies neutralizing antibodies in previously immunized patients and their booster response following anti-rabies vaccine (ARV) for a subsequent exposure.

6.2.1.2 Department of Nutrition

6.2.1.2.1 Laboratory Testing

Test performed	**2008**
Urinary Iodine	
Salt Iodine	
Water Iodine	
Vit A	
Heamoglobin estimation	

Test performed	**2008**
Vit A (QC)	20
Urinary Iodine	75
Water Iodine	75

6.2.1.2.2 On going research projects.

1. Nutrition and food security survey - 2009
2. Rapid assessment of nutrition status of IDP in Vavuniya
3. Prevalence of low birth weight in Sri Lanka
4. Iodine deficiency disorder status in Sri Lanka
5. Effect of dioxin on thyroid function

6.2.1.3 Department of Biochemistry

Test performed	**2008**
Department of biochemistry	16,718
RIA / Endrocrine	8,933

6.2.1.3.1 Quality Control(QC)

	2008
Department of biochemistry	2,951
RIA / Endrocrine	2,884

6.2.1.3.2 Production

	2008
Apply calibration standards to 65 hospital laboratories	1. Glucose Stan. 130 2. Urea Stan. 130 3. Protein Stan. 130

6.2.1.3.3 Clinics

	2008
National external QC programme in clinical chemistry for 65 hospital labs	6 x 65 labs

6.2.1.3.4 Research and other activities

Collaborative research programme with animal center on Chronic Kidney Disease(CKD) of urinary protein and creatinine to detected the etiology of CKD of unknown origin.

Activity	2008
Evaluation of chemical reagent kits for SPC through the SPC files	200
Actual evaluation of chemical by practical methods	-
DVR files	50
Work shops in chemical chemistry in quality assurance with WHO for NEQAS participant	-

6.2.1.4 Department of Parasitology

Test Performed	2008
FFAT	994
Toxoplasma IgG/IgM	1,316
Toxocara IgG	390
Stool AOC	05

6.2.1.4.1 Research and other activities

1. Prevalence of toxoplasmosis antibodies among neonates in Nuwara Eliya district.
2. Prevalence of toxoplasmosis antibodies in Urethritis patients in Sri Lanka.

6.2.1.5 Animal centre

6.2.1.5.1 Supply of animal Blood

Item	2008
Sheep Blood	22,040 ml
Gander Blood	1,500 ml
Rabbit blood	3,492 ml
Turkey blood	Requirement for MRI (influenza work)

6.2.1.5.2 Supply of animals

Item	2008
Mice	1,371
Suckling	486
Rats	663
Hamsters	120
Guinea pigs	194
Rabbits	40

6.2.1.5.3 Production

	2008
Formal Saline	100 L
Histological Stain	6 L

6.2.1.5.4 Other activities

1. MLT training
2. MLT school lectures
3. MLT school examinations
4. Training of post graduate student
5. Evaluation of DVR files
6. Island wide quality test for ethanol, DPX, Xylene, Wax, Glass slide – only Dr. Eakanayaka
7. Functioning as members of TEC committee for country wide consumable tender – only Dr Eakanayaka
8. Training of minor staff
9. Training of MLT in peripheral hospitals
10. Blood drawing counter

6.2.1.5.5 On going research projects

1. Platelet function test in cardiac patients
2. Coconut milk and cholesterol
3. Garlic and cholesterol
4. Identification of possible causative factors in CKD in NCP by an animal experiment.
5. Identification of common bacterial pathogens by using three different sources of animal blood for laboratory media.

6.2.1.6 Pathology – Hematology

6.2.1.6.1 Laboratory Testing

Test performed	2008
Hb A2	1,398
Fetal hemoglobin	1,539
Sickling test	33
Platelet function test	144
Arachidonic Acid	59 (+12)
Bone marrow slides & BP	310
Blood picture	63
Full blood count	178
ESR	1,631

6.2.1.7 Department of mycology

6.2.1.7.1 Laboratory Testing

Test performed	2008
Scraping	3,116
Biopsy	507
Sputum	834
CSF	84
Miscellaneous	553
Urine	52
Serology	89
Blood culture	1,424
Culture identification	520

6.2.1.7.2 Research and other activities

1. Training in PCR for speciation of candida is being done at Department of Chemistry, university of Colombo with WHO

6.2.1.8 Department Pathology - Histopathology

6.2.1.8.1 Laboratory Testing

Test formed	2008
Histological diagnosis of surgical specimens	3,533
Histological diagnosis of cancer	166
Cytological diagnosis	331

6.2.1.8.2 Quality Control

	2008
FBC Quality control samples	37

6.1.2.8.3 Production

	2008
Hb standard	296
HICN (To central blood bank)	5 L

6.2.1.9 Department of Entomology

6.2.1.9.1 Laboratory investigations

Test	2008
No. of mosquito coils other repellents tested	48
No. of mosquito larvae examined	16,656

6.2.1.9.2 Field examinations

	2008
No. of houses visited for surveys / Health education	36,094

6.2.1.9.3 On going research

1. Larvicidal activity of essential oils extracted from plants.

6.2.1.10 Department of Virology

6.2.1.10.1 Laboratory test.

Test performed	2008
Dengue HAI	2,531
Dengue IgM	3,520
Chickungunya IgM	1,080
Measles IgG	205
Mumps IgM	93
Mumps IgG	94
Varicella Igm	54
Varicella IgG	132
HSV Culture	651
CSF, JE IgM ELISA	792
Blood JE IgM ELISA	171
CMV IgM	693
CMV IgG	444
Polio ELISA	15
PCR	15
Parvo	224
Cells sensitivity test	19
Polio tissue culture	772
PNT (Polio)	12
Congenital Rubella IgG, HAI	1,827
Congenital Rubella IgM	531
Measles IgM	116
Rubella IgM	133

6.2.1.10.2 On going research Projects

1. Legionella occurrence in cooling water
2. Water quality surveillance
3. Compylobacterias in food

6.2.1.11 Department of bacteriology – Enteric

6.2.1.11.1 Laboratory investigations

Test formed	2008
Stools culture and ABST	1,650
Clot culture	780
Culture identification	206

6.2.1.11.2 Quality control

	2008
WHO global Salmonella surveillance (EQAS) Programme	1 programme

6.2.1.11.3 On going research Projects.

1. Incidence of Diarrhea in Lady Ridgeway hospital.

6.2.1.12 Department of Bacteriology – Serology section

6.2.1.12.1 Laboratory investigations

Test formed	2008
ASOT	986
SAT	626
Monospots	213
Brucella	12
Weil felix	203
Influenza	2,374
EBV	303
Hepatitis IgM	7,459

6.2.1.12.2 On going research Projects

1. Surveillances for Rota virus
2. Surveillances for Measles
3. Surveillances for Rubella
4. Surveillances for Influenza
5. Clinical investigation of out break of fever-Japanese B Encephalitis

6.2.1.12.3 External QC programme

1. WHO Polio proficiency panel (Isolation)
2. WHO Polio proficiency panel (ELISA)
3. WHO Polio proficiency panel (Probe Hybridization)
4. WHO Polio proficiency panel (PCR)
5. Measles and Rubella EQC programme
6. Influenza EQC programme

6.2.1.13 Department of food and water

Laboratory investigations

Test formed	2008
Water samples	2,008
Food samples	1,920

6.2.1.13.1 Quality control

	2008
Water	1 programme

6.2.1.13.2 Production if any

	2008
SAT antigen H	5,000 ml
SAT antigen para A	5,000 ml
SAT antigen O (Stode)	500 ml

6.2.1.13.4 On going research Projects

H antibodies in chronic urticaria patients

6.2.1.14 Department of Pharmacology

Test performed	2008
VMA	946
17 ketosteroid	20
5 (OH) 1 AA	8
Vancomycin	44
Gentamycin	55
Amkacin	11
Carbamazepine	4
Sodium valproate	7
Cyclosporine	3
Netilmycin	3
Phenytoin	1

6.2.1.14.1 Teaching and Training

1. Seminar for trainee pharmacists
2. Training students in MD chemical biochemistry
3. Lectures for students in MSc in immunology

Detailed Tables

Table 1. Administrative Divisions and Local Government Bodies, 2008

Administrative Areas (Province/District)	Divisional Secretary		Grama Niladari Divisions	Pradesiya Saba	Villages	Local Government Bodies		
	Areas	Sub Office				MC	UC	Wards
Western Province								
Colombo	13	-	557	4	573	4	5	121
Gampaha	13	-	1,177	12	1,581	2	5	72
Kalutara	14	-	762	12	2,425	-	4	35
Central Province								
Kandy	20	-	1,188	17	2,737	1	4	58
Matale	11	-	545	11	1,364	1	-	13
Nuwara Eliya	5	-	491	5	1,134	1	2	24
Southern Province								
Galle	19	-	895	17	2,225	1	2	37
Matara	16	-	650	15	1,636	1	1	21
Hambantota	12	-	576	10	1,355	-	2	12
Northern Province								
Jaffna	15	-	435	13	1,205	1	3	52
Kilinochchi	3	1	95	3	258	-	-	-
Mannar	5	-	153	4	622	-	-	-
Vavuniya	4	-	102	4	399	-	-	11
Mullaitivu	4	1	127	4	516	-	-	-
Eastern Province								
Batticaloa	14	-	346	10	907	1	1	19
Ampara	19	1	503	16	698	1	1	9
Trincomalee	10	1	230	11	560	-	2	12
North-Western Province								
Kurunegala	30		1,610	18	4,417	1	1	21
Puttalam	16	-	548	10	1,265	-	2	20
North Central Province								
Anuradhapura	22	-	694	18	2,114	1	-	10
Polonnaruwa	7	-	295	7	633	-	-	-
Uva Province								
Badulla	15	-	567	14	1,968	1	2	29
Moneragala	11	-	319	10	1,295	-	-	-
Sabaragamuwa Province								
Ratnapura	17	-	575	14	1,981	1	2	24
Kegalle	11	-	573	11	1,557	-	1	11
Sri Lanka	326	4	14,013	270	35,425	18	40	611

Source : Department of Census and Statistics

Table 2. Population, Land Area and Density by Province and District

Administrative Area (Province/District)	Land Area (Sq. Km) As at 1998[1]	Percentage Land Area	2007 Estimated Mid-year Population[2] ('000)	2008* Estimated Mid-year Population[2] ('000)	2008* Percentage Distribution of Population	2008* Density (Person per Sq.Km)	Average Annual Growth Rate 2008 *[2]
Sri Lanka	**62,705**	**100**	**20,010**	**20,217**	**100.0**	**322.4**	**1.1**
Western Province	**3,593**	**5.73**	**5,707**	**5,758**	**28.5**	**1602.6**	
Colombo	676	1.08	2,456	2,488	12.3	3680.5	1.3
Gampaha	1,341	2.14	2,140	2,152	10.6	1604.8	0.6
Kalutara	1,576	2.51	1,111	1,118	5.5	709.4	0.7
Central Province	**5,575**	**8.89**	**2,599**	**2,628**	**13.0**	**471.4**	
Kandy	1,917	3.06	1,380	1,396	6.9	728.2	1.1
Matale	1,952	3.11	477	483	2.4	247.4	1.2
Nuwara Eliya	1,706	2.72	742	749	3.7	439.0	0.9
Southern Province	**5,383**	**8.58**	**2,417**	**2,443**	**12.1**	**453.8**	
Galle	1,617	2.58	1,052	1,063	5.3	657.4	1.0
Matara	1,270	2.03	813	822	4.1	647.2	1.0
Hambantota	2,496	3.98	552	558	2.8	223.6	1.0
Northern Province	**8,290**	**13.22**	**1,159**	**1,172**	**5.8**	**141.4**	
Jaffna	929	1.48	599	603	3.0	649.1	0.6
Kilinochchi	1,205	1.92	146	150	0.7	124.5	2.9
Mannar	1,880	3.00	101	102	0.5	54.3	0.8
Vavuniya	1,861	2.97	166	167	0.8	89.7	1.0
Mullaitivu	2,415	3.85	147	150	0.7	62.1	2.0
Eastern Province	**9,361**	**14.93**	**1,493**	**1,515**	**7.5**	**161.8**	
Batticaloa	2,610	4.16	523	530	2.6	203.1	1.3
Ampara	4,222	6.73	615	624	3.1	147.8	1.5
Trincomalee	2,529	4.03	355	361	1.8	142.7	1.6
North-Western Province	**7,506**	**11.97**	**2,276**	**2,295**	**11.4**	**305.8**	
Kurunegala	4,624	7.37	1,524	1,535	7.6	332.0	0.7
Puttalam	2,882	4.60	752	760	3.8	263.7	1.1
North Central Province	**9,741**	**15.53**	**1,196**	**1,209**	**6.0**	**124.1**	
Anuradhapura	6,664	10.63	801	809	4.0	121.4	1.1
Polonnaruwa	3,077	4.91	395	400	2.0	130.0	1.1
Uva Province	**8,335**	**13.29**	**1,275**	**1,291**	**6.4**	**154.9**	
Badulla	2,827	4.51	850	861	4.3	304.6	1.3
Moneragala	5,508	8.78	425	430	2.1	78.1	1.2
Sabaragamuwa Province	**4,921**	**7.85**	**1,888**	**1,906**	**9.4**	**387.3**	
Ratnapura	3,236	5.16	1,086	1,099	5.4	339.6	1.2
Kegalle	1,685	2.69	802	807	4.0	478.9	0.6

* Provisional

Sourse : 1 : Survey General's Department
2 : Registrar General's Department

Table 3. Population by Five Year Age Groups and Sex - 2001 and 2008

Age Group	Year 2001 **						Year 2008 ***					
	Total		Male		Female		Total		Male		Female	
	Number	%	Number	%	Number	%	Number (000)	%	Number (000)	%	Number (000)	%
All ages	16,867,681	100.0	8,344,842	100.0	8,522,839	100.0	20,217	100.0	9,980	100.0	10,237	100.0
0 - 4	1,457,653	8.6	745,084	8.9	712,570	8.4	1,718	8.5	868	8.7	850	8.3
5 - 9	1,501,027	8.9	762,013	9.1	739,014	8.7	1,778	8.8	898	9.0	880	8.6
10 - 14	1,536,126	9.1	785,155	9.4	750,972	8.8	1,819	9.0	918	9.2	901	8.8
15 - 19	1,647,319	9.8	838,164	10.0	809,154	9.5	1,960	9.7	988	9.9	972	9.5
20 - 24	1,561,563	9.3	772,831	9.3	788,732	9.3	1,900	9.4	948	9.5	952	9.3
25 - 29	1,318,902	7.8	638,297	7.6	680,605	8.0	1,597	7.9	778	7.8	819	8.0
30 - 34	1,270,065	7.5	620,140	7.4	649,925	7.6	1,546	7.6	758	7.6	788	7.7
35 - 39	1,243,602	7.4	606,609	7.3	636,993	7.5	1,507	7.5	739	7.4	768	7.5
40 - 44	1,157,605	6.9	568,927	6.8	588,677	6.9	1,395	6.9	689	6.9	706	6.9
45 - 49	1,015,078	6.0	500,036	6.0	515,042	6.0	1,223	6.0	599	6.0	624	6.1
50 - 54	916,270	5.4	448,524	5.4	467,747	5.5	1,102	5.5	539	5.4	563	5.5
55 - 59	669,045	4.0	322,094	3.9	346,950	4.1	799	4.0	379	3.8	420	4.1
60 - 64	500,769	3.0	240,931	2.9	259,837	3.0	596	2.9	289	2.9	307	3.0
65 - 69	408,502	2.4	191,271	2.3	217,230	2.5	476	2.4	220	2.2	256	2.5
70 - 74	303,234	1.8	139,347	1.7	163,887	1.9	365	1.8	170	1.7	195	1.9
75 & over	360,922	2.1	165,417	2.0	195,505	2.3	436	2.2	200	2.0	236	2.3

Source: ** : *Based on Population Census 2001 sample estimates*

*** : *Registrar General's Department*

Year 2001 Population Excludes :
Jaffna, Mannar, Vavuniya, Mullaitivu, Kilinochchi, Batticoloa & Trincomalee Districts.

Table 4. Vital Statistics by District

(By Place of Occurance)

District	Crude Birth Rate		Crude Death Rate		Maternal Mortality Rate, 2006 Per 100,000 Live Birth's	Infant Mortality Rate 2008	Neo-Natal Mortality Rate		Perinatal Mortality Rate	
	2007 [1]	2008 [1]	2007 [1]	2008 [1]			2007	2008	2007	2008
	Per 1,000 Population					Per 1,000 Lve Births				
Colombo	23.3	23.5	8.4	7.6	14.5	14.3	8.9	8.5	6.2	5.9
Gampaha	13.5	12.9	5.0	5.0	14.3	3.7	1.8	3.1	1.3	2.7
Kalutara	15.1	15.6	5.9	6.1	5.8	3.4	2.2	2.6	1.5	2.2
Kandy	21.3	22.1	6.9	6.9	13.0	9.6	8.4	6.8	6.3	4.6
Matale	20.2	21.8	5.5	5.6		6.8	5.5	4.4	4.5	2.9
Nuwara Eliya	15.8	14.6	5.0	5.1	53.0	14.0	10.8	9.7	7.4	7.4
Galle	20.2	19.6	7.1	7.4	4.9	11.9	7.1	7.9	5.4	5.7
Matara	18.1	17.8	5.8	6.2	13.5	9.5	7.1	7.4	5.2	5.1
Hambantota	16.4	17.0	4.6	4.7	23.6	5.6	3.2	3.5	2.5	2.4
Jaffna	14.4	12.5	6.4	5.9	10.9	3.4	0.8	1.3	0.7	0.6
Kilinochchi	29.4	32.8	4.1	4.2	55.8		0.2		0.2	-
Mannar	17.0	13.5	3.6	2.8	-	0.9	1.2	0.9	1.2	-
Vavuniya	18.1	18.2	5.8	5.9	-	13.7	8.3	11.2	6.8	8.6
Mullaitivu	21.4	27.4	3.4	3.2	-		-	-	-	-
Batticaloa	23.2	21.7	4.5	4.8	33.7	13.0	20.3	9.3	16.6	7.1
Ampara	24.8	23.5	4.3	4.3	20.5	3.7	1.7	1.8	1.2	0.9
Trincomalee	24.0	26.3	4.4	4.4	-	5.6	1.2	3.8	1.0	2.0
Kurunegala	17.4	17.2	6.2	6.4	11.7	14.2	7.9	12.0	6.9	10.9
Puttalam	20.5	19.7	4.7	5.0	31.9	6.4	4.8	4.2	4.2	3.2
Anuradhapura	20.7	20.1	5.5	5.5	6.5	10.8	8.4	7.5	6.2	6.1
Polonnaruwa	19.2	18.6	4.5	5.0	-	11.8	4.2	10.7	2.8	6.9
Badulla	22.4	20.9	5.5	5.6	-	6.9	3.2	4.0	2.2	3.0
Moneragala	15.8	16.7	3.3	3.3	15.3	2.1	1.6	0.7	1.4	0.7
Ratnapura	18.7	18.5	5.3	5.4	18.8	5.8	3.3	4.5	2.7	3.4
Kegalle	15.4	14.4	5.9	6.3	9.1	4.1	3.6	2.5	2.9	1.7
Sri Lanka	**19.0**	**18.8**	**5.8**	**5.9**	**14.2**	**9.0**	**5.9**	**6.2**	**4.5**	**4.6**

[1] Provisional.

Source : Registrar General's Department & Medical Statistics Unit.

Table 5. Percentage Distribution of Housing Units by Source of Drinking Water, 2008

(Excludes Northern Province and the Trincomalee District in the Eastern Province)

Province/ District	Total	Protected Well Within Premises	Protected Well Outside Premises	Unprotected Well	Tube Well	Tap Within Premises	Tap Outside Premises	Stream water collected and distributed by pipe line	River/Tank /Stream	Other
Sri Lanka	100.0	33.7	16.7	6.4	4.2	25.4	4.9	6.0	0.9	2.0
Western Province										
Colombo	100.0	23.9	4.2	1.3	0.6	63.4	5.6	0.5	-	0.4
Gampaha	100.0	50.2	8.6	3.8	7.8	26.0	2.4	0.1	-	1.1
Kalutara	100.0	49.8	16.7	7.4	2.6	14.3	2.7	4.3	0.7	1.4
Central Province										
Kandy	100.0	14.8	16.4	6.8	4.3	37.8	5.0	6.8	2.6	5.5
Matale	100.0	22.8	26.4	10.8	11.0	14.9	4.5	8.7	0.2	0.6
Nuwara Eliya	100.0	6.9	6.9	9.6	1.0	22.4	14.2	30.1	1.0	8.0
Southern Province										
Galle	100.0	45.6	19.9	9.3	2.1	14.5	5.4	2.2	0.1	0.9
Matara	100.0	34.8	13.6	5.5	0.1	25.1	2.7	15.6	0.8	1.8
Hambantota	100.0	13.9	11.5	3.7	4.2	52.7	7.5	3.4	0.6	2.5
Eastern Province										
Batticaloa	100.0	75.1	14.3	0.3	6.2	0.9	-	-	-	3.2
Ampara	100.0	44.5	29.5	8.2	1.0	12.9	1.6	0.4	-	1.9
North Western Province										
Kurunegala	100.0	52.9	29.9	8.7	3.6	2.4	0.5	1.2	0.3	0.4
Puttalam	100.0	29.7	25.8	3.7	19.2	12.1	6.1	0.3	-	3.2
North Central Province										
Anuradhapura	100.0	29.9	34.3	11.0	5.3	11.9	3.9	1.8	0.3	1.6
Polonnaruwa	100.0	36.2	23.2	10.2	6.1	18.0	5.1	-	0.2	0.9
Uva Province										
Badulla	100.0	16.9	14.4	7.1	0.7	36.5	10.8	8.4	4.4	0.8
Moneragala	100.0	26.7	19.1	6.1	13.1	18.9	7.7	4.5	3.0	1.0
Sabaragamuwa Province										
Ratnapura	100.0	19.2	14.9	7.5	1.4	17.8	8.5	25.6	2.5	2.5
Kegalle	100.0	36.4	16.7	8.5	-	17.8	3.3	11.6	1.5	4.2

Source : Department of Census and Statistics

Table 6. Percentage Distribution of Housing Units by Type of Toilet, 2008
(Excludes Northern Province and the Trincomalee District in the Eastern Province)

District	Type of toilet used					
	Total	Water seal	Pour flush	Pit	Other	No toilet
	%	%	%	%	%	%
Sri Lanka	100.0	76.6	14.1	5.5	0.2	3.6
Western Province						
Colombo	100.0	65.4	27.9	3.6	-	3.1
Gampaha	100.0	92.8	4.3	1.4	0.5	1.0
Kalutara	100.0	94.2	2.6	2.0	0.2	1.1
Central Province						
Kandy	100.0	77.3	14.3	5.5	-	2.8
Matale	100.0	72.2	9.8	14.0	0.8	3.2
Nuwara Eliya	100.0	72.3	12.0	4.7	-	11.0
Southern Province						
Galle	100.0	75.9	19.1	2.7	-	2.3
Matara	100.0	90.4	4.8	3.1	-	1.7
Hambantota	100.0	62.1	25.5	11.1	-	1.2
Eastern Province						
Batticaloa	100.0	51.0	10.2	14.4	-	24.4
Ampara	100.0	64.5	22.0	5.8	0.2	7.6
North Western Province						
Kurunegala	100.0	76.4	14.5	4.9	0.4	3.8
Puttalam	100.0	76.6	12.2	1.8	-	9.4
North Central Province						
Anuradhapura	100.0	65.7	17.8	12.8	-	3.7
Polonnaruwa	100.0	67.7	17.9	12.3	-	2.1
Uva Province						
Badulla	100.0	64.1	25.3	8.3	0.4	1.9
Moneragala	100.0	60.7	23.8	12.0	-	3.6
Sabaragamuwa Province						
Ratnapura	100.0	86.0	1.4	8.8	0.1	3.7
Kegalle	100.0	85.3	9.9	4.0	0.2	0.7

Source : Department of Census and Statistics

Table 7. Distribution of Government Medical Institutions and Beds[1] by Districts, December 2008

District	Teaching Hospitals		Provincial Hospitals		General Hospitals		Base Hospitals		District Hospitals		Peripheral Units		Rural Hospitals[2]		Central Dispensaries & Maternity Homes		Other Hospitals[3]		Total Hospitals		Beds per 1,000 Pop.	Central Dispensaries	MOH Areas *
	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds	Ins.	Beds			
Colombo	7	7,573					2	856	4	553	5	327	1	20	5		10	2,847	34	12,176	4.9	28	13
Gampaha	1	1,265			2	1,407	1	562	6	750	3	170	5	116			6	1,569	24	5,839	2.7	45	15
Kalutara			1	817			3	956	7	673	4	200	6	207			2		23	2,853	2.6	8	12
Kandy	3	3,310			1	493	1	118	14	995	6	309	26	814			7	239	58	6,278	4.5	27	23
Matale					1	674	1	219	3	243	4	238	13	189	1		3	41	26	1,604	3.3	13	10
Nuwara Eliya					1	396	2	135	11	644	3	163	7	174	3	24			27	1,536	2.1	21	8
Galle	2	1,871					1	363	8	842	8	372	5	87	3	25	5	10	32	3,570	3.4	24	18
Matara			1	984			1	191	4	528	4	316	7	172	2				19	2,191	2.7	16	17
Hambantota					1	359	3	513	4	293	5	346	7	220	4	26	2		26	1,757	3.1	8	11
Jaffna	1	1,316					1	282	6	360	6	318	4	122	9	94	2		29	2,492	4.1	16	11
Kilinochchi					1				4						4				9	0	0.0	2	2
Mannar					1	202			3	121	1	38	1		3	49	2		11	410	4.0	2	4
Vavuniya					1	325			1	80	1		1	6	5	43	3		12	454	2.7	2	4
Mullaitivu					1				1		1		1		2				6	0	0.0	3	2
Batticaloa	1	803					2	215	4	238	1	35	5	206	6	97	1	13	20	1,607	3.0	18	11
Ampara					1	450	2	226			1	52	3	93	3	99	2		12	920	3.8	18	7
Kalmunai							4	902	7	305	3	172	3		3	76	1		21	1,455		9	13
Trincomalee					1	401	2	219	1	155	3	72	5	135	3	50	2		17	1,032	2.9	15	10
Kurunegala	1	1,366					2	759	16	1,750	12	550	15	398	1	12			47	4,835	3.1	53	18
Puttalam					1	447	2	742	4	319	3	134	5	122	5	79	4		24	1,843	2.4	20	9
Anuradhapura					1	1,384	2	212	5	527	7	470	23	803			2		40	3,396	4.2	23	19
Polonnaruwa					1	603	1	191	1	141	4	261	4	216					11	1,412	3.5	13	8
Badulla			1	1,331			2	575	13	947	1	42	16	375	2	13	3	4	38	3,287	3.8	16	15
Moneragala					1	360			9	840	1	33	7	191			1		19	1,424	3.3	10	11
Ratnapura			1	1,041			3	570	10	946	9	402	11	268					34	3,227	2.9	12	16
Kegalle	1	780					3	683	5	549	1	60	11	227	3	13	4	32	28	2,344	2.9	17	11
Total	17	18,284	4	4,173	16	7,501	41	9,489	151	12,799	97	5,080	192	5,161	67	700	62	4,755	647	67,942	3.4	439	298

Source : Medical Statistics Unit

[1] Excludes examination and labour room beds, cribs and bassinets etc used for healthy newborn.
Includes:
[2] Estate Hospitals
[3] Mental, Chest, Leprosy, Police, Prison, Fever, Cancer, Dental and Rehabilitation Hospitals.
* : Provisional, 2005 List for North and Eastern province.

Table 8. Beds by Speciality and District, December 2008

District	Mixed Medical & Surgical [1]	Medical	Surgical	Paediatrics / Children [2]	Obstetric/ Gynaecology	Communicable Diseases	Tuberculosis	Cancer	Leprosy	Psychiatry	Neurology/ Neuro Surgery	Genito Urinary	Cardiology	E.N.T	Eye	Skin	Orthopaedic / Accident	Thoracic Surgery	Plastic Surgery/ Burns Unit	Rheumatology/ Rehabilitation	Dental	Others [3]	Total
Colombo	634	2,501	2,311	467	1,166	52	14	468	.	1,039	347	137	222	182	497	60	730	144	103	31	27	1,044	12,176
Gampaha	345	1,237	932	563	959	.	504	.	63	349	.	.	.	60	251	6	.	.	.	260	33	277	5,839
Kalutara	285	750	547	346	638	.	.	.	.	39	.	.	10	45	26	14	.	.	.	.	.	153	2,853
Kandy	580	1,471	629	685	947	.	100	128	.	95	187	100	77	62	224	45	163	.	.	63	79	643	6,278
Matale	69	678	137	183	320	.	40	.	.	12	6	.	.	16	48	21	.	.	.	.	.	74	1,604
Nuwara Eliya	188	489	156	164	414	.	.	.	.	16	.	.	.	11	38	.	.	.	.	.	.	60	1,536
Galle	394	755	638	455	580	.	48	144	.	39	50	20	25	41	70	45	62	.	.	21	21	162	3,570
Matara	233	522	301	244	421	.	.	.	.	.	24	.	16	57	47	.	22	.	.	.	.	304	2,191
Hambantota	122	753	218	260	300	.	.	.	.	.	.	.	.	.	16	.	.	.	.	.	.	88	1,757
Jaffna	145	749	371	254	532	5	19	60	.	74	.	.	20	.	66	24	14	.	.	.	2	157	2,492
Kilinochchi																							
Mannar	85	85	55	43	131	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	11	410
Vavuniya	6	112	56	81	127	.	14	.	.	.	.	.	.	15	15	.	.	.	.	.	.	28	454
Mullaitivu																							
Batticaloa	157	452	229	216	291	.	20	.	.	28	.	.	5	25	42	.	49	.	.	.	15	78	1,607
Ampara	71	298	83	122	216	.	.	.	.	15	.	.	.	.	30	.	26	.	.	.	.	59	920
Kalmunai	122	486	192	240	273	.	.	.	.	21	.	.	.	.	30	.	.	2	.	.	.	89	1,455
Trincomalee	47	334	157	161	230	.	.	.	.	12	.	.	.	.	24	.	11	.	.	.	.	56	1,032
Kurunegala	581	1,790	485	419	833	.	.	4	.	40	46	24	13	23	81	44	61	61	.	55	34	241	4,835
Puttalam	95	554	366	224	422	.	17	.	.	.	.	.	.	.	46	.	34	.	.	.	.	85	1,843
Anuradhapura	546	888	390	338	659	.	.	61	.	88	55	.	38	.	41	.	69	.	.	.	.	223	3,396
Polonnaruwa	217	485	170	133	278	.	.	.	.	.	.	.	.	.	50	.	.	.	.	.	.	79	1,412
Badulla	400	732	508	392	687	.	.	94	.	52	64	.	30	40	55	23	55	.	.	16	.	139	3,287
Moneragala	313	356	138	201	322	.	.	.	.	.	.	.	.	.	23	.	.	.	.	.	.	71	1,424
Ratnapura	441	839	565	373	652	.	34	.	.	26	19	.	14	17	51	33	59	.	.	.	21	83	3,227
Kegalle	149	695	404	285	512	.	.	.	.	21	.	.	.	33	37	26	.	.	.	.	.	182	2,344
Total	6,225	18,011	10,038	6,849	11,910	57	810	959	63	1,966	798	281	470	627	1,808	341	1,355	207	103	446	232	4,386	67,942

Source : Medical Statistics Unit

Includes:

[1] Beds in medical and surgical intensive care units, wards for priests, service personnel and medical and surgical paying wards.

[2] Beds in the premature baby units.

[3] Mixed wards with beds for obstetrics, psychiatry, skin, ENT, eye, dental, neurology, surgery, tuberculosis and heamatology.

Table 9. Key Health Personnel, 1984 - 2008

Year	Medical Officers[1]		Dental Surgeons[2]		Registered/ Assistant Medical Officers		Nurses		Public Health Nursing Sisters		Public Health Inspectors		Public Health Midwives		Hospital Midwives	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1984	1,951	12.5	288	1.8	984	6.3	7,400	47.4	209	1.3	916	5.9	3,001	19.2	1,538	9.9
1986	2,217	13.7	318	2.0	1,047	6.5	8,019	49.7	189	1.2	966	6.0	3,102	19.2	1,463	9.1
1988	2,316	14.0	355	2.1	1,100	6.6	8,317	50.1	154	0.9	977	5.9	3,209	19.3	1,531	9.2
1990[3]	2,440	15.5	317	2.0	1,074	6.8	8,957	57.1	140	0.9	886	5.6	3,321	21.2	1,638	10.4
1991	2,934	17.0	358	2.1	1,201	7.0	9,934	57.6	101	0.6	914	5.3	3,583	20.8	1,776	10.3
1992	3,345	19.2	381	2.2	1,253	7.2	11,214	64.4	113	0.6	846	5.0	4,108	23.6	2,025	11.6
1993	3,713	21.1	390	2.2	1,305	7.4	11,818	67.1	109	0.6	876	5.0	4,361	24.8	2,172	12.3
1994	4,047	22.7	387	2.2	1,357	7.6	13,060	73.1	117	0.7	928	5.2	4,400	24.6	2,214	12.4
1995	4,577	25.3	421	2.3	1,376	7.6	13,403	74.0	174	1.0	932	5.1	4,383	24.2	2,288	12.6
1996	5,117	27.9	462	2.5	1,397	7.6	13,933	79.1	189	1.0	915	5.0	4,352	23.8	2,393	13.1
1997	5,628	30.1	481	2.6	1,384	7.4	13,815	73.8	145	0.8	901	4.8	4,497	24.0	2,284	12.2
1998	6,427	34.2	521	2.8	1,340	7.1	14,448	77.0	183	1.0	888	4.7	4,578	24.4	2,410	12.8
1999	6,994	36.7	529	2.8	1,340	7.0	14,052	73.8	237	1.2	1,142	6.0	4,625	24.3	2,503	13.1
2000	7,963	41.1	637	3.3	1,349	7.0	14,716	76.0	270	1.4	1,486	7.7	4,798	24.8	2,596	13.4
2001	8,384	44.8	751	4.0	1,343	7.2	15,797	84.4	259	1.4	1,401	7.5	4,654	24.9	2,723	14.5
2002	9,290	48.9	867	4.6	1,326	7.0	16,517	86.9	310	1.6	1,470	7.7	4,819	25.4	2,794	14.7
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	8,874	45.6	915	4.7	1,218	6.3	18,654	95.8	315	1.6	1,397	7.2	4,524	23.2	2,668	13.7
2005	10,198	51.9	954	4.9	1,274	6.5	19,934	101.4	313	1.6	1,512	7.7	4,896	24.9	2,371	12.1
2006	10,279	51.7	1,181[(a)]	5.9	1,183	5.9	24,988	125.7	299	1.5	1,535	7.7	5,080	25.5	2,555	12.8
2007	11,023	55.1	1,314[(a)]	6.6	1,194	6.0	31,466	157.3	290	1.4	1,740	8.7	6,167	30.8	2,828	14.1
2008	12,479	61.7	858[(a)]	4.2	1,134	5.6	30,063	148.7	270	1.3	1,475	7.3	5,331	26.4	3,016	14.9

(a) Provisional

Source : Medical Statistics Unit

Rate per 100,000 Population

[1] All Medical Officers in curative, administrative and preventive services including Specialists and Interns

[2] Includes Regional and Consultant Dental Surgeons

[3] Excludes the Northern Province

Table 10. Distribution of Health Personnel by District , December 2008

DPDHS	Administrative Grade (Senior and Deputy)	Specialists (Curative care)	Hospital Medical Officers (D.M.O., S.H.O., H.O., MO in OPD, ect)	DDHS/MOH/AMOH	School Medical Officers	Medical Officers (Malaria)	Medical Officers (Filaria)	Medical Officers (Leprosy)	Medical Officers (Venereal Diseases)	Medical Officers (Tuberculosis)	Epidemiologists	Medical Officers (Maternal and Child Health)	Judicial Medical Officers	Medical Officers (Blood Bank)	Internee Medical Officers	P.G.I.M. Trainees **(a)	Other Medical Officers (Specify)	Medical Officers [2(a)]	Total Medical Officers [1(a)]	Regional Dental Surgeons	Consultant Dental Surgeons	Hospital Dental Surgeons	P.G.I.M Trainees**[(a)]	Dental Surgeons [3(a)]
Colombo	43	173	2,192	30	1	2	5	0	12	0	3	3	3	328	103	405	62	3,149	3,365	4	22	116	27	169
Gampaha	6	87	822	42	0	0	1	2	2	0	1	1	0	23	160	103	3	1,160	1,253	2	4	51	8	65
Kalutara	8	51	365	35	2	0	2	0	1	2	2	2	1	14	21	1	32	480	539	5	4	44	2	55
Kandy	10	179	712	33	0	1	0	0	0	9	1	0	3	3	81	134	220	1,197	1,386	3	8	43	23	77
Matale	2	24	160	15	0	0	0	0	3	1	1	1	3	7	17	3	26	237	263	1	2	8	1	12
Nuwara Eliya	1	15	118	12	0	0	0	0	0	0	0	0	1	8	18	0	15	172	188	0	0	22	0	22
Galle	6	60	565	25	1	0	0	0	2	8	0	0	8	20	85	71	9	794	860	1	4	40	6	51
Matara	2	8	104	197	1	0	0	0	0	0	1	1	2	9	24	3	8	350	360	1	1	26	0	28
Hambantota	1	21	138	10	0	1	0	0	1	2	0	2	2	6	21	1	0	184	206	0	0	10	0	10
Jaffna	1	0	213	1	0	1	0	0	1	1	0	21	2	6	0	0	0	246	247	0	0	17	0	17
Kilinochchi																		0	0					0
Mannar	1	0	27	2	0	0	0	1	1	2	0	0	0	1	0	0	0	34	35	1	0	3	0	4
Vavuniya	2	7	42	4	0	1	0	0	5	2	1	1	1	2	14	0	4	77	86	1	0	4	0	5
Mullaitivu																		0	0					0
Batticaloa	2	11	219	20	0	1	0	0	0	1	1	1	2	3	0	0	4	252	265	1	0	27	1	29
Ampara	0	26	158	11	0	1	0	0	1	2	0	0	2	5	0	0	0	180	206	0	0	13	0	13
Kalmunai	1	8	146	14	0	1	0	0	1	1	0	0	1	4	13	0	0	181	190	0	0	11	1	12
Trincomalee	1	14	126	8	0	0	0	0	1	0	0	7	2	6	30	1	5	186	201	0	0	7	0	7
Kurunegala	6	47	474	42	0	0	0	0	0	0	1	2	4	20	32	2	10	587	640	2	6	59	0	67
Puttalam	3	25	170	15	0	1	1	0	1	4	1	1	2	5	37	4	5	247	275	1	2	25	0	28
Anuradhapura	3	27	228	28	0	0	0	0	2	0	1	4	2	11	26	1	8	311	341	6	2	28	3	39
Polonnaruwa	0	17	133	8	0	1	0	0	0	0	1	1	0	3	26	0	1	174	191	1	0	14	0	15
Badulla	5	17	297	14	0	1	0	0	1	2	1	2	4	9	43	3	11	388	410	2	0	31	1	34
Moneragala	1	13	124	16	0	1	0	0	0	1	1	1	0	4	36	0	3	187	201	2	0	22	3	27
Ratnapura	1	35	285	21	0	0	0	0	0	0	0	1	1	2	11	0	14	335	371	1	3	38	0	42
Kegalle	3	26	281	19	0	0	0	0	1	2	1	1	3	9	35	0	19	371	400	3	1	26	0	30
Total	109	891	8,099	622	5	13	9	3	36	40	18	53	49	508	833	732	459	11,479	12,479	38	59	685	76	858

[(a)] Provisional

Continued...

** Include PGIM trainees drawing their salaries from the institutions concerned

Source : Medical Statistics Unit

[1] Total Medical Officers

[2] Total Medical Officers, Exclude: Administrative and Specialists

[3] Total Dental Surgeons

Note : All PGIM trainees were included in Dental Surgens category in 2007 based on 2006 estimates which was not correct. In 2008, this was revised by including PGIM trainees in Medical Officers category. Therefore the Total Dental Surgeons category has reduced in 2008.

Table 10. Distribution of Health Personnel by District , December 2008 ...Continued

DPDHS	Registered/Assistant Medical Officers	Matrons	Ward Sisters	Principals/Sister Tutors	Nursing Officers	Supervising Public Health Nursing Sisters/Public Health Nursing Sisters	Pupil Nurses	Total Nurses	MRO	PPO	SSO	MRA	PPA	Total Medical Recording Officers	Pharmacists	Medical Laboratory Technologists	Radiographers	Physiotherapists	Occupational Therapists	School Dental Therapists	Dental Technician	Entomological Assistant
Colombo	126	41	141	53	5,865	42	1,619	7,761	7	1	0	9	32	49	234	314	155	99	22	49	8	11
Gampaha	110	12	58	14	1,979	25	435	2,523	3	0	0	8	29	40	95	75	31	35	15	39	0	1
Kalutara	71	8	30	13	1,051	38	222	1,362	1	2	1	9	13	26	41	46	31	7	0	35	1	2
Kandy	146	13	50	5	2,422	19	0	2,509	5	35	9	27	4	80	80	72	52	22	5	33	3	4
Matale	25	5	5	0	402	6	0	418	1	4	13	8	4	30	22	18	4	3	0	10	0	4
Nuwara Eliya	20	3	4	0	280	4	0	291	2	5	1	5	0	13	11	11	4	1	0	3	0	0
Galle	76	10	28	2	1,501	5	861	2,407	2	1	0	8	19	30	36	57	31	14	4	23	3	1
Matara	55	2	11	2	826	5	157	1,003	0	2	1	4	27	34	39	28	8	5	1	24	0	1
Hambantota	13	1	5	2	425	4	251	688	0	1	3	1	8	13	22	15	5	1	0	8	0	3
Jaffna	37	2	3	5	98	2	282	392	0	0	0	2	0	2	19	3	11	4	1	0	0	1
Kilinochchi								0						0								
Mannar	4	0	2	0	52	1	0	55	0	0	0	0	18	18	5	3	2	1	0	0	0	0
Vavuniya	4	0	4	15	100	1	0	120	0	2	0	1	1	4	11	9	3	1	0	2	0	0
Mullaitivu								0						0								
Batticaloa	36	2	34	10	583	28	317	974	0	16	0	2	18	36	33	22	10	3	1	6	0	2
Ampara	7	0	1	4	367	6	272	650	0	0	0	0	4	4	18	20	6	2	0	2	0	3
Kalmunai	18	3	3	0	390	6	0	402	0	5	0	3	9	17	15	19	5	1	0	2	0	2
Trincomalee	6	1	4	0	251	1	0	257	0	0	0	0	0	0	14	15	5	3	0	2	0	0
Kurunegala	133	12	53	28	1,614	30	751	2,488	3	1	0	21	46	71	62	62	15	10	1	33	2	0
Puttalam	30	6	8	0	398	7	0	419	1	0	2	2	19	24	21	23	2	1	0	10	1	2
Anuradhapura	40	5	36	12	747	7	230	1,037	1	0	1	2	9	13	28	33	18	6	0	2	2	0
Polonnaruwa	13	2	8	0	301	4	0	315	0	0	0	2	9	11	17	14	5	2	0	7	0	3
Badulla	42	7	27	111	803	6	339	1,293	0	2	1	8	19	30	40	38	16	10	5	6	0	4
Moneragala	10	0	10	0	300	4	5	319	0	0	0	8	11	19	17	12	4	1	0	4	0	2
Ratnapura	45	6	18	8	1,006	10	507	1,555	1	2	0	3	13	19	42	38	13	8	1	16	1	0
Kegalle	67	4	25	0	772	9	15	825	2	0	0	5	19	26	37	26	8	3	0	19	0	1
Total	1,134	145	568	284	22,533	270	6,263	30,063	29	79	32	138	331	609	959	973	444	243	56	335	21	47

Continued...

Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by District , December 2008 ...Continued

DPDHS	Opthaimic Technician	Food and Drug Inspectors	Supervising Public Health Inspectors	Public Health Inspectors	Supervising Public Health Midwives.	Public health Midwives	Hospital Midwives	ECG Recordists	EEG Recordists	Microscopists	Dispensers	Public Health Field officers	Froeman	Photograph Technician	Audiology Technician	Workmen Technician	Orthapidic Technician	Cinema Technician	Assistant Technician	Attendants	Other reported
Colombo	35	1	11	159	2	277	262	80	20	35	81	18	2	3	1	0	1	4	0	1,284	3,640
Gampaha	10	3	12	111	1	520	183	19	4	32	69	22	0	0	0	0	0	1	0	328	2,364
Kalutara	7	6	17	85	6	411	193	10	2	6	41	20	0	0	2	0	0	1	2	371	1,046
Kandy	7	2	5	73	16	446	215	21	5	16	80	17	0	0	0	1	0	0	3	625	2,601
Matale	3	1	4	39	46	113	72	5	1	11	23	15	2	0	0	0	0	0	0	143	560
Nuwara Eliya	2	0	1	29	18	160	74	3	0	1	18	2	0	0	0	0	0	0	0	183	558
Galle	8	0	11	77	0	322	192	14	2	4	53	3	0	0	2	0	0	0	1	369	1,482
Matara	5	1	13	53	0	239	156	9	0	2	37	14	0	0	1	0	0	0	1	264	1,069
Hambantota	2	0	9	39	1	162	117	3	0	10	20	24	0	0	0	0	0	0	0	157	388
Jaffna	1	1	4	75	14	94	86	1	2	6	43	24	0	0	0	0	0	0	1	386	629
Kilinochchi																					
Mannar	0	0	0	17	1	32	18	20	0	0	8	5	0	0	0	0	0	0	0	104	225
Vavuniya	1	1	1	16	3	36	19	1	0	4	11	9	0	0	0	0	0	1	0	95	365
Mullaitivu																					
Batticaloa	1	1	13	114	17	488	206	8	1	8	72	31	1	0	2	0	0	0	0	317	1,194
Ampara	2	0	1	32	13	92	49	1	6	8	13	15	2	0	0	0	0	0	0	110	691
Kalmunai	0	0	4	52	3	135	156	11	0	10	24	23	0	0	0	0	0	0	0	111	617
Trincomalee	2	0	4	25	3	93	51	3	0	2	17	4	0	0	0	0	0	0	0	166	261
Kurunegala	6	2	17	82	20	427	277	13	2	35	87	94	0	0	1	0	0	1	0	588	2,459
Puttalam	1	2	7	42	3	184	49	4	1	17	30	21	0	0	0	0	0	0	0	126	538
Anuradhapura	1	1	10	87	1	15	135	5	1	36	59	46	0	0	1	0	0	0	0	322	1,646
Polonnaruwa	2	1	7	40	5	120	46	4	0	9	14	17	1	0	0	0	0	0	0	123	503
Badulla	2	2	5	41	10	209	81	10	1	11	43	11	0	0	0	0	0	0	0	202	958
Moneragala	2	1	7	34	7	174	78	3	0	11	30	31	0	0	0	0	0	0	0	182	601
Ratnapura	7	0	10	82	8	311	128	6	3	8	39	12	0	0	0	0	0	0	0	261	1,360
Kegalle	4	2	8	71	9	271	173	3	0	7	37	17	0	0	0	0	0	0	0	273	1,171
Total	111	28	181	1,475	207	5,331	3,016	257	51	289	949	495	8	3	10	1	1	8	8	7,090	26,926

Source : Medical Statistics Unit

Table 11. Distribution of Specialists in Curative Care Services[1] by District, December 2008

Districts	General Physician	General Surgeon	Obstetricians & Gynaecologists	Cardiologist	Chest Physician	Thoracic Surgeons	Neurologist	Neuro Surgeons	Dermatologists	Rheumatologists	Phychiatrists	Paediatricians	Peadiatric Surgeons	ENT Surgeons	Eye Surgeons	Orthopadic Surgeons	Plastic Surgeons	Genito Urinary Surgeons	Anaesthesiologists	Histo-Pathologists / Chemical Pathologists	Haematologists	Bacteriologists/Microbiologists	Biochemist	Oncologists / Radiotherapists	Oncology Surgeons	Radiologists	Venereologists	Mycologists	Public Health / Community Health Physicians	Specialist Dental Surgeons-Orthodontists	Specialist Dental Surgeons-Maxillofacial	Specialist Dental Surgeons-Restorative	Others
Colombo	36	30	26	15	5	7	7	3	6	4	20	35	1	4	26	21	4	5	34	17	8	10	6	11	3	15	6	0	7	2	7	2	50
Gampaha	8	8	8	1	3	1	1	-	2	2	1	9	-	3	5	1	-	1	7	6	1	1	-	-	-	6	0	0	0	1	2	0	5
Kalutara	4	4	8	-	1	-	1	-	3	1	1	6	-	1	3	2	-	-	3	3	-	1	-	-	-	2	0	0	2	0	2	0	3
Kandy	13	11	9	4	2	2	1	2	3	2	6	11	2	2	3	3	1	1	12	9	1	3	8	2	1	7	1	0	9	1	1	0	37
Matale	3	3	3	-	1	-	-	-	1	-	-	3	-	1	2	-	-	-	1	1	-	-	-	-	-	1	0	0	0	0	1	0	1
Nuwara Eliya	2	-	2	-	-	-	-	-	1	-	-	1	-	-	1	-	-	-	-	1	-	-	-	-	-	1	0	0	0	0	0	0	1
Galle	13	6	11	1	1	1	2	1	1	1	1	7	2	1	3	1	-	1	7	2	1	1	-	2	1	3	0	0	0	1	1	1	3
Matara	1	2	3	1	-	-	1	-	1	1	1	3	-	1	1	1	-	-	2	1	1	-	-	-	-	1	0	0	0	0	1	0	1
Hambantota	4	2	3	-	-	-	-	-	1	-	1	3	-	1	1	-	-	-	2	1	1	-	-	-	-	1	0	0	0	0	0	0	1
Jaffna	4	3	2	1	1	-	-	-	-	-	1	1	-	1	-	1	-	-	1	-	-	-	-	1	-	1	0	0	0	0	0	0	0
Kilinochchi																																	
Mannar	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0	0	0	0	0	0	0	0
Vavuniya	2	-	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	1	-	-	-	-	-	-	1	0	0	0	0	0	0	1
Mullaitivu																																	
Batticaloa	2	1	2	-	-	-	-	-	1	-	-	1	-	-	1	1	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0
Ampara	2	2	1	-	-	-	-	-	-	-	1	2	-	-	1	-	-	-	1	1	-	-	-	-	-	1	0	0	0	0	0	0	0
Kalmunai	1	1	2	-	-	-	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	1	0	0	0	0	0	0	0
Trincomalee	2	2	1	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	1	-	-	-	-	-	-	1	0	0	0	0	0	0	0
Kurunegala	5	4	5	1	1	-	1	-	1	1	2	4	-	1	2	1	-	1	5	-	1	1	-	1	1	2	0	0	0	1	2	1	2
Puttalam	4	4	4	-	-	-	-	-	2	-	1	4	-	1	4	1	-	-	3	1	1	-	-	-	-	1	0	0	0	1	1	0	1
Anuradhapura	3	2	2	1	1	-	1	1	1	1	1	5	-	1	1	1	-	-	4	1	-	-	-	-	-	0	0	0	0	0	0	0	0
Polonnaruwa	2	2	2	-	-	-	-	-	1	-	1	2	-	1	1	-	-	-	-	1	-	1	-	-	-	1	0	0	0	0	1	0	1
Badulla	5	5	4	1	-	-	1	1	2	1	1	4	1	2	2	1	-	-	3	2	1	-	-	1	1	2	0	0	0	0	1	0	0
Moneragala	2	2	2	-	-	-	-	-	-	-	-	2	-	1	1	-	-	-	1	1	-	-	-	-	-	1	0	0	0	0	0	0	0
Ratnapura	6	3	3	1	-	-	1	-	2	1	1	4	-	1	2	1	-	1	2	2	1	1	-	-	-	2	0	0	0	1	1	0	1
Kegalle	4	4	4	-	-	-	-	-	1	-	-	4	-	1	1	1	-	-	-	1	1	-	-	-	-	1	0	0	0	0	1	0	2
Sri Lanka	128	102	108	27	16	11	17	8	30	15	41	113	6	24	63	37	5	10	90	51	18	19	14	18	7	53	7	-	18	8	22	4	110

Includes:

[1] Specialists of the Faculties of Medicine working in Teaching Hospitals and MSF Consultants in the North and East of Sri Lanka.

[2] Haematologists, Virologists, Mycologists, Venereologists, Consultant JMO's, Phamacologists, Immunologists, Parasitalogists, Nepharalogists, Neonatalogists & Oncology Surgeons.

Source : Medical Statistics Unit

Table 12. National Expenditure, Health Expenditure and GNP, 2002 - 2008

Item	2003	2004	2005	2006	2007	2008
National Expenditure (Rs million)	663,217	665,766	803,546	713,145	885,952	996,126
Health Expenditure (Rs million)	27,292	37,405	43,564	54,363	63,464	68,604
Health Expenditure as a % of National Expenditure	4.1	5.6	5.4	7.6	4.9	6.9
Per Capita Health Expenditure (Rs)	1,417	1,920	2,215	2,734	3,171	3,393
GNP(Rs billion)	1,737	2,016	2,349	2,790	3,540	4,312
Health Expenditure as a % of GNP	1.57	1.85	1.85	1.95	1.79	1.59

Source: Management Development and Planning Unit, Depatment of Health Services

Table 13. Summary of Health Expenditure and Source of Fund, 2003 - 2008

(Rs in 000)

Item	2003	2004	2005	2006	2007	2008
Health Expenditure						
Recurrent Expenditure	22,192,487	29,454,481	35,137,468	45,781,186	54,736,763	57,955,642
Capital Expenditure	5,100,336	7,950,518	8,430,891	8,582,739	8,727,260	10,648,711
	27,292,823	37,404,999	43,568,359	54,363,925	63,464,023	68,604,353
Source of Fund						
Consolidated Fund	26,074,242	31,651,988	40,369,004	50,994,515	60,930,869	65,676,958
Foreign Aid	1,218,581	5,753,010	3,199,355	3,369,410	2,533,154	2,927,395
	27,292,823	37,404,999	43,568,359	54,363,925	63,464,023	68,604,353

Source: Management Development and Planning Unit, Depatment of Health Services

Table 14. Summary of Health Expenditure by programme, 2008

Programme	Health Expenditure 2008		
	Ministry Of Health	Provincial Health	Total
Recurrent Expenditure			
01.Operational Activities	**33,914,105,472.00**		
01. Ministr's Office	56,085,747.00		
02. Ministry Administration and Establishment Services	8,308,002,303.00		
03. Medical Supply Division	4,660,554,527.00		
04. National Drugs Quality Control Unit	26,372,963.00		
06. Teaching Hospital Maintenance	10,351,176,160.00		
07. District General and Base Hospital Maintenance	5,369,106,245.00		
08 Special Hospitals and Treatment Units Maintenance	3,730,579,361.00		
09. Other Hospital Maintenance	589,319,248.00		
10. Co-operated Hospitals	822,908,918.00		
02. Development Activities	**4,207,056,479.00**		
11. Human Resources Development	2,838,358,420.00		
14. Health Promotion and Diseases Prevention	579,155,042.00		
16. National Nutrition Programme	649,292,436.00		
17. Medical Research	140,250,581.00		
Total	**38,121,161,951.00**	**19,834,480,000.00**	**57,955,641,951.00**
Capital Expenditure			
01.Operational Activities	**444,433,398.00**		
01. Ministr's Office	4,705,463.00		
02. Ministry Administration and Establishment Services	297,927,935.00		
03. Medical Supply Division	49,900,000.00		
10. Co-operated Hospitals	91,900,000.00		
02. Development Activities	**8,332,427,489.00**		
11. Human Resources Development	48,295,589.00		
12. Relief and Reconstruction in Tsunami Affected Areas	75,330,950.00		
13. Hospital Development Projects	7,033,123,976.00		
14. Health Promotion and Diseases Prevention	357,182,993.00		
15. Control Of Communicable and Non Communicable diseases	810,388,471.00		
16. National Nutrition Programme	2,647,590.00		
17. Medical Research	5,457,920.00		
Total	**8,776,860,887.00**	**1,871,850,000.00**	**10,648,710,887.00**
Total Health Expenditure			
01.Operational Activities	**34,358,538,870.00**		
01. Ministr's Office	60,791,210.00		
02. Ministry Administration and Establishment Services	8,605,930,238.00		
03. Medical Supply Division	4,710,454,527.00		
04. National Drugs Quality Control Unit	26,372,963.00		
06. Teaching Hospital Maintenance	10,351,176,160.00		
07. District General and Base Hospital Maintenance	5,369,106,245.00		
08. Special Hospitals and Treatment Units Maintenance	3,730,579,361.00		
09. Other Hospital Maintenance	589,319,248.00		
10. Co-operated Hospitals	914,808,918.00		
02. Development Activities	**12,539,483,968.00**		
11. Human Resources Development	2,886,654,009.00		
12. Relief and Reconstruction in Tsunami Affected Areas	75,330,950.00		
13. Hospital Development Projects	7,033,123,976.00		
14. Health Promotion and Diseases Prevention	936,338,035.00		
15. Control Of Communicable and Non Communicable	810,388,471.00		
16. National Nutrition Programme	651,940,026.00		
17. Medical Research	145,708,501.00		
Total	**46,898,022,838.00**	**21,706,330,000.00**	**68,604,352,838.00**

Source : Management Development and Planning Unit, Department of Health Services

Table 15. Indoor Morbidity Statistics by Broad Disease Groups, 2008

	Disease Group	Total*	Live Discharges* (%)									Deaths*
			Sex		Age Group							
			Male	Female	under 1	1-4	5-16	17-49	50-69	70 & above	Not Known	
1	Intestinal infectious diseases (A00-A09)	126,870	49.5	50.5	11.8	22.1	15.5	27.8	14.6	8.0	0.2	85
2	Tuberculosis (A15-A18)	7,046	69.0	31.0	0.6	1.4	3.3	44.8	38.2	11.5	0.2	285
3	Other bacterial diseases (A20-A49)	17,518	73.4	26.6	13.8	4.6	6.7	50.7	19.7	4.3	0.2	2,208
4	Infections with sexual mode of transmission (A50-A64)	287	50.5	49.5	0.7	-	9.4	59.9	26.1	2.8	1.0	0
5	Viral diseases (A80-B34)	342,324	54.8	45.2	4.7	11.9	15.2	42.9	18.2	7.0	0.1	189
6	Malaria (B50-B54)	634	72.0	28.0	1.6	3.3	10.3	69.1	14.6	0.9	0.2	2
7	Helminthiases (B76,B77,B79,B80)	401	45.1	54.9	1.0	34.7	28.4	18.2	10.2	7.0	0.5	0
8	Other infectious and parastic diseases	5,851	52.5	47.5	5.4	14.7	19.8	37.8	16.4	5.8	0.1	1
9	Neoplasms (C00-D48)	72,626	44.8	55.2	0.5	3.1	5.6	31.1	46.0	13.5	0.1	3,485
10	Iron dificiency anaemias (D50)	8,502	41.1	58.9	-	11.9	37.9	20.6	15.8	10.4	3.3	31
11	Haem. con. and other diseases of blood and ... (D51-D89)	11,153	50.2	49.8	2.8	6.0	14.6	36.5	25.0	14.9	0.2	53
12	Diabetes mellitus (E10-E14)	59,988	46.3	53.7	0.1	0.2	1.3	27.7	52.9	17.8	0.2	579
13	Malnutrition and vitamin deficiencies (E40-E46,E50-E56)	1,588	43.8	56.2	1.0	7.2	10.2	30.6	33.0	17.9	0.1	15
14	Oth eno, nutr and metabo... (E00-E07,E15-E34,E58-E89)	18,238	36.1	63.9	1.8	1.8	6.3	45.9	31.9	12.0	0.3	73
15	Mental and behavioural disorders (F00-F99)	40,391	58.4	41.6	0.0	0.4	3.7	65.9	24.3	5.2	0.6	0
16	Diseases of the nervous system (G00-G98)	58,637	50.2	49.8	2.7	6.5	13.2	44.1	23.8	9.4	0.4	524
17	Diseases of the eye and adnexa	117,407	50.1	49.9	1.3	2.7	6.1	23.1	42.3	24.4	0.2	0
18	Dis of the ear.. (H60-H61,H65-H74,H80-H83,H90-H95)	28,551	51.5	48.5	5.3	13.7	21.7	37.1	16.4	5.8	0.1	0
19	Rheum. fever and rheum. heart dis. (I00-I02,I05-I09)	4,596	42.3	57.7	-	0.7	9.0	40.2	35.3	8.5	6.3	69
20	Hypertensive diseases (I10-I15)	94,296	42.0	58.0	-	-	-	19.9	45.3	33.1	1.8	565
21	Ischaemic heart disease (I20-I25)	85,511	55.7	44.3	-	-	-	20.3	51.2	27.7	0.9	4,466
22	Other heart diseases (I26-I51)	32,433	52.9	47.1	-	-	-	24.5	40.6	28.1	6.8	3,580
23	Cerebroavascular disease (I60-I69)	29,895	59.7	40.3	-	-	-	12.3	46.0	40.4	1.4	3,102
24	Other diseases of the circulatory system (I70-I84)	32,841	62.2	37.8	-	-	-	43.2	39.1	11.7	5.9	147
25	Influenza (J10-J11)	1,758	45.6	54.4	10.2	20.6	17.3	28.3	16.6	6.9	0.1	22
26	Pneumonia (J12-J18)	22,515	56.2	43.8	17.3	20.2	12.0	20.4	18.8	11.1	0.1	2,121
27	Other dise. of the upper respir. tract (J00-J06,J30-J39)	113,133	52.0	48.0	11.7	21.4	18.6	27.7	13.9	5.8	0.9	57
28	Diseases of the resp. system exclu... (J20-J22, K40-J98)	417,643	52.1	47.9	8.7	13.4	12.3	22.9	24.7	16.6	1.5	2,846
29	Diseases of teeth and supporting structure (K00-K014)	13,748	56.3	43.7	0.9	11.6	22.3	42.0	17.7	5.3	0.3	0
30	Diseases of the gastrointestional tract (K20-K92)	226,866	56.8	43.2	0.7	2.7	9.9	49.8	26.5	9.8	0.5	2,507
31	Diseases of skin ad subcutaneous tissue (L00-L08,L10-L98)	146,694	58.1	41.9	2.4	8.1	12.2	40.5	26.6	10.1	0.1	0
32	Disorders of the musculoskeletal system (M00-M99)	129,991	52.3	47.7	-	0.5	7.8	45.5	30.7	13.6	1.8	38
33	Diseases of the urinary system (N00-N39)	159,160	52.0	48.0	1.9	5.0	8.0	50.0	24.0	10.6	0.4	1,829
34	Diseases of the male genital organs (N40-N50)	17,832	100.0	-	-	8.1	11.9	33.3	24.8	20.0	1.9	0
35	Disor. of female genito-urinary sys. (N70-N98, N99.2, N99.3)	80,535	-	100.0	0.1	0.2	3.5	72.9	19.5	3.8	0.1	3
36	Abortions (O00-O08)	49,001	-	100.0	-	-	1.0	95.9	-	-	3.2	27
37	False labour and those admitted... (O47)	43,845	-	100.0	-	-	0.5	99.2	-	-	0.2	0
38	Other obstetric conditions	193,944	-	100.0	-	-	1.5	97.8	-	-	0.6	59
39	Single sponteaneous dilivery (O80)	226,794	-	100.0	-	-	1.5	97.4	-	-	1.1	2
40	Slow fetal growth, fetal malnutrition and... (P05-P07)	7,790	46.9	53.1	100.0	-	-	-	-	-	-	636
41	Other conditions originating in the perinatal period	26,843	50.5	49.5	100.0	-	-	-	-	-	-	770
42	Congenital malformations deformations... (Q00-Q99)	12,967	54.1	45.9	29.5	25.2	-	-	-	-	45.3	602
43	Signs, symptoms and abnormal clinical findings (R00-R99)	369,489	50.3	49.7	4.4	9.6	12.4	41.7	21.7	10.0	0.2	1,676
44	Traumatic injuries (S00-T19, W54)	692,645	67.7	32.3	0.7	6.9	17.0	52.4	17.1	5.3	0.5	1,336
45	Burns and corrosion (T20-T32)	13,434	57.1	42.9	3.1	22.4	15.6	43.7	12.1	3.0	0.1	221
46	Toxic effects of pesticides (T60.0,T60.1-T60.9)	18,033	60.8	39.2	0.3	3.3	10.7	71.8	12.0	1.6	0.2	911
47	Snake bites (T63.0)	38,381	60.2	39.8	0.4	3.0	13.1	58.2	21.4	3.8	0.1	58
48	Tox. effe. of ot. sub. oth tha.. (T36-T59,T61-T62,T63.1-T65)	45,705	46.2	53.8	1.0	9.1	14.9	62.8	9.9	2.1	0.2	342
49	Effects of unspecified external causes... (T33-T35,T66-T79)	31,962	52.7	47.3	1.9	7.1	18.0	46.8	19.3	6.7	0.3	111
50	Complications of surgical and medical care... (T80-T88)	6,313	56.9	43.1	2.7	4.8	9.2	57.8	18.5	6.8	0.2	16
51	Sequelae of injuries, poisoning and of other... (T90-T98)	2,754	67.3	32.7	1.1	3.7	9.4	66.8	14.7	3.9	0.3	5
52	Persons encountering health services.... (Z00-Z13,Z40-Z54)	266,239	52.1	47.9	5.3	7.5	12.0	43.4	21.3	10.2	0.2	0
53	Sterilizations (Z30.2)	9,281	3.6	96.4	-	-	-	95.8	3.6	-	0.6	0
54	Undiagnosed/Uncoded (245)	314,936	51.8	48.2	3.1	5.1	8.8	43.3	23.6	9.8	6.4	5,740
	Total	4,897,815	48.3	51.7	3.8	6.9	10.4	46.8	21.3	9.6	1.2	41,394

* Total = (Number of Live Discharges + Deaths)

Source: Medical Statistics Unit

Table 16. Trends in Hospital Morbidity and Mortality by Broad Disease Groups, 1995 - 2008

International Classification of Diseases (10th Revision)	Cases per 100,000 population (Morbidity)								Deaths per 100,000 Population (Motality)							
	1995 [3]	2000	2003	2004	2005	2006	2007	2008	1995 [3]	2000	2003	2004	2005	2006	2007	2008
1. Certain infectious and parasitic diseases	1,758.7	2,431.7	1,855.7	2,094.2	1,693.8	2,153.6	2,034.8	2,477.8	13.2	13.5	10.0	12.8	13.3	11.5	12.3	13.7
2. Neoplasms	190.1	260.2	276.2	301.7	282.2	289.7	329.0	359.2	11.6	13.2	6.7	15.8	14.0	16.3	17.5	17.2
3. Diseases of the blood & blood- forming organs & certain disorders involving the immune mechanism	152.2	111.0	79.4	75.6	83.6	84.7	95.7	97.2	1.0	0.9	0.5	0.5	0.4	0.5	0.3	0.4
4. Endocrine, nutritional and metabolic diseases	205.8	278.4	312.2	328.1	348.7	377.5	401.6	394.8	3.8	4.3	3.3	3.1	4.0	3.4	3.2	3.3
5. Mental and behavioural disorders	261.6	247.0	211.4	199.8	215.7	211.1	201.6	199.8	0.6	0.7	0.1	0.0	0.0	0.0	0.0	0.0
6. Diseases of the nervous system	172.4	243.4	257.7	249.3	250.2	274.7	293.3	290.0	2.9	3.3	2.7	2.3	2.4	2.7	2.7	2.6
7. Diseases of the eye and adnexa	276.6	299.9	366.4	385.3	418.6	458.1	512.0	580.7	-	-	-	0.0	0.0	0.0	-	0.0
8. Diseases of the ear and mastoid process	66.6	86.8	83.9	92.5	96.5	108.9	129.4	141.2	-	-	-	0.0	0.0	0.0	-	0.0
9. Diseases of the circulatory system	925.5	1,153.0	1,206.7	1,188.2	1,236.0	1,266.6	1,364.6	1,382.9	50.6	54.0	50.3	52.4	52.6	55.6	59.9	59.0
10. Diseases of the respiratory system	2,088.7	2,313.4	2,352.7	2,243.3	2,139.2	2,536.2	2,399.0	2,745.5	16.0	18.1	17.3	18.8	20.2	18.7	18.5	25.0
11. Diseases of the digestive system	739.2	1,056.7	1,095.6	1,062.4	1,080.5	1,132.5	1,188.1	1,190.2	13.6	16.4	16.2	15.6	14.3	11.3	12.1	12.4
12. Diseases of the skin and subcutaneous tissue	529.2	566.6	566.6	597.5	591.7	664.7	730.5	725.6	0.2	0.3	0.2	0.0	0.0	0.0	0.0	0.0
13. Diseases of the musculoskeletal system and connective tissue	627.9	612.3	587.2	574.0	585.2	604.8	614.4	643.0	0.2	0.1	0.1	0.2	0.6	0.6	0.2	0.2
14. Diseases of the genitourinary system	998.9	1,124.8	1,124.9	1,185.0	1,155.4	1,254.8	1,325.8	1,273.8	4.8	5.9	5.5	6.6	6.5	7.8	9.1	9.1
15. Pregnancy, childbirth and the puerperium [1, 4]	2,207.3	3,122.6	3,560.2	3,726.0	3,689.4	4,241.8	4,521.3	4,316.0	1.3	1.1	4.2	4.2	3.5	0.9	1.4	1.5
16. Certain conditions originating in the perinatal period [2]	4,986.5	9,108.9	9,642.7	9,514.7	8,630.2				505.4	599.8	455.2	444.2	417.3			
17. Congenital malformations, deformations and chromosomal abnormalities	52.8	54.8	57.6	56.6	59.8	59.9	63.9	64.1	2.5	2.7	2.7	2.5	2.4	2.7	2.8	3.0
18. Symptoms,signs and abnormal clinical and laboratory findings not elsewhere classified	1,311.6	1,061.0	1,242.2	1,320.7	1,317.9	1,545.5	1,633.4	1,827.6	5.0	8.5	6.7	8.9	9.0	7.7	9.1	8.3
19. Injury, poisoning and certain other consequences of external causes	2,552.1	3,345.7	3,371.7	3,361.5	3,460.6	3,809.0	4,090.0	4,200.6	22.7	23.6	17.7	17.0	19.6	17.4	17.1	14.8

[1] Rate Per 100,000 females of the reproductive age group.

[2] Per 100,000 live births / infant population

Excludes:

[3] Jaffna, Kilinochchi, Mullaitivu,and Ampara districts.

[4] Spontaneous delivery, false labour and those admitted and discharged before delivery.

Source: Medical Statistics Unit

Table 17. Trends in Hospitalization and Hospital Deaths of Selected Diseases, 1995 - 2008

Disease and ICD Code		Number of Hospitalization per 100,000 Population								Deaths per 100,000 Population							
		1995 [1]	2000	2003	2004	2005	2006	2007	2008	1995 [1]	2000	2003	2004	2005	2006	2007	2008
Intestinal infectious diseases	(A00-A09)	676.1	747.4	622.5	668.5	670.7	692.9	706.8	627.5	1.0	1.0	0.6	0.9	2.2	0.4	0.4	0.4
Tuberculosis	(A15-A19)	54.0	60.7	42.2	58.0	43.1	37.1	35.2	34.9	3.1	3.0	1.8	3.3	1.7	1.4	1.4	1.4
Diphtheria	(A36)	-	-	-	0.0	0.0	0.0	-		-	-	-	0.0	0.0	0.0	-	-
Whooping cough	(A37)	1.0	1.1	0.8	0.0	0.0	0.7	-		0.0	0.0	-	0.0	0.0	0.0	-	-
Septicaemia	(A40, A41)	5.5	13.6	16.0	16.7	18.2	20.1	20.3	23.7	1.4	6.3	4.9	5.9	5.9	7.1	8.5	9.0
Rabies	(A82)	0.9	0.8	0.5	0.5	0.3	0.3	0.3	0.3	0.5	0.5	0.2	0.3	0.2	0.2	0.2	0.2
Measles	(B05)	1.5	90.7	1.3	0.7	0.7	0.5	0.7	0.7	-	0.0	0.0	0.0	0.0	0.0	-	-
Viral hepatitis	(B15-B19)	38.7	26.3	23.8	19.2	18.5	20.1	33.1	15.2	0.1	0.1	0.1	0.1	0.0	0.1	-	-
Malaria	(B50-B54)	262.2	304.1	68.4	44.8	24.4	11.4	5.2	3.1	0.2	0.6	0.1	0.1	0.0	0.0	-	-
Helminthiasis	(B76, B77, B79, B80)	17.3	10.1	6.6	7.1	4.2	2.3	1.5	2.0	0.1	-	0.0	0.0	0.0	0.0	-	-
Diabetes mellitus	(E10-E14)	78.6	204.8	231.1	246.8	265.2	296.8	307.3	296.7	3.8	3.7	2.9	2.5	3.4	3.0	2.7	2.9
Nutritional deficiencies	(E40-E46, E50-E56)	7.3	15.9	10.9	8.8	11.7	6.9	7.2	7.9	0.1	0.1	0.1	0.2	0.2	0.1	0.1	0.1
Anaemias	(D50-D64)	134.6	98.9	67.5	62.5	69.6	68.7	74.5	77.2	0.9	0.7	0.4	0.5	0.3	0.4	0.2	0.3
Hypertensive disease	(I10-I15)	326.7	428.3	444.1	417.2	429.1	480.4	469.8	466.4	3.1	3.3	2.9	2.7	3.6	3.0	2.9	2.8
Ischaemic heart disease	(I20-I25)	263.3	313.2	341.7	336.4	353.9	399.9	427.1	423.0	16.8	18.6	18.8	19.2	19.1	20.7	22.7	22.1
Asthma	(J45)	779.3	894.8	921.4	832.1	817.3	910.4	893.5	970.2	3.7	4.4	3.6	4.3	4.3	3.8	3.6	4.1
Diseases of the liver	(K70-K76)	68.9	121.7	126.9	119.8	106.5	85.8	87.3	86.2	8.2	14.1	14.0	13.5	11.6	9.5	10.3	10.5
Abortions [2]	(O00-O08)	832.8	788.2	777.0	809.1	734.9	841.7	859.4	870.5	0.2	0.2	0.1	0.2	0.4	0.1	0.1	0.1

Excludes:

Source: Medical Statistics Unit

[1] Jaffna, Kilinochchi, Mullaitivu and Ampara districts

[2] Rate per 100,000 females of the reproductive age group

Table 18. Leading Causes of Hospitalization, 2008

Rank Order	ICD Code (10th Revision)	Causes of Hospitalization	Number of Cases	Proportionate Morbidity	Rate per 100,000 Population
1	S00-T19	Traumatic injuries	629,591	15.6	3,114.2
2	J20-J22, J40-J98	Diseases of the respiratory system, excluding diseases of upper respiratory tract	417,643	10.3	2,065.8
3	R00-R99	Symptoms, signs and abnormal clinical and laboratory findings	369,489	9.1	1,827.6
4	A80-B34	Viral diseases	342,324	8.5	1,693.2
5	K20-K92	Diseases of the gastrointestinal tract	226,866	5.6	1,122.2
6	O10-O46, O48-O75, O81-O99, Z35	Direct and indirect obstetric causes	193,944	4.8	959.3
7	N00-N39	Diseases of the urinary system	149,258	3.7	738.3
8	A00-A09	Intestinal infectious diseases	146,694	3.6	725.6
9	M00-M99	Diseases of the musculoskelital system and connective tissue	129,991	3.2	643.0
10	L00-L99	Diseases of the skin and subcutaneous tissue	126,870	3.1	627.5
11	I10-I15	Hypertensive diseases	94,296	2.3	466.4
	A00-T98, Z35 Z00-Z13, Z30.2 Z40-Z54, W54	All causes 1	4,046,001	100.0	20,012.9

1 Analysed discharges only *Source: Medical Statistics Unit*

Excludes :

1. Single spontaneous delivery, false labour and those admitted and discharged before delivery.
2. Persons encounting health services for examination, investigation and for specific procedures of health care.

Table 19. Leading Causes of Hospital Deaths, 2008

Rank Order	ICD Code (10th Revision)	Causes of Death	Number of Deaths	Proportionate Mortality	Rate Per 100,000 Population
1	I20 - I25	Ischaemic heart disease	4,466	12.5	22.1
2	I26 - I51	Pulmonary heart disease and diseases of the pulmonary circulation	3,580	10.0	17.7
3	C00 - D48	Neoplasms[1]	3,485	9.8	17.2
4	I60 - I69	Cerebrovascular disease	3,102	8.7	15.3
5	J20 - J22 J40 - J98	Diseases of the respiratory system, excluding diseases of the upper respiratory tract	2,846	8.0	14.1
6	K20 - K92	Diseases of the gastrointestinal tract	2,507	7.0	12.4
7	A20 - A49	Zoonotic and other bacterial diseases	2,208	6.2	10.9
8	J12 - J18	Pneumonia	2,121	5.9	10.5
9	N00 - N39	Diseases of the urinary system	1,828	5.1	9.0
10	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	1,676	4.7	8.3
11	S00 - T19	Traumatic injuries	1,332	3.7	6.6
	A00-T98, Z00-Z13, Z35 Z40-Z54, W54	All causes 2	35,652	100.0	176.3

1 Includes deaths reported (not classified by type of neoplasm) from Cancer Institute, Maharagama *Source: Medical Statistics Unit*

2 Analysed deaths only

Table 20. Leading Causes of Hospitalization, 1998 - 2008

Disease and ICD (10th Revision) code		2008		2007		2006		2005		2004		2003		2002 [2]		2001		2000		1999		1998	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Traumatic injuries	(S00-T19)	1	15.6	1	16.1	1	17.0	1	16.2	1	16.5	1	16.7	1	14.5	1	13.4	1	14.6	1	14.1	1	13.4
Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia, and influenza	(J20-J22, J40-J98)	2	10.3	2	9.7	2	10.4	2	9.3	2	10.0	2	10.8	2	9.7	2	8.1	2	9.6	2	9.9	2	10.0
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	3	9.1	3	8.7	3	8.4	3	7.7	3	8.0	3	7.6	4	6.3	3	5.5	4	5.8	4	5.9	4	6.2
Viral diseases	(A80-B34)	4	8.5	4	6.4	4	7.3	5	5.0	4	7.5	4	6.3	3	6.4	5	4.6	3	6.8	3	6.3	3	7.2
Diseases of the gastro-intestinal tract	(K20-K92)	5	5.6	5	5.9	5	5.9	4	5.9	5	6.0	5	6.3	5	5.6	4	5.0	5	5.4	5	5.3	6	5.3
Direct and indirect obstetric causes[1]	(O10-O46, O48-O75, O81-O99, Z35)	6	4.8	6	5.4	6	5.1	6	4.7	6	4.9	6	4.7	6	4.0	7	3.3	7	3.6	9	3.3	9	3.0
Diseases of the urinary system	(N00-N39)	7	3.7	7	4.0	7	3.9	7	4.0	7	4.1	7	4.1	8	3.8	8	3.2	8	3.5	7	3.5	7	3.6
Intestinal infectious diseases	(A00-A09)	8	3.6	9	3.7	8	3.8	8	3.9	8	4.0	8	3.8	7	3.9	6	4.0	6	4.1	6	4.9	5	5.5
Diseases of the musculoskeletal system and connective tissue	(M00-M99)	9	3.2	10	3.3	10	3.3	10	3.4	10	3.5	9	3.6	9	3.3	9	2.9	9	3.3	8	3.4	8	3.5
Diseases of the skin and subcutaneous tissue	(L00-L99)	10	3.1	8	3.9	9	3.6	9	3.4	9	3.6	10	3.5	10	3.1	10	2.7	10	3.1	10	3.0	10	3.0
Diseases of the upper respiratory tract	(J00-J06,J30-J39)	11	2.8	11	2.5																	11	2.3
Hypertensive diseases	(I10-I15)	12	2.3	12	2.5	11	2.6	11	2.7			11	2.8	11	2.5	11	2.3	11	2.4	11	2.3		
Other injuries and early complications of trauma	(T33-T35, T66-T79, T90-T98)	13	0.9	13	0.8																		
Malaria	(B50-B54)	14	0.0	14	0.0																		

Excludes:

Source: Medical Statistics Unit

[1] Single spontaneous delivery, false labour and those admitted and discharged before delivery.

[2] Kilinochchi District

Table 21. Leading Causes of Hospital Deaths, 2001 - 2008

Disease and ICD (10th Revision) code		2008		2007		2006		2005		2004		2003		2002 [2]		2001	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Ischaemic heart disease	(I20-I25)	1	12.5	1	13.1	1	12.63	1	11.4	1	11.6	1	12.5	1	9.9	1	8.5
Pulmonary heart disease and diseases of the pulmonary circulation	(I26-I51)	2	10.0	3	10.1	2	10.0	2	15.4	5	8.4	3	9.1	3	7.6	4	6.7
Neoplasms[1]	(C00-D48)	3	9.8	2	10.1	3	9.9	4	8.3	2	9.5	8	4.4	5	6.1	5	6.4
Cerebrovascular disease	(I60-I69)	4	8.7	4	9.2	4	8.9	5	7.7	4	8.9	4	9.1	4	7.4	3	7.1
Diseases of the respiratory system, excluding diseases of upper respiratory tract	(J20-J22) (J40-J98)	5	8.0	6	6.5	6	6.9	6	7.3	6	6.8	5	6.9	6	5.8	6	5.3
Diseases of the gastro-intestinal tract	(K20-K92)	6	7.0	5	7.0	5	6.9	3	8.5	3	9.4	2	10.8	2	9.1	2	8.0
Zoonotic and other bacterial diseases	(A20-A49)	7	6.2	7	5.6	7	4.9	10	4.2	9	4.1	10	4.3	10	3.5	10	3.1
Pneumonia	(J12-J18)	8	5.9	11	4.0	10	4.4	9	4.3	8	4.3	9	4.4	9	3.5		
Diseases of the urinary system	(N00-N39)	9	5.1	9	5.2	8	4.7									11	2.8
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	10	4.7	8	5.3	9	4.7	7	5.3	7	5.3	7	4.5	8	3.7	8	3.7
Traumatic injuries	(S00-T19)	11	3.7	10	4.0	12	3.8	8	5			11	4.2	11	3.2	9	3.2
Toxic effects of pesticides	(T60)	12	2.6	12	3.3	11	3.8			10	4	6	4.5	7	4.0	7	4.1
Disorders related to short gestation, low birth weight, slow fetal growth and fetal malnutrition	(P05-P07)	13	1.8	13	2.2	13	2.3										

[1] Includes deaths reported from the Cancer Hospital (not analysed by site and type of neoplasm).

Source: Medical Statistics Unit

Exclude:

[2] Kilinochchi District

Table 22. Leading Causes of Hospitalization by District, 2008

Disease and ICD (10th Revision) Code / District and Rank Order		Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwera Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullativu	Batticoloa	Ampara [2]	Trincomalee	Kurunegale	Puttralam	Anuradhapura	Polonnaruwa	Badulla	Moneragale	Ratnapura	Kegalle
Traumatic injuries	(S00-T19)	1	1	1	1	1	1	1	1	1	1	1	1	1		1	2	2	1	1	1	1	1	1	1	1	2
Diseases of the respiratory system excluding diseases of the upper the respiratory tract, pneumonia and influenza	(J20-J22, J40-J98)	2	5	3	2	3	2	2	2	3	3	2	5	2		2	3	1	2	2	2	2	3	2	2	3	3
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	3	6	2	4	2	3	3	4	2	2	3	2	4		3	1	3	7	3	3	4	4	3	4	5	4
Viral diseases	(A80-B34)	4	2	4	3	4	5	6	3	4	4	9	11	5		4	4	6	3	4	4	3	2	4	3	2	1
Diseases of the gastrointestinal tract	(K20-K92)	5	7	5	6	5	4	5	6	6	5	4	4	9		10	5	7	4	5	6	6	5	6	5	4	5
Direct and indirect obstetric causes	(Z35,O10-O46,O48-O75,O81-O99)	6	4	9	5	6	6	4	5	5	8	7	6	7		7	6	4	6	6	5	5	6	5	6	9	6
Diseases of the urinary system	(N00-N39)	7	13	8	8	7	12	12	12	10	7	8	7	10		9	9	11	9	7	10	7	9	8	8	11	9
Diseases of the skin and subcutaneous tissue	(L00-L99)	8	9	7	7	12	10	11	7	11	6	6	10	8		6	10	9	5	8	9	11	7	7	12	10	7
Diseases of the musculoskeletal system and connective tissue	(M00-M99)	9	12	11	10	9	9	9	8	7	9	5	9	11		14	11	12	12	9	8	10	11	12	9	7	10
Intestinal infectious diseases	(A00-A09)	10	11	12	9	11	11	7	10	8	10	11	16	3		13	8	8	10	10	7	9	8	11	7	6	8
Diseases of the eye and adnexa	(H00-H59)	11	16	6	13	8	7	13	11	9	12	10	3	12		17	17	14	14	14	11	14	10	10	13	13	14
Diseases of the upper respiratory tract	(J00-J06,J30-J39)	12	3	10	11	14	8	10	13	12	11	12	8	13		5	7	10	8	11	12	8	12	13	11	8	11
Hypertensive diseases	(I10-I15)	13	8	13	14	13	13	8	15	14	14	16	14	6		11	12	5	11	13	14	13	14	9	10	12	12
Diseases of the female genitourinary system	(N70-N98,N99.2,N99.3)	14	10	14	12	15	14	16	14	13	13	13	13	18		15	15	13	13	12	13	15	13	14	15	18	13
Neoplasms	(C00-D48)	15	17	19	19	10	19	19	9	17	19	17	12	14		19	19	19	19	18	19	18	19	15	19	17	17
Poisoning and toxic effects, excluding toxic effects of pesticides	(T36-T59,T64, T61-T62,T65)	16	18	15	16	16	16	14	18	15	16	14	15	15		8	13	16	15	16	15	16	16	16	16	14	15
Mental and behavioural disorders	(F00-F99)	17	14	16	17	17	17	15	16	18	18	15	19	16		16	16	17	17	17	18	17	17	17	17	16	19
Snake bites	(T63.0))	18	15	18	15	19	15	18	17	16	15	19	17	17		12	14	15	16	15	16	12	15	19	14	15	18
Other diseases of the circulatory system	(I70-I84)	19	19	17	18	18	18	17	19	19	17	18	18	19		18	18	18	18	19	17	19	18	18	18	19	16

1 Excludes:
Single spontaneous delivery, false labour and those admitted and discharged before delivery.
Persons encounting health services for examination, investigation and for specific procedures of health care.

2 Includes Kalmunai DPDHS Division.

Source: Medical Statistics Unit

Table 23. Leading Causes of Hospital Deaths by District, 2008

Disease and ICD (10th Revision) Code / District and Rank Order		Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwera Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullativu	Batticoloa	Ampara [2]	Trincomalee	Kurunegale	Puttralam	Anuradhapura	Polonnaruwa	Badulla	Moneragale	Ratnapura	Kegalle
Ischaemic heart diseases	(I20-I25)	1	2	1	2	2	1	1	3	1	1	3	2	1	-	1	1	1	1	1	2	4	1	2	1	2	1
Pulmonary heart disease and diseases of the pulmonary circulation	(I26-I51)	2	3	2	3	6	3	2	4	3	2	2	7	6	-	3	2	3	2	5	3	10	8	3	2	1	3
Neoplasms 1	(C00-D48)	3	1	11	11	1	7	7	1	12	9	1	6	4	-	15	10	14	9	9	17	7	14	7	11	8	8
Cerebrovascular disease	(I60-I69)	4	6	4	5	3	4	3	2	2	5	5	3	13	-	9	11	6	4	2	4	9	3	6	5	4	2
Diseases of the respiratory system, excluding diseases of upper respiratory tract, pneumonia and influenza	(J20-J22, J40-J98)	5	8	5	6	5	2	4	6	4	3	6	4	3	-	10	5	4	3	3	7	6	2	1	4	3	6
Diseases of gastrointestinal tract	(K20-K92)	6	5	3	4	11	12	11	9	7	15	4	8	9	-	6	9	9	6	4	1	11	11	11	13	5	5
Zoonotic and other bacterial diseases	(A20-A49)	7	4	6	7	8	13	14	7	6	10	10	5	2	-	7	14	2	7	8	6	12	5	8	6	7	7
Pneumonia	(J12-J18)	8	7	7	8	9	5	9	5	9	6	9	10	15	-	12	13	7	5	7	5	8	9	5	8	6	4
Diseases of the urinary system	(N00-N39)	9	9	9	13	10	11	12	11	10	12	8	1	10	-	8	15	5	10	6	16	1	4	4	7	9	9
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	10	11	13	1	4	15	5	12	5	4	7	15	14	-	11	12	17	14	13	12	2	7	13	3	19	11
Traumatic injuries	(S00-T19)	11	10	12	12	7	16	17	8	18	7	11	13	5	-	2	3	11	13	12	9	3	13	9	14	13	12
Toxic effects of pesticides	(T60)	12	14	16	9	13	8	8	13	14	11	14	11	11	-	4	6	8	17	10	18	5	6	10	10	10	10
Conditions originating in the perinatal period, excluding disorders related to short gestation, lov birth weight, slow fetal growth and fetal malnutrition	(P00-P04, P08-P96)	13	12	15	10	12	9	10	10	8	8	17	9	18	-	17	18	13	12	11	14	15	12	16	17	12	18
Slow fetal growth, fetal malnutrition and...	(P05-P07)	14	15	14	14	16	14	6	14	11	17	12	12	20	-	5	19	10	8	17	10	13	10	12	12	16	14
Diabetes mellitus	(E10-E14)	15	13	10	19	15	6	15	15	17	16	13	21	7	-	18	20	19	18	14	15	14	15	15	16	15	15
Hypertensive disease	(I10-I15)	16	17	8	18	14	10	13	16	15	14	22	19	16	-	13	4	12	11	15	11	16	19	14	18	14	13
Poisoning and toxic effects, excluding toxic effects of pesticides	(T36-T59,T64 T61-T62,T65)	17	19	17	15	18	17	16	17	13	13	16	17	19	-	21	7	20	19	16	8	22	16	17	9	11	16
Burns and corrosion	(T20-T32)	18	16	19	16	20	22	20	19	21	22	15	14	8	-	19	24	16	16	19	20	20	20	19	24	17	21
Viral diseases	(A80-B34)	19	18	18	21	21	18	19	18	16	19	21	16	17	-	16	17	18	15	18	19	21	18	18	20	18	17
Other diseases of the circulatory system	(I70-I84)	20	21	21	17	17	24	21	23	23	20	18	22	21	-	22	21	23	24	23	24	18	23	21	21	20	20
Intestinal infectious diseases	(A00-A09)	21	20	20	20	22	23	18	21	22	18	19	20	12	-	20	16	15	20	21	23	24	22	20	19	22	19
Other obstetric conditions	10-O16,O38-O46,O48,O60-O75, O81-O99,Z35)	22	22	23	23	24	21	23	20	20	21	23	24	23	-	24	23	24	21	24	13	23	17	23	23	21	23
Snake bites	(T63.0)	23	24	24	22	23	19	24	22	24	24	20	18	24	-	14	8	22	23	20	22	17	21	24	15	24	24
Other diseases of the upper respir. tract	(J00-J06,J30-J39)	24	23	22	24	19	20	22	24	19	23	24	23	22	-	23	22	21	22	22	21	19	24	22	22	23	22

Includes

Source: Medical Statistics Unit

[1] Deaths reported from Cancer Hospital (not analysed by site and type of neoplasm).

[2] Kalmunai DPDHS Division

Table 24. Cases and Deaths of Poisonings and Case Fatality Rate, 2008

District	Poisioning by Drugs Medicaments and Biological Substances		Toxic Effects of Pesticides				Toxic Effects of Other Substances Chiefly Non Medicinal		Total				Case Fatality Rate
			Organophosphate and Carbamate		Other Pesticides				NO		Rate per 100,000 population		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
Colombo	2,742	6	465	49	401	47	1,566	22	5,174	124	208.0	5.0	2.4
Gampaha	2,792	14	416	35	160	6	1,673	20	5,041	75	234.2	3.5	1.5
Kalutara	957	3	213	28	51	2	913	9	2,134	42	190.9	3.8	2.0
Kandy	1,577	6	812	47	261	39	2,078	25	4,728	117	338.7	8.4	2.5
Matale	402	-	432	18	125	12	676	5	1,635	35	338.5	7.2	2.1
Nuwera Eliya	371	8	728	22	197	3	628	-	1,924	33	256.9	4.4	1.7
Galle	1,006	1	140	25	126	27	827	10	2,099	63	197.5	5.9	3.0
Matara	766	1	63	1	43	10	997	13	1,869	25	227.4	3.0	1.3
Hambantota	952	12	1,202	19	476	-	539	1	3,169	32	567.9	5.7	1.0
Jaffna	444	3	276	18	21	-	1,718	11	2,459	32	407.8	5.3	1.3
Kilinochchi	-	-	-	-	-	-	-	-	-	-	0.0	0.0	0.0
Mannar	108	-	28	2	32	-	189	-	357	2	350.0	2.0	0.6
Vavuniya	138	-	222	7	13	4	489	5	862	16	516.2	9.6	1.9
Mullativu	90	-	76	5	5	2	495	-	666	7	444.0	4.7	1.1
Batticoloa	580	-	335	1	71	-	310	1	1,296	2	244.5	0.4	0.2
Ampara[1]	676	5	479	33	180	7	363	4	1,698	49	272.1	7.9	2.9
Trincomalee	556	2	235	4	56	3	661	2	1,508	11	417.7	3.0	0.7
Kurunegale	2,679	11	2,263	97	352	20	2,513	27	7,807	155	508.6	10.1	2.0
Puttralam	993	6	432	10	102	3	1,181	27	2,708	46	356.3	6.1	1.7
Anuradhapura	1,072	1	1,352	62	763	28	801	-	3,988	91	493.0	11.2	2.3
Polonnaruwa	934	2	696	31	550	24	627	5	2,807	62	701.8	15.5	2.2
Badulla	907	3	983	59	253	1	1,444	14	3,587	77	416.6	8.9	2.1
Moneragale	689	13	559	16	76	2	339	6	1,663	37	386.7	8.6	2.2
Ratnapura	1,173	20	809	28	102	1	626	6	2,710	55	246.6	5.0	2.0
Kegalle	724	2	337	49	64	4	724	10	1,849	65	229.1	8.1	3.5
Total	23,328	119	13,553	666	4,480	245	22,377	223	63,738	1,253	315.3	6.2	2.0

Includes :

[1] Kalmunai DPDHS Division

Source : Medical Statistics Unit

Table 25. Distribution of Mental Disorders by Region / Campaign[3] , 2008

District	Dementia		Mental and Behavioral Disorders				Schizophrenia, Schizotypal and Delusional Disorders		Mood Disorders		Neurotic, Stress-Related Somatoform Disorders		Mental Retardation Related Disorders		Behavioral and Emotional Disorders Usually in Childhood and Adolescence		Other and Unspecified Mental Disorders		Total	
			Due to Alcohol		Due to Other Psychoactive Substance Use															
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths
Colombo	169	-	1,065	-	75	-	4,109	-	2,098	-	247	-	169	-	25	-	269	-	8,226	-
Gampaha	68	-	1,010	-	64	-	1,592	-	606	-	111	-	64	-	46	-	657	-	4,218	-
Kalutara	22	-	582	-	21	-	453	-	212	-	51	-	2	-	6	-	225	-	1,574	-
Kandy[1]	36	-	943	-	58	-	554	-	1,398	-	219	-	17	-	81	-	308	-	3,614	-
Matale	10	-	241	-	8	-	267	-	218	-	59	-	2	-	6	-	148	-	959	-
NuwaraEliya	39	-	186	-	69	-	120	-	290	-	32	-	37	-	13	-	182	-	968	-
Galle[2]	49	-	385	-	22	-	1,530	-	953	-	36	-	9	-	8	-	196	-	3,188	-
Matara	4	-	129	-	12	-	25	-	39	-	52	-	9	-	1	-	60	-	331	-
Hambantota	2	-	191	-	38	-	156	-	79	-	22	-	6	-	3	-	187	-	684	-
Jaffna	27	-	177	-	30	-	960	-	350	-	330	-	4	-	2	-	127	-	2,007	-
Kilinochchi	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Mulaitivu	2	-	13	-	24	-	34	-	13	-	70	-	-	-	3	-	33	-	192	-
Vavunia	4	-	65	-	2	-	78	-	72	-	13	-	-	-	1	-	31	-	266	-
Mannar	3	-	49	-	83	-	16	-	64	-	4	-	7	-	-	-	46	-	272	-
Baticaloa	-	-	70	-	12	-	28	-	129	-	66	-	1	-	7	-	111	-	424	-
Ampara	1	-	10	-	17	-	96	-	66	-	115	-	27	-	9	-	75	-	416	-
Kalmunai	20	-	20	-	-	-	215	-	153	-	2	-	-	-	16	-	30	-	456	-
Trincomalee	1	-	47	-	27	-	201	-	306	-	62	-	6	-	35	-	98	-	783	-
Kurunegala	70	-	797	-	60	-	1,589	-	1,098	-	93	-	6	-	102	-	279	-	4,094	-
Puttalam	5	-	312	-	46	-	106	-	116	-	132	-	17	-	20	-	72	-	826	-
Anuradhapura	36	-	289	-	53	-	273	-	237	-	26	-	10	-	16	-	280	-	1,220	-
Polonnaruwa	2	-	87	-	19	-	94	-	38	-	30		4		28	-	381	-	683	-
Badulla	26	-	91	-	198	-	681	-	163	-	119	-	-	-	26	-	966	-	2,270	-
Moneragala	2	-	46	-	64	-	136	-	51	-	35		5		22	-	115	-	476	-
Rathnapura	14	-	267	-	85	-	542	-	159	-	24	-	-	-	31	-	107	-	1,229	-
Kegalle	4	-	525	-	16	-	113	-	152	-	29	-	1	-	110	-	65	-	1,015	-
Sri Lanka	616	-	7,597	-	1,103	-	13,968	-	9,060	-	1,979	-	404	-	617	-	5,048	-	40,391	-

Includes :

[1] Deltota Mental Rehabilation Centre Deltota.

[2] Unawatuna District Hospital

[3] Angoda, Mulleriyawa and Hendala Mental Hospitals also included in respective DPDHS areas

Source : Medical Statistics Unit

Table 26. Case Fatality Rate for Selected Diseases, 2004, 2005, 2006*, 2007 and 2008

Disease	2004			2005			2006*			2007			2008		
	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate
Typhoid and para typhoid	5,932	44	0.0	4,783	23	0.5	3,595	1	0.0	3,595	3	0.1	2,909	2	0.1
Tetanus	53	10	14.7	42	9	21.4	70	7	10.0	57	8	14.0	70	4	5.7
Shigellosis	9,798	25	0.2	7,226	127	1.8	6,375	7	0.1	6,195	4	0.1	3,381	2	0.1
Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight	8,578	810	9.8	7,553	726	9.6	7,533	743	9.9	7,686	759	9.9	7,790	636	8.2
Measles	143	-	-	129	2	2	103			132	1	0.8	149	1	0.7
Whooping cough	-	-	-	-	-	-	133	1	0.8	-	-	-	-	-	-
Viral hepatitis	3,727	17	0.4	3,631	7	0.2	3,994	13	0.3	6,611	10	0.2	3,066	2	0.1
Malaria	8,722	10	0.2	4,792	3	0.1	2,276	1	0.0	1,032	1	0.1	634	2	0.3
Tetanus neonatorum	11	2	17	24	-	-	0			3	-	-	1	-	-
Diseases of the liver	23,324	2,631	12.1	20,938	2,274	10.9	17,071	1,888	11.1	17,447	2,054	11.8	17,419	2,116	12.1
Septicaemia	3,253	1,150	39.4	3,574	1,161	32.5	3,996	1,412	35.3	4,067	1,693	41.6	4,799	1,818	37.9
Snake bites	34,596	102	0.2	36,861	134	0.4	39,793	100	0.3	39,321	91	0.2	38,381	58	0.2
Hypertensive diseases	86,745	615	0.6	90,016	767	0.9	95,540	593	0.6	93,985	583	0.6	94,296	565	0.6
Ischaemic heart disease	65,462	3,730	5.6	69,598	3,762	5.4	79,524	4,125	5.2	85,455	4,536	5.3	85,511	4,466	5.2
Pneumonia	21,450	1,393	5.1	21,111	1,417	6.7	21,811	1,448	6.6	18,708	1,380	7.4	22,515	2,121	9.4
Asthma	161,948	846	0.4	160,738	841	0.5	181,050	765	0.4	178,777	721	0.4	196,151	830	0.4
Bactrial meningitis	3,510	157	7.5	2,507	117	4.7	3,257	134	4.1	3,409	121	3.5	3,281	125	3.8

* Revised

Source: Medical Statistics Unit

Table 27. Inpatients Treated and Hospital deaths by Type of Institutions and Districts, 2008

District	Teaching Hospitals[1]		Provincial Hospitals		Base Hospitals		District Hospitals		Peripheral Units		Rural Hospitals		Maternity Homes and CD		Other Hospitals[2]		Total Hospitals		Inpatient's per 1,000 population	Hospital Deaths per 100 cases
	Treated	Deaths	Treated	Deaths	Treated	Deaths	Treated	Deaths	Treated	Deaths	Treated	Deaths	Treated	Deaths	Treated	Deaths	Treated	Deaths		
Colombo	496,894	8,292			109,179	1,031	14,400	54	33,396	185	1,319	1			77,497	1,632	732,685	11,195	294	1.5
Gampaha	116,201	1,271			223,200	1,875	56,537	241	14,190	24	12,190	40			18,745	26	441,063	3,477	205	0.8
Kalutara			83,534	1,408	98,662	859	50,484	95	16,527	41	15,754	13					264,961	2,416	237	0.9
Kandy	252,142	3,397			44,281	398	51,380	120	15,888	36	49,531	46			2,093	1	415,315	3,998	298	1.0
Matale					92,679	621	16,117	37	13,636	37	11,129	17					133,561	712	277	0.5
Nuwera Eliya					44,181	480	38,145	160	7,623	5	13,874	46					103,823	691	139	0.7
Galle	85,821	2,150			38,664	342	59,790	155	36,093	39	10,510	5			265		231,143	2,691	217	1.2
Matara			98,210	488	18,598	40	26,642	30	12,350	44	15,642	32					171,442	634	209	0.4
Hambantota					94,168	501	24,378	50	22,101	24	18,401	5					159,048	580	285	0.4
Jaffna	81,629	1,015			9,911	46	14,632	29	13,559	22	1,678				103		121,512	1,112	202	0.9
Kilinochchi																				
Mullaitivu					7,538	40			3,165	10	6,530	30					17,233	80	115	0.5
Vavuniya					37,892	344	2,859		554		67						41,372	344	248	0.8
Mannar					12,879	63	3,410		2,947								19,236	63	189	0.3
Batticoloa					26,755	47	19,483	6			9,984	4	4,136				60,358	57	114	0.1
Ampara[3]					141,338	761	16,944	78	4,683		1,058		1,034	1			165,057	840	265	0.5
Trincomalee					63,305	418	10,072	6	13,619	12	8,159	11	1,517				96,672	447	268	0.5
Kurunegala	154,181	2,303			79,879	598	140,924	352	39,932	83	25,010	28					439,926	3,364	287	0.8
Puttalam					112,115	869	25,634	67	6,325	24	10,622	12					154,696	972	204	0.6
Anuradhapura					71,896	988	32,093	67	33,932	63	54,494	63					192,415	1,181	238	0.6
Polonnaruwa					75,156	759	8,908	23	18,769	20	19,242						122,075	802	305	0.7
Badulla			84,996	816	61,949	738	57,573	185	1,854	0	25,608	38	454		10		232,444	1,777	270	0.8
Moneragala					42,926	348	57,784	146	3,862	6	21,039	28					125,611	528	292	0.4
Ratnapura			74,124	1,036	83,665	625	51,790	148	32,559	40	12,538	11					254,676	1,860	232	0.7
Kegalle	66,866	904			82,320	596	39,057	67	3,802	5	9,432	1			14		201,491	1,573	250	0.8
Total	1,253,734	19,332	340,864	3,748	1,673,136	13,387	819,036	2,116	351,366	720	353,811	431	7,141	1	98,727	1,659	4,897,815	41,394	242	0.8

Includes :

[1] De Soysa and Castle Street Hospitals for Women, Eye Hospital and Children's Hospital

[2] Chest, Leprosy, Mental, Dental, Fever, Rehabilitation, Prison and Police Hospital.

[3] Kalmunai DPDHS Division

Source : Medical Statistics Unit

Table 28. Outpatient Attendance by District and Type of Institution, 2008

District	Teaching Hospitals[1]	Provincial Hospitals	General Hospitals	Base Hospitals	District Hospitals	Peripheral Units	Rural Hospitals	Maternity Homes & CD	Other Hospitals[2]	Central Dispensaries	Total Attendance	Attendance Per 1000 Population
Colombo	2,575,108	.	.	491,005	464,583	506,824	87,570	-	679,220	412,095	5,216,405	2,069.2
Gampaha	583,739	.	628,428	293,900	722,534	190,689	309,664	.	135,928	699,695	3,564,577	1,646.5
Kalutara	.	326,857	.	607,291	566,309	158,228	297,249	.	24,833	161,152	2,141,919	1,898.9
Kandy	945,808	.	247,922	84,378	787,401	230,797	756,384	.	207,861	408,290	3,668,841	2,592.8
Matale	.	.	292,880	160,061	221,743	112,767	239,726	7,729	-	221,485	1,256,391	2,564.1
Nuwara Eliya	.	.	163,723	136,604	342,033	101,796	161,300	88,963	.	232,822	1,227,241	1,625.5
Galle	370,923	.	.	134,475	652,495	475,756	241,231	77,293	66,568	379,267	2,398,008	2,232.8
Matara	.	214,446	.	113,302	309,821	239,914	263,821	40,945	.	284,453	1,466,702	1,765.0
Hambantota	.	.	206,987	350,414	266,110	263,637	285,548	120,288	5,892	107,983	1,606,859	2,844.0
Jaffna	239,302	.	.	101,435	302,807	258,919	78,606	207,945	-	267,673	1,456,687	2,399.8
Kilinochchi	.	.	55,619	.	47,185	.		38,831	.	7,154	148,789	966.2
Mannar	.	.	151,705	.	115,153	28,719	2,686	71,341	-	17,094	386,698	3,754.3
Vavuniya	.	.	196,010	.	31,988	9,720	18,529	74,331	12,616	20,690	363,884	2,153.2
Mullaitivu	.	.	113,061	.	18,402	67,855	86,107	6,985	.	37,566	329,976	2,142.7
Batticaloa	145,495	.	.	228,093	251,169	28,760	191,991	139,417	3,032	299,917	1,287,874	2,398.3
Ampara[3]	-	-	190,627	647,602	373,248	168,241	102,910	73,788	54,975	319,367	1,930,758	1,245.7
Trincomalee	.	.	179,520	204,257	144,149	105,165	129,199	38,872	-	282,366	1,083,528	2,944.4
Kurunegala	436,291	.	.	417,093	1,330,897	519,605	491,955	13,816	.	688,748	3,898,405	2,515.1
Puttalam	.	.	245,044	267,470	329,230	149,567	154,645	84,713	-	284,925	1,515,594	1,968.3
Anuradhapura	.	.	171,610	181,459	142,725	287,057	574,618	.	-	277,461	1,634,930	1,993.8
Polonnaruwa	.	.	168,860	115,582	97,287	224,401	185,741	.	.	168,087	959,958	2,370.3
Badulla	.	184,758	.	352,630	756,723	35,715	471,439	24,809	-	295,888	2,121,962	2,427.9
Moneragala	.	.	141,902	.	750,073	41,358	307,418	.	-	151,970	1,392,721	3,201.7
Ratnapura	.	273,124	.	482,142	694,105	389,966	313,827	.	.	188,247	2,341,411	2,103.7
Kegalle	292,165	.	.	517,170	424,182	68,771	257,573	85,245	25,622	310,869	1,981,597	2,437.4
Total	5,588,831	999,185	3,153,898	5,886,363	10,142,352	4,664,227	6,009,737	1,195,311	1,216,547	6,525,264	45,381,715	2,219.2

Source: Medical Statistics Unit.

Includes:

[1] National Hospital Sri Lanka, TH Sri Jayawardanapura, TH Colombo South, Children's Hospital and Eye Hospital

[2] Cancer, Dental, Fever, Chest, Police and Prison Hospitals and Mental Rehabilitation Centres

[3] Kalmunai DPDHS Division

Table 29. Out Patient Department (OPD) visits by DPDHS area - 2008

DPDHS	Quarter				Total Visits
	First	Second	Third	Forth	
Colombo	1,262,075	1,295,934	1,314,681	1,343,715	5,216,405
Gampaha	853,437	933,929	882,021	895,190	3,564,577
Kalutara	515,398	575,294	514,311	536,916	2,141,919
Kandy	844,180	942,929	900,217	981,515	3,668,841
Matale	310,141	322,236	295,455	328,559	1,256,391
Nuwera Eliya	298,150	318,586	303,383	307,122	1,227,241
Galle	563,148	616,749	610,308	607,803	2,398,008
Matara	358,083	365,346	368,910	374,363	1,466,702
Hambantota	379,792	424,662	386,664	415,741	1,606,859
Jaffna	382,333	370,879	357,329	346,146	1,456,687
Kilinochchi	148,789	-	-	-	148,789
Mannar	99,839	91,629	92,110	103,120	386,698
Vavuniya	96,682	98,249	83,119	85,834	363,884
Mullaitivu	128,422	110,355	91,199	-	329,976
Batticoloa	350,192	328,148	315,185	294,349	1,287,874
Ampara	198,443	193,458	186,558	191,900	770,359
Kalmunai	272,105	304,780	286,893	296,621	1,160,399
Trincomalee	285,843	274,389	260,977	262,319	1,083,528
Kurunegala	930,943	1,036,580	930,937	999,945	3,898,405
Puttalam	374,110	402,673	366,221	372,590	1,515,594
Anuradhapura	417,499	415,972	396,304	405,155	1,634,930
Polonnaruwa	257,349	225,055	225,489	252,065	959,958
Badulla	524,708	543,466	503,184	550,604	2,121,962
Moneragala	337,752	378,180	331,519	345,270	1,392,721
Ratnapura	548,901	639,287	565,498	587,725	2,341,411
Kegalle	471,111	557,660	471,990	480,836	1,981,597
Grand Total	**11,209,425**	**11,766,425**	**11,040,462**	**11,365,403**	**45,381,715**

Source: Medical Statistics Unit.

Table 30. Out Patient Department (OPD) visits by Type of hospital - 2008

Hospital Type	Quarter				Total Visits
	First	Second	Third	Forth	
Teaching Hospitals	1,339,503	1,419,340	1,394,841	1,435,147	5,588,831
Provincial Hospitals	247,757	251,051	246,452	253,925	999,185
General Hospitals	830,269	821,037	766,752	735,840	3,153,898
Base Hospitals	1,440,152	1,537,877	1,432,097	1,476,237	5,886,363
District Hospitals	2,503,217	2,684,254	2,403,134	2,551,747	10,142,352
Peripheral Units	1,136,671	1,241,997	1,132,128	1,153,431	4,664,227
Rural Hospitals	1,455,699	1,582,041	1,466,089	1,505,908	6,009,737
Maternity Homes & CD	329,183	292,299	280,481	293,348	1,195,311
Other Hospitals	292,685	297,618	304,606	321,638	1,216,547
Central Dispensaries	1,634,289	1,638,911	1,613,882	1,638,182	6,525,264
Total Visits	**11,209,425**	**11,766,425**	**11,040,462**	**11,365,403**	**45,381,715**

Source: Medical Statistics Unit.

Table 31. Clinic Visits by quarter, by DPDHS division, 2008

DPDHS	First Quarter		Second Quarter		Third Quarter		Forth Quarter		Annual	
	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits
Colombo	210,564	757,772	196,109	739,008	266,764	869,319	189,990	763,357	863,427	3,129,456
Gampaha	118,529	400,748	110,997	395,210	136,174	419,580	119,687	419,256	485,387	1,634,794
Kalutara	57,878	187,760	50,643	170,920	59,991	188,456	58,786	190,678	227,298	737,814
Kandy	103,342	464,413	94,843	457,230	126,827	513,960	106,704	502,594	431,716	1,938,197
Matale	28,160	109,828	23,089	106,551	28,120	118,598	29,667	114,513	109,036	449,490
Nuwera Eliya	23,905	84,543	22,551	78,794	26,596	90,648	24,989	86,675	98,041	340,660
Galle	73,517	195,881	66,655	197,734	76,236	212,318	74,216	210,186	290,624	816,119
Matara	41,596	114,881	39,529	109,780	43,667	120,629	42,523	120,015	167,315	465,305
Hambantota	37,256	104,667	40,831	111,757	40,875	108,065	38,646	105,149	157,608	429,638
Jaffna	32,499	180,545	33,301	189,197	33,828	191,730	33,437	193,549	133,065	755,021
Kilinochchi	6,755	27,052	0	0	0	0	0	0	6,755	27,052
Mullaitivu	5,037	18,252	5,486	18,828	4,763	15,392	0	0	15,286	52,472
Vavuniya	9,382	40,773	9,984	40,277	8,681	38,512	8,442	38,893	36,489	158,455
Mannar	6,258	21,977	7,437	25,210	7,660	25,428	8,000	25,809	29,355	98,424
Batticoloa	25,452	72,809	17,341	43,785	23,124	72,903	19,015	68,799	84,932	258,296
Ampara	18,189	55,909	17,559	52,135	22,089	68,543	16,312	56,708	74,149	233,295
Kalmunai	23,572	61,806	22,807	62,677	23,064	63,787	21,755	62,481	91,198	250,751
Trincomalee	20,061	52,511	20,217	53,724	21,038	57,257	14,864	48,427	76,180	211,919
Kurunegala	74,063	329,219	73,704	336,467	82,954	361,350	71,418	339,618	302,139	1,366,654
Puttalam	34,406	126,021	35,600	129,207	41,324	142,525	37,414	131,700	148,744	529,453
Anuradhapura	36,051	171,860	37,235	169,969	42,726	178,504	40,219	174,113	156,231	694,446
Pollonnaruwa	21,953	75,937	16,987	70,004	21,836	73,889	19,653	72,084	80,429	291,914
Badulla	45,924	217,636	45,592	220,429	58,810	245,974	57,294	240,381	207,620	924,420
Moneragale	31,249	71,113	28,127	73,006	32,898	81,430	24,517	80,208	116,791	305,757
Ratnapura	57,358	211,388	50,396	201,079	63,655	204,193	54,860	208,051	226,269	824,711
Kegalle	41,050	172,823	41,614	170,329	49,141	187,080	43,474	187,575	175,279	717,807
Total	1,184,006	4,328,124	1,108,634	4,223,307	1,342,841	4,650,070	1,155,882	4,440,819	4,791,363	17,642,320

Source: Medical Statistics Unit.

Table 32. Clinic Visits by quarter, by Type of Hospitals, 2008

Hospital Type	First Quarter		Second Quarter		Third Quarter		Forth Quarter		Annual	
	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits
Teaching Hospitals	342,316	1,362,013	308,762	1,320,172	403,152	1,519,313	311,571	1,390,946	1,365,801	5,592,444
Provincial Hospitals	76,678	270,506	70,379	262,102	79,063	281,570	75,238	282,165	301,358	1,096,343
General Hospitals	163,064	513,269	153,612	493,130	171,695	543,148	146,163	505,005	634,534	2,054,552
Base Hospitals	193,792	582,982	189,591	571,308	220,335	640,036	199,087	602,845	802,805	2,397,171
District Hospitals	146,912	600,167	147,731	595,600	199,840	644,774	164,241	626,058	658,724	2,466,599
Rural Hospitals	76,770	306,891	68,401	300,257	78,367	314,169	76,058	314,642	299,596	1,235,959
Peripheral Units	80,792	254,905	68,920	247,879	79,598	264,542	73,778	258,094	303,088	1,025,420
Central Dispensaries & Maternity Homes	8,854	52,649	7,957	47,497	7,842	49,986	8,440	48,197	33,093	198,329
Central Dispensaries	58,593	255,553	57,838	260,071	65,214	266,877	62,133	268,325	243,778	1,050,826
Other Institutes	36,235	129,189	35,443	125,291	37,735	125,655	39,173	144,542	148,586	524,677
Grand Total	**1,184,006**	**4,328,124**	**1,108,634**	**4,223,307**	**1,342,841**	**4,650,070**	**1,155,882**	**4,440,819**	**4,791,363**	**17,642,320**

Source: Medical Statistics Unit.

Table 33. Utilization of Medical Institutions by District, 2008

District	Teaching Hospitals			Provincial Hospitals			Base Hospitals			District Hospitals			Peripheral Units			Rural Hospitals			Maternity Homes & Central Dispensary			Other Hospitals		
	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate	Duration of Stay	Bed Turnover Rate	Occupancy Rate
Colombo	3.73	72.85	74.38				1.86	147.10	76.34	2.11	57.50	31.72	1.35	106.88	40.46	2.75	82.94	62.69				10.03	35.52	62.22
Gampaha	3.09	105.68	93.22				2.04	131.99	75.56	2.03	85.97	41.46	1.65	102.53	46.30	2.97	150.58	70.22				41.16	29.82	63.61
Kalutara				2.64	126.23	93.73	2.49	125.53	87.29	1.66	87.16	39.61	1.41	137.28	39.61	1.42	102.83	42.84						
Kandy	3.66	87.88	89.15				2.13	77.48	47.31	2.33	69.36	44.59	1.86	71.01	44.59	2.23	70.14	39.83				16.75	25.89	70.73
Matale							2.55	142.84	90.76	3.28	70.06	62.87	3.13	67.09	62.87	1.50	71.18	36.17						
Nuwera Eliya							2.54	103.31	52.93	2.41	63.49	40.79	2.77	107.31	40.79	2.19	70.76	46.38						
Galle	3.45	98.69	97.25				2.85	125.94	100.10	2.17	77.14	50.34	1.53	110.48	50.34	1.78	127.06	61.02				7.35	25.80	58.78
Matara				2.58	102.15	73.80	2.23	121.71	76.21	2.53	94.18	58.64	2.78	64.40	58.64	2.56	73.96	55.12						
Hambantota							1.94	123.00	68.25	1.42	116.06	44.65	1.02	80.66	44.65	1.13	116.27	32.79						
Jaffna	3.56	64.35	66.56				3.18	38.11	34.40	3.66	47.10	41.86	2.81	41.44	33.95	2.48	22.64	16.10				12.53	7.73	28.38
Kilinochchi																								
Mullaitivu							2.20	36.32	69.60				1.90	20.68	84.84	1.90	59.30	66.85						
Vavuniya							3.21	127.18	116.12	2.66	42.30	30.25	1.90	25.50	76.40	1.39	7.63	3.51						
Mannar							2.00	72.06	40.04	2.48	33.35	36.32	2.92	75.06	.									
Batticoloa							1.71	145.39	67.39	1.34	87.53	34.00				2.30	73.48	47.10	1.60	138.50	68.59			
Ampara							1.25	128.42	39.43							1.00	39.43	7.01	1.90	49.10	26.19			
Kalmunai							2.15	87.38	45.15	2.36	77.21	47.20	9.34	89.73	57.29									
Trincomalee							2.09	93.46	56.17	1.89	66.68	34.92	6.14	102.78	40.28	2.13	52.58	36.16	1.37	84.69	32.46			
Kurunegala	2.90	120.70	99.32				2.37	110.51	73.26	1.69	90.57	42.04	1.78	85.56	41.88	1.94	78.58	40.69						
Puttalam							2.32	116.04	76.65	2.17	70.09	41.74	1.56	66.70	31.04	1.31	89.75	29.52						
Anuradhapura							1.97	59.04	58.09	1.83	98.44	52.19	1.76	131.32	69.68	1.77	107.64	42.36						
Polonnaruwa							2.66	103.25	79.39	1.56	66.62	29.01	1.78	82.42	41.78	1.91	84.04	51.09						
Badulla				4.57	66.30	87.46	2.68	127.87	91.07	2.29	72.94	43.27		53.11	0.00	2.06	85.23	48.32	1.03	28.07	13.89			
Moneragala							2.73	124.16	95.59	1.96	74.91	40.28	0.71	130.50	25.38	1.26	154.02	41.73						
Ratnapura				3.21	78.95	94.71	2.33	146.17	95.86	1.80	89.94	43.00	2.14	86.46	44.25	1.58	62.64	21.59						
Kegalle	2.87	102.61	83.34				1.79	134.17	97.67	2.06	74.28	41.26	1.55	77.61	25.47	1.77	73.21	29.95				77.72	0.65	91.38
Average	3.53	85.27	82.81	3.25	93.41	87.42	2.20	113.33	70.64	2.12	77.37	43.33	1.92	87.62	45.41	1.88	85.77	40..70	1.42	77.82	32.27	24.82	28.01	63.15

Bed Turnover Rate: The number of times a hospital bed on the average changes occupants during a period of time.

Source: Medical Statistics Unit.

Table 34. Average Duration of Stay (days) in Selected Types of Hospitals, 1995 - 2008

Type of Hospital	1995 [2]	2002	2003	2004	2005	2006	2007	2008
National Hospital, Colombo	6.1	5.3	5.0	4.8	4.4	4.4	4.3	4.3
Teaching Hospitals						3.6	3.6	3.5
Provincial Hospitals[1]	5.1	4.0	4.0	3.9	4.2	3.1	3.3	3.2
Base Hospitals	4.0	3.0	3.2	3.0	3.0	2.4	2.3	2.2
District Hospitals	2.9	2.3	2.3	2.3	2.2	1.9	2.0	2.1
Peripheral Units	2.7	2.1	2.2	2.2	2.0	1.9	2.0	1.9
Rural Hospitals	3.3	2.1	2.0	2.1	1.9	1.8	1.9	1.9
Children's Hospital	3.8	3.2	3.3	3.0	3.1	2.9	3.3	3.2
Eye Hospital	7.9	5.7	6.7	8.0	7.3	3.8	3.3	3.8
Cancer Hospital	15.9	8.8	9.3	8.9	10.0	8.3	8.2	7.0
Mental Hospitals	62.1	63.8	67.5	54.6	62.8	30.2	60.0	65.9
Chest Hospitals	26.9	N/A	N/A	25.0	8.7	14.4	N/A	12.5
Maternity Hospitals	4.8	4.7	4.1	4.5	5.5	5.7	3.6	3.3
Maternity Homes	2.8	2.9	2.4	2.4	2.2	3.1	2.6	1.4
Leprosy Hospitals						73.3	77.0	87.9
Rehabilitation Hospitals						24.5	30.0	26.1

[1] Includes Teaching Hospitals except 2006 & 2007 *Source: Medical Statistics Unit*

Excludes:

[2] Jaffna, Kilinochchi, Mullaitivu and Ampara Districts

Table 35. Registered Births and Hospital Births 1965 - 2008

Year	Registered Live Births	Live Births in Government Hospitals	% of Live Births in Government Hospitals
1965	369,437	230,986	62.5
1970	367,901	243,844	66.3
1975	375,857	251,039	66.8
1980	418,373	316,394	75.6
1985	389,599	292,970	75.2
1990 [2]	294,120	241,390	82.1
1991 [2]	304,347	262,388	86.2
1992	356,842	296,484	83.1
1993	350,707	298,567	85.1
1994	356,071	300,180	84.3
1995	343,224	297,949	86.8
1996 [3]	330,963	287,514	86.9
1997 [3]	325,017	284,955	87.7
1998	322,672	287,514	88.2
1999	328,725	300,866	91.3
2000	347,749	314,352	93.9
2001	358,583	325,813	92.0
2002	363,549 [1]	307,272	84.5
2003	363,343 [1]	316,465	87.1
2004	360,220 [1]	336,642	93.5
2005	370,424 [1]	341,539	92.2
2006	371,264 [1]	353,361	95.2
2007	380,069 [1]	356,852	93.9
2008	379,912 [1]	352,523	92.8

[1] Provisional *Source: Medical Statistics Unit*

[2] Excludes Northern and Eastern Provinces

[3] Excludes Kilinochchi and Mullaitivu Districts

Table 36. Live Births, Maternal Deaths, Still Births and Low Birth Weight in Government Hospitals, 2008

District	In Government Hospitals During 2008						
	Live Births	Maternal Deaths		Still Births		Low Births[4]	
		No.	Rate [1]	No.	Rate [2]	No.	Rate [3]
Colombo	50,238	11	2.2	390	7.7	8,137	16.2
Gampaha	28,358	4	1.4	219	7.7	4,347	15.3
Kalutara	17,142	1	0.6	121	7.0	2,735	16.0
Kandy	25,491	7	2.7	340	13.2	5,113	20.1
Matale	10,385	-	0.0	77	7.4	2,045	19.7
Nuwera Eliya	10,041	1	1.0	143	14.0	3,144	31.3
Galle	20,611	11	5.3	158	7.6	2,831	13.7
Matara	12,204	6	4.9	125	10.1	2,089	17.1
Hambantota	9,684	-	0.0	92	9.4	1,288	13.3
Jaffna	6,592	4	6.1	76	11.4	965	14.6
Kilinochchi	2,234	-	0.0	28	12.4	221	9.9
Mannar	1,017	-	0.0	2	2.0	122	12.0
Vavuniya	2,773	-	0.0	35	12.5	509	18.4
Mullativu	2,690	1	3.7	21	7.7	517	19.2
Batticoloa	10,112	1	1.0	102	10.0	1,732	17.1
Ampara [5]	13,119	3	2.3	69	5.2	2,345	17.9
Trincomalee	8,249	1	1.2	66	7.9	1,244	15.1
Kurunegala	26,967	5	1.9	204	7.5	4,729	17.5
Puttalam	14,606	2	1.4	109	7.4	2,052	14.0
Anuradhapura	16,379	3	1.8	141	8.5	2,839	17.3
Polonnaruwa	7,480	-	0.0	55	7.3	1,358	18.2
Badulla	17,665	4	2.3	147	8.3	4,281	24.2
Moneragala	6,567	-	0.0	55	8.3	1,375	20.9
Ratnapura	19,873	4	2.0	177	8.8	3,593	18.1
Kegalle	12,046	2	1.7	94	7.7	2,389	19.8
Sri Lanka	352,523	71	2.0	3,046	8.8	62,000	17.6

Source: Medical Statistics Unit.

[1] Per 10,000 live births.
[2] Per 1,000 births.
[3] Per 100 live births.
[4] Birth weight less than 2500 grams.
[5] Includes Kalmunai DPDHS Division

Table 37. Performance of Dental Surgeons by District, 2008

District	Extraction				D.A.A. Treated	Infection	Leukoplakia	Oral Carcinoma	Restoration				Scaling	Minor Surgery	Prevention (community)	Total Visits
	Deciduous	Permanent Caries	Permanent Periodontal	Other					Temporary	Amalgam	Composite	Advanced Conservation				
Colombo*	6,063	56,347	14,750	3,534	14,776	1,747	29	7	49,697	25,014	23,904	6,688	18,737	1,684	6,682	257,242
Gampaha	8,445	64,475	19,115	1,099	7,643	1,018	63	29	30,683	22,226	10,574	1,778	10,810	2,106	1,869	193,902
Kalutra	4,013	33,030	6,978	373	4,113	620	11	5	13,232	6,874	4,362	1,289	3,990	505	159	95,356
Kandy	3,486	28,578	10,046	1,301	3,528	329	26	22	8,268	4,206	2,677	330	2,627	1,047	408	81,598
Matale	2,093	15,694	5,143	475	3,265	127	23	17	6,444	4,941	2,058	403	1,983	428	1,659	45,385
Nuwera Eliya	1,846	18,205	4,909	1,242	2,525	979	43	4	7,979	3,632	1,844	149	3,118	421	110	55,587
Galle	4,543	42,996	8,751	1,130	2,297	392	15	6	14,106	6,305	3,834	670	4,208	547	954	102,667
Matara	4,511	24,066	7,965	888	2,000	200	22	16	10,490	5,110	1,985	974	2,825	703	382	69,227
Hambantota	1,960	13,248	4,574	424	2,175	428	52	7	5,863	3,196	1,816	60	1,909	1,080	915	46,185
Jaffna	2,334	16,297	5,825	1,412	6,915	404	22	41	5,463	3,550	1,787	1,187	2,641	425	295	65,955
Kilinochchi	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Mannar	1,586	5,047	2,449	1,717	100	127	4	2	294	15	606	178	691	159	-	13,753
Vavuniya	1,182	5,643	1,224	15	447	138	28	31	2,243	1,642	1,242	462	963	185	1,043	24,026
Mullaitivu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Batticoloa	8,552	30,198	3,766	403	1,143	190	17	33	1,742	1,909	3,071	588	1,047	562	1	71,770
Ampara	3,131	11,659	2,832	509	759	303	8	18	1,540	1,171	514	90	551	461	-	26,104
Trincomale	3,582	11,058	3,052	366	1,350	366	1	-	1,034	438	441	361	430	374	5	26,115
Kurunegala	6,378	60,404	16,218	1,317	11,533	1,832	87	36	19,823	13,944	11,532	2,819	8,654	3,305	2,135	188,842
Puttalam	1,593	13,501	2,147	60	1,930	28	2	3	4,707	2,402	2,094	294	1,690	168	6	36,845
Anuradhapura	2,507	23,304	7,923	1,785	2,640	833	2	1	9,265	7,971	2,248	2,870	3,565	785	297	79,571
Pollanurawa	985	5,863	1,131	-	598	13	8	-	1,885	1,093	559	205	242	92	1	14,112
Badulla	4,508	27,425	5,048	630	9,420	703	36	21	11,416	8,266	3,601	2,040	6,563	1,280	962	87,155
Monaragale	2,623	14,841	4,664	284	5,342	113	29	8	9,353	4,689	3,533	1,184	4,854	845	6,133	80,691
Ratnapura	3,486	38,549	7,562	422	5,907	561	100	20	18,387	10,418	9,713	2,095	4,752	1,064	859	115,413
Kegalle	2,431	25,552	6,053	1,017	5,068	339	25	13	11,158	7,771	4,194	946	4,334	547	1,517	79,566
Total	81,838	585,980	152,125	20,403	95,474	11,790	653	340	245,072	146,783	98,189	27,660	91,184	18,773	26,392	1,857,067

* Excludes : Dental Institute, Colombo

Source: Medical Statistics Unit

Based on the consolidated statistics submitted by the Regional Dental Surgeons and Monthly Dental Returns

Table 38. Performance of Dental Surgeons By Type of Institution, 2008

Type of Institution	Extraction				D.A.A. Treated	Infection	Leukoplakia	Oral Carcinoma	Restoration				Scaling	Minor Surgery	Prevention (Community)	Total Visits
	Deciduous	Permanent Caries	Permanent Periodontal	Other					Temporary	Amalgam	Composite	Advanced Conservation				
Teaching Hospitals	7,982	46,430	14,314	3,284	12,291	1,696	57	52	18,044	10,491	12,180	2,060	6,695	1,667	151	183,031
Provincial Hospitals	3,212	18,147	5,473	239	2,273	596	2	5	10,585	7,565	1,850	2,122	1,737	791	0	64,204
Base Hospitals	14,999	96,117	24,502	3,337	17,981	1,825	190	114	39,508	20,782	16,516	6,133	8,185	4,017	1,076	303,240
District Hospitals	27,827	223,477	60,413	6,963	31,486	2,999	245	118	80,937	50,585	26,210	6,120	27,371	7,084	7,219	640,279
Peripheral Units	8,833	75,557	19,803	2,113	16,502	2,189	42	22	24,160	14,963	10,759	1,770	10,673	2,236	3,377	212,530
Rural Hospitals	5,913	55,002	11,983	1,992	4,753	1,024	99	13	17,515	10,420	5,320	1,012	8,204	1,361	2,448	140,581
Adolescent Dental Clinics	7,008	18,572	2,945	606	4,133	772	8	5	19,121	12,595	8,891	2,389	13,348	336	9,373	111,976
Central Dispensaries	2,512	14,993	3,817	129	1,334	239	7	9	4,801	1,870	1,455	83	1,401	264	819	34,860
Others	3,552	37,685	8,875	1,740	4,721	450	3	2	30,401	17,512	15,008	5,971	13,570	1,017	1,929	166,366
Total	81,838	585,980	152,125	20,403	95,474	11,790	653	340	245,072	146,783	98,189	27,660	91,184	18,773	26,392	1,857,067

Excludes : Dental Institutes, Colombo

Source: Medical Statistics Unit

Based on the consolidated statistics submitted by the Regional Dental Surgeons and Monthly Dental Returns

Table 39. Port Health Office Colombo Statistics - Year 2008

Months	January	February	March	April	May	June	July	August	September	October	November	Decmber
No. of Partique issued	400	352	391	392	389	362	368	378	362	368	356	372
No. of Yellow Fever given	12	5	2	9	11	8	9	12	3	4	3	5
No. of Radio Medical Services	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil	nil
No. of death certification	nil	1	nil	nil	nil	nil	nil	nil	nil	nil	nil	1
No. of Ship Sanitation Control Exemption Certificates issued	8	nil	nil	9	11	13	9	5	7	10	16	14
Money collected during the month	SSCEC* Rs. 1000/=	SSCEC* . Nill	SSCEC* . Nill	SSCEC* Rs. 96,506/=	SSCEC* Rs. 118,490/=	SSCEC* Rs. 139,440/=	SSCEC* Rs. 96,940/=	SSCEC* Rs. 53,816/=	SSCEC* Rs. 75,640/=	SSCEC* Rs. 108,030/=	SSCEC* Rs. 17,700/=	SSCEC* Rs. 154,700/=
	YF	YF	YF	YF	YF	YF	YF	YF	YF	YF	YF	YF
	Rs. 16,200/=	Rs. 6,750/=	Rs. 2,700/=	Rs. 12,150/=	Rs. 14,850/=	Rs. 17,550/=	Rs. 12,150/=	Rs. 16,200/=	Rs. 4,050/=	Rs. 5,400/=	Rs. 4,050/=	Rs. 6,750/=

* SSCEC = Ship Sanitation Control Exemption Certificates issued

Source : Port Health Services

2.3 Health Facilities

The network of curative care institutions range from sophisticated Teaching Hospitals with specialized consultative services to small Central Dispensaries, which provide only Outpatient Services. The distinction between hospitals is basically made on the size and the range of facilities provided. There are four levels of curative care institutions based on the Hospital Re-categorization policy as shown below. However, patients can seek care in the Medical institution of their choice.

* The Central Dispensaries and Maternity Homes are primary health care institutions.
* All District Hospitals, Rural Hospitals,Peripheral units and Divisional Hospitals are secondary care institutions.
* District General / District Base Hospitals are also secondary care institutions
* The Teaching, Provincial and Special Hospitals are tertiary care institutions.
* National Hospital of Sri Lanka

2.3.1 The Hospital Re-categorization

The network of Government Hospitals is primarily responsible for carrying out the curative health care delivery system and these facilities have been provided from Teaching Hospitals to Maternity Homes and Central Dispensaries. Most of these are scattered in the rural areas.

As well as Teaching Hospitals, District General Hospital, Base Hospital, District Hospitals, Peripheral Units, Rural Hospitals and Maternity Homes provide in-patient care facilities for over 95% of the patients who seek admission. Therefore providing equal curative health facilities for all citizens of the country, the Ministry of Health had proposed a scheme for developing health institutions.

The hospital re-categorization proposal has identified one hospital in each District to be upgraded as a District General Hospital with additional facilities. These hospitals have been identified based on fund availability and opinion. Unorganized hospital development has caused problems such as the unavailability of human resources and logistic problems leading to under utilization of these developed hospitals.

To establish a successful user-friendly hospital system in the country all health institutions have been grouped into four major categories, such as Teaching/ Provincial hospitals, District General hospitals (Type A and B), District Base Hospital (type A and B), Divisional Hospitals, as well as Primary care Units and the Government of Sri Lanka approved the re-categorization scheme.

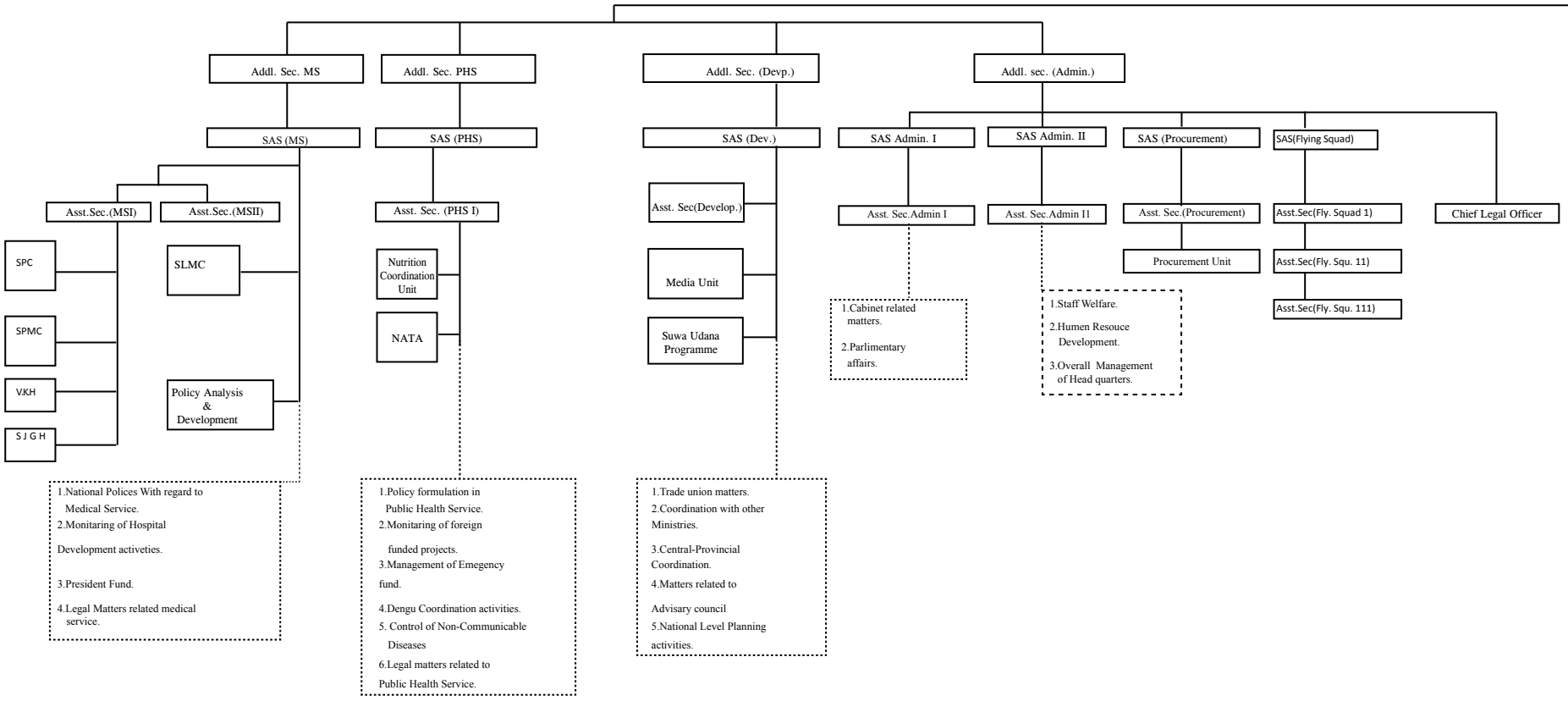
According to the Hospital re-categorization, hospitals have already been identified for development with additional facilities including teaching and provincial hospitals at each and every district. There were 19 Teaching Hospitals, 5 Provisional Hospitals, 18 District General Hospitals, 22 District Base Hospitals (Type A) and 43 District Base Hospitals (Type B) and also 405 Divisional Hospitals in 2007 according to the re-categorization.

In 2008, action has been taken to upgrade Fever Hospital, Angoda as a Type "A" Base Hospital and District Hospital, Meerigama as a Type "B" Base Hospital, PU – Erathna as a Divisional Hospital (Type C) to fulfill the service needs.

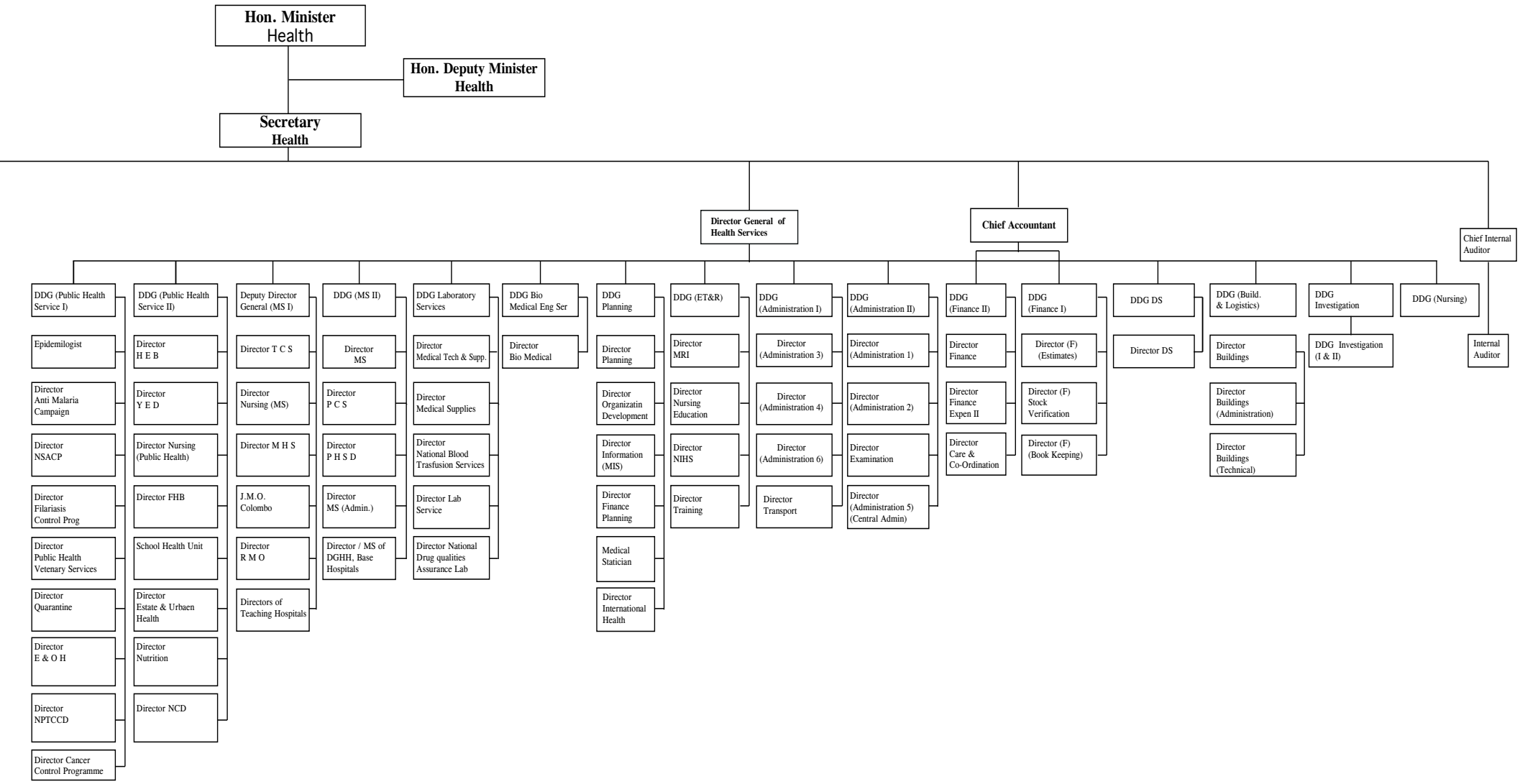
2.4 Implementation of Health Master Plan 2007 - 2016

The Health Master Plan for Sri Lanka is the synthesized output of two interactive activities, complementary to each other, initiated with the assistance of two development partners and enriched by the outcomes of an extensive consultation process. It provides the policy and strategic framework for the development of an innovative health system over the next decade, targeting the year 2016.

The aim of improving health status and reducing inequalities will be achieved by the five strategies, namely:


Addl. Sec. MS
Addl. Sec. PHS
Addl. Sec. (Devp.)
Addl. sec. (Admin.)
SAS (MS)
SAS (PHS)
SAS (Dev.)
SAS Admin. I
SAS Admin. II
SAS (Procurement)
SAS(Flying Squad)
Asst.Sec.(MSI)
Asst.Sec.(MSII)
Asst. Sec. (PHS I)
Asst. Sec(Develop.)
Asst. Sec.Admin I
Asst. Sec.Admin I1
Asst. Sec.(Procurement)
Asst.Sec(Fly. Squad 1)
Chief Legal Officer
SPC
SLMC
Nutrition Coordination Unit
Media Unit
Procurement Unit
Asst.Sec(Fly. Squ. 11)
SPMC
NATA
Suwa Udana Programme
Asst.Sec(Fly. Squ. 111)
V.K.H
Policy Analysis & Development
S J G H
1.Cabinet related matters.
2.Parlimentary affairs.
1.Staff Welfare.
2.Humen Resouce Development.
3.Overall Management of Head quarters.
1.National Polices With regard to Medical Service.
2.Monitaring of Hospital Development activeties.
3.President Fund.
4.Legal Matters related medical service.
1.Policy formulation in Public Health Service.
2.Monitaring of foreign funded projects.
3.Management of Emegency fund.
4.Dengu Coordination activities.
5. Control of Non-Communicable Diseases
6.Legal matters related to Public Health Service.
1.Trade union matters.
2.Coordination with other Ministries.
3.Central-Provincial Coordination.
4.Matters related to Advisary council
5.National Level Planning activities.

PROPOSED ORGANIZATION CHART - MINISTRY OF HEALTH



1. To ensure the delivery of comprehensive health services, which reduce the disease burden and promote health.
2. To empower communities (including households) towards more active participation in maintaining their health.
3. To improve the management of human resources for health.
4. To improve health financing, resource allocation and utilization.
5. To strengthen stewardship and management functions of the health system.

Implementation of this plan was started in 2008. Projects and strategic programmes have been recommended as focal points which stands for the coordinating body and/or chiefly responsible body for implementation.

As at December 2008, there were 647 medical institutions with inpatient facilities and it is much larger when compared to 2007, which was 615. There were 439 Central Dispensaries and 298 MOH areas in Sri Lanka in 2008. When compared with 2007, it can be seen that there was a decrease in Central Dispansaries and an increase in MOH areas. The number of beds in the hospitals decreased from 68,694 in 2007 to 67,942 during 2008, indicating a 1 percent decrease. This occurred due to the non-receipt of bed returns from the districts of Killinochchi and Mulaitivu. (Table 2.1)

As for 2006 and 2007, in 2008 patient beds per 1,000 population is 3.4. In total, there are 17 Teaching Hospitals with 18,284 patient beds (Detailed Table 7).

Even though Rural Hospitals in Sri Lanka are greater in number than District Hospitals, the contribution for bed totals from District Hospitals is higher than Rural Hospitals.

There are a few Specialized Hospitals for the treatment of chronic diseases like tuberculosis, leprosy, mental illnesses, cancer, chronic rheumatological diseases and infectious diseases.

The National Hospital of Sri Lanka (NHSL), located in the city of Colombo is the largest hospital in the island. In 2008, it had more than 3000 patient beds. This hospital provides for a number of specialties, including subspecialties like neurology, cardio-thoracic surgery, but excluding paediatrics, obstetrics, ophthalmology and dental surgery. A renal transplant service is also provided by a collaborative project of the University Surgical and Medical Units of the Hospital. The NHSL has a well- equipped accident service and several intensive care units. The specialties not found in the National Hospital are provided by the two Maternity Hospitals, Children's Hospital, Eye Hospital and the Dental Institute located in close proximity.

The number of Provincial Hospitals remained at 4 in 2008 (Detailed Table 7). There were 41 Base Hospitals with a total of 9,489 patient beds. Some hospitals considered as PH in 2007 are named as GH in 2008.

These institutions are situated in the large towns and are administered by the respective Provincial Ministries of Health, except for all the Provincial Hospitals and the Base Hospital at Gampola, which are administratively under the Department of Health Services.

Table 2.1 : Number of Health Institutions and Hospital Beds, 1990 - 2008

Item	1990 [1]	1995 [2]	2000	2003	2004	2005	2006	2007	2008
Hospitals [3]	422	467	558	607	628	608	608	615	647
Patient Beds [3]	42,079	47,665	57,027	59,262	57,404	61,594	67,024	68,694	67,942
Patient Beds per 1000 Population	2.9	2.9	2.9	3.1	2.9	3.2	3.4	3.4	3.4
Central Dispensaries	278	320	404	400	397	413	428	441	439
MOH Areas	110	213	252	280	273	286	288	291	298

Excludes: *Source: Medical Statistics Unit*

[1] Northern and Eastern provinces

[2] Jaffna, Kilinochchi, Mullativu and Ampara districts

[3] Includes Maternity Homes and Central Dispensaries.