ANNUAL HEALTH BULLETIN

2013

SRI LANKA

Medical Statistics Unit

Ministry of Health and Indigenous Medicine

Preface

The Annual Health Bulletin is the main comprehensive report which gives a vast amount of health related information in Sri Lanka. For efficient and effective delivery of health care; up to date as well as accurate health information is vital for the decision makers. This bulletin also provides information needed for researchers, planners and others who are interested in health sector development.

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 2013 and trends over the period as well.

I wish to appreciate all officials, who have given their generous support by providing data pertaining to their respective institutions, programmes and surveys.

Efforts in data compilation; which was the major task in preparation of this publication; was undertaken by the staff of Medical Statistics Unit, for which they deserve a very special note of appreciation.

The Planning Unit of the Ministry of Health and Indigenous Medicine is also acknowledged for the great support extended in publishing the Annual Health Bulletin 2013.

Dr. D.M.R.B. Dissanayake
Secretary
Ministry of Health and Indigenous Medicine

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ABBREVIATIONS

ASICU	Accident Service Intensive Care Unit
APACHE	Acute Physiology And Chronic Health Evaluation
BOR	Bed Occupancy Rate
CTICU	Cardio Thoracic Intensive Care Unit
CVS	Cardio Vascular System
ETCICU	Emergency Treatment Care Intensive Care Unit
GI	Gastro Intestinal
GICU	General Intensive Care Unit
IDH	Infectious Diseases Hospital
ICM	Intensive Care Medicine
ICU	Intensive Care Unit
LRH	Lady Ridgeway Hospital
LOS	Length Of Stay
MICU	Medical Intensive Care Unit
NHSL	National Hospital of Sri Lanka
NICS	National Intensive Care Surveillance
NEMS	Nine Equivalents of nursing Man Power
NSICU	Neuro Surgery Intensive Care Unit
NTICU	Neuro Trauma Intensive Care Unit
PICU	Paediatric Intensive Care Unit
SD	Standard Deviation
SICU	Surgical Intensive Care Unit
SMR	Standard Mortality Ratio

Indicator		Year	Data	Source
Demographic Indicators				
Total population (in thousands)		2013*	20,483	Registrar General's Department
Land area (sq. km)		1988	62,705	Survey General's Department
Population density (persons per sq. km)		2013*	327	Registrar General's Department
Crude birth rate (per 1,000 population)		2013*	17.9	Registrar General's Department
Crude death rate (per 1,000 population)		2013*	6.2	
Urban population (%)		2012	18.2	Census of Population & Housing, 2012
Sex ratio (No. of males per 100 females)		2012	93.8	
Child population (under 5 years) %		2012	8.6	
Women in the reproductive age group (15-49 years) %		2012	51.0	
Average household size (Number of persons per family)		2012	3.9	Census of Population & Housing, 2012
Socio-economic Indicators				
GNP per capita at current prices (Rs.)		2013	412,477	Department of Census & Statistics
Human development index		2013	0.702	UNDP, Human Development Report, 2014
Unemployment rate	Total	2013	4.4	Department of Census & Statistics
	Female		6.6	
	Male		3.2	
Dependency ratio	Total	2012	60.2	Census of population & Housing, 2012
	Old-age (60 years and more		19.8	
	Young (under 15 years)		40.4	
Literacy rate (%)	Total	2012	95.7	Census of population & Housing, 2012
(10 years or more)	Female		94.6	
	Male		96.9	
Pupil teacher ratio in	Government Schools	2013	18	Ministry of Education
	Private Schools		20	
	Pirivenas		10	
Singulate mean age at marriage (years)	Female	2012	23.4	Census of population & Housing, 2012
Health and Nutrition Indicators				
Life expectancy at birth (years)		2011 [1]		Department of Census and Statistics (Life Tables for Sri Lanka and Districts, 2000-2002)
	Female		79.8	
	Male		70.5	
Neonatal mortality rate (per 1,000 live births)		2010	7.0	Registrar General's Department
Infant mortality rate (per 1,000 live births)		2010	9.9	
Under-five mortality rate (per 1,000 live births)		2010	12.2	
Average No. of children born to ever married women in Sri Lanka		2012	2.4	Census Population & Housing, 2012
Maternal mortality rate (per 100,000 live births)		2010*	22.0	Registrar General's Department
Low-birth-weight per 100 live births in government hospitals %		2013	16.7	Medical Statistics Unit
Percentage of under five children		2013		Family Health Bureau
	Under weight (weight-for-age)		17.0	
	Wasting (Acute undernutrtion or weight-for-height)		13.0	
	Stunting (Chronic malnutrition or height-for-age)		11.2	

Contd.

Indicator	Year	Data	Source
Primary Health Care Coverage Indicators			
Percentage of pregnant women attended by skilled personnel	2006/07	98.6	Demographic and Health Survey[2], 2006/07
Percentage of live births occured in government hospitals	2013	94.9	Medical Statistics Unit
Women of childbearing age using contraceptives (%) Modern method	2006/07	52.5	Demographic and Health Survey[2], 2006/07
Traditional method		15.9	
Population with access to safe water (%)	2012	81.1	Census of Pouplation & Housing, 2012
Health Resources			
Government health expenditure as a percent of GNP	2013	1.43	Department of Health Services
Government health expenditure as a percent of total government expenditure	2013	4.9	
Per capita health expenditure (Rs.)	2013	5,875	
Medical Officers per 100,000 population	2013	81.5	Medical Statistics Unit
Population per Medical Officer	2013	1,227	
Dental Surgeons per 100,000 population	2013	6.2	
Nurses per 100,000 population	2013	173.9	
Public Health Midwives per 100,000 population	2013	29.0	
Number of hospitals	2013	624	
Number of hospital beds	2013	78,243	
Hospital beds per 1,000 population	2013	3.8	
Number of Medical Officer of Health (MOH) Divisions	2013	334	

* Provisional

[1] Projected life expectancy at birth

[2] Demographic and Health Survey, 2006/07 - Exclude Northern Province

1. General Information

1.1 Country Background

Sri Lanka is an island situated off the southern coast of India. It lies between northern latitudes 5^0 55' and 9^0 50' and eastern longitudes 79^0 42' and 81^0 52'. The island is in the northern Indian Ocean in South Asia, separated from the Indian sub continent by a narrow strip of shallow water, known as Palk Strait. Total area of the country is 65,610 square 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 is known as the 'Pearl of the Indian Ocean' because of its natural beauty. It contains tropical forests and diverse landscapes with high biodiversity. 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 the purpose of administration, Sri Lanka is divided into 9 Provinces, 25 Districts and 331 Divisional Secretary areas (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. Local government which is the lowest level of government in Sri Lanka is responsible for providing supportive services for the public such as roads, sanitation, drains, housing, libraries, public parks, etc. The local government bodies are known as local authorities: municipal councils, urban councils and pradeshiya sabhas.

Sri Lanka, officially the Democratic Socialist Republic of 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.

1.3 Population

The fourteenth national Census of Population and Housing which covered the entire island after a lapse of 30 years since 1981 was conducted by the Deparment of Census and Statistics on 20th March 2012. The data were collected from persons according to their place of usual residence. According to the final results of the census, enumerated population was 20,359 thousand.

The estimated mid year population of Sri Lanka for the year 2013 is 20,483 thousand (Detailed Table 2). Unequal distribution of population can be observed among districts. Colombo district is the most populous district of the country with a population 2,326 thousand. This is followed by Gampaha district which records a population of 2,313 thousand. Mullaitivu district records the lowest population (93 thousand) among the districts, followed by Mannar district with a population 101 thousand.

1.3.1 Population Density

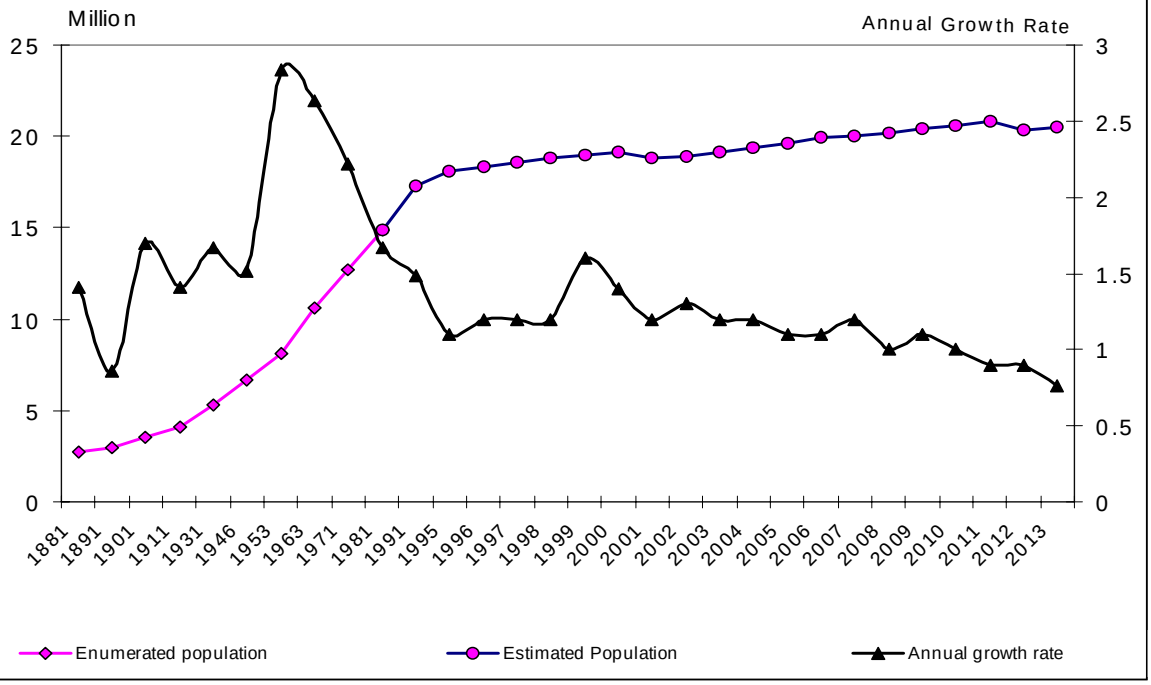
Population density is defined as number of persons in a unit area. It measures the level of concentration of the population in a particular area. It is vital to study population density by districts since it might be caused to many health hazards due to over crowding.

Population density of 230 persons per square kilometer in 1981 census has increased to 325 in the 2012 census. During this 30 year period the density of the country has increased by 41 percent. Population density for the year 2013 is 327 persons per square kilometer (Detailed Table 2).

Population densities among districts show huge regional variations. Colombo district shows the highest density of 3,441 persons per square kilometer in 2013. The next highest density of 1,725 was recorded from the adjoining district Gampaha.

According to Registrar General's Department, annual population growth rate is 0.76 percent during the year 2013 (Fig 1.1)

Fig 1.1 : Population Size and Annual Growth Rate, 1881 - 2013



Source : Department of Census and Statistics & Registrar General's Department

Kalutara, Kandy, Galle, Matara and Jaffna districts have population densities of more than 600 persons per square kilometer.

Mullaitivu district was the district with the lowest population density of 39 persons per square kilometer. Over half of the population is concentrated in the Western, Central and Southern provinces which jointly covered less than one fourth of the total land area of the country.

1.3.2 Age Composition

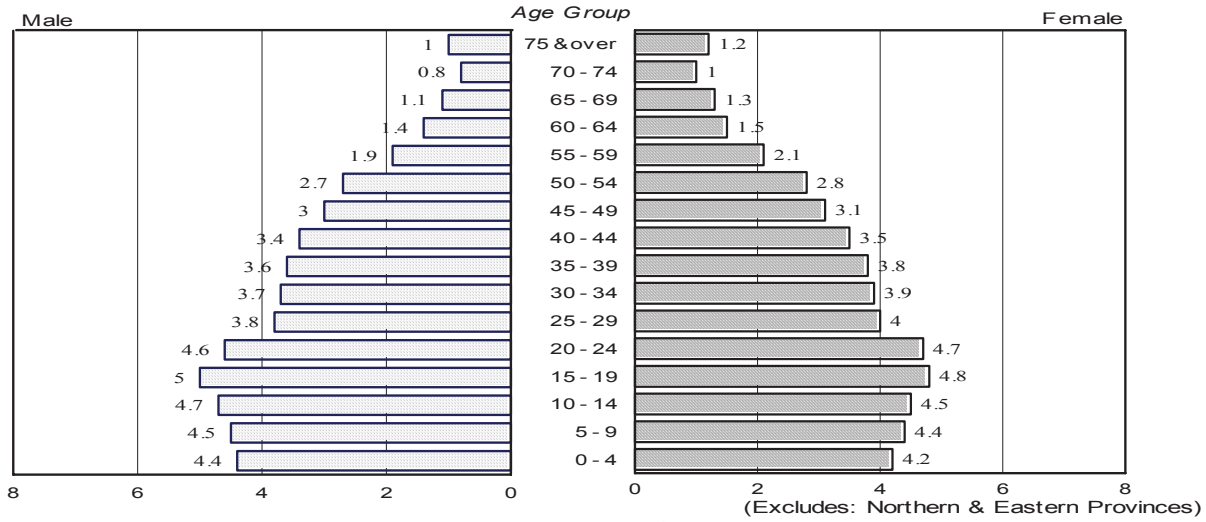
Age composition of population describes the pattern of the distribution of people in different age categories. In comparison with the Census of Population and Housing - 1981, the population aged below 15 years has decreased by 10 percentage points during the period 1981 to 2013 whilst the population aged 60 years and over has increased by 5.7 percentage points (Table 1.1). Accordingly, population of Sri Lanka seems to be gradually shifting to an aging population.

According to the report of Census of Population & Housing - 2012, median age of population is 31 years where as the median age was around 21.3 years until 1981.

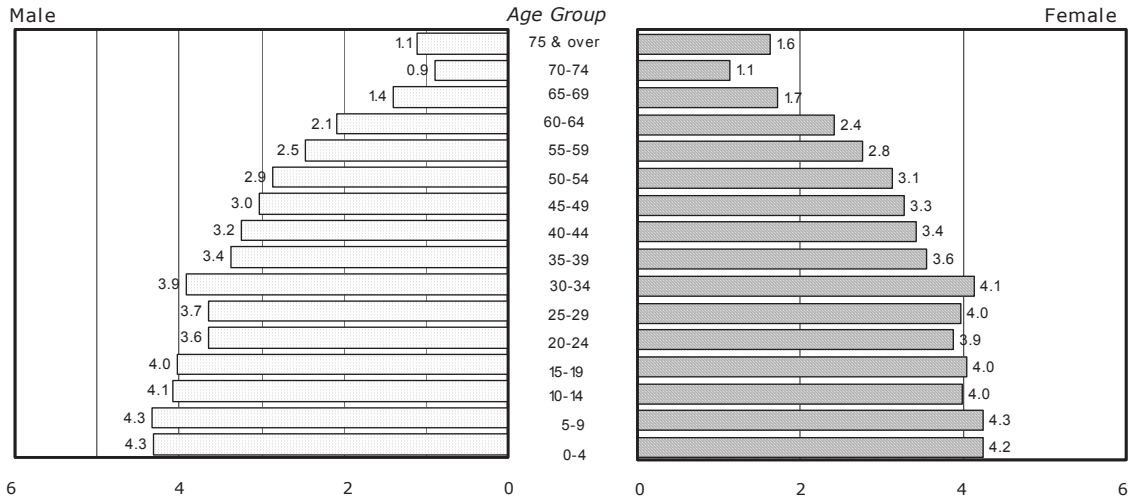
Aging Index defined as the ratio between the 60 years and over population to 0-14 year population in a given year has increased from 18.8 percent in 1981 to 48.9 percent in 2013.

Shifting of median age and increasing trend of aging index are also refering to aging of Sri Lankan population. It is noticable that dependency ratio which is an approximation of the average number of dependents that each person of working age must support, has decreased from 71.8 in 1981 to 60.2 in 2013 due to relative decline in the proportion of children.

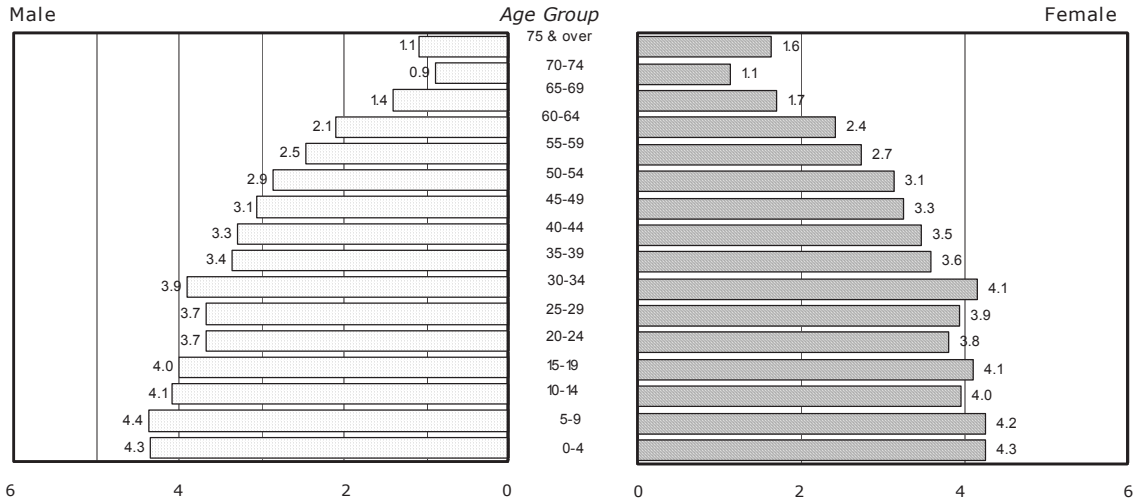
Fig 1.2 : Population of Sri Lanka by Age and Sex: 2001, 2012 and 2013



Based on Population Census 2001[1]
Percentage of population



Based on Population Census 2012[1]
Percentage of population



Estimated Mid-Year Population 2013[2]
Percentage of population

Source : 1. Department of Census and Statistics
2. Registrar Generals' Department

Table1.1 : Percentage Distribution of Population by Broad Age Groups, Aging Index and Dependency Ratio

Year	0 - 14 yrs (A)	15 - 59 yrs (B)	60 yrs and over (C)	Aging Index (C/A)	Dependency Ratio (A+C)/B
1911	40.9	54.8	4.3	10.5	82.5
1946	37.2	57.4	5.4	14.5	74.2
1971	39.0	54.7	6.3	16.2	82.8
1981	35.2	58.2	6.6	18.8	71.8
2001 [1]	26.3	64.5	9.2	35.0	55.0
2012 [2]	25.2	62.4	12.4	49.1	60.2
2013 [3]	25.2	62.4	12.3	48.9	60.2

[1] Excludes Northern province, Batticaloa and Trincomalee districts in Eastern province
[2] Census of population – 2012
[3] Estimated mid year population – RGO

1.3.3 Age-Sex Composition

Age-sex composition is clearly shown in Age-sex pyraid (Fig 1.2). Shapes of the three pyramids are more or less the same except that the population aged 15 – 19 years and 20-24 years shows a clear decline while the population aged 55-59 years and 60-64 years shows an increase from 2001 to 2013. A detailed age breakdown is given in Detailed Table 3.

1.3.4 Trends in Age Specific Sex Ratio

Sex ratio is the indicator which describes sex composition of the population. Sex ratio, defined as number of males per 100 females is 94.3 in Sri Lanka for the year 2013. It indicates an excess of females over males. When comparing the sex ratio in 1981, 2001 and 2013 it shows a decreasing trend.

The age specific sex ratios in 2013 are declining gradually with increasing the age with fluctuations in some age groups.

Sex ratio under 5 years is 102.3 for the year 2013 which reflects more males among infants. According to Registrar General's Department, sex ratio at birth is 104.03 (provisional) for the year 2013. However, with the increase of age, the sex ratio shows a decreasing trend indicating more females than males in older age groups.

Table 1.2 : Age Specific Sex Ratio 1981, 2001 and 2013

Age Group in years	Sex Ratio in year		
	1981[1]	2001[1,2]	2013[3]
All Ages	103.9	97.9	94.3
Under 1	104.1	104.5	102.3
1 - 4	103.8		
5 - 9	103.6	103.1	103.0
10 - 14	104.1	104.5	103.1
15 - 19	102.7	103.6	97.6
20 - 24	100.3	98.0	96.9
25 - 29	99.8	93.8	93.2
30 - 34	102.0	95.4	94.0
35 - 39	100.6	95.2	93.9
40 - 44	106.0	96.6	94.7
45 - 49	102.0	97.1	93.8
50 - 54	111.1	95.9	91.0
55 - 59	110.2	92.8	90.0
60 - 64	116.2	92.7	86.7
65 - 69	111.0	88.0	82.5
70 - 74	115.7	85.0	78.8
75 and Over	107.3	84.6	66.5

1. Census of Population & Housing
2. Excludes Northern Province, Batticaloa and Trincomalee districts in Eastern Province
3. Estimated mid year population - RGO

1.3.5 Trends in Life Expectancy

Life expectancy is the average number of years a person would live under the current pattern of mortality. Life expectancy for both males and females has been increased for the past decades. Gender differences can be seen in Sri Lanka's life expectancy at birth. Before 1963, the life expectancy for males was higher than that of females and this pattern reversed thereafter due to decrease in female mortality. Difference between life expectancy of males and females increased since 1960s and difference is 2.9 years in 1971, 4.4 years in 1981 and 8.4 years in 2001.

The figures shown in Table 1.3 are from 'Life Tables for Sri Lanka and Districts, 2000-2002' by Mr. H.R. Gunasekara, Department of Census and Statistics. The figures up to 2002 was calculated using census data and the figures for the years 2006 and 2011 are projected life expectancy at birth.

Table 1.3 : Life Expectancy at Birth 1920 - 2011

Year	Male	Female
1920-1922	32.7	30.7
1945-1947	46.8	44.7
1952	57.6	55.5
1962-1964	63.3	63.7
1970-1972	64.0	66.9
1980-1982	67.7	72.1
2000-2002	68.8	77.2
2006	69.9	78.7
2011	70.5	79.8

1.3.6 Singulate Mean Age at Marriage

As per 2012 Population Census, the mean ages at marriage of males and females are 27.2 years and 23.4 years respectively. Thus, on an average, the difference of male and female mean age at marriage in 2012 stands at 3.8 years.

On the other hand, urban females reports the highest mean age at marriage (24.8 years), while the lowest figure is reported from among the estate females (22.8 years).

The lowest gender difference in the mean age at marriage is observed in the urban sector of Sri Lanka, while the highest gender difference in the mean age at marriage is found in the rural sector.

1.3.7 Children Ever Born

In the Census of Population and Housing – 2012, the data on number of children ever born alive to a woman has been collected from ever married women of aged 15 years and above.

In 2012, highest percentage of ever married woman of 15 years and above is reported for having given birth to 2 children.

Nearly 7 percent of the ever married woman aged 15 years and above is reported that they have had no live births during their lifetime.

Fig 1.3 : Singulate Mean Age at Marriage by Sex and Sector - 2012

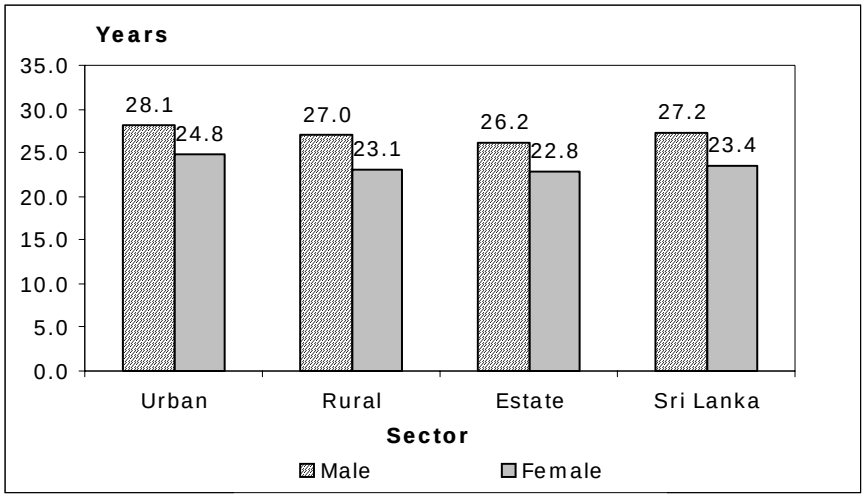
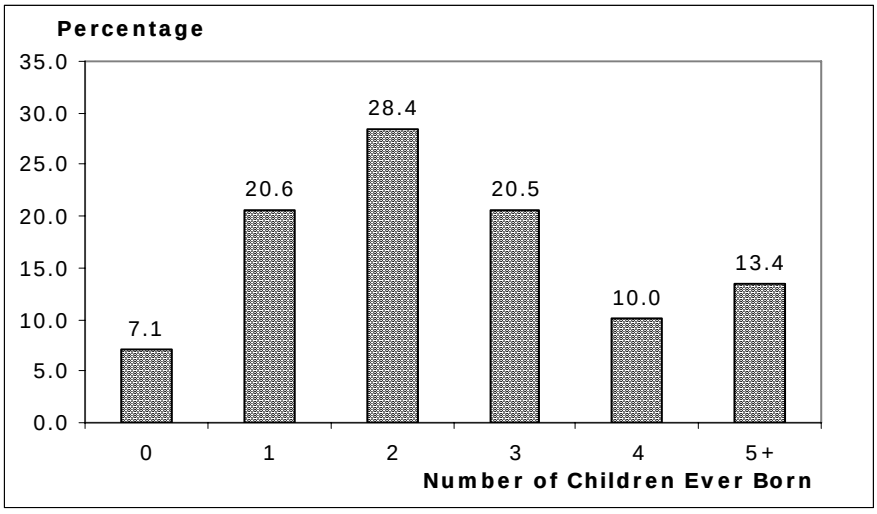


Fig 1.4 : Percentage Distribution of Number of Children Ever Born Alive to Ever Married Women Aged 15 years and Above - 2012



1.4 Vital Statistics

Vital statistics are the statistics pertaining to births, deaths and marriages.

In Sri Lanka, registration of vital events commenced in 1867 with the enactment of civil registration laws.

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.

Table 1.4 : Vital Statistics, 1960 - 2013

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	...
1995	18,136	18.9	5.77	24	16.5	12.5
2000	19,102	18.2	6.08	20	13.3	9.9
2001	18,797	19.1	6.00	18	12.2	9.6
2002	18,921	19.4	5.91	16	11.4	8.4
2003	19,153	19.3	6.02	19	11.3	8.7
2004	19,435	18.8	5.91	12	9.8	7.2
2005	19,644	18.9	6.72	12	11.2	7.2
2006	19,858	18.8	5.92	14	10.0	7.4
2007	20,039	19.3	5.94	...	8.5	5.9
2008	20,246	18.5	6.12	...	9.0	6.2[a]
2009	20,476	18.0	6.24	22.3	9.7	6.4
2010	20,675	17.6	6.23	22.0	9.9	7.0
2011*	20,869	17.4	5.91	...	9.1	6.4
2012*	20,328[b]	17.5	6.00	...	8.5	6.1
2013*	20,483[b]	17.9	6.21	...	8.2	5.8

* Provisional

Source: Registrar General's Department

Note :

a. Data for Mullaitivu and Kilinochchi districts are not available
b. Estimated based on Census of Population & Housing, 2012

Under the Births and Deaths Registration Act, the registration of both births and deaths was compulsory in Sri Lanka from 1897. 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 specifies all the action necessary with regard to appointment of staff, creation of registration divisions, reporting, issuing of certificates, late registration, penalties, etc.

1.4.1 Crude Birth Rate (CBR)

CBR is defined as the number of live births in a particular year per 1,000 population. To derive the rate mid year population is used as denominator. Trends in Crude Birth and Crude Death Rates during the period 1960-2013 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. As shown in Fig 1.5, the first significant decline in CBR began in 1952. However, the fertility decline gathered momentum in 1960s. In the 1970s, it remained more or less stable around 28. Subsequently, a drastic decline was recorded in fertility in 1980s, where the CBR declined by about 27 percent 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 2013 (provisional) is 17.9 per 1,000 persons. The CBR of the districts which was prepared by considering the district of mother's usual residence (Births are distributed according to mother's usual residence not according to place of occurance) is presented in the Detailed Table 4.

Kilinochchi district reported the highest CBR was (25.5) and the lowest CBR was reported from Mullaitvu district (11.9) for the year 2013.

1.4.2 Crude Death Rate (CDR)

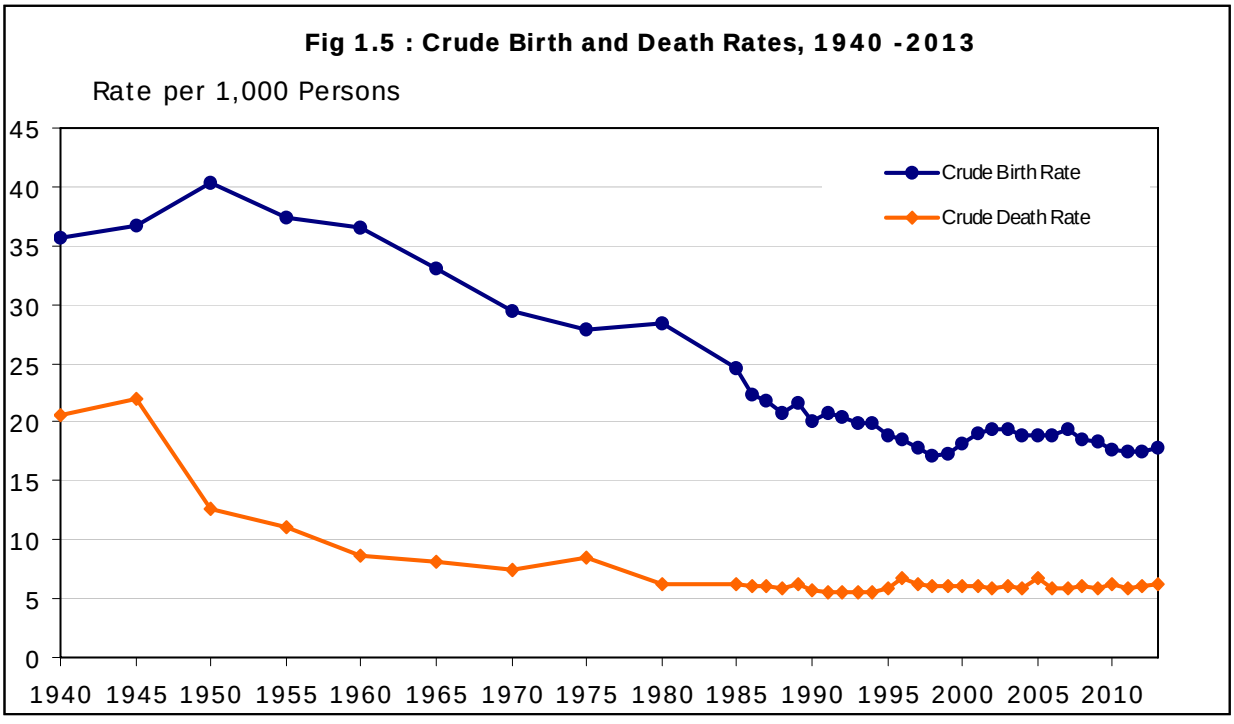
CDR is defined as the number of deaths in a particular year per 1,000 population.

The mortality level during the period 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 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.

The CDR for 2013 (Provisional) was 6.21 per 1,000 persons (Table 1.4). It is important to note that deaths were distributed according to the district of the place of usual residence of the person while calculating district wise CDR. Jaffna district recorded the highest CDR (7.21) followed by Galle district (7.16) for the year 2013 (Detailed Table 4).

Fig 1.5 : Crude Birth and Death Rates, 1940 -2013



Source : Registrar General's Department

1.4.3 Maternal Mortality Ratio (MMR)

Maternal Mortality Ratio is the ratio of the number of maternal deaths (excluding accidental or incidental causes) per 100,000 live births for a specified year. A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

The Maternal Mortality Ratio (MMR) has been very high in the past, fluctuating between 2,650 in the year 1935 and 1,550 in the year 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 in Ministry of Health and Family Health Bureau (FHB).

1. The most recent MMR released by the Registrar General's Department is for 2010 and the MMR reported is 22.0 per 100,000 live births (Table 1.4).
2. According to government hospital statistics (government institutions only) the corresponding MMR is 20.2 per 100,000 live births (Detailed Table 37) for the year 2013.
3. Maternal Mortality Ratio (MMR) reported by Family Health Bureau (FHB) for the year 2013 is 37.7 per 100,000 live births.

FHB has developed a system to monitor maternal deaths and section 5.1.1.4.3 gives details of maternal deaths reported to FHB during the year 2013. It is important to note that more than 90 percent of registered live births occur in government institutions.

1.4.4 Under Five Mortality Rate (U5MR)

The Under Five Mortality Rate is the number of deaths of children less than 5 years old per 1,000 live births per year. Latest information on under five mortality published by the Registrar General's Department is given in Table 1.5. Except in the year 2005, under five mortality has shown steadily decreasing trend. The higher rate reported in the year 2005 reflects the deaths due to the Tsunami disaster which occured in 2004.

The Child Mortality Rate (CMR) is defined as the number of deaths of children between the first and fifth birthday, per 1,000 children surviving to age one. According to the Demographic and Health Survey 2006/07, Child Mortality Rate was 5 deaths per 1,000 children at age one. The Under Five Mortality Rate as well as Child Mortality Rate reflect the adverse environmental health hazards e.g. malnutrition, poor hygiene, infections and accidents.

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

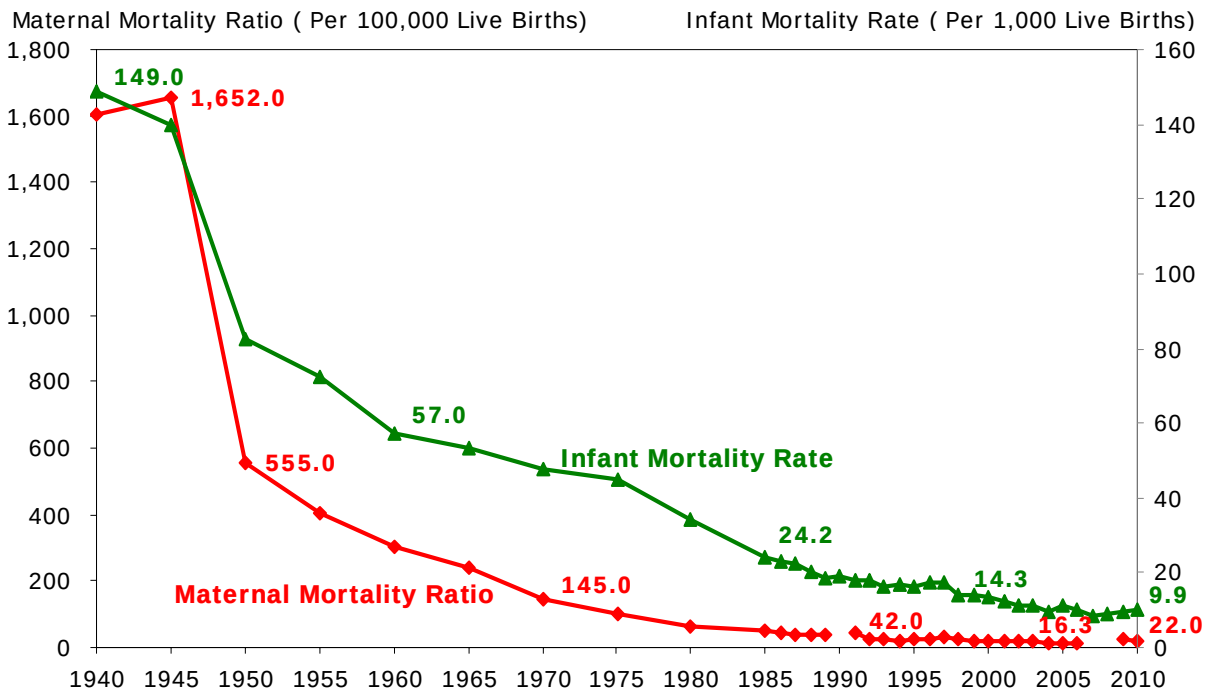
Table 1.5 : Under Five Mortality Rate per 1,000 Live Births

Year	Under Five Mortality Rate per 1,000 Live Births
2000	16.3
2001	15.2
2002	13.7
2003	13.5
2004	12.6
2005	19.0
2006	12.0
2007	10.4
2008	11.1
2009	12.1
2010	12.2
2011*	10.9
2012*	10.3
2013*	10.0

** Provisional*

Source : Registrar General's Department

Fig 1.6 : Trends in Maternal and Infant Mortality Rates, 1940 - 2010



Source : Registrar General's Department

1.4.5 Infant Mortality Rate (IMR)

Infant Mortality Rate is defined as the number of infant deaths (deaths 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). Figure 1.6 illustrates the trend graphically.

The IMR for the year 2010 produced by the Registrar General's Department by districts are given in Detailed Table 4. IMR for the year 2010 is 9.9 per 1,000 live births.

1.4.6 Neo-natal Mortality Rate (NNMR)

Neo-natal Mortality Rate is defined as the number of neonates (an infant aged 28 days or less) dying before reaching 28 days of age, per 1,000 live births in a given year.

Early neonatal mortality refers to a death of a live-born baby within the first seven days of life, while late neonatal mortality covers the time after 7 days until before 28 days.

A decreasing trend is observed in the Neo-natal Mortality Rate (NNMR) according to the Registrar General's Department. (Table 1.4)

The NNMR rate recorded for 2010 is 7.0 per 1,000 live births.

1.4.7 Total Fertility Rate

The Total Fertility Rate (TFR), of a population is the average number of children that would be born to a woman over her lifetime if she were to experience the exact current age-specific fertility rates through her lifetime and she were to survive from birth through the end of her reproductive life.

TFR shows a declining trend from 2.8 in DHS -1987 to 2.4 in Census of Population and Housing (CPH)-2012.

Table 1.6 : Fertility Rates, 1987 - 2012

Age Group (In Years)	CPH 2012	2004-2007 DHS 2006/07	1995-2000 DHS 2000	1988-1993 DHS 1993	1982-1987 DHS 1987
15 - 19	36	28	27	35	38
20 - 24	107	101	83	110	147
25 - 29	147	145	118	134	161
30 - 34	118	121	98	104	122
35 - 39	58	54	40	54	71
40 - 44	16	13	8	14	23
45 - 49	2	1	1	4	3
TFR	2.4	2.3	1.9	2.3	2.8

Note: Age specific fertility rates of selected surveys are, per 1,000 women
DHS - Demographic and Health Survey

1.5 Health Surveys Conducted by the Departement of Census and Statistics (DCS)

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 in 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 followed by '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 2006/07.

DHS surveys collect information from eligible respondents defined as ever-married women aged 15-49 years and their children below 5 years of age. Several internationally comparable key health indicators were produced including Millennium 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 the Household Income and Expenditure Survey (HIES) since 1990/91 and continued once in every five years until 2006/07. Thereafter it was conducted once in every three years starting from 2009/10 due to rapidly changing economic conditions demanded far more frequent monitoring of the household income and expenditure patterns in the country. The HIES questionnaire was revised in 2006/07 to capture all household information which helps to understand total living standard of the households including health status of the households.

The latest HIES survey which was carried out in 2012/13, covered all districts of the country after 26 years. Generally the HIES is conducted over a period of 12 consecutive months to capture seasonal variations of income and expenditure patterns in Sri Lanka. The general sample size is 25,000 housing units which is adequate to provide reliable information down to district level. The final report of HIES 2012/13 is issued by Department of Census and Statistics based on the data collected throughout the country during the period from July 2012 to June 2013.

The estimates given are mostly limited to residencial sector level in order to preserve the reliability of them.

The data related to health situation of the household was collected from each and every person usually residing in the household. Information on receiving any medical treatment as out patient in any government or private hospital, medical center or healthcare center and as in-patient at any government or private hospital was collected.

The survey reveals that,

- On an average 17.4 percent of the household population has taken health treatment one month prior to the survey from a government hospital or a health care center and 15.0 percent from a private hospital or a health care center as out patients.
- About 8.4 percent of the household population has taken health treatment during the 12 months prior to the survey period from a government hospital and 0.8 percent from a private hospital as in-patients.
- Out of total household population in Sri Lanka, 14.2 percent has suffered from chronic illness or disability at the time of the survey.

(The final report of the survey is available in the web site www.statistics.gov.lk)

1.7 Social Indicators

1.7.1 Literacy Rate

A person who has ability to read and write at least one language was regarded as literate. The literacy rate is defined as the percentage of the literate population aged 10 years and over. The Census of Population and Housing - 2012 reveals that the litaracy rate is 95.7 percent.

So, the literacy rate has increased by 8.5 percentage points from 1981 (87.2 percent in 1981). The literacy rate of males (96.9 percent) is relatively higher than that of females (94.6 percent). As per the Census of Population and Housing - 2012, percentage of literate population in the urban sector is 97.7 percent while the corresponding figure for the rural and estate sectors are 95.7 and 86.1 precent respectively.

1.7.2 Level of Education

The results of the Census of population and Housing - 2012 reveals that 3.8 percent of the population aged 5 years and over had never been to school and corresponding percentages for males and females were 2.7 and 4.7 respectively.

Nearly 97 percent of the population aged 5 years and over who were residing in the urban or rural sector had some form of formal education, but 12 percent of the population aged 5 years or more in estate sector had never been to school.

1.7.3 Physical and Mental Difficulties

The information about both physical and mental difficulties in six domains of seeing, hearing, walking, remembering (cognition), self-care and communication among population were collected in the Census of Population and Housing-2012. According to the results of the census, 8.7 percent of the population aged 5 years and over was suffering from at least one domain of the above difficulties.

Table 1.7 : Proportion of Population (5 years and over) with Difficulties by Type of Difficulty

Type of Difficulty	Proportion of population (5 yrs and over) with difficulties
Population with at least one difficulty	8.7
Seeing	5.4
Hearing	2.1
Walking	3.9
Cognition	1.8
Self care	1.1
Communication	1.0

Source : Department of of Census and Statistics

1.8 Water Supply and Sanitation

1.8.1 Source of Water Supply for Drinking

The Census of Population and Housing-2012 was collected data on source of drinking water from all households in occupied housing units. According to the final results based on the census, majority of households drink water from protected wells (46.1 percent) and the percentage of households getting water from unprotected wells is 4 percent. Comparison with previous censuses and surveys reveals that percentage of households using unprotected wells has decreased in contrast to the increase of using piped born water.

Protected well, piped born water, tube well and bottled water are considered as safe drinking water sources. So, around 81 percent of households have access to safe drinking water (Detailed Table 5).

The percentage of households using piped born water for drinking is 31.4 precent. However significant variations can be seen among districts as well as sectors.

1.8.2 Toilet Facilities

According to the results of the Census of Population and Housing-2012, 98.3 precent of the households have their own toilet facilities; 86.7 precent have a toilet exclusively for the household and 11.6 precent are sharing with others or use common toilets. The percentage of households which are not using a toilet at all is 1.7 percent (Detailed Table 6). The situation is worse in Kilinochchi, Mullaitivu and Batticaloa districts.

2. Organization of Health Services

The Sri Lankan health system comprises of different systems of medicine ; Western, Ayurwedhic, Unani, Sidha , Homeopathy and Acupuncture. Of these, the western or allopathic medicine is the main sector catering to the needs of the majority.

Allopathic medicine is provided through both public and the private sector, the share of care being different for in patients and out patients. The public sector provides for bulk of in patient care, approximately 95 percent, providing a safety net to citizens. More than five million hospitalizations occured in 2013. Share of out patient care is divided almost equally between public and private sector. A total of fifty three million out patient visits occurred in 2013 in public sector.

The public sector has an extensive network of health care institutions and also has a system for Ayurvedhic care. The private sector provides access to all types of care at a cost.

The public health sector organization is arranged in almost two parallel streams of community health services focusing mainly on promotive and preventive health whilst the curative services range from non specialized care at primary level to specialized care through a range of hospitals.

The central health ministry is the leading agency providing stewardship to health service development and regulation. The delivery of care in public sector is decentralized and management of primary care in some specialized allopathic hospitals are by the Provincial health authorities. The central health ministry is also responsible in ensuring resources for health such as trained human resources, drug supply and major health infrastructure developments.

2.1 National Health Policy

The current national health policy has evolved over time and an explicit health policy was first declared in 1996. Since then, several policy dialogues have contributed to the preservation of a free health system.

The current health policy is based on an evidence based process that was carried out to develop the health master plan of 2007 - 2016. The Volume 1 of the master plan spells out the overarching policy for the sector. Since then national health program policies have been further improved or have developed based on the policy principles stated in this document. A review of the policy is envisaged to consider policy principles that would apply for next ten years.

2.1.1 Health Policy Vision

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

2.1.2 Mission

To achieve the highest attainable health status by responding to peoples' needs, working in partnerships, to ensure access to comprehensive high quality, equitablity, cost effectiveness and sustainable health services.

2.1.3 National Health Development Plan

The National Health development plan 2012-2017 is currently being implemented. The development plan has been based on the health master plan strategic areas.

2.1.4 National Health Policy and its Contribution to Achieve Government Policy

The health policy principles are designed to support Sri Lankas overall economic and social goals. It aims to facilitate equity through easy accessibility to health services, improve productivity and ensure that resources invested in health result in a healthier population that is able to contribute to economic and social wellbeing of the country. Five strategic objectives are outlined in a framework with the aim of improving health status and reducing inequalities. National health policy is coherent with the government vision and policy statements explicitly stated in the "Mahinda Chinthana".

The "Mahinda Chinthana" strengthens the implementation of health policy through its reference to,

- Providing free health services in an equitable manner that benefit the rural, poor, underserved, vulnerable and post conflict communities
- Delivery of community emphasized healthcare service which fulfils the health needs of the people with special focus on nutrition
- Improving the overall quality of healthcare delivery
- Providing adequate human resources by increasing the numbers trained and for health capacity development
- Reforming organizational and management structures to improve efficiency, effectiveness and accountability
- Allocating more financial and other resources and ensuring that resources for health are optimally utilized
- Prevention and control of both communicable and non-communicable diseases while promoting healthy life styles
- Improving the health information system for better decision making with modern e-health solutions
- Encouraging private sector investments in healthcare provision including private-public partnerships
- Recognizing that health and other sector developments are mutually interdependent

Whilst mentioning that the above are important, selected policy statements mentioned in the "Mahinda Chinthana", are linked with one or more of the five main strategic objectives of the Health Master Plan , which gives overall direction in which health systems need to be organized.

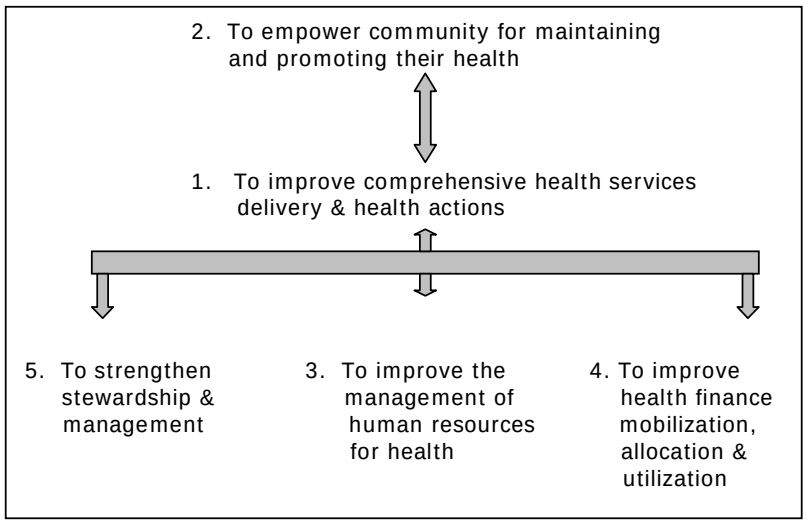
2.2 Organization of the Health Care Delivery System

Health care is delivered through government and private providers. The government health system has been partially decentralized to Provincial Councils since 1989.

The Ministry of Health is the leading agency providing stewardship to health service development and delivery. Its main function is formulating public health policy and regulating services for both public and private sector. It is also responsible for directly managing several large specialized services (National Hospital of Sri Lanka, Teaching hospitals, specialized hospitals, provincial general hospitals and selected District General Hospitals) whilst the rest of the government services in the allopathic system is managed by the decentralized system ,i.e. nine provincial health authorities.

The Ministry of Health is also responsible for recruitment and training of some of the health human resources. Doctors trained in the eight state universities and recognized private medical universities are recruited by the Ministry of Health and deployed on an all island basis in the government health service.

Fig 2.1 : Interrelationship between the Strategic Objectives



The Ministry of Health has several other training institutes throughout the country such as nurses training schools, National Institute of Health Sciences, etc directly under its management that provide basic, post basic and in- service training to all categories of health staff engaged in providing both curative and preventive services.

Another important function is the central procurement of drugs according to requirements of the government health services (provided free of charge to patients) and also as a price control measure through government franchised pharmacy outlets (Osu Sala) that make drugs available at reasonable cost.

The State Pharmaceutical Corporation is the procurement agency for drugs and medical supplies for the Ministry of Health, which follows national procurement guidelines and other stringent procedures for evaluation and selection laid down by the Ministry of Health.

The State Pharmaceutical Manufacturing Corporation is also a supplier of drugs, the capacity of which can be enhanced further. Other registered private suppliers both local and international, follow tender procedures to supply drugs.

The Medical Supplies Division (MSD) is the main distribution agency. It is also responsible to identify the annual requirement. Once drugs are procured, the distribution is done according to requirement of the main hospitals under the central ministry and to the regional (district level) MSDs to meet the district level requirements.

A different section in this bulletin further outline the government healthcare delivery system which include health administration, curative care institutions, community health services and public health programs, training institutions, other resource institutions and financing mechanisms.

The National Health Policy also recognizes the role of civil society organizations and other non governmental organizations, although currently their overall contribution to health service provision may seem small the sector is gradually expanding.

The Ministry of Health organization - is a large organization and its structure depicts the wide responsibility. Key national program areas have separate units headed by Directors. National program specific policy, goals, strategies and recommended interventions are given by these units as directives to guide health sector development and service delivery.

Refer Fig 2.2 structure of Ministry of Health organization.

National health programs have curative and community health services for implementation. Whilst some programs have more relevance to one type, others have similar thrust for both patient care and preventive health.

2.2.1 Curative / Hospital Care Services

By end of 2013 there were 624 curative care hospitals in government health service. The distribution of these institutions according to the standard categorization is given in Detailed Table 7.

2.2.2 Preventive / Community Health Services

Community health services are organized into health units while most of them are coincide geographically with divisional secretariat areas. These are commonly known as medical officer of health (MOH) areas. There are 334 MOH areas in Sri Lanka and each is headed by a Medical Officer responsible for a defined population. The MOH is supported by field public health staff. The average population for a MOH is approximately 60,000. Each member of health staff (Public Health Nursing Sister, Public Health Inspector, Supervising Public Health Midwife, Public Health Midwife) is also responsible for a sub divided area and the respective population. The overall responsibility for management of community health services lies with the Provincial Health Authorities.

Key responsibilities of the MOH are

- Health advocacy and multi sector coordination for improvement of health in the area
- Health promotion, empowerment and community participation in health
- Creating awareness for healthy lifestyles and referrals for screening for non communicable diseases
- Maternal and Child health - antenatal, post natal care, immunization, monitoring of child development and growth, prevention of home accidents, school health services, adolescent health and reproductive health, oral health services
- Control of communicable diseases

- Monitoring of quality and safety of water and sanitation
- Occupational health
- Implementation of the Food Act
- Disaster management
- Supervision of health staff and services, monitoring and reporting of health service indicators, preparation of plans for health improvement in the area

2.3 Key Developments in the Health Sector in 2013

2.3.1 Expansion of Services for Screening for NCDs

With the high burden of NCDs, emphasis of the NCD program was to expand services for screening through advocating functioning of at least 2 healthy lifestyle centres per divisional secretariat area.

2.3.2 Health Policy Analysis & Development

Following description highlights key policy / strategic development areas that will contribute to health sector development.

2.3.2.1 Migration Health

Sri Lanka National Migration Health policy was approved by the Cabinet of Ministers and was launched in December 2013. The policy will address health issues of inbound, outbound, internal migrants and their families left behind. The policy will have implication to address health of a large segment of the population.

It has been recognized that globalization and increased mobility of people greatly facilitate the spread of diseases resulting in global pandemics. Re-emergence of eliminated diseases or introduction of new diseases / strains via migration flows is a public health threat to the country.

A significantly large number of foreigners obtain resident visa to Sri Lanka each year, and it is predicted that there will be a remarkable increase in the number, considering the expected economic development in the country and the trend of Sri Lanka becoming a labour receiving country. The number of resident visas issued (new and extensions) in Sri Lanka for the year 2009 is 33,872, for the 17 resident visa sub-classes. Of these, majority (arround 70%) were in the 5 categories, namely, State sector, Board of Investment, Spouse Citizen, Students and Private sector. Hence, health assessment and ensuring vaccination of the immigrants is vital to maintain the country's achievements in health status.

The policy identifies several strategic interventions :

1. A health assessment will be introduced for resident visa i.e. for long stay visa applicants. The health assessment forms will be available on the website of Department of Immigration and Emigration. The Ministry of Health envisages a partnership with the International Organization for Migration(IOM) where IOM will technically support and also establish a mechanism for health assessment according to technical instruction given by the Ministry of Health. Initially the health assessment will be carried out after the entrance of a person to the country where the entry visa will need conversion to resident visa upon clearance from health assessment.

The cabinet has already approved to establish health assessment for resident visa applicants , with provision of relevant legal and institutional framework for its implementation public administration in a mechanism that a coordinated care plan is put in place before migration, irrespective of the age of left behind child.

2. Improving quality of health assessment carried for outbound labor migrants. Currently the Ministry of Health does not specify guidelines or standards for performing such health assessment that are carried out in the private sector. The Ministry of Foreign Employment Promotion & Welfare has requested the Ministry of Health to provide such a guideline. Technical discussions with several professional colleges have been held to develop these guidelines.

3. Health promotion and improvement in occupational health is envisaged for internal migrants with the support of the Ministry of Labor. The draft policy on occupational safety and health lead by the Ministry of Labor is being discussed.

4. Families left behind of outbound migrants have significant impact on demand for health and social welfare need. The major policy intervention proposed is to involve the strength of grass root level officials of several institutions and ministries such as Sri Lanka Bureau of Foreign Employment (SLBFE), Health, Social Services, Child Protection, Child Probation, Economic Development, Education, local government and public administration in a mechanism that a coordinated care plan is put in place before migration, irrespective of the age of left behind child.

2.3.2.2 Policy Recommendation for Primary Health Care Strengthening Approach in Addressing Non Communicable Diseases in Sri Lanka

The Policy Unit together with Primary Care Services Unit in the Ministry of Health conducted an initial pilot in select institutions in three districts (Hambantota, Polonnaruwa and Nuwara Eliya) based on a primary care strengthening approach to address chronic NCDs. The pilot resulted in several contributions as key health systems development processes, guidelines and tools :

1. Revision of essential drug list to manage premier NCDs at Primary level hospitals (Divisional hospitals and primary medical care units)
2. NCD management guideline at primary care level using a multiple risk approach (includes referral criteria to specialized centers)
3. Emergency care guideline for primary care level
4. Life style modification guideline (a handbook) for primary level healthcare workers in all three languages
5. Guideline to establish lifestyle modification centres (healthy lifestyle clinic)
6. Life style modification tools (to be used in life style modification when guiding patients)
7. A Personal Health Record (person held) and a Clinic Record to be made available subsequently to all citizens
8. Community screening guideline and referral card.

The primary healthcare strengthening approach is intended to develop a health service which is organized around good quality primary level services which would offer the greatest potential to address NCDs whilst addressing personalized and family centered care.

The Key objectives in adopting this approach would be

a. To achieve universal coverage for health services to address the present burden of NCDs
   (Expected impact - reduce preventable mortality due to chronic NCDs)
b. To minimize catastrophic health spending in low- middle income groups
   (Expected impact - reduce out of pocket expenditure for health)
c. To improve efficiency in resource utilization for health
   (Expected impact - increased utilization of primary level services for continuing care needs of chronic NCDs, i.e. shift of care for primary care needs to the primary level)
d. To improve quality of care
   (Expected outcome - overall patient satisfaction for continuing care needs)

The pilot study highlighted the need for greater community awareness through individual and settings approaches. A social marketing campaign is vital to address the common NCDs. Eight Healthy lifestyle targets were introduced and adopted as a means for creating awareness leading to empowerment. The targets are in line with the WHO strategy of common risk factor approach. The 8 mentioned together as Super 8, signifies the importance of collectively mentioning and addressing all risk factors as empowerment is needed in all risk areas; healthy eating, physical activity, stop tobacco and alcohol. The Ministry of Health took action to print and disseminate posters that depict the health targets for use by MOOHs through the Health Education Bureau.

The Primary health care strengthening approach will address several issues in the health system to make it a more rational and cost efficient and effective system.

a. wider coverage for most important health conditions
b. patient focused and guidance based
c. referral and back referral practice improved
d. better utilization of local level hospitals that will reduce indirect cost to patients

2.3.2.3 Recommendation and Piloting of Shared Care Cluster System

Further to recommendation on strengthening primary care, a rational system of combining primary care with specialized care to form clusters for continuity of care as well as resource sharing between institutions is given as the 'shared care cluster system'.

A cluster is typically defined as the apex specialized hospital together with its surrounding primary care institutions which form a referral and back referral system. The system change also recommends that more accountability for clinical outcomes should be addressed with defining of catchment areas and population for medical officers in primary level institutions (divisional type hospitals and primary medical care units). In this way the shared care cluster too will have a catchment population , the system being similar to the community health services.

A policy brief on how primary care strengthening should take place was presented in a concept paper. Based on this a decision was taken to implement the shared care cluster system, initially in 4 districts. The shared care cluster system will be a key strategy in achieving universal health access, specially focusing on the chronic non communicable diseases.

The primary health care services unit designed and conducted training for nearly 300 post intern doctors who were to be deployed in primary level hospitals as capacity building for primary care strengthening. A consultative workshop was also carried out for all Faculties of Medicine in all Universities with the aim of improving curriculum to address competencies for managing at primary care level.

2.3.2.4 Further Improvements to Quality of Health Services -

A consistent dialogue was initiated to develop strategies, guidelines and performance indicators to improve quality of health services.

The efforts were taken by the Directorate/ Healthcare Quality and Patient Safety and involved the respective units of the Ministry of Health, the Sri Lanka Medical Association (SLMA) and all professional colleges.

2.4 Organization Development Unit

The organization development unit is responsible for the direction and coordination of all activities to improve the organizational effectiveness of the Ministry of Health.

The main activities of the organization development unit in 2013 were:

2.4.1 Coordination of the National Health Development Network & Performance Monitoring

1. Organization Development Unit acts as a secretariat for coordinating major national level policy decision making meetings . These are the National Health Development Committee and the Health Development Committee meetings.
2. Development of National Health Performance Framework: A technical consultation was initiated during 2013 to develop a National Health Performance Framework. The framework will be used in the future to identify performance in health status, health services and contribution of important determinants of health.

2.4.2 Capacity Building of Health Staff

The Organization Development Unit is responsible for strengthening the capacity of health personnel in order to improve the overall productivity of the organization.

Several capacity building programs were conducted for deputy administrative grade Medical Officers of hospitals. 90 Deputy Directors and Medical Superintendents of hospitals were trained as well as District Medical Officers and MOICs.

A series of staff development programs are being conducted on green practices, mindfulness and healthy lifestyles in order to improve the productivity of the health staff of Ministry of Health.

2.4.3 Implementation of National Migration Health Policy

Director/Organization Development is the national focal point for the coordination of implementation of the Migration Health Policy. The National Steering Committee on the Migration Health Policy implementation has appointed ten subcommittees to engage different sectors to implement the policy.

Areas prioritized for implementation are the development of a coordinated care plan for the children left behind by migrant workers in collaboration with the Family Health Bureau and other sectors such as Ministry of Foreign Employment Promotion and Welfare, Ministry of Child Development and Women's Affairs, Ministry of Education, Ministry of Local Government & Provincial Councils and Ministry of Social Services, the development of protocol and guidelines for health assessment for outbound migrants in collaboration with professional colleges, the development of protocol for the establishment of health assessment for the resident visa applicants to Sri Lanka in collaboration with the International Organization for Migration.

2.4.4 Coordination of Organization Reform

A key organization change , i.e. for strengthening primary health care through a mechanism of 'shared care' is to be piloted in 4 districts. The organization changes are coordinated in collaboration with the primary care services unit.

Improvements in central organization to coordinate human resources in health require preparatory work which is being coordinated by the Organization Development Unit. To improve understanding within the organization the Human Resource in Health (HRH) Strategic plan will be printed and circulated.

2.4.5 Governance System

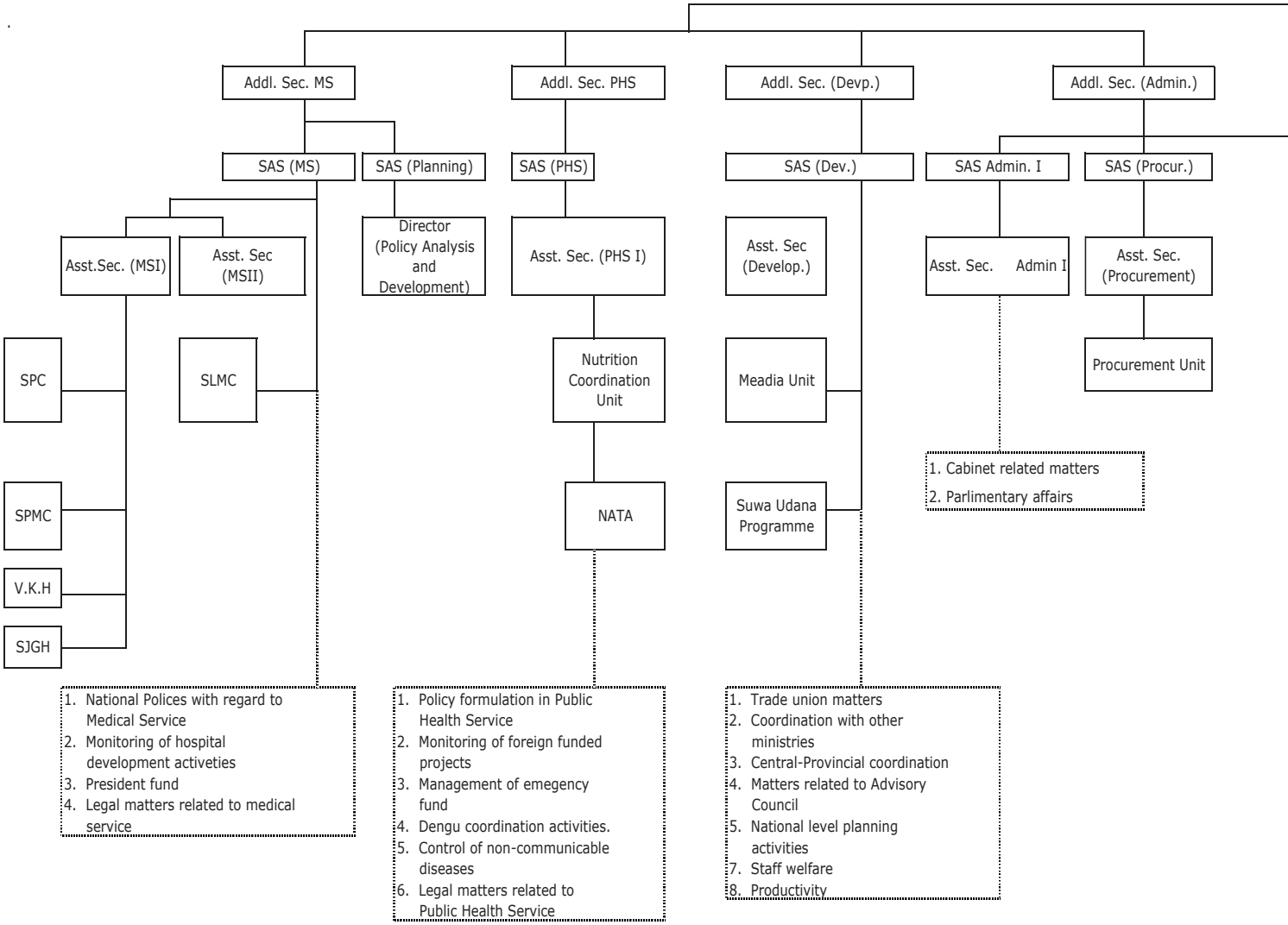
The Organization Development Unit aims to strengthen the existing hospital management and public health systems. The steps being taken are,

a. Facilitation of technical discussions to revise the job descriptions for selected categories of public health staff & administrative staff.
b. Revision and publication of health manuals to strengthen health care delivery system, to support management of healthcare institutions at different levels.

2.5 Planning Unit

The Planning Unit has been functioning to facilitate the planned development of health services. In this context the implementation of Annual Health Action Plan for the year 2013 was monitored and 2014 plan was prepared. Approval was received for the revised cadre of Ministry of Health & Indigenous Medicine from the Department of Management Services. It included the recruitment of 810 new Development Officers for strengthening of the health workforce. In addition , other health staff categories such as Medical Officer, Nursing Officer, Para-Medical and technical staff have been increased for provision of better healthcare services to the public.

The Planning Unit was also involved in the implementation and coordination of Global Alliance for Vaccines & Immunization – Health System Strengthening (GAVI HSS) Programme. This programme was started in 2008 and will be continued until the end of 2014. Under this programme, the infrastructure facilities at Maternal and Child Health (MCH) clinic centres in Northern, Eastern provinces that comprise of 08 districts and 02 districts that encompass the estate sector from Uva and Central Provinces, 07 Regional Training Centres and National Institute of Health Sciences, Kalutara were developed. In those 10 under served districts, the primary health care staff and supervisory level staff were trained. Motor bikes were provided to Public Health Midwives and Public Health Inspectors. Total expenditure of the programme in 2013 was Rs. 112 million.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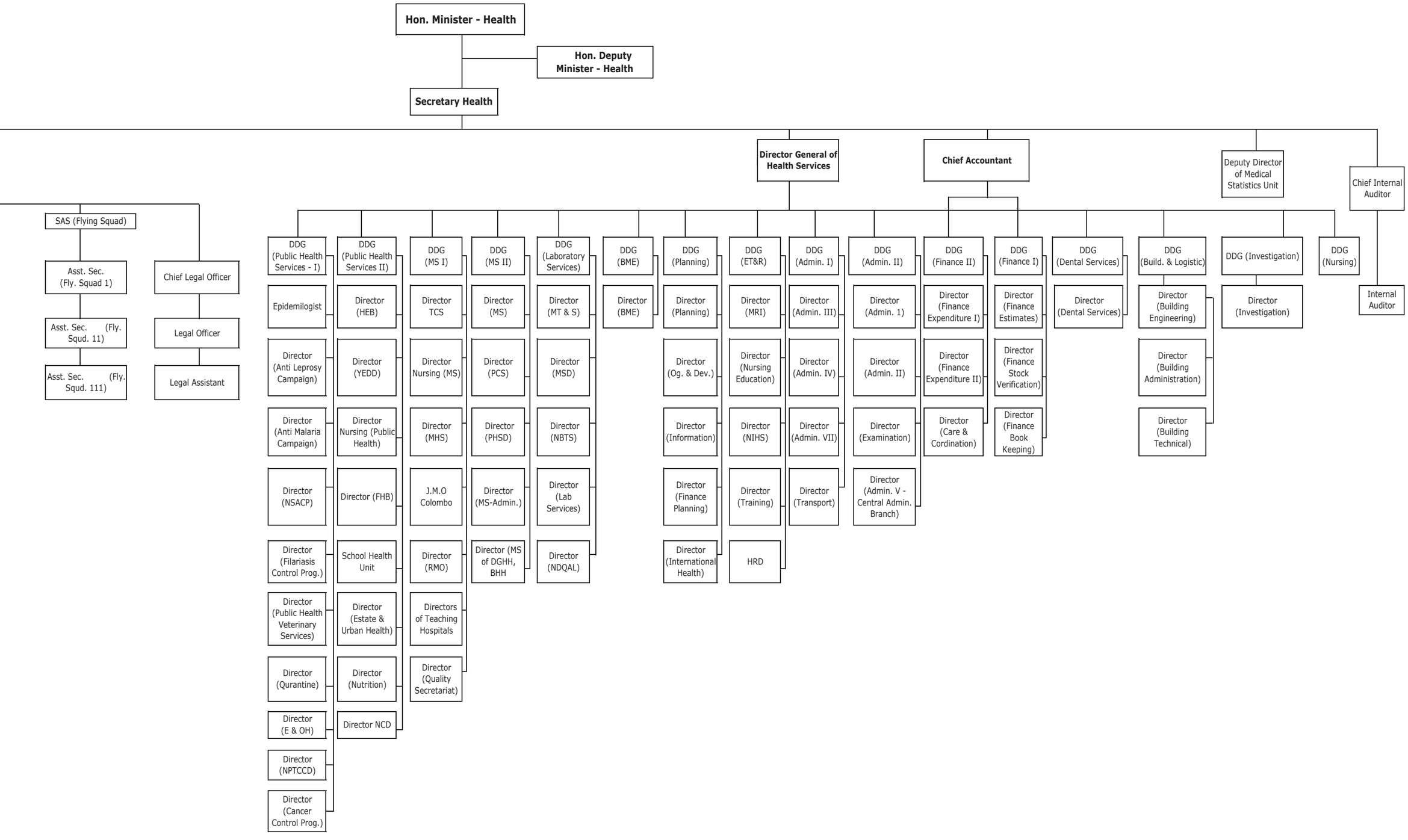
Addl. Sec. PHS
Addl. Sec. (Devp.)
Addl. Sec. (Admin.)
SAS (MS)
SAS (Planning)
SAS (PHS)
SAS (Dev.)
SAS Admin. I
SAS (Procur.)
Asst.Sec. (MSI)
Asst. Sec (MSII)
Director (Policy Analysis and Development)
Asst. Sec. (PHS I)
Asst. Sec (Develop.)
Asst. Sec. Admin I
Asst. Sec. (Procurement)
SPC
SLMC
Nutrition Coordination Unit
Meadia Unit
Procurement Unit
SPMC
NATA
Suwa Udana Programme
V.K.H
SJGH
1. Cabinet related matters
2. Parlimentary affairs
1. National Polices with regard to Medical Service
2. Monitoring of hospital development activeties
3. President fund
4. Legal matters related to medical service
1. Policy formulation in Public Health Service
2. Monitoring 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 Advisory Council
5. National level planning activities
7. Staff welfare
8. Productivity

Fig 2.2: ORGANIZATION CHART - MINISTRY OF HEALTH



2.6 Healthcare Quality and Safety

The Directorate of Healthcare Quality and Safety is the central body which functions by exchanging ties with the Ministry of Health and coordinating Quality Assurance Programmes of Quality Management Units in all health institutions island wide. Vision of the directorate is "to be the centre of excellence in facilitating the provision of the best quality and safe health services to the Sri Lankan population". The mission of the directorate is to facilitate healthcare institutions to provide the demonstrable best possible quality health care services through continuous improvement while responding to customer expectations and ensuring safety with the involvement of all stakeholders. The key concept behind all activities of the directorate is *"centrally driven, locally lead, clinically oriented and patient centred Continuous Quality Improvement Program"*.

The directorate has conducted following activities in 2013, to achieve this vision and mission.

- Establishment of functional Quality Management Units (QMUs) in hospitals and District Healthcare Quality and Safety Units

QMUs are expected to be established in all institutions - Base Hospitals and upwards with the objective of improving Healthcare Quality and Safety by way of assisting the management to bring about a quality culture in hospitals. QMUs of National Hospital of Sri Lanka, Colombo South Teaching Hospital, TH – Batticaloa, TH – Karapitiya, PGH – Kurunegala, PGH – Ratnapura, DGH – Hambantota, DGH – Polonnaruwa, DGH – Kalutara and BH - Chilaw were granted equipment in December, 2013.

Quality Assurance review meetings and workshops on best sharing practices were conducted at the central and provincial levels island wide. Guidelines and formats for performance review meetings were made with the participation of relevant stakeholders and distributed to all health institutions in the country.

- Training programmes on Healthcare Quality Assurance

Several workshops were conducted in August, 2013 to introduce Disbursement Linked Indicators (DLI) of Healthcare Quality and Safety to Heads of Institutions of Line Ministry and Provincial Ministries.

The Directorate has trained over 2000 health personnel during the year 2013 and they represented the top and middle level managers of the Sri Lankan health system. The aim of the Directorate is to be the training center of quality and safety in healthcare for health workers and to ensure that everyone has access to adequate and essential training to become capable leaders in implementing quality and safety strategies.

- Preparation of Manual for Master Trainers in Healthcare Quality and Safety

For the first time in Asia, a Manual for Master Trainers in Healthcare Quality and Safety has been prepared and finalized. It was intended to be used as a reference book for Master Trainers in Healthcare Quality and Safety to equip the prospective trainer with essential understanding of the training procedure. A pilot programme was conducted for selected 14 Master Trainers from Southern and Northern provinces, representing all the top and middle level management of health staff in August, 2013

- Three Country Capacity Building Programs

Capacity building programmes were extended to offer fellowships to foreign countries such as Bangladesh, Cambodia and Korea. These programmes were conducted in collaboration with the World Health Organization (WHO) and the Japan International Cooperation Agency (JICA)

- Patient Safety Initiatives

Directorate of Healthcare Quality & Safety acts as the central body which is committed of ensuring patient safety within the current health system. The objective is to ensure effective risk management practices in healthcare institutions and to establish a mechanism for professional oversight aimed at the prevention of medical errors. Launching of Surgical Safety Checklist in December 2013 was one of such initiatives accomplished during the year 2013.

A pre-congress workshop was held on Hospital Accreditation and Patient Safety on the 10th of April, 2013 jointly with the Sri Lanka Medical Association (SLMA) with the participation of foreign resource personnel.

The directorate expects to expand the quality assurance program by establishing Quality Management Units in 15 line ministry institutions and in 26 Base Hospitals upwards at each district level in 2014. Additionally, Master Trainers' Manual will be published and Master Trainers will be trained to provide improved training capacity at the local level. It is expected to introduce read mission forms, Waiting Time Survey formats and Adverse Event Reporting formats to improve the safety and responsiveness of healthcare delivery.

All these activities are expected to be monitored through quarterly performance reviews.

Furthermore, three country training programs will be expanded to eleven more countries in Asia and Africa with the assistance of Japan International Cooperation Agency.

2.7 Health Facilities

The network of curative care institutions ranks from Teaching Hospitals with specialized consultative services to small Primary Health Care Units which provide only outpatient services.

At the end of the year 2013, there were 624 government sector medical institutions with indoor health facilities. It includes 18 Teaching Hospitals, 2 Provincial General Hospitals, 18 District General Hospitals, 68 Base Hospitals categorized as type A and B, 474 Divisional Hospitals categorized as type A, B and C, and 15 Primary Medical Care Units with Maternity Homes.

The total bed strength of the said institutions is 78,243. That is an increase of 2.8% compared to the previous year. The total bed strength of Teaching hospitals is 22,178.

There are a few specialized Teaching hospitals for the treatments of chronic diseases, such as Tuberculosis, Leprosy, Cancer, Mental Illnesses, etc.

There were 461 Primary Medical Care Units which have only outdoor and clinical facilities. 15 of them were having limited indoor facilities. Those inward facilities are only for maternal services, and the total bed strength is just 163 (Detailed table 7).

Table 2.2 shows the availability of average number of the patient beds in the above mentioned hospital categories.

The highest hospital bed strength was recorded in Colombo (13,508) and followed by Kandy Regional Director of Health Service area (6,719). Mullaitivu Regional Director of Health Service area recorded the lowest bed strength (402) followed by Kilinochchi with a bed strength of 499.

The largest function of the healthcare delivery system in the island is performed by the National Hospital of Sri Lanka. It maintains its services in various specialties, including a well equipped Accident Service, a Cardiology Unit and several Intensive Care Units. It excludes Dental, Maternal, Paediatrics and Eye specialities where as for those specialties there are separate teaching hospitals in closer locations.

The national ratio of beds for inpatient care is 3.8 per 1000 population. The highest number of beds per 1000 population is reported to be 7.8 from Mannar, and the next highest is from Colombo which is 5.8. The lowest rate was reported from Kalutara (2.3) and followed by Gampaha and Nuwara Eliya (2.6).

All the districts in Northern and Eastern provinces have reported higher rates of beds per 1,000 population compared to the island figure, while lower rates are reported from all the districts in North Western and Sabaragamuwa provinces. That has occurred due to the lower population in the Northern and Eastern provinces.

Fig 2.3 : Beds per 1000 population by Districts

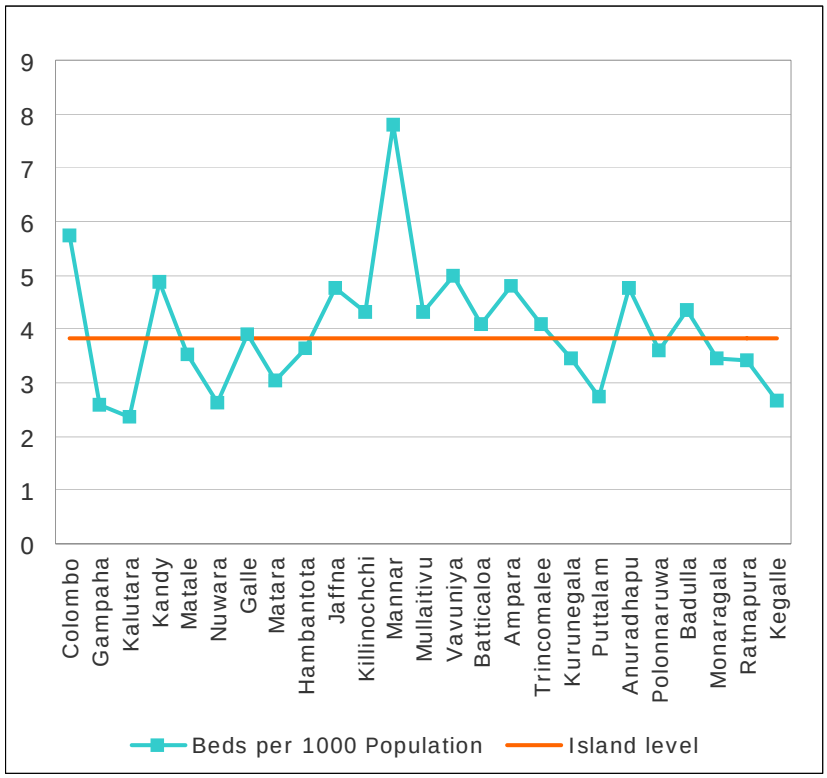


Table 2.1 : Number of Health Institutions and Hospital Beds, 2004 - 2013

Item	2004	2005	2006	2007	2008	2009	2010	2011 *	2012	2013
Hospitals [1]	628	608	608	615	647	642	630	641	621	624
Patient Beds [1]	57,404	61,594	67,024	68,694	67,942	70,842	72,510	74,370	76,087	78,243
Patient Beds per 1000 Population	2.9	3.2	3.4	3.4	3.4	3.5	3.5	3.6	3.8	3.8
Central Dispensaries / Primary Medical Care Units	397	413	428	441	439	443	464	463	487	461
MOH Areas	273	286	288	291	298	303	327	328	337	334

[1] Includes Maternity Homes and Central Dispensaries.

Source: Medical Statistics Unit

* Provisional

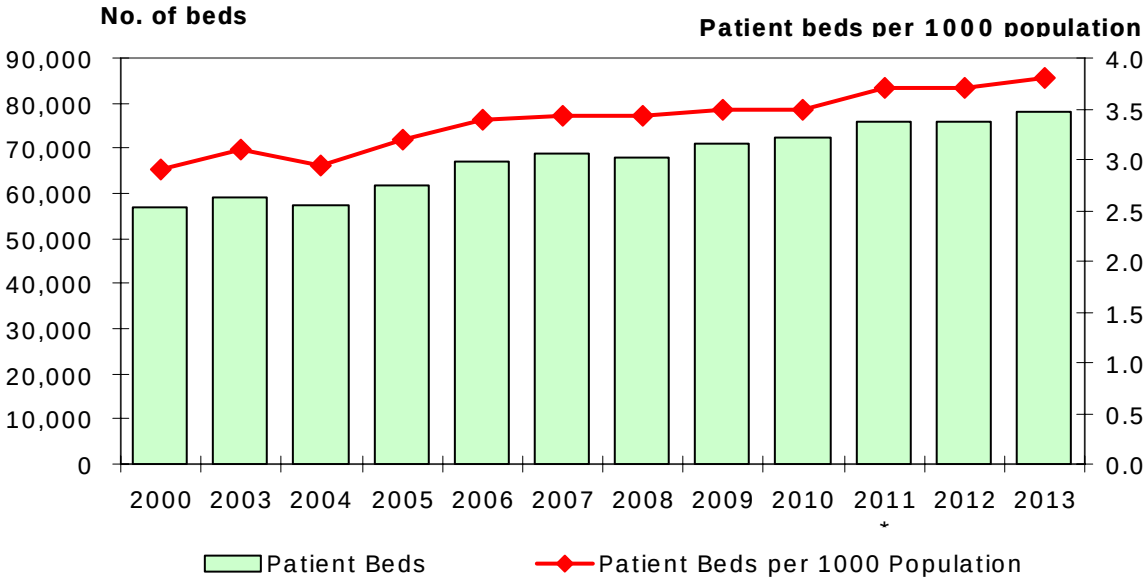
Table 2.2 : Availability of Patient Beds by Type of Institution, 2013

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
Teaching Hospitals	18	222 - 3,452	1,232	11
Provincial General Hospitals	2	1,125 - 1,453	1,289	1
District General Hospitals	18	98 - 1,097	572	7
Base Hospital Type A	22	105 - 623	362	11
Base Hospital Type B	46	38 - 377	173	29
Divisional Hospital Type A	45	41 - 225	111	24
Divisional Hospital Type B	134	25 - 115	70	67
Divisional Hospital Type C	295	2 - 68	29	144
Primary Medical Care Unit and Maternity Homes	15	8 - 31	16	6
Other Hospitals *	29	8 - 1,502	235	16

* Includes Cancer, Mental, Dental, Millitary, Police and Prison Hospitals.

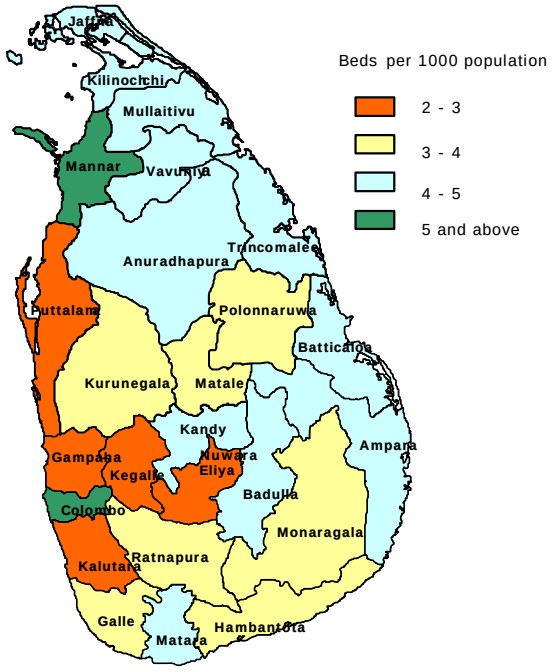
Source : Medical Statistics Unit

Fig 2.4 : Number of Beds and Patient Beds per 1000 Population, 2000 - 2013



* Provisional

Fig 2.5 : Distribution of Hospital Beds by District, December 2013



In 2013 there were 338 Medical Health Offices headed by Medical Officers of Health, carrying out preventive services in Sri Lanka.

2.8 Health Manpower

The total number of Medical Officers has increased to 16,690 in 2013. Accordingly, medical officers per 100,000 population has also increased. In 2012 this figure was 79 and it is 81 in 2013. (Detailed Table 9)

There were 6 districts which have more than 80 Medical Officers per 100,000 population. They are Colombo, Kandy, Vavuniya, Ampara, Jaffna and Galle. It was 191 in Colombo and 127 in Kandy. The minimum rate was reported from Nuwara Eliya as 37 followed by Kegalle with the rate of 48.

Total number of Nurses were 35,629 in 2013. There were 180 nurses per 100,000 population in 2012 and in 2013 there were only 174.

Although the national figure is 174, there are 5 districts which had been able to maintain a higher rate than that. The minimum was 41 from Mullaitivu. All the districts in Uva, Sabaragamuwa, Eastern, North Central and North Western provinces have lower rates than the national figure.

Fig 2.6 : Distribution of Medical Officers (MO), December 2013

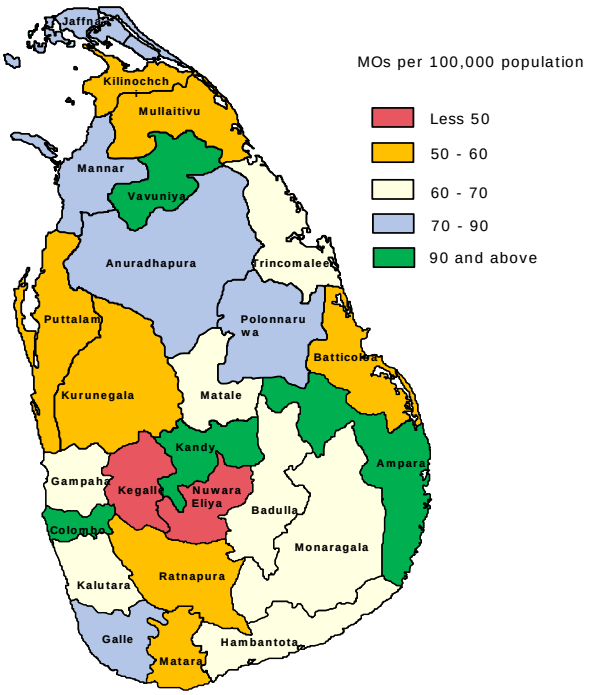


Fig 2.7 : Distribution of Registered Medical Officers (RMO), December 2013

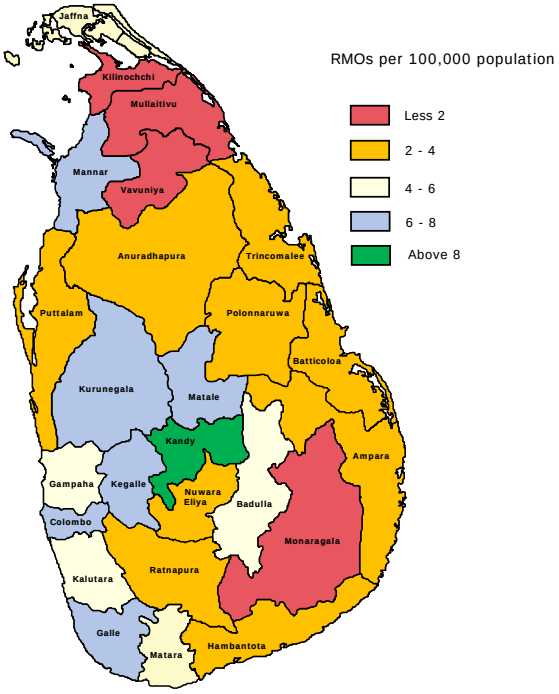
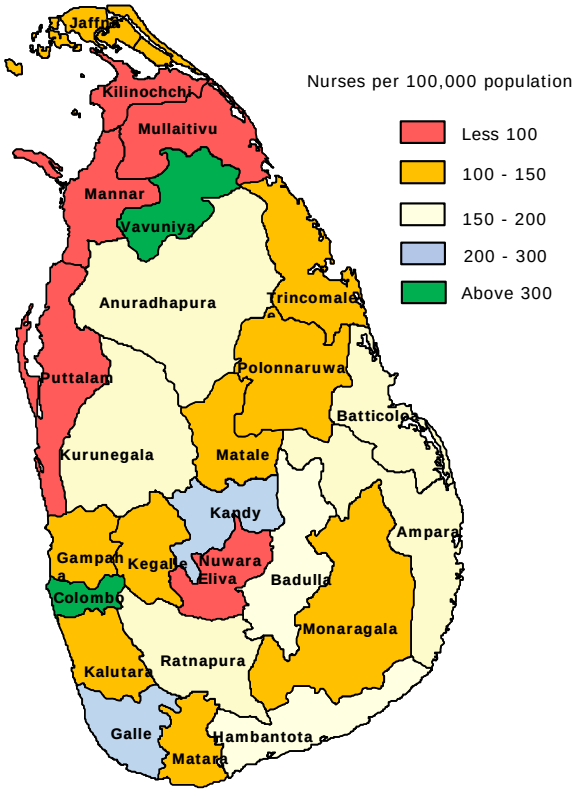


Fig 2.8 : Distribution of Nursing Staff, December 2013



2.9 Medical Services Division

This is under the supervision of Deputy Director General (Medical Services) I and II.

2.9.1 Deputy Director General (Medical Services) I

Development of tertiary level medical facilities in major hospitals and other institutions including establishment of necessary infrastructure facilities, provision of medical equipment and providing administrative support also falls under the purview of Deputy Director General (Medical Services)I.

The division of DDG(MS) I handles all human resource management of 1,460 Specialist Medical Officers, 280 Administrative Grade Medical Officers, 3,000 Post Graduate Trainees and 1,500 Intern Medical Officers. In addition the National Transplant Programme (NTP) and the National Intensive Care Surveillance (NICS) system falls under the direct purview of DDG (MS) I.

2.9.1.1 Directorates under the Purview of DDG (MS) I

There are seven directorates under the purview of DDG (MSI)

Tertiary Care Services (TCS)
Non Communicable Diseases (NCD)
Health Quality and Safety (HQ&S)
Mental Health (MH)
Cancer Control Programme (CCP)
Registered Medical Officers (RMO)
Nursing - Medical Services (Nursing-MS)

2.9.1.2 Some of the Main Duties Performed by the Deputy Director General (Medical Services) I and its Directorates

√ Tertiary Care Services (TCS)

- Overseas Training, recruitment and deployment of all medical specialists in the government health services
- Recruitment and deployment of medical administrators
- Post graduate training of the medical professionals (PG Trainees)
- Internship training of medical graduates from Sri Lanka and abroad
- Management of issues in relation to relief house officers and specialists
- Management of all human resource related issues of Teaching Hospitals and Specialized Institutions

√ The Directorate of Healthcare Quality and Safety (HQ&S) has established a standard island wide programme to improve the quality of care, introducing a national set of indicators.

√ The Directorate of Non Communicable Diseases (NCD) launched a screening programme through Healthy Lifestyle Centers (HLC) targeting early detection of major NCD's.

√ All other directorates also function towards achieving their visions and missions.

2.9.2 Deputy Director General (Medical Services) II

2.9.2.1 Directorates under the Purview of DDG (MS) II

Medical Services
Primary Care Development
Private Health Sector Development
Medical Service Administration
Blood Transfusion Service

2.9.2.2 Scope

Supervision and coordination of medical care service and Human Resource Management functions of Medical Officers in Government Health Service other than production, disciplinary actions and termination.

2.9.2.3 Vision

Dedicated and satisfied Medical Officer work force contributing for more attractive, quality and productive medical care service.

2.9.2.4 Mission

Achieved through supervision and coordination of medical care service as well as the implementation of well developed plan on Human Resource Management system in relation to the category of Medical Officers in view of providing better health care service leading to satisfaction of patients with the support of dedicated and satisfied office staff.

2.9.2.5 Objectives for 2013

a) To streamline routine activities of central level Medical Service Branch with the support of relevant stakeholders in order to achieve satisfied Medical Officer work force

b) To strengthen medical service through development of physical aspect of curative care institutions
c) To strengthen medical service through development of human resource aspect of curative care institutions
d) To strengthen medical service through system development of curative care institutions
e) To strengthen medical services with evidence based management

Following are the expected output to be achieved through the identified strategies and activities based on above mentioned objectives.

- Timely completed routine functions based on the prepared and adhered time schedule, prepared data base of vacancies, adequately fulfilled requirement of Medical Services Unit on adequate infrastructure (furniture and IT equipments)and adequate and well developed staff in office management and IT & data base management
- Revised norms for cadre of grade MOs, reviewed and defined standards of each facility in each level, completed facility survey in all levels of institutions, completed development plans for identified hospitals in secondary and tertiary care based on the gaps identified by facility survey, completed development plans for identified primary care institutions in view of achieving well utilized primary care institutions catering to current medical needs and patients' demand
- Established system for proper human resource management and development of Medical Officers, developed HR data base to strengthen human resource management
- Established productivity, quality and safety improvement programme, improved system for preparedness & management of disaster, improved system for preparedness & management of injury, strengthen health information system for better management of health services with modern e–health salutation
- Developed system to promote research process and culture

2.9.2.6 The Main Responsibilities

- Supervision and coordination of the health institutions

1. Organizing the Hospital Directors Meeting for reviewing and coordination in curative care institutions in every two months time.
2. Providing the facilities and the doctors for the mobile health services.
3. Facilitating the progress review meetings, provincial Director's meeting and the parliamentary select committee decisions.
4. Organizing the medical facilities for visits of state heads and other VIP's.
5. Attending for hospital inspections and supervision.

- Conducting and attending the legal and disciplinary matters of the doctors and the attending complaints from public and hospital staff

1. Look into the public complaints and other medical or non-medical requests
2. Implementing the recommendations sent by the Human Rright Commission, Public Service Commission and courts

- Human Resource Management functions of Medical Officers in Government Health Service

1. Appointing the diploma holders, MSc holders and other post graduates following the release from the PGIM
2. Recruitments of post intern medical officers, preparation and advertising the vacancies, calling the applications, taking the necessary steps to get the approval of the Public Service Commission and Management Service Department, issuing the formal appointment letters
3. Handling and managing prepared personal files
4. Appointing the post intern medical officers for the training programmes
5. Organizing and coordination of the training programmes for grade medical officers
6. Implementing the transfers for the north and east provinces

7. Facilitating the administrative affairs of the medical officers with secondment to the security forces specially with regard of the overtime payments, travelling and other allowances
8. Attending to all the necessary steps with regard of the annual transfers of the medical officers
9. Arrangements of temporary attachments for the medical officers for their personal problems
10. Attending to the medical officers who have personal issues at their special appeals and implementation of the special appeal transfer board orders
11. Arrangements of temporary attachments for the medical officers for their personal problems
12. Attending to the medical officers who have personal issues at their special appeals and implementation of the special appeal transfer board orders
13. Advertising the special post vacancies requested from certain hospitals / special units as per the service needs
14. Appointing Medical Officers for special posts in external

- Attending for system development of curative care service and HRM of medical officers

1. Attending to affairs regarding the improvements/developments of the accident and emergency care services
2. Preparation of the data base for the medical officers
3. Organizing the training programmes for the medical officers
4. Facilitating the functions of hospital based Sports Medical Units, Health Information Management Unit, Reproductive Health Service Unit
5. Providing annual funds for development activities of various health related institutions
6. Prison Health Care Development

2.9.2.7 Progress and Achievements in year 2013

1. Appointing 1,177 medical officers in 3 batches who completed their internship in 2013 to islandwide institutions in all provinces for opening of new units and closed institutions
2. 2,568 annual transfer orders have been implemented on 1st of January 2014 as per the Public Service Commission guidelines.
3. Establishment of spots medical units for every General Hospital
4. Initiation of improvement of the facilities of the emergency treatment services in all hospitals as a new system development for A&E care service
5. Implementation of the Human Resource Information Management System (HRIMS) for the medial officers
6. Transfer orders of 388 medical officers of North & East, 355 special appeal transfer orders have been successfully completed during 2013

2.9.2.8 New Projects and Achievements under Supervision of Deputy Director General (Medical Services) II

1. Annual Transfer Revitalization Project
2. Accident and Emergency Service Development
3. Sports Medical Services Development
4. Costing Programme for Curative Care Institutions
5. IT solutions Development Project for Medical Services
   - Human Resource Information Management Database (HRIMS) Circular Database
   - Health Institutions Facility & Performance Database (Health Net)
   - Health Management Information System
6. Primary Care Service Development with extended specialists service to the Primary Health Care level
7. Private Health Sector Development

2.10 Director Nursing (Public Health Services)

Director Nursing (Public Health Services) delivers services under Deputy Director General (PHS) II, Ministry of Health.

This post mainly links with Regional Supervising Public Health Nursing Officers (RSPHNO) (Special Grade), Public Health Nursing Tutors (PHNT) (Special Grade), Public Health Nursing Sisters (PHNS) in the line ministry and provinces.

Above three categories mainly involve to supervising, guiding and training of Supervising Public Health Midwives and Public Health Midwives.

Function of Director Nursing (Public Health Services)

a. Planning

i. Maintain database relating to above posts and inform and assist to fill the carder requirements.
ii. Carder projection – analyzing and preparation relevant carders and submission to relevant Directors.
iii. Planning in-service programmes and review meetings.

b. Other Functions

i. Support to examination department to conduct EB and promotion examinations. Facilitating with preparing exam papers, viva and practical boards and paper marking.
ii. Other training with extended collaboration.

2.10.1 Post Basic College of Nursing – Sri Lanka (PBCN)

This is the higher education center for nurses attached to NHSL, under the administration of ETR unit; Ministry of Health, Sri Lanka. It produces nurse managers & nurse educators to improve the quality in national health care sector. Further, it conducts nursing specialty courses for registered nurses. Simultaneously, PBCN acts as a facilitator / coordinator for the nursing related courses conducted at national and international level.

Table 2.3 : Trainings Conducted

	Title	Level	Duration		Number of Trainees		
			Institutional Training	Clinical Training	2011	2012	2013
Courses Conducted	Operating Theater Nursing	Certificate	3 months	3 month	197	-	82
	Pediatric Nursing	Certificate	3 months	3 months	-	69	-
	Intensive Care Nursing	Certificate	3 months	3 months		150	220
	Midwifery Training	Certificate	6 months	6 months	-	-	-
	Teaching & Supervision in Nursing Education	Diploma	1 year	-	-	-	-
	Management & Supervision in Nursing Practice	Diploma	1 year	-	-	-	-
	Mental Health & Psychiatric Nursing						
	Conducting Institute: School of Nursing; Mulleriyawa	Certificate	6 months	6 months	-	63	53
	Nurse Intensive Care Training Skills (NICS)	Certificate	-	-	-	-	-
Courses Facilitated	Diabetic Educating Nursing Officer	Certificate	-	-	-	-	-
	Infection Control Nurse Training	Certificate	-	-	-	-	-

Table 2.4 : Statistics of Human Resources

S. No	Category of Personnel	Approved 31/12/2013	Present Strength 31/12/2013
1	Principal	1	1
2	Senior Nursing Tutors	12	2
3	Librarian	1	-
4	Public Management Assistants	3	1
5	Development Assistant	1	-
6	KKS	1	1
7	Saukya Karya Sahayaka (Ordinary)	6	2
8	Saukya Karya Sahayaka (Junior)	2	1
Total		27	8

Table 2.5 : Performance

S. No	Name of the Programme	2012 Number Of Programmes	No. of Participants	2013 Number Of Programmes	No. of Participants
1	programme on Preparing Duty List of Public Health Nursing Staff	1	Public Health Nursing Staff 20		
2	Supervision Training programme for Public Health Nursing Staff	1	Northern Province RSPHNOS,PHNTS - 36	1	North Western Province Kegalle District PHNS - 42
3	Simple Research Training Programme for Public Health Nursing Staff RSPHNO,PHNT,PHNS	4	North Central Province - 21 North Central Province, Public Health Nursing Staff with Hospital Nursing Staff in Polonnaruwa Hospital - 47 Public Health Nursing Staff in Puttalam, kegalle, Kurunegala District - 19 Central Province - 40	2	Southern Province, Monaragala District and Hospital Nursing Staff - 50 Northern Province, Eastern Province, and Uva Province Public Health Nursing Staff - 15
4	Simple Research Review Meetings RSPHNO,PHNT,PHNS	3	Colombo District Public Health Staff - 19 North Central Province, Public Health Nursing Staff with Hospital Nursing Staff in Polonnaruwa Hospital - 24 Sabaragamuwa, North Westren Provices and Gampaha District - 43		
5	Progress Review Meeting Of Public Health Nursing Tutors	1	Public Health Nursing Tutors - 30		
6	In-service Training on Pre-care and Prevention of Poisoning for Family Health Workers Collaboration with the Colombo University			1	Public Health Midwives - 135
7	Simple Research Presentation , Evaluation and Awarding Certificates and Awarding Certificates for Other Performance Of Public Health Nursing Staff and Hospital Nursing Staff			1	Public Health Nursing Staff and Hospital Nursing Staff - 30
8	Preparing Handbook for Public Health Training for Nursing Students	2	Public Health Nursing Staff and Medical Officer - 8 Nursing staff and Medical Officers - 44	2	Nursing and Medical Officers - 59 Pubic Health Nursing Tutors - 5
9	Preparing RSPHNO Manual	3	Regional Supervising Public Health Nursing Officers - 10	3	Regional Supervising Public Health Nursing Officers - 23 Regional Supervising Public Health Nursing Officers - 9
10	Training of Supervising Public Health Midwives in Collaboration With ET and R Unit				Supervising Public Health Midwives - 248

2.11 National Intensive Care Surveillance (NICS)

National Intensive Care Surveillance is a critical care registry networking more than 80 Intensive Care Units (ICUs) in government hospitals of Sri Lanka. It is a collaboration of national and international organizations led by the Ministry of Health and maintains a critical care registry and operates a 24/7 ICU bed availability service for adult, children and neonates. The main objectives are:

1. To setup a national critical care clinical registry in Sri Lanka
2. To design a critical care bed availability / information system
3. To provide feedback/reporting to the participating ICUs to improve quality of care
4. To contribute to the development of a network of multidisciplinary health care professionals working to improve Intensive Care Medicine (ICM) in Sri Lanka

NICS system is involved in gathering, cleaning, analysing and disseminating information from ICUs regarding patients, staffing, beds and other available resources. In addition, NICS captures information to enable benchmarking of ICUs relative to how ill ICU patients are (severity scoring) using standard severity scoring algorithms such as Acute Physiological And Chronic Health Evaluation (APACHE) II, IV and Nine Equivalents of nursing Manpower Score (NEMS). The system also makes it possible to assess 30 day post ICU outcomes and quality of life of critically ill patients.

NICS is also involved in training of doctors, nurses and physiotherapists in critical care skills, research and IT.

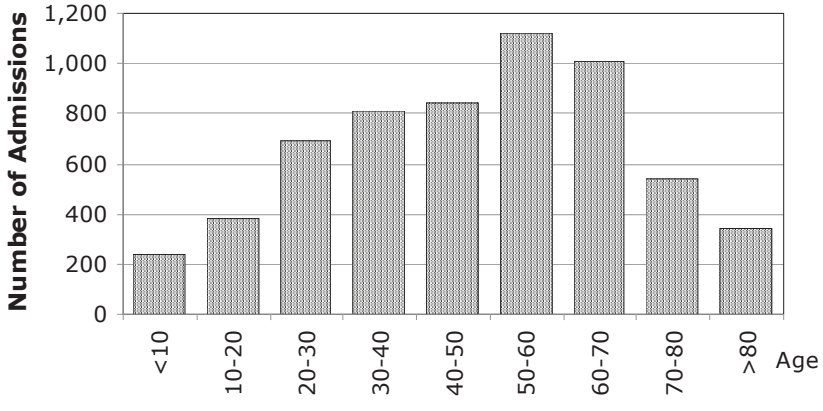
During the year 2013 in collaboration with the Deputy Director General (Education, Training & Research), it has conducted training sessions for more than 300 health care personals.

The benefits from NICS includes; having an ICU bed availability system (24/7), enables planning ICU services based on needs, capacity and resources; helps coordinate ICU resource management during any national/regional emergency or disaster, improve quality of patient care, improve cost effectiveness of critical care, capacity building of critical care personnel, promotes local and international audits/research. NICS collaborates with many organizations and individuals to conduct research. During 2013 it had actioned nearly 10 research projects. NICS also supervises research students of postgraduate programmes and provide placement for interns from University of Colombo. NICS is presently under the administration of Director, Tertiary Care Services of Deputy Director General (Medical Services) 1. Further details of NICS and its activities are available at www.nicslk.com and www.nics-training.com and can be contacted at info@nicslk.com or 94(0)112679038.

2.11.1 Characteristics of Adult (Non Paediatric) ICUs

The age distribution of patients admitted to adult ICUs in 2013 is illustrated in Fig 2.9.

Fig 2.9 : Age Distribution of Patients in Adult ICUs in 2013



The mean bed occupancy rate (BOR) for each ICU for year 2013 is demonstrated in Fig. 2.10. The BOR is derived by dividing the total patent hours from total bed hours.

The mean nurse to patient ratio in each adult ICU for year 2013 is shown in Figure 2.11 while Figure 2.12 shows the mean number of organ failures in admissions to adult ICUs for 2013 by ICU survival status.

Fig 2.10 : Distribution of Bed Occupancy Rates in Adult ICUs in 2013

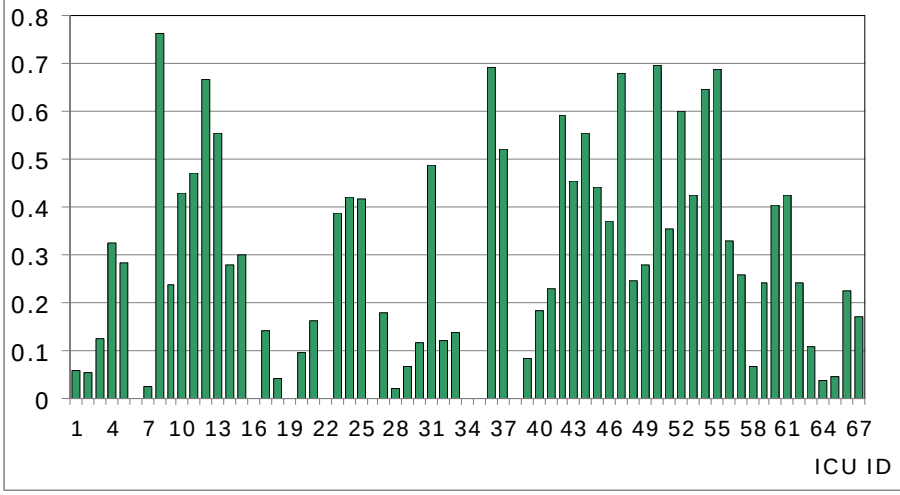


Fig 2.11 : Distribution of Patients per Nurse Ratio in Adult ICUs in 2013

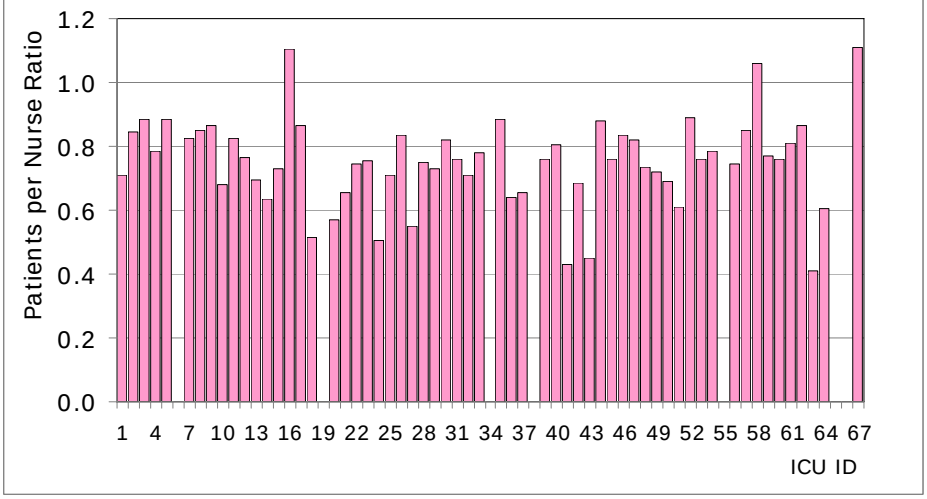


Fig 2.12 : Distribution of Mean Number of Organ Failure in Adult ICUs in 2013

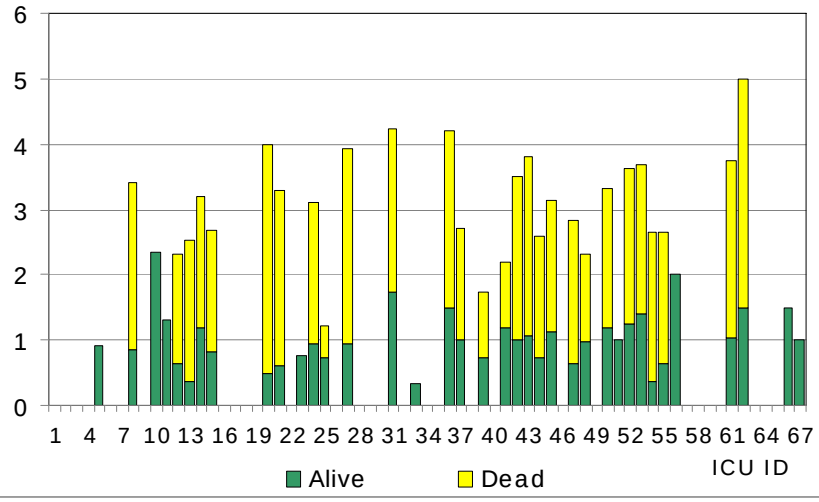


Table 2.6 describes the ten commonest APACHE II and APACHE IV diagnosis of patients admitted to adult ICUs in 2013.

The distribution of mechanical ventilation at admission to adult ICUs in 2013 is described in Figure 2.13 while Figure 2.14 shows the distribution of vasoactive medication use at ICU admissions by survival status.

Table 2.6 : APACHE II and IV Diagnosis of Patients Admitted to Adult ICUs in 2013

APACHE II diagnosis	Total Number (%)	Died Number (%)	APACHE IV diagnosis	Total Number (%)	Died Number (%)
Respiratory (medical)	626 (10.9%)	183 (29.2%)	CVS, medical-non arrest	267 (4.6%)	93 (34.8%)
GI (post surgical)	575 (9.9%)	72 (12.5%)	Respiratory-medical-non arrest	262 (4.5%)	60 (22.9%)
CVS (medical)	449 (7.7%)	140 (31.2%)	Respiratory arrest	238 (4.1%)	74 (31.1%)
Bleeding (post surgical)	308 (5.3%)	24 (7.8%)	Caesarean section	147 (2.5%)	2 (1.4%)
Neurology (medical)	205 (3.6%)	46 (22.4%)	Cardiac arrest	117 (2.1%)	62 (53.0%)
Aspiration/poisoning	190 (3.3%)	23 (12.1%)	GI surgery, other	115 (2.0%)	17 (14.8%)
Neoplasm (post surgical)	175 (3.1%)	9 (5.1%)	Neurology medical, other	110 (1.9%)	18 (16.4%)
Renal (medical)	160 (2.8%)	50 (31.2%)	Pneumonia, other	110 (1.9%)	35 (31.8%)
Infection (medical)	159 (2.8%)	45 (28.3%)	Hematologic medical, other	104 (1.8%)	17 (16.3%)
Respiratory failure (post surgical)	126 (2.2%)	16 (12.7%)	Colon/rectal cancer	103 (1.8%)	11 (10.7%)

GI – Gastrointestinal, CVS - Cardiovascular

Fig 2.13 : Distribution of On Admission Mechanical Ventilated Patients in Adult ICUS in 2013

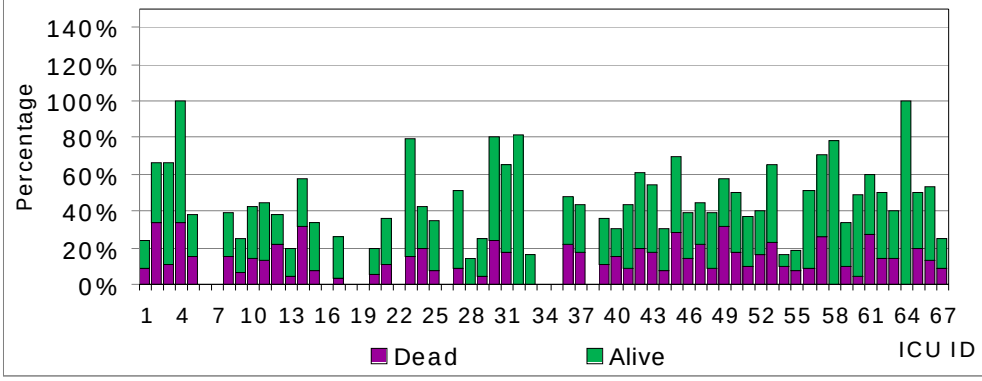
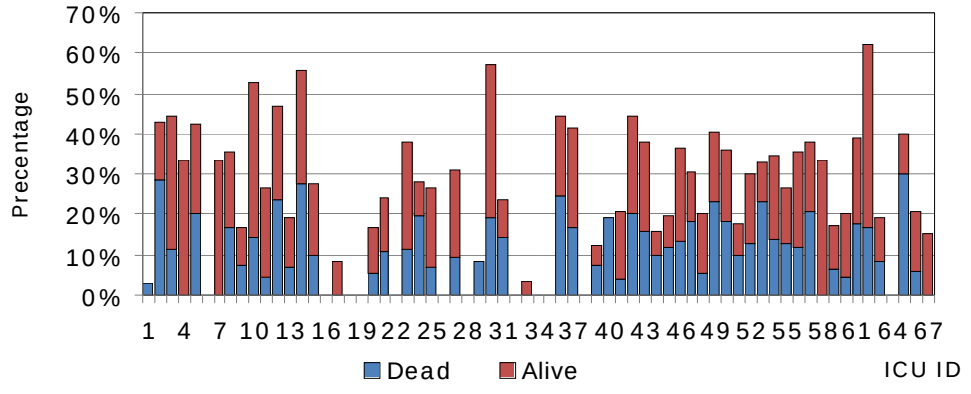


Fig 2.14 : Distribution of On Vasoactive Medicated Patients in Adult ICUs



The distribution of sepsis patient in adult ICUs in 2013 is shown in Figure 2.15. Figure 2.16 illustrates the 30 day post discharge Kaplan Meier curve in adult ICUs in 2013.

Fig 2.15 : Distribution of Sepsis Patients in Adult ICUs in 2013

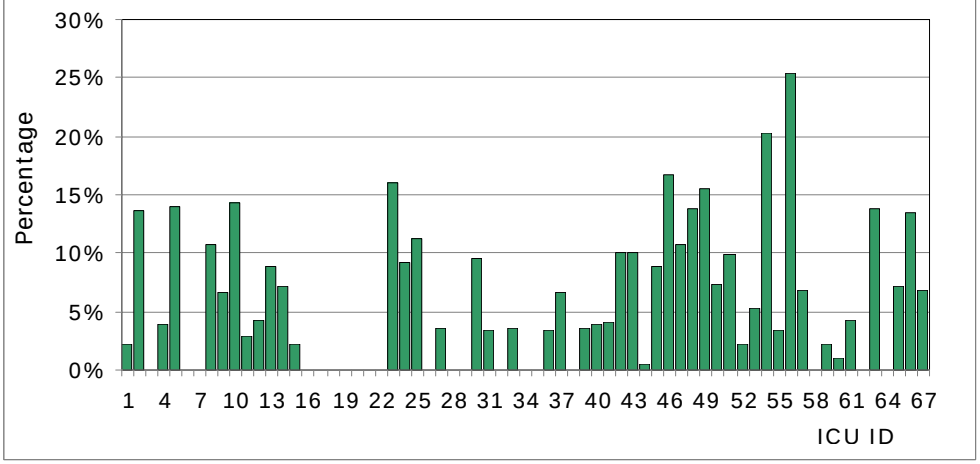
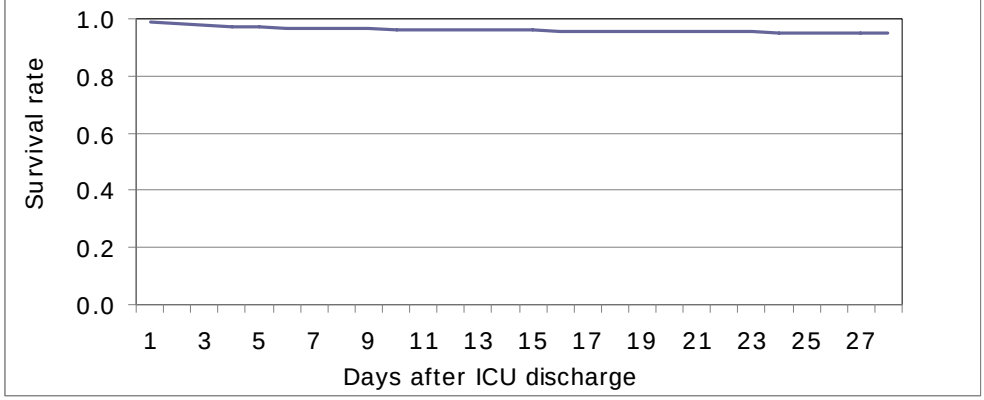
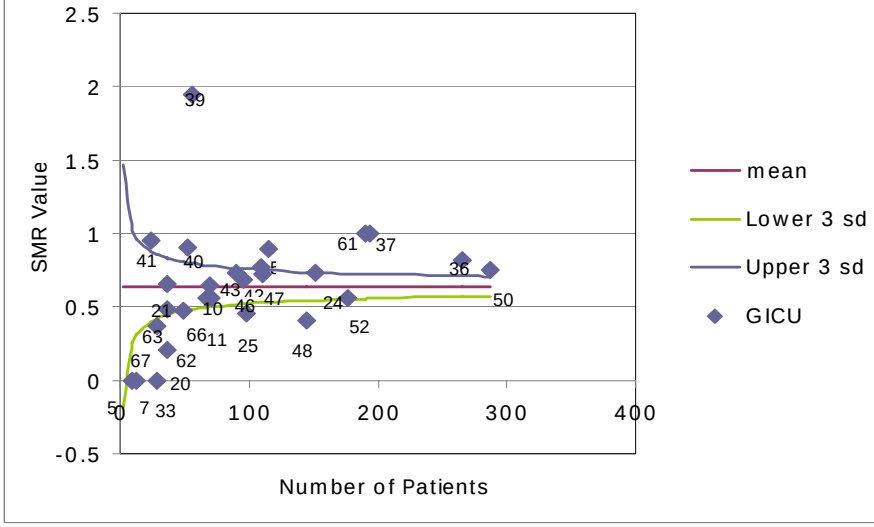


Fig 2.16 : Kaplan Meier Curve for Survival Status in Adult ICUs in 2013



Figures 2.17 to 2.19 illustrates the funnel plots for standardized mortality ratio (SMR) for each of the General (Mixed), Medical and Surgical adult ICU for year 2013. The SMR of each ICU is plotted against number of admissions for each site for the reporting period. This plot can identify potential outliers, as they will fall outside the control lines which have been set as ± 3 SDs around an SMR of 1.

Fig 2.17 : SMR Funnel Plots for General ICUs in 2013



The SMR is calculated by dividing the actual ICU deaths from the expected ICU deaths. The expected deaths are derived from the uncustomised APACHE II probability.

The SMR is affected by the reporting rate, resource availability and lead time. The statistical outliers may be explained due to chance and standard of care.

Fig 2.18 : SMR Funnel Plots for Medical ICUs in 2013

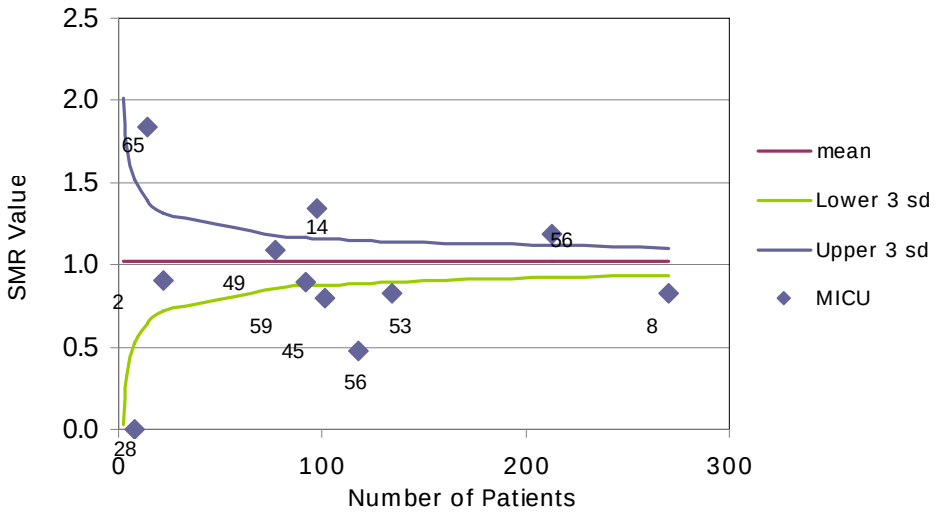


Fig 2.19 : SMR Funnel Plots for Surgical ICUs in 2013

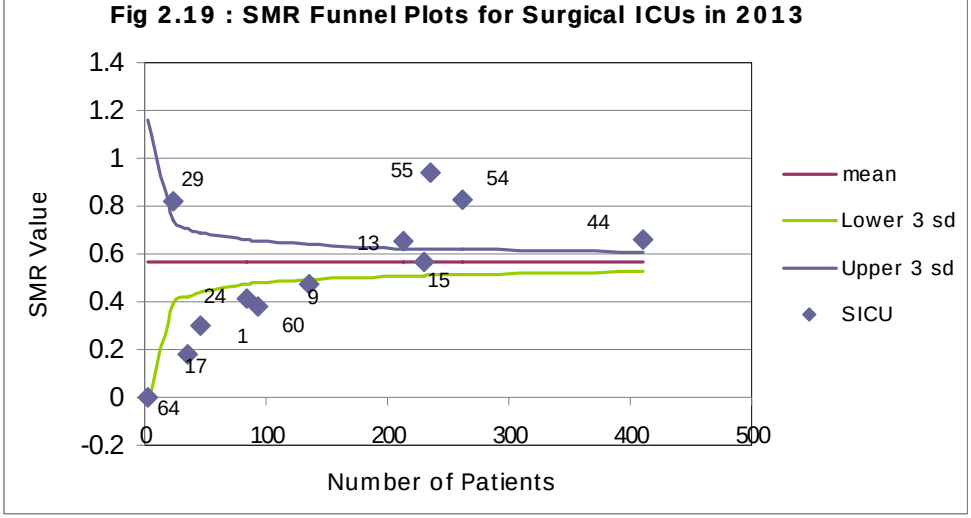
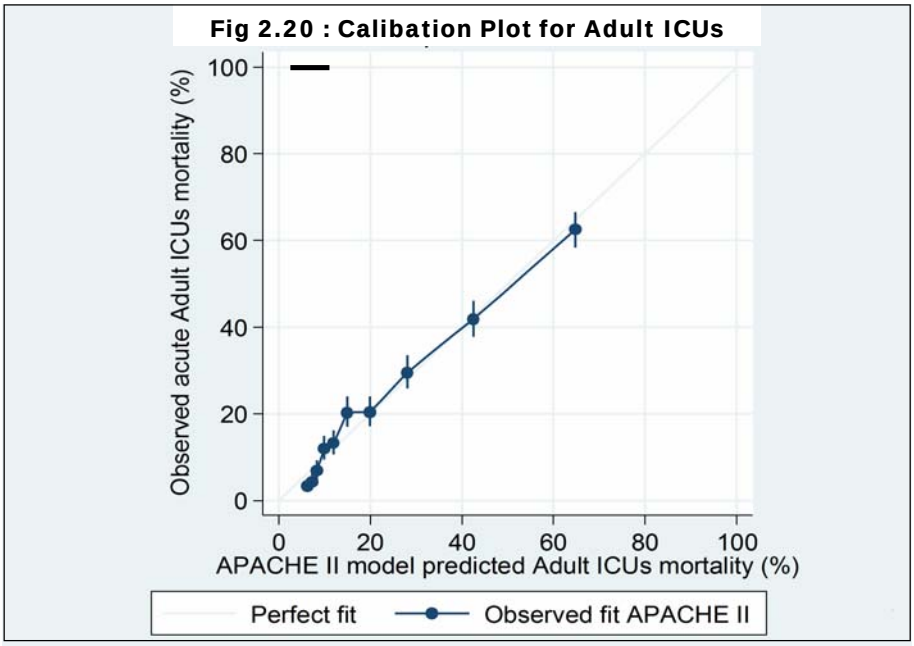


Figure 2.20 illustrates the calibration plot for APACHE II probability with the expected ICU deaths in X axis and observed ICU deaths in Y axis.

NICS would like to thank all hospital directors, consultants and the staff participating in ICUs, for their cooperation. We will be strengthening the system to achieve our collective goals further with the participation of all stakeholders.

Fig 2.20 : Calibation Plot for Adult ICUs



2.11.2 Characteristics of Paediatric ICUs

The age distribution of patients admitted to Paediatric ICUs in 2013 is illustrated in Figure 2.21. The mean bed occupancy rate (BOR) for each Paedaitric ICU for year 2013 is demonstrated in Figure 2.22.

Fig 2.21 : Age Distribution of Patients in Peadiatric ICUs in 2013

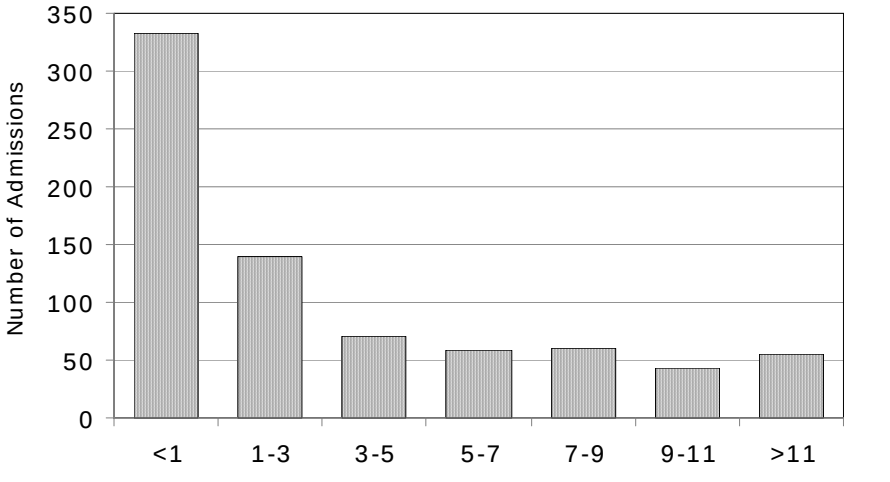
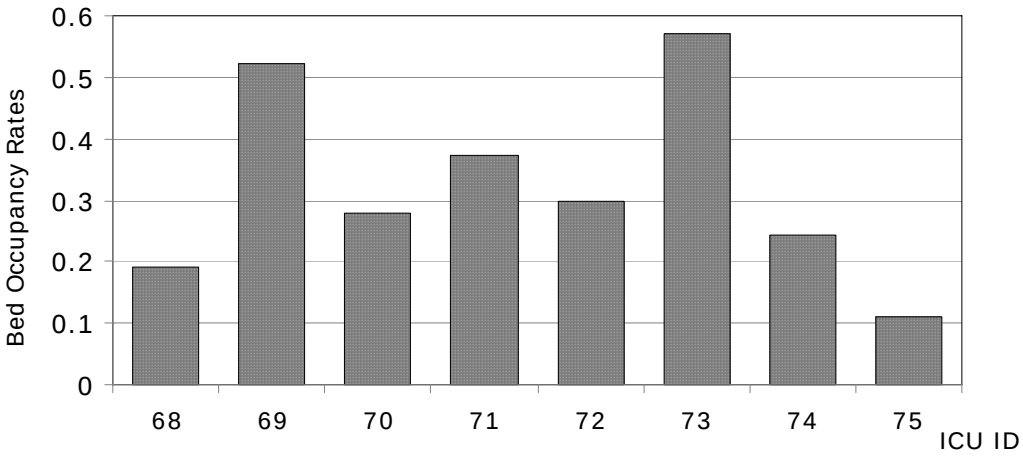


Fig 2.22 : Distribution of Bed Occupancy Rates in PICUs in 2013



The nurse to patient ratio for each Paedaitric ICU for year 2013 is shown in Figure 2.23 while Figure 2.24 shows the mean number of organ failures in admissions to Paediatric ICUs in 2013 by ICU survival status.

Fig 2.23 : Distribution of Patients per Nurse Ratio in PICUs in 2013

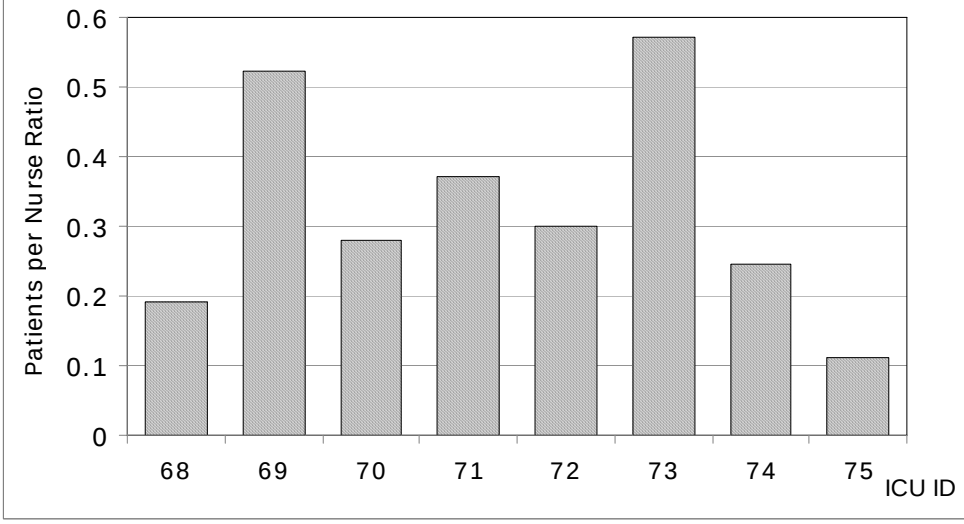


Fig 2.24 : Distribution of Mean Number of Organ Failures in PICUs in 2013

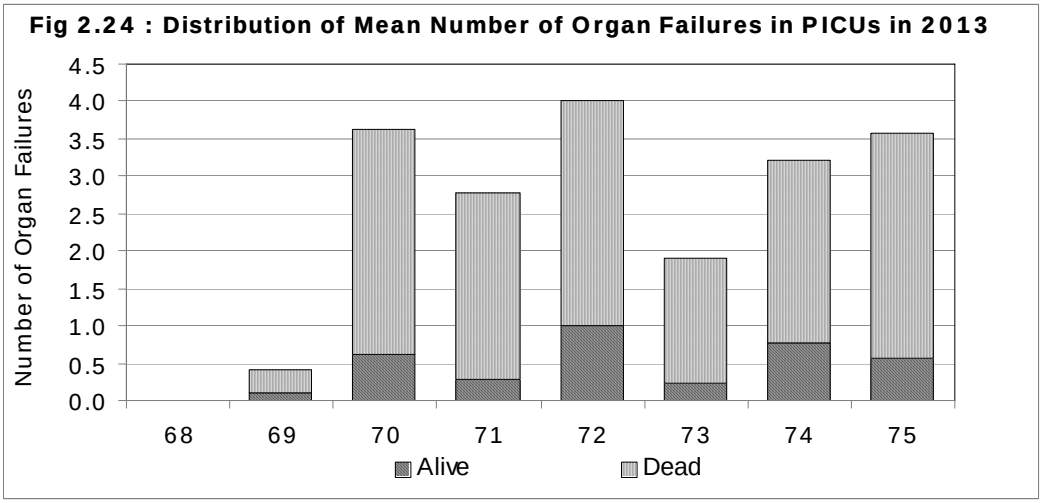


Fig 2.25 : Distribution of Sepsis Patients in PICUs in 2013

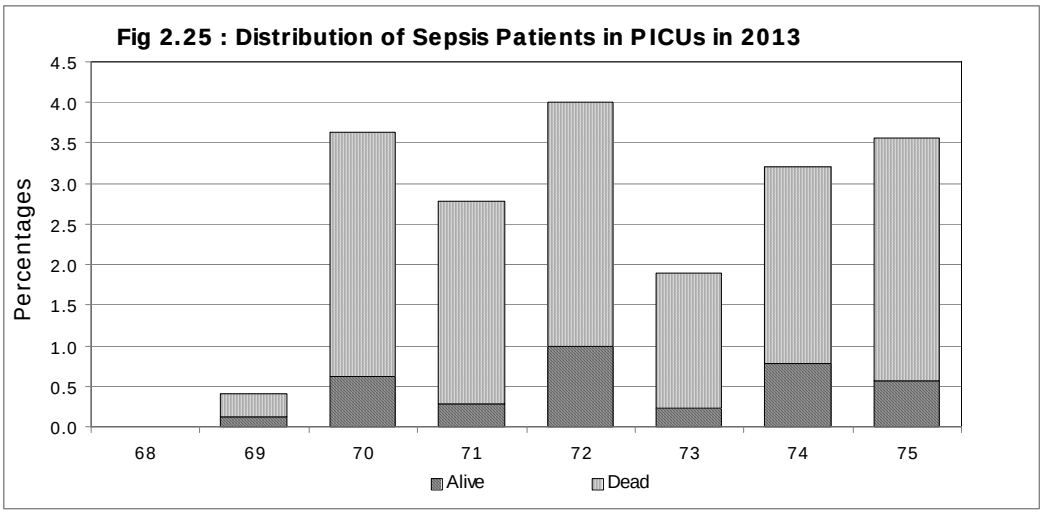


Table 2.9 describes the ten commonest APACHE II and IV diagnosis of patients admitted to paediatric ICUs in 2013.

Table 2.9 : APACHE II and IV Diagnosis of Patients Admitted to Paediatric ICUs in 2013

APACHE II diagnosis	Total Number (%)	Died Number (%)	APACHE IV diagnosis	Total Number (%)	Died Number (%)
Respiratory (medical)	230 (31.5%)	37 (16.1%)	Respiratory- medical, other	87 (11.9%)	7 (8.0%)
Neurology (medical)	82 (11.2%)	4 (4.9%)	Pneumonia, other	46 (6.3%)	8 (17.4%)
GI (post surgical)	59 (8.1%)	3 (5.1%)	Hematologic medical, other	36 (4.9%)	1 (2.8%)
Haematology (medical)	59 (8.1%)	8 (13.6%)	Neurologic medical, other	35 (4.8%)	2 (5.7%)
Infection (medical)	56 (7.6%)	6 (10.7%)	Pneumonia, bacterial	29 (4.0%)	3 (10.3%)
Seizure disorder (medical)	25 (3.4%)	5 (20.0%)	GI surgery, other	29 (4.0%)	–
Respiratory (post surgical)	20 (2.7%)	–	Asthma	26 (3.6%)	2 (7.7%)
CVS (medical)	20 (2.7%)	3 (15.0%)	Meningitis	26 (3.6%)	2 (7.7%)
Respiratory (medical)	14 (1.9%)	4 (28.6%)	Encephalitis	22 (3.0%)	1 (4.5%)
Aspiration poisoning or toxic (medical)	10 (1.3%)	1 (10.0%)	Respiratory surgery, other	20 (2.7%)	–

GI – Gastrointestinal, CVS - Cardiovascular

2.12 Health Finance

The Government earmarked a major share of its investment for health with an overall policy objective of delivering quality and modern healthcare services particularly to underserved areas.

The total Government investment in health has increased from Rs. 94 billion in 2013 to Rs. 154 billion in 2014 with a growing share at both the national and provincial levels.

2.12.1 Resource Mobilization in Health

Annually a major share of health expenditure is channeled to meet the recurrent expenditure while providing a substantial increase of funds on capital expenditure.

In addition to hospital development projects, a major share of capital investment has also been channeled for hospital rehabilitation, medical equipment, etc. Further a total capital investment of Rs. 3,121 million was provided to carry out new initiatives to control communicable and non communicable diseases with domestic as well as foreign assistance.

2.12.2 Cost Accounting System

The Ministry of Health is spending a enormous amount of funds for the patient care services in the country. However, there is no mechanism to determine the cost for each patient in a unit or an institution. This is very important for bench marking between institutions in order to do better planning as the operational level managers get information for their day to day expenditure decisions with avoiding unnecessary allocations. On the other hand it is expected to calculate the cost of service per patient per patient day with comparing in each hospital.

Initially costing mechanism was introduced in TH Kurunegala. Later it was extended to Lady Ridgwey Hospital (LRH) and Castle Street Teaching Hospital (CSTH) successfully. Thereafter 10 hospitals with specialists were selected to establish the costing mechanism. Currently this system has been successfully implemented in 47 hospitals and expected to extend it island wide.

2.12.3 National Health Accounts (NHA)

National Health Accounts has become a key source in describing the financing of the National Health System and its direction of spending . They facilitate tracking health expenditure trends with following the monitoring and evaluation of the healthcare system. Further it provides a systematic description of the financial flows related to the consumption of health care goods and services. On the other hand NHA are increasingly expected to provide inputs into improve analytical tools to monitor and assess health system performance. One high priority is to develop reliable, timely data that is comparable both across countries and over time. NHA are thus used in two main ways; internationally, where the emphasis is on a selection of internationally comparable expenditure data and nationally, with more detailed analyses of health care spending and a greater emphasis on comparisons over time. NHA are crucial for both of these uses. Therefore there is an impotency of having a regular process of producing or utilizing NHA by Ministry of Health.

2.13 Medical Statistics Unit (MSU)

Medical Statistics Unit has been established in the Ministry of Health around 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.

Medical Statistics Unit collects, compiles and publishes statistics mentioned below.

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

MSU is also responsible for preparing and printing returns and registers for the relevant year and distribution to the relevant institutions, provide data for various user requirements, conduct training / awareness programmes to all the staff, handling data in hospital record rooms and carry out hospital reviews to identify data lapses.

In addition, MSU prepares the population estimates for all Medical Officer of Health (MOH) areas. Also the unit maintains a list of health institutions and update it every year.

Since 1960 MSU has collected data using manual systems and published Annual Health Bulletins from 1980 to 2010 continuously excluding few years. Although the unit tries to produce these bulletins on time, it has been delayed due to many inherent drawbacks of the manual data collection mechanism.

In 2010, Medical Statistics Unit has taken a initiative to develop Electronic Indoor Morbidity and Mortality System (eIMMR) to overcome the drawbacks of the Indoor Morbidity and Mortality Return. eIMMR is a web based system designed to facilitate collection, storage, analysis and dissemination of inward patients statistics which will improve efficacy, efficiency and accuracy of the mannual system.

Introduction of eIMMR is expected to ensure the timely publication of the Annual Health Bulletin with accurate and validated data. This system will have the sophistication to cater for numerous analytical requirements and will also function as a disease surveillance system. The recurrent costs incurred for data collection will significantly be reduced due to the reduction in printing, postage and logistical costs.

The system is developed by two medical officers who were following a MSc in Biomedical Informatics (BMI) in collaboration with the Medical Statistics Unit, using open source software. It was designed as a web based software, in order to bring down the cost and ease of implementation, improve accessibility and availability, make data centralised, provide ease of administration and to encourage use. The system was piloted in six hospitals for about one year. They were Lady Ridgeway children's Hospital, Castle Street womens Hospital, De Soyza Hospital, Sri Jayawardenepura Hospital, Base Hospital Panadura and Rehabilitation Hospital Ragama. At the end of the piloting phase, a user satisfaction survey and a comparison study was done to find the effectiveness of the eIMMR system. The secretary of Health has issued a general circular mentioning the guidelines for implementation of eIMMR.

In 2012, Medical Statistics Unit initiated the implementation of the electronic version of Indoor morbidity and mortality reporting system (eIMMR). During the year 2013, 26 training programs in all RDHSS as well as two ICD training programs were conducted to train the staff handling the hospital statistics.

At present, system is being used in 112 hospitals which is about 18 percent of total hospitals in the country. 25 percent of IMMR data is now being produced through eIMMR. It has helped to reduce the time taken for publication of Annual Health Bulletin. The implementation of the eIMMR was selected as two of the nine Disbursement Linked Indicators (DLI) of the second Health Sector Development Project (HSDP) of the World Bank. The targets given for 2013 was satisfactorily achieved during the year. Scaling up of the system was expedited with the funds coming in from the second Health Sector Development Project.

3. Morbidity and Mortality

3.1 Introduction

3.1.1 Introduction of Morbidity

Morbidity refers to the state of being diseased or unhealthy within a population. Morbidity refers an incidence of ill health in a population. Morbidity information reflects the disease patterns of the population. Morbidity data is collected according to the disease type, gender, age and area.

Collecting and analysis of morbidity information would help

a) To identify health situation of the country and patterns of diseases
b) To plan or improve the sectors which need high priority
c) To plan future health programmes
d) Tocompare morbidity trends and patterns across countries
e) To identify social and spatial circumstances and variations of morbidity within countries
f) To formulate health policies and financing of health services

The main morbidity indicators computed are incident rates and prevalence rates.

3.1.2 Introduction of Mortality

“Mortality data indicate number of deaths by place, time and cause.” (http://www.who.int/topics/mortality/en/).

In demography, mortality is usually refers to the incidence of death or the number of deaths in a population. It plays a vital role in determining the size, growth and structure of national population. It is considered as the most striking demographic event all over the world.

Mortality trends reflect health conditions 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.

Furthermore, 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 compare the mortality patterns between sub populations
e) To identify the demographic, social, economic, behavioral and environmental 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

The mortality rate can be distinguished into crude death rate, maternal mortality rate, child mortality rate, standardized mortality rate and age specific mortality rate. Various indicators are computed using both morbidity and mortality information such as cause-specific death rates and case fatality rates, etc.

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 censuses or surveys.

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

Mortality information is collected from the vital registration system and it was established in 1867. It was actually implemented 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.

3.2 Hospital Morbidity and Mortality

In Sri Lanka, morbidity data is available only on patients seeking treatment as inpatients from government hospitals providing western medicine. Morbidity data of patients attending in the outpatient departments of government hospitals are not available. Data from the private sector are also not routinely collected. All the Ayurveda institutions both government and private sectors are not still absorbed into the data collection system. There are some other limited information collecting systems through surveys, registers maintained by the special campaigns and programmes for control of diseases such as TB, Cancer and Leprosy, etc.

The Indoor Morbidity and Mortality Return (IMMR) is the main source of morbidity data. This return is collected quarterly from all government hospitals by the Medical Statistics Unit, except fromthe Primary Health Care Units and Maternity Homes. The IMMR used since 1996 is based on the 10th revision of the International Classification of Diseases (ICD-10 version).

3.2.1 Morbidity

The final diagnosis as mentioned in the bed head tickets of the patients are recordeded in a formal register, and then summarize to complete this return. It is a duty to be performed by a medical recording officer in the hospital record room or the hospital statistics unit. However, since there are limited number of qualified Medical Recording Officers in the system, other staff categories such as Medical Recording Assistants, Planning and Programming Officers, Planning and Programming Assistants, Programming Officers, Programming Assistants, Development Officers, Development Assistants, etc. in hospitals are involving in the said activity. Registered/Assistant Medical Officers or sometimes Medical Officers, also engaged in compilation of inpatient statistics in the hospitals.

Though these officers are mainly employed to attend in the patients care, they perform the statistical activities as an additional duty. During the year 2013, in government hospitals, 6.2% of the live discharges and 8.3 % of the deaths are reported as uncoded.

This is considered as an issue in the data collection system, and should have taken some action to minimize this.

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.

Detailed Table 16 gives trends in hospital morbidity and mortality by ICD broad disease groups for the period 2005 – 2013.

As shown in the said table, some disease groups such as diseases of the nervous system, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinary system and injury, poisoning and certain other consequences of external causes are reported a slight decrease from 2012, but certain infectious and parasitic diseases have shown a continuous decrease from 2009. The other groups have their increasing pattern unchanged.

In spite of the effort taken to improve the quality of the final diagnosis and cause of death in the patient records, the group named symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified, has still increased.

- For the year 2013, 5,881,886 live discharges and 44,239 deaths have been recorded in government hospitals. 49% out of the live discharges and 60% out of the deaths are males. (Figure 3.1)
- Group of traumatic injuries (S00-T19, W54) has been the major cause for hospitalization and reported 869,858 cases. But on the other hand, out of total hospitalizations due to traumatic injuries, the percentage of deaths is just 0.15. As shown in figure 3.2 gender difference is high in hospitalizations as well as in deaths due to traumatic injuries. When concerning total live discharges due to traumatic injuries 66 percent are male and out of total deaths due to injuries 77 percent are male.

Fig 3.1 : Percentage of Hospital Live Discharges and Deaths by Gender - 2013

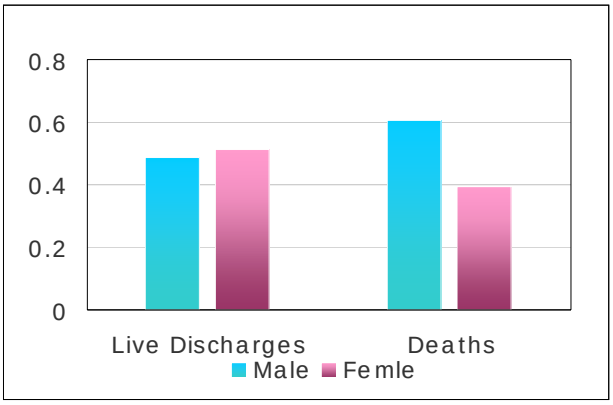
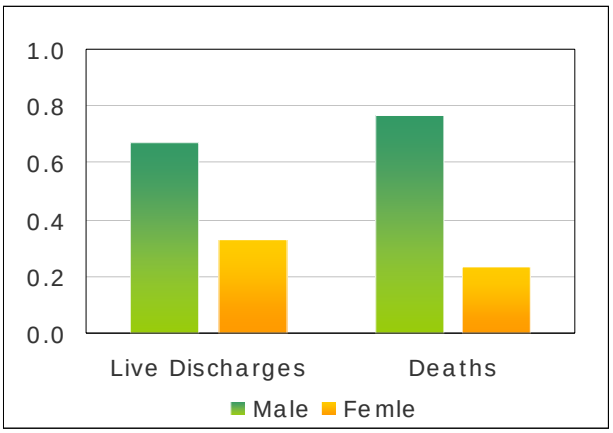


Fig 3.2 : Percentage of Hospital Live Discharges and Deaths from Traumatic Injuries by Gender - 2013



Detailed Table 17 shows the trends of some selected diseases. Increasing trend is shown in hospitalizations per 100,000 population due to following diseases compared to last five years.

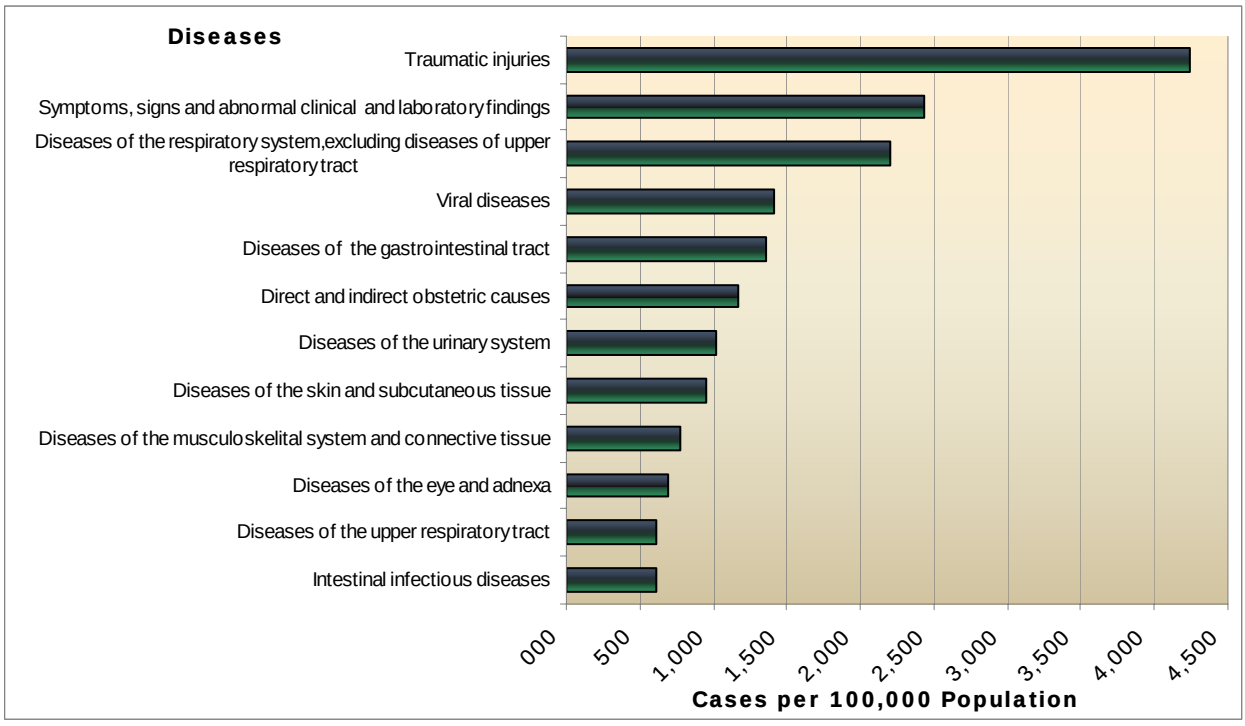
- Ichaemic heart diseases (494.9 in 2012, and 506.1 in 2013)
- Hypertensive diseases (486.4 per 100,000 population in 2012 and 489.3 in 2013)
- Diabetes mellitus (388.1 in 2012, and 411.4 in 2013)
- Anaemias (105.6 per 100,000 population in 2012 and 111.9 in 2013)
- Septicemia (33.6 per 100,000 population in 2012 and 38.1 in 2013)

3.2.1.1 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 2002-2013. There is no change in the ten leading causes of hospitalization for 2013, compared with 2012, except for the change in the rank position of two diseases.

Traumatic injuries ranked as the major cause of hospitalization over last ten years as well as in 2013.

Fig 3.3 : Leading Causes of Hospitalization - 2013



Symptos, signs and abnormal clinical and laboratory findings which was the third leading cause from 2003 to 2008, ranked as the second since 2009, as well as in 2013. Diseases of the respiratory system has become the third leading cause since 2009 and it was second up to 2008. Hospitalization due to viral diseases have remained as the fourth leading cause from 2006.

During 2013, diseases of the gastro-intestinal tract remained as the fifth leading cause of hospitalization. It was in the same place since 2006 and 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).

Diseases of the urinary system are being important cause of hospitalization and it ranked as seventh in 2013. Intestinal infectious diseases are still an important cause of hospitalization. It ranked as the 11th leading cause of hospitalization in 2012, but has become the 12th in 2013.

3.2.1.2 Outpatient Morbidity

Data on outpatient attendance by diseases are not collected routinely from government hospitals. Out-patient morbidity data obtained from surveys carried out in the past have indicated that there are no any significant differences from the pattern of inpatient morbidity data.

3.2.2 Hospital Mortality

Detailed Table 16 indicates that mortality due to both endocrine, nutritional and metabolic diseases and injury, poisoning and certain other consequences of external causes disease groups has decreased in 2013.

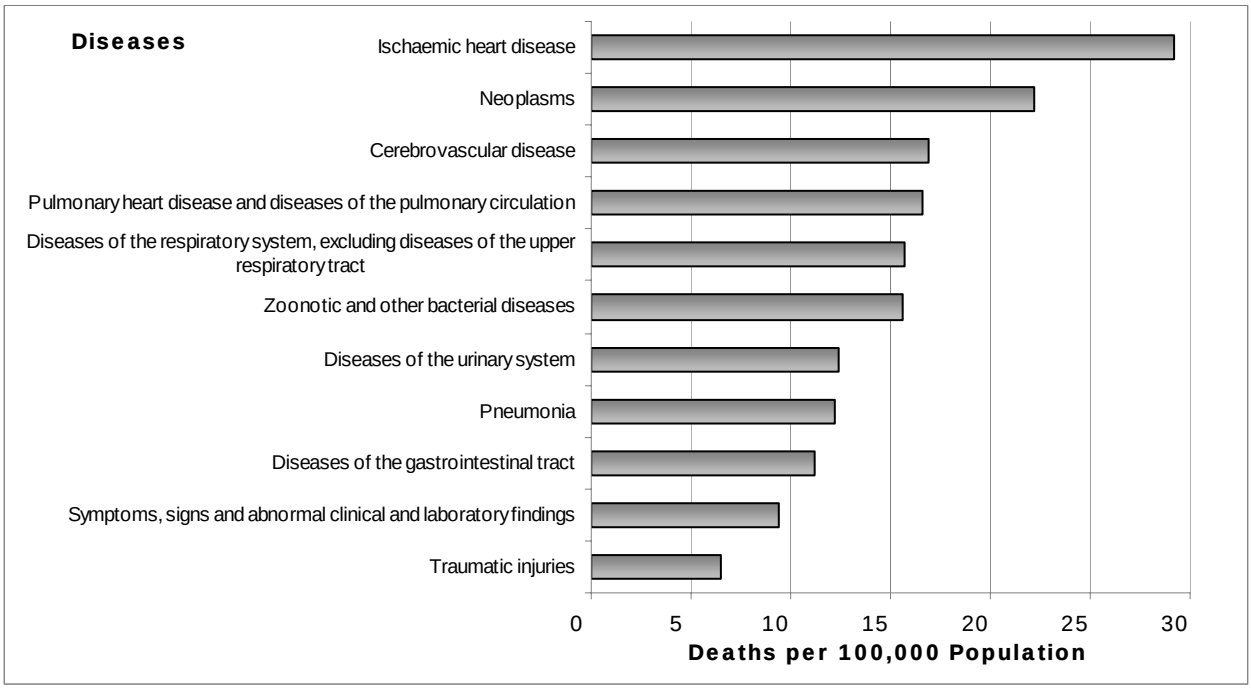
But among all the diseases groups, death by injury, poisoning and certain other consequences of external causes is the only group that has shown a clear reduction within the past 4 years. It is estimated that only 30-40 percent of registered deaths occur in government hospitals. This proportion is higher for deaths related to puerperal causes, heart diseases, respiratory diseases, etc.

3.2.2.1 Leading Causes of Hospital Deaths

The leading causes of hospital mortality in the country, the trends and the district distributions are given in Detailed Tables 19, 21 and 23 respectively.

According to Detailed Table 19, ischemic heart diseases, neoplasms, cerebrovascular disease and pulmonary heart disease and diseases of the pulmonary circulation ranked as the first few leading causes of hospital deaths. These diseases accounted for about 44 percent of analyzed hospital deaths. Diseases of the ischemic heart ranked as the major leading cause of deaths since 1995.

Fig 3.4 : Leading Causes of Hospital Deaths - 2013



Neoplasms ranked as the second leading cause of death since 2009.

A higher death rate associated with neoplasms in Colombo, Kandy, Galle, Jaffna and Anuradhapura districts is a result of cancer patients being transferred to the Teaching Hospitals in Maharagama (Colombo District), Kandy, Karapitiya, Jaffna and Anuradhapura where advance facilities for the treatments of neoplasms are available. In addition, the morbidity rate has also increased during last five years.

3.2.2.2 Case Fatality Rate

According to 2013 hospital statistics, septicaemia case fatality rate reported as the highest as 37.7 and it was 37.6 in 2012 (Detailed Table 26). The next highest case fatality rate was due to diseases of the liver, with a case fatality rate of 10.6 where as it was 10.7 in 2012.

3.3 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 can be seen, which are predominantly medically confirmed or at least medically examined.

4. Patient Care Services

4.1 Hospital Services

In Sri Lanka patient care services are provided to patients under two categories namely inpatient care and outpatient care. During the past five years the government curative care institutions have been providing services annually, to around 5 million inpatients, 50 million outpatients and about 23 million patients attending various clinics.

In 2013, data is available in all districts in Sri Lanka, but due to the lack of corresponding staff in some districts during that period 100 percent receipt of returns were not happened.

Between 2000 to 2013 inpatient admissions showed an increasing trend over the period and it was over 5 million from 2009. It is close to 6 million in 2013. Outpatient visits increased by 6.4 percent in the year 2013 when comparing with 2012 (Table 4.1).

According to Detailed Table 27, in 2013, Colombo district recorded the highest inpatients per 1,000 population. There are fourteen districts which recorded higher rates than the national figure of 289 inpatients per 1,000 population for the year 2013.

Table 4.1 : Trends in Inpatient and Outpatient Attendance and Rates per 1,000 Population, 1990 -2013

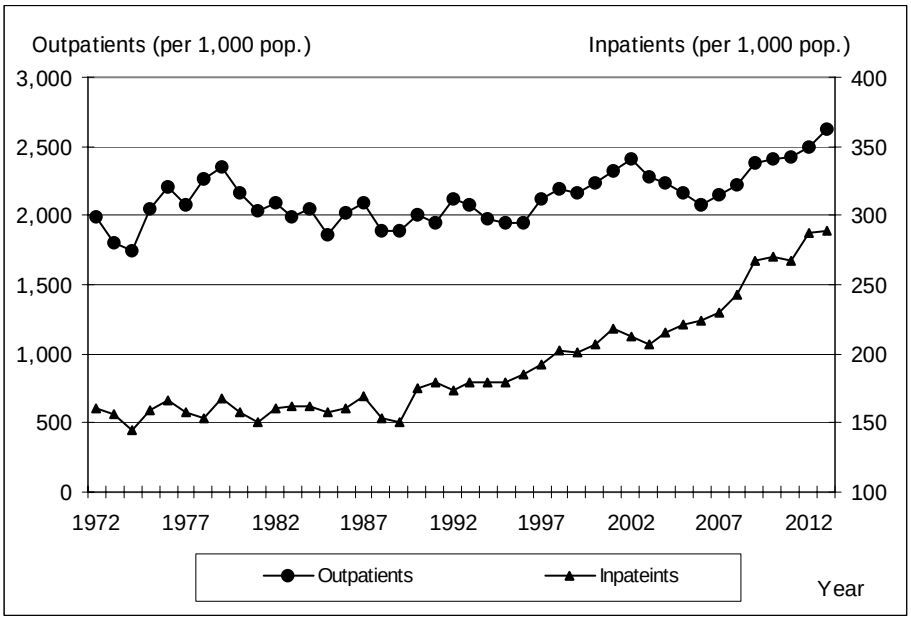
Year	Inpatients Treated		Outpatient Attendance [1]	
	Number '000	Rate [6]	Number '000	Rate [6]
1990 [2]	2,533	174.6	28,401	2,000.5
1995 [3]	2,953	179.3	32,084	1,947.7
1996 [4]	3,339	184.5	35,348	1,953.2
1997 [5]	3,454	191.7	38,078	2,114.0
1998	3,791	201.9	41,071	2,187.7
1999	3,825	200.9	41,323	2,170.1
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
2009 [4]	5,474	267.7	48,782	2,385.4
2010	5,591	270.7	49,871	2,414.7
2011*	5,568	266.8	50,682	2,428.6
2012	5,840	287.3	50,631	2,490.7
2013	5,926	289.3	53,859	2,629.4

*Provisional

Source : Medical Statistics Unit

Excludes:
[1] Clinic Attendance
[2] Northern and Eastern Provinces
[3] Jaffna, Kilinochchi, Mullaitivu and Ampara Districts
[4] Kilinochchi and Mullaitivu Districts
[5] Ampara District
[6] Rate per 1,000 population

Fig 4.1 : Inpatient and Outpatient Attendance in Government Medical Institutions, 1972 - 2013



Source : Medical Statistics Unit

Excludes :
1 : Northern & Eastern Provinces in 1990
2 : Jaffna, Kilinochchi, Mullaitivu & Ampara districts in 1995
3 : Kilinochchi and Mullaitivu Districts in 1996 and 2009
4 : Ampara District in 1997

Highest outpatient attendance per 1,000 population is observed in Mannar district in 2013 which was 4051.3 followed by the Ampara district which was 3,676.4. Mullaitivu district shows the third highest outpatient attendance per 1,000 population in 2013 which was 3,654.3 (Detailed Table 29). Gampaha district shows the least outpatient attendance per 1000 population.

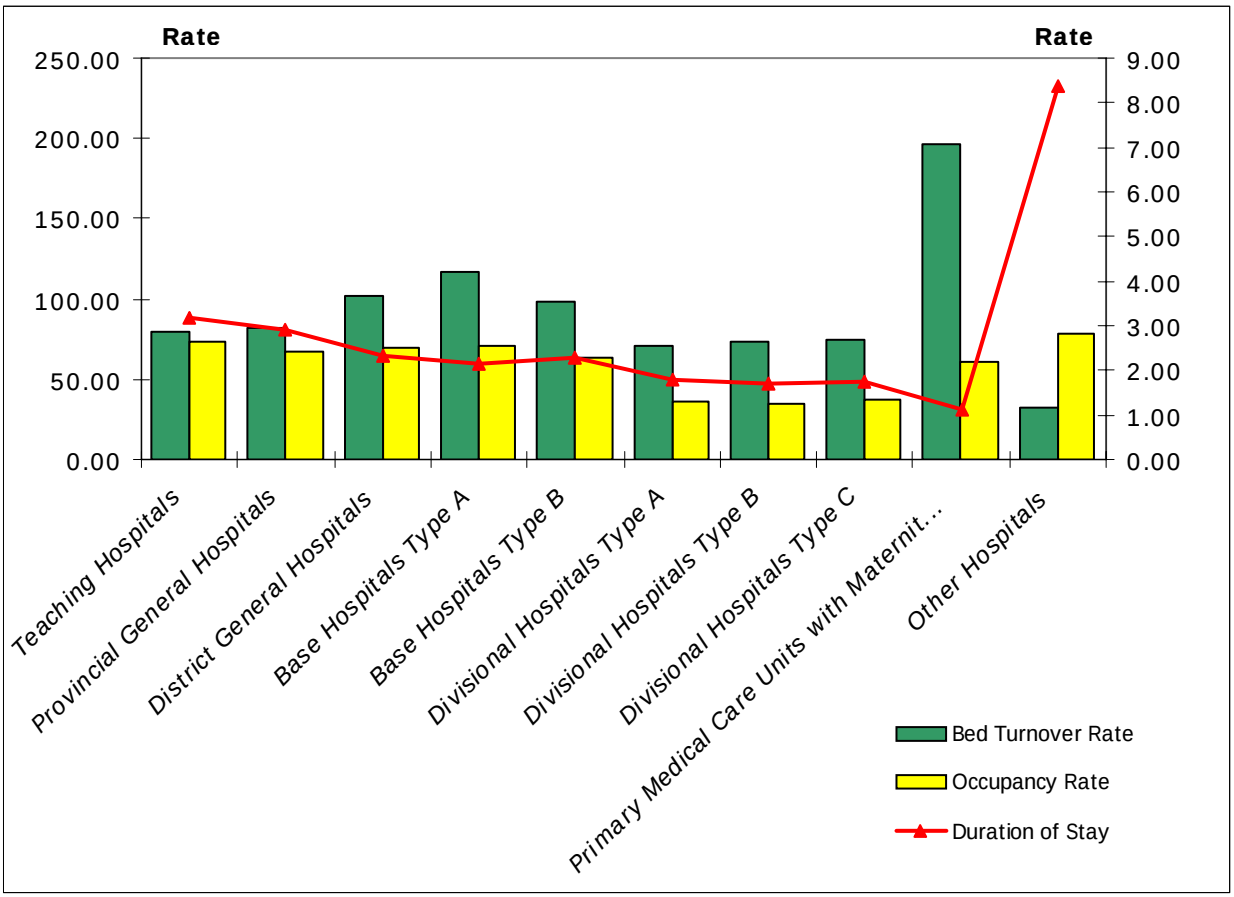
There were sixteen districts which recorded higher rates than the national figure of 2,629.5 outpatient attendance per 1,000 population. The highest outpatient attendance can be seen in Divisional Hospital Type C followed by Divisional Hospital Type B. Primary Medical Care Units show the third highest outpatient attendance in 2013. (Detailed Table 31)

Information on clinic visits in 2013 shows an increasing trend compared to previous years and visits are higher in Teaching Hospitals (Detailed Table 33).

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 over crowding 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 Hospitals than hospitals in other categories except "Other Hospitals" (Detailed Table 34). Average duration of stay is significantly longer in the specialized hospitals such as Mental, Chest, Cancer, Leprosy and Rehabilitation.

Fig 4.2 : Utilization of Medical Institutions, 2013



Source : Medical Statistics Unit

As shown in Detailed Table 34, in 2013, Teaching Hospitals, Base Hospitals Type A and Other Hospitals have higher bed occupancy rates which is more than 70, while Base Hospitals Type B have a bed occupancy rate around 63 and Divisional Hospitals have comparatively low figures which are less than 40. Specialized hospitals that are in "Other Hospitals" category show the most significant value in bed occupancy in 2013 when compared to the other categories of hospitals.

In 2013, bed occupancy rates are higher in almost all Teaching Hospitals and, Teaching Hospitals in Kandy district indicate the highest bed occupancy rate. Provincial General Hospitals also show a higher value in bed occupancy in 2013. District General Hospitals indicate a fairly high bed occupancy rates too and among them hospitals in Mullaitivu and Monaragala districts show more than 100 percent bed occupancy rates (Detailed Table 34).

Base Hospitals "Type A" in Ratnapura, Nuwara Eliya, Matale and Hambantota districts show more than 90 percent bed occupancy rates in 2013. The highest bed occupancy rate of 108.81 is recorded from the Batticaloa district among all Type B Base Hospitals.

All Divisional Hospitals Type A or B or C do not indicate higher bed occupancy rates in 2013. Among the hospitals in Other Category, Kegalle District shows the highest bed occupancy rate. (Detailed Table 34).

As previous years, in 2013, specialized hospitals are the most overcrowded institutions in Sri Lanka. Among these hospitals, Dematanpitiya Mental Rehabilitation Centre is the most overcrowded hospital with a bed occupancy rate of 149.6, followed by Dental Institute(112.3) and Cancer Hospital Colombo (102.9).

According to the Detailed Table 34, it is also noteworthy that utilization of hospitals varies from district to district, irrespective of the type of hospitals.

Because of changing the type of health institutions in 2012, it is difficult to describe the trend of changing the rates.

Table 4.2 illustrates the maternal services provided by type of hospital. When compared with 2012, an increase in total number of deliveries occured in all government institutions is observed in 2013. (Total number of deliveries in 2012 is 338,475)

Number of deliveries occured in Teaching Hospitals is greater than 100,000 as usual. The Teaching Hospitals including the four Maternity Hospitals accounted nearly 34 percent of the deliveries.

Table 4.2 : Maternal Services by Type of Institution, 2013

Type	Outcome of Delivery			Total Deliveries		Method of Delivery			% of Caesarian Sections
	Single Deliveries	Twin Deliveries	Other Deliveries	Number	%	Normal	Forceps	Caesarian	
Teaching Hospitals	117,167	1,244	39	118,450	34.2	75,090	1,859	41,501	35.0
Provincial General Hospitals	17,050	194	1	17,245	5.0	11,327	102	5,816	33.7
District General Hospitals	81,755	799	10	82,564	23.9	53,949	502	28,113	34.0
Base Hospitals Type A	72,718	605	3	73,326	21.2	48,886	267	24,173	33.0
Base Hospitals Type B	38,811	222	-	39,033	11.3	29,841	364	8,828	22.6
Divisional Hospitals Type A	3,338	6	-	3,344	1.0	3,339	5	-	-
Divisional Hospitals Type B	8,197	15	-	8,212	2.4	8,209	3	-	-
Divisional Hospitals Type C	3,742	9	-	3,751	1.1	3,751	-	-	-
Primary Medical Care Units and Maternity Homes	139	1	-	140	0.0	140	-	-	-
Total	342,917	3,095	53	346,065	100.0	234,532	3,102	108,431	31.3

A considerable increase in the number of deliveries occured in Base Hospitals Type A and Type B is observed when compared with 2012. When the deliveries in Base Hospitals "Type A" are considered, number of delivaries occured in these hospitals are higher than the other types of hospitals except Teaching and District General hospiitals (Table 4.2).

The highest caesarean section rate was recorded from the Teaching Hospitals followed by the District General Hospitals. Provincial General Hospitals also had a value close to the rate in District General Hospitals in the year 2013 (Table 4.2).

As in previous years, Sri Jayawardenapura Teaching Hospital recorded a comparatively higher caesarean section rate of 53.8 per 100 deliveries.

Overall caesarean section rate has increased when compared to the year 2012 and same pattern can be seen in all types of institutions. (Processed from maternal returns, 2013)

Forceps deliveries are higher in Teaching Hospitals as in previous years and significant numbers can be seen in the Provincial General, District General and Base Hospitals.

During 2013, a total of 347,033 live births and 2,236 still births took place in government hospitals (Detailed Table 37).

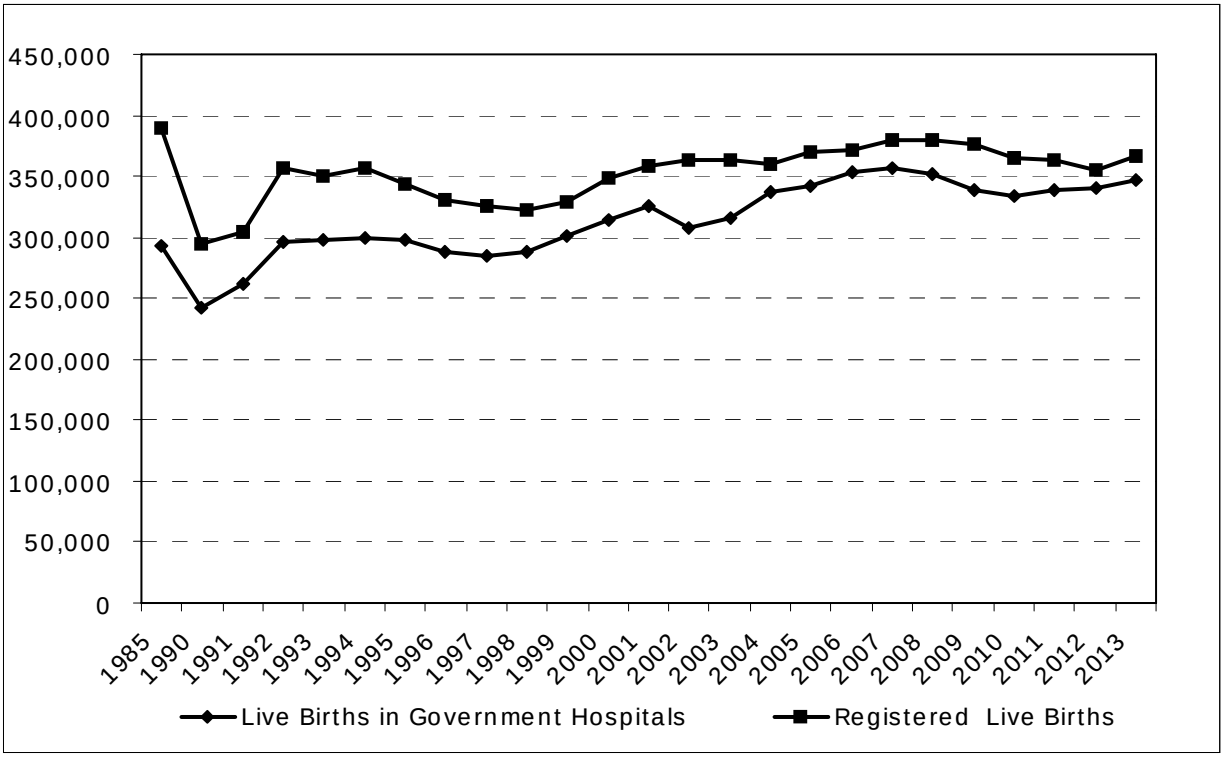
The births occurring in government hospitals as well as registered live births has increased from 2012 to 2013. As recorded in Detailed Table 36, 95 percent of the live births occured in the government hospitals in 2013. Fig 4.3 shows the trends in registered live births in the Registrar General's Department vs live births occured in government hosptals.

The still birth rate per 1,000 births in government hospitals is 6.4 for the year 2013 and it is lower than the rate of 7.0 per 1,000 live births in 2012 (Detailed Table 37).

A slight increase in low birth weight rate is observed in government hospitals in 2013 (16.7) when compared to 2012 figure of 16.3 (Detailed Table 37).

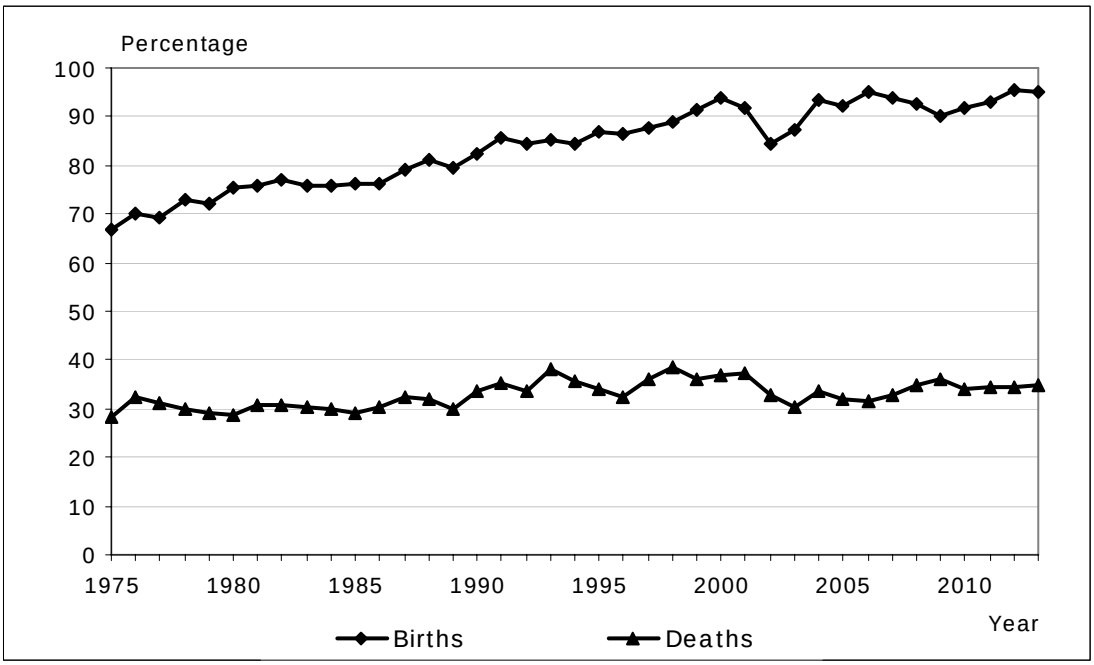
Fig 4.4 shows the trends in live births and deaths in government hospitals. It is important to note that still births were not included in the live births or death distribution.

Fig 4.3 : Registered Births Vs Hospital Births, 1985 - 2013



Source : Registrar General's Department and Medical Statistics Unit

Fig 4.4 : Live Births and Deaths in Government Hospitals as a Percentage of Registered Births and Deaths, 1974 - 2013



Source : Medical Statistics Unit

Excludes :

1 : Northern & Eastern Province in 1990
2 : Jaffna, Kilinochchi, Mullaitivu & Ampara Districts in 1995
3 : Kilinochchi and Mullaitivu Districts in 1996 and 2009
4 : Ampara District in 1997

According Fig 4.4 percentage of live births occurring in government hospitals has an increasing trend from the past. In 2001, a slight decrease in the distribution was observed and in 2002, a further decrease was observed. From 2003 the percentage began to increase until 2006 and a slight decrease has been observed in 2007 and then to 2009. From 2010, it began to increase and again in 2013 it shows a slight decrease.

The percentage of deaths occurring in the government hospitals does not show an apparent increase or decrease in trend. It was around 30 percent in the past and in 2008, the percentage distribution of deaths occurring in government hospitals increased to 35 percent of registered deaths.

In 2009, percentage of deaths occurring in government hospitals is around 36 percent. But from 2010, it has decreased to 34 percent and in 2011 the percentage of deaths occurring in government hospitals tends to increase again.

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

4.2.1 Vision

A healthy smiling Sri Lankan nation with 20 functioning teeth even at 80 years of life.

4.2.2 Goal

Twenty functioning teeth at eighty year old in Sri Lanka

4.2.3 History of the Dental Services

Dental services in the government hospitals commenced in 1925 with the establishment of first dental clinic in Colombo ward place. This was the beginning of the employment of dental surgeon in public sector, which today has a cadre of approximately 1500.

First batch of dental graduates qualified from dental school affiliated to Colombo medical college and later this was shifted to Peradeniya in 1947. They were appointed on temporary basis at the beginning & later on permanent basis as grade (ii) dental officers.

Training of school dental nurses was started in 1951 and six were sent to New Zealand for 2 year training programme of dental care for young children(<13 years) & this would be the start of a dental public health service in Sri Lanka, under Colombo plan with the assistance of New Zealand government. School dental nurses were appointed to each school under the supervision of school dental surgeon. This was the beginning of the school dental services in Sri Lanka (1955).

A land at Maharagama was donated by Sir John Kothalawala, the former Prime Minister & building was constructed by the Sri Lankan government, once the Health Department decided to develop the school dental nurse system.

4.2.4 Current Situation of the Dental Services

Dental services are provided by dental professionals (Dental specialist & Dental surgeon), school dental therapists & dental technicians. Deputy Director General (Dental Services) at Ministry of Health manages dental surgeons according to the national goals & targets at central level & well supported by Regional Dental Surgeons (RDS) at regional level.

Dental services are composed of two components, preventive & curative. Curative services are mainly demand oriented & providing through network of dental clinics situated in government hospitals. At present dental clinics are available in Teaching Hospitals, Provincial General Hospitals, District General Hospitals, Base Hospital A/B, Divisional Hospital A/B/C and Primary Medical Care Unit (rural hospitals and central dispensaries).

These clinics provide a wide range of dental care, ranging from basic treatment to specialized care. Curative care is supported by dental technicians working in dental clinics & institutions with consultants in restorative & orthodontics dentistry. Dental Institute - Colombo, Institute of Oral Health - Maharagama & Dental Hospital at Peradeniya are considered as centres of excellence in dentistry.

Need based preventive services are provided mainly through school dental services (SDS). School dental clinics are managed by school dental therapists (previously named as school dental nurses) who are providing dental care for children of 3-13 years. During the year 2012, there were 433 school dental clinics and 422 school dental therapists where 9,700 schools being covered. Preventive care services are further strengthened by dental surgeons working in adolescent dental clinics (ADC) & community dental clinics (CDC). Sixty two ADC provide dental services mainly to children over 13 years of age & to any complicated case referred by SDT, while CDC are targeted for general public referred by primary health care team.

4.2.5 Specialist Services

There are five main specialist categories in oral health care services in Sri Lanka. They are oral and maxillo facial surgery, orthodontics, community dentistry, restorative dentistry and oral pathology. At present specialists are serving in Teaching Hospitals, Provincial General Hospitals and some Base Hospitals. In the year 2013, there were 64 dental specialists belonging to first four categories and distribution is as follows.

Table 4.3 : Distribution of Dental Specialists by Specialty

Specialty	Number
Oral & maxillo- facial surgery	28
Orthodontics	19
Community dentistry	9
Restorative dentistry	8
Total	64

4.2.6 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. Treatment modalities carried out were deciduous and permanent extractions, fillings, scaling and oral hygiene instructions. Moreover, several other health regions (districts) have their own mobile units catering to target groups such as school children, adolescents, antenatal mothers and adult groups (particularly in work places). In addition some programmes are being carried out to attend to underserved communities such as institutionalized elderly, differently disabled people, children with special needs and internally displaced people.

4.2.7 Improvement of Quality of Oral Health Care

During the year 2013, Rs. 66 million were distributed to healthcare institutions island wide in view to improve the patient care services, purchase of dental equipments, services & maintenances and oral health promotion & prevention of fluorosis.

4.2.8 Oral Disease Trends

Ministry of Health in collaboration with the World Health Organization has conducted three National Oral Health Surveys 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 (4th National Oral Health Survey is in process). It is very important to note the DMFT of 12 year olds 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 diseases.

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%	76.40%	65.5% (5-yrs)
	DMFT	4.4	4.1	3.6 (5-yrs)
12 yrs	Prevalence	67.00%	53.10%	40.00%
	DMFT	1.9	1.4	0.9
35-44 yrs	Prevalence	92%	91.10%	91.50%
	DMFT	9.2	10.1	8.4

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%	13.30%	27.20%
35-44 years	6.50%	2.10%	10.10%

4.2.9 Perceived Awareness about Presence of Oral Diseases

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.

4.2.10 Oral Health Related Behaviors

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.

4.2.11 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 was 24.96 and it was, 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 Aged 5 Years and 12 Years with Caries, Active Caries and Treat Caries

Age (years)	No	% with Caries	% Active Caries	% Treated Caries
05 decidous	1995	65.31	63.51	1.8
05 permanent	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 in the above 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 diseases.

4.2.12 On Going Oral Health Promotional & Preventive Activities

4.2.12.1 Oral Health Care Programme for Pregnant Mothers

Registered pregnant mothers are screened and treated accordingly. Health education is given to improve their oral health as well as to improve the oral health of new born and young children.

4.2.12.2 Happy Preschool Development

"Health promotion, communication & happy preschool development" training across the country for the school dental therapists. Production of IEC materials (leaflets & posters in Sinhala & Tamil)

4.2.12.3 Oral Cancer Prevention Programme

Oral cancer prevention programmes are conducted in the community using the risk factor model as a guide line.

Ultimate goal is to reduce the number of stage (iii) & (iv) oral cancer cases reported at OMF clinic by 1/3 by 2030.

Advocacy for religious leaders regarding adverse effects of betel & arecanut chewing. "Screening & health educational programmes for estate workers" with collaboration of estate health sector. Health education programmes for school setup - for school health club leaders & for the school teachers.

4.2.12.4 Save Molar Programme

Ministry of health has already approved the grant for save molar programme which is being carried out to strengthen the primary oral health care in Sri Lanka. Under this programme, school children of grade 1, 2 and 6 are screened to identify the high risk children for dental caries especially in molar teeth. Molar teeth of high risk children are sealed by fissure sealant material to protect those teeth from dental caries in future. The overall risk of teeth for caries is reduced with necessary interventions to control dietary sugar, dental plaque retention & early diagnosis of dental caries. Pilot project of the save molar programme was successfully started from 2013 in 15 selected MOHH and is planning to carry out in selected Medical officers of Health (MOH) areas across the country from 2014 onwards. The aim of the project is to preserve the molar teeth by applying fissure sealant to achieve the goal of 20 teeth at 80 years of age.

This programme is implemented targeting school children as it will be aimed to have caries free adolescents once they are leaving the school to achieve the goal of 20 teeth at 80 year old age.

4.2.12.5 Prevention of Early Childhood Caries

Children under 3 years of age are screened for early childhood caries and if found, fluoride varnish is professionally applied after appropriate health education. Medical Officer of Health (MOH) & Public Health Midwives were trained & motivated to identify the high risk children and referral to the closest available health facility.

4.2.12.6 Prevention of Fluorosis

Forty colorimeters were distributed among people living in high fluoride areas (Anuradapura-21, Polonnaruwa-9, Kurunegala-9 & Rathnapura-1) to identify the wells with high fluoride contents, there by motivated to avoid the access of high fluoridated drinking water (>0.7ppm).

4.2.12.7 Distribution of Dental Demonstration Models

Twenty dental demonstration models were distributed across the country to the RDHS offices, NIHS Kaluthara, IOH Maharagama & Health Education Bureau. (Giant molar tooth with dental caries, dentition development, adult dentition, periodontal diseases, effects of using smokeless tobacco & smokers mouth)

4.2.12.8 Distribution of Slim Light Boxes & Pennants

10 sets of slim light boxes (10 in each set) & 25 sets of pennants with stand (10 in each set) were distributed to represent the provinces.

4.2.12.9 Distribution of Digital LCD/LED Touch Screen Signage Displayers

4 digital LCD/LED touch screen signage displayers were distributed to IOH Maharagama & Dental therapist training school.

4.2.12.10 Production of Short Video Clips on Oral Health

With the intention of promote oral health, short video clips were produced. They are the "oral health status & oral health services in Sri Lanka, oral health during pregnancy, early childhood caries, periodontal diseases & brushing and caries is a dynamic process, cavities can be prevented".

4.2.13 National Health Development Plan for 2013-2017

1. To provide care for antenatal mothers & children
2. To streamline the in-service training & research in oral health
3. To strengthen the quality of care

4.2.14 Oral Health Care Service

Oral health care services of the country are managed under the Deputy Director General of Dental Services (DDG) at the central level with the assistant of 25 regional dental surgeons and dental surgeons in charge in major hospitals. Following are the major institutions available for the administration of human and technical resources coming under DDG (Dental Services).

1. Director, Dental Services-Ministry of Health
2. Dental Institute, Colombo
3. Institute of Oral Health, Maharagama
4. Dental Hospital (Teaching), Peradeniya

The island wide dental care service is provided by the dental surgeons in various categories of all types of hospitals under line ministry and provincial hospitals and school dental therapists under school dental services. The basic services are provided by the dental surgeons while specialized care is given by oral maxillo facial, restorative, orthodontic and community dental consultants.

4.2.15 Physical Resource Development

During 2013, 70 million budgetary allocation was granted for the office of DDG (Dental Services) & total expenditure was 66 million.

4.2.16 Human Resource Development

Awaiting cabinet approval for the recruitment of 72 new dental surgeons for the Ministry of Health for the year 2014. Apart from that in-service training programmes were organized for dental surgeons, nurses in charge, school dental therapists and for the dental technicians.

Table 4.7 : Resources Given for Dental Services, 2005 - 2013

Indicator	2005	2006	2007	2008	2009	2010	2011	2012	2013
Number of dental surgeons recruited	101	87	100		195	52		168	90
Number of school dental therapists recruited							66		
Number of school dental therapists passed out from the Dental Therapist Training School, Maharagama						66		64	
Number of new specialist units started						4	6	5	2

5. Public Health Services

5.1 Community Health Services

5.1.1 Family Health programme - Family Health Bureau

The National Family Health Programme (NFHP) is a programme which is implemented islandwide, and offering services which are well established, accepted and utilized by the Sri Lankan community. The Programmes based on evidence based effective interventions delivered through several service packages that are aimed to promote the health of families around the country with a special emphasis on mothers and children. Those interventions are being implemented to reach target groups through continuum of care across the life cycle and health system. The origin of the Family Health Programme dates back to 1926 and hence the current programme reflects the success of a programme which has evolved over a period of more than 85 years.

Family Health covers a wide spectrum of services comprising:

1. Maternal and newborn health
2. Infant and child health including child nutrition, development and children with special needs
3. School and adolescent health
4. Family planning
5. Women's health incorporating premenopausal care and gender concerns

The Family Health Bureau (FHB) is the national focal point responsible for the planning, coordination, direction, monitoring and evaluation of National FHP in the country. The roles and responsibilities of FHB in this are,

- Advocate and provide guidance and technical expertise to the Ministry of Health and other relevant ministries on matters related to policy, finance, infrastructure and other resource requirements relevant to national FHP.
- Develop strategies based on national policies
- Formulate national medium term and annual plans of maternal and child health (MCH) and facilitate the development of provincial/district plans relevant to 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 provincial/district system/managers to implement national programs.
- Build capacities of relevant staff at pre-service, in-service and post graduate level on MCH.
- Manage logistic requirements related to FHP service delivery
- Advocate for mobilization of funds from government 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 programme at central level
- Identify the areas that need investigation and conduct operational research

FHB has several sub units that covers the different components of the National FHP. These include a) Maternal Health, b) Maternal Morbidity and Mortality Surveillance, c) Intrapartum and Newborn care, d) Child Development and Special Needs, e) Child Nutrition, f) School health, g) Adolescent Health, h) Gender and Women's health, i) Family Planning, j) Planning, Monitoring and Evaluation, k) Oral Health and l) Research and Development. Each of these units is manned by a public health specialist, who is the national programme manager for areas under the unit's purview.

The implementation of the Family Health Programme is carried out by the Medical Officerof Health (MOH) teams under the administrative supervision of the Provincial and Regional Directorates of Health. Medical Officer Maternal and Child Health (MOMCH) and team support them technically at regional level.

In performing these roles, it works in close collaboration with the other health units in the Ministry of Health, provincial health authorities, development partners, professional bodies and other related organizations.

5.1.1.1 Decision Making Fora

National Steering Committee on Family Health (NCFH) is the apex body to take decisions related to national FHP which meets once in three months and chaired by the Secretary to the Ministry of Health. Policy, technical and other related matters discussed at following technical advisory committees and working groups are forwarded to NCFH for discussion and approval.

- Technical advisory committee on Maternal care and Family Planning – chaired by DDG/ PHS 11
- Technical advisory committee on newborn and child health – chaired by DDG/PHS 11
- Working group on School health – chaired by DGHS
- Technical Advisory Committee on health of young people – chaired by DGHS
- Working group on well women clinics – chaired by DGHS
- Subcommittee on Maternal and Child nutrition (MCN) -chaired by DDG/PHS 11
- Monitoring committee on Sri Lanka Code for Promotion, Protection and Support of Breastfeeding & Marketing of Designated Products – chaired by Secretary Health

Issues related to maternal and child nutrition are also forwarded to the Nutrition Steering Committee chaired by Secretary Health and from there to the Nutrition School health issues are being forwarded to the Steering Committee on Health Promotion schools chaired by Additional Secretary/Ministry of Education.

5.1.1.2 Reporting of the Performances of Family Health Programme

Units of service recipient of the Family Health Program are eligible families and the schools in a given heath area. An eligible family is defined as a family with a married woman between 15 to 49 years of age either legally/customary married or living together or a family with a child under 5 years of age.

A pregnant or a cohabiting woman irrespective of marital status and age or single woman between 15-49 years of age; widowed, divorced or separated are also considered under an eligible family.

Services provided to the target population by the Public Health staff at divisional (MOH) levels are being captured through Reproductive Health Management Information System (RH-MIS) and Maternal Mortality Surveillance system. Information collected is used for monitoring and evaluation of the programme while timely operational researches provide supportive evidence for programme management.

A summary of services received by the target groups through the National FHP is given in this section and the detailed information is available in the Annual Report on Family Health which is the annual publication of FHB of the Ministry of Health and the official website of the FHB (www.fhb.health.gov.lk).

5.1.1.3 Prepregnancy Care

Interventions in improving maternal and child health should be started from the pre-conception stage. A new package of interventions for “pre-conception care” has been piloted and introduced to the Family Health Programme in 2012 to promote health of women and their partners to enter pregnancy in optimal health, and to maintain it throughout the life course. The main strategy used to fulfill this, is by ensuring women of child bearing age and their partners receiving a comprehensive package of pre-conception care. The care includes creating awareness, health promotion, screening and appropriate mediations to reduce risk factors that might affect future pregnancies of the reproductive aged women.

This package is introduced to extend the maternal health continuum prior to pregnancy to reduce indices such as maternal mortality, infant mortality and low birth weight into lower indices. The package focuses on the newly married couples as the name implies.

The new package would

- Improve knowledge and attitudes of men and women especially in relation to pre-conception health which would lead to behavioral changes.
- Assure that all newly wedded couples receive pre-conception care services. (health promotion, evidence based risk screening, interventions, etc.)
- Improve the health of women before pregnancy by giving pre-conception care.
- Detect the health problems of the couple to prevent, minimize, treat or correct the health problems before they attain parenthood.

The package of pre-conception care is being implemented in 18 districts by the end of year 2012.

5.1.1.4 Maternal and Newborn care

Maternal care has been one of the main focuses of the Programme from its inception. Hence the public health staff of Sri Lanka is well-geared in providing services for pregnant and postpartum mothers.

5.1.1.4.1 Maternal care

Maternal care is being provided through a maternal care package which includes evidence based interventions to improve maternal health. The package was revised to improve the quality of service delivery and was scaled up implementation during the year 2012.

The care for pregnant mothers begins with the registration of pregnant mothers with the field PHM either at field or clinic and a standard package of interventions is offered to them. These interventions include, preliminary clinical assessment and screening for health and clinical risk in pregnancy, monitoring of maternal and foetal wellbeing in subsequent visits, tetanus immunization, nutrition supplementation, referral of high risk pregnancies for specialist care, providing information and counseling for pregnancy related issues and delivery planning.

The very high percentage of pregnant mothers registered with PHM for care (95%) indicates that the majority of pregnant women are in contact with the services offered by the FHP. Of them over 90% registered for care before 12 weeks of amenorrhea and this number has been rising over the last few years. Protection for Rubella with immunization before pregnancy, protection for Tetanus, antenatal screening for Syphilis and testing for blood group at the time of delivery has reached almost universal coverage. However proportion of teenage mothers among the registered pregnancies has been stagnating around 6%. Body Mass Index (BMI) measured before 12 weeks of amenorrhea is approximated for prepregnant BMI and approximately one forth of pregnant mothers were found to be having a low BMI (less than 18.5) (Table 5.1.1).

Table 5.1.1 : Pregnant Mothers Registration and Care Received through Family Health Programme(FHP), 2008 - 2013

Indicator		2008	2009	2010	2011	2012	2013
		%	%	%	%	%	%
Pregnant mothers registered by PHMs out of estimated births		89.8	90	85.9	94.3	94	90
Pregnant Mothers registered	before8 weeks	61.4	66	69.8	72.6	75.2	75.4
	between 8-12 weeks	28.5	25	22.6	20.3	18.3	17.7
Teenage pregnant mothers out of all registered pregnancies		6.7	6.5	6.5	6.1	6	5.3
Pregnant mothers protected with Rubella at registration		93.3	94.8	95.4	95.9	96.8	97
Pregnant mothers tested for VDRL at the time of delivery		93.9	97.8	96	97	99.3	99.7
Pregnant mothers blood group tested at the time of delivery		99.5	99.9	99.8	99.6	100	99.9
Pregnant mothers protected for Tetanus out of reported deliveries		99.8	100	99.9	99.6	99.9	99.9
Mothers with low BMI at clinic visit before 12 weeks		26.3	25.4	25.4	24.6	23.8	23

Source: MCH Quarterly return - H 509 Family Health Bureau

A greater majority of registered mothers (95%) visited a field antenatal clinic at least once during pregnancy and average field clinic visit per mother was 7. Over 90% of registered pregnant mothers had at least once been visited at home by PHMs and average number of home visits per mother by PHMs was 5 (Table 5.1.2).

Approximately 81% of mothers were visited at home by PHMs at least once during the first10 postpartum days and the average number of postpartum home visits was 2 per mother.

Table 5.1.2 : Health Contact with Public Health Staff, 2008-2013

Indicator	2008	2009	2010	2011	2012	2013
	%	%	%	%	%	%
Registered pregnant mothers visited at least once at home by PHM	96.1	94.4	92.9	91.7	90.2	91.3
Registered pregnant mothers paying at least one field clinic visit	96.1	95.6	94.7	95.9	95.2	94.8

Source: MCH Quarterly return - H 509 Family Health Bureau

5.1.1.4.2 Pregnancy Outcome and Postpartum Care

PHM reports the pregnancy outcome of the pregnant mothers registered with her for care, and pay a recommended number of follow up visits to ensure the health and wellbeing of the mother and the newborn during postpartum period. Postpartum care given during these field visits includes, assessment of general health, breast feeding, signs of post partum complications and common illnesses, followed by relevant advise and referrals if necessary.

Pregnancy outcome was reported for 91.5% of pregnancies registered with PHM. Almost all reported deliveries had taken place in institutions and three out of ten reported deliveries were Caesarean sections (Table 5.1.3).

5.1.1.4.3 Maternal Mortality

Sri Lanka has shown a remarkable improvement in reducing the Maternal Mortality Ratio (MMR) consistently since the 1940s. The contribution made by the National FHP in this regard is substantial.

Maternal Mortality Surveillance and Review which comes under the purview of a FHB not only provides the valid maternal mortality rates for the country but provides a platform to learn lessons from the mistakes done over each maternal death.

Maternal deaths occurring in all over the country are notified to FHB within 24 hours of occurrence.

Table 5.1.3 : Pregnancy Outcome and Postpartum Care for Mothers Registered during 2008 - 2013

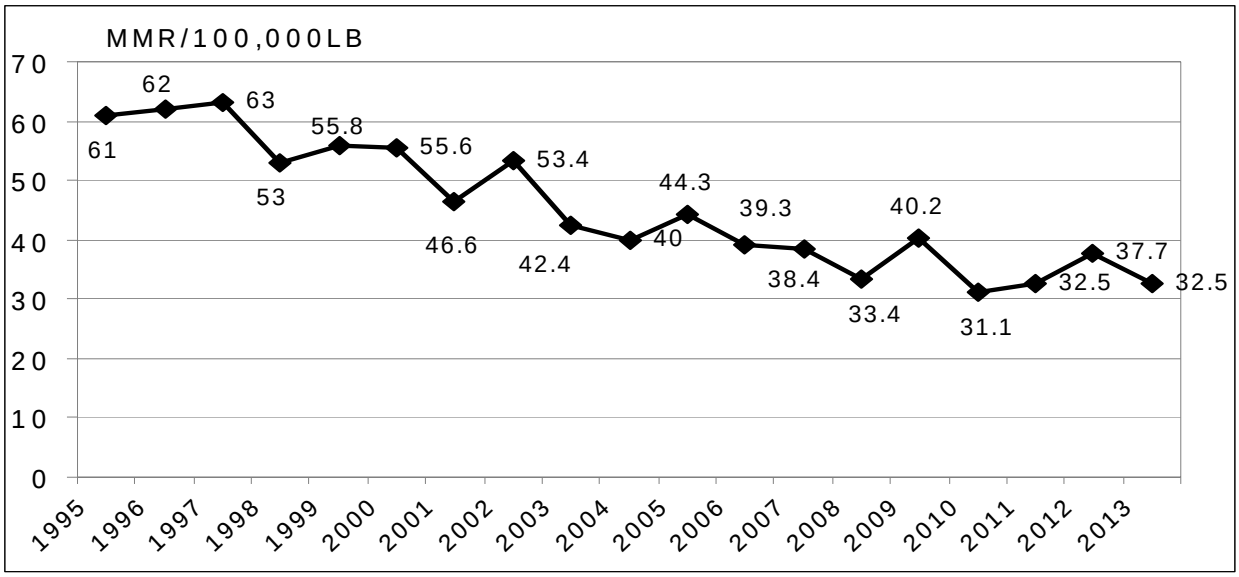
Indicator	2008	2009	2010	2011	2012	2013
	%	%	%	%	%	%
Pregnancy outcome reported out of registered pregnancies	89.1	89.3	88	88.7	88.8	91.5
Institutional deliveries out of total reported deliveries	99.6	99.7	99.8	99.9	99.9	99.9
Caesarean sections out of total reported deliveries	25.8	27	27.7	28.7	30.5	31.1
Postpartum mothers receiving at least 1 visit by PHM during 1st 10 days out of estimated births	79.4	75.9	75	77.4	77.3	80.6
Average number of home visits during first 10 postpartum days	1.8	1.8	1.8	1.8	1.7	1.7

Source: MCH Quarterly return ? H 509 Family Health Bureau

These deaths are annually reviewed and discussed in detail at the National Maternal Mortality Reviews conducted by FHB in collaboration with the Sri Lanka College of Obstetricians and Gynecologists 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.

Intrapartum deaths were minimal (4%) while the highest number of reported maternal deaths occurred during postpartum period (69.0%), highlighting the importance of concentrating on postpartum interventions to prevent maternal deaths.

Fig 5.1.1 : Maternal Mortality Ratio in Sri Lanka 1995 - 2013



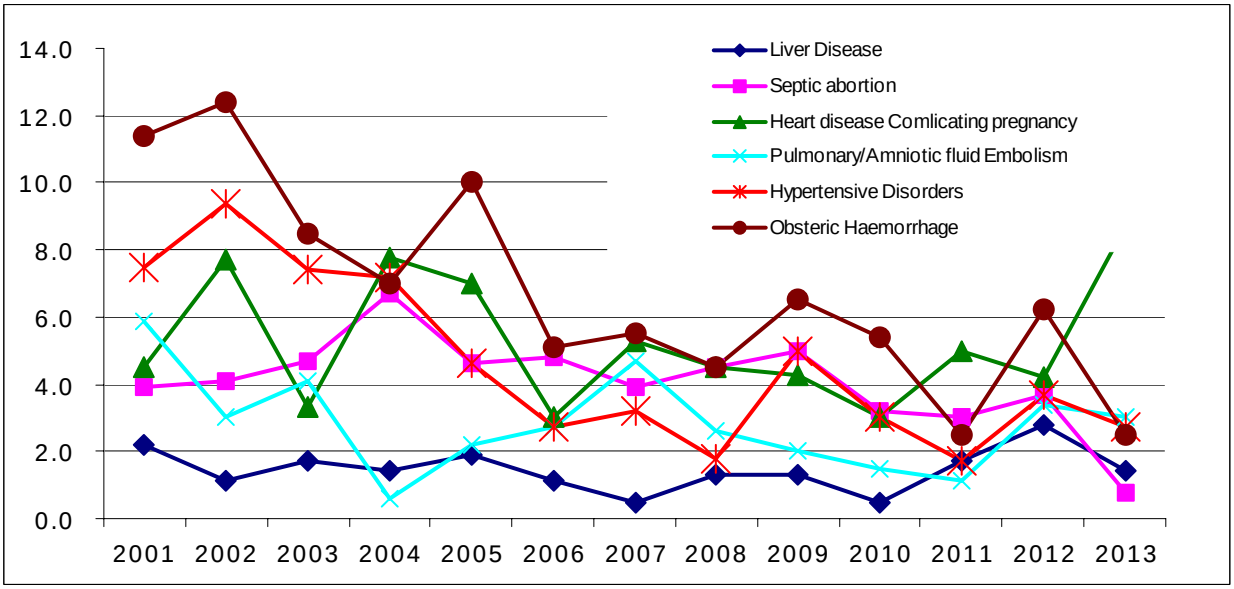
Source: Maternal Mortality Surveillance System - Family Health Bureau

The Cause Specific Mortality rate (CSMR) for septic abortions has shown an upward trend becoming the second main cause contributing to maternal deaths in 2010. CSMR for all others causes showed a downward trend. The figure 5.1.2 indicates the cause specific maternal mortality rates from 2001.

It is encouraging to note that there has been a marked improvement in the reporting of maternal deaths through the present surveillance system. The surveillance reported MMR of 32.5 for 100,000 live births for year 2013. Sri Lanka has achieved one of the lowest maternal mortality rates in the developing world at a very low cost. Out of the confirmed 119 deaths, the majority (55%) were indirect maternal deaths and Obstetric haemorrhages, septic abortions and hypertensive disorders were among the leading direct causes of maternal deaths in 2013. Direct causes accounted for 45% of deaths and heart disease complicating pregnancy was the main indirect cause.

The leading causes of maternal deaths were Obstetric Haemorrhage, Septic abortions, Heart disease complicating pregnancy and Hypertensive disorders. Obstetric Hemorrhage remains the main cause of maternal deaths in most of the years since 2001.

Fig 5.1.2 : Cause Specific Maternal Mortality Rates, 2001 - 2013

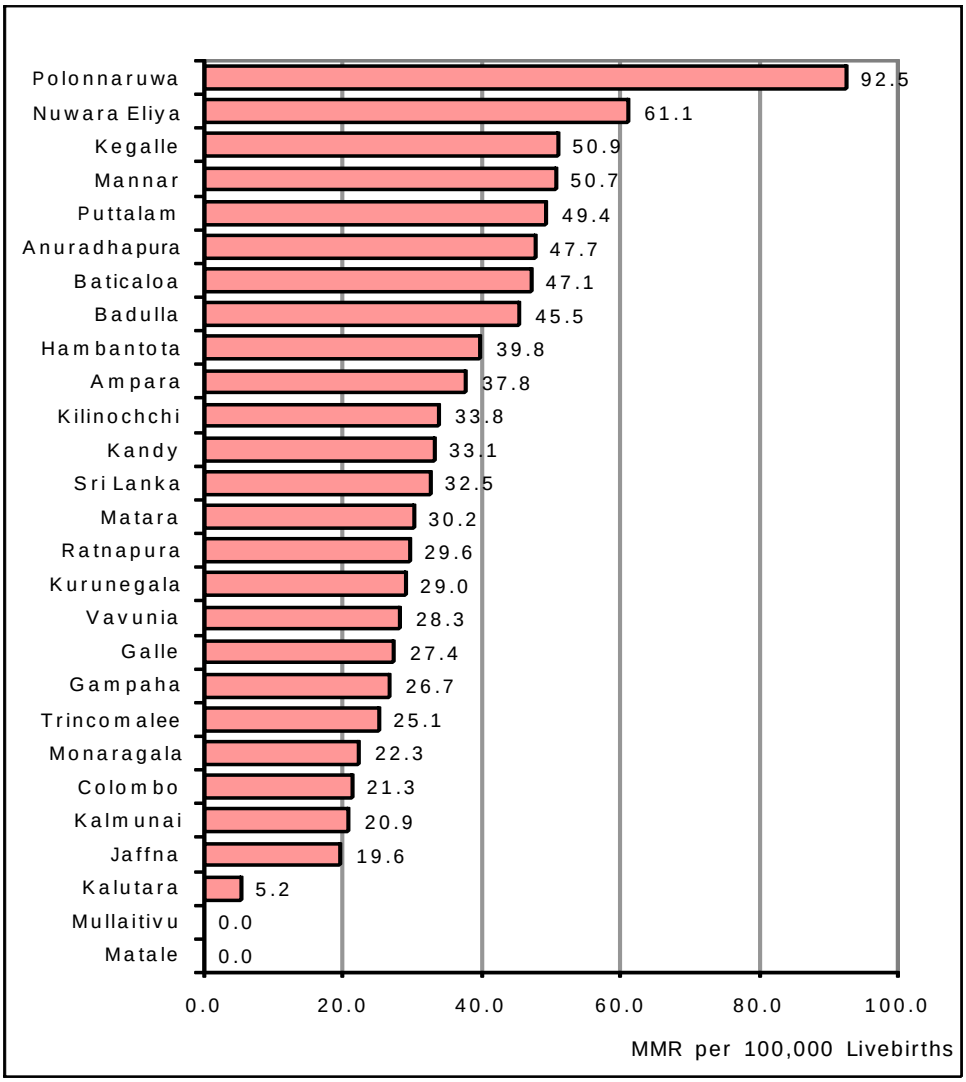


Source : Maternal Mortality Surveillance System - Family Health Bureau

Fig 5.1.3 : Maternal Mortality Ratio in Sri Lanka, 2013

MMR by RDHS areas during year 2013 are illustrated in figure 5.1.3. It is obvious that there is a wide disparity in regional MMRs.

The highest MMR for the year 2013 was reported from Polonnaruwa district. Mullaitivu and Matale did not have any confirmed maternal deaths.



Source : Maternal Mortality Surveillance - Family Health Bureau

5.1.1.5 Infant and Child Care

Child care is also an integral component of the programme from its origin. PHM should register infants for domiciliary and clinic care which includes immunization, growth assessment and promotion, breastfeeding and complementary feeding counseling, assessment and promotion of development, food and vitamin supplementation.

Almost all registered infants had at least one field clinic visit and on average they made 5 clinic visits. Children receiving Vitamin A mega dose at selected age groups are given in Table 5.1.4, where approximately three fourth of estimated children in specified age groups had received it.

PHM assesses the length/height and weight of under five children at assigned time intervals in the routine programme to monitor growth in order to make timely interventions in conjunction with promotion of breastfeeding and complementary feeding. In addition, every year during the "nutrition month", a month designated for intensive growth promotional activities of mothers, children and adolescents, all under five children are assessed for their weight and length/height. As an attempt is made to reach the whole population of under five children during this month the assessment coverage of nutrition month is understandably higher than the routine assessment when these children are measured at assigned intervals only and not on a monthly basis.

Table 5.1.4 : Care for Infants and Pre Schoolers, 2008 - 2013

Indicator		2008 %	2009 %	2010 %	2011 %	2012 %	2013 %
Infants registered by PHMs		87.1	87.0	81.6	89.9	88.2	91.7
Infants making at least one clinic visit (out of registered infants)		99.7	99.6	98.3	97.9	100	99.6
Vitamin A supplementation given for estimated children at	6 months	93.0	79.5	75.4	80.3	76.4	68.9
	18 months	88.9	85.2	84.0	82.0	74.7	70.7
	3 years	86.5	83.7	87.5	85.3	78.8	71.4

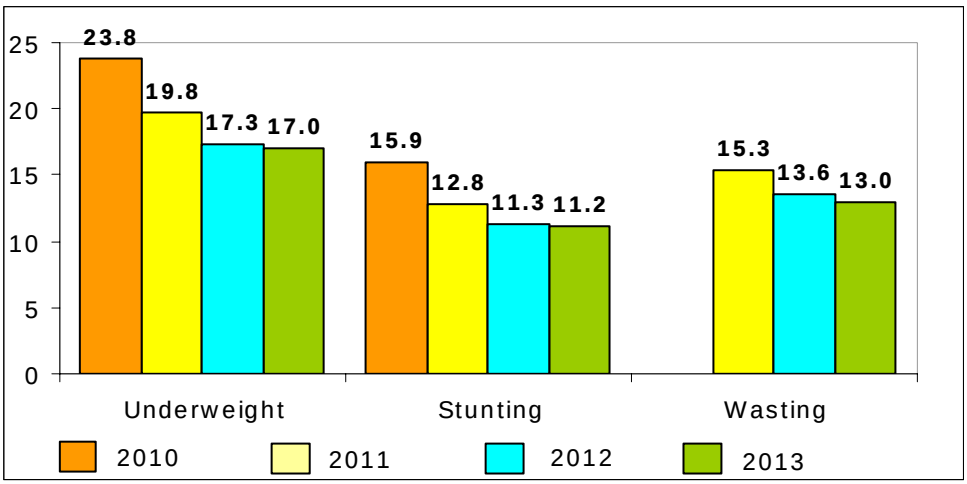
Source: MCH Quarterly return H 509 Family Health Bureau

5.1.1.5.1 Under Nutrition among under Five Children

All relevant evidence based interventions to improve nutrition status are being implemented and growth monitoring and promotion of children under five is of priority concern of the National FHP.

During the nutrition month – 2013, 92% of all under five children had been assessed for their growth. The trends of under nutrition among under five children during the period from 2010 to 2013 according to nutrition month data are shown in Figure 5.1.4.

Fig 5.1.4 : Under Nutrition among under Five Children from 2010 to 2013



Source : Family Health Bureau

It is heartening to note that the figures show a declining trend in all three indices, underweight (weight for age), stunting (length/ height for age) and wasting (weight for length/height) over the years.

5.1.1.5.2 Child Development and Care for Children with Special Need

The concept of early child care and development (ECCD) has been introduced to the child health component of Family Health programme in 2000. Subsequent policy and strategic reviews indicated the need of a comprehensive revision of child development and special need care interventions. In response, initiatives were taken to revamp the relevant components of the child health component with the following objectives:

1. Enable all children under five years of age to reach their full potential for development through provision of optimal care
2. Enable children with special needs to optimally develop their mental, physical and social capacities to function as productive members of society

Family Health programme aims to ensure that all children receive appropriate early child care and stimulation by their parents and other care givers, so that children have an optimal environment that facilitates the realization of their genetic potential. The programme also tries to address the health needs of children with special needs by incorporating a package of intervention to existing child health program.

The main strategy used to achieve thisaim is the enhancing of the capacity of parents on provision of appropriate early child care and psychosocial stimulation. This will be accomplished by providing the relevant knowledge and skills to parents through an instructional guide compiled into a booklet given to each mother and interactive educational sessions conducted in mother's classes. PHC workers are supposed to boost these initial knowledge and skills in subsequent field visits.

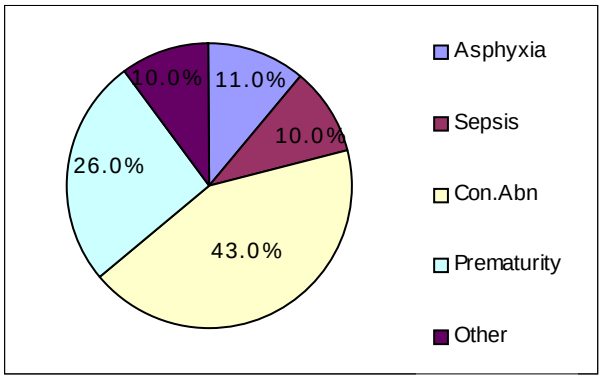
Integrating a systematic development screening system to the present child care programme is the first strategy that initiates the care of children with special needs. Measures are being taken to develop a series of country specific developmental indicators that will be included in the Child Health Development Record, and screening check lists of PHC workers.

The second strategy relevant to special need care is the establishment and integration of a new institutional arrangement comprising of Primary and Secondary Child Development Centers. These institutions are supposed to provide appropriate care for the children diagnosed of social need conditions.

5.1.1.5.3 Under Five Child Mortality

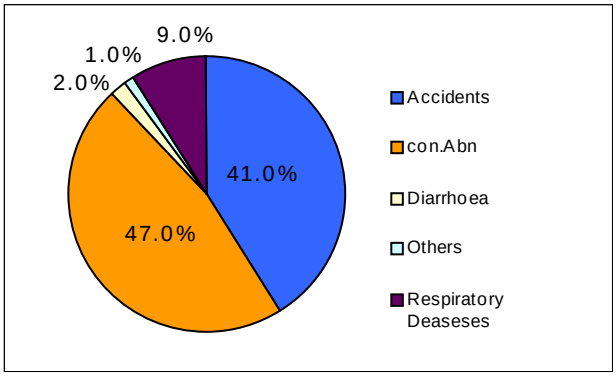
All under five deaths are reported by PHMs and field investigation of all death are done at field level by the Public Health Staff. Neonatal, infant and under five mortality reported for year 2013 by the field staff were 6.5, 8.8 and 9.9 per 1000 live births respectively. Causes for infant and 1-5 year child deaths identified during field investigation are given in figure 5.1.5 and 5.1.6.

Fig 5.1.5 : Percentage Distribution of Causes of Infant Deaths, 2013



Source : MCH Quarterly return - H 509 Family Health Bureau

Fig 5.1.6 : Percentage Distribution of Causes of 1 - 5 year Child Deaths, 2013



Source : MCH Quarterly return - H 509 Family Health Bureau

5.1.1.5.4 Feto-Infant Mortality Surveillance

FHB initiated a feto-infant mortality surveillance system during the year 2013 in collaboration with Sri Lanka College of Paediatricians, Sri Lanka College of Obstetricians & Gynaecologists and other related professional bodies. The system consists of perinatal death audits at all specialized units (with either paediatric or obstetric units) and individual infant death investigations at both institutional and field levels. The surveillance system was launched on pilot basis in the district of Colombo in the year 2013.

5.1.1.6 Care for School Children and Adolescents

As far back as from 1918 Sri Lanka has taken an effort to deliver school health services in an organized manner. School health is a shared responsibility of both Health and Education ministries. FHB is the focal point for school health programme in Sri Lanka. The services are delivered through primary health care infrastructure in collaboration with provincial health and educational ministries, the MOMCH being the chief coordinating officer at regional level. Designated officers are being assigned as School Medical Officers (SMO) in some districts; Kandy, Galle, Colombo to conduct school health activities in urban areas of respective districts.

The programme is being directed to ensure that the 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 and the following major areas are identified as components;

1. Healthy School Policies
2. School Medical Inspection (SMI) and counseling
3. Health Education and development of life skills for reduction of risk behaviour
4. Healthy School Environment
5. School Community Participation

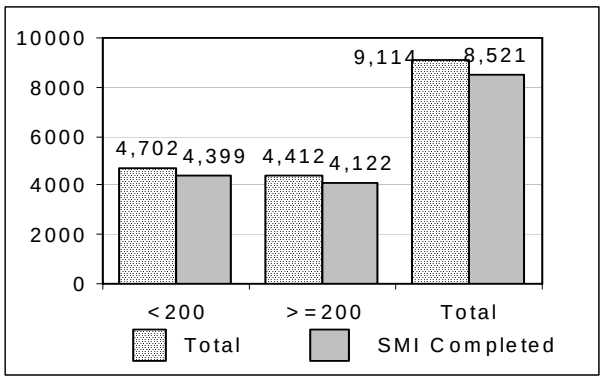
According to Ministry of Education statistics for year 2012, Sri Lanka had approximately 4 million of school population and about 58% of them are in the adolescent age group (10-19 years). They were distributed among 9,905 government Schools island wide and of these 52.4% of schools had less than 200 children enrolled.

5.1.1.6.1 School Medical Services

SMI and referral of children identified of having defects is one of the main interventions under the programme to promote the health of the school children. Public Health Inspectors are responsible for annual sanitarysurvey in schools, organizing SMI and carrying out the initial screening of children prior to SMI in schools of their designated areas. MOH then conducts the Medical inspection. In small schools (enrolment less than 200 children), all the children are examined once a year while in the larger schools where enrolment is more than 200, all students in grades 1, 4, 7 and 10 are examined annually. Assessment of nutritional status, detection and correction of health problems or referral when necessary, providing immunization and worm treatment, provision of micronutrient supplementations (weekly iron folate) to children are carried out during the SMI.

In 2013, only 300 out of 333 MOH areas (90.1%) submitted Quarterly School Health Returns (H 797) for all four quarters. There were 9,114 schools and 1,481,856 (to be examined) (enrolled 3,498,582) children under the purview of those MOH areas who reported their progress. The SMIs were conducted in 8,521 schools resulting in overall school coverage of 93.4%. The coverage of schools with less than 200 and more than 200 students were 93.6% and 93.4% respectively.

Fig 5.1.7 : Total Number of Schools and Number of Schools where SMI were Conducted - 2013



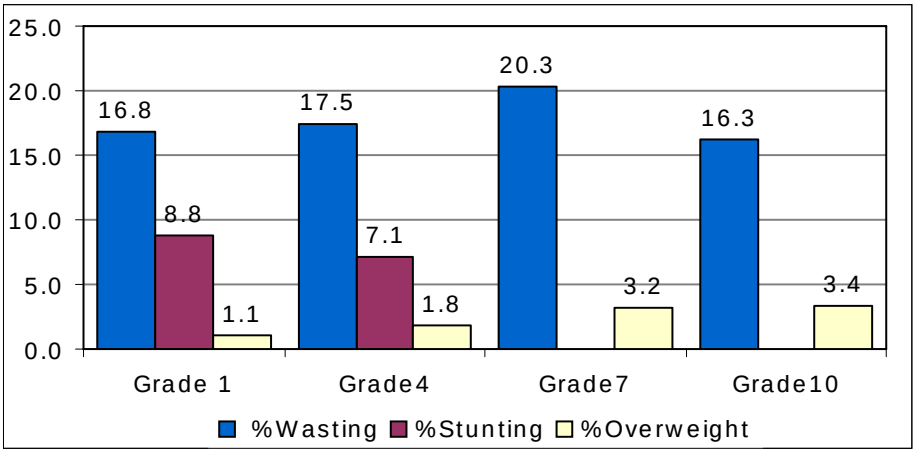
Source : School Health return - H 797 Family Health Bureau

5.1.1.6.2 Malnutrition among School Children

During SMIs students are assessed for their nutritional status. Stunting is assessed in grades 1 and 4 only. In 2013 18.7% and 6.9 % of children in grades 1 and 4 were stunted respectively.

Wasting was higher compared to stunting in respective grades. The highest rate of wasting was reported among children in grade 7 (20.6%).

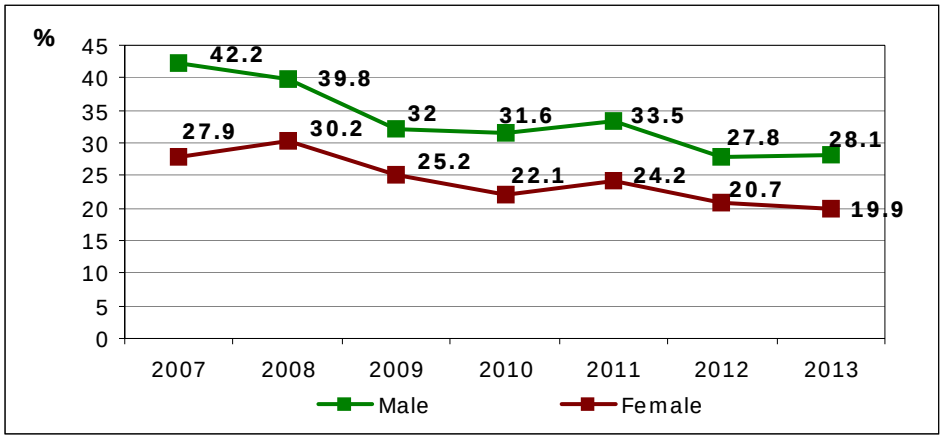
Fig 5.1.8 : Percentages of School Children in Different Grades with Stunting, Wasting and Overweight - 2013



Source: School Health return - H 797 Family Health Bureau

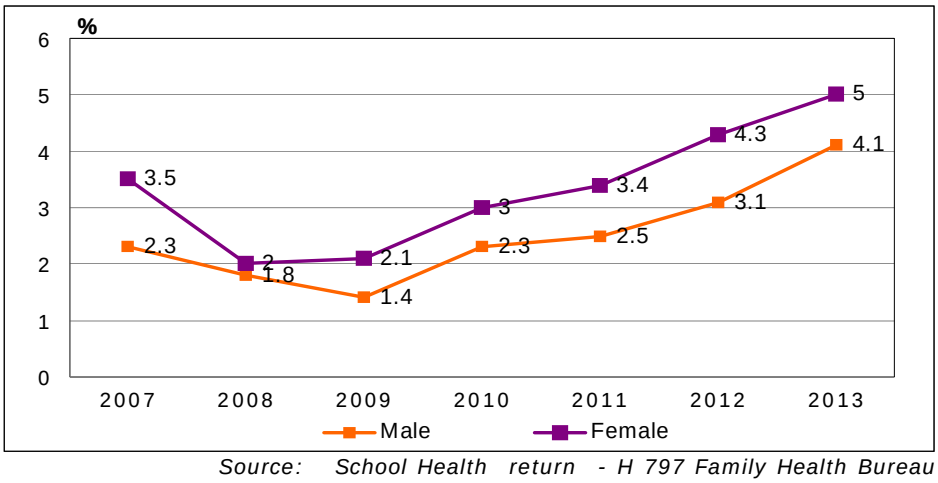
In addition, Body Mass Index (BMI) of all students in grade 10 is assessed and necessary nutritional interventions are done during the nutrition month each year. During year 2013 a total of 85,564(85%) grade 10 students were assessed for their nutritional status and trends of prevalence of low BMI and overweight among male and female students were given in fig. 5.1.9 and 5.1.10.

Fig 5.1.9 : Percentages of Grade 10 Children with Low BMI 2007-2013



Source: School Health return - H 797 Family Health Bureau

Fig 5.1.10 : Percentages of Grade 10 Children with Overweight 2007-2013



Source: School Health return - H 797 Family Health Bureau

5.1.1.6.3 Care for Adolescents

Considering the necessity of addressing the health needs of adolescents a separate unit on "Adolescent Health" was established in 2012 in Family Health Bureau specifically focusing health of out of school adolescents. Formulation of National Strategic Plan on Adolescent Health was completed during 2013 and a National Technical Advisory Committee has been established with all stakeholders which is chaired by the DGHS. Several pilot projects have been commenced to explore the possible health service delivery models reaching out of school adolescents. District teams have been trained on 3 day adolescent health and 3 day life skill development trainings with the objective of improving the capacity of Primary health care workers in dealing with adolescents.

Counseling Officers attached to Divisional Secretariat employed by the Social Service Ministry; Youth instructors attached to Sri Lanka Youth Corp; Divisional Child Protection and Psychosocial officers attached to National Child Protection Authority were also trained on adolescent health in order to provide a comprehensive care for needy adolescents in the community.

5.1.1.7 Family Planning Services

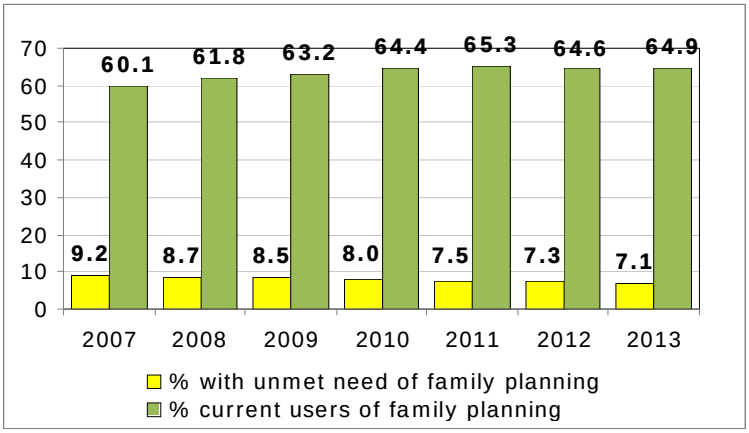
Family planning (FP) was accepted as a part of the national health policy in 1965, and its service components were integrated into MCH services. At present it constitutes a vital component of the NFHP.

The programme offers a wide range of modern contraceptive methods enabling all couples to have a desired number of children with optimal timing. It also includes services for sub-fertile couples. According to RH-MIS 64.9% of eligible families had been using a contraceptive method (current users) during year 2013. Proportions of modern method and traditional method users were 55.4% and 9.5% respectively.

The trends in proportion of current users and unmet need for family planning among eligible families are given in figure 5.1.1. A family not expecting a child in next two years yet does not use any contraceptive method is considered as a family with unmet need. Sri Lanka records the best Family Planning performances in the region. However, since of late, stagnations can be observed.

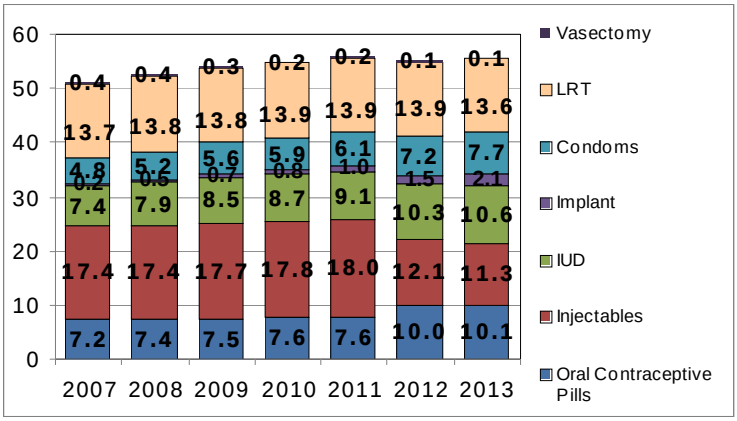
The method mix of the contraceptive use among eligible families is given in figure 5.1.10 Injectables was the most popular modern temporary method. However, there has been a 7% reduction in the injectable users since year 2011. Possible contributory factors include reporting of adverse reactions to certain brands of injectables resulting in disturbed supply chain. Majority of injectable users seems to have shifted to other hormonal methods.

Fig 5.1.11 : Trend in Proportion of Current User and Unmet Need for Family Planning among Eligible Families 2007-2013



Source: MCH Quarterly return - H 509 Family Health Bureau

Fig 5.1.12 : Modern Contraceptive Methods used by Eligible Families 2007-2013



Source : MCH Quarterly return - H 509 Family Health Bureau

5.1.1.8 Gender and Women's Health

The Government of Sri Lanka was a signatory to the Program of Action adopted at the International Conference of Population and Development (ICPD) in Cairo in 1994. The concept of Reproductive Health (RH) has been introduced to the Family Health programme since then and the programme was reorganized to address gender equity and equality in RH and specific reproductive health issues of women and their partners throughout the life course and women with special needs.

5.1.1.8.1 Well Woman Clinic Services

Well Woman Clinics (WWC) services were incorporated into the Family Health Services in 1996 encompassing RH along life cycle. At the end of year 2013, 983 Well Women Clinics were functioning in the country, mostly based at MOH offices. These clinics provide screening services for peri-menapausal women against common non-communicable diseases (NCDs). The diseases screened in the clinics are Diabetes Mellitus, Hypertension, Breast and Cervical cancers. Women in 35-year age cohort are the special target population for cervical cancer screening with Pap smear through well women services.

The 35 year age cohort coverage with pap smear testing approximately 34% in 2013. The problems detected among the women screened at WWC for different NCDs are given in the table 5.1.5.

Table 5.1.5 : Clinic Attendance and Problems Detected at Well Woman Clinics, 2008 - 2013

Activity	2008	2009	2010	2011	2012	2013
First time attendees						
Under 35 years	19.5	15.9	16.1	10.2	8.0	6.0
35 years	16.1	19.4	23.6	39.4	46.3	51.7
Above 35 years	64.4	64.7	60.3	50.4	45.6	42.3
35 year cohort coverage with pap smear screening	8.2	10.6	12.4	25.5	28.9	33.9
Cervical smears reported as high and low grade lesions	0.2	0.3	0.5	0.3	0.2	0.3
Cervical smears reported as malignant (Carcinoma)	0.0	0.0	0.1	0.0	0.0	0.0
Cervical smears reported HPV	0.3	0.2	0.5	0.2	0.1	0.1
Breast abnormalities detected	1.8	1.5	1.4	1.5	1.4	1.8
Diabetes Mellitus detected	2.2	2.1	2.0	1.8	2.0	2.0
Hypertension detected	4.4	3.9	4.0	4.0	3.7	4.1

Source: MCH Quarterly return H 509 Family Health Bureau

5.1.1.8.2 Care for Women with Special Needs

There is an important group of women with special needs, who do not have access to the routine reproductive health services, but requiring special attention and care. This group includes institutionalized women, migrant women, displaced and marginalized women, etc. A programme has been developed to address the reproductive health issues of migrant women and their family members, and this programme will be implemented in the field by the primary health care team.

5.1.1.8.3 Health Sector Response to Gender-based Violence (GBV)

Establishment of Gender-based Violence (GBV) care centers by the name of "*Mithuru Piyasa*" at state hospitals, which provides essential services for GBV survivors was a major step taken towards addressing Gender-based Violence. The term "*Mithuru Piyasa"* in Sinhala means "Friendly Haven" and was selected after much thought, and the aim is to establish such centres in all the state hospitals throughout the island.

Also, the primary health care teams are trained on their roles and responsibilities on prevention and management of GBV. On this aspect, the team members are sensitized on gender issues and gender stereotyping and creating awareness among individuals, families and the community as a whole on these issues so as to prevent or minimize such issues, which would lead to the prevention of gender based violence.

Further, the team members are trained on identifying GBV survivors and providing befriending services and referring them for other services,.etc.

5.1.1.9 Oral Health Services

Since 2007, the Oral Health component was integrated into the National FHP and the services have been through MCH and School Health Services. The main aim is to improve oral health from early years of life.

5.1.1.9.1 School Dental Services

The main objective of the School Dental Services is to reduce morbidity due to common oral diseases in preschool and school children between the ages of 3-13 years by provision of oral health care services with emphasis on prevention. The services are delivered by 393 School Dental Therapists (SDTT) who work in School Dental Clinics (SDC).

Their target group includes students of grades 1, 4 and 7in schools with more than 200 students and all students below the age of 13 years in schools with less than 200 students. In year 2013, the SDTs could screen 65% of the total children in the target group. Of the target group, 56% of children were identified as either healthy or their dental problems were successfully treated by SDTs. Therefore the unmet need in terms of screening and those awaiting treatment after screening wasaround 44% of the target group (Table 5.1.6) which is the same for last two years. According to the data, the disease pattern of school children remains same. However, the dental caries percentage of permanent dentition has been increased from grade 4 to grade 7 by 11% in 2012 has changed to 9% in 2013, which is a marginal improvement. However, the increase of caries in permanent dentition from Grade 4 to Grade 7 is still considered as a weakness of the programme, and is needed to be address in future. Gum diseases too show an increasing trend with age.

Reduction of SDTs in 2013 compared to 2012 was mainly due to retirement of SDTs, and those vacancies were not replaced as there were no new recruitments.

Mal-distribution of SDTs within & between districts, inadequate transport facilities to conduct outreach clinics, inconsistencies in workload of SDTs and problems of identification of oral diseases by the SDTs are main challenges faced by the School Dental Services.

5.1.1.9.2 Dental Health Services for Pregnant Mothers

Dental services for pregnant mothers were oriented to improve the oral health of mothers and young children by providing comprehensive care during the antenatal periods in order to reduce;

- Complications of dental diseases during pregnancy
- The risk of transmission of 'harmful' bacteria to the newborn (to minimize the risk of Early Childhood Dental Caries)

It is expected that all antenatal mothers should be receiving: oral health education at ANC, compulsory dental screening by Dental Surgeons (DSS) and necessary clinical management of existing oral diseases. Percentage of registered pregnant mothers screened by Dental Surgeons was increased from 36% in 2012 to 41% in 2013. Out of the screened mothers percentage of mothers with healthy dental hygiene, has reduced from 21% to 18%. Of the screened 58% had dental caries and 38 % had gum diseases (Table 5.1.7).

Table 5.1.6 : Work Performances of School Dental Services, 2012 and 2013

Year	Number of SDTT	Number of children per SDT	% of schools screened	% of caries				% of calculus			% of children screened[2]	Coverage percentage[3]
				Gr 1	Gr 4	Gr 4[1]	Gr 7[1]	Gr 1	Gr 4	Gr 7		
2012	393	3,085	63%	57%	61%	9%	20%	3%	15%	23%	65%	56%
2013	380	3,323	62%	57%	59%	10%	19%	2%	15%	22%	64%	56%

[1] Permanent teeth

[2] Percentage of children screened out of the target group

[3] Percentage of children who are healthy and whose treatment has been completed out of the target group

Table 5.1.7 : Provision of Oral Health Care Services to Antenatal Mothers – 2012 and 2013

Year	Percentage screened[1]	Percentage healthy[2]	Percentage with caries[2]	Percentage with gum disease[2]	Treatment coverage
2012	36	21	56	41	22
2013	41	18	58	38	22

[1] of all mothers registered during 2012

[2] of number of mothers screened by DSS

Source : School Dental Return - Family Health Bureau

5.1.1.9.3 Oral Health Care for Infants and Early Childhood

It has been identified high burden of dental caries among children under 3 years. The strategy was developed to educate parents, screen all 12 & 18 month old children for caries by PHC staff at child welfare clinics and refer those with early signs to nearest DSs for further management. The capacity building of PHC staff throughout the country has been done in 2013, and it is planned to monitor the progress of the programme in future.

5.1.1.10 Programme Review

The programme performances are reviewed at district level quarterly. In addition annual reviews conducted at each RDHS area with the participation of national level experts provide the forum to discuss issues related to programme implementation.

5.1.1.11 Research in Family Health

Operational research provides evidence for policy and programmatic concerns. A National Survey on Adolescent and Youth health was conducted during 2012/2013 with the objective of obtaining a profile of Sri Lankan adolescents and youth in terms of selected aspects of their health with the support of GOSL, UNICEF and UNFPA.

An island wide Emergency Obstetric and Neonatal Care needs assessment survey was completed during 2013. This survey comprised of facility assessment, morbidity estimation and assessment of knowledge of relevant health workers.

5.1.1.12 Training programmes conducted and the fund utilization by Family Health Bureau

Family Health Bureau conducts routine training programme to increase the capacity of the public Health staff to perform their tack efficiently. Training programmes conducted during year 2013 are given in table 5.1.8.

5.1.1.13 Family Health Programme related Millennium Development Goals (MDGs)

Sri Lanka was signatory to Millennium Declaration in 2000 and the FHP is geared to achieve the Goals directly related to the programme; Goals 1, 4 and 5. The table 5.1.8 gives the indicators used to assess those and the targets set for 2015.

Table 5.1.8 : Source of Funding for Activities Conducted by FHB - 2013

No.	Title of the programme	No. of days	Year of commencing	No. of programmes per year	Category of Participants eg. (PHM,PHI,PHNS, etc.)
1	Preconception care - TOT	2	2013	14	MOH
2	Maternal care package	2	2012	For all districts refresher training thereafter	
3	Essential newborn care course with neonatal advanced life support - TOT	5	2007	4	Pediatricians, VOGs, Medical Officers, Nurses, Midwives
4	Breastfeeding counseling course -TOT	5	2010	4	Pediatricians, VOGs, Medical Officers, Nurses, Midwives
5	Baby friendly hospital - TOT	3	2010	4	Pediatricians, VOGs, Medical Officers, Nurses, Midwives
6	Labour room management -TOT	2	2011	4	Labour Room in Charge Nurses, MOMCHs
7	Infant and young child feeding	6	2014	2	MOMCH, MOH, RSPHNO, PHNS, SPHM
8	Growth monitoring and promotion - TOT	3	2014	2	do
9	Training programme on nutrition rehabilitation	2	2014	2	Paediatrician,SHO,MO
10	Early child development	3	2014	50	MOH, PHN, PHMs
11	Special needs	2	2014	20	MOH/PHM
12	Adolescent health	2	2008	8	MOMCH,MOH, PHNS, SPHI,PHI, Counseling Officers of Social Service Dept., Instructors of Youth Corp, ISA – Education Dept.
13	Life skills	3	2008	8	MOMCH,MOH, PHNS, SPHI,PHI, Counseling Officers of Social Service Dept., Instructors of Youth Corp, ISA – Education Dept.
14	School medical inspection	2	2011	8	MOH Staff, MOMH
15	Public health officers on oral health - TOT	23	2013	23	All MOHs, All PPHNS, All SSDT, SPHM (when PHNS not available), PHI
16	Insertion of IUDs -TOT	1		3	MOOH, MOO, RMOO, AMOO. PHNSS
17	Insertion of implants-TOT	1		4	MOOH, MOO
18	Updates on reproductive health – hospital based - TOT	1	2013	6	MOO, MOOH, NSS, PHNSS, NOO
19	Counselling on family planning - TOT	1	2014	4	MOOH, MOO, RMOO, AMOO,
20	Training programmes (Mithuru Piyasa)	4	2013	7	Hospital staff
21	Programme planning	5	2012	2	Provincial CCPs, MOMCH, MO Planning, RE
22	Supervision	3	2011	For all districts refresher training thereafter	MOMCH, MOH, RSPHNO, SPHID, PHNS, SPHI
23	Training on Reproductive Health Management Information System (RH-MIS)	1	2014	For all districts refresher training thereafter	MOMCH, MOH, RSPHNO, SPHID, PHNS, SPHI, PHM, PHI

Table 5.1.9 : Targets for Millennium Development Goals 1,4 and 5

Goal		Target	Indicator	Baseline	Current	Target (2015)
Goal 1	Eradicate	1C: Halve , between 1990 and 2015, the proportion of people who suffer from hunger	Prevalence of underweight children under age 5 (%)	38% (NCHS)(1993)	26.9 %(NCHS) [2] 21.1% (WHO) (2006/7)	19%(NCHS) 15% (WHO)
Goal 4	Reduce Child Mortality	Reduce by two-thirds, between 1990 and 2015, the under-five mortality rate	Under-five Mortality Rate (Per 1000 live births)	22.2 (1991)	12.1 (2009) [1]	8
			Infant Mortality Rate (Per 1000 live births)	17.7 (1991)	9.7(2009) [1]	6
			Proportion of 1 year-old children immunized against measles	84 % (1990)	97.2% (2006/7) [2]	100%
Goal 5	Improve Maternal Health	5A :Reduce Maternal Mortality	Maternal Mortality ratio (per 100,000 live births)	92 (1990)	32.5 (2013) [3]	23
			Proportion of births attended by skilled health personnel	94%(1993)	98%(2006/7) [2]	99%
		5 B:Achieve, by 2015, universal access to reproductive health	Contraceptive Prevalence Rate			
			Modern Method	45% (1993)	52.5% (2006/7)[2]	57%
			Any Method	66%(1993)	68% (2006/7)[2]	72%
			Adolescent Birth Rate (ASFR 15-19)	35 (1993)	36 per 1000 women (2012)[4]	24
			Proportion of teenage pregnancies		5.3% (2013)[3]	5%
			Antenatal care coverage			
			At least one visit		96% (2006/7)[2]	100%
			4 or more		93%(2006/7)[2]	100%
			Unmet need for family planning		7.4.% (2006/7)[2]	7.00%

Source : [1] Registrar General's Department, [2] DHS 2006/07, [3] Family Health Bureau, [4] Census of Population and Housing, 2012

5.1.2 Directorate of Environmental and Occupational Health

The Directorate of Environmental and Occupational Health (E&OH) is responsible for the implementation of the following public health programmes of the Ministry of Health.

1 Environmental Health
2 Occupational Health and Safety
3 Food Safety and Hygiene

This Directorate functions under Deputy Director General (Public Health Services 1) and is responsible for planning, coordination, direction, monitoring and evaluation of environmental health, occupational health and food safety programmes. Additionally the Directorate liases with the Ministry of Environment and Renewable Energy, Central Environmental Authority, Ministry of Labour and Labour Relations and other relevant stakeholders in addressing environmental and occupational health related issues.

The roles and responsibilities of the Directorate of E&OH can be broadly classified as follows.

- Advocate and provide technical guidance to the Ministry of Health and other relevant ministries on policy in relation to environmental health, occupational health and food safety
- Develop strategies based on national policies
- Formulate national medium term and annual action plans
- Develop E&OH programmes based on evidence
- Strengthen intersectoral coordination between government, private and nongovernmental agencies in the areas of environmental and occupational health and food safety
- Direct, guide, coordinate, support and monitor the provincial/district system/managers to implement activities on E&OH and food safety
- Build capacity of relevant staff at pre service, in service and post graduate level on E&OH
- Conduct operational research in the areas of E&OH

5.1.2.1 Environmental Health

Environmental health encompasses the assessment and control of those environmental factors that can potentially affect health. It is targeted towards preventing disease and creating health-supportive environments. Following programmes and activities have been carried out by the directorate in improving environmental health in Sri Lanka during 2013.

5.1.2.1.1 Water Supply and Sanitation Programme

Ministry of Health strongly advocates supply of adequate safe water to the Public and raise awareness among public through public health staff on importance of consuming safe water. Around 80% of household in Sri Lanka have access to safe water. The percentage of house holds using piped borne water for drinking is 31%. How ever significant variations can be seen among districts as well as sectors (AHB 2012). Water quality surveillance is carried out by Ministry of Health in collaboration with the National Water Supply and Drainage Board and other relevant stake holders. Public Health Inspectors send water samples routinely for testing of microbial parameters and in special instances.

5.1.2.1.2 Health Care Waste Management

Management of healthcare waste is a responsibility of the institution that generates it. There is a Steering Committee on Healthcare Waste Management with representation from all the relevant stakeholders. Disinfection of waste water by autoclaving is identified by the Ministry of Health for the Colombo CMC area which is now in operation. 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. Methods for final disposal of clinical waste are being explored for implementation. Budgetary allocation is provided for hospital for healthcare waste management under the regular budget. Training programmes are conducted for Base, District and Teaching Hospitals.

Public Private Partnership (PPP) has been initiated for healthcare waste treatment and disposal, where 26 institutions are provided with the services at the moment. The facility is located at Mulleriyawa Base Hospital.

Ministry of Health has issued circulars on e-Waste Management and Mercury Management for health care sector and several institutions have carriedout activities on better management of above in 2013.

5.1.2.1.3 Inter Agency Co-ordination

Technical guidance and awareness is provided to other ministries, relevant agencies and the general public on environmental health. Inter ministerial coordination activities were carried out in the areas of solid and hazardous waste management, water supply, sanitation, climate change and in international conventions held in Basel, Stockholm and Rotterdam to strengthen the environmental health conditions in this country.

5.1.2.1.4 Capacity Building of Health Staff on Environmental Health

Public Health staff was trained on current environmental issues such as climate change, indoor air pollution, water pollution, chemicals management, solid and hazardous waste management. Training programmes on Healthcare Waste Management were conducted in collaboration with the Department of Community Medicine giving priority to the health institutions with healthcare waste management issues.

5.1.2.1.5 Climate Changes and Health

Technology needs assessment on climate change for health sector has been carried out in collaboration with the Ministry of Environment. Programmes are developed for implementation. Seven awareness programmes were conducted for Public Health staff on climate change and health. The districts covered were Nuwara Eliya, Anuradhapura, Kalutara, Galle, Puttalam, Monaragala and Hambantota. Six programmes were conducted on the same topic in collaboration with the Disaster Preparedness and Response Unit of the Ministry of Health in Matale, Kandy, Kegalle, Ratnapura and Matara RDHS areas. Four hundred Public Health staff (MOOH, SPHII, PHII) were trained and encouraged to commence activities on this very important public health issue. A new project has been initiated to manage industrial carcinogens.

5.1.2.1.6 Post Graduate Training

Students attached to Post Graduate Institute of Medicine, Colombo, following MSc in Community Medicine are trained on Environmental Health.

5.1.2.2 Occupational Health

A healthy workforce is considered the corner stone for sustainable development in any country and Sri Lanka is no exception. The Ministry of Health recognizes that the health of workers amounting to approximately 8.5 million at present is an integral part of general health and daily life.

The Directorate of E&OH has embarked on a programme to develop occupational health of all workers in workplaces in Sri Lanka and the main objectives of the programme are

- The promotion and maintenance of the highest degree of health among workers
- The prevention of adverse effects on health caused by the working conditions among workers
- The protection of workers from occupational risks resulting from factors adverse to health
- The adaptation of work to humans

Occupational accidents affecting significant number of workers and surrounding communities are considered as disasters and curative sector response is carried out immediately. These incidents are being monitored by the disaster management focal points appointed by the DPRU of the Ministry of Health.

All workers in Sri Lanka have access to free health services at the curative as well as preventive health sectors. Treatment of occupational diseases and injuries and rehabilitation of occupational injuries are integrated into the existing curative health system. Occupational medical problems are taken care of by the medical units, occupational surgical problems by the surgical units and rehabilitation by the physiotherapy and rehabilitation units.

The implementation of occupational health activities in the preventive health sector are done mainly through the MOH offices. The Medical Officers of Health (MOOH) and the Public Health Inspectors (PHII) carry out occupational health activities at the grass root level. The MOOH and PHII are expected to visit workplaces and identify occupational health issues and hazards, advise on remedial measures, carry out activities to promote health of the workers and advise on basic facilities such as safe drinking water, sanitary latrines, meal and changing rooms and adequate washing facilities at workplaces. It is planned to establish occupational health units at district level to better facilitate the implementation of the occupational health programme and to strengthen the coordination between the Directorate of the Environmental and Occupational Health and the grass root level. District level reviews on Environmental and Occupational health will be carried out from 2014 to further strengthen the programme.

The Directorate of Environmental and Occupational health has carried out several activities to strengthen the occupational health programme in the year 2013.

5.1.2.2.1 Capacity Building of Public Health Staff to Upgrade Occupational Health Services at District Level

Training workshops of one day duration were conducted to educate Medical Officers of Health (MOOH) and Public Health Inspectors (PHII) in Matara and Kandy districts on environmental and occupational hazards. Sixty PHII and 15 MOOH were trained in these districts. It is intended to address occupational health issues of the informal sector as well as small scale industry workers through them.

Two in service training workshops were conducted in Polonnaruwa and Anuradhapura districts for Public Health Staff on sound management of chemicals. Considerable adverse health effects have been observed in these two districts due to unsound management of chemicals and it is planned to implement programmes through public health staff to address these issues. Fifty PHII and twenty MOOH were given single day training.

5.1.2.2.2 Awareness Raising on Occupational Health and Safety among Different Categories of Workers

Occupational health and safety awareness was done for different categories of hospital staff at Castle Street Hospital for Women (CSHW) and De Zoysa Maternity Hospital since hospital workers are at risk of developing occupational injuries and diseases. Ninety junior health staff attached to these two hospitals was trained. Thirty Nursing officers at CSHW too were trained. Junior health staff attached to the Ministry of Health was given an in service training on occupational health and safety and 120 were given training.

5.1.2.2.3 Undergraduate and Post Graduate Training

Training of MSc and MD Community medicine students attached to the Post Graduate Institute of Medicine Colombo and undergraduate medical students on Occupational Health and Safety.

5.1.2.2.4 Creation of Awareness on Environmental and Occupational Health among Stakeholders

Unsound management of chemicals has created a lot of adverse health outcomes among the population in Sri Lanka especially workers handling chemicals, needing considerable attention. A media seminar was conducted on the importance of sound management of chemicals during the poison week 2013 in collaboration with the National Poison Centre. An exhibition was organized with the poison centre to raise awareness among general public on this aspect.

5.1.2.2.5 Inter Sectoral Coordination

Strengthening inter sectoral coordination is essential in the field of occupational health. Several activities were carried out with the Ministry of Environment, Ministry of Labour, Ministry of Education and Water Resources Board.

- Contributed to the development of Environmental Friendly Livestock guidelines prepared by the Central Environmental Authority
- Chemical Accident Prevention and Preparedness Programme of CEA
- Contributed to the development of chemical accident prevention and preparedness project carried out by the Central Environmental Authority

5.1.2.2.6 Strengthening the Policy Frame Work for Occupational Health and Safety

A Ministry of Labour and Labour Relation is in the process of developing the National Occupational Health and Safety Policy. Ministry of Health being a joint stakeholder contributed to the development of the policy in 2013. This policy will be finalized in 2014.

5.1.2.2.7 Conducting Operational Research to plan interventions on Occupational Health and Safety

A survey has been planned to develop a public health human resource plan to strengthen environmental and occupational health service delivery in Northern and Eastern provinces of Sri Lanka. The survey will be completed in 2014.

5.1.2.3 Food Safety and Hygiene

The Food Control Administration Unit (FCAU) of the Ministry of Health is the entity charged with the administration aspect of the food safety activities of the country. The main tasks entrusted are implementation of the provisions of the Food Act, Regulations and related issues.

1. Food Safety & Hygiene activities through the Food Control Administration Unit (FCAU) are aimed at ensuring the availability of safe and wholesome food to 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 amended by Food (Amendment) Act No. 20 of 1990 and No. 29 of 2011. At present there are 24 Food Regulations framed under the Food Act. The Act is currently being further amended.
3. The Food Advisory Committee (FAC) established in terms of the Act advises the Hon. Minister on policy matters relating to food safety and looking to the matters relating to food safety.

5.1.2.3.1 Vision

The people of Sri Lanka to have a healthy and productive life through availability of safe food for human consumption.

5.1.2.3.2 General Objective

To ensure the availability of safe, wholesome and honestly presented food supply for human consumption.

5.1.2.3.3 Specific Objectives

I. Improve the knowledge and awareness among general public (consumers) on food safety measures including food hygiene.

II. **Enhance the knowledge, skill and attitude of relevant officers** to enable them to effectively and efficiently carry out food safety activity and monitoring, including regulatory activities.

III. **Strengthen the linkage with other Line Ministries**, Provincial Authorities, International Agencies, NGOs, etc. to bring about effective, sound environmental management conducive food safety and hygiene.

IV. **Formulate / review national policies, regulatory frame-work, regulations** or amend / modify them to suit the current / emerging requirements and needs of the country and to improve existing conditions and also to meet future challenges.

V. Carry out **awareness programmes consumers** on food safety, **food manufacturers**, **food handlers** throughout the country.

VI. Improve coordination of food safety related activities with the
- Ministry of Agriculture,
- Commerce and Consumer Affairs,
- Rehabilitation,
- Department of Customs,
- Coconut Development Authority,
- Sri Lanka Tea Board,
- SLSI,
- FAO/WHO,
- UNICEF,
- AEA,
- Chamber of Commerce,
- Iodated Salt Manufacturing Establishment and other trade sectors.

VII. Facilitate the functions and / or serve in the following committees.
- Food Advisory Committee (FAC)
- Food Advisory Sub Committee (FASC)
- Food Advisory Special Sub Committee (FASSC)
- Regulation Formation Sub Committee
- Labelling and Advertisements monitoring Sub Committee
- National Codex Committee
- Regional Codex Committee for Asia
- SPS Enquiry Point
- IDD Steering Committee
- BSE Committee

5.1.2.3.4 New Food Regulations

Several Food regulations were reviewed / framed and drafted during the year 2009/2013. Review of all the current regulations has been completed and the following regulations were published.

- Food (**Colouring Substances**) Regulations
- Food (**Vinegar**) Regulations
- Food (**Adoption of Standards**) Regulations.
- Appointment of Additional Approve Analyst Colombo Municipal Council
- Appointment of Additional Approved Analyst– (Microbiology), Colombo Municipal Council
- Food (**Antioxidants**) Regulations
- Food (Melamine in Food Products) Regulations
- Food (Formaldehyde in Fish) Regulations
- Food (**Packaging Materials**) Regulations
- Food (Hygiene) Regulation
- Food (Shelf life in imported food) Regulations
- Food (Labeling and Advertising) Regulations
- Food (Iodization) Regulations
- Food (Bottled or package water) Regulations
- Food (Control ,labeling and sale of GM food) Regulations
- Food (Bread standards) Regulations (Amendment)
- Food (Packaging material and article) Regulations
- Food (Irradiation) Regulations
- Food(additives/flavoring and flavor enhancers) Regulations

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

- Food (**Meat & Meat Products**) Regulations
- Food (**Fish & Fish Products**) Regulations
- Food (**Sugar & Sugar Products**) Regulations
- Food (**Additives - Emulsifying Agents**) Regulations
- Food (**Milk & Milk Products**) Regulations
- Food (**Additives – General**) Regulations;
- Food (**Tea, Coffee, Cocoa and their products**) Regulations
- Food (**Amendment of Irradiation**) Regulations

5.1.2.3.5 Publications Prepared by the FCAU

- Publication of all Food Regulations in a book form; (Published)
- Publication of a Manual for Training of Food Handlers; (Draft)
- Publication of a Food Sampling Manual; (Draft)
- Publication of Policy Guide Line for Fortification of Food (Published)

5.1.2.3.6 Enhance the Knowledge, Skills and Attitude of Authorized Officers

√ Training Programmes for PHII on Food Legislation and Safety
No of programmes - 10, Participated 314

√ Training programme for MOOH on Food Legislations & Food Safety
No. of programme – 01, Participated 16

√ In-service training programme on Health Skill Development in Food Hygiene, Fruit Ripening for PHII
No. of programme – 04, Participated 154

√ In-service training programme on Health Skill Development in Food Hygiene, Fruit Ripening for F&DII
No. of programmes – 01, Participated 37

5.1.2.3.7 Formulate/ Review National Policies and Regulatory Framework, Regulation

√ No. of Food Advisory Committee Meetings - 16
√ No. of Food Advisory sub Committee Meetings - 26
√ No. of Labeling & Advertising sub Committees - 09

5.1.2.3.8 Registration of Bottled of Packaged Water Manufacturing Premises

No. of applications received - 32
No. of assessment carried out - 68
No. of premised registered - 46
Total amount of collected fees credit to the consolidated fund - Rs. 320,00

5.1.2.3.9 Elimination of Iodine Deficiency Disorders (IDD)

As per the Food (Iodization of salt) Regulations, importing, selling and manufacturing of non iodized salt is prohibited in implementing the universal iodization of salt programme. It is therefore necessary that appropriate authorization be issued for obtaining required quantities of salt for various industries including iodization of salt.

No. of application received = 32
No. of application for renewals = 23
No. of inspection carried out = 53
No. of permits issued = 26
Quantity of salt for which permits issued = 104,185 M/T

5.1.2.3.11 Activities Carried out by Provincial Health Staff (2013)

- Food samples taken - 19,737
- No. of samples satisfy - 12,002
- Un satisfactory - 4,791
- No of cases filed - 10,335
- Amount of fines - Rs. 30,958,600

Table 5.1.10 : Health Education Programme Conducted by Authorized Officers for the Owners, Food Handlers and Consumers

Team	No of programmes	No of participants
Owners and food handlers of food establishments	3,426	68,974
Field officers	998	24,997
Community	4,757	119,156

5.1.2.3.11 Imported food Inspection Unit

- No of consignments inspected - 29,311
- No of samples taken - 8,095
- No of consignments re exported - 05
- No of consignments destroyed - 02

5.1.2.3.12 Issue Export Certificates for Export Food Consignments

- No. of Certificates issued- 8526
- Revenue collected to the Consolidated fund - Rs. 8,568,000

5.1.3 Epidemiology Unit

The primary responsibility of the Epidemiology Unit is prevention and control of communicable diseases. This task is performed mainly by monitoring of communicable diseases in the country through a disease surveillance system, developing prevention and control strategies and monitoring and evaluation of the effectiveness of such interventions. Epidemiology Unit is also the focal point for implementation of the National Immunization Programme (NIP). The Epidemiology unit is responsible for developing policy and strategies for vaccine introduction, coordinating the provision of logistics, supplies of vaccines and injection safety items, monitoring and evaluation of the NIP. The function as the emergency response unit for disease control activities in disasters, emergencies and outbreaks is another role of the Epidemiology Unit. Furthermore, Epidemiology Unit is involved in training for medical postgraduates and health staff, and also functions as an international training centre on disease prevention and control. It also carries out research on burden of diseases, evaluating effectiveness of interventions and many other areas with the collaboration of other institutions and international agencies.

5.1.3.1 Disease Prevention and Control

One of main strategies in prevention and control of communicable diseases is disease surveillance. It guides proper monitoring and controlling diseases through accurately collecting, analyzing and disseminating epidemiological data for action. It helps to face the challenges of public health emergencies of disease outbreaks. Surveillance of Chronic Kidney Disease (CKD) is a responsibility that has been entrusted to the Epidemiology Unit since of late.

5.1.3.1.1 Chickenpox

A total of 4,228 cases of chickenpox were reported in 2013 and 3,703 (87.58 %) were clinically confirmed. Colombo (472), Kurunegala (400), Kegalle (368), Galle (343), Kalutara (338), Matara (271) and Ratnapura (215) were the leading districts reporting chickenpox. Highest reported age category was 25 – 49 years (n=1,565; 46.45%).

5.1.3.1.2 Cholera

No cases of cholera were reported during the year 2013. The last case was reported in 2003.

5.1.3.1.3 Dengue Fever (DF) / Dengue Haemorrhagic Fever (DHF)

During the year 2013, 32,063 cases of DF/DHF and 89 deaths were reported with a CFR of 0.28%. According to special surveillance data from hospitals, the highest number of cases were from age group of 25-49 years (38%) followed by 15-24 years (25.4%) and 5-14 years (25.4%).

Eighty five percent of the reported cases were Dengue Fever (DF) while 15% being Dengue Haemorrhagic Fever (DHF). However, the proportion of DHF in the Western Province appears to be increasing.

During the year 2013, blood samples of 4,707 patients were tested using IgM capture ELISA test at the Department of Virology, MRI, out of which 2,224 samples were confirmed as positive for dengue.

5.1.3.1.4 Dysentery

In the year 2013, a total of 4,586 cases of dysentery were reported. Jaffna (492), Batticoloa (407) and Ratnapura (405) were the leading districts reporting dysentery. Among the 3,481 cases which were clinically confirmed, the largest proportion (35.7%) belonged to the age group 1-4 years. The sex distribution of cases was almost equal with a slight male predominance (51%).

5.1.3.1.5 Enteric Fever

A total of 1,152 cases of enteric fever were reported in 2013. The district of Jaffna had reported the highest number of cases (351), followed by Colombo (176). Among the 843 cases which were clinically confirmed, 53% were males and the largest proportion of 32% belonged to the age group 25-49 years.

5.1.3.1.6 Human Rabies

Twenty nine (29) cases of human rabies were reported in 2013. Anuradhapura (03) and Batticoloa (03) were the leading districts which reported human rabies cases. The largest number of cases belonged to the age group 25-49 years (40%).

5.1.3.1.7 Influenza

Influenza surveillance in humans and animals is conducted in the country as a part of the Pandemic/Avian Influenza Preparedness Programme. Influenza surveillance in animals is carried out by the Department of Animal Production and Health (DAPH) of the Ministry of Livestock Development and human influenza surveillance is conducted in selected sentinel hospitals by the Epidemiology Unit.

Human influenza surveillance comprises of 2 components; Influenza Like Illness (ILI) surveillance and Severe Acute Respiratory tract Infections (SARI) surveillance. Total ILI visits reported in the year 2013 was 89,532 and proportion of ILI out of total OPD visits was 2.07%. Total SARI visits reported was 3,524 and the proportion of SARI out of total admissions was 3.19%.

5.1.3.1.8 Japanease Encephalitis

During the year 2013, 357 cases of clinically suspected encephalitis cases were reported and 246 cases were clinically confirmed as encephalitis during field investigations. Seventy were lab confirmed as japanese encephalitis.

5.1.3.1.9 Leishmaniasis

The Number of notified cases of leishmaniasis was 1,342. Anuradhapura had the highest number (443) reported, followed by Hambantota (371), Polonnaruwa (178), Matara (107) and Kurunegala (63). The proportion of 63.8% were males and the largest proportion of 22.4% belonged to the age group 25-49 years.

5.1.3.1.10 Leptospirosis

A total of 4,308 cases and 80 deaths (CFR = 1.8%) due to leptospirosis were notified in 2013. The majority of cases were males (85%) and the majority belonged to the age group 25-49 years (54.6%). Leptospirosis control and preventive strategies were implemented island wide, including Doxycycline prophylaxis. Doxycycline prophylaxis is a strategy recommended for well recognized high risk groups.

5.1.3.1.11 Measles

Four thousand and seventy nine (4,079) suspected cases of measles were reported during 2013 and 2,725 cases were clinically confirmed. Number of measles cases has remained relatively low since the year 2000. However, the country experienced an unexpected outbreak in year 2013. Nearly 50% of the affected belonged to 06 months to 01 year age group and >10% were above 29 years. The majority was reported from Western, Southern, Central and Sabaragamuwa provinces.

5.1.3.1.12 Mumps

A total of 1,502 cases of mumps reported and 1,274 (84.8 %) were clinically confirmed in year 2013. The districts reporting the highest number of cases were Ampara (190), Anuradhapura (119), Jaffna (119), Kegalle (114), Kurunegala (107), Nuwara Eliya (83) and Colombo (79). Majority was male (54.2%). The age category reporting the highest number of cases (n=435; 36.9%) was 5 – 14 years.

5.1.3.1.13 Poliomyelitis Eradication: Acute Flaccid Paralysis (AFP) Surveillance

Sri Lanka has been free of poliomyelitis since 1993. Surveillance of Acute Flaccid Paralysis (AFP) is carried out with the objective of identifying any potential poliomyelitis cases which may present as AFP. A total of 105 non polio AFP cases were notified to the Epidemiology Unit in 2013 and non polio AFP rate was 2.0 per 100,000 population aged less than 15 years.

5.1.3.1.14 Rubella

Twenty four (24) suspected cases of rubella were reported during 2013 and all of them were confirmed and compatible with surveillance case definition - "fever and maculopapular rash, conjunctivitis, lymphadenopathy, arthralgia or arthritis". Majority were adult males.

5.1.3.1.15 Congenital Rubella Syndrome (CRS)

Seven cases of CRS were reported to the Epidemiology Unit in year 2013 and all of them were confirmed with rubella IgM at the virology laboratory (MRI). Five infants had congenital abnormalities compatible with CRS and 02 infants had Congenital Rubella Infection (CRI) with no congenital abnormalities.

5.1.3.1.16 Tetanus

A total 24 tetanus cases were reported in 2013 with a male predominance (66.7%). Kurunegala (4) and Colombo (3) were the districts which notified the highest number of cases.

5.1.3.1.17 Viral Hepatitis

A total of 2,156 cases of viral hepatitis were reported: Ratnapura (623), Kegalle (257), Monaragala (199), Gampaha (196), Matara (157) and Kandy (137) were the leading districts reporting. Among the 1,622 clinically confirmed cases, 68.5% were males and 48.1% belonged to the age group 25-49 years.

5.1.3.1.18 Whooping Cough

A total of 96 clinically suspected whooping cough patients were reported in year 2013. Forty eight cases were clinically confirmed. Thirty six special investigations were performed and 66.7% were males. A percentage of 83.3 belonged to the age group under 01 year.

5.1.3.2 The National Immunization Programme

The National Immunization Programme maintained near 100% coverage for all childhood vaccines adhering to high quality standards.

Epidemiology Unit has given special attention on training of both preventive and curative sector staff. The training covers all aspects of the National Immunization Programme. Training was based on WHO Middle Level Managers (MLM) training module. About 200 personnel including Medical Officers of Health, Public Health Nursing Sisters and other district level EPI managers participated in this training.

Further strengthening of vaccine storage capacity to ensure efficient cold chain maintenance at national, district and divisional levels are continued. An Electronic monitoring system is in place to ensure cold chain maintenance at national, district and divisional level.

Special attention was paid to improve and maintain the quality and safety of vaccination.

Adverse Events Following Immunization (AEFI) surveillance was expanded to the private sector by introducing a uniform AEFI reporting form for both public and private sector institutions.

Disease burden and study on assessing the cost effectiveness of chicken pox vaccine in Sri Lanka was started in 2012 and to be completed in 2014. A costing study was conducted by the unit which revealed that the cost of vaccines for immunizing an infant is around 1500 Sri Lankan rupees.

Newly developed Web Based Immunization Information System (WEBIIS) was piloted in the Gampaha district and is expected to be introduced to all the districts.

The unit has been recognized as a WHO collaborative centre for immunization activities and two teams from Thailand (for 01 week) and DPR Korea (for 4 weeks) were trained at the unit.

Table 5.1.11 : Distribution of Notified Cases of Selected Notifiable Diseases by RDHS Division - 2013

RDHS Division	Dengue	Dysentry	Encephalitis	Enteric Fever	Food poisoning	Human Rabies	Leptospirosis	Typhus Fever	Viral Hepatitis
Colombo	10,783	238	18	176	59	1	222	10	94
Gampaha	3,829	227	24	55	41	-	489	26	196
Kalutara	1,928	200	21	84	27	-	456	7	30
Kandy	1,763	175	13	31	22	-	99	104	137
Matale	495	121	4	25	11	-	78	4	65
Nuwara Eliya	272	181	4	19	219	-	34	67	25
Galle	940	140	20	9	90	2	278	69	17
Hambantota	345	79	4	16	38	-	181	72	97
Matara	486	102	17	30	30	2	177	98	157
Jaffna	802	492	15	351	114	2	10	449	18
Kilinochchi	69	61	-	17	5	2	10	18	-
Mannar	70	80	3	72	36	-	15	22	2
Vavuniya	93	84	14	15	33	2	51	3	4
Mullaitivu	127	36	3	11	47	2	38	7	2
Batticaloa	556	407	5	13	74	3	44	2	17
Ampara	242	208	1	5	12	-	44	1	13
Trincomalee	207	82	3	7	4	1	63	15	4
Kurunegala	2,772	235	44	43	31	1	402	57	69
Puttalam	924	88	8	18	36	2	49	16	7
Anuradhapura	570	125	17	3	77	3	345	29	32
Polonnaruwa	507	107	3	14	73	2	187	3	36
Badulla	542	218	5	22	14	1	63	100	49
Monaragala	271	130	7	26	38	2	212	69	199
Ratnapura	1,729	405	84	47	23	1	435	81	623
Kegalle	1,237	152	17	37	18	-	315	78	257
Kalmunai	504	213	3	6	130	-	11	3	6
Sri Lanka	32,063	4,586	357	1,152	1,302	29	4,308	1,410	2,156

Source: H399 Notified

Table 5.1.12 : Age Distribution of Selected Notifiable Diseases - 2013

Age Group	Chicken Pox	Dengue	Dysentery	Encephalitis	Enteric Fever	Human Rabies	Leptospirosis	Measles	Meningitis	Mumps	Rubella	Tetanus	Viral Hepatitis	Whooping Cough
Under 1	68	157	497	7	9	-	-	770	255	7	1	-	2	26
1 - 4	208	1,088	1,135	28	92	-	11	335	218	150	3	-	20	13
5 - 14	412	4,251	795	44	194	4	52	167	284	435	1	1	212	6
15 - 24	833	5,186	198	22	105	1	390	462	40	183	4	1	504	-
25 - 49	1,565	7,754	294	43	249	9	1,589	818	84	363	5	5	752	3
50 - 59	182	1,278	124	28	81	6	534	9	23	37	-	3	45	-
60 and above	98	729	138	48	45	3	331	2	28	4	-	8	27	-
Other	3	2	1	-	1	-	-	-	-	-	-	-	-	-
Total	3,369	20,445	3,182	220	776	23	2,907	2,563	932	1,179	14	18	1,562	48

Source: H411a Clinically Confirmed Cases

Table 5.1.13 : Distribution of Selected Notifiable Diseases by Month- 2013

Month	Chicken Pox	Dengue	Dysentery	Encephalitis	Enteric Fever	Human Rabies	Leptospirosis	Measles	Meningitis	Mumps	Rubella	Tetanus	Viral Hepatitis	Whooping Cough
January	342	3,462	316	65	129	1	234	19	96	134	3	2	185	6
February	378	3,258	255	79	100	-	288	38	89	137	3	1	206	5
March	514	2,996	289	34	133	5	716	102	93	172	-	3	182	9
April	408	2,109	220	19	85	4	504	108	127	139	3	1	104	8
May	388	2,614	388	18	125	2	421	307	134	140	3	3	148	5
June	259	2,427	353	19	88	1	246	396	120	112	3	1	120	14
July	249	2,924	416	8	75	3	213	709	154	128	4	1	146	6
August	332	3,282	441	39	99	3	263	852	134	184	1	4	156	9
September	318	1,912	422	18	81	4	312	542	79	95	2	3	301	4
October	307	1,636	483	25	69	2	258	348	76	83	1	1	217	15
November	400	2,611	591	13	98	3	487	381	111	106	1	3	244	9
December	333	2,832	412	20	70	1	366	279	106	72	-	1	147	6
Total	4,228	32,063	4,586	357	1,152	29	4,308	4,081	1,319	1,502	24	24	2,156	96

Source: H399 Notified

Table 5.1.14 : Cases, Incidence, Deaths and Case Fatality Rate (CFR) of Dengue Fever(DF) / Dengue Haemorrhagic Fever(DHF), Leptospirosis and Encephalitis 1996-2013

Year	DF/DHF				Leptospirosis				Encephalitis			
	Cases		Deaths	CFR (%)	Cases		Deaths	CFR (%)	Cases		Deaths	CFR (%)
	No.	Incidence Rate			No.	Incidence Rate			No.	Incidence Rate		
1996	1,294	7.8	54	4.2	637	3.5	ND	-	295	1.8	44	14.9
1997	346	1.9	17	4.9	472	2.6	ND	-	109	0.6	19	17.4
1998	421	2.3	8	1.9	1,280	6.9	ND	-	93	0.5	3	3.2
1999	628	3.3	14	2.2	1,106	5.9	ND	-	90	0.5	3	3.3
2000	5,213	27.5	37	0.7	1,144	6.0	ND	-	123	0.6	2	1.6
2001	5,999	31.4	54	0.9	1,402	7.3	ND	-	59	0.3	9	15.3
2002	8,931	46.9	64	0.7	991	5.2	ND	-	68	0.4	15	22.1
2003	4,805	25.3	32	0.7	2,235	11.8	ND	-	165	0.9	20	12.1
2004	15,463	81.3	87	0.6	1,447	7.6	ND	-	112	0.6	9	8.0
2005	5,994	30.5	28	0.5	1,552	7.9	ND	-	60	0.3	6	10.0
2006	11,980	60.2	46	0.4	1,582	8.0	ND	-	130	0.7	1	0.8
2007	7,332	36.9	28	0.4	2,198	10.8	ND	-	203	1.0	6	3.0
2008	6,607	32.2	27	0.4	7,423	36.2	207	2.8	261	1.3	6	2.3
2009	35,095	171.2	346	1.0	4,980	23.8	145	2.9	223	1.1	4	1.8
2010	34,188	163.3	246	0.7	4,554	21.8	123	2.7	217	1.0	3	1.4
2011	28,473	144.1	186	0.7	6,694	31.2	100	1.5	166	0.8	3	1.8
2012	44,461	218.5	181	0.4	2,663	13.1	52	2.0	210	1.0	12	5.7
2013	32,063	156.5	89	0.3	4,308	21.0	80	1.8	357	1.7	31	8.7

Incidence Rate = Incidence Rate per 100,000 population *Source: H399 Notified*
CFR = Case Fatality Rate
ND = No Data
Population for year 2013 = 20,483,000 (Source: Department of Census and Statistics, Sri Lanka)

Table 5.1.15 : Cases and Deaths of Dengue Fever / Dengue Haemorrhagic Fever and Leptospirosis by Age Group, 2013

Age Group	Dengue				Leptospirosis			
	Cases		Deaths		Cases		Deaths	
	No	%	No	%	No	%	No	%
Under 1	157	0.77	3	3.37	-	-	-	-
1 - 4	1,088	5.32	4	4.49	11	0.38	-	-
5 - 14	4,251	20.79	25	28.09	52	1.79	-	-
15 - 24	5,186	25.37	13	14.61	390	13.42	5	6.25
25 - 49	7,754	37.92	30	33.71	1,589	54.66	32	40.00
50 - 59	1,278	6.26	5	5.62	534	18.37	21	26.25
60 and above	729	3.56	9	10.11	331	11.38	21	26.25
Other	2	0.01	-	-	-	-	1	1.25
Total	20,445	100.00	89	100.00	2,907	100.00	80	100.00

Table 5.1.16 : Incidence of EPI Target Disease, 1955-2013

Year	Diptheria		Measles		Poliomyelitis		Tetanus		Tetanus Neo-Natarum		Tuberculosis		Whooping Cough	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
1955	1,179	13.5	3,499	40.1	155	1.8	873	10.0	ND	-	ND	-	1,941	22.2
1960	1,042	10.5	3,060	30.9	303	3.1	1,435	14.5	ND	-	10,519	106.3	1,786	18.0
1965	1,232	11.0	2,037	18.2	494	4.4	1,812	16.2	ND	-	6,927	62.0	2,109	18.9
1970	986	7.9	4,086	32.6	405	3.2	1,441	11.5	847	230.2	5,762	46.0	1,651	13.2
1975	310	1.3	5,000	37.0	396	2.9	1,186	8.8	812	216.0	7,324	54.3	1,341	9.9
1980	37	0.3	5,032	34.1	262	1.8	892	6.0	351	83.9	6,212	42.2	542	3.7
1985	10	0.1	9,398	59.3	40	0.3	405	2.6	76	19.5	5,889	37.2	536	3.4
1986	3	-	6,235	38.7	34	0.2	453	2.8	49	13.6	6,596	40.9	161	1.0
1987	-	-	3,508	21.4	149	0.9	258	1.6	37	10.3	6,411	39.2	31	0.2
1988	-	-	2,650	16.0	25	0.2	273	1.6	39	12.8	6,092	36.7	25	0.2
1989	-	-	780	4.6	16	0.1	295	1.8	19	5.3	6,429	38.2	61	0.4
1990	-	-	4,004	27.6	9	0.1	183	1.1	5	4.7	6,666	39.2	271	1.9
1991	1	-	1,896	12.8	1	-	188	1.3	10	4.7	6,174	35.7	25	0.2
1992	-	-	701	4.0	12	0.1	231	1.3	14	2.6	6,802	39.0	6	-
1993	1	-	558	3.2	15	0.1	196	1.1	11	3.7	6,885	39.0	18	0.1
1994	-	-	390	2.2	-	-	156	1.1	11	2.0	6,121	34.3	34	0.3
1995	-	-	465	2.6	-	-	167	1.0	2	3.0	5,869	31.5	171	1.0
1996	1	-	158	0.9	-	-	97	0.7	6	4.8	5,366	29.3	33	0.2
1997	-	-	66	0.4	-	-	23	0.5	4	3.5	6,547	35.6	205	1.8
1998	-	-	23	0.1	-	-	24	0.1	4	4.5	6,925	36.9	94	0.5
1999	-	-	2,341	12.5	-	-	23	0.1	3	4.0	7,157	37.6	61	0.3
2000	-	-	4,096	21.2	-	-	38	0.2	1	0.3	8,129	42.9	88	0.5
2001	-	-	309	1.7	-	-	75	0.4	3	0.9	8,418	45.0	52	0.3
2002	-	-	139	0.7	-	-	34	0.2	2	0.6	8,884	46.9	16	0.1
2003	-	-	65	0.4	-	-	30	0.2	2	0.6	9,312	48.4	-	-
2004	-	-	35	0.4	-	-	32	0.2	1	0.6	8,639	48.4	-	-
2005	-	-	24	0.4	-	-	25	0.1	1	0.6	9,448	48.4	-	-
2006	-	-	21	0.1	-	-	38	0.2	2	-	10,016	48.1	48	-
2007	-	-	37	1.2	-	-	16	0.1	-	-	9,817	47.9	21	0.1*
2008	-	-	2	-	-	-	22	0.1	1	-	8,181	39.5	16	0.1*
2009	-	-	129	0.1	-	-	26	0.1	-	-	10,306	49.8	48	0.2*
2010	-	-	49	0.2	-	-	15	0.1	-	-	10,235	48.9	15	0.1*
2011	-	-	129	0.6	-	-	26	0.1	-	-	9,454	44.1	55	0.3*
2012	-	-	51	0.3	-	-	8	-	-	-	8,720	43.0	61	0.3*
2013	-	-	2,725	13.3	-	-	19	0.1	-	-	5,488	26.8	67	0.3*

** From year 2006 the incidence is for Whooping Cough Like Illness* *Source: H399 Notified*

Population for year 2013 is 20,483,000 (Source: Department of Census and Statistics)

Table 5.1.17 : RDHS Distribution of Immunization Coverage - 2013

District	BCG	PVV1	PVV3	OPV1	OPV3	LJE	MMR1	MMR2	DT5	OPV5	#TT2+
Colombo	95	96	96	96	96	101	98	95	105	105	92
Gampaha	103	95	98	95	98	106	98	95	103	103	97
Kalutara (+NIHS)	97	98	97	98	97	99	97	95	103	103	93
Kandy	100	98	93	98	92	92	91	90	95	95	91
Matale	103	98	98	98	98	99	97	94	97	97	91
Nuwara Eliya	96	98	97	98	97	98	94	90	91	91	86
Galle	95	98	97	98	97	99	97	96	106	106	89
Hambantota	99	98	97	98	97	93	95	93	96	96	90
Matara	94	98	97	98	97	100	98	97	102	102	89
Jaffna	101	98	94	98	94	95	92	95	93	93	90
Killinochchi	88	94	95	94	95	83	98	117	119	119	79
Mannar	91	88	94	88	94	94	98	97	94	94	83
Vavuniya	108	97	95	97	95	90	90	90	88	88	91
Mullaitivu	77	92	93	92	93	94	98	107	99	101	84
Batticaloa	101	98	97	98	97	96	94	94	98	98	88
Ampara	102	98	96	98	97	90	92	98	95	95	91
Trincomalee	104	98	97	98	97	95	96	105	109	109	95
Kurunegala	101	98	98	97	98	97	98	98	101	101	90
Puttalam	101	98	96	98	96	97	94	97	101	101	89
Anuradhapura	98	98	97	98	97	98	97	96	95	95	92
Polonnaruwa	98	95	96	95	96	97	98	98	95	95	89
Badulla	99	98	96	98	96	96	96	96	97	97	91
Monaragala	98	98	97	98	97	93	92	90	90	90	92
Ratnapura	92	98	97	98	97	98	95	95	99	99	87
Kegalle	104	98	97	98	97	97	94	96	100	100	90
Kalmunai	78	98	97	98	97	96	93	97	98	98	82
Sri Lanka	98	98	97	98	97	98	97	96	100	100	91

Note - For the calculation of BCG coverage actual births in 2013 is taken as the denominator
In Sri lanka registration of births occurs by place of occurrence and not by place of residence. Hence an estimateted births in each district were taken as the denominator for other vaccines.
The estimation was done using a method taking in to account the highest number of immunizations performed and the actual births that took place in each district in year 2013.

The reasons for over 100% coverage in some district are due to vaccination of previous birth cohorts during the year under review .

PVV - Pentavalant Vaccine
MMR - Measles, Mumps and Rubella Vaccine
LJE - Live Japanese Encephalitis Vaccine
OPV - Oral Polio Vaccine
DT - Diptheria and Tetanus
#TT2+ - Mothers protected by Tetanus Toxoid

Table 5.1.18 : Number of Selected Adverse Events by Vaccines in 2013

Selected Adverse Events	BCG	OPV	PVV	DPT	MMR	LJE	DT	TT	aTd	Total number of AEFI reported
Total number of AEFI reported	69	17	3,605	2,279	925	915	493	98	183	8,584
AEFI reporting rate/1,000,000 doses administered	19.8	1	350	664.6	137	190.5	140.5	30.6	62.9	
High Fever (>39^{o}C)	5	5	1647	957	192	134	91	8	11	3,050
Reporting rate/1,000,000 doses administered	1.4	0.3	159.9	279.1	28.6	27.9	25.9	2.5	3.8	
Allergic reactions	1	3	452	333	388	583	125	39	51	1,975
Reporting rate/1,000,000 doses administered	0.3	0.2	43.9	97.1	57.8	121.4	35.6	12.2	17.5	
Severe local reactions	3		107	107	8	20	44	8	3	300
Reporting rate/1,000,000 doses administered	0.9		10.4	31.2	1.2	4.2	12.5	2.5	1	
Seizure (Febrile/Afebrile)			90	131	20	26	5		1	273
Reporting rate/1,000,000 doses administered			8.7	38.2	3	5.4	1.4		0.3	
Nodules	13	2	595	270	11	16	52	6	3	968
Reporting rate/1,000,000 doses administered	3.7	0.1	57.8	78.7	1.6	3.3	14.8	1.9	1	
Injection site abscess	24		107	54	4	4	15	4	1	213
Reporting rate/1,000,000 doses administered	6.9		10.4	15.7	0.6	0.8	4.3	1.3	0.3	
Hypotonic Hyporesponsive Episode			10	6			2			18
Reporting rate/1,000,000 doses administered			1	1.7			0.6			

Table 5.1.19 : Sentinal Site Surveillance of Influenza Like Illness (ILI) and Severe Acute Respiratory Illness (SARI), 2013

Month	Human Surveillance							
	ILI Surveillance				SARI Surveillance			
	Total ILI Visits Reported	Proportion of ILI out of Total OPD Visits (%)	Total ILI Samples Tested	Influenza Yeild from ILI Samples (%)	Total SARI Visits Reported	Proportion of SARI out of Total Admissions (%)	Total SARI Samples Tested	Influenza Yeild from SARI Samples (%)
January	6,142	1.81	279	30.10	87	2.62	33	18.18
February	7,981	2.25	297	23.90	153	4.02	46	32.60
March	8,192	1.80	263	20.53	498	4.62	89	14.60
April	6,234	1.90	265	14.33	519	4.56	95	25.26
May	10,078	2.34	32	3.12	444	3.46	231	20.77
June	8,425	2.14	0	0.00	397	3.08	54	9.25
July	8,453	2.08	10	10.00	404	3.31	44	0.00
August	6,945	1.53	109	4.58	253	2.27	65	3.07
September	6,195	1.71	178	1.68	248	2.53	55	7.27
October	7,015	2.14	248	0.80	235	2.23	51	5.88
November	7,837	2.15	185	1.62	231	2.66	38	5.26
December	6,033	5.17	203	0.49	55	1.76	31	16.12
Total	89,532	2.07	2,069	12.66	3,524	3.19	832	15.62

ILI = Influenza Like Illness

SARI = Severe Acute Respiratory Infection

5.1.4 National Dengue Control Unit

5.1.4.1 Introduction

Dengue fever has emerged as the leading public health problem with expanding geographical boundaries and severity. The mosquito *Aedesaegypti* and *Aedesalbopictus* are the two vectors of dengue illness which breed mainly in water holding containers in domestic and peri-domestic localities.

5.1.4.2 Profile

National Dengue Control Unit (NDCU) was established in 2005 as a fulfilment of a strategy in National Dengue Control Action Plan.

NDCU is the central agency responsible for the coordination of control and preventive activities of dengue at the national level between different stakeholders and it is one of the Technical Directorates under the purview of DDG/PHS1 in the Ministry of Health.

5.1.4.3 The Vision

To minimize the health, economic and social impact of the disease by reversing the rising trend of dengue.

5.1.4.4 The Mission

To enhance the capacity at the national, provincial, district and divisional levels for better planning, prediction, early detection and prompt control and containment of outbreaks through partnerships and application of coordinated efforts in sustainable manner.

5.1.4.5 Goal

To reduce endemicity to such an extent that it is no longer a major public health problem in Sri Lanka.

5.1.4.6 General Objective

To reduce morbidity and mortality due to dengue fever (DF) and dengue haemorrhagicfever (DHF) by 50% of that in 2009, by 2015.

5.1.4.7 Specific Objectives

- To increase the capacity of health sector to monitor trends and reduce dengue transmission
- To strengthen capacity to implement effective integrated vector management
- To increase health workers' capacity to diagnose and treat patients and improve health-seeking behaviour of communities
- To promote collaboration among communities, national health agencies and stakeholders to implement dengue programmes for behavioural change
- To increase capacity to predict, detect early and respond to dengue outbreaks
- To address programmatic issues and gaps that requires new or improved tools for effective dengue prevention and control

5.1.4.8 Epidemiological Surveillance

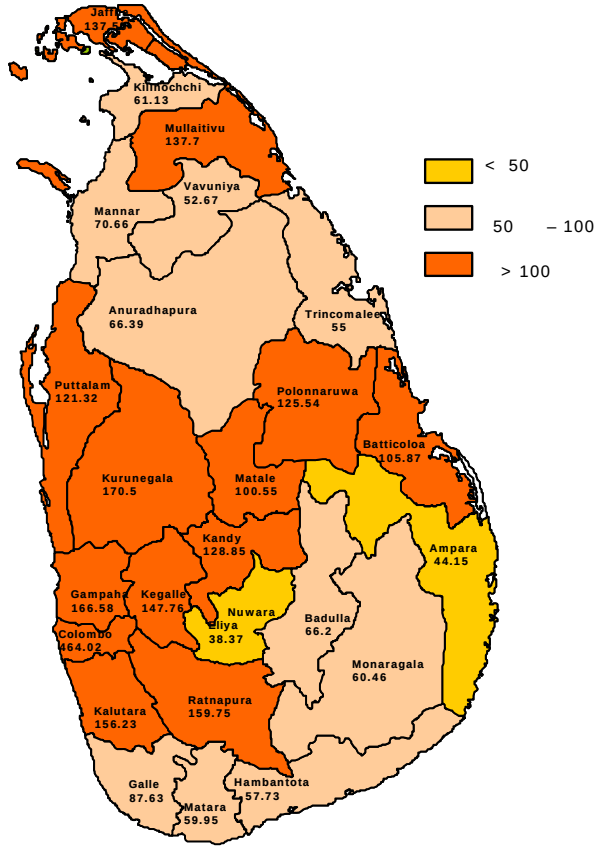
Epidemiological (disease) surveillance is carried out through the Epidemiology Unit. In 2013 a total of 32,063 dengue cases were reported from the entire country. This was less than last year's (218 per 100,000) corresponds to a rate of 158 per 100,000 population. There were 15 districts reporting more than 100 casesper 100,000 population indicating increasing geographic distribution (Figure 5.1.13). Although the number of cases was 32,063in 2013, the number of deaths were 89 with a Case Fatality Rate of 0.27% which was a marked reduction compared to previous years (Table 5.1.20). A web based surveillance in collaboration with the Epidemiology Unit has established in 50 sentinel hospitals in 2013.

Table 5.1.20 : Case Fatality Rate, 2009 - 2013

Year	Dengue Cases Reported	Dengue Deaths	Case Fatality Rate
2009	35,095	346	0.98
2010	34,105	246	0.72
2011	28,473	186	0.65
2012	44,461	181	0.41
2013	32,063	89	0.27

Source : Epidemiology Unit

Fig 5.1.13 : Reported Dengue Incidence by District - 2013 (Cases per 100,000 population)



(Source – Epidemiology Unit)

Two distinct peaks of case reporting in May – July and Oct – Jan are identified over the years associated with South-West and North-East monsoon rains respectively(Figure 5.1.14). Therefore it is evident that preventive activities should be initiated before the increase of cases. As such, bi-annual mosquito control weeks are conducted in April/May and September/October.

5.1.4.9 Integrated Vector Management (IVM)

5.1.4.9.1 Entomological Surveillance

Entomological surveillance is carried out under the preview of National Dengue Control Unit, Anti Malaria Campaign, Anti Filariasis Campaign and Medical Research Institute through their counterparts at regional level. Vector surveillance is important to forecast impending outbreaks and initiate early measures to prevent the occurrence of outbreaks and to limit the spread. Vector indices are calculated (Breteau Index, Premise Index and Container Index) for assessment of risk and impact of control activities.

In 2013 a total of 185,090 premises were inspected, where *Aedes* larvae were found positive in 15,860 (8.6%) containers. The types of containers are illustrated in Fig. 5.1.15.

Fig 5.1.14 : Seasonal Distribution of Dengue

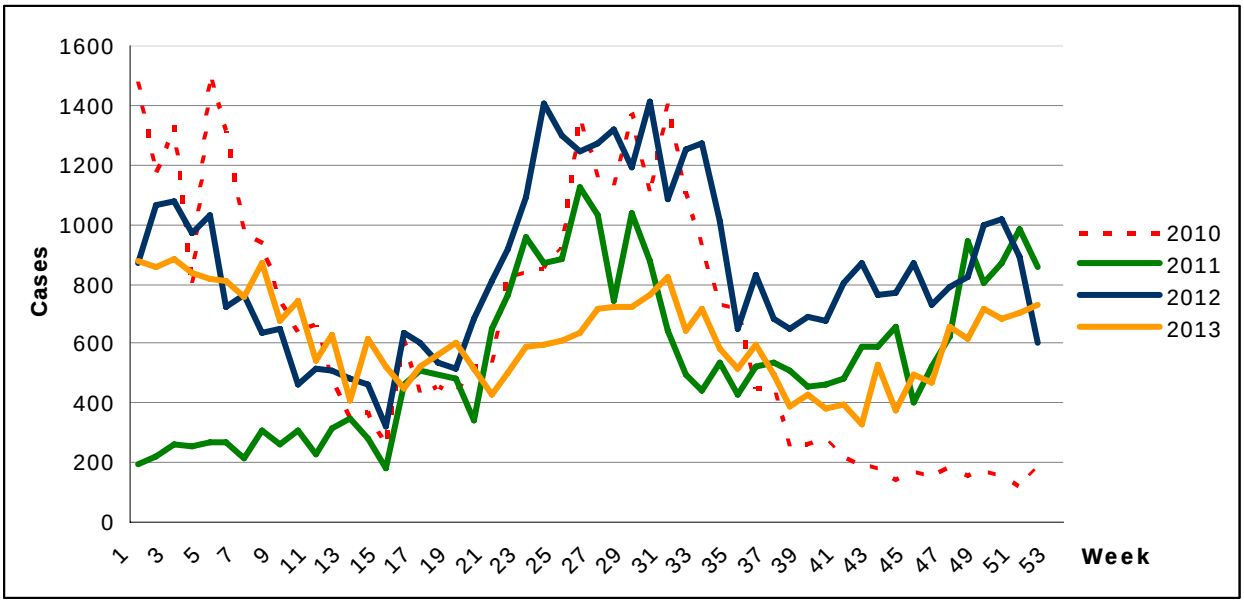
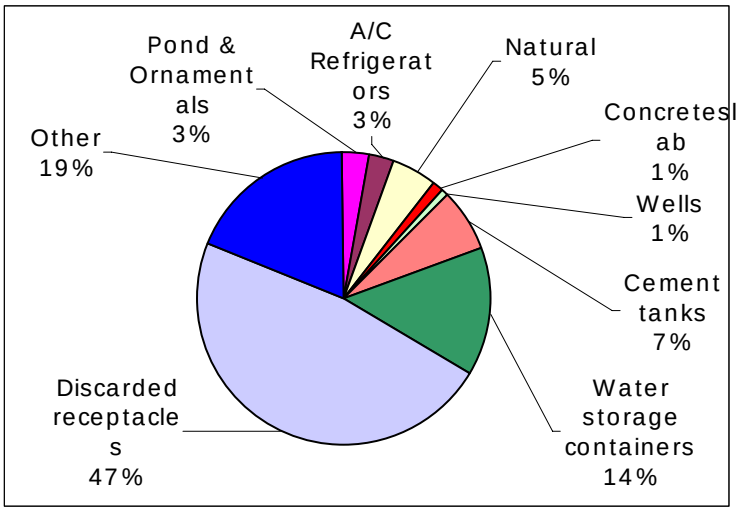


Fig 5.1.15 : Breakdown of Positive Containers (by type) Entomological Surveillance in 2013



5.1.4.9.2 Vector Control

Vector control interventions including source reduction (Elimination of breeding places), biological and chemical vector control activities are carried out by the health authorities with all relevant stakeholders and the community in accordance with the guidelines of the Ministry of Health. Vector control activities are carried out on a high-risk approach based on epidemiological and entomological parameters.

Facilitating district and divisional level vector management staff to perform optimally to control dengue vectors by providing training, equipment, chemicals, technical guidance and other resources byproviding 09 Vehicle Mount Fogging machines to high risk districts. (Colombo – AFU, Gampaha, Kalutara, Galle , Matara, Kegalle,Rathnapura,Kurunegala,Puttalam),100 Hand held Fogging machines (based on requirement among all RDHS divisions) and 496 sets of Personal protective equipment to vector control personnel which included pair of boots, Goggles ,Gloves, Ear Plugs, Respirators and Helmets.

5.1.4.9.3 Case Management during 2013

During 2013, curative health care personal were trained on proper management of dengue patients based on national guidelines coordinated by the Epidemiology Unit and Education, Training & Research unit, Ministry of Health. Case Management further enhanced by establishing 24 new High Dependency Units (HDU) in selected hospitals. In addition equipments for existing HDUs were also provided during 2013.

Table 5.1.21 : HD Units of Health Institutions Provided with Equipments in 2013

Type of Hospital	No. of HDUs facilitated in 2013
Teaching Hospitals	6
Provincial General Hospitals	3
District General Hospitals	7
'A' Grade Base Hospitals	5
'B' Grade Base Hospitals	14
Total	35

Distribution of 21 Microhaematocrit centrifugedevices distributed to selected hospitals among 11 districts were also done during 2013.

10 colour doppler portable US scan machines among major hospitals for the first time (NHSL, Teaching Hospitals-06, Provincial General Hospitals -02, Base Hospitals-01)

5.1.4.10 Major Activities Carried Out in 2013

- Three well-co-ordinated National Mosquito Control Programmes were carried out during 2013 with the aim of minimising the spread of dengue by conducting coordinated programmes at national, provincial, district and divisional level with relevant stakeholders and community
  - √ 1st Mosquito Control Week from 06th to 12th February
  - √ 2nd Mosquito Control Week from 01st to 06th July
  - √ 3rd Mosquito Control Week from 07th to 13th October

- Convened Presidential Task Force meeting chaired by the Minister of Health with the participation of Ministry of Environment, Ministry of Education, Ministry of Local Government & Provincial Councils, Ministry of Defence and Ministry of Public Administration to solicit their support in dengue control activities.

- Promote elimination of mosquito breeding places within institutions and in and around all school premises.

- Advocate cleaning public places and drainage systems by the relevant local government bodies.

- Provincial coordination committee meetings with the respective Governors and participation of relevant ministry officials where advocacy was provided regarding district, divisional and village committees.

- Take part in 11 exhibitions including Deyata Kirula 2013.

- Conducting research on "Effectiveness of using Bacillus thuringiensisisraelensis briquette formulation (Mosquito dunk) in dengue control and prevention activities in selected MOH areas in the Western Province Sri Lanka" as the major research activity in 2013.

5.1.5 Nutrition Division

Nutrition Division is responsible for overall management of nutrition services across the country on behalf of Ministry of Health. This unit is responsible for Nutrition related policy formulation, coordination, monitoring and evaluation. Nutrition Division formulates guidelines on nutrition related matters which are translated in to action at grass root level. In addition this unit carries out in-service training programmers, awareness sessions and other capacity development activities for health workers as well as other categories of staff. Nutrition Division coordinates with provincial and other grass root level organizations and officers ensuring effective implantation of nutrition programmes in the country. This unit functions with the following objectives

5.1.5.1 General Objective

To ensure optimum nutrition wellbeing in all population groups adopting a life cycle approach.

5.1.5.2 Specific Objectives

1 To improve knowledge on healthy food practices and healthy lifestyle among every citizen of Sri Lanka.
2 To encourage healthy food practices and habits in Sri Lankan population.
3 To control and combat incidence of nutrition related deficiency disorders as well as nutrition imbalances and over-nutrition.
4 To control and combat the incidence of nutrition related Non-communicable diseases in the country.
5 To effectively harness traditional knowledge and practices to improve nutrition status.

5.1.5.3 Vision

A nation with optimum nutritional well being, together with an optimum health status for Sri Lankans of all age groups.

5.1.5.4 Mission

To be an active partner in improving nutritional wellbeing to achieve desired economic and social development.

5.1.5.5 Activities Carried Out 2013

Nutrition Division carried out the following activities for the year 2013.

1. **Formulation of Disease based Dietary Guidelines**

   The division completed formulation of this publication on the dietary management of any chronic disease in consultation with relevant experts. The publication submitted for printing.

2. **Formulation and Launch of Canteen Guidelines**

   This premier document was prepared to promote healthy food at canteens in work places to improve nutrition status of the staff. The proposed guidelines are helpful in reducing deficiency disorders as well as obesity and associated non communicable diseases among workers. 3,000 copies were printed in all three languages . It was launched in November 2013. Over 40,000 posters were printed to support this activity.

3. **Formulation of Dietary Guidelines for Buddhist Clergy**

   This draft consists of two main components which is intended to provide information on healthy diet for Buddhist clergy and on preparation of nutritious foods for alms.

4. **Formulation of Health and Nutrition Guideline for Volunteers**

   Health and nutrition guideline was prepared under facilitation of World Vision. This guideline aimed to improve knowledge and practices of health care volunteers in the field of health and nutrition.

5. **Printing of the Food Guide**

   50,000 copies (GOSL fund) of Food Guide was reprinted in Sinhala.

6. **Printing of Food Based Dietary Guidelines**

   10,000 copies (GOSL fund) of Food Based Dietary Guidelines reprinted in Sinhala.

7. Monitoring of the final phase of Northern Province Nutrition Improvement Project onbehalf of the Ministry was carried out

Nutrition Division actively contributed in several consultative and expert committees in order to streamline the nutrition services delivered to the people.

5.1.6 Nutrition Coordination Division

5.1.6.1 Introduction

Nutrition is a fundamental pillar of human life, health and development across the entire life span. Proper nutrition is essential for survival, physical growth, mental development, performance and productivity.

According to the MRI, National Micro Nutrient Survey 2012 data, low birth weight prevalence is 17.9% , while 13.1% are stunted, 19.6% are wasted and 23.5% are underweight among children 6-59 months.

According to the same survey around 35% of infants between 6-11 months of age are anaemic, about 15% of the preschool age population and 20% school aged children are also anaemic. The prevalence of anaemia among non pregnant women and pregnant women were 22.2% and 16.7% respectively (National Food Security Survey).

Therefore “Nutrition Coordination Division” is mandated to coordinate all nutrition and related activities with the institutions at the Ministry of Health, Provincial Authorities, different Ministries and Non Governmental Organizations.

5.1.6.2 Vision:

To improve the nutritional status of the population with special reference to children and women in 2016

5.1.6.3 Mission

“ Contribute to improve the nutritional status of the population in the country through coordination, monitoring and facilitation of implementation of the nutrition interventions with sectoral coordination”.

5.1.6.4 Responsibilities of Nutrition Coordination Division

It has already been identified that improvement of nutritional status of the population in Sri Lanka is a coordinated effort of all stakeholders. Therefore, Nutrition Coordination Division is mandated to formulate a National Nutrition Policy and guidelines and coordinate all nutrition and related activities with institutions of Ministry of Health – e.g. FHB, HEB, MRI, Non Communicable Disease Unit, Food Control Unit, Nutrition Division, Young, Elderly & Disabled Unit, Provincial Authorities, other Ministries and Non Governmental Organizations.

5.1.6.5 Activities Implemented during 2013

5.1.6.5.1 Coordinating the National Supplementary Feeding Programme (Thriposha Programme)

This is an island-wide nutrition supplementary feeding programme implemented by the Ministry of Health and fully funded by the government.

The objective of the Thriposha programme :

- is to provide energy and reference proteins with all required micro-nutrients as a supplement in order to improve the nutritional status of the children and pregnant & lactating mothers

Beneficiaries are :

- All pregnant mothers throughout the pregnancy & lactating mothers up to 6 months
- Children from 6 months to 5 years of age who are below -2SD of the growth reference curve and growth faltering.

Management of the Programme :

The management of national supplementary feeding programme (Thriposha) has now been transferred to Sri Lanka Thriposha Limited, a fully government owned company under the Ministry of Health. Following the management change, Thriposha production has been increased up to 57,000 master bags per month from previous 35,000 – 40,000 master bags per month. Percentage of Thriposha beneficiaries also reached 85% from 68% during this time. Although 1.3 mn are identified as beneficiaries, at present we are able to cover only 900,000 beneficiaries.

5.1.6.5.2. National Nutrition Policy & District Nutrition Action Plan (DNAP)

Nutrition is one of the high priority areas in the health sector. Importance of proper nutrition throughout the lifecycle has been identified. Hence Nutrition Coordination Division decided to take part in formulating National Nutrition Policy which was published in an Extraordinary Gazette no 1639/5 of Democratic Socialist Republic of Sri Lanka, 2nd February 2010 with the support of relevant stakeholders.

Printed copies in all three languages (Sinhala, Tamil & English) are distributed among all relevant stakeholders, launched on 8th June 2010 at the National Nutrition Month inauguration ceremony by the Hon. Minister of Health.

Policy and the Strategic Plan formulated were handed over to Provincial and District Authorities to prepare District Nutrition Action Plan. As the next step development and implementation of National Nutrition Strategic Plan 2009-2013 was formulated based on the National Nutrition policy developed in 2008. The goal of this plan is to achieve and maintain the nutrition and well being of all Sri Lankans enabling them to contribute effectively towards national socio-economic growth and development.

To achieve the expected status of nutrition following policy objectives were defined:

- Ensuring optimal nutrition throughout the life cycle
- Enhancing the capacity to deliver effective & appropriate interventions
- Ensuring effective management of adequate nutrition to vulnerable populations
- Ensuring food & nutrition security for all citizens
- Strengthening advocacy, partnership and networking
- Strengthening research, monitoring and evaluation

To implement the National Nutrition Policy and National Nutrition Strategic Plan, District Nutrition Action Plan (DNAP) was developed by the Nutrition Coordination Division. This document will guide the health sector personal in the district planning team to translate the NNSP and health sector directions of the National Nutrition Council into specific action in the nutrition plan relevant to the particular district. With reference to the guidelines of DNAP, proposals on nutritional programmes and relevant activities for the districts were submitted by Regional Directors of Health Services and were approved by Ministry of Health. Funds for each district were released to all Provincial Directors of Health Services for the implementation of DNAP.

National Nutrition Council (NNC)

National Nutrition Council was established on 14.01.2011 chaired by His Excellency the President, with the broad aim of setting up institutional support for the implementation of the National Nutrition Policy. Nutrition Coordination Division is the focal point to liase with President Secretariat to coordinate NNC activities.

National Nutrition Secretariat

This was established under National Nutrition Council.

- Nutrition Coordination Division coordinates with National Nutrition Secretariat to develop multi sector Action Plan to improve nutrition under the theme of **Nourished Nation by 2016.**
- National Nutrition Month activities were conducted with multi sectoral participation.

District Nutrition Action Plan (DNAP)

According to the National Nutrition Policy and Strategic Plan, the guideline of the District Nutrition Action Plan (DNAP) has been finalized. Developed the DNAPs in all districts for the year 2014.

5.1.6.5.3 Nutrition Education Programme for Pre School Teachers with the Assistance of UNICEF & World Vision Lanka

The objective of this programme is to improve nutrition knowledge and skills of preschool teachers and officers of Early Childhood Care & Development in order to improve the nutrition and health status of preschool children.

- Nutrition Coordination Division conducted the Preschool Teacher Training Programme on Nutrition in Kilinochchi, Mannar and Mullaitivu districts with the assistance of World Vision Lanka and one Orientation programme to stakeholders in Badulla district.

5.1.6.5.4 World Food Programme Assisted Development Programme

This is a targeted supplementary feeding programme to treat moderately acute malnourished children aged 6-59 months old.

Objective of the Programme :

The main objective of this programme is to rehabilitate Moderately Acute Malnourished (MAM) children to prevent them from becoming severely malnourished and improve the nutritional status.

Completion of the Programme :

Nutrition Coordination Division of the Ministry of Health has successfully implemented the MCN supplementary feeding programme at the end of 2013 through the primary health infrastructure with an assistance of WFP. In 2012 and 2013, total of 963 MT of super cereal plus has been distributed to RDHS regions in Ampara, Kalmunai, Batticaloa, Trincomalee, Badulla, Hambantota, Nuwara Eliya and Polonnaruwa. Under this development programme 43,899 MAM children has been benefited in the above mentioned districts.

5.1.6.5.5 Nutrition Awareness and Food Demonstration Programme

Food demonstration programme is one of the nutrition knowledgeable and skill development programme coming under the National Nutrition Programme.

Prevention and treatment of stunting and wasting remains a challenge. There are no nutrition value products available in the market to feed children in a correct way and method. Developing of new receipes using local products and preparing nutritious food with the participation of PHMs and women's groups it is expected to transfer knowledge and skills to the community.

This programme has been implemented in the following areas :

Year 2013

4 programmes in Anuradhapura
4 programmes in Hambantota
2 programmes in Padiyathalawa
} Two day programmes

No of Participants

MOH Staff	92
Mothers/Volunteers	228

We have planned to conduct five "Nutrition Awareness & Food Demonstration Programmes in Thanamalvila, Rideemaliyadda, Meegahakiula, Bibile, and Lunugala MOH areas in the Uva Province for the year 2014.

5.1.6.5.6 Establishment of National Nutrition Surveillance System

- National Nutrition Surveillance System was successfully established in 30 DS Divisions representing 19 Districts and operated by the planning unit of the DS Division. Now it has been expanded to all DS Divisions in Nuwara Eliya District.
- Routinely collected data is uploaded to the database under the direct supervision of the Nutrition Coordination Division.
- Policy makers and programme managers as well as general users can access the NNSS database through our website www.nutrition.lk.
- This system was revamped by using latest software.

5.1.6.5.7 National Nutrition Month June 2013

Proper Nutrition throughout the life cycle helps to maintain good health and improves quality of life, thereby leading to socio-economic development of a country. Despite a remarkable progress in health and social indicators during past few decades, the progress in nutrition indicators is not satisfactory.

Therefore, National Nutrition Month is held annually with the intention of improving nutrition status of the community through awareness and changing attitudes.

- Nutrition Coordination Division is the focal point to conduct the National Nutrition Month Activities.
- Nutrition Month Theme for the year 2013 was "Healthy Nation through Proper Nutrition" as the year of 2013 was declared as " preventing non communicable diseases"

Reason for selecting this theme :

As the child grows into an adolescent, and then to an adult, lifestyle changes are influenced by marketing strategies, convenience factor and peer pressure leading to unbalanced dietary patterns resulting in nutritional deficiencies on one hand and overweight and its' consequences on the other. Imbalanced diets, sedentary lifestyles and lack of physical activity are risk factors leading to a high prevalence of overweight (about 31.2% in females aged 15-49 years (DHS 2007)), and other diet-related non-communicable diseases such as diabetes mellitus, cardiovascular disease, hypertension and certain types of cancer. Comparatively high prevalence of overweight is seen in urban areas (7.6% in urban adolescents aged 11-19 years (MRI 2001)). Overweight and obesity are emerging challenges leading to a double burden.

Main Objectives of the National Nutrition Month - 2013 :

- To introduce an action plan to reduce low birth weight.
- To prevent non communicable diseases through creating awareness on nutrition.
- Combined programmes were implemented under this theme.
- The inauguration ceremony was held on 18th June 2013 in Polonnaruwa District.
- Number of activities were implemented to improve the nutrition status throughout the island within the health sector and with other ministries and were able to establish a good inter sectoral coordination between the ministries.

5.1.6.5.8 Coordination & Collaboration with Other Agencies

- Function as Ministry of Health focal point for National Nutrition Secretariat at President's Office and coordinate nutrition related activities within & outside the Ministry of Health
- Nutrition Coordination Division is the Secretariat to the Nutrition Steering Committee, which is chaired by the Secretary to the Ministry of Health.
- Take part in awareness exhibitions & campaigns on nutrition, like "Dayata Kirula", "Suwa Udana" Programmes.
- Provide technical support to other Ministries like, Ministry of Agriculture, Ministry of Economic Development, Ministry of Education, Ministry of Child Development & Women's Empowerment, Ministry of Industry and Commerce, Ministry of Youth, Ministry of Sports on nutrition related issues
- Involved in conducting lectures at PGIM & NIE.
- Working with UN agencies such as UNICEF, WHO, WFP, World Vision Lanka and Sarvodaya, etc

5.1.7 Quarantine Unit

This unit is mainly concerned with implementation of quarantine and prevention of diseases ordinance of 1897, and International Health Regulations (IHR 2005). IHR 2005 aims at more secure world that is on the alert and ready to respond collectively to the threats to public health security, which may occur through international trade and travel. According to IHR 2005 Quarantine Unit of Ministry of Health and Epidemiology Unit had been designated as national IHR focal point to be accessible at all times with WHO IHR focal points. Activities related to implementation of IHR in Sri Lanka are being carried out by both the units in collaboration with each other.

5.1.7.1 Responsibilities

Sri Lanka as one of the member states, legally bound to comply and obliged to implement the IHR 2005 in accordance with the purpose and scope to protect, prevent and control of international spread of diseases as well as public health risks specially Public Health Emergency of International Concern (PHEIC) by avoiding unnecessary interference with international traffic and trade.

Quarantine services are responsible for inspection, examination, isolation, prevention, treatment, inoculation, vaccination, sanitary regulation, disinfection and disinsectisation of persons, animals, vessels, goods and things and any other measure having as their object the prevention of the spread of certain diseases into Sri Lanka from other countries.

At present the following tools are being used prevent control and spread of disease into Sri Lanka. Quarantine and prevention of diseases ordinance No. 3 of 1897 and its subsequent amendment No. 13 of 1936, No. 11 of 1939, No. 7 of 1917, No. 14 of 1919, No. 14 of 1920 No. 5 of 1941, No. 13 of 1943, Act No. 12 of 1952. SARS Regulations of 2003 (chapter 222) Quarantine Regulations of 1960 (chapter 173) list of notifiable diseases, list of notifiable diseases WHO.

The following units carry out the quarantine services in Sri Lanka

- Port Health Office, Colombo Harbor
- Office of the Assistant Port Health Officer, at MRI(vaccinations only)
- Airport Health Office, Katunayake
- Port Health Office at Galle

New units were established in

- Port Health Offices at Rajapaksha International Port-Hambantota since 2012
- Airport Health Office, Mattala since 2013
- Port Health Office at Trincomalee since 2013

With the commissioning of the new international port and the airport by His Excellency the President in 2011 and 2013 respectively new quarantine units were established and medical officers and other relevant officers were appointed to these new units. New unit was also established in Trincomalee port also.

An action plan was prepared to achieve the following objectives:

- To strengthen capacity at points of entry to ensure public health security in national level
- To provide a legal environment conducive to implement IHR 2005
- To formulate a mechanism for coordination and collaboration among relevant stakeholders in planning and implementation of IHR 2005
- To strengthen national diseases prevention, surveillance, control and response system to efficiently detect report and respond to events that may constitute a PHEIC
- To establish process of monitoring progress of IHR implementation

Progress of Core Capacity Development under implementation of IHR 2005 at Points of Entries (POE)

- Expanded the health sector cadre positions at main international airport and seaport
- Airport and sea port health staff have been trained on IHR requirements and PHEIC
- Provided basic infrastructure facilities to main international airport and seaport
- Both BIA and Colombo port have developed emergency contingency plans to deal with PHEIC
- Established 24 hour health desk at main international airport and seaport
- Limited isolation facilities were established at main international airport and seaport

The main duties of this office currently include prevention of listed infectious diseases being introduced into the island, issuing of pratique to aircraft /ships, inspection and release of food items imported, release of human remains, general airport/port sanitation, maintenance of high standard of all the food outlets and other public health activities.

5.1.7.2 Activities of Quarantine Services

5.1.7.2.1 Yellow Fever Surveillance

A valid international certificate of vaccination against yellow fever is mandatory according to the IHR 2005 from all travelers over 01 year of age arriving to Sri Lanka from yellow fever endemic countries. Administering yellow fever vaccine and yellow fever vaccination certificate made available at Assistant Port Health office, Medical Research Institute, Borella, Colombo 08.

5.1.7.2.2 Surveillance for PHEIC

Routine surveillance data regarding internationaltravel and trade are monitored at POE for containment of diseases to prevent PHEIC.

5.1.7.2.3 Disinfection, Disinfestations and Deratting Procedures

Disinfection, disinfestations of air craft's, ship sanitation procedures are being carried out by professionals and monitored and supervised by the trained public health staff. Deratting certificate and deratting exemption certificate have been replaced by ship sanitation control exemption certificate and ship sanitation control certificate.

5.1.7.2.4 Vector Control

With regard to vector control unit has established surveillance for the presence of vectors and reservoirs at the designated port of entries.

5.1.7.2.5 Food and Water Sanitation at POE

Inspection of food stuff, catering establishments inside the premises of airport and port under the food act, sampling of imported food items, forwarding lab analysis as an when required by the custom authorities.

5.1.7.2.6 Arrangement for the Quarantine of Suspects in IDH Hospital

Infectious Disease Hospital, Colombo (IDH) is designated as the focal point of management of cases at the national level.

5.1.7.3 Activities Carried out by Each unit during 2013

Table 5.1.22 : Activities Carried out by the Airport Health Officer-BIA Katunayake

Activities		Number
1. Yellow Fever Surveillance		
1.1 No. with valid certificate		59
1.2 No. without valid certificate & Deported		-
2. Disinfections of Aircrafts		
2.1 No of flight arrived		24,300
2.2 No. of flights has to be disinfected		20,540
2.3 No. of flights disinfected		19,187
3. Passenger Arrivals & Departures		
3.1 No. of passengers Arrived		3,518,646
3.2 No. of passengers Departure		
4. Release of Human Remains		
4.1 No. of Human Remains released		468
4.2 No. of released to J.M.O. for postmortem		22
4.3 No. alleged suicide		17
4.4 Surveillance of other infectious Diseases		-
5. Airport Sanitation		
5.1 No. of sanitary inspections carried out including Food establishment		76
5.2 No. of food samples taken under food act		5
5.3 No found defectives	prosecuted	0
	warned	0
6. Other activities		
6.1 Polio vaccines No. of doses given		0
6.2 Health talks given to staff		67
6.3 no. of water samples take for bacteriology analysis		28

Table 5.1.23 : Activities Carried out by the Airport Health Officer - Mattala MRIA

Activities		Number
1. Yellow fever surveillance		
1.1 No. with valid certificate		
1.2 No. without valid certificate & deported		
2. Disinfections of aircrafts		
2.1 No of flight arrived		168(Domestic 398)
2.2 No. of flights has to be disinfected		
2.3 No. of flights disinfected		
3. Passenger arrivals & departures		
3.1 No. of passengers arrived		Foreign 2766
		Domestic 7553
3.2 No. of passengers departure		
4. Release of human remains		
4.1 No. of human remains released		
4.2 No. of released to J.M.O. for postmortem		
4.3 No. alleged suicide		
4.4 Surveillance of other infectious diseases		
5. Airport Sanitation		
5.1 No. of sanitary inspections carried out including Food establishment		58
5.2 No. of food samples taken under food act		F/B02 IF/B03
5.3 No found defectives	prosecuted	
	warned	6
6. Other activities		
6.1 Polio vaccines no. of doses given		
6.2 Health talks given to staff		
6.3 No. of water samples take for bacteriology analysis		6

Table 5.1.24 : Summary of the Activities Carried out by the Port Health Officer-Colombo Harbor

Indicator	Number
No. of Ship arrival/ Pratique granted	3,971
No. of Yellow fever vaccines given	128
No. of Deratting exemptions certificates issued	191
No. of human remains released	7
No. of under graduate trained	43

Table 5.1.25 : Summary of the Activities Carried out by the Port Health Officer-Galle Harbor

Indicator	Number
No. of Ship arrival/ Pratique granted	93
No. of Yellow fever vaccines given	14
No. of Deratting exemption certificates issued	3
No. of human remains released	-
No. of under graduate trained	52

Table 5.1.26 : Summary of the Activities Carried out by the Port Health Officer- Hambantota Rajapaksha International Harbor

Indicator	Number
No. of Ship arrival/ Pratique granted	146
No. of Yellow fever vaccines given	-
No. of Deratting exemption certificates issued	-
No. of human remains released	-
No. of under graduate trained	-

Table 5.1.27 : Summary of the Activities Carried out by the Port Health Officer - Tricomalee Harbor

Indicator	Number
No. of Ship arrival/ Pratique granted	100
No. of Yellow fever vaccines given	16
No. of Deratting exemption certificates issued	2
No. of human remains released	-
No. of under graduate trained	-

Table 5.1.28 : Summary of the Activities Carried out by the Asst. Port Health Officer-MRI -Colombo

Indicator	Number of Doses
Total no. of yellow fever vaccination	4,126
Total no. of memimggococcal meningitis vaccinations	429
Total no. of oral polio vaccinations (Booster)	260

Limited isolation facilities were established at main international airport and seaport

5.1.8 National Blood Transfusion Service

National Blood Transfusion Service, Sri Lanka is a fully government owned special campaign coming under the Ministry of Health.

It is the sole supplier of blood and blood products to all government hospitals and majority of private sector hospitals.

There are 90 blood banks scattered all over the country and depending on the geographic locality they are divided into 16 clusters.

5.1.8.1 Vision

To be unique model for the world securing quality assured blood service, through a nationally coordinated system.

5.1.8.2 Mission

To ensure the quality, safety, adequacy and cost effective of the blood supply and related laboratory, clinical, academic and research in accordance with national requirement and WHO recommendations.

5.1.8.3 Management Structure and Staffing

Leadership is provided by Director of NBTS. The Director NBTS being the chief executive officer of the organization, who is responsible for implementation and supervision of the common decisions taken by the organization.

The majority of NBTS staff are affiliated with the 16 cluster centres across the country. Each cluster centre is headed by a Consultant Transfusion Physician or a senior medical officer. Each centre also has a Consultant Transfusion Physician that provides medical leadership.

5.1.8.4 Operational Performance and Planning

NBTS has made substantial progress in implementing performance indicators that focus on the four priority areas for the organization – improve quality and safety of production by,

- Improve quality and safety of production
- Enhance customer service
- Increase cost effectiveness
- Greater employee satisfaction.

5.1.8.5 Major Achievements in 2013

1. The World Blood Donor Day of 2013 was celebrated under the patronage of His Excellency the President Mahinda Rajapaksha at Temple Trees with the participation of Honourable Minister, Mr. Maithripala Sirisena, Honourable Deputy Minister, Mr. Lalith Dissanayake, other Ministers and Ministry officials. Around 4,000 participants including voluntary blood donors, mobile campaign organizers and well wishers were participated to the event.
2. NBTS Sri Lanka was selected to host the World Blood Donor Day global event 2014 by World Health Organization.
3. NBTS declared the achievement of the 100% collection of the blood from voluntary blood donations during the year 2013.
4. The initial work has been completed to develop the National Blood Centre as a World Health Organization collaborative centre for transfusion medicine.
5. NBTS has been selected as a regional training centre for SATAM following by SATAM.
6. Two main constructions including a new wing to the National Blood Centre and a new building to National Cancer Institute Maharagama (CIM) have already been commenced.
7. Pathogen inactivation pilot project was started in 2013.
8. ROTEM investigation project was started.
9. A booklet commenced and issued to of issuing to mobile blood donor organizers regarding organizing mobile campaigns, on 'World Blood Donor Day' – 2013.

Table 5.1.29 Blood Bank Distribution

Western	NBC	NHSL
		CSTH
		SJGH
		DMH
		CSHW
		LRH
		Accident ser.
		Mulleriyawa
		IDH
	CNTH	Welisara
		Gampaha
		Negambo
		Chilaw
		Wathupitiwala
		Puttlam
		Marawila
		Kalpitiya
	Kalutara	Panadura
		Horana
		Kethumathi
	CIM	Awissawella
		Homagama
		Karawanella
Central	Kandy	Peradeniya
		Matale
		Nuwara Eliya
		Nawalapitiya
		Kegalle
		Dabulla
		Dickoya
		Gampola
		Mawanella
		Rikillagaskada
		Warakapola
Southern	Karapitiya	Mahamodara
		Balapitiya
		Elpitiya
	Kamburugamuwa	Matara
		Hambantota
		Tangalle
		Tissamaharama
		Kamburupitiya
Northern	Jaffna	Killinochchi
		Mulathivu
		Point Pedro
		Thelippalai
	Vavunia	Mannar
		Cheddikullam
Eastern	Batticaloa	Valachchenai
	Trincomalee	Kantale
		Kinniya
		Muthur
	Ampara	K'munai N
		K'munai S
		Akkarepattu
		Mahaoya
		Dehiattakandiya
		Sammanthurai
North Central	Anuradhapura	Polonnaruwa
		Thabuttegama
		Padaviya
		Medirigiriya
North Western	Kurunegala	Kuliyapitiya
		Nikaweratiya
		Dambadeniya
Uva	Badulla	Moneragala
		Bibila
		Diyathalawa
		Mahiyangana
		Wellawaya
		Welimada
Sabaragamuwa	Rathnapura	Embilipitiya
		Balangoda
		Kahawatta

Table 5.1.30 : Annual Blood Collection

Year	Total voluntary collection	Total replacement collection	Total collection
2007	209,774	50,468	260,212
2008	282,446	37,645	319,891
2009	267,773	42,136	309,909
2010	268,128	34,755	302,883
2011	318,885	11,315	330,200
2012	349,423	2,182	351,605
2013	380,808	-	380,808

In 2013, total blood collection improved by 8.3%.

Fig 5.1.16 : Annual Blood Collection

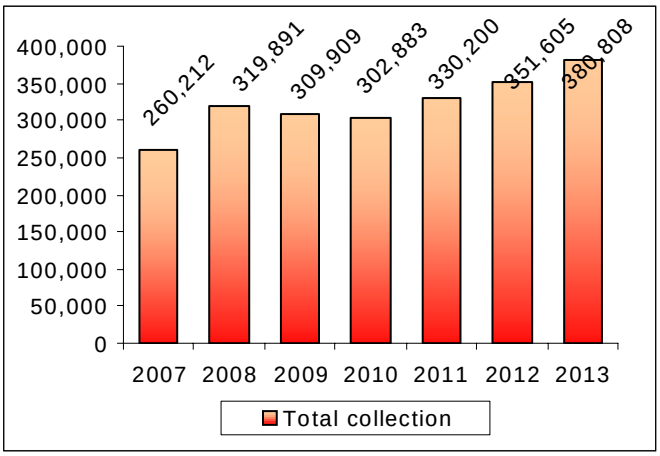


Table 5.1.31 : Component Preparation and Comparison with Previous Years

	2010	2011	2012	2013
RCC	297,005	335,746	361,149	380,760
Platelets	152,696	179,315	199,489	189,879
FFP	279,250	294,910	319,869	282,231
Cryoprecipitate	51,237	87,323	101,468	88,810

Fig 5.1.17 : Comparison of Blood Component Preparation

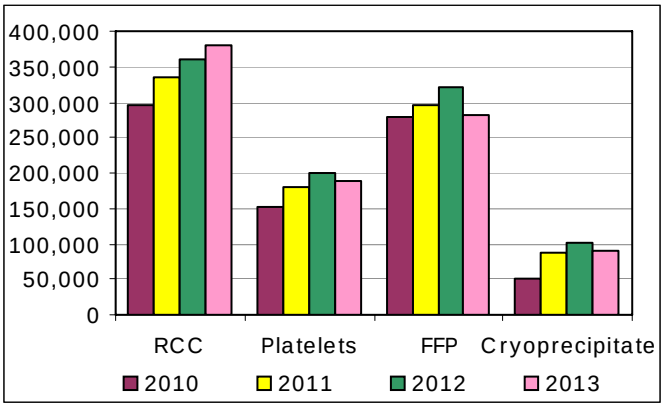


Table 5.1.32 : Comparison of HLA Laboratory Statistics

Typing and cross matches	2012	2013
Class 1	2,195	2,876
Class 11	2,188	2,856
Cross match	1,526	2,076
B27	187	194
PRA	185	207
Transplantation	**2012**	**2013**
Kidney (KP/KD)	2,096	2,721
Bone marrow (BMP/BMD)	96	136
Private sector	409	709
AP donor	0	14
Cadaveric	34	22

PRA - Panel reactive antibodies
KP - Kidney patient, KD- Kidney donor
BMP - Bone marrow patient
BMD - Bone marrow donor

In 2013, 29.8% of improvement achieved from total typing and cross matches by Kidney (KP/KD) transplantation

Fig 5.1.18 : Comparison of HLA Laboratory Statistics

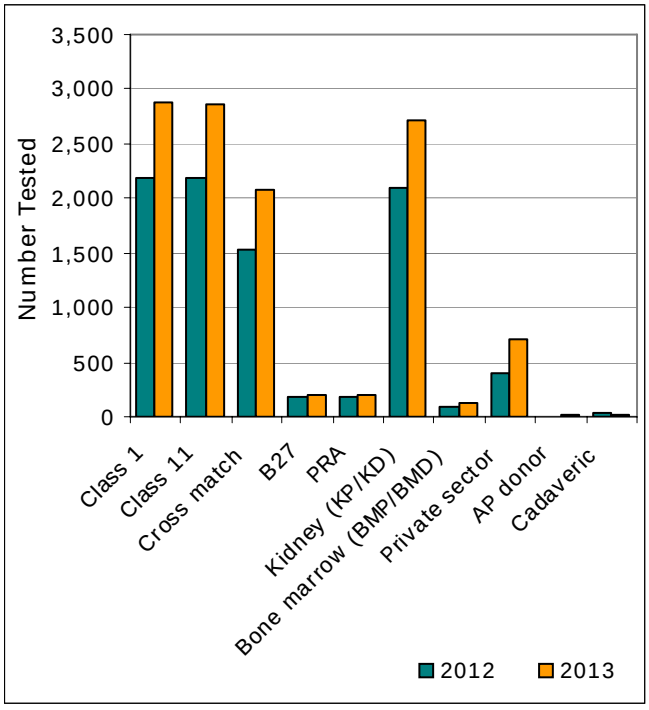


Table 5.1.33 : Comparison of Statistics of Immunohaematalogy Laboratory

Test category	2012	2013
Difficult compatibility testing	3,411	3,263
Antenatal screening	1,012	1,371
Antibody titrations	339	398
DAT profile	708	790
Extended phenotypes	261	237
Cold agglutination titration	55	50
Iso haemagglutination test	36	43
Haemolysin test	36	26
Confirmation of Bombay O	22	13
Elution studies	25	11
Rh genotyping	10,155	9,722
Transfusion reaction investigations	12	15
Klaihauer test	1	0
Donath landsteiner test	1	0

Fig 5.1.19 : Comparison of Imunohaematalogy Laboratory Statistics

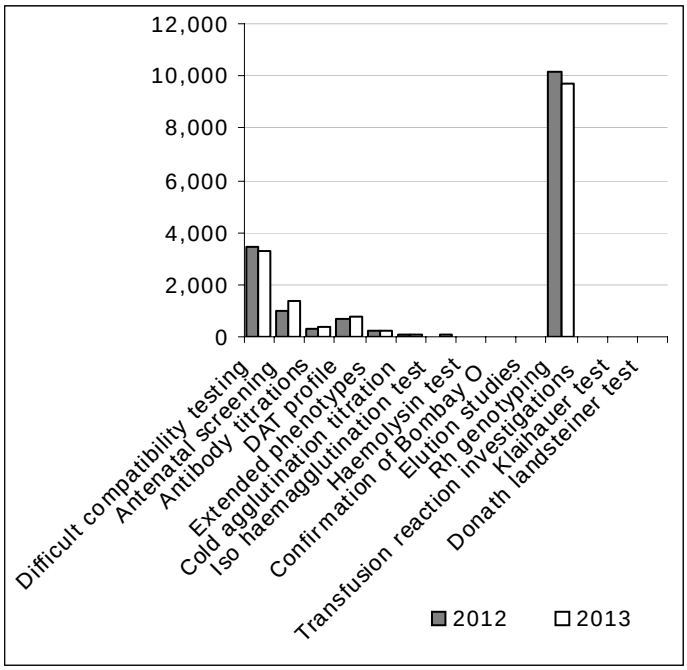
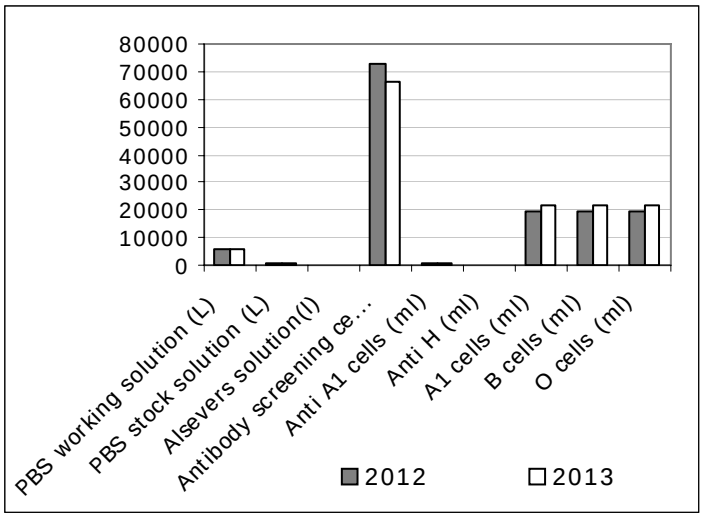


Table 5.1.34 : Comparison of Statistics of Reagent Laboratory

Reagents prepared	2012	2013
PBS working solution (L)	5,510	5,730
PBS stock solution (L)	520	610
Alsevers solution(l)	108	116
Antibody screening cells(mL)	73,114	66,390
Anti A1 cells (ml)	1,030	838
Anti H (ml)	80	248
A1 cells (ml)	19,280	21,980
B cells (ml)	19,280	21,980
O cells (ml)	19,280	21,980

Fig 5.1.20 : Comparison of Statistics of Reagent Laboratory



5.1.8.6 Statistics of Teaching and Training Unit

In 2013, NBTS training programme held for,

1. Postgraduate training programmes
2. Medical officers - 4 weeks and 2 weeks programmes
3. Nursing officers – 4 weeks and 2 weeks programmes
4. Medical Laboratory Technologists – 8 weeks programmes
5. Inter pharmacists
6. Lab orderly – 4 weeks programmes
7. Junior staff / lab orderly – 5 days
8. Medical students (Faculty of Colombo) – 1 week training for each group 12 groups
9. Medical Laboratory Technologists – students – Faculty of Sri Jayewardenepura (only introduction and bench training)
10. Foreign Trainees(SAATM)
11. One day training programmes,
    - Navy officers
    - Pharmacists
    - Post Basic Nursing School
    - NTS students
    - Medical students from University Sri Jayewardenepura (in 3 groups – one batch)

5.1.8.7 Special Development Activities of 2013 and 2014

There are two ongoing projects to develop the National Blood Transfusion Service;

1. Peripheral Blood Bank development project.
    - Under the peripheral Blood Bank development project, nineteen peripheral Blood Banks will be upgraded with buildings and necessary equipments (Hospital Blood Banks; Dehiathakandiya, Padaviya, Tangalle, Chilaw, Marawila, Mahiyanganaya, Killinochchi, Mulaitivu, Ragama, Kuliyapitiya, Polonnaruwa, Kalmunai South Ashrof Memorial Hospital, Mahaoya, Kalutara, Peradeniya, Trincomalee, Rathnapura, Vavuniya and Kurunegala)
    - Almost all other Blood Banks have been provided with high technology equipments.
2. Upgrading the National Blood Transfusion Service (NBTS) with State of the Art Technology.
    - Testing of donated Blood with Nucleic Acid Testing (NAT) facility.
    - Establishment of Cord Blood Banking facility.
    - Establishment of stem cell harvesting and storing facility.
    - Upgrading of Human Leukocyte Antigen (HLA) testing laboratory.
    - Establishment of Frozen Red Cell (FRC) facility.
    - Computerization and networking of NBTS.
    - Two main constructions including a new wing to the National Blood Centre and a new building to the National Cancer Institute Maharagama (CIM).
3. NBTS Sri Lanka was selected to host the World Blood Donor Day Global Event 2014 by World Health Organization
4. NBTS has already been identified as a SAATM regional training centre and initial work has been done to develop as a WHO collaboration centre in training personnel in transfusion medicine.
5. New Blood Banks were opened at Base Hospitals Walasmulla , Udugama , Divisional Hospitals Minuwangoda and Meerigama.

5.1.9 Health Education Bureau

5.1.9.1 Introduction

Health Education Bureau (HEB) is the centre of excellence in Sri Lanka for health education, health promotion and publicity of information pertaining to health promotion. Empowering and mobilizing communities for the improvement of their quality of life through health promotion principles is the main achievement gained over the period.

The vision of the HEB is to promote and foster a healthier nation which contributes to an economical and socially productivity. The mission is to promote the health of the people through intersectoral advocacy for health education/ promotion in all policies and evidence-based communication interventions through a decentralized system. HEB provides and facilitates communication strategies and technical guidelines in order to assure the standards of health promotion activities. Public awareness aiming life style modification towards good health in the community through mass media is a unique service that has been providing for years by HEB and appraised by all sectors.

As a whole, HEB has been recognized for its remarkable contribution for health promotion through integrated multidisciplinary approach.

HEB conducts activities under five main strategic objectives.

5.1.9.2 Strategic Objectives

1 Developing plans and technical guidelines pertaining to health promotion
2 Capacity building of health care personals and others who are involving or interested in health promotion
3 Developing health education materials
4 Communication for public awareness and behavior change leading to health promotion
5 Research and monitoring/ evaluation of health promotion programs

5.1.9.3 Major Achievements in 2013

5.1.9.3.1 Strategic Objective no 1 : Developing plans and technical guidelines pertaining to health promotion

- Finalization of draft National Health Promotion policy 2014 and 5 year National Health Promotion Activity Plan 2014-2018
- Developing a communication strategy on reproductive health
- Implementation of non communicable diseases prevention Communication strategy
- Finalizing the revised communication strategy on nutrition
- Contribution for developing plans and guidelines for nutritional improvement of estate community
- Developing draft guidelines on hospital health promotion
- Developing draft guidelines on Mother Support Groups
- Technical consultation for advisory committees, workshops, research and surveys and sharing expertise with other public organizations

5.1.9.3.2 Strategic Objective no 2 : Capacity building of health care personals and others who are involving or interested in health promotion

- Establishing “Mother Support Groups” (MSG) at village levels that provides leadership and work cordially with other sectors in the community towards the improvement of nutrition status and wellbeing of the children and families across the country
- Empowering volunteer groups in vulnerable communities, estate communities for nutrition improvement
- Innovative program to address smoking and alcohol issue among youth through developing like skills (how to overcome challenges successfully in day today life)
- National level coordination of “Say no to smoking and alcohol” targeting adolescent school children through life skills

- Reproductive health program for young people to deliver scientific knowledge about the subject
- Life skills development program for youth and adolescents across the country
- Teaching/Training of undergraduate students, postgraduate trainees and in service training for health care workers on health promotion and communication
- In-service training for school dental therapists on health promotion preschool development program
- Nurses training programme on public relations, health promotion and communication skills
- Training HEOO and primary health care staff on health promotion, communication and developing households and public places such as hospitals, schools, villages, work places etc as health promotion settings
- Nutrition communication skills training for field staff
- Developing and empowering community groups and volunteer groups to address emerging health issues in the community through health promotion approach

5.1.9.3.3 Strategic Objective no 3 : Developing health education materials

- Leaflet on Tobacco prevention
- Developing pennants, stickers on non Communicable diseases prevention
- Developing and distribution of leaflets, posters, light boxes, pennants and models on dental health
- Developing posters on complementary feeding and nutrition
- Developing printed materials on Dengue, Leptospirosis, basic hygiene related health problems
- Developing electronic health education materials on common public health problems eg. dengue, non communicable diseases, prevention of injuries and road traffic accidents
- Documentry on nutrtion for estate community

5.1.9.3.4 Strategic Objective no 4 : Communication for public awareness and behavior change leading to health promotion mass communication

- Telecasting and broadcasting TV and radio spots on dengue, non communicable Diseases
- Media seminars are the main, continues awareness programme for the media personnel by HEB . Media seminar is held with the participation journalists and resources. Media seminars on World Health Day, National Nutrition Mmonth, Dengue, Epilepsy, School Health, World Children's Day, Breast Feeding Week, salt reduction, World Heart Day, respiratory diseases & asthma ect were held.
- Resource interviews on current health issues/ matters in newspapers, radio and TV
- Active participation and public awareness about emerging health problems, health promotion and healthy behavior changes at "Deyata Kirula2013"
- Active participation, public awareness and screening at "Suwa Udaana" exhibition and mobile health camps
- Active participation and public awareness about emerging health problems, health promotion and healthy behavior changes at mass scale health exhibitions, national campaign days, and community events
- Conducting health promotion and screening health camps across the country
- Conducting health promotion and screening for employees at media organizations
- Conducting health promotion and screening for employees at government institutions
- Expansion of 0710 107 107 "Suwasariya" tri lingual call centre for general public enabling around the clock (24/7) easy access to health guidance and advice
- Tri-lingual Website www.suwasariya.gov.lk hosted online with zero down time for public access. Site contains more than 300 articles on common diseases, articles on health prevention and promotion, details on services available through government health service

5.1.9.3.5 Strategic Objective no 5 : Research and monitoring/ evaluation of health promotion programs

- Research on oral health literacy among the public
- Research on knowledge and service seeking pattern about reproductive health among the public
- Periodical monitoring/ evaluation of health promotion programs with HEOO
- Periodical monitoring/ evaluation of health promotion preschool development program by school dental therapists

5.2 Specialised Public Health Programmes

5.2.1 Malaria Control Programme

The Anti Malaria Campaign is a specialized Campaign of the Ministry of Health, which comprises of the Directorate and twenty one decentralized district-level Regional Offices. With a vision of a Sri Lanka with no indigenous malaria and a mission to plan and implement a comprehensive malaria control programme preventing the indigenous transmission of malaria in Sri Lanka. The campaign is mainly involved in the formulation of the National Malaria Control Policy, monitoring of the country-wide malaria situation, provision of technical guidance and resource to provincial malaria control programmes, co-ordination of training and research activities in malaria control and liaisons with foreign donor agencies.

5.2.1.1 Targets

Sri Lanka's goal is to obtain certification by the World Health Organization as a "malaria-free country" for which is required 3 successive years without local malaria. To continue to keep Sri Lanka free of malaria will require a major effort because there are serious threats for it to be re-introduced to the country.

5.2.1.2 Objectives

The policies and strategies were directed towards the elimination of indigenous malaria from Sri Lanka by the end of 2014. Keeping Sri Lanka free of malaria for over a year is a national achievement that very few countries in this part of the world, and indeed in the tropics, have succeeded in. We need to strive much further to prevent the disease returning, and to continue to keep the country free of malaria in the future.

The objectives are as follows :

- To eliminate indigenous Plasmodium falciparum malaria by the end of year 2012
- To eliminate indigenous Plasmodium vivax malaria by the end of year 2014
- To maintain zero mortality from malaria in Sri Lanka
- To prevent the reintroduction of malaria into the country

5.2.1.3 Strategies for Malaria Elimination

- Ensure 100% case detection including asymptomatic parasite carriers and confirmation by microscopy or RDTs.
- Notification and investigation of all cases to ensure radical cure and prevention of secondary transmission.
- Strengthening malaria surveillance system.
- Implement radical treatment policy, for all Plasmodium vivax infections.
- Continue ACT and gametocyte treatment policy for Plasmodium 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 bed nets (LLINs) and impregnated treated nets (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 reintroduction of malaria acquired in other countries by containing imported malaria in travelers.
- Re-orienting public and private health sector staff towards the new goals of malaria elimination.
- Human resource development and capacity building in programme management, planning and implementation.
- Promotion and engaging research institution in operation research.

5.2.1.4 Malaria Situation in Sri Lanka-2013

Sri Lanka has an opportunity to eliminate malaria after the experience of near elimination during the Global Malaria Eradication Programme of the 1960s, which reduced the number of cases from 91,990 in 1953 to a mere 17 in 1963, with many of these being imported infections.

In the past decade, the National Malaria Control Programme of Sri Lanka, the Anti-Malaria Campaign (AMC), has, once again, achieved a steady reduction in malaria transmission rates in the country.

There have now been no indigenous malaria cases in the country among its 20 million inhabitants for over a year. This time, the opportunity to eliminate the disease from Sri Lanka presents itself against a background of postwar developments in the country that impose high risks for malaria resurgence; a global momentum to eliminate malaria.

5.2.1.5 Imported Malaria

There had been a rise in imported malaria cases in 2013. Majority of cases were imported from South-East Asia Region and African countries.

Since the end of the separatist war, Sri Lanka has been on a steep development trajectory with the building of new air and sea ports, including in areas that were previously endemic for malaria; the construction of several highways traversing the country; increasing global business investments; and a rapidly growing tourist industry, all of which are associated with increased travel of foreign nationals; and introduction of foreign labour into the country, increasing the number of imported malaria cases. These have resulted in an influx of tourists; imported labour from malaria-endemic countries–particularly India and China; refugees from neighbouring endemic countries; Sri Lankan expatriates returning home; and nationals travelling for business or leisure, all of which are bringing a steadily increasing proportion of imported malaria cases into the country. In 2013, nearly 60% of imported malaria was among travelers of Sri Lankan origin.

The major threats that could re-introduce malaria to the country include the following :

There are increasing numbers of malaria-infected persons entering Sri Lanka from highly malarious countries, which could introduce malaria back into the country if we are not vigilant. Neighbouring countries are not only highly malarious but some harbour dangerous drug-resistant malaria.

Although there is no malaria parasite being transmitted in the country, the mosquito vector which carries highly prevalent in the dry and intermediate zones. Thus the threat of malaria being re-introduced to and re-established in the country is high.

Malaria has become a forgotten disease among doctors and health care staff and therefore patients risk a delayed diagnosis which increases the chances of spreading the disease to others.

People living in Sri Lanka have lost immunity because the disease is no more, which makes us more prone to malaria epidemics if the disease returns.

5.2.1.6 Epidemiology

Table 5.2.1 : Malaria Incidence in Sri Lanka-2013

Indigenous	Imported
0	95

Fig 5.2.1 : Malaria Incidence in Sri Lanka-2013

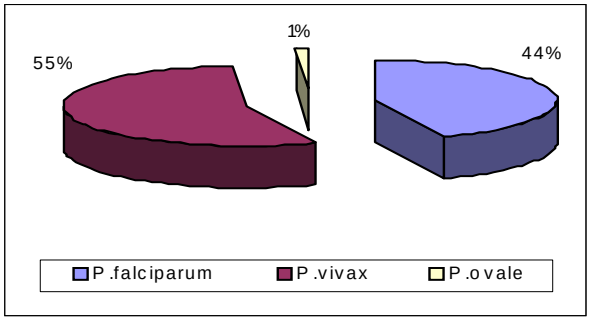


Table 5.2.2 : Country of Transmission

Asian countries		African countries		Far east countries		Latin American Countries	
Country	No	Country	No	Country	No	Country	No
India	38	Sierra Leone	11	Myanmar	3	Haiti	2
Pakistan	17	Ghana	4				
		Kenya	3				
		Liberia	2				
		Cameroon	2				
		Mozambique	2				
		Angola	1				
		Sudan	2				
		Uganda	2				
		Equatorial Guinea	1				
		Grande Comoro	1				
		Guinea	1				
		Mali	1				
		Nigeria	1				
		Tanzania	1				
Total	55	Total	35	Total	3	Total	2

Table 5.2.3 : Number of Patients with Imported Malaria in Sri Lanka in 2013, by Nationality

Sri Lankans	**60**	**Foreigners**	**35**
		Pakistani	17
		Indian	9
		Ugandan	2
		Burmese	2
		Indonesian	1
		Tajik	1
		English	1
		Korean	1
		Ukraine	1

Table 5.2.4 : Occupational Categories of Imported Malaria Cases among Foreign and National Patients, Sri Lanka 2013

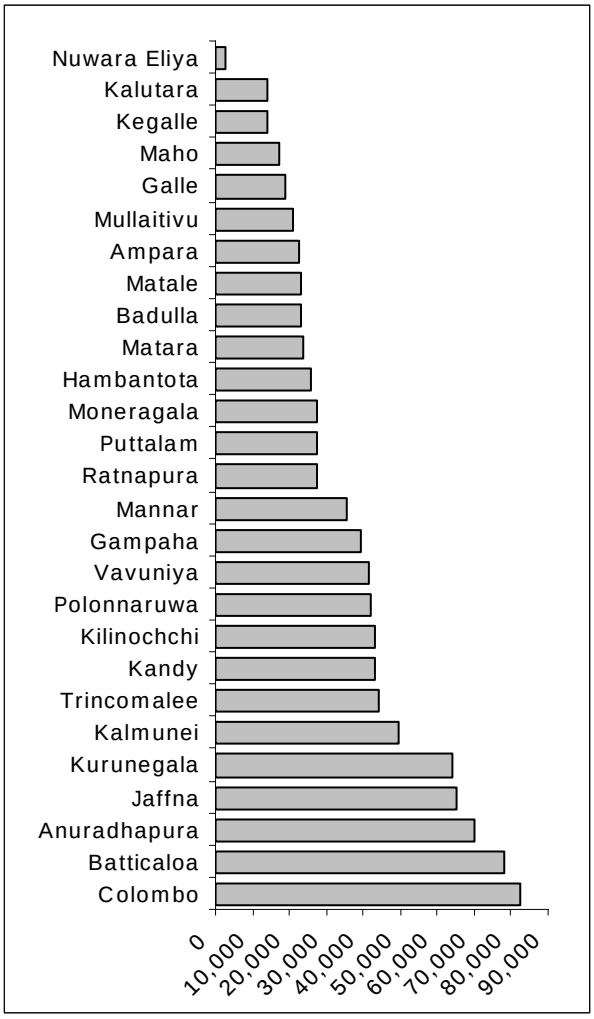
	Sri Lankan nationals	Foreign nationals
Armed forces/police	4	
Business/trade	21	2
Seaman	13	2
Technician/skilled labourer	6	4
Manual labourer		3
Professional	6	
Student	4	
Tourist	3	
Pilgrim	3	5
Asylum seeker		18
Social worker		1
Total	60	35

5.2.1.7 Early Diagnosis and Prompt Treatment of Malaria Patients and Asymptomatic Parasite Carriers.

A total number of 988,659 blood smears were examined during 2013 for the purpose of detection of malaria parasites by the departmental staff attached to the medical institutions and the Anti Malaria Campaign including its regional offices.

Figure 5.2.2 shows the blood smears examined during the year district wise.

Fig. 5.2.2 : Blood Smears Examined



Annual Parasite Incidence (API), or the number of confirmed infections of all *Plasmodium* species divided by the estimated population under surveillance or at risk was 11.9 per 1,000 in 1995, reached a peak of 22.1 in 1999, then declined to less than 1 by 2004. In 2010, the estimated API of indigenous cases was 0.1, which was further reduced in 2011 and 2012. The Slide Positivity Rate (SPR), or the proportion of slides found positive for indigenous cases for any *Plasmodium* parasites among the slides collected, was 13.0% in 1995, peaked in 1999 at 16.7%, then declined starting in 2000 (11.8%) to 0.2% in 2005. In 2010 the SPR was 0.1% and was further reduced in year 2011 and 2012.

Number of microscopically confirmed malaria cases reported from Sri Lanka (indigenous and imported) 2008–2013, who had contracted malaria overseas, and the vast majority of the rest was of Pakistani and Indian origin.

Sri Lankan peace keeping forces returning from service in malaria-endemic countries, irregular migrants, business travelers and boat people voyaging the Indian Ocean and making landings in Sri Lanka have been the main contributors to imported malaria being reported with increasing frequency in Sri Lanka over the past few years.

5.2.1.8 Diagnosis : Clinical Assessment and Blood examination

The policy is that a clinical suspicion of malaria infection in a patient seeking treatment should always be confirmed by the examination of a peripheral blood smear or through testing for malaria antigens using RDTs prior to treatment.

Microscopy using thick and thin blood films has been the standard means of laboratory diagnosis. As a complementary method to microscopy AMC adopted the use of RDTs for the diagnosis of *P. falciparum* infections, using first a HRP-2-based monovalent test. RDTs and microscopy are both also being used in the private sector health system although the use of RDTs in the private sector is predominantly in private hospitals.

5.2.1.9 Status of Drug Resistance and Drug Policy

All the *P. falciparum* and *P. vivax* positive patients were followed-up for one month to detect resistant strains of the parasite to artemether-lumefantrin and chloroquine respectively. There were no resistant *P. falciparum* and *P. vivax* cases detected during year 2013.

5.2.1.10 Sustainable Vector Control Measures based on the Principles of Integrated Vector Management

Sri Lanka has high receptivity and vulnerability to malaria on account of suitable breeding places like paddy fields, irrigation wells, quarry pits, streams, river beds and sand pools. In addition, large scale development projects including rail and roads are going on which may lead to ecological changes suited for breeding of mosquitoes. Inbound migration from neighboring countries and from some African countries endemic for *P. falciparum* may make Sri Lanka vulnerable for introduction of virulent strains.

Ongoing construction projects are leading to the creation of new vector breeding sites, including in previously endemic areas.

Meanwhile, the principal vector of malaria, *Anopheles culicifacies*, and secondary vectors such as *A. subpictus*, are as prevalent in the country as previously. Although evidence is unavailable on current vectorial capacities of these mosquito species, their prevalence implies a continuing high receptivity to malaria in previously endemic areas. This, when combined with the increasing reports of imported malaria from diverse parts of the country, almost certainly points to a sustained high risk of malaria reintroduction unless rigorous measures are taken to prevent it.

5.2.1.11 Other Strategies of the Anti Malaria Campaign

- Plan and implementation of selective and forecasting, early detection & prevention of outbreaks and the rapid & effective containment of outbreaks.
- Reassess the country's malaria situation regularly, in particular the ecological, social and economic determinants of the disease and evaluation of malaria control activities.
- Enhance community participation and partnership building for effective and sustainable malaria control. Promotion of human resource development and capacity building.

5.2.1.12 Foreign Funded Malaria Control Activities

During the year 2013 Global Fund to Fight Aids Tuberculosis and Malaria (GFATM) and WHO assisted malaria control activities in Sri Lanka. During the year 2013, National Malaria Control Programme -The Ministry of Health is the Principle Recipient (PR1) continued to receive support from the GFATM in the form of one grant for malaria elimination under the Round 8. This project is jointly implemented through a partnership between the Ministry of Health, Tropical and Environmental Diseases and Health Associates (TEDHA- PR2,) and Lanka Jathika Sarvodaya Shramadana Sangamaya- PR3 of Sri Lanka. This project aims at scaling up efforts of the National Malaria Control Programme and focus on elimination of *P.falciparum* by end of 2012 and elimination of *P.vivax* malaria by end of 2014. Round 8 GFATM project covers all the districts in the country.

5.2.2 National Programme for Tuberculosis Control and Chest Diseases (NPTCCD)

National Programme for Tuberculosis Control and Chest Diseases is a decentralized unit in the Ministry of Health which is headed by the Director NPTCCD. The programme functions under the Deputy Director General (Public Health Services) I of the Ministry of Health. The central unit of the NPTCCD, National Tuberculosis Reference Laboratory at Walisara, Central Drug Stores of the NPTCCD, District Chest Clinics of Colombo and Gampaha, and chest ward, DH Kopay are under the direct administrative purview of the Director NPTCCD.

NPTCCD provides preventive, diagnostic and curative services to the population of Sri Lanka. Inward facilities for TB patients are provided by the chest wards situated in 13 District Hospitals and National Hospital for Respiratory Diseases (NHRD) situated in Walisara. Diagnostic services are provided through National TB Reference Laboratory, Two provincial culture laboratories in Kandy and Ratnapura, District Chest Clinic Laboratories and over 160 microscopy centers.

Central Drug Stores of the NPTCCD is responsible for estimation, procurement supply and distribution of anti TB drugs to District Chest Clinics. TB and respiratory disease control activities at the district level are carried out by the 26 District Chest Clinics situated in 25 Districts. All the District Chest Clinics except Colombo and Gampaha are administratively under respective district health authorities.

NPTCCD is responsible for infrastructure development and financial management of the institutions under its direct administrative preview . It also provides technical guidance and financial assistance from funds obtained from donor agencies for implementation of the TB control activities at the district level.

In addition to that, NPTCCD is responsible for the formulation of policies and guidelines for control of TB and other respiratory diseases in the country and for planning, implementation, monitoring and evaluation of the TB control activities carried out in the entire country.

TB surveillance is also one of the main activities carried out by the NPTCCD. It also provides information and data on TB to Ministry of Health and relevant government institutions such as Central Bank, to UN agencies such as WHO and SEARO and to SAARC. It also acts as a coordinating body between the central ministry and provincial health sector and other governmental and nongovernmental organizations.

NPTCCD also carries out training of medical and paramedical staff engaged in TB care and carries out public awareness through various channels of communication.

Carrying out operational and health system research is one of the key priorities of the NPTCCD. The main areas of research interest are co morbidity of TB with NCDs and communicable diseases, pharmocovigilance, anti TB drug resistance, morbidity and mortality patterns among high_risk groups and morbidity pattern of other respiratory diseases such as Asthma and occupational lung diseases.

The Government of Sri Lanka is the main source of funding for the NPTCCD. In addition to that TB control activities are supported by the Global Fund to Fight AIDS Tuberculosis and Malaria (GFATM) and the World Bank. WHO provides technical assistance to the programme and Global Drug Facility (GDF) provides Fixed Dose Combination (FDC) anti TB drugs.

5.2.2.1 Vision

Sri Lanka free of tuberculosis and other respiratory diseases.

5.2.2.2 Mission

To contribute to the socio-economic development of the nation by committing ourselves to create a TB free Sri Lanka and to reduce the morbidity and mortality due to the respiratory diseases by formulation of policies, planning, coordinating and monitoring of all TB and other respiratory disease control activities in the country.

5.2.2.3 Objectives

- To ensure that every patient with TB and respiratory diseases have access to effective diagnosis, treatment and cure.
- To interrupt transmission of TB.
- To prevent the emergence of multidrug-resistant tuberculosis.
- To reduce the social & economic burden caused by TB and other respiratory diseases.

5.2.2.4 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 halving TB deaths and prevalence
- To halt and reverse the incidence of TB as stated in the Millennium Development Goals set for 2015 (MDG-6 Target 6c)

Table 5.2.5 : 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	2.2/100k

NA : Not Available

Data on case detection, sputum conversion and treatment outcome from District Chest Clinics are collected quarterly and compiled for preparation of annual figures

5.2.2.5 DOTS Coverage

The population coverage of DOTS is 100% since 2010

5.2.2.6 Indicators

The most important performance indicators are;

5.2.2.6.1 Case Detection Rate

This is defined as proportion of all forms of TB cases (new and relapse) detected during the specified year out of the estimated incidence of all forms of TB cases for the same year.

5.2.2.6.2 Treatment Success Rate

Calculated by amalgamating both cure and treatment completion rates.

- **Cure rate –** Cure rate is defined as the proportion of new smear positive pulmonary TB cases registered in a specified time period that were cured out of the total number of new smear positive pulmonary TB cases registered in the same period.
- **Treatment Completion rate -** This is defined as the proportion of new smear positive pulmonary TB cases registered in a specified time period that completed treatment and did not meet the criteria for cure or failure out of total number of new smear positive pulmonary TB cases registered in the same period.

5.2.2.6.3 Sputum Conversion Rate

Sputum conversion rate is defined as **"**proportion of new smear positive pulmonary TB cases registered in a specified period that are smear negative at the end of intensive phase of treatment out of number of new smear positive pulmonary TB patients registered during the same period.

5.2.2.6.4 Defaulter Rate

Defaulter rate is defined as proportion of new smear positive pulmonary TB cases registered in a specified time period that interrupted treatment more than two consecutive months out of total of new smear positive TB cases registered during the same period.

5.2.2.6.5 Death Rate

This is defined as the proportion of deaths occurred among new smear positive pulmonary TB cases out of total number of new smear positive cases registered in the same period.

5.2.2.7 Case Notification

Each diagnosed case of TB is notified to the central unit of the NPTCCD by form H816A and a total of 8,709 (91.7%) cases were notified to the centre in 2013. Notifications received from several private health institutions were also included in the total of year 2013.

5.2.2.8 Case Detection

The total number of 9,496 cases of all forms of TB was reported from DCCs in the quarterly reports of case finding (TB8) of 2013. It consists of 8,767 new cases, of which 4,423 (50.4%) were Smear-positive pulmonary tuberculosis (smear +ve PTB), 1889 (21.5%) were smear negative (smear –ve PTB) cases and 2,463 (28.1%) were EPTB.

Furthermore, 410 retreatment (relapse, treatment after failure and treatment after default) cases and 319 other (patients whose treatment history unknown, treated outside NTP, etc) cases were reported in 2013.

The case detection rate for 2013 was 70.5 for all TB cases this was almost same as in year 2012 (69.9). Similarly, the highest numbers of TB cases as well as new smear positive cases were reported from Colombo district while the lowest was from Mullaitive District

5.2.2.9 Age and Sex Distribution of New Cases

The highest number of new cases of TB was in 45-54 age groups (1,738 cases). The lowest numbers were seen in 0-14 age group (307 cases) out of 8,507 all new cases. 61.8% of new cases were in the productive age group of 15-54. More males 5,810 (66.3%) were detected than the females 2,957(33.7%). The highest number of new TB cases among males was found in the age group of 45-54 years (21.4%) while that in the females was in the age group of (55-64) (17.8%).

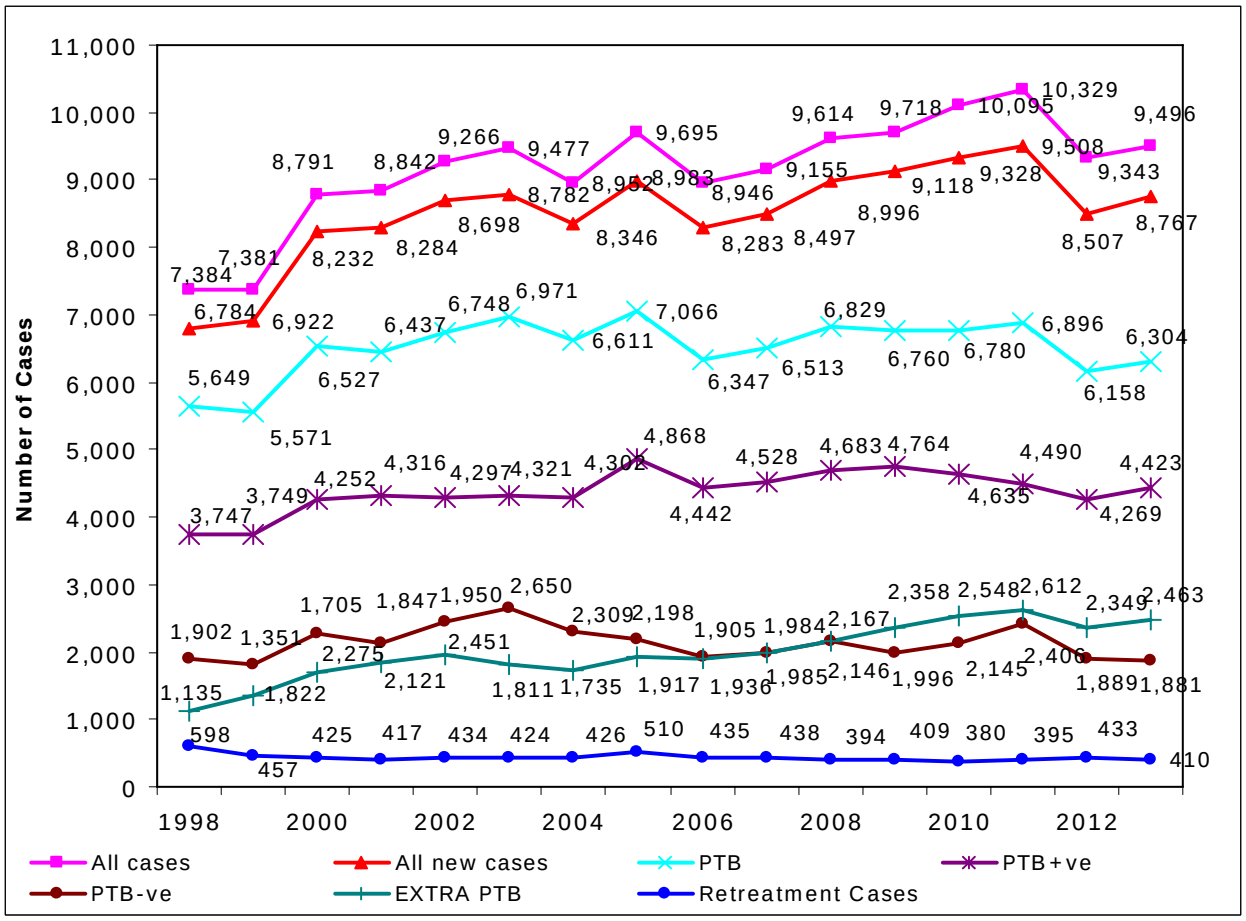
In 2012, 4,269 new smear positive pulmonary TB cases were registered under Directly Observed Therapy Short Course (DOTS) for treatment. The cure rate among registered cases was 3,463 (81.1%) and a further (217) 5.1% completed treatment (no laboratory confirmation of cure), giving an overall treatment success rate of (3,680) 86.2%.

Table 5.2.6 : Case Ditection by District of Registration 2013

District	New Cases				Others					Treatment After Failiure	Treatment After Default	Total
	PTB sp+ve	PTB sp-ve	EPTB	Total	Relapse	sp+ve	sp-ve	EPTB	Total			
Colombo	1,101	405	606	2,112	64	15	25	25	65	16	43	2,300
Gampaha	519	172	255	946	30	3	5	7	15	10	16	1,017
Kalutara	341	107	189	637	21	3	4	12	19	1	9	687
Kandy	234	236	207	677	5	2	16	14	32	3	3	720
Matale	71	33	44	148	3	-	1	-	1	1	2	155
Nuwara Eliya	112	68	57	237	3	2	7	6	15	8	1	264
Galle	243	84	143	470	21	-	3	4	7	2	3	503
Matara	94	41	60	195	5	1	4	12	17	2	-	219
Hambantota	73	31	39	143	3	-	-	1	1	-	-	147
Jaffna	95	76	70	241	10	-	5	5	10	-	5	266
Vavuniya	40	1	21	62	1	1	-	1	2	-	-	65
Batticaloa	125	32	62	219	7	1	-	4	5	3	-	234
Ampara	24	11	12	47	-	-	-	-	-	1	-	48
Kalmunai	73	38	25	136	6	2	1	2	5	-	-	147
Trincomalee	66	23	31	120	6	-	-	1	1	-	4	131
Kurunegala	197	128	115	440	12	2	78	21	101	3	4	560
Puttalam	95	28	58	181	7	-	-	-	-	-	2	190
Anuradhapura	164	32	54	250	6	1	1	2	4	3	2	265
Polonnaruwa	67	42	25	134	3	-	3	-	3	1	-	141
Badulla	126	50	74	250	8	2	2	4	8	5	2	273
Monaragala	57	12	20	89	-	1	-	-	1	-	-	90
Ratnapura	280	117	162	559	13	-	2	-	2	2	3	579
Kegalle	176	70	108	354	4	-	1	2	3	1	3	365
Mannar	16	30	6	52	1	-	-	-	-	1	-	54
Mullaitivu	11	5	4	20	2	-	1	1	2	-	2	26
Kilinochchi	23	9	16	48	2	-	-	-	-	-	-	50
Total	4,423	1,881	2,463	8,767	243	36	159	124	319	63	104	9,496

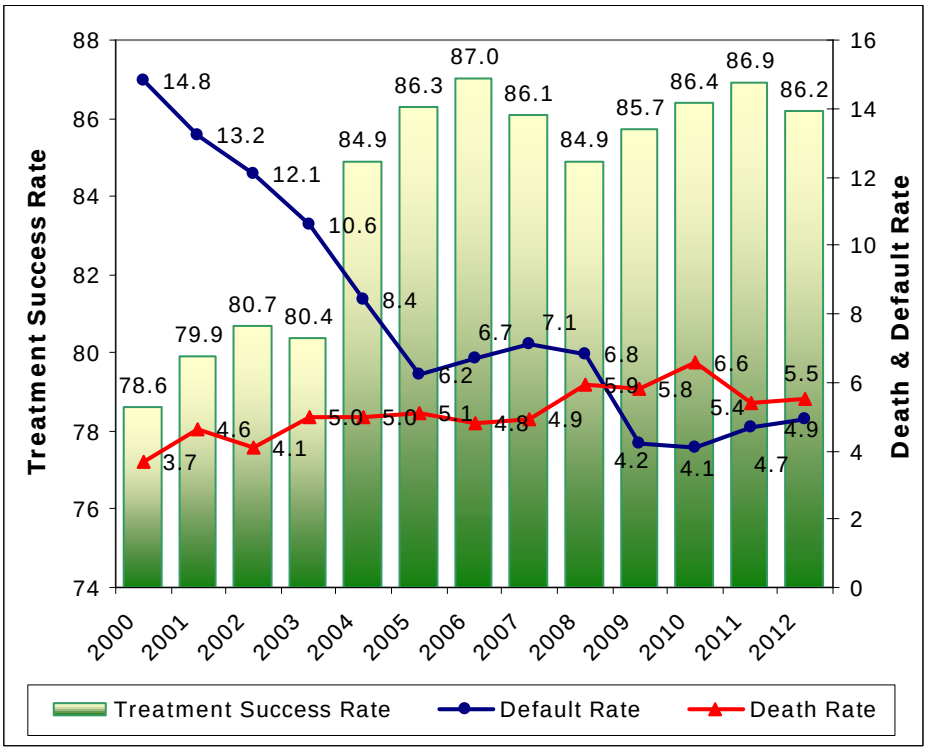
*Data from quarterly reports of case finding from districts.

Fig 5.2.3 : Case Ditection of TB, 1998 - 2013



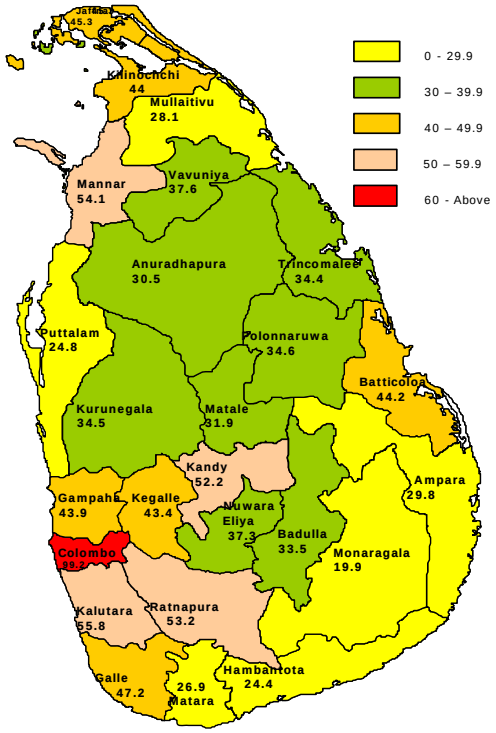
Source : Quarterly reports of District Chest Clinics

Fig 5.2.4 : Treatment Outcome of New Smear Positive PTB cases, 2000 - 2012



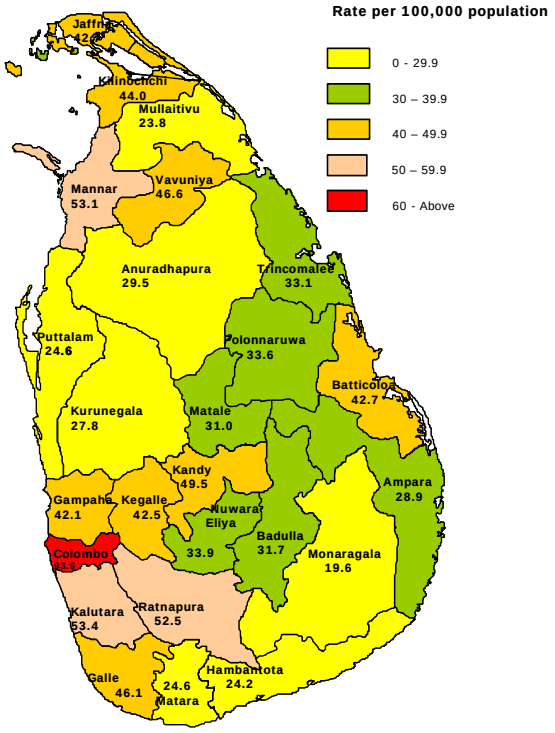
There is a slight decrease in comparison to 2011 where the treatment success rate was 87%. The failure rate remained low at 1.3% with 13 districts not having any single case of treatment failure. The defaulter rate is 4.9% with only 7 districts having defaulter rates above 5% (WHO target < 5%) and with 5 districts are not having any single case of treatment after defaulters.

Fig 5.2.5 : Case Detection of TB Patients, Rates per 100,000 Population - 2013



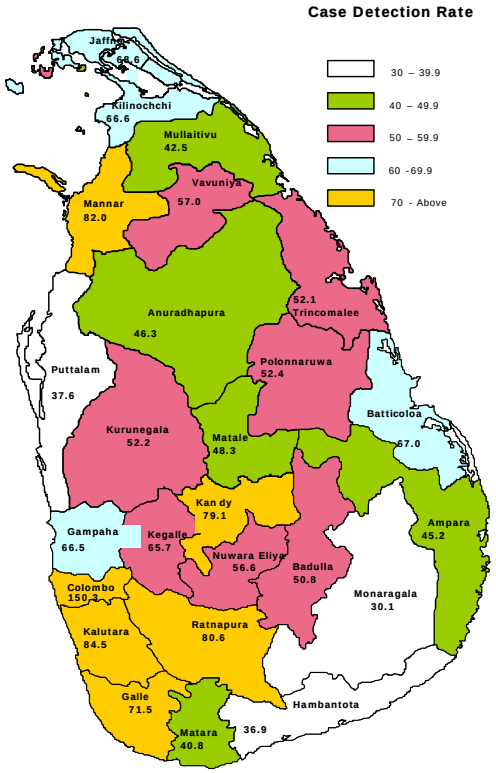
Source : Quarterly reports of District Chest Clinics

Fig 5.2.6 : Incidence Rate (New and Replace) - 2013



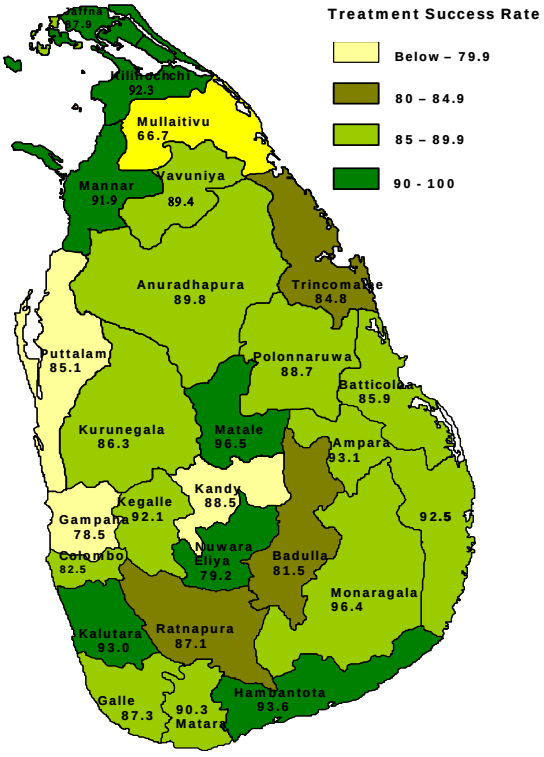
Source : Quarterly reports of District Chest Clinics

Fig 5.2.7 : Case Detection Rate - 2013



Source : Quarterly reports of District Chest Clinics

Fig 5.2.8 : Treatment Success Rate - 2012



Source : Quarterly reports of District Chest Clinics

Table 5.2.7 : Treatment Outcome PTB New Cases (Sputum Positive) - 2012

RDHS Division	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died		Failure		Defaulted		Transferred out Not Evaluated	
		No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate	No	Rate
Colombo	1,075	801	74.5	86	8.0	887	82.5	53	4.9	18	1.7	89	8.3	28	2.6
Gampaha	470	341	72.6	28	6.0	369	78.5	32	6.8	8	1.7	43	9.1	18	3.8
Kalutara	341	315	92.4	2	0.6	317	93.0	16	4.7	1	0.3	6	1.8	1	0.3
Kandy	209	176	84.2	9	4.3	185	88.5	10	4.8	5	2.4	8	3.8	1	0.5
Matale	57	55	96.5	-		55	96.5	1	1.8	1	1.8	-	0.0	-	-
Nuwara Eliya	96	74	77.1	2	2.1	76	79.2	6	6.3	2	2.1	5	5.2	7	7.3
Galle	228	186	81.6	13	5.7	199	87.3	16	7.0	2	0.9	9	3.9	2	0.9
Matara	124	112	90.3	-	0.0	112	90.3	10	8.1	-	-	1	0.8	1	0.8
Hambantota	47	43	91.5	1	2.1	44	93.6	1	2.1	-	-	1	2.1	1	2.1
Jaffna	107	50	46.7	44	41.1	94	87.9	7	6.5	-	-	6	5.6	-	-
Vavuniya	47	41	87.2	1	2.1	42	89.4	2	4.3	-	-	2	4.3	1	2.1
Batticaloa	85	71	83.5	2	2.4	73	85.9	10	11.8	-	-	2	2.4	-	-
Ampara	29	27	93.1	-	0.0	27	93.1	2	6.9	-	-	-	-	-	-
Kalmunai	80	67	83.8	7	8.8	74	92.5	4	5.0	-	-	2	2.5	-	-
Trincomalee	66	56	84.8	-	0.0	56	84.8	6	9.1	-	-	3	4.5	1	1.5
Kurunegala	205	175	85.4	2	1.0	177	86.3	16	7.8	3	1.5	5	2.4	4	2.0
Puttalam	101	75	74.3	11	10.9	86	85.1	3	3.0	-	-	8	7.9	4	4.0
Anuradhapura	151	143	94.7	-	0.0	143	94.7	5	3.3	3	2.0		0.0	-	-
Polonnaruwa	53	47	88.7	-	0.0	47	88.7	3	5.7	-	-		0.0	3	5.7
Badulla	108	84	77.8	4	3.7	88	81.5	7	6.5	6	5.6	1	0.9	6	5.6
Monaragala	55	53	96.4	-	0.0	53	96.4	1	1.8	-	-		0.0	1	1.8
Ratnapura	287	249	86.8	1	0.3	250	87.1	13	4.5	3	1.0	10	3.5	11	3.8
Kegalle	189	173	91.5	1	0.5	174	92.1	10	5.3	2	1.1	3	1.6	-	-
Mannar	37	31	83.8	3	8.1	34	91.9	1	2.7	1	2.7	1	2.7	-	-
Mullaitivu	9	6	66.7	-	0.0	6	66.7	-	0.0	-	-	2	22.2	1	11.1
Kilinochchi	13	12	92.3	-	0.0	12	92.3	-	0.0	-	-	1	7.7	-	-
Total	4,269	3,463	81.1	217	5.1	3,680	86.2	235	5.5	55	1.3	208	4.9	91	2.1

Source : Quarterly reports of District Chest Clinics

5.2.2.10 Multi Drug Resistant Tuberculosis (MDR TB)

MDRTB is not a big threat to Sri Lanka. Only 40 cases of MDR TB were reported since 2008 and 4 cases were reported in year 2013.

Table 5.2.8 : Incidence of MDRTB, 2008 - 2013

Year	2008	2009	2010	2011	2012	2013
MDR TB cases detected	8	4	8	12	5	3

5.2.2.11 TB/HIV Co-infection

In consistence with the National Guidelines , all the TB patients are offered for HIV testing. In 2013, 4,646 (48.9%) TB patients were screened for HIV and this is a marked increase when compared to 3,379 (36.1%) in 2012. Of these patients 37 (0.7%) were recorded HIV positive. All 37 HIV positive patients started or continued on co-trimoxazole preventive therapy and 32 HIV positive patients started or continued on antiretroviral therapy (ART) in year 2013.

5.2.2.12 B.C.G. Vaccination

B.C.G. vaccination is included in the Expanded Pprogramme of Immunization (EPI). All newborn babies(except immunocompromised) are vaccinated within first 24 hours of Birth.

5.2.2.13 Drugs & Supplies

Quality assured fixed dose combinations of anti TB drugs were directly provided to the NPTCCD by the Global Drug Facility as a grant . Individual 1st line anti TB drugs and laboratory reagents for sputum microscopy, culture and DST were provided through the Medical Supplies Division of Ministry of Health in 2013.

5.2.2.14 Activities

The following key activities were carried out in 2013 in view of improving the case detection and treatment outcome.

5.2.2.15 Strengthening Diagnostic Services

The work on upgrading of the National TB Reference Laboratory was further continued and constructions of two more culture laboratories were initiated. WHO recommended new rapid diagnostic tests were introduced for diagnosis of drug resistant TB.

5.2.2.16 Strengthening of TB Control Activities among High Risk Populations

Novel approaches were taken to strengthen the TB control activities in prisons. Newly recruited prison officers were trained on identifying TB suspects.

New initiatives were taken to address the TB control in urban settings. Screening of drug addicts were started in collaboration with National Dangerous Drugs Control Board.

5.2.2.17 Commemoration of the World TB Day-2013

The main function of the World TB day, 2013 was held in Kegalle under the theme of "*Stop TB in my Life Time*". In far with the national event, a veriety of activities were conducted by the District Chest Clinic staff in view of commemorating the World TB Day.

5.2.2.18 Commemoration of the World TB Day

Commemoration of the World Asthma day was held at the Sri Lanka Foundation with participation of health professionals serving in preventive and curative health institutions. The Web site "Asthma Podittho" and booklet on "Practical Apporoch To Lung Health" were lounched on the same day This event was jointly organized by Non communicable Disease Unit of the Ministry of Health and College of Pulmonologists of Sri Lanka.

5.2.3 Anti Filariasis Campaign

5.2.3.1 Background Information

Lymphatic Filariasis (LF), one of the most disfiguring diseases in the world which causes permanent disability leading to social stigma, economic loss with a heavy burden on health systems. LF is the fourth leading cause of permanent and long-term disability. LF is a neglected tropical disease (NTD), which is endemic in 83 countries and more than a billion people are at risk of LF infection.

Though LF like diseases have been mentioned on in ancient chronicles in Sri Lanka, the first authentic description was found in 1936 - 1939: an island-wide survey reported a microfilaria (mf) rate of 20-24% (mf rate-percentage of persons positive for mf in night blood samples).

The vertical organisation, **Anti Filariasis Campaign (AFC)** of Ministry of Health, was established in the Department of Health in Sri Lanka in 1947 to reduce the burden of the disease.

Two types of filarial parasites were reported from Sri Lanka i.e. *Wuchereria bancrofti* and *Brugia malayi.*

Since 1949 more cases of Bancroftian filariasis have been reported and there were almost no reported cases of Brugian filariasis since 1969. At present, Wuchereria bancrofti is the main LF infection being transmitted and few cases of Brugian filariasis have been reported.

The insect vector responsible for the spread of Bancroftian filariasis in Sri Lanka is the female mosquitoes of *Culex quinquefasciatus.* This mosquito serves as the intermediate host and the microfilaria count coincides with the biting habits of the vector. This mosquito breeds in highly polluted collections of water, such as blocked drains, damaged septic tanks and latrine pits, etc. which abound in urban habitats. Female mosquitoes of *Mansonia* species transmit the Brugian filariasis. Breeding of *Mansonia* spp. is associated with aquatic plants such as Pistia and Salvinia, etc.

The male and female adults of the filarial parasite live in the lymphatic system of the affected person. The adults mate and produce microfilaria (mf) which find their way to the blood stream and they are capable of living for about one year without developing further in the human body.

When mosquito vector takes a blood meal, mf enters to the mosquito from an infected person and moulted to L1, L2 and L3 larval stages of the parasite. L3 larval stage is the infective stage where it is entered to human body when taking a blood meal by vector. Infective L3 larva converts to adults after another two moults in the human body. Only a proportion of persons infected with filarial parasites develop clinical symptoms. Lymphatic filariasis is characterized by a wide range of clinical manifestations. The signs and symptoms may be acute or chronic. Patients with chronic lymphatic filariasis are usually amicrofilaraemic and there is no currently available test to prove active filarial infection, the diagnosis of filariasis should be established on clinical grounds.

In Sri Lanka LF is endemic in eight districts (Colombo, Kalutara, Gampaha, Galle, Matara, Hambantota, Kurunegala & Puttalam) in three provinces (Western, Southern & North Western Provinces). There are Regional Anti Filariasis Units (RAFUs) in seven endemic districts.

Staffs of the AFC and RAFUs routinely conduct several activities i.e.: parasitological surveys (through night blood filming among humans) and treat mf positive persons; entomological surveys and vector control activities; manage lymphoedema patients.

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) adopted a resolution (WHA 50.29) calling all member states to work towards elimination of LF as a public health problem by 2020. Elimination status was defined as a microfilaria rate of < 1%.

One of the main strategies adopted for elimination was the interruption of transmission through Mass Drug Administration (MDA) to the entire endemic population at least for five years.

With the support from the international partners and the WHO, Sri Lanka successfully completed five rounds of MDA in 2006 which covered more than 80% of the population residing in endemic eight districts in the three provinces (Western, Southern and North Western). Two drugs regime (DEC and Albendazole) was given during the MDA.

AFC of Ministry of Health Sri Lanka collaborates with other partners such as the WHO, Liverpool School of Tropical Medicine-UK, University of St. Louise-USA and National Institute of Health, USA.

5.2.3.2 Vision

- Filariasis free Sri Lanka

5.2.3.3 Mission

Eliminate Lymphatic Filariasis and to prevent suffering and disabilities of affected individuals by bringing together a group of central and regional partners to mobilize financial and technical resources to ensure success.

5.2.3.4 General Objectives

- To eliminate Lymphatic Filariasis by interruption of transmission by 2020
- To alleviate suffering and disabilities of affected individuals

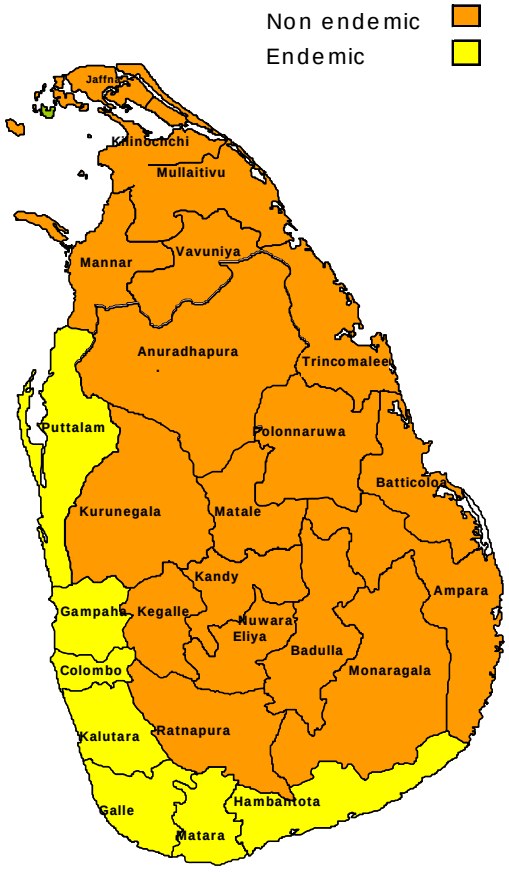
5.2.3.5 Specific Objectives

- To strengthen the parasitological surveillance and control activities
- To strengthen the entomological surveillance and control activities
- To strengthen the laboratory facilities in AFC and RAFUs
- To prevent complications and disabilities of affected individuals by morbidity management

5.2.3.6 Major Activities Implemented in 2013

a) Conducted routine and special night blood filming programmes in endemic areas
b) Treated mf positive and clinically suspected cases
c) Managed lymphoedema patients and educated the lymphoedema patients and caregivers, on morbidity management measures (exercise, elevation, washing, bandaging, wearing of comfortable foot wear, etc.)
d) Conducted vector surveillance and control activities in endemic areas
e) Conducted awareness programmes for health staff and general public
f) Conducted training programmes for medical, paramedical and post graduate students
g) Conducted monthly review meetings with the Regional Medical Officers (Filariasis), patients and district review meetings with the staff attached to RAFUs.
h) Conducted research activities

Fig 5.2.9 : Filariasis Endemic Areas in Sri Lanka



5.2.3.7 Filariasis Endemic Areas in Sri Lanka

In Sri Lanka, filariasis is endemic in the Western, Southern and the North-western provinces mainly due to rapid and unplanned urbanization, increased population density and also due to the suitable climate for mosquito breeding.

5.2.3.8 Achievements

- One of the main strategies adapted to elimination was the interruption of transmission through Mass Drug Administration (MDA) once yearly to the entire endemic population for at least five years. With the support from 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 endemic districts.
- In Sri Lanka, mf rate was below 1% over the past 15-20 years and current (2013), mf rate is 0.04%. This is very much below the WHO elimination target of < 1%.
- Transmission Assessment Surveys (TAS) conducted among grade 1 and 2 school children in endemic districts in 2008 and 2011 with the financial and logistic support from WHO and international partners, further confirmed the elimination.
- In 2011, laboratory of AFC was refurbished and a PCR lab was established. PCR lab further helps to conduct highly sensitive tests to monitor the burden of the disease. Xenomonitoring, tests in mosquitoes based on DNA techniques was also commenced. Enhanced surveillance studies are continuing simultaneously in hot spot areas among school children, community and vectors with the help of foreign donors.
- Sri Lanka is one of the first countries in South-East Asia Region suitable to work towards certification on elimination of filariasis. Currently AFC is in the process of submitting a report (dossier) to WHO for the consideration of granting certification on elimination.
- Staffs were instructed to collect 60 microliters of blood during night blood filming to enhance identification of cases with low mf densities.

- In 2012, a Technical Advisory Group (TAG) including the Director General of Health Services, Deputy Director General of Public Health Services, Past Directors, Professors of Parasitology, Director of AFC, Deputy Director of AFC, Consultant Community Physician of AFC, Medical Officers of AFC and some Regional Medical Officers, was created to get the guidance to enhance the filariasis elimination activities.
- AFC continued filariasis vector and parasitological surveys in endemic and non-endemic areas.
- In 2013, about 38,000 night blood films were collected from all Public Health Midwife (PHM) areas in Galle district covering about 3% of the population in each PHM area to identify the high risk areas.
- Website of Anti Filariasis Campaign (AFC) (www.filariasiscampaign.health.gov.lk) was launched on 02/07/2013.

5.2.3.9 Results of Activities Done in 2013

5.2.3.9.1 Special Research Activities

- **Night Blood Filming Survey in Galle District**

Technical Advisory Group (TAG) for Elimination of Lymphatic Filariasis decided to conduct a Night Blood Film survey in Galle district covering all the Medical Officer of Health areas and Public Health Midwife areas to assess the microfilaria status as there have been some pockets with high mf rates. The special survey was conducted and completed during 2013.

- **Enhanced Surveillance Studies**

With the collaboration of foreign partners and AFC, a study on "Use of enhanced surveillance techniques to assess the elimination and interruption of transmission of lymphatic Filariasis in Sri Lanka" was conducted in 2011-2013. This study planned to cover two high risk Public Health Inspector (PHI) areas each in eight endemic districts and 2 high risk areas from Colombo Municipality Council (CMC) area which doesn't come under Colombo RAFU.

In each PHI area of the district and in high risk area in CMC we have planned to conduct *Wuchereria bancrofti* Antigen testing among 350 school children (grade 1 and 2 students) and 500 community samples and PCR testing for *Wuchereria bancrofti* among 200 female mosquito (*Culex quinquefacsiatus)* pools. This survey was completed in 2013 and the highest antigen positivity (above the cut off of 2%) among community samples was detected in Unawatuna PHI (3.35%) area in Galle district. Antigen positivity among the school samples didn't exceed the cut off. Highest vector mosquito pools positivity rates were reported from Unawatuna PHI area (28%), Ambalangoda PHI area (27.5%) and Weligama PHI area (25%).

Table 5.2.9 : Details of the Galle Special Night Blood Filming Survey

SNO.	Medical Officer of Health area	Samples Examined	mf positive persons	mf rate	Total mf	mf density
1	Akmeemana	2,341	4	0.17	23	96.03
2	Ambalangoda	1,940	1	0.05	4	66.80
3	Balapitiya	2,445	22	0.90	686	520.74
4	Bope-Poddala	2,271	1	0.04	1	16.70
5	Elpitiya	2,145	0	0.00	0	0.00
6	Galle	3,146	13	0.41	149	191.41
7	Gonapinuala	793	1	0.13	12	200.40
8	Habaraduwa	2,339	2	0.09	6	50.10
9	Hikkaduwa	3,795	3	0.08	37	205.97
10	Induruwa/Bentota	1,801	0	0.00	0	0.00
11	Karandeniya	2,072	0	0.00	0	0.00
12	Baddegama	2,719	0	0.00	0	0.00
13	Imaduwa	1,867	1	0.05	11	183.70
14	Neluwa	1,021	2	0.20	2	16.70
15	Niyagama	1,362	0	0.00	0	0.00
16	Thawalama	1,026	0	0.00	0	0.00
17	Udugama/Nagoda	2,061	1	0.05	1	16.70
18	Weliwita/Divithura	955	0	0.00	0	0.00
19	Yakkalamulla	1,966	1	0.05	5	83.50
Total		38,065	52	0.14	937	300.92

5.2.3.9.2 Results of the Parasitological Activities

During the year under review (2013), 419,239 night blood films were examined for microfilaria by the thick blood smear technique from endemic districts and 783 blood films from non - endemic district (Rathnapura).

Persons in endemic areas were screened at the night blood filming centres, through house to house visits and during special surveys. Microfilaria rate for 2013 was 0.04 %. (mf rate- number of microfilaria positive persons per 100 persons tested).

5.2.3.9.3 Results of the Entomological Activities

Infected and Infective Rates

Infected rate (number of Culex quinquefaciatus mosquitoes with all larval stages per 100 Culex quinquefasciatus mosquitoes) and infective rate (number of Culex quinquefaciatus mosquitoes with infective (L3) parasite stages per 100 Culex quinquefaciatus mosquitoes dissected) were 0.52% and 0.00% respectively for the year 2013.

Fig 5.2.10 : Microfilaria Rates in Endemic Districts, 1995-2013

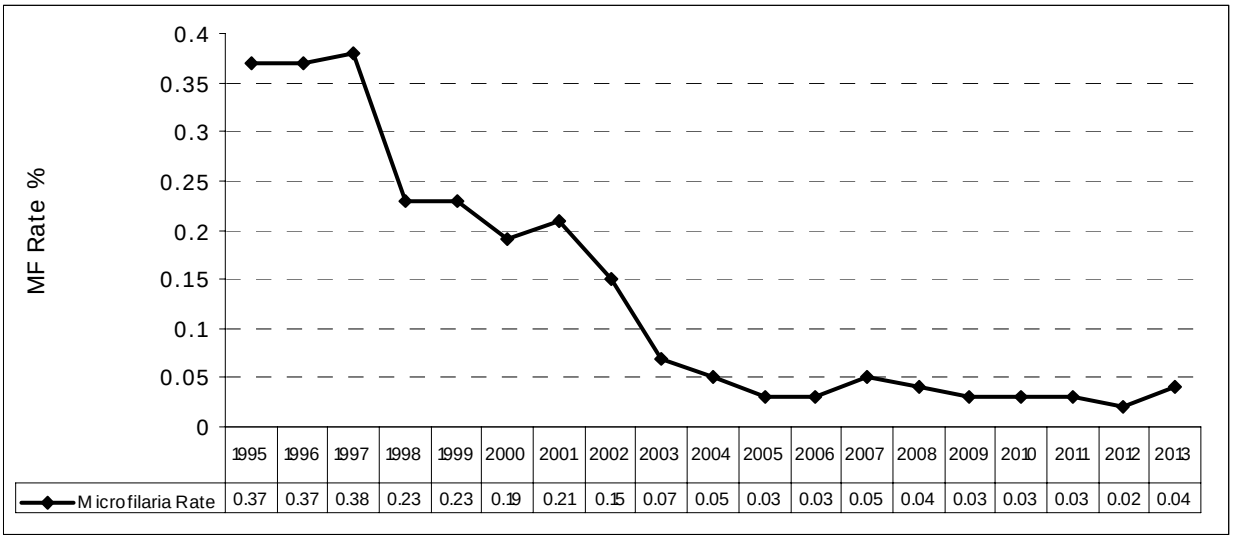


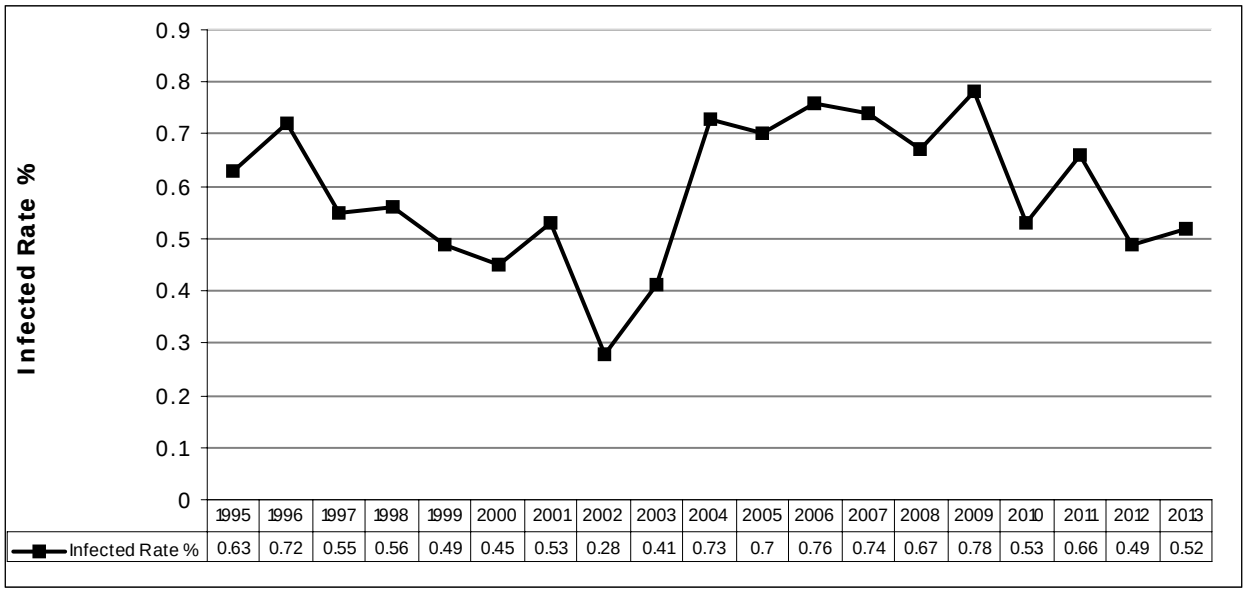
Table 5.2.10 : Results of the Night Blood Filming Surveys in 2013

District	No. of blood films examined	No. of positive blood films	microfilaria (mf) rate	No. of microfilaria (mf)	microfilaria (mf) density
Colombo	55,665	15	0.03	116	128.84
Gampaha	67,512	16	0.02	498	518.54
Kalutara	99,737	10	0.01	76	126.62
Western Province	**222,914**	**41**	**0.02**	**690**	**280.38**
Galle*	63,844	117	0.18	1922	273.68
Hambantota	6,876	-	-	-	-
Matara	59,374	2	-	8	66.64
Southern Province	**130,094**	**119**	0.09	**1930**	270.2
Kurunegala	48,345	9	0.02	128	236.94
Puttlam	17,886	4	0.02	9	37.49
North Western Province	**66,149**	**13**	**0.02**	**137**	**175.57**
Total (Endemic districts)	**419,239**	**173****	0.04	**2757**	265.5
Rathnapura	783	2	0.26	16	133.28
Total (endemic & non endemic)	**420,022**	**175**	**0.04**	**2773**	**263.99**

* Includes data of Galle special survey

** Out of these 173 positive cases in endemic districts, 13 cases were positive with B. malayi and these cases were reported from Galle, Gampaha, Kurunegala, Puttalam and Kalutara districts

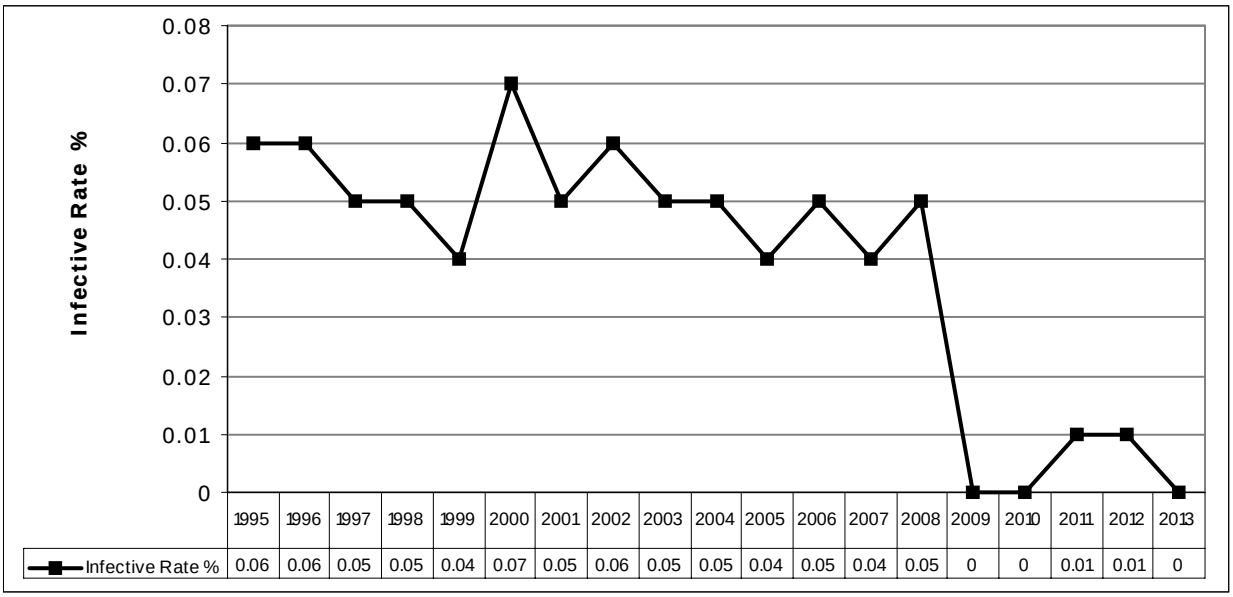
Fig 5.2.11 : Mosquito Infected Rates in Endemic Districts, 1995-2013



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Infected Rate %	0.63	0.72	0.55	0.56	0.49	0.45	0.53	0.28	0.41	0.73	0.7	0.76	0.74	0.67	0.78	0.53	0.66	0.49	0.52

Infected Rate [Number of Cluex quinquefaciatus mosquitoes with infected (L1, L2, L3) parasite stages per 100 mosquitoes dissected]

Fig 5.2.12 : Mosquito Infective Rates in Endemic Districts, 1995-2013



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Infective Rate %	0.06	0.06	0.05	0.05	0.04	0.07	0.05	0.06	0.05	0.05	0.04	0.05	0.04	0.05	0	0	0.01	0.01	0

Infective Rate [Number of *Cluex quinquefaciatus* mosquitoes with infective (L3) parasite stage per 100 mosquitoes dissected]

Female Cluex quinquefaciatus mosquitoes collected from endemic districts were subjected to PCR testing at AFC to determine the Wucheraria bancrofti parasite DNA. Results of these mosquito pools (10 mosquitoes in each pool) are given below.

5.2.3.9.4 Results of the Clinical Activities

Clinic visits of lymphoedema patients

In 2013, the number of first visit lymphoedema patients attended the clinics of AFC and RAFUs were 893, and the number of clinic visits of past lymphoedema patients were 7,668.

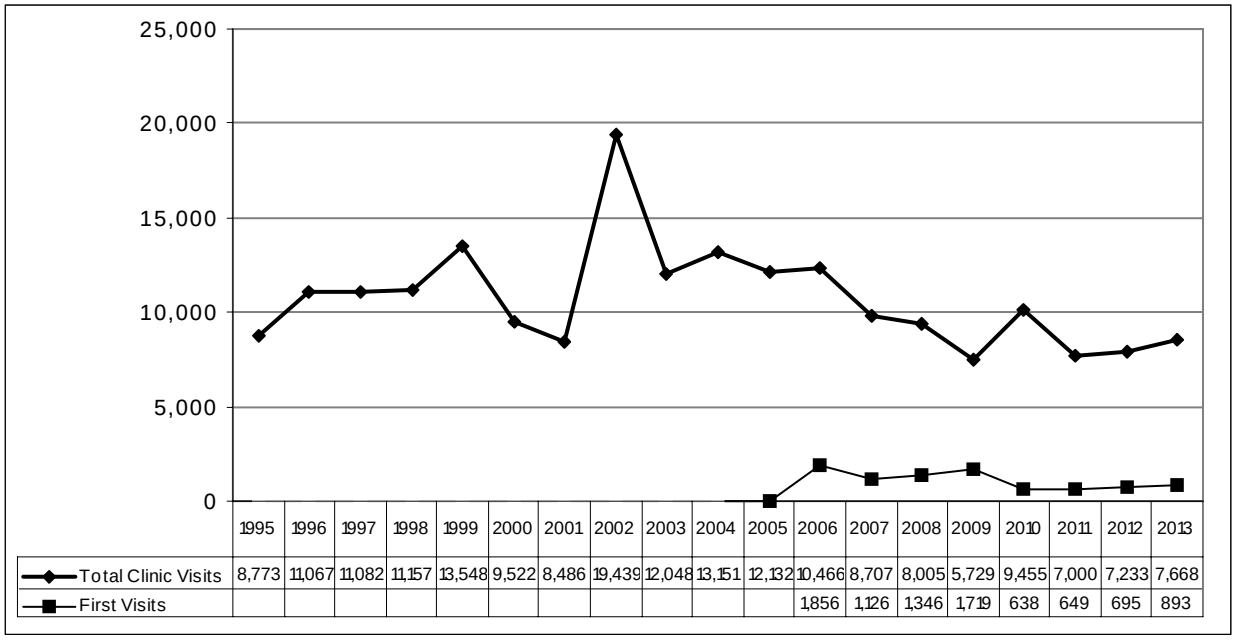
Table 5.2.11 : Conduction of PCR Tests (for *Wucheraria Bancrofti* DNA) on Mosquito Pools in 2013

District		*Culex quinquefacsiatus*	
		Pools tested	Pools positive
Colombo	AFC*	64	31
	RAFU**	25	0
Kurunegala		45	10
Puttlam		114	15
Galle		80	1
Matara		90	5
Gampaha		113	0
Kalutara		86	3
Total		**617**	**65**

* AFC-Anti Filariasis Campaign

** RAFU-Regional Anti Filariasis Unit

Fig 5.2.13 : Lymphoedema Cases (Visits) Managed at AFC and RAFUs, 1995-2013



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Total Clinic Visits	8,773	11,067	11,082	11,157	13,548	9,522	8,486	19,439	12,048	13,151	12,132	10,466	8,707	8,005	5,729	9,455	7,000	7,233	7,668
First Visits												1,856	1,126	1,346	1,719	638	649	695	893

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 of controlling the disease. British rulers made the admission compulsory with the introduction of lepers' ordinance No. 4 in 1901 and also established the second leprosy asylum in the Mantivu island, Batticaloa.

The first effective chemotherapy, Dapsone was introduced in late 1940s; however, this monotherapy became ineffective by 1960s due to emergence of drug resistant strains due to prolonged use of Dapsone. In 1954, the vertical structure, Anti Leprosy Campaign (ALC) was started as the national programme for leprosy control activities including diagnosis management, rehabilitation and control activities, etc.

The islandwide introduction of short term effective chemotherapy - Multi Drug Therapy (MDT) – for all diagnosed patients in 1983 and the launching of Social Marketing Campaign in 1989 to create awareness of early signs of leprosy among 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 hither to implemented through the vertical organization ALC, was integrated into General Health Service in 2001. Notification of confirmed cases of leprosy was implemented to improving follow up and enhance case detection through contact tracing in 2013.

5.2.4.2 Enhanced Global Strategy

The 'Enhanced Global Strategy for Further Reducing the Disease Burden due to Leprosy: 2011-2015' was formulated as a natural extension of WHO's earlier strategies of 2006 - 2010. It offers opportunities to redefine joint actions and enhance global efforts to address the remaining challenges to reduce the disease burden due to leprosy and its harmful impact on persons affected by leprosy and their families.

Government of Sri Lanka has decided to adopt the 'Enhanced Global Strategy for Further Reducing the Disease Burden due to Leprosy: 2011-2015' as the guide for leprosy control programme for Sri Lanka till 2015.

5.2.4.3 Plan of Action 2014 – 2017

National Action Plan for control of leprosy 2014 – 2016 was prepared following a series of workshop based on the national strategic plan and implemented through a model leprosy programme in five districts.

5.2.4.4 Vision of the Programme

Leprosy free Sri Lanka where the needs of existing persons affected by leprosy are fulfilled.

5.2.4.5 General Objective

To prevent grade 2 deformities by provision of quality leprosy services through early detection, treatment and rehabilitation services for those who need assistance.

5.2.4.6 Specific Objectives

1. To reduce the rate of new cases with grade 2 deformities down to 4% at the end of 2015, compared to the baseline value of 8% at the end of 2010
2. To increase early detection rate (less than 6 months of the onset of symptoms) to 75% from the current rate of 44%
3. To improve treatment completion rates up to 90% at the end of 2015 from 78% of current rate
4. To reduce development of new deformities while on treatment and after completing treatment
5. To provide comprehensive disability prevention and management through education and improved rehabilitation services
6. To fight all forms of stigma associated with leprosy
7. Ensuring the rights of persons affected with leprosy

5.2.4.7 Current Status

From 2003 - 2013 it was observed that the new case detection rates were fluctuating around 10 per 100,000 population. There is slight increase in trend in new case detection rates from 9.14 in 2009 up to 10.6 in 2012. The number of new leprosy cases detected in 2013 was 1990 (9.6 per 100,000). The reported prevalence at the beginning of 2013 was 0.7 per 10,000 population.

Highest number of new cases has been reported in Colombo district followed by Gampaha and Kalutara districts. Lowest numbers have been reported from districts in Northern province. Even though large number of patients are reported from Colombo district in 2013, the highest new case detection rate of 28.4 was reported for Batticoloa district and the lowest new case detection of 1.7 was reported from Nuwara Eliya district.

Percentage of patients with grade 2 deformity has showed a down ward trend from 2001 and was 6.73 in 2013. Highest rates of grade 2 deformity rates have been reported from Mannar, Rathnapura and Kandy districts

Fig 5.2.14 : New Case Detection Rates of Leprosy per 100,000 Population, 1989 – 2013

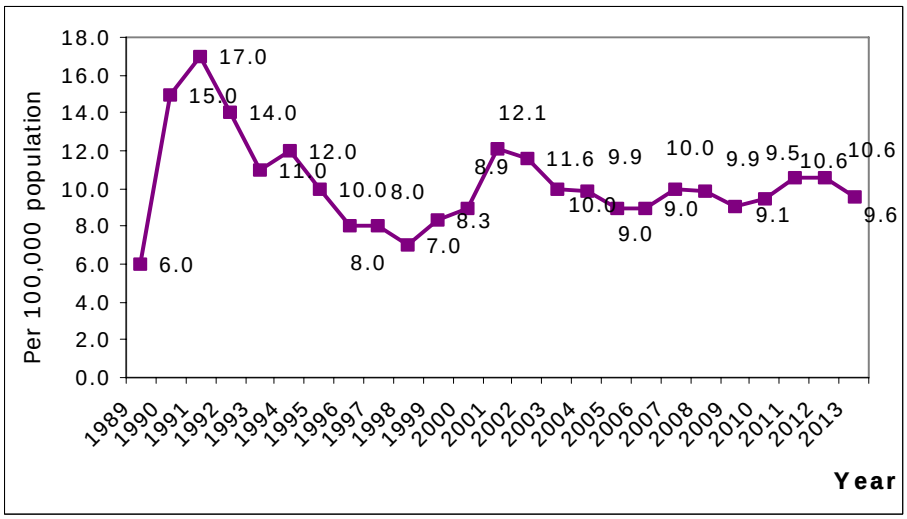


Fig 5.2.15 : New Case Detection Rates by District per 100,000 Population, 2013

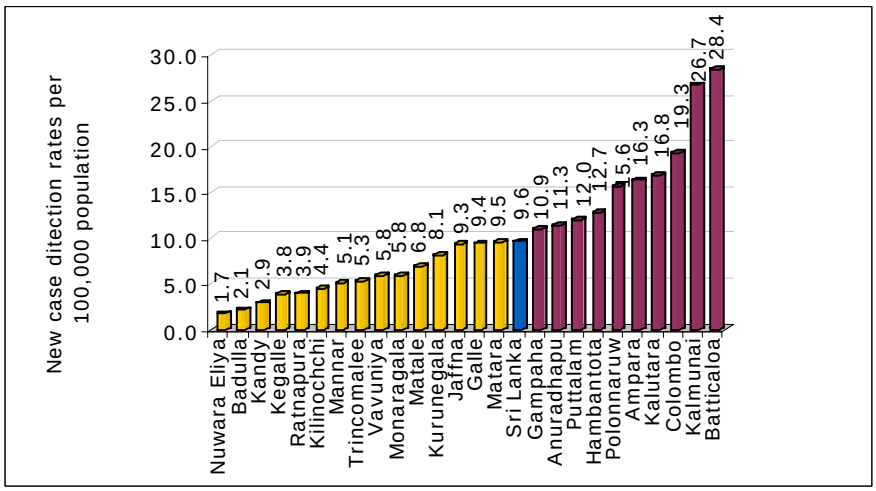
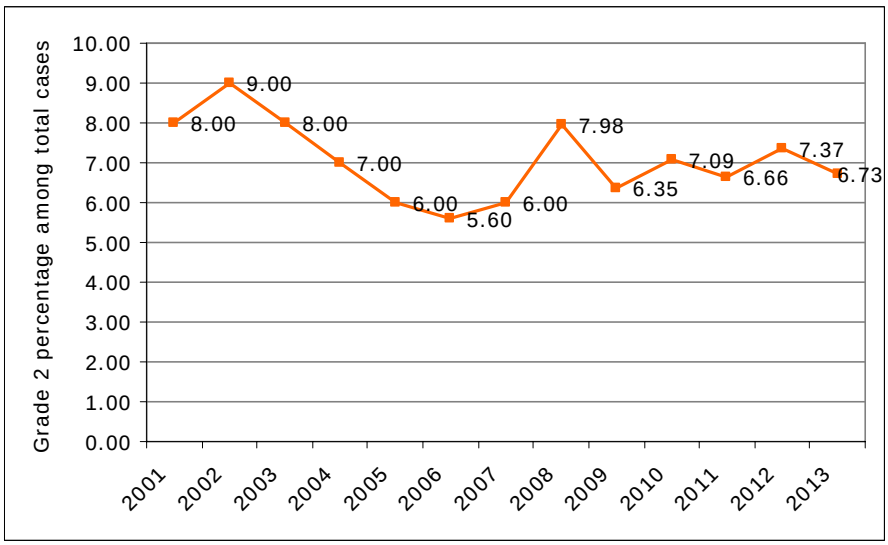
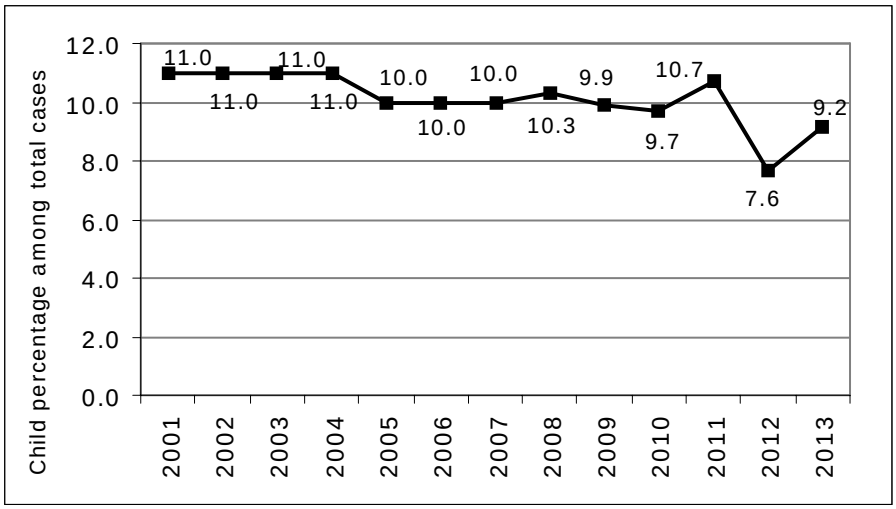


Fig 5.2.16 : Grade 2 Deformity Rates among Leprosy Patients in Sri Lanka 2001-2013



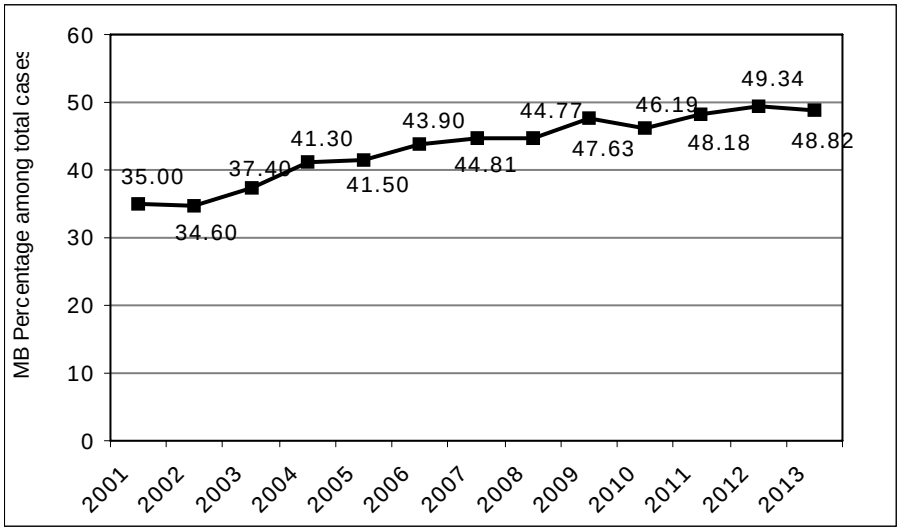
Child rates among leprosy cases have been fluctuating around 10% from 2001 to 2012. However there is a reduction in child rate reported in 2012 to 7.64. from 10.7 in 2011. But it has again gone upto 9.17 in 2013.

Fig 5.2.17 : Child Rates among Leprosy Patients in Sri Lanka 2001-2013



Child case rates among leprosy cases have remained high, indicating active transmission in districts such as Jaffna, Mannar and Vavuniya.

Fig 5.2.18 : MB Rates among Newly Diagnosed Leprosy Patients in Sri Lanka 2001-2012



Percentage of MB patients is increasing gradually over the past 10 years and has a rate of 49.34% in 2012. Female rates have remained more or less the same around 40 - 45% for last 10 years.

5.2.4.8 Major Achievements in 2013

Circular No. 02-139/2013 notification of confirmed cases of leprosy and improving follow up was implemented. Technical Advisory Committee on leprosy control established to take decisions on leprosy control. National Action Plan for leprosy control of leprosy 2014 – 2016 prepared following a series of workshop based on the national strategic plan and implemented Model Leprosy Control Programme initiated in five districts including Colombo, Gampaha, Hambanthota, Ampara and Puttlam in line with National Action Plan for leprosy control of leprosy 2014 – 2016. A Memorandum of understanding was signed with FAIRMED Foundation for implementation of model leprosy programme in five districts.

Media seminar was conducted as the national programme to increase public awareness through mass media in 2013 along with district programmes to celebrate the World Leprosy Day. Multidisciplinary clinic for management of leprosy related disabilities established in National Hospital of Sri Lanka. Island wide community screening programme in leprosy high endemic districts was initiated as a new method of new case detection.

Table 5.2.12 : Basic Indicators in Leprosy

Year	New case detection rate For 100,000 population	Multibacillary rate	Child rate	Deformity rate
1991	17.0	15.0	18.0	6.8
1992	14.0	15.0	16.0	8.8
1993	11.0	16.1	13.5	11.3
1994	12.0	17.1	14.0	8.2
1995	10.0	22.4	11.8	8.3
1996	8.0	21.2	11.9	10.8
1997	8.0	24.0	9.2	9.8
1998	7.0	29.0	11.5	11.3
1999	8.3	35.6	10.9	11.4
2000	8.9	36.5	11.3	9.6
2001	12.1	35.0	11.0	8.0
2002	11.6	34.6	11.1	9.7
2003	10.0	37.4	11.5	8.2
2004	9.9	41.3	11.4	6.7
2005	9.0	41.5	10.5	5.7
2006	9.0	43.9	10.3	5.6
2007	10.0	44.8	10.0	6.0
2008	9.9	44.8	10.3	8.0
2009	9.1	47.6	9.9	6.4
2010	9.5	46.2	9.7	7.1
2011	10.6	48.2	10.7	6.7
2012	10.6	49.3	7.6	7.4
2013	9.6	48.8	9.2	6.7

Table 5.2.13 : Epidemiological Profile of Leprosy by Provinces, 2013

Province	Total		MB		Child		Grade 2		Female	
	No	NCDR	No	Rate	No	Rate	No	Rate	No	Rate
Central	84	3.29	40	47.62	5	5.95	8	9.52	24	28.57
East	314	14.05	142	45.22	33	10.51	19	6.05	134	42.68
North	76	5.87	18	23.68	21	27.63	6	7.89	36	47.37
North Central	160	12.39	98	61.25	11	6.88	15	9.38	68	42.5
North Western	222	8.81	116	52.25	17	7.66	22	9.91	97	43.69
Sabaragamuwa	74	3.85	47	63.51	2	2.7	9	12.16	27	36.49
Southern	253	10.32	143	56.52	20	7.91	10	3.95	89	35.18
Uva	43	3.11	19	44.19	3	6.98	4	9.3	10	23.26
Western	900	17.37	415	46.11	83	9.22	50	5.56	384	42.67
Total	2126	9.6	1038	48.82	195	9.17	143	6.73	869	40.87

5.2.5 Public Health Veterinary Services (Rabies Control Programme)

Public Health Veterinary Services of Ministry of Health has been entrusted with the national responsibilities in preventing the human and animal rabies and controlling other zoonotic diseases in Sri Lanka. Rabies control programme is the main zoonotic control programme in Sri Lanka and it had been decentralized since 1990. Provincial health services are responsible for implementation of the programme.

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 Vision

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

5.2.5.2 Mission

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.

5.2.5.3 Policy Goal

Elimination of Rabies from Sri Lanka by 2020.

5.2.5.4 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 remove all rabies suspected dogs humanely

5.2.5.5 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 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 governance and stewardship for rabies elimination
13. Control of japanese encephalitis among pigs

5.2.5.6 Activities

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 Health.

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.

5.2.5.7 Surveys on Dog Population Size and Structure

Dog population surveys were conducted in four Divisional Secretary areas and data analysis is being done.

5.2.5.8 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 28 rabies deaths in the country in 2013. (Table 5.2.16)

5.2.5.9 Status of Animal Rabies

The dog is the main reservoir as well as the transmitter of rabies in Sri Lanka. Total number of animal rabies reported during the year 2013 was 762. Majority 87% (664) of animal rabies was reported among dogs, 10.1% (77) cats ,1.2% (9) cows, 0.4% (3) goats, 0.3% (2) squirrels, 0.5% (4) Mongoose and 0.1% (1) each among rock squirrels, Buffalos and pole cat.

Mainly the dogs have transmitted the disease to humans. Dog was responsible for 100% of human rabies deaths investigated in 2013 (n17) while the responsible animal for the other deaths were not identified.

5.2.5.10 Achievements in 2013

- It was possible to maintain the human rabies free status in Kalutara, Kandy, Matale, Nuwara Eliya, Kegalle, Badulla, Mannar, Ampara, Kalmunai and Hambanthota districts in year 2013 (Table 5.2.14, Fig 5.2.20).
- Human rabies deaths in 2013 were contained to 28 (41 in 2012).
- In year 2013 it was possible to sterilized 163,852 dogs surgically and 36,372 dogs chemically.
- 1,350,561 stray dogs and domestic dogs vaccinated in year 2013. (Table 5.2.15, Chart 5.2.21)
- Fifteen exhibitions were conducted and more than 0.1 million posters, banners were distributed to increase awareness among public.
- 317,782 Human rabies vaccines vials were provided for human rabies prevention in 2013.
- 93,133 Serum (ERIG) vials and 6,994 human serum (HRIG) vials were provided for human rabies prevention in 2013.
- Thirty training programmes were conducted for the curative and preventive health staff involving in rabies control activities.
- 80,000 Pigs were vaccinated against Japanese Encephalitis Infection in high endemic districts.

5.2.5.11 Milestones

- National Strategic Plan for rabies elimination was finalized and published in 2013 enabling major partners such as Ministry of Livestock and Ministry of Local Government to take part in rabies elimination mission
- Department of Animal Production and Health also commenced dog vaccination and 51,984 dogs were vaccinated in 2013
- Expansion of rabies diagnostic facilities initiated with training of staff of Department of Animal Production and Health on Direct Rapid Immunochemistry Test.(DRIT)

5.2.5.12 Control of Japanese Encephalitis (JE)

This programme was implemented in collaboration with the department of Animal Production and Health. During 2013, eighty thousand (80,000) pigs were vaccinated against JE. Vaccines were provided by Health Services and Department of Animal Production and Health provided the human resources.

Table 5.2.14 : Human Rabies Deaths Distribution by Districts

District	2007	2008	2009	2010	2011	2012	2013
Ampara	0	0	1	1	0	2	0
Anuradhapura	4	3	6	4	1	2	3
Badulla	0	1	1	0	0	1	0
Batticaloa	6	7	6	5	8	4	4
Colombo	1	0	7	2	2	6	1
Galle	5	5	6	5	4	0	2
Gampaha	8	7	8	6	7	2	1
Hambantota	2	1	0	0	2	0	0
Jaffna	1	0	5	2	1	1	2
Kalutara	5	2	3	3	1	2	0
Kalmunai					1	1	0
Kandy	2	2	1	1	0	0	0
Kegalle	0	1	1	0	0	0	0
Kilinochchi	2	0	0	2	2	1	1
Kurunegala	8	11	4	3	4	4	1
Matale	2	0	1	1	0	2	0
Matara	2	1	1	0	1	4	2
Mannar	1	1	0	1	0	0	0
Monaragala	2	2	2	4	2	2	2
Mullaitivu	0	1	0	1	0	0	1
N'Eliya	1	1	0	0	1	0	0
Polonnaruwa	0	0	0	0	0	1	1
Puttalam	0	5	1	1	2	2	2
Ratnapura	3	0	2	3	1	3	2
Trincomalee	1	0	1	2	1	0	1
Vavuniya	0	0	0	2	0	1	2
Grand Total	56	51	58	49	49	41	28

Fig 5.2.19 : Human Rabies Deaths Distribution by Districts

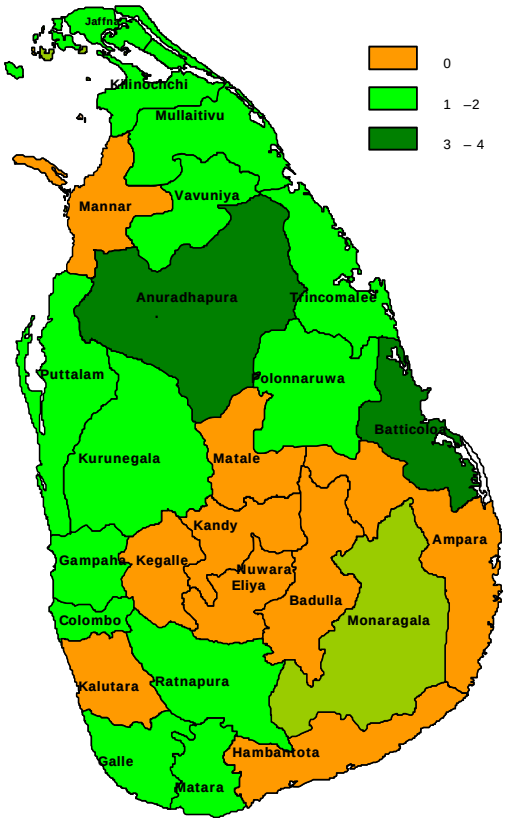


Fig 5.2.20 : Human Rabies Deaths and Dog Rabies Vaccination, 1972 -2013

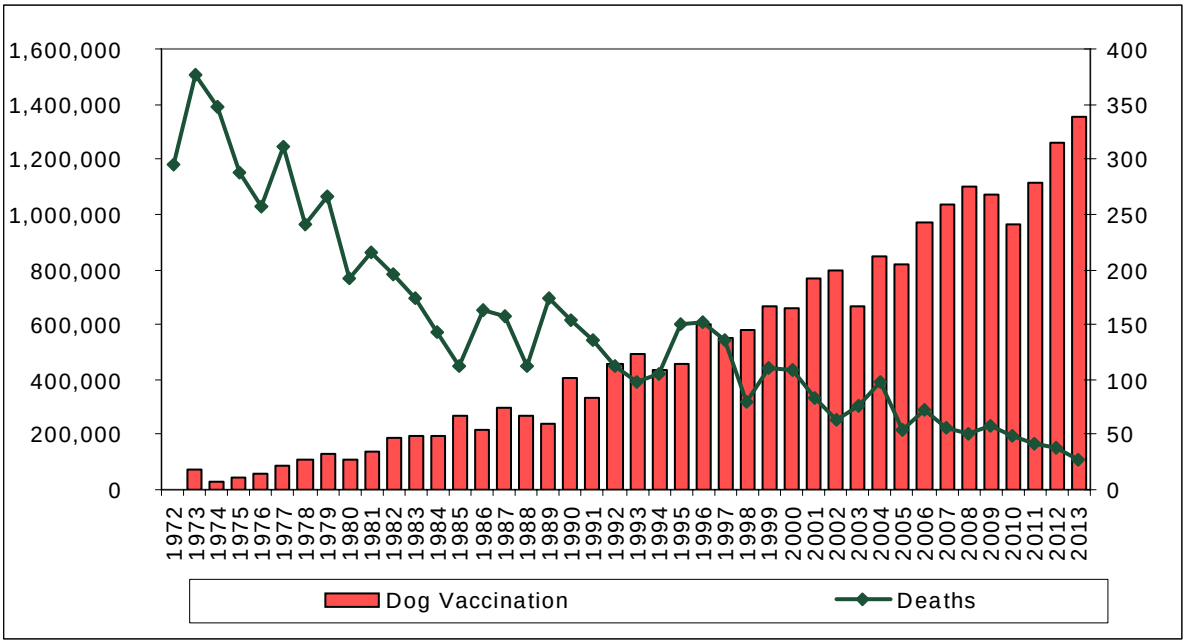


Table 5.2.15 : Trends in Rabies Control Activities and Human Deaths from Rabies

Year	Dog Vaccination	Elimination of Dogs	Dog Heads Examined at MRI (Out of the total dog heads Examined)		Human Rabies Deaths	
			Number	Positive %	Number	Rate per 100,000
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
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	83	0.4
2002	797,565	117,790	670	71	64	0.3
2003	664,493	83,350	897	60	76	0.4
2004	843,906	89,530	1105*	58	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	659	56	0.3
2008	1,103,258	-	681	61.9	51	0.25
2009	1,068,036	-	709	65.8	58	0.29
2010	961,626	-	658	46.4	49	0.24
2011	1,115,399	-	922	59.4	41	0.2
2012	1,260,981	-	909	66.9	38	0.19
2013	1,350,561	-	973	68	28	0.14

* The new laboratory at Galle started functioning.

** Galle laboratory was washed away by the tsunami.

*** Recommence of Galle laboratory

Table 5.2.16 : History of Human Rabies and Control Activities

Year	Deaths	Dog Vaccination	Dog Elimination	Chemical Sterilization	Surgical Sterilization
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	5,651	244
2006	73	971,442	12,791	46,968	1,419
2007	56	1,037,617	-	102,031	4,088
2008	51	1,103,258	-	85,339	119,816
2009	58	1,068,036	-	53,931	220,280
2010	49	961,626	-	39,999	93,656
2011	41	1,115,399	-	54,345	106,002
2012	38	1,260,310	-	49,989	116,154
2013	28	1,350,561	-	36,372	163,852

5.2.6 Directorate of Youth, Elderly, Disabled and Displaced Persons

To improve quality of youth, elderly and disabled persons through improvement of health facilities, disease prevention and health promotion according to the Health Master Plan and of Mahinda Chinthana Sri Lanka.

5.2.6.1 Youth

5.2.6.1.1 Vision

Healthy & productive youth population

5.2.6.1.2 General Objectives

- To improve knowledge, attitude and life skills among youth to reduce youth problems & improve their well being.

5.2.6.1.3 Specific Objectives

- To improve the capacity of the health staff on youth friendliness, promoting life skills among youth.
- To implement programme advocacy awareness programme for young people, parents and community leaders through the provincial health authorities and the heads of the health institutions
- To strengthen the Youth Friendly Health Services in the country with the support of the central and provincial health authorities.
- Monitoring and evaluation of Youth Friendly Health Services in the country

5.2.6.1.4 Activities (Activities completed in 2013 , out of ongoing activities till end of 2014)

1. Conducted workshops for staff of Youth Friendly Health Services on Sexual Reproductive Health for regional stakeholders. (03 workshops)
2. Conducted Regional Training of Trainers (in different sectors) for Youth Friendly Health Services to design, implement and monitor programmes based on research findings. (03 training programmes)
3. Conducting life skills programmes for health care workers and young persons in different settings. (02 life skills programmes)
4. Conducted review meetings with regional staff for monitoring. (03 review meetings)
5. Advocasy program to act elders as resources for youth. (05 advocacy programmes)
6. Launching of the Youth Health Policy.
7. Conducting a training of trainers (TOT) programme on youth.

5.2.6.2 Elderly

5.2.6.2.1 Vision

Healthy, active & productive elderly population

5.2.6.2.2 General Objectives

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

5.2.6.2.3 Specific Objectives

- To improve the attitudes among all age groups regarding “Healthy Ageing” through promotion of healthy life style.
- To improve awareness among elders and their family members regarding common health problems of elderly.
- To improve early detection of common health problems of 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 elderly by strengthening intergenerational relationships.
- To improve quality health service for the elders.

5.2.6.2.4 Activities (Activities completed in 2013 , out of ongoing activities till end of 2014)

1 Conducting programmes, for training carers for elders. (02 training programmes)

2 Conducted awareness programmes for pre retirees on active ageing. (04 training programmes)

3 Lectures for undergraduates and postgraduates on health of elderly in collaboration with universities. (02 training programmes)

4 Conducted training of Trainers (ToT) programme for carers for elders. (02 training programmes)

5 Promoted awareness on ‘Healthy Aging’ for different target groups. (02 training programmes)

6 Conducted advocacy programmes to promote elders’ and youngers’ good relationships. (02 training programmes)

7. Conducting activities to commemorate International Elders Day - 01st October
8. Awareness programmes on prevention of elder abuse (01 training programme)
9. Promoting research on elderly by providing research forum to share information.
10. Under the vision of 2020 programme, free distribution of spectacles and facilities to have free cataract surgeries and lenses
11. Advocacy program to act elders as resources for youth. (05 training programmes)
12. Inspection of elderly home activities including PHI manual.
13. Conducting multistakeholder steering committee and advisory committees on elderly health care.
14. Establishing Elderly Friendly Units in 11 identified hospitals in Sri Lanka.
15. Elderly Health Care Policy which is planned to be formulated in the future
16. Developing Elderly Care Service Delivery training module & information and educational material.

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 quality health care on disability and rehabilitation.
- To improve multistakeholder network on disability health care and rehabilitation.
- To promote awareness on prevention of disability.
- To strengthen implementation of national action plan on disability (Thematic area 2)

5.2.6.3.4 Activities (Activities completed in 2013 , out of ongoing activities till end of 2014)

1. Developing national guidelines for rehabilitation services in Sri Lanka
2. Conducting awareness programmes for parents of disabled children.
3. Development & printing of materials and guidelines. (02 Training programmes)
4. Conducting community awareness programmes for the health staff in rehabilitation hospitals (Ragama, Digana, Kandagolla, Jayanthipura and Maliban Rehabilitation hospitals) on disability health care and rehabilitation.
5. Implementing a project for children with special needs in collaboration with FHB.
6. Commemorate of International Disability day.
7. Conducting lectures for undergraduates and post graduates on disability care. (02 training programmes)
8. Establishment and conducting steering committee for people with disabilities.
9. Initiated work to establish rehabilitation units in regional hospitals.
10. Supported to establish stork units in teaching hospitals and general hospitals.
11. Conducted a programmes to improve awareness on accessibility to built conductive environment among health managers and other multistakeholders.
12. Conducted periodical review meetings with NGOs who provide rehabilitation care services in Sri Lanka.
13. Technical contribution to many organizations for people with disability.
14. Ongoing process to establish rehabilitation centers in underutilized regional hospitals.
15. Developing and printing of accessibility guideline booklets.
16. Purchasing of logistics & materials for prosthetics & orthotics workshops.
17. Conducting consultative workshops to develop IEC materials for elderly and disable persons.
18. Conducted advocacy programmes on accessibility regulation in both preventive and curative sector.
19. Familiarization programme on disability for apprentice graduates attached to MOH offices in provinces.
20. Infrastructure development of the rehabilitation hospitals and rehabilitation centers.
21. Capacity building of multidisciplinary health teams involved in disability health care and rehabilitation.
22. Training of trainers on caring of disabled elders.
23. Developing information systems on disability health care.

5.2.7 National STD / AIDS Control Programme (NSACP)

National STD/AIDS Control Programme (NSACP) is a specialized public health programme of the Ministry of Health, Sri Lanka. The Director of the NSACP in consultation with the Senior Management Team (SMT) provides leadership and technical guidance to both preventive and curative services. The headquarters of the NSACP is situated at 29, De Saram Place Colombo 10, Sri Lanka and networks with 29 full-time STD clinics and 23 branch STD clinics. The central STD clinic, Colombo administratively comes under the line-ministry, while most of the peripheral STD clinics are under the direct administration of provincial health authorities. Each peripheral clinic is in charge of a medical officer trained in STD/AIDS accompanied with consultant veneriologist, and has its own staff responsible for programme areas in respective districts.

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 Infections (STI) including Human Immunodeficiency Virus (HIV). The overall goal of the NSACP is to reduce the impact of STIs including HIV/AIDS on the social and development of the country.

The main objectives are

1. Prevention of transmission of Sexually Transmitted Infections (STIs) including HIV.
2. Provision of care and support for those infected and affected with STIs including HIV.

These objectives are achieved through 2 core strategies.

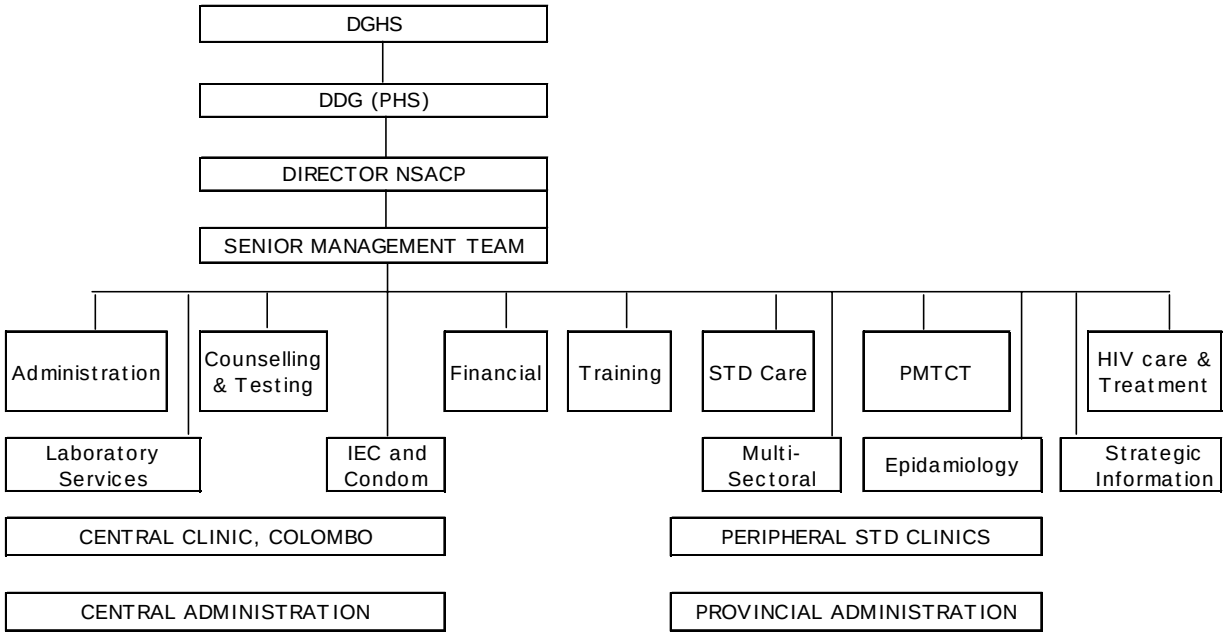
1. Increased coverage and quality of prevention intervention.
2. Increased coverage and quality of care, support and treatment intervention.

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.

Fig 5.2.21 : Organogram of the National STD / AIDS Control Programme



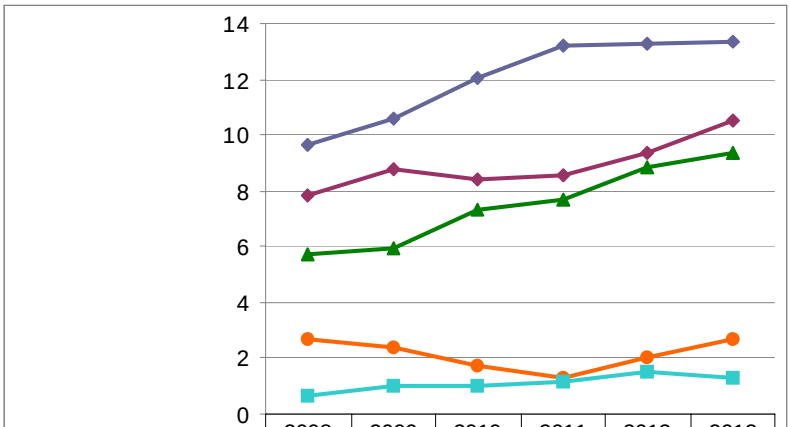
The following programme areas were continued to function in 2013.

- Prevention, control and provision of STI care
- HIV care, support, and treatment
- STI/HIV surveillance system
- Laboratory facilities for screening of STI & HIV
- Provision of Anti Retroviral Treatment (ART) through 12 ART centers in the country
- Maintaining the standards of care and proper monitoring and evaluation of the HIV treatment and care provision
- Instituting infection control and providing post exposure prophylaxis of ART for occupational exposures for health care workers in medical institutions
- Provide STD Services
- Provide testing and counseling services
- Provision of condoms in prevention of transmission of STI/HIV infections
- Outreach services to Key populations. (MSM, FSW, DU, BB)
- HIV prevention in prisons
- Conducting IEC/awareness programmes targeting the general population and Most at Risk Populations (MARPS)
- Prevention of Mother to Child Transmission of HIV (PMTCT)
- Laboratory services for HIV clinic attendees
- Monitoring of STD clinics and ART centers
- Dissemination of data via NSACP website (http://www.aidscontrol.gov.lk) and public has sought specific information by emailing on site info@aidscontrol.gov.lk
- 2013 Annual Report and Tamil version of National Strategic Plan were published
- Survey on Key population size estimation
- Training and capacity building of private and public sector (post graduate students, health care workers, NGO, medical and nursing students, foreign students, etc.)
- Conduct awareness programmes to police officers, and three forces
- Conduct advocacy programmes for, number of decision makers and other key stakeholders (in relation to FSW, drug users and MSM components)
- Inter-sectoral coordination (Ministry of Education, security forces, Sri Lanka Bureau of Foreign Employment, Department of Prison, Non-governmental Organizations, civil society, People living with HIV, etc)
- Partnership with public, private and international organizations and donor agencies such as Respiratory Disease Control Programme, Family Health Bureau, Health Education Bureau, National Blood Transfusion Service (NBTS), WHO, UN Agencies, ILO, GFATM, etc.

5.2.7.1 Sexually Transmitted Infections (STI) in Sri Lanka – 2013

There were 19,585 new persons registered in the government STD clinics, and of them 10,515 (54%) of clinic attendees were diagnosed having at least one STI in 2013. Genital herpes (2,728 cases) was the commonest STI and Candidiasis (2,377 cases) was the commonest reproductive tract infection reported during 2013. The graph below shows the trends of some of the bacterial STI and the viral STI during last 6 years.

Fig 5.2.22 : Rates of Selected Sexually Transmitted Infections per 100,000 Population, 2008-2013



	2008	2009	2010	2011	2012	2013
Genital Herpes	9.68	10.57	12.04	13.19	13.27	13.32
NGU/NGC	7.85	8.79	8.42	8.57	9.36	10.54
Genital Warts	5.73	5.94	7.35	7.66	8.84	9.33
Gonorrhoea & PGC	2.65	2.41	1.72	1.31	2	2.67
Infectious Syphilis	0.63	1.02	1.04	1.15	1.49	1.34

The National Reference Laboratory which is situated in the headquarters of the NSACP provides laboratory services to the Central STD clinic Colombo and functions as a reference laboratory to all the other peripheral STD clinic laboratories and private sector laboratories in the country.

The Reference Laboratory of NSACP extends its services to provide viral load assay and CD4 count assay for people living with HIV. The new viral load assay (Real time PCR) method has been introduced and this can be considered as an important event in the laboratory molecular test development. In order to improve treatment and care services for the people living with HIV (PLHIV), full blood count analyzer and an electrolyte analyzer were also introduced to the laboratory.

These are useful to monitor response to antiretroviral treatment. Early diagnosis of babies born to HIV infected mothers by DNA PCR to the routine diagnostic services during year 2013.

Routine screening of antenatal mothers for syphilis and HIV at the De Soysa Maternity Hospital has been carried out for many years. During the year 2013 this service was extended to include all antenatal mothers attending Castle Street Hospital for Women. In addition, peripheral STD laboratories conduct majority of antenatal syphilis screening tests in their respective provinces.

To improve the HIV testing services, four ELISA machines were supplied to STD clinics in Chilaw, Kalutara, Hambanthota and Polonnaruwa during the year 2013. This will significantly improve the HIV testing facilities in a cost effective manner.

Other than the routine diagnostic testing, the National Reference Laboratory contributes to STD and HIV surveillance and research activities on a regular basis and carries out all the HIV and syphilis testing for HIV sentinel surveillance.

Table 5.2.17 : Tests Carried out by the Central & Peripheral STD Microscopic Laboratories for the 2013

Clinic	Dry Smears	Wet Smears	Urine Tests	EQA Smears	Total
Central Laboratory in Colombo	8,405	4,786	1,396	4,695	19,282
Peripheral STD Laboratories	25,722	10,051	682	0	36,455
Grand Total	34,127	14,837	2078	4695	55,737

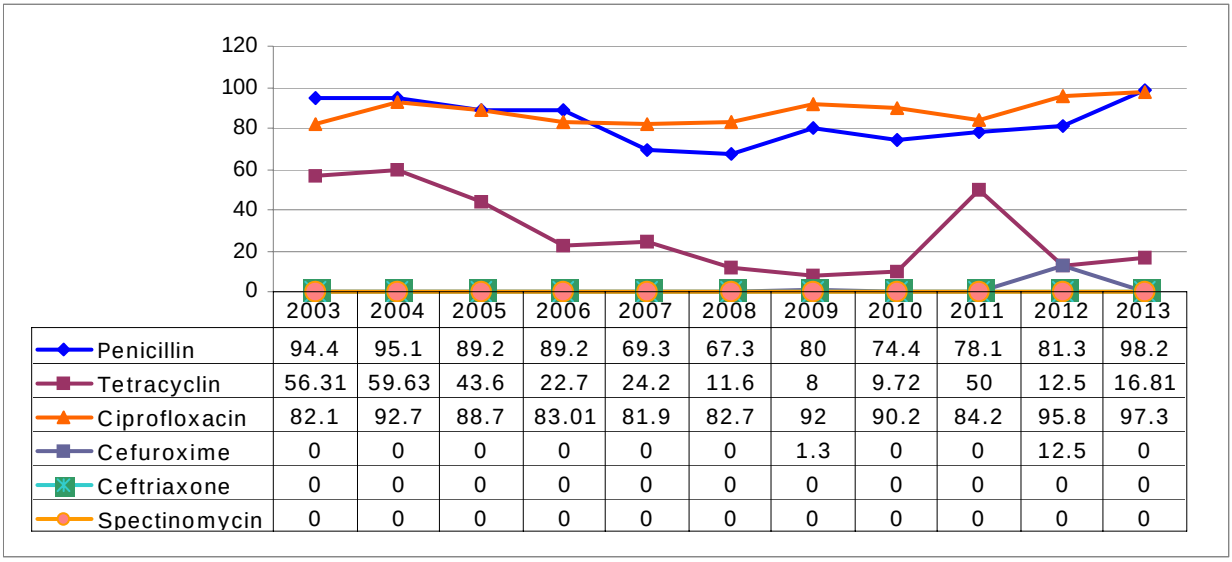
Table 5.2.18 : Number of Tests Carried Out at Central STD Laboratory during 2013

Name of the Test	Number of Tests	Name of the Test	Number of Tests	Name of the Test	Number of Tests
HIV ELA	46,204	G.C. culture	7,078	Blood sugar	173
HIV PA	1,265	G.C. culture for A.B.S.T.	118	Bilirubin	475
HIV (RAPID)	1,175	Hepatitis B S antigen	1,665	SGOT	479
Western blot	575	Cervical cytology	1,104	SGPT	479
HIV - viral load	359	Urine HCG for pregnancy	75	ALP	363
CD 4 count	1,287	Full Blood Count	880	Serum creatinine	443
VDRL	54,754	HSV 1-IgM	15	Blood urea	494
TPHA/TPPA	9,781	HSV 1-IgG	15	Lipid profile	134
Syphilis EIA	18	HSV 2-IgM	15	Total cholesterol	134
Syphilis ELIZA IgM	5	HSV 2-IgG	15	HDL	134
				LDL	134

5.2.7.2 Antibiotic Sensitivity Monitoring of Neisseria Gonorrhoeae

The National Reference Laboratory has been conducting the Gonococcal Antimicrobial Surveillance in Sri Lanka for many years. During the year 2012, there were 5 high level resistant cases of gonorrhoea to cefuroxime axetil, which exceeded 5% resistance level to the recommended first line treatment. As a result, the treatment guideline for uncomplicated gonorrhoea was changed from Cefuroxime to Cefixime in November 2012.

Fig 5.2.23 : Gonoccocal Resistance Pattern 2003 – 2013



	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013
Penicillin	94.4	95.1	89.2	89.2	69.3	67.3	80	74.4	78.1	81.3	98.2
Tetracyclin	56.31	59.63	43.6	22.7	24.2	11.6	8	9.72	50	12.5	16.81
Ciprofloxacin	82.1	92.7	88.7	83.01	81.9	82.7	92	90.2	84.2	95.8	97.3
Cefuroxime	0	0	0	0	0	0	1.3	0	0	12.5	0
Ceftriaxone	0	0	0	0	0	0	0	0	0	0	0
Spectinomycin	0	0	0	0	0	0	0	0	0	0	0

The sensitivity pattern not tested for cefuroxime for year 2013

5.2.7.3 Overview of HIV / AIDS Situation in Sri Lanka as of End 2013

The first Sri Lankan with HIV infection was reported in 1987. Since then as of end 2013, 1845 HIV positive persons were reported to the National STD/AIDS Control Programme. A cumulative number of 310 AIDS deaths and 71 mother to child transmitted cases have been reported. The male to female ratio of HIV cases is 1.5:1. During 2013, 586,762 HIV screening tests were carried out in the country and 196 confirmed as HIV positive. A detailed analysis of data reported during the last 5 years showed that 42% of the total reported HIV positives have been reported during 2009-2013 period.

Since the detection of first HIV infection in 1987, heterosexual transmission (78%) was the commonest way of acquisition of HIV in Sri Lanka as at end of 2013. However, there is evidence that the risk of HIV infection among males who have sex with other males (MSM) is increasing over the years. High partner exchange rate and low condom use are main reasons for this trend. Intravenous drug use and sharing of needles/ syringes leading to HIV transmission is very low. The mother to child transmission of HIV is 5%.

Fig 5.2.26 shows the age and sex distribution of all HIV infections reported up to end of 2013. Majority of the cases have been reported in the age group 25-49.

Fig 5.2.24 : Annual Number of HIV Cases Reported, 1987 - 2013

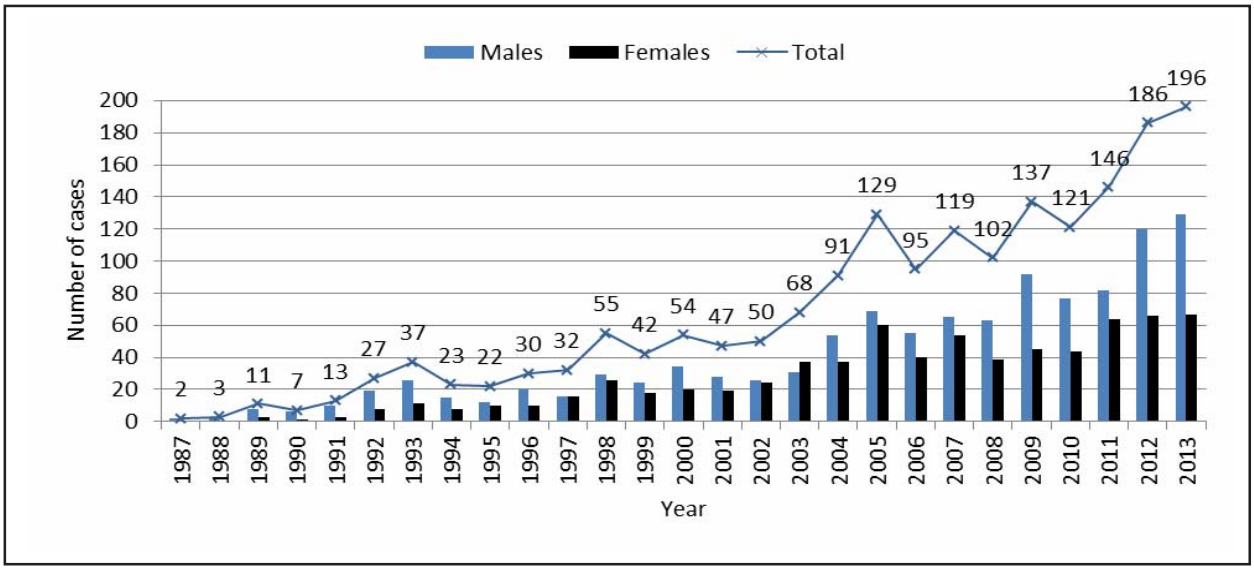
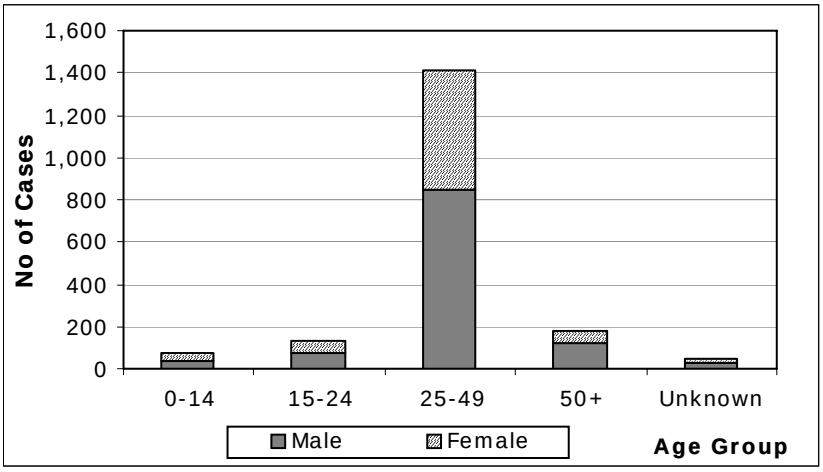


Fig 5.2.25 : Age and Sex of HIV Cases Reported during, 1987 – 2013



Percentages of the age and sex distribution of cumulative HIV cases is given in the following Table 5.2.19.

Table 5.2.19 : Age and Sex Distribution of Cumulative HIV Cases

Age(Yrs)	Male	Female	Total	%
0-14	42	29	71	3.84
15-24	76	52	128	6.93
25-49	850	566	1,416	76.74
50+	119	62	181	9.81
Unknown	28	21	49	2.65
Total	1,115	730	1,845	100

5.2.7.4 Provision of the Treatment, Care and Support for People Living with HIV (PLHIV)

There were a cumulative total of 1,236 patients ever enrolled in HIV care at the end of 2013. This amounts to 67% of the cumulative total PLHIV reported in Sri Lanka (1845). Since the beginning of the ART programme in 2004, 678 patients have started on ART. Of these, 519 (76%) were alive and on ART at the end of 2013.

Table 5.2.20, gives the number of PLHIV enrolled in the five main full time ART centres according to the pre-ART (not yet started on ART) and ART stage as of the end of 2013. Branch ART centre data are included in the Colombo ART centre. A majority (66%) of the PLHIV are managed in the Colombo main ART centre.

Out of the five hundred and nineteen (519) patients who were on ART at the end of the year 2013, a majority (406) remained in the original first line ART regimen. Eighty seven patients were substituted 1st line regimen at the end of year 2013. Thirty seven patients switched to the 2nd line regimen by the end of 2013. Four of the patients who were lost to follow-up were re-entered into HIV care during this follow-up period.

Table 5.2.20 : Number of PLHIV in Care as of end 2013

ART Centre	Pre ART stage		ART stage	
	Number	Percentage	Number	Percentage
Colombo and Rathnapura*	73	44.8	343	66.1
Kandy	9	5.5	28	5.4
IDH	9	5.5	64	12.3
Ragama	18	11	49	9.4
Kalubowila	6	3.7	11	2.1
Gampaha	12	7.4	3	0.6
Kalutara	5	3.1	3	0.6
Galle	15	9.2	10	1.9
Kurunegala	11	6.7	4	0.8
Anuradhapura and Polonnaruwa*	5	3.1	4	0.8
Total	163	100	519	100

* *A single ART return is compiled from both ART centres*

5.2.7.5 Prevention Programmes Conducted in 2013

Developing partnerships with the non-health sector is an important strategy of the National STD/AIDS Control Programme in planning and implementing programmes aimed at the prevention and control of STIs including HIV.

5.2.7.5.1 HIV Prevention among Prisoners - "A New Light for Life of Prison Inmates"

An island-wide life skills based education programme named "A New Light for Life of Prison Inmates" was implemented. Peers selected among prison inmates were trained to reach out to fellow prisoners through formal and informal sessions using a variety of communication materials. The peers have developed leadership qualities for prevention of HIV.

By the end of 2013, about 1,430 trained peer leaders were in island-wide prisons and they provided peer education to more than 14,300 inmates. Following these interventions, more than 8,693 prison inmates underwent voluntary HIV testing and counseling during 2013.

5.2.7.5.2 Police Sector HIV Prevention Programme

The National STD/AIDS Control Programme is carrying out skills building and awareness programmes for police officers with the aim to:

1. Improve knowledge and attitudes with regard to HIV/AIDS prevention among police officers.
2. Develop positive attitudes towards condoms as a medical device.
3. Improve harassment-free law enforcement practices for sex workers.

During 2013, training of trainers programmes were held using module based participatory training and a total of 255 male and female police officers from Police Training Colleges , Police Academies, Women and Child's Bureau (including North & East Provinces) were trained. A one day awareness meeting was carried out among thirty two Vice OIC's . Hand-books on "Laws concerning sex work in Sri Lanka and HIV/AIDS prevention" were distributed among all island wide police stations.

General of Police instructed the conduction of HIV prevention programmes among island-wide police stations and training schools to commemorate the World AIDS Day, 2013.

5.2.7.5.3 HIV Prevention Programmes for Armed Forces

A total of 250 trainers from the health services of the armed forces were trained using a sexual & reproductive health module with the support of the Family Planning Association of Sri Lanka to carry out HIV prevention programmes.

5.2.7.5.4 HIV Prevention Programme for Road Construction Sectors

National STD/AIDS Control Programme involved to empowerment of road sector management staff and workers who involved in construction of A002 Road (From Malliban Junction to Nulluruwa Junction of Galle Road) and A003 Road.

5.2.7.5.5 Other Preventive Programmes

Several programmes were carried out in collaboration with the Business Coalition in several private companies which helped to provide awareness of HIV/AIDS. In addition to these, many programmes were carried out in schools in order to provide knowledge to school children on the prevention of HIV.

5.2.7.6 Development of a New Website for NSACP

During 2013, the National STD/AIDS Control Programme developed a new trilingual website as the existing website was subjected to a hacking attack. The World Health Organization provided financial assistance to the Strategic Information Management (SIM) Unit of NSACP to develop this new website. This new website is built according to the specifications given by the Information and Communication Technology Agency of Sri Lanka (ICTA) and equipped with updated data and public information in all three languages of Sri Lanka: Sinhalese, Tamil and English. Dissemination of data via NSACP website through **www.aidscontrol.gov.lk** and preparation of reports were done. Public could seek specific information by emailing on site **info@aidscontrol.gov.lk**.

5.2.7.7 Publication of the Annual Report of NSACP for 2013

An Annual Report for NSACP was published for the year 2013. A softcopy of the publication can be downloaded from the following link.

http://www.aidscontrol.gov.lk/web/images/pdf/Annual%20Report-2013.pdf

5.2.8 National Cancer Control Programme (NCCP)

5.2.8.1 Background Information

National Cancer Control Programme (NCCP) established in 1980 is the national focal point for prevention and control of cancers in the country. It is also responsible for policy, advocacy, monitoring and evaluation of prevention and control of cancers and conducting surveillance of cancers and facilitating research related to cancer.

NCCP coordinates with all cancer treatment centres, national level institutes (Eg. Family Health Bureau) and provincial health ministries to implement cancer control activities in Sri Lanka.

NCCP activities are conducted mainly using the government funds and are also supported by the World Health Organization (WHO), International Atomic Energy Authority (IAEA) and Programme of Action for Cancer Therapy (PACT) for improving facilities for cancer care and capacity building.

5.2.8.2 Vision

'A country with a low incidence of preventable cancers and high survival rates with good quality of life and minimal disabilities & suffering from effects of cancers'

5.2.8.3 Mission

'To reduce the incidence of cancers by controlling and combating determinants of cancers, ensuring early detection and providing a holistic and accessible continuum of cancer care which address curative treatment options to end of life care through an evidence-based approach'

5.2.8.4 Objectives

1. Ensure primary prevention of cancers by addressing risk factors and determinants by improved public awareness and empowerment.
2. Advocate for early detection of cancers by improved public awareness and relevant service providers, particularly primary care providers, through opportunistic screening of asymptomatic populations and, if clinically suspicious, ensure prompt referral of individuals with symptoms and signs suggestive of cancer in symptomatic populations leading to early clinical diagnosis.
3. Ensure sustained and equitable access to diagnosis and treatment facilities for cancers.
4. Ensure rehabilitation, survivorship and palliative care facilities for cancer patients and support to their care givers at all levels.
5. Strengthen cancer information systems and surveillance to monitor the progress and to evaluate the outcomes of cancer control actions.
6. Promote professional education of doctors, nurses, technicians and health workers to augment trained human resources.
7. Promote research and utilization of its findings for prevention and control of cancers.

5.2.8.5 Targets for Oral Cancer to be Achieved by 2020

- To reduce oral cancer incidence by 15% by the year 2020 from the 2006 Age Standardised Rate of 9.7
- To reduce oral cancer detected at stages III and IV by 30% from the current level of 70% by 2020

5.2.8.6 National Policy & Strategic Framework on Prevention & Control of Cancers, Sri Lanka

Public comments were obtained and incorporated to the draft 'Policy on Prevention & Control of Cancers' prepared through the process of multi stakeholder consultation. The draft policy was used as the main guiding document in further strengthening, prevention & control of cancers in Sri Lanka.

5.2.8.7 National Advisory Committee on Prevention & Control of Cancers

National Advisory Committee on Prevention & Control of Cancers chaired by the Secretary of Health, accountable to the Minister of Health, functions as the main statutory body on implementation of the National Policy on Prevention and Control of Cancers in Sri Lanka. National Cancer Control Programme acts as the secretariat for this advisory committee.

5.2.8.8 Cancer Prevention & Control Activities at Provincial Level

The provincial ministries of health function as the provincial focal point to implement cancer control activities.

In each district, with the leadership of RDHS, district cancer control committees are being established in parallel to the district NCD committee with the participation of MO/NCD, MO/MCH, RE, RDS, MOOH Consultants in curative & preventive sector, etc. District level cancer control activities are planned, implemented and evaluated by this committee.

5.2.8.9 Major Achievements for Year 2013

Main activities of National Cancer Control Programme

5.2.8.9.1 Primary Prevention

- Introduction of an alternate 'Dehath Wattiya' without carcinogens such as tobacco, arecanut and lime to religious leaders to control oral cancer
- Eight public awareness activities related to prevention & control of cancers.
- Upgrading the mobile exhibition unit by purchasing 10 light boxes and 10 flex banners
- A social marketing campaign to promote healthy life styles for the prevention of oral cancer - Radio spots and TV discussions
- Printing & distribution of 500,000 leaflets on cancer prevention, early detection, breast cancer early detection, oral cancer prevention and early detection and cervical cancer prevention and early detection in Sinhala and Tamil
- Printing & distribution of a manual on oral cancer prevention and early detection (in Sinhala & Tamil languages) for primary health care workers
- Five advocacy programmes for religious leaders on oral cancer prevention and early detection
- Five training programmes on cancer prevention and early detection for school teacher trainees
- Twelve training programmes on cancer prevention and early detection for school health club leaders
- Eight training programmes on cancer control and early detection for estate health staff in all plantation clusters
- Initiation of a hotline for providing information on cancer prevention

5.2.8.9.2 Strengthening Early Detection of Cancers

- Daily cancer screening clinics held at the National Cancer Early Detection Centre, Narahenpita - No. screened 2,693
- Screening of 3,864 apparently healthy people for cancer at mobile screening clinics conducted by cancer control programme
- Commemoration of the 'World Cancer Day' and the 'World Breast Cancer Awareness Month'
- Training manikins on breast examination - 9 purchased and distributed among nine provinces.
- 'Training of Trainer' programmes - 8 were conducted.
- Following publications on cancer early detection were developed, printed and distributed

Type of publication	Target group	No. printed and distributed
Guideline on breast cancer early detection	Primary health care physicians	14,000
Hand books on breast cancer early detection	Primary health care worker	20,000
Booklet on breast cancer early detection	General public	100,000
Posters on breast cancer early detection	General public	50,000
Poster on "Oral cancer early detection"	General public	50,000

5.2.8.9.3 Diagnosis & Treatment of Cancers

- Coloposcopy sessions were conducted at Cancer Early Detection Centre, Narahenpita
- Consultant Oncologists & Consultant Oncosurgeons were actively involved in conducting district level training of trainer programmes which were conducted nationally & regionally

5.2.8.9.4 Rehabilitation, Survivorship & Palliative Care

- Advocacy programmes to commemorate the 'International Cancer Survivors Day' and the 'International Palliative Care Day'
- Fellowships - Two consultants were trained at the WHO Collaborative Centre for Community Participation in Palliative Care & Long-term Care, Calicut, India
- Post Graduate Diploma on Palliative Care for Medical Officers
- In the process of developing the curriculum
- Certificate Courses on Palliative Care for Medical Officers – 2 courses organized by the College of General Practitioners of Sri Lanka which were conducted by the Institute of Palliative Care, WHO Collaborating Centre for Palliative Care & Long Term Care, Kerala, India - 125 medical officers
- Fellowships on community based palliative care – 4 medical officers and six nursing officers followed the 6 weeks Certificate Course on Palliative care at Trivandrum Institute of Palliative Sciences (TIPS), WHO Collaborating Centre for Training & Policy on Access to Pain Relief, Trivandrum, India.
- Master Trainer Programme on Palliative Care- 6-week course

  The first module of master trainer programme was conducted- 50 trained

  Asia Pacific Hospice & Palliative Care Network (APHN), National Cancer Institute, Maharagama, National Cancer Control Programme & Lien Collaborative for Palliative Care
- Care giver empowerment was identified as a major step in strengthening palliative care in community level. An educational leaflet was developed in both Sinhalese and Tamil language.

5.2.8.9.5 Cancer Surveillance

- Cancer Registry for the year 2007 was published.
- Data collection of cancer incidence data up to 2010 was completed.
- Each Cancer Treatment Centre was provided one desktop computer to strengthen and expedite cancer surveillance activities at institutional level.
- Web based cancer surveillance was commenced.

5.2.8.9.6 Cancer Research

- First ever cancer research seminar was conducted on 10th December 2013 in collaboration with Sri Lanka Medical Association.

Table 5.2.21 : Incidence of Cancers in Sri Lanka

Year	No. of cases	Crude incidence rate per 100,000 population
1985	5,012	31.6
1990	6,063	35.7
1995	7,325	40.4
2000	10,925	56.4
2005	13,372	67.9
2006	14,080	70.9
2007	13,635	68
2008	16,511	81.6

Table 5.2.22 : No. of Newly Registered Patients at Government Cancer Units

Cancer Treatment Centre	2009	2010	2011	2012	2013
NCI, Maharagama	11,756	11,513	12,403	12,550	12,689
TH, Kandy	3,634	4,046	5,042	3,717	3,516
TH, Karapitiya	1,866	1,793	2,193	2,158	2,455
TH, Jaffna	479	659	1,055	1,048	1,061
TH, Anuradhapura	551	641	698	803	850
PGH, Badulla	794	858	1,430	2,152	2,203
TH, Baticaloa	169	565	727	1,094	932
TH, Kurunegala	804	806	1,174	1,122	1,042
PGH, Ratnapura	485	636	735	808	767
Total*	20,538	21,517	25,457	25,452	25,515

* May include duplicate entries in the same year or previous years

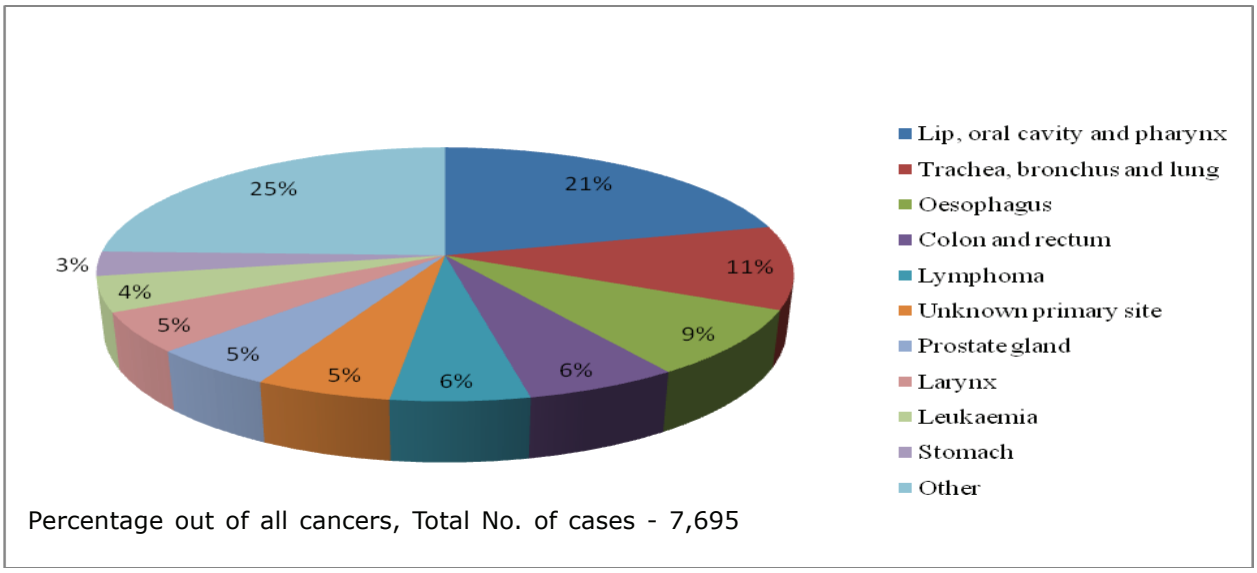
Table 5.2.23 : Leading Cancer Sites, Males

Site	Year							
	2005		2006		2007		2008	
	No.	(ASR)	No.	(ASR)	No.	(ASR)	No.	(ASR)
Lip, oral cavity and pharynx	1,240	(14.1)	1,427	(16.0)	1,415	(15.7)	1630	(16.2)
Trachea, bronchus and lungs	666	(7.7)	691	(7.9)	723	(8.3)	814	(8.1)
Oesophagus	498	(5.8)	486	(5.7)	530	(5.9)	664	(6.6)
Colon and rectum	388	(4.4)	371	(4.2)	409	(4.5)	477	(4.7)
Lymphoma	360	(3.9)	369	(3.9)	363	(3.8)	434	(4.3)
Larynx	324	(3.7)	341	(3.9)	343	(3.9)	393	(3.9)
Leukaemia	313	(3.3)	329	(3.8)	332	(3.6)	344	(3.4)
Prostate gland	303	(3.5)	321	(3.8)	305	(3.6)	396	(3.9)
Unknown primary site	257	(2.9)	303	(3.3)	326	(3.8)	423	(4.2)
Brain	171	(1.8)						
Hematopoietic and reticulo-endothelial system other than leukaemia			196	(2.3)				
Stomach					224	(2.5)	239	(2.4)

Table 5.2.24 : Leading Cancer Sites, Females

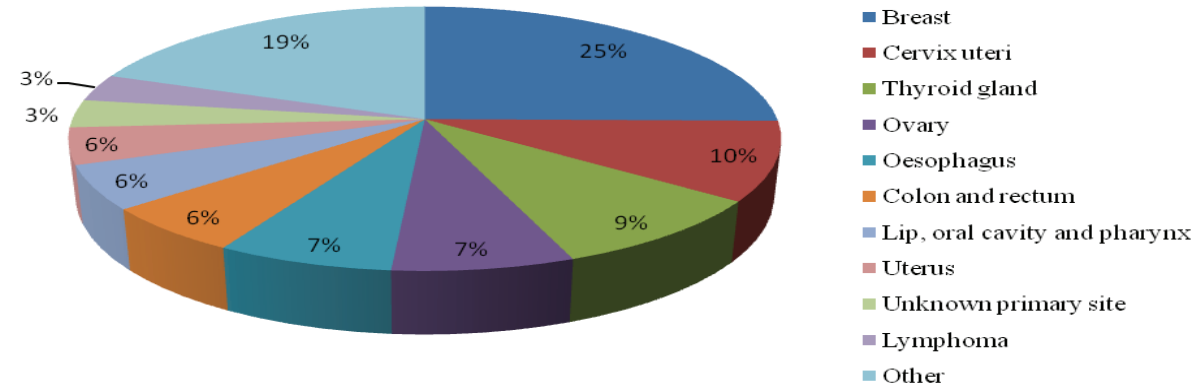
Site	Year							
	2005		2006		2007		2008	
	No.	(ASR)	No.	(ASR)	No.	(ASR)	No.	(ASR)
Breast	1,859	(18.3)	2,102	(20.6)	1,914	(18.8)	2,220	(21.8)
Cervix	881	(8.9)	934	(9.6)	732	(7.4)	858	(8.4)
Thyroid	592	(5.6)	683	(6.4)	656	(6.1)	815	(8.0)
Ovary	596	(5.9)	672	(6.7)	529	(5.3)	637	(6.3)
Oesophagus	524	(5.5)	610	(6.4)	534	(5.6)	617	(6.1)
Lip, oral cavity and pharynx	377	(3.8)	390	(4.0)	398	(4.0)	477	(4.7)
Colon and rectum	353	(3.6)	372	(3.8)	405	(4.1)	508	(5.0)
Uterus	237	(2.4)	268	(2.8)	263	(2.7)	397	(3.9)
Leukaemia	257	(2.8)	257	(2.8)	275	(2.9)		
Lymphoma	243	(2.5)	251	(2.5)	257	(2.6)	288	(2.8)
Unknown primary site							296	(2.9)

Fig 5.2.26 : Leading Cancer Sites among Males- 2008



Percentage out of all cancers, Total No. of cases - 7,695

Fig 5.2.27 : Leading Cancer Sites among Females- 2008



Percentage out of all cancers, Total No. of cases - 8,816

Fig 5.2.28 : Leading Cancer Sites among Males, 2001-2008

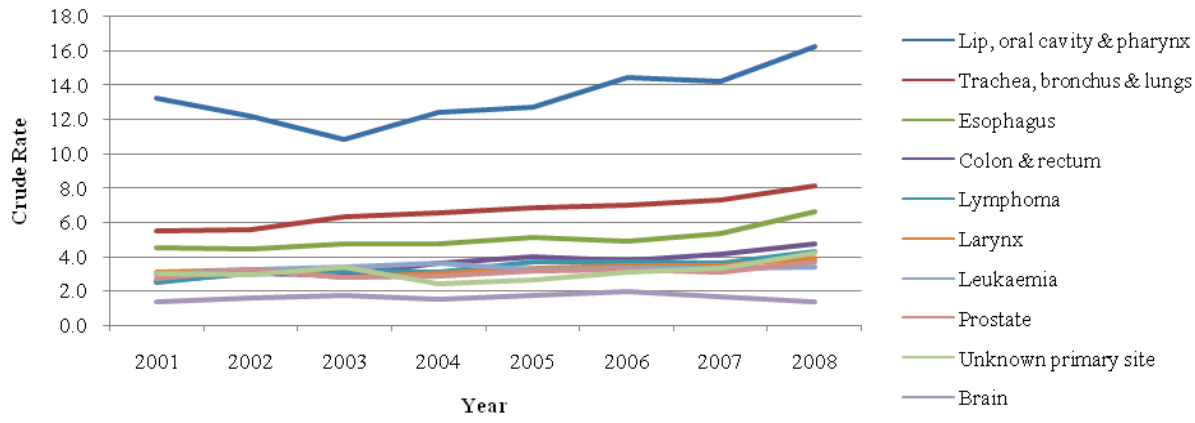
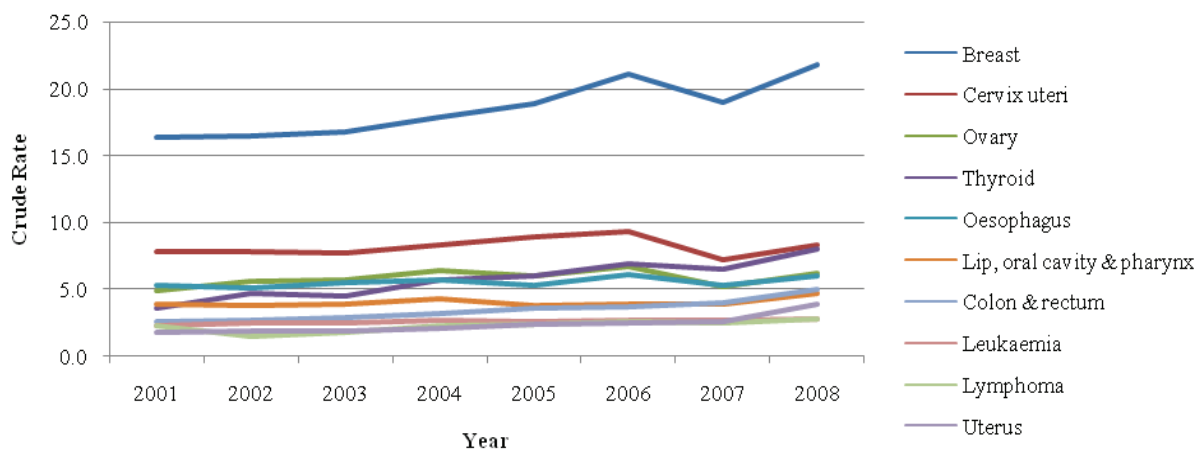


Fig 5.2.29 : Leading Cancer Sites among Females, 2001-2008



5.2.9 National Non Communicable Disease (NCD) Prevention and Control Programme

NCD prevention and control activities in Sri Lanka are implemented through the National NCD Prevention and Control Unit of the Ministry of Health which is a decentralized unit headed by the Director (NCD). This deals with both acute and chronic NCDs. The programme functions under the DDG (MSI). The Unit coordinates and implements its activities through the provincial and regional health authorities while the chronic NCD activities are evaluated and assisted by the National NCD Steering Committee and the National Advisory Body for Non Communicable Diseases and relevant working groups. The acute NCD activities are evaluated and coordinated through National Committee of Injury Prevention and relevant working groups.

The NCD prevention and control activities in par with National Policy for NCD prevention and control are delivered through the district level medical Officers designated as medical officer of NCD (MO/NCD) under the administrative purview of the Regional Director of Health Services. There are 27 district MOO (NCD) in the country and in some curative care institutions a medical officer is designated as MO/NCD to carry out prevention and control activities in the relevant institutions.

The programme is funded mainly by the government of Sri Lanka for implementation of control strategies. WHO also provides technical and some financial assistance.

5.2.9.1 Burden of Non Communicable Diseases

The burden of Non-Communicable Diseases (NCDs) has been on the rise in the past two decades in Sri Lanka and at present NCDs are the leading cause of mortality, morbidity and disability. Government hospital statistics indicates 71% of all annual deaths in Sri Lanka are due to chronic NCDs. Cardiovascular diseases, diabetes, cancers and chronic respiratory diseases are now the leading causes of mortality, morbidity and disability accounted for 29.6%, 9.4%, 3.9% and 8.5% respectively.

The major categories of unintentional injuries include road traffic injuries, home and childhood injuries, poisoning, drowning, burns, falls and sports related and occupational injuries. These are addressed in par with primary, secondary and tertiary injury prevention strategies in liaison with the key stake holders such as national poison and drug information centre and the trauma secretariat, etc.

5.2.9.2 Objectives and Key Strategies of Chronic NCD Prevention and Control Programme

The objective of the chronic NCD prevention programme is to reduce premature mortality (less than 65 years) due to chronic NCDs by 2% annually over the next 10 years through expansion of evidence-based curative services, and individual and community-wide health promotion measures for reduction of risk factors.

Key strategies are to,

- Support prevention of chronic NCDs by strengthening policy, regulatory and service delivery measures for reducing level of risk factors of NCDs in the population
- Implement a cost-effective NCD screening program at community level with special emphasis on cardiovascular diseases
- Facilitate provision of optimal NCD care by strengthening the health system to provide integrated and appropriate curative, preventive, rehabilitative and palliative services at each service level
- Empower the community for promotion of healthy lifestyle for NCD prevention and control
- Enhance human resource development to facilitate NCD prevention and care
- Strengthen national health information system including disease and risk factor surveillance
- Promote research and utilization of its findings for prevention and control of NCDs
- Ensure sustainable financing mechanisms that support cost-effective health interventions at both preventive and curative sectors

- Raise priority and integrate prevention and control of NCDs into policies across all government ministries, and private sector organizations

5.2.9.3 Objectives and Key Strategies of Acute NCD Prevention and Control Programme

According to the draft national policy and strategic framework on injury prevention and management in Sri Lanka the objective of the acute NCD prevention and control programme are Reduction of injury morbidity (due to traumatic injury, poisoning and burns) from its present level by 25% during the period 2010 - 2019 and reduction of mortality rates for the same conditions from its present level by 30% at the end of the same period.

The key strategies are to,

1. Strengthen coordinated action for injury prevention
2. Raise awareness among general public on prevention of injuries
3. Maintain and recommend legislative and regulatory mechanisms supporting injury prevention
4. Empower community and stake holders to design and develop safe environments
5. Strengthen the organization capacity to improve pre-hospital and institutional care for emergency care and rehabilitation
6. Strengthen the injury information system and promote research

5.2.9.4 Targets Identified for Sri Lanka According to the Action Plan for Prevention and Control of NCDs in the South-East Asia Region (2013–2020)

1. 25% relative reduction in overall mortality from cardiovascular diseases, cancers, diabetes and chronic respiratory diseases
2. 10% relative reduction in the harmful use of alcohol
3. 30% relative reduction in prevalence of current tobacco use in persons aged over 15 years
4. 10% relative reduction in prevalence of insufficient physical activity
5. 30% relative reduction in mean population intake of salt/sodium
6. 25% relative reduction in prevalence of raised blood pressure
7. Halt the rise in obesity and diabetes
8. 50% relative reduction in the proportion of households using solid fuels (wood, crop residue, dried dung, coal and charcoal) as the primary source of cooking
9. 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes
10. 80% availability of affordable basic technologies and essential medicines, including generics, required to treat major NCDs in both public and private facilities

5.2.9.5 Landmark Events of NCD Prevention and Control Programme

1. Sri Lanka is the fifth country in the region to sign the Framework Convention for Tobacco Control (FCTC) in September 2003 and first country in the region to ratify in November 2003.
2. Establishment of Healthy Lifestyle Centers (HLCs) in each primary health care institution in 2011 for screening people between 40-65 years for prevention of premature cardiovascular mortality and NCDs.
3. Declaration of year 2013 as NCD prevention year by Honarable Minister of Health.
4. Ministry of Health and Ministry of Youth Affairs and Skills Development and National Youth Council signed a Memorandum of Understanding (MOU) for mobilizing youth for NCD prevention in February 2012.
5. Declaration of year 2014 as the year of no tobacco and alcohol.
6. Planning to conduct 2nd Non Communicable Disease Risk Factor Survey (STEPS) – Sri Lanka in 2013 - 2014
7. Non NCD prone recipe for alms giving for bhikkus

5.2.9.6 Indicators for NCD Screening Programme

The need to implement a cost effective strategy for prevention and control of NCD through, National NCD screening program at community level and to empower the communities for adoption of healthy lifestyles indicated in the NCD policy. Indicators identified for evaluation of screening programme are shown below in Table 5.2.25.

297, 581 and 668 Healthy Lifestyle Centres (HLCs) established in 2011, 2012 and 2013 respectively. Distribution of HLCs by districts is shown in Table 5.2.27.

Table 5.2.26 : Distribution of HLCs by MOH Area

Number of MOH areas in Sri Lanka	334
Number of functioning HLCs	680
Number of MOH areas with one HLC	110
Number of MOH area with two or more HLCs	205

Table 5.2.25 : Indicators for Screening Programme

No.	Indicator	Baseline 2012/2013	Cumulative target values				
			2013	2014	2015	2016	2017
1	Percentage of persons 40 - 65 years age group screened for selected non-communicable diseases in Healthy Lifestyle Centers	3	4	6	8	10	12
2	Percentage of the Medical Officer of Health areas conduct at least two Healthy Lifestyle Centers	10	10	25	50	70	90

Table 5.2.27 : Distribution of Functioning HLCs by RDHS Area - 2013

RDHS Area	No. of MOH Area	Number of functioning HLCs (Hospital & Field)	NO. of MOH area with one HLC	NO. of MOH area with two or more HLCs
Ampara	7	17	2	5
Anuradhapura	19	12	12	16
Badulla	16	47	2	13
Batticaloa	14	9	7	1
Colombo	12	8	8	3
Galle	19	39	18	2
Gampaha	16	19	9	6
Hambantota	12	4	5	1
Jaffna	12	52	0	12
Kalmunai	13	40	0	13
Kalutara	11	15	6	5
Kandy	23	16	13	1
Kegalle	11	47	0	11
Kilinochchi	4	4	2	1
Kurunegala	27	122	27	27
Mannar	5	9	2	3
Matale	13	13	11	1
Matara	17	17	6	5
Monaragala	11	37	2	8
Mullaitivu	5	0	0	0
NIHS	2	6	0	1
Nuwara Eliya	13	14	4	6
Polonnaruwa	7	30	0	7
Puttalam	12	39	0	12
Rathnapura	18	42	1	6
Trincomalee	11	15	5	6
Vavunia	4	8	0	4
TOTAL	334	681	142	176
			41.92%	48.80%

5.2.9.7 Human Resource Development

1. Overseas training of consultant community physicians and MOO (NCD) on NCD management, STEP surveillance, violence & injury prevention
2. Training of MOO (NCD), MOO(Mental Health), MOO, RMOO on NCD related nutrition, tobacco and alcohol prevention
3. Training of MOO (NCD) on accident prevention
4. Visiting physicians in the districts, MOO & RMOO on management protocol for NCD in collaboration with Ceylon College of Physicians
5. District youth training programmes on NCD risk factor reduction
6. Empowering the community on injury prevention and first aid

Table 5.2.28 : Distribution of Risk Factors among Screened Population 2013

RDHS Area	Total Screened	No. of Smokers Detected		No. of Tobacco Chewers Deteced		No. of Alcoholics		No. of BMI 25 - 29.9		No. of BMI > 30		No. with BP >= 140/90mmHg		No. with Blood Glucose >= 126mg/dl		No. with CVD 20-30		No. with CVD > 30	
		M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Ampara	332	32	-	35	18	60	-	41	54	7	19	22	56	22	14	2	-	1	-
Anuradhapura	713	66	-	90	38	62	-	54	177	8	54	77	173	20	36	2	11	2	-
Badulla	2,106	144	1	167	207	165	9	107	444	16	111	102	289	59	132	17	81	10	25
Batticaloa	1,640	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Colombo	1,119	82	-	113	56	138	3	48	201	16	102	88	126	50	126	NA	NA	NA	NA
Galle	1,309	67	-	90	56	91	-	91	365	10	95	214	590	46	146	7	17	2	1
Gampaha	6,229	114	-	127	332	103	22	205	1,136	67	378	203	980	73	416	6	12	10	7
Hambantota	958	45	-	62	-	54	-	36	58	4	22	16	52	13	23	NA	NA	NA	NA
Jaffna	4,090	217	24	165	166	243	8	367	710	100	170	188	175	204	205	17	16	-	-
Kalutara	2,635	112	-	141	153	184	5	118	694	24	163	277	1,191	83	280	3	3	1	3
Kalmunai	1,808	166	7	110	250	176	2	177	369	69	155	63	91	138	223	4	6	2	2
Kandy	2,795	322	3	408	169	296	4	231	421	54	162	191	254	154	201	25	7	12	10
Kegalle	35,987	1,550	37	2,603	1,718	1,484	41	1,615	6,382	322	1,775	5,700	17,601	1,037	2,632	35	77	1	10
Kilinochchi	1,010	57	-	55	81	76	-	86	150	23	39	56	74	40	44	2	-	-	-
Kurunegala	36,919	881	6	1,569	1,836	1,092	30	1,344	7,318	257	1,424	2,523	10,120	722	2,517	91	222	43	106
Mannar	1,112	139	5	46	65	65	2	336	221	36	150	172	189	49	79	6	22	-	6
Matale	1,280	81	-	103	10	38	-	176	345	1	20	22	52	7	21	1	-	-	-
Matara	2,196	44	-	117	78	73	-	129	360	23	90	193	558	530	529	2	19	2	8
Monaragala	4,108	198	6	284	410	274	-	155	623	42	194	227	572	79	197	-	1	-	3
Mullaitivu	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Nuwara Eliya	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA	NA
Polonnaruwa	2,337	35	-	77	111	64	-	31	133	6	77	25	124	24	75	5	2	-	-
Puttalam	11,713	574	15	829	782	648	35	878	3,032	275	984	1,487	3,752	411	897	29	44	29	61
Rathnapura	3,855	400	1	695	607	643	1	394	1,499	42	363	656	1,973	152	401	23	41	12	7
Trincomalee	2,263	53	-	80	21	28	-	17	29	12	24	44	20	214	176	8	-	-	-
Vavunia	972	161	4	149	135	117	2	56	89	16	35	129	161	87	86	3	20	5	3
NIHS	1,174	36	-	24	55	46	1	34	294	7	143	42	250	42	215	1	7	-	7
Total	130,660	5,576	109	8,139	7,354	6,220	165	6,726	25,104	1,437	6,749	12,717	39,423	4,256	9,671	289	608	132	259

5.2.10 National Mental Health Programme

Mental health implies more than simply absence from mental illness. It is defined as a state of wellbeing in which the individual realizes his or her own abilities, can cope with the normal stresses of life, and contribute to his or her community. Determinants of the mental disorders are multidisciplinary, and include not only individual attributes such as the ability to manage one's thoughts, emotions, behaviours and interactions with others, but also social, cultural, economic, political and environmental factors such as national policies, social protection, living standards, working conditions, and community social supports.

Mental health policy (2005-2015) of the Ministry of Health was gazetted in year 2005 with the vision of establishing a comprehensive community based mental health services to promote mental wellbeing,prevent mental disorders, provide care, enhance recovery, promote human rights and reduce the mortality, morbidity and disability for persons with mental disorders.

In year 2001 Ministry of Health established the Directorate of Mental Health which is the focal point for mental health, responsible for strategic planning; policy development; assess the mental health needs of the country with collaboration of other relevant sectors; infrastructure and human resource development; monitoring and evaluation of national mental health program at district level.

Major strategies of National Mental Health Program:

- Promotion of mental wellbeing
- Standard patient care
- Prevention of suicide
- Reduce alcohol related harm and substance abuse
- Prevention of violence
- Develop infrastructure and human resource
- Review mental health program and maintain mental health information system

5.2.10.1 Infrastructure Facilities

5.2.10.1.1 National Institute of Mental Health

National Institute of Mental Health formerly known as Mental Hospital, Angoda provides specialized mental health care with inpatient care, outpatient care and rehabilitation services. The hospital is equipped with 1,500 beds available in 8 units (4-Male, 4-Female). There are 120 beds for long term male patients. The female long term care is provided by the Mulleriyawa unit.

It also serves as a training center of excellence for all categories of psychiatric health service providers, including medical students, medical officers (MO-Mental Health, MO-Psychiatry, MD-Psychiatry), nursing officers, occupational therapists and psychiatric social workers.

5.2.10.1.2 Acute Psychiatric Inpatient Care Units

There are 22 Psychiatric In-Patient Units at the end of year 2012. This includes National Hospital (Colombo), Colombo South (Kalubowila), Lady Ridgeway Hospital –for children (Borella), Colombo North (Ragama), Teaching/General Hospitals in Kalutara, Galle, Badulla, Kandy, Peradeniya, Kurunegala, Trincomalee, Batticaloa, Ampara, Kalmunai, Jaffna, Anuradhapura, Vavuniya, Ratnapura, Nuwara-Eliya. In other General and Base hospitals where acute psychiatric units are not available, psychiatric patients are admitted to general medical units/ wards.

The total number of beds in year 2012 is 1453. It constitutes of 2 % of beds available in government hospitals. As an average, there were 27 psychiatric beds per 100,000 individuals. Distribution of psychiatric beds by RDHS Divisions is as follows (Excluding NIMH): Colombo (48), Gampaha (20), Kalutara (30), Galle (28), Badulla (34), Kandy (133), Batticaloa (35), Ampara (16), Kalmunai (12), Jaffna (50), Ratnapura (32) and Anuradhapura (24).

According to data received by the Medical Statistics Unit, of total discharges (45,380), majority (57.0%) were males (Annual Health Bulletin 2012)

5.2.10.1.3 Outpatient and Outreach Clinics

There were 78 outpatient clinic centers and 200 outreach clinics by 2008. It has been increased to 86 outpatient clinic centers and 250 outreach clinics by year 2012. Clinics are conducted by Consultant Psychiatrists, MO-Psychiatry and MO-Mental Health.

5.2.10.1.4 Community Mental Health Program

Follow up community care services are available to the clients with mental health problems by the Psychiatric Nurses, Community Support Officers (CSO) and Psychiatric Social Workers (PSW). There are 22 Community Support Centers attached to Medical Officer of Health (MOH) areas island wide to help the community when they have mental health problems. Five alcohol rehabilitation centers are functioning with inward detoxification facilities in DH Mawathagama (Kurunegala), DH Minuwangoda (Gampaha), DH Mampitiya (Kandy), BH Deniyaya (Matara) and DH Tellipalai (Jaffna). In addition, care giver societies (34) have been established to look after the patients in the community.

Day treatment facilities are available in all in-patient units in the government sector. Such facilities are also being provided by other organizations such as SAHANAYA and NEST. Day treatment facilities generally provide care for consumer groups. Patients stay at the facility either half a day or full day and engage in different activities to improve their basic life competencies.

Intermediate Care (Rehabilitation) Units provide services to individuals who do not require intensive medical interventions, but need further treatment and support to develop life competencies for them to live productively. By 2012, there were 22 such centers managed by the Ministry of Health. These are located at Uhumeeya (Kurunegala), Senerathpura (Ampara), Thelippalai & Point Pedro(Jaffna), Laliambe (Matale), Passara (Badulla), Delthota & Dematapitiya (Kandy), Ridiyagama (Hambantota), Mavadivembu (Batticaloa), Mihintale (Anuradhapura), etc.

5.2.10.2 Human Resources

To date there are 60 consultant psychiatrist are working in the country. The average number of psychiatrists is now 0.3 per 100,000 for the country. There are ninety Medical Officers/ Psychiatrists with the Diploma in Psychiatry also serving in the country in year 2012.

Medical officers who obtain appointments as Medical Officers in Mental Health undergo 3 month training in Psychiatry at NIMH appointed as MO-Mental Health. The average number of Medical Officers in Mental Health serving in the country is 150 and it is around 0.8 per 100,000 population.

At district level, a Medical Officer/Mental Health (focal point) has been appointed to Regional Director of Health Service offices to coordinate all Mental Health Services within the district. There are 16 appointed focal points working by 2012, and the other districts focal point duties are covered up by a medical officer in Mental Health attached to a hospital within the district.

There are no clinical psychologists are employed at government health system yet. Nine clinical psychologists are attached to the universities, with 4 of them being attached to medical faculties. However, carder of 24 psychologists has been approved for the government hospitals and will be recruited in 2013.

There are 41 psychiatric nursing officers who have undergone six month psychiatric training are working in general and base hospitals. Thirty five designated Psychiatric Social Workers (PSW) including 32 developmental assistants who were trained at NIMH are serving at NIMH (7), Community Based In-Patient Psychiatric Units and Rehabilitation Centers provide community based mental health services throughout the country. However, additional carder of 56 PSW has been approved for the government hospitals will be recruited in 2013. Furthermore, there are 30 Occupational Therapists (OT) serving at various hospitals in the country.

5.2.10.3 Mental Disorders

According to the ICD-10 classification, in 2012 of all discharges with a psychiatric illness in all hospitals in Sri Lanka including the NIMH, majority of mental health service users (16.9%) were diagnosed as having some type of a psychotic illness (Schizophrenia and Schizotypal and delusional disorders). The next major illness among males was mental and behavioral disorders due alcohol consumption (13.6%) and among females mood disorders (23.9%) are common.

According to year 2012 monthly returns from outreach clinics, leading conditions among clinic attendees were: 1. Depression (27.15%) 2. Deliberate Self Harm (15.23%) 3. Chronic Psychiatric Disorders (8.59%) 4. Alcohol Dependent Disorders (5.18%) and 5. Bipolar Affective Disorders (4.95%).

5.2.10.4 Activities

5.2.10.4.1 Mental Health Act - Revised

The philosophy of the act is to protect the patients' rights as far as possible while ensuring public safety. Whlist most mental health care continue to take place outside the hospital wards, for those who have to be admitted, often involuntarily, safeguards are to be given to preserve their human rights. From 2007 onwards revisions to the draft Mental Health Act have been made by a multisectoral working group comprising of medical, legal and other experts with WHO advisers. From 2010 further series of stakeholder and consultative meetings were held to draft the new Mental Health Act and final draft is available for cabinet approval.

5.2.10.4.2 National Alcohol Policy

The use of alcohol has a serious effect on public health and is considered to be one of the main risk factors for poor health globally. The concept of the harmful use of alcohol is broad and encompasses the drinking that causes detrimental health, economic and social consequences for the drinker, the people around the drinker and society at large. Hence, the objective of the policy is to prevent and reduce the use of alcohol. Draft of the National Alcohol Policy is available to be finalized.

5.2.10.4.3 Capacity Building [Training]

1. Trained Medical Officers/Mental Health (focal point) on mental health promotion and management.
2. Trained MOOH and AMO/RMOs on mental health promotion, common mental health problems, child mental health, alcohol related problems and prevention of suicides.
3. Trained prison officers on mental health promotion.

5.2.10.4.4 National Programs

- Observed World Mental Health Day to make aware general public on depression. Depression is a global crisis which will be the number one disease burden in year 2020 in the world.
- Conducted national conference on mental health to appreciate the innovative mental health interventions conducted by the district level officials towards improving mental health of the children in year 2012.
- Conducted media seminar on world suicide prevention day (September 10th) to highlight the importance of responsible media coverage on suicide.

5.2.10.4.5 National Alcohol Prevalence Survey in 2012

Directorate of Mental Health conducts national alcohol prevalence survey every three years. According to the 2007 survey results prevalence of alcohol consumption is 26.1% among males and 1.2% among females. Results of the survey conducted in 2012 will be published.

5.2.10.4.6 Monitoring and Evaluation of Mental Health Activities at District Level

Quarterly district review meetings were conducted in every district to assess the progress of achieving the seven objectives of the national mental health program. Following the situational analysis of these districts, an action plan was developed by the district teams established under the administrative leadership of the RDHS. The Mental Health Directorate supports the team activities which are designed collaboratively.

Table 5.2.29 Reasons for Suicides

Reasons	Male	Female	Total
Economic problems (Proverty, Indebteness)	206	35	241
Employment problems	54	5	59
Problems caused with the elders	79	46	125
Harrasement by the partner & family disputes	648	248	896
Dissapoinment/frustation caused through love affairs	191	164	355
Subjection to sexual harrasement/rape	3	3	6
Addiction to narootic drugs	217	-	217
Aggrived over the death of parents/relations	58	21	79
Loss of property	14	1	15
Failure at the examination	2	6	8
Ill-treated by the children	18	5	23
Sexual incapacity	4	-	4
Mental disordeders	205	93	298
Chronic diseases and physical disabilities	456	128	584
Other reasons	759	195	954
Total	2,914	950	3,864

5.3 Medical Supplies and Logistics

The Medical Supplies Division (MSD) of Ministry of Health is the central organization responsible to supply all pharmaceuticals, surgical items, laboratory items, radioactive items and printed forms for the government sector healthcare institutions island-wide. In addition, MSD is the sole supplier of dangerous drugs (narcotics) to all hospitals in the country including the private sector. In this context, the main functions of MSD are estimating, indenting, procuring, storing, monitoring, distributing and accounting of medical supplies. The national requirement of medical items are procured mainly through the State Pharmaceutical Corporation (SPC) which is the procurement agency for MSD. In addition MSD has its own purchasing unit for emergency local purchase of selected items and procurement of locally manufactured pharmaceuticals in the private sector.

MSD is the central organization where the medical supplies are stored until they are being distributed among government healthcare institutions. It has a network of stores comprising of a central medical stores in Colombo (MSD) and 26 Regional stores at the district level (RMSD). The central medical stores consist of 18 bulk warehouses at the main building, 3 bulk warehouses at Angoda, 5 bulk warehouses at Wellawatha, one warehouse at Digana and one warehouse at Welisara.

These Medical items are distributed directly to line ministry institutions by the MSD and to institutions under the provincial administration through Regional Medical Supplies Division (RMSD) based on their annual estimates or on their requests. In addition, donations received from donor agencies such as WHO/UNICEF, etc. are cleared by the wharf branch of MSD and stored and distributed.

5.3.1 Major Achievements

- Medical Supplies Management Information System linking MSD to all Line Ministry institutions and RMSDD which will enable efficient and effective monitoring mechanism for medical supplies has been established to replace the existing system which will be fully functional during the year 2015.
- Hospital formulary list was revised to delete obsolete items and include new requirement by formulary revision committees consisting of panels of experts. As a result total number of items was brought down to 12,500 from 26,000. This activity was important to prevent wastage of government funds.
- A major achievement in 2013 was the procurement of locally manufactured pharmaceuticals by the Ministry of Health in par with 'Mahinda Chintana Vision for the Future' with the objective of providing high quality pharmaceuticals to the patients while promoting the local pharmaceutical manufacturing industry which in turn will reduce expenditure of foreign exchange while providing job opportunities. Sixteen (16) pharmaceutical items were procured at prices decided by a ministerial pricing committee on five year buy back guarantee in 2013.
- Awareness programmes were conducted in 22 districts to improve medical supplies management in the year 2013.
- Weekly review meetings have been regularized with the representation of State Pharmaceutical Cooperation and Ministry of Health to minimize out of stock situation.
- A plan of action is being implemented to dispose quality failed medical supplies accumulated at medical institutions and RMSDD occupying valuable storage space, in collaboration with SPC at district level and this activity was completed in Kalutara, Matara, Galle and Hambantota districts in year 2013.

- Work has been initiated on the new administrative block on the roof top of MSD main building and first stage of the construction has been completed in the year 2013.
- Development and modification of the cold store facilities in the central medical stores with digital temperature control and monitoring system has been completed, which will ensure continuous 24 hours monitoring of cold chain maintenance in a more reliable and safe manner.
- Workshops were organized at district level to strengthen Drug and Therapeutic Committees in Line Ministry institutions and RDHS levels.
- Action has been initiated to air condition the main pharmaceutical stores complex of MSD. All plan and documentation relevant to procurement activity has been completed.

5.4 Laboratory and Biomedical Services

5.4.1 Laboratory Services

5.4.1.1 Directorate of Laboratary Services, 2013

Directorate of laboratory services is responsible for establishment and enactment of essential and relevant legislation and also for providing technical and managerial guidelines for maintenance of laboratories in compliance with nationally and internationally accepted standards.

The following performance have been observed under the Director, Laboratory Services during 2013. Improvement of existing laboratory services by appointing new MLTT after training to hospitals around the country with the extension of specialist services to hospitals, demanding the services of a laboratory consultant to provide high quality expert advice to the needy. Total 480 million rupees funds were allocated for the year 2013 to DDG (LS), out of which 240 million have been set aside for lab equipments, 230 million for MSD to purchase chemicals and 10 million for service agreement. Fully Automated Analyzers worth 200 million rupees were given up to Base Hospitals. 342 Million rupees have released to purchase semi automated machines to line ministry hospitals and other institutions of special campaigns. This shows over 100% expenditure performance from total allocation.

Furthermore, Ministry of Health has collaborated with the College of Microbiologists to offer offsite consultancy services by Microbiologists for selected hospitals in the country subject to availability of consultants. Another function is the improvement of the laboratory quality by using HSDP project and initiation of medical laboratory accreditation for state and private sector laboratories and establishment of accreditation process started in selected hospitals and include all hospital laboratories in the National External Quality Assurance in laboratory procedures (NEQAS) and monitoring and evaluation in Quality Assurance Programe. Establish performance targets and national guidelines to introduce the ISO standards.

Also, improved the accessibility and availability for necessary laboratory investigations to the populations living in far remote difficult areas through mobile laboratory services and regular supervision of laboratories by Director (LS) and the National Advisory Committee for Laboratory Services with relevant hospital consultants and to identify the shortcomings and recommend improvements.

Strengthened the smaller hospitals through satellite services from major hospitals and under this scheme, well-equipped teaching, general and base hospitals were identified as satellite centers. Samples collected by the peripheral units are transported to major hospitals (satellite centers) for investigations on daily basis and investigation reports are delivered on the same day by fax to the relevant unit. Satellite services already functioning in DGH -Nuwara Eliya, BH - Kalawana, TH-Kurunegala, PGH – Badulla, PGH – Rathnapura, DGH – Monaragala, DGH - Polonnaruwa, DGH - Nawalapitiya, DGH - Hambantota and TH - Kandy. They were strengthened by appointing consultant specialist additional MLTT, automated equipments and necessary reagents.

5.4.2 Division of Biomedical Engineering Services (BES)

The main functions and responsibilities of the Biomedical Engineering services can be listed as follows.

1. Procurement, installation and commission of medical equipments
2. Repairs & maintenance of medical equipments
3. Training of end users & technicians
4. Provision of local / foreign technical expertise in medical equipments

This division also provides technical assistance to the Provincial Health Authorities based on their requirements. The head quarters of the Biomedical Engineering Services Division is located in Colombo has workshop facilities, warehouse facilities for equipment and spare parts storage and administrative functions. Total no. of staff is about 223, both technical and non-technical .

Scope of the work of the division is looking after about 200 categories of medical equipment, from simple BP Apparatus to MRI Scanners and there about 7000 models from 500 manufacturers.

Regional Biomedical Units established in Southern Province, North Central and North-western Provinces are supervised by Biomedical Engineers appointed to Galle and Anuradhapura respectively. The division has 22 hospital based maintenance units so that the down time of equipment as well as maintenance cost could be kept minimum.

5.4.2.1 Major Achievements in 2013

5.4.2.1.1 Preparing of Medical Equipment Inventory

The division is collecting data from all the line ministry hospitals for the strengthening of the medical equipment inventory which was a great help to plan the repair and maintenance activities.

5.4.2.1.2 Preparing of Procurement Plan

Medical equipment requirements were taken from hospital in priority basis and those requirements were assessed with the available data in BES and also information is gathering from the hospital based Biomedical Engineering Service units.

5.4.2.1.3 Training Programs for BES Staff

Number of training programs arranged for the technical staff of the division as well as end users with the help of local and foreign experts.

5.4.2.1.4 Cooperation with Universities

Biomedical Engineering Services has started a program with the cooperation of Electrical and Electronics Department of University of Peradeniya to prevent the damages occur to medical equipments due to voltage fluctuations and lightning hazards.

5.4.2.1.5 Training for Engineering Graduates

The Biomedical Engineering Services has started giving industrial training to engineering undergraduates from University of Peradeniya.

5.4.2.1.6 Training for Biomedical Technical Staff in Armed Forces

Large number of armed force personnels have undergone training in the division during the past year and they would work in armed forces hospitals as Biomedical Technicians and officers.

5.4.2.1.7 Major Procurement in 2013

- Provision of two MRI Scanners to TH Kandy and TH Karapitiya - Rs. 400 Mn
- Provision of equipments to strengthen Radiology Department in Line Ministry Hospitals - Rs. 200 Mn
- Provision of equipments to strengthen ICU in Line Ministry Hospitals - Rs. 380 Mn
- Provision of equipments to strengthen CSSD in Line Ministry Hospitals - Rs. 190 Mn
- Provision of CT Scanners by JICS Project for TH Ragama, TH Kalubowila, GH Rathnapura, SBSCH Peradeniya ,GH Hambantota ,GH Kurunegala - Rs. 420 Mn
- Provision of Haemodialysis Machines by JICS Project - NINDT Maligawatta, GH Polonnaruwa, GH Kandy, GH Anuradhapura, TH Krapitiya, GH Kurunegala, GH Ampara - Rs. 80 Mn
- Provision of 14 CR Systems & 2 Endoscopy Systems - Rs. 120 Mn by Japan Aid
- Provision of 2 Cath lab & 2 Echocardiography Machines high-end - Rs. 118 Mn by Austrian Project

5.4.2.1.8 Major Development Activities Planned for 2014

- Replacement of DSA machine at NHSL
- Provision of equipments for Neuro Surgical Unit at TH - Jaffna
- Provision of MRI Scanner for TH - Anuradhapura
- Provision of MRI Scanner for PGH - Badulla
- Provision of CT Scanner for LRH

5.4.3 National Drug Quality Assurance Laboratory

National Drug Quality Assurance Laboratory (NDQAL) provides the technical support needed to operate the Pharmaceutical Quality Assurance System in Sri Lanka by monitoring the compliance of drug products with respect to quality and safety by laboratory testing of samples at pre and post marketing stages and issuing recommendations based on findings.

The primary function of NDQAL is to conduct laboratory tests necessary to determine the compliance of drug products with safety and quality requirements. In the assessment of quality, the most important characteristics of the drug products considered are their appearance, identity, purity, potency, uniformity and bio-availability. Drug products are tested according to pharmacopoeia specifications or standards claimed by the manufacturers. Quality testing is carried out on samples taken at different points in the drug distribution system which includes government sector health institutions and private sector pharmacy outlets and other organizations.

Director of the NDQAL functions as an additional approved analyst under Cosmetic Devices and Drugs Act No. 27 of 1980.

Other activities carried out by NDQAL are:

- Take part in Good Manufacturing Practice (GMP) inspections of pharmaceutical manufacturing facilities.
- Provide advice on pharmaceutical evaluation of registration documentation of the drug registration applications when required.
- Provide practical training for PGIM course in Chemical Pathology, and undergraduate courses of B Pharm., BSc Pharmacy, BSc Chemistry, BSc Biochemistry & Molecular biology and students following internal pharmacy courses.
- Carrying out of limited scale research on bio-equivalence and stability of pharmaceuticals.

5.4.3.1 Services Provided by NDQAL during 2013

- NDQAL analysed 808 samples, which includes 618 post marketing samples (complaints, formal, surveillance, etc.) and 190 pre marketing (registration, tender, pre shipment, etc).
- NDQAL staff participated in routine GMP inspections of pharmaceutical manufacturing facilities conducted by Cosmetics, Devices and Drugs Authority (CDDA).
- Upgraded laboratory facilities at NDQAL by purchasing 20 laboratory equipments.
- Training on “Quality Assurance of Pharmaceuticals” has been given to two Pharmaceutical Analysts and two Pharmacists in Malaysia.

6. Education, Training and Research (ET & R) Services

6.1 Education, Training and Research Unit

6.1.1 Introduction

Education,Training and Research Unit of the Ministry of Health which functions under the purview of Deputy Director General ET&R is the focal point in developing policy formulation, technical guidance and coordinating of basic training programmes island wide for all staff categories except for basic degree programmes for Medical Officers and Dental Surgeons. Furthermore unit is responsible also for capacity building of the health work force through in-service training programmes. In addition this unit is responsible for developing policy and capacity in research related to health.

Following are the highlights of activities carried out during 2013 - 2014 in relation to basic training, in service and research.

6.1.2 Recruitment and Basic Training of Health Staff – 2013

Training and appointing of Nursing, Professions Supplementary to Medicine, Paramedical and Medical Technology Services in 2013 are as follows.

6.1.2.1 Basic Training

Basic training of all health personnel, except for medical officers are directly coordinated by the Education, Training and Research Unit and the intake is determined by recruitment by the administrative sections of the Ministry of Health. Intakes recruited for training and outputs from the training schools during 2013 & up to 30th of June 2014 are shown in Tabe 6.1 and Table 6.2.

Table 6.1 : Induction Programme for Allied Health Graduates

Category	Number
MLT	78
Pharmacists	46
Physiotherapists	64
Radiographers (Diagnostic)	20
Radiographers (Therapeutic)	5

Table 6.2 : Recruited Intakes

Category Staff		No. of Appointments	
		2012	2013
1	Nursing Officers	1,960	1,999
2	Pharmacists	-	12
3	Physiotherapists	-	12
4	Public Health Midwives	176	432
5	Entomological Assistants	-	51
6	Opthalmic Technologists	-	52
7	Dispensers	40	40
8	Dental Technicians	6	3
9	School Dental Therapists	-	64
10	Audiology Technicians	-	24
11	Orthotics and Prosthetics	-	6
12	Hospital Attendants	1,297	954
13	Health Assistants	540	540

6.1.2.2 In-ServiceTraining

Furthermore, the Education, Training and Research Unit of Ministry of Health is responsible for facilitating all the in-service training including for medical officers and special training programmes for all the other categories of staff. Following table gives the in service training programmes conducted by the ET&R Unit during 2013.

Table 6.3 : Post Basic Training

Target Group	Training Programme	No. Trained during 2013
Nursing Officers	ICU Training Programme	252
	Psychiatric Training	72
	Paediatric Nursing	124

Table 6.4 : In-Service Training

Target Group	Training Programme	No. Trained during 2013
Medical Officers	Good Intern Programme	900
	CPR Programme	
	Sexual & Reproductive Health and Gender Issues	21
	Development of Skills in Administration	40
DDGs/Directors/CCPs	Life Skills Development	21
Nursing Officers	NICS Training	223
	Dengue Management	1,014
	Disaster Management Training	50
	Programme on Tobacco Cessation	60
	Programme on Infection Control in a Hospital Setup (with SLMA)	60
	Trauma Care Programme(with SLMA)	60
	Development of Skills in Administration	120
	Capacity in Research Conduction	40

6.1.3 Research

Education, Training & Research Unit in the Ministry of Health is responsible for functioning in collaboration with National Health Research Council (NHRC) to promote Health Research. The research proposals submitted to the unit for funding are scrutinized for suitability by the NHRC and grants are made available for the approved proposals through the consolidated fund of the Ministry of Health. Based on the research findings, the suitable ones are selected and presented at a Health Research Forum with the objective of disseminating the findings among the decision makers and the policy planners in order to utilize them when preparing Health Policies.

Table 6.5 : Training Programmes Conducted

Target Group	Training Programme	No. Trained during 2013
Public Health Staff	Life Skills Development	580
	First Aid in Poisoning	
MLT	Updating of Knowledge	80
House Warden	Capacity Building	140
Telephone Operator	Capacity Building	-
Saukya Karya Sahayake	Capacity Building	520
Development Officers & Public Mgt. Assistants	Capacity Building	1,000
Medical Officers/Registered Medical Officers/Nursing Officers/Nursing Tutors	Programme on Management of Poisoning	510
Nursing Sisters	Conduction of Training Programme for Health Assistants	80
Medical Officers and Nursing Tutors	Conduction of SBL Sessions on Medical Disorders during Pregnancy	32
Principals and Tutors of PSM & Para Medical Schools	Monitoring & Evaluation	80
Nursing Tutors	Tobacco Cessation for Principals and Nursing Tutors of Nurses Training Schools	60
Medical Officers and Nursing Tutors	Conduction of Scenario Based Learning (SBL) & Case Based Learning (CBL) Sessions	16
Field Trainers Public Health Midwives	Strengthening the Skills of Trainers to Provide Competency based Training	48
Special Programmes		
Library Users (Faculty of Indigenous Medicine/Faculty of Med. Colombo / Peradeniya /Ministry of Health HEB/KDU/MRI Libraries)	Programme on Library Users Awareness	359
MOHs/Nursing Tutors	Introductory Sessions on the Subjects for the Trainers of the Basic Midwifery Training Programme	38
Estate Medical Assistants	Training Programme on Health Care Improvement in Estate Sector (LLRC)	165
Estate Public Health Midwifes		211

A training programme on "Writing Research Proposal" was conducted for the medical proffesionals in order to promote research culture workshops. Health Research in Sri Lanka is being prioritized and a publication had been made as "Priorities in Health Research" as guidance for the researchers.

Furthermore the unit works with the other core national research bodies in preparing the Health Research Policies for the country.

6.1.3.1 Research Allowance 2013

According to the Management Services Circular No. 44 and 45 of 2010 which was introduced in 2011 (as per budget proposal), payment of research allowances for executive grade officers was initiated. A research subcommittee has been formulated in the Ministry of Health under the chairmanship of the Secretary of Health and three Directors as members, in order to facilitate this research proposal approval and a research allowance payment process. Guidelines for submission of research proposal and guidelines for evaluation of research proposals were prepared to further facilitate and streamline the process by institutional Ethical Review Committee. 314 Research proposals were submitted in 2013.

6.1.3.2 New Policy Enactments for Health Research in Ministry of Health

1. Formulation of NHRC Act
2. Streamlining the process of payment of research allowance
3. Formulation of guidelines for Institutional Ethics Review Committee

6.1.3.3 Research Studies Funded during the Year 2013

1. The non-nutritional determinants of satisfactory growth in some infants and pre-school children in the low income communities in Ja-ela MOH area.
2. Depression among school going adolescents aged 14 to 18 years in the Gampaha District: Prevalence and correlates.
3. Prevalence of chronic periodontitis risk factors and quality of life among 30-60 years olds in Colombo district.
4. A study on post-operative infections among patients undergoing neurosurgical interventions at a tertiary care hospital in southern Sri Lanka.
5. Epidemiology of bacterial infections of surgical sites following orthopaedic surgeries at NHSL.
6. Direct and indirect expenditure on diabetic retinopathy in Sri Lanka.
7. Radiological assessment of tooth development towards age estimation in medico-legal practice and validating methodologies to be used in Sri Lanka.
8. Practices and the quality on essential skills among the intern MOs.
9. Awareness and attitudes of pre-intern medical graduates on future career prospects.
10. Awareness and attitudes of pre-interns on administrative procedures of the Dept. of Health.
11. Availability of resources and the attitudes on its adequacy among intern MOs.
12. Work satisfaction and the challenges faced by the intern MOs.
13. Knowledge, attitudes, practices and associated factors regarding feeding during diarrheal diseases among caregivers of 6-12 months old infants prefer OPD at LRH.

6.2 Medical Research Institute

The Medical Research Institute, which was established in 1900, in its capacity as the premier research institute for biomedical and allied fields is dedicated to the aim of improving health and wellbeing of the country. MRI is a major service provider for all hospitals in Sri Lanka with special and specific diagnostic services. It also functions as the Regional Reference Laboratory for Poliomyelitis and National Reference Laboratory for Japanese encephalitis, Measles, Rubella, Rotavirus, Influenza, Leptospirosis, food and water microbiology and platelet aggregation studies. In addition, the MRI is the reference laboratory for immunological investigations. It also carries out pre-registration evaluation of pharmaceuticals and reagents. The MRI takes great pride in its contribution to the advancement of knowledge, through research and training.

6.2.1 Teaching, Training and Capacity Buildig Activities

The MRI functions as an important training center for under graduates and post graduates in medical specialties such as microbiology and chemical pathology, medical laboratory technologists, nurses, public health inspectors as well as entomological assistants. Furthermore, the MRI provides a venue for scientific sessions, seminars, symposiums and workshops. The MRI also conducts applied, operational and community based research and their staffs participate in both local and overseas seminars, symposiums and workshops to advance their knowledge and skills.

6.2.2 Performance Related to the Research Activities

The MRI conducts research in various fields in bacteriology, virology, mycology, parasitology, entomology, immunology, histopathology, haematology, biochemistry, nutrition, pharmacology, natural products and in animal sciences.

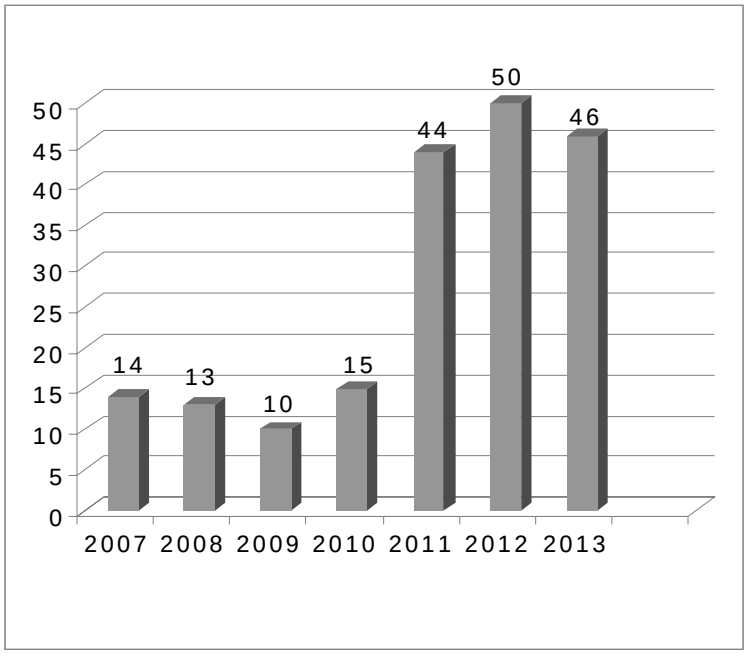
It also supports research in areas needing advanced techniques of animal studies and drug trials. During the past few years, the availability of a research grant from the treasury has greatly contributed to the advancement of research at the MRI.

These funds are available for all researchers attached to the Ministry of Health.

6.2.3 Achievements of the Research and Ethics Committees of MRI

During the last 2 years, the Research and Ethics Committees at MRI have seen a great improvement with the number of research projects evaluated by the research and ethics committees reaching 46 in year 2013.

Fig 6.1 : MRI Research Participation Activities per Year



46 Research projects have been evaluated by the research and ethics committees in year 2013. The research fund at MRI was reserved only to researchers at the MRI at the beginning, but later it was opened up for all researchers working in the Ministry of Health. This showed an increase in the number or research projects involving other fields of studies which are not directly related to MRI.

Nevertheless, 59% of the research projects have been conducted with the participation of the research staff at MRI during the past 20 months.

The MRI research committee renders an invaluable service to the Post Graduate Institute of Medicine by funding research projects for trainees in various post graduate fields.

The MRI research committee has opened its doors to students to pursue research of their interest. It has contributed immensely towards the post graduate education in the country by funding research of post graduate and undergraduate students and 33% of the projects were from such students.

The research projects carried out at MRI have been accepted as of excellent quality by other academic bodies of the country. This has been evidenced by the winning of several awards at national and international level.

The conclusions from the studies conducted at MRI have been made available to the relevant authorities and have been utilized to improve the health care system of the country. The proceedings of the research and ethics committees have been streamlined to provide a better research background.

The Ethics Committee has been a member of the Forum of Ethics Committees of Sri Lanka (FERCSL) which conducts programs for continuous education in the field of ethics. The members of the Ethics Committee attend regular training programmes and workshops conducted by the FERCSL. These workshops increased the awareness of the participants to the ethical standards and problems faced in using human subjects for research including drug trials. It also opened up a forum for discussion by meeting experts in the field of ethics and likeminded researchers.

The Standard Operating Procedures (SOP) of the Ethics Committee has been finalized and accepted by the members. The committee has recruited 3 non-medical members including a lawyer as members of the committee. The Ethics Committee at MRI has been accepted by the Ministry of Health.

The MRI Research and Ethics Committees have dedicated themselves to the upliftment and continued support of medical research in Sri Lanka and continue to work towards the goal of obtaining the membership of the Federation of Ethics Committees of Asia-Pacific (FERCAP).

6.2.4 Virology

Real time PCR technology has been used by the Department of Virology for the diagnosis and surveillance of respiratory and enteroviruses. In 2013, this was expanded to include measles and rubella. The Department of Immunology established the Allergy and Autoimmunity Analyzer, expanding the services provided to the country.

6.2.5 Health Information System

The Health Informatics division expanded their services during 2013 by implementation of LIBIMS (Library Information and Management system) with KOHA Open Source software and computerization of MRI specimen counter and initiation of Laboratory Information System.

Table 6.6 : Diagnostic Services Performance for Year 2013

Section		No. Of Investigation Done
Virology		36,656
Pharmacology		2,005
Bacteriology	Bacteriology	34,968
	QC - Bacteriology	2,138
	Enteric Bacteriology	13,287
	Serology	3,595
	Food & Water	55,838
	Mycology	28,133
Hematology		8,278
Histopathology		32,445
Immunology		12,410
Biochemistry		12,211
RIA (Radio Immune Assay)		25,308
Parasitology		4,306
Entomology		4,856
Rabies		2,772
Nutrition		17,080
Total		308,066

Table 6.7 : Other Service Performances in Year 2013

Section	Description	Total
QC - Bacteriology		
	Culture Maintenance	120
	Issues of STD Cultures	30
	Media Quality Control	58
Vaccine QC	Sterility Tests (Batches)	11
	Safety Tests (Batches)	8
	Vaccine lot released	55
	Distilled Water (litres)	7,692
	Normal Saline (litres)	280
	Rabies Post-exposure Clinic (Patients)	2,948
Animal Centre	Animal Blood Issues (ml)	5,435
	Animal Issues (Unused)	3,740
	Animal Issues (Used)	323
	Animal Feed Production (kg)	7,727
Media	Media (Litres)	1,962
Food & Water	Media (Litres)	112
Entomology	No of Houses/Institutions Examined for Dengue Vector breeding places	10,773

Table 6.8 : National External Quality Assurance Program for Year 2013

Subject	Frequency of Distribution	Number of Participants	Number of Analysis	Total
Clinical Biochemistry	Every month	80	13	13,716
Haematology	Once in three months	36	3	324
Bacteriology	Once in three months	63	5	1,260

6.3 National Institute of Health Sciences

The NIHS is the only national health sector training institute in the country which executes all health manpower development activities under the Ministry of Health. Apart from this primary objective is to conduct health service research and provide guidance to Ministry of Health on its policy on health manpower development. NIHS has undertaken a vast development program which will result many infrastructural, functional and quality improvements.

6.3.1 Training Activities

The training faculty delivers six basic training programs and six post-basic training programs for health staff. In the year 2013 the training faculty has conducted three basic training programs and, one post basic training program with 26 in-service training programs and twelve international training programs (Table 6.9). In order to cater to this ever rising demand for Public health training, the NIHS is introducing new training technologies and strengthening the existing training programs with necessary revisions of teaching modules.

NIHS has also revised some of its training curricula to improve the trainer/examiner capacity which will help the training activities in the future. These include PHM Part I & II curriculum revision, review and revision of the MOH curriculum with other stakeholder institutions, revision of the MLT curriculum, SPHM curriculum and revision of curriculum of Tutor Training (Educational Science) Diploma.

6.3.2 Public Health Field Services

The NIHS is very unique in possessing its own field training area catering for a population in excess of 300,000. Performance of public health activities in this field of training area was quite satisfactory with most indicators meeting the national standards. Field and clinic care performances were steadily increasing over the years with indices like percentage of LBW, underweight while infants and preschoolers were steadily decreasing.

School health activities were also quite satisfactory in the field training area with 100% coverage by the school health program. Food sampling activities for year 2013 resulted a total of 299 formal and 396 informal food samples with 128 prosecutions in the area.

6.3.3 Laboratory Services

The NIHS provides public health laboratory services and clinical microbiological services focusing on quality, accuracy and timeliness of lab reports ensuring superior service. The total number of samples screened by clinical laboratory for the year 2013 was 37,419. The total number of samples screened by the food and water quality control laboratory for the year 2013 was 2,697. The total number of samples screened by the food chemistry laboratory for the year 2013 was 4,706.

6.3.4 Research

Most training programs at NIHS have been incorporated with research training component to promote research in the area of public health. The ethics review committee at NIHS was quite active in 2013 and the committee had received 16 proposals to evaluate in the year totaling to 29 proposals since its inception in 2012. The NIHS ethics review committee was accredited by FRECSL and the ERC was also recognized internationally with a federal assurance number (00019922) which was also obtained during the year 2013. This was expected to foster a culture of local and international collaborative research.

6.3.5 WHO Collaborating Centre (CC) for Public Health Workforce Development

NIHS also performed well as a WHO collaborating center by completing all due activities for the year 2013 by their respective deadlines. WHO CC was established in 2012 and it will involve engaging in mutually beneficial activities to further strengthen the bond between the Ministry of Health and the WHO. This centre being the only WHO CC under the Ministry of Health has brought credit and quality of services for NIHS and Ministry of Health.

Table 6.9 : List of Training Programs Conducted at NIHS – 2013

Training Program Type	Training Program	Training Program Type	Training Program
Basic Training	Diploma in Pharmacy	In-service Training	Health Promotion Training for Health Professionals (with LANKAPHEIN Collaboration)
	Public Health Midwives' Part II Training 2013 (Conducted at NIHS)		In service training for Midwives in Estates (Kadugannawa/Galle/Rathnapura)
	Public Health Midwives' Part II Training 2013 (Conducted at other Part II Training Centers)		HSR Training Program
Post Basic Training	Tutor Training Diploma (Educational Sciences) for Trainers in Health Training Schools		Good Intern Program – for all the Intern Medical Officers in Sri Lanka
In-service Training	Supervising Public Health Midwives Training Program Group A		In-service Training Program for Estate Medical Assistants
	Supervising Public Health Midwives Training Program Group B		Training program for the Dispensers of Department of Prison
	Supervising Public Health Midwives Training Program A (Kurunegala and Baticaloa)		Diploma in Education for tutors of Health Department - 2013
	Supervising Public Health Midwives Training Program B (Kurunegala , Kadugannawa, Galle, Rathnapura)	Post graduate Training	Stage I Training Program for Community Pediatrics-PGIM
	Pre placement training for Post Intern Medical Officers (AMOH)		MSC (Community Medicine) PGIM Trainees- 2013
	Teacher Training Program for Public Health Trainers		Training in Public Health Informatics for Trainees in MSc Bio Medical Informatics
	Orientation on Management of Community Health for MOOH/RE/MOMCH/ MOO(PH)		Field Training for PGIM Postgraduate Diploma in Elderly Medicine Trainees
	Training for Post Intern Medical Officers	International Training	Diploma in Primary Health Care for Maldivian PHC Trainees
	Community Health Management for Middle Level Managers – Pilot Training Program		Inter-country training course in International Classification of Diseases
	Community Health Management for Middle Level Managers –Evaluation Workshop with Resources		Training for the Elective Nursing Students from the School of Nursing and Health Kristianstad University of Sweden
	Community Health Management for Middle Level Managers – Workshop for Evaluation and Finalization of Modules		Training Program on Emergency Nursing
	Introductory program on NIHS for BSc Nutrition Specializing students of Wayamba University		WHO Study Tour for two Middle Level Officers (Mynmar Health Assistants) to Observe Health Care Management in Sri Lanka
	Community Health Management for Middle Level Managers – Workshop on TOT Resources		Training for Finland Students
	Maintenance of office records related to divisional level Public Health Programs for the PHII working in the Northern and Eastern Provinces in Sri Lanka		ICD-10 Morbidity and Mortality Coding Supporting the Ministry of Public Health, Islamic Republic of Afghanistan
	Capacity Building of Master Trainers in Management and Communication Skills		ICD – 10 Morbidity and Mortality Coding Supporting the Ministry of Health, Western Samoa
	Piloting of the Communication and Management Skills Training for Post-Intern Medical Officers in Sri Lanka		ICD – 10 Morbidity and Mortality Coding Supporting the Federated States of Micronesia Health and Social Affairs
	Training Course on International Classification of Diseases ICD-10		ICD – 10 Morbidity and Mortality Coding Supporting the Ministry of Health, Republic of Fiji
	Management Training for middle-level managers		Master training for Health Educators (Tutors) by Singapore International Foundation
	In-service Training Program in Development of Laboratory Management Skills for Senior Medical Laboratory Technologists		Diploma in Microbiology in Malayasia

Detailed Tables

Table 1. Administrative Divisions and Local Government Bodies, 2013

Administrative Areas (Province/District)	Divisional Secretary Divisions	Grama Niladari Divisions	Local Government Bodies		
			Municipal Councils	Urban Councils	Pradeshiya Sabhas
Western Province					
Colombo	13	557	5	5	3
Gampaha	13	1,177	2	5	12
Kalutara	14	762	-	4	12
Central Province					
Kandy	20	1,187	1	4	17
Matale	11	545	2	-	11
Nuwara Eliya	5	491	1	2	5
Southern Province					
Galle	19	895	1	2	17
Matara	16	650	1	1	15
Hambantota	12	576	1	1	10
Northern Province					
Jaffna	15	435	1	3	13
Kilinochchi	4	95	-	-	3
Mannar	5	153	-	1	4
Vavuniya	4	102	-	1	4
Mullaitivu	6	136	-	-	4
Eastern Province					
Batticaloa	14	346	1	2	9
Ampara	20	503	2	1	17
Trincomalee	11	230	-	2	11
North-Western Province					
Kurunegala	30	1,610	1	1	19
Puttalam	16	548	-	2	10
North Central Province					
Anuradhapura	22	694	1	-	18
Polonnaruwa	7	295	-	-	7
Uva Province					
Badulla	15	567	2	1	15
Monaragala	11	319	-	-	10
Sabaragamuwa Province					
Ratnapura	17	575	1	2	14
Kegalle	11	573	-	1	11
Sri Lanka	331	14,021	23	41	271

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 1988[1]	Percentage Land Area	2013*			Average Annual Growth Rate % 1981 - 2012 [3]
			Population ('000) [2]	Percentage Distribution of Population	Population Density (Persons per Sq.Km)	
Sri Lanka	**62,705**	**100.00**	**20,483**	**100.0**	**327**	**1.0**
Western Province	**3,593**	**5.73**	**5,866**	**28.6**	**1,633**	
Colombo	676	1.08	2,326	11.4	3,441	1.0
Gampaha	1,341	2.14	2,313	11.3	1,725	1.7
Kalutara	1,576	2.51	1,227	6.0	779	1.2
Central Province	**5,575**	**8.89**	**2,592**	**12.7**	**465**	
Kandy	1,917	3.06	1,384	6.8	722	0.9
Matale	1,952	3.11	489	2.4	251	1.0
Nuwara Eliya	1,706	2.72	719	3.5	422	0.6
Southern Province	**5,383**	**8.58**	**2,493**	**12.2**	**464**	
Galle	1,617	2.58	1,068	5.2	661	0.9
Matara	1,270	2.03	819	4.0	645	0.7
Hambantota	2,496	3.98	606	3.0	243	1.1
Northern Province	**8,290**	**13.22**	**1,073**	**5.2**	**130**	
Jaffna	929	1.48	589	2.9	635	-0.7
Kilinochchi	1,205	1.92	116	0.6	97	0.7
Mannar	1,880	3.00	101	0.5	54	-0.2
Vavuniya	1,861	2.97	174	0.8	94	2.0
Mullaitivu	2,415	3.85	93	0.5	39	0.7
Eastern Province	**9,361**	**14.93**	**1,571**	**7.7**	**168**	
Batticaloa	2,610	4.16	529	2.6	203	1.5
Ampara	4,222	6.73	658	3.2	156	1.7
Trincomalee	2,529	4.03	384	1.9	152	1.3
North-Western Province	**7,506**	**11.97**	**2,393**	**11.7**	**319**	
Kurunegala	4,624	7.37	1,624	7.9	352	0.9
Puttalam	2,882	4.60	769	3.8	267	1.4
North Central Province	**9,741**	**15.53**	**1,276**	**6.2**	**131**	
Anuradhapura	6,664	10.63	868	4.2	131	1.3
Polonnaruwa	3,077	4.91	408	2.0	133	1.5
Uva Province	**8,335**	**13.29**	**1,278**	**6.2**	**154**	
Badulla	2,827	4.51	822	4.0	291	0.9
Monaragala	5,508	8.78	456	2.2	83	1.6
Sabaragamuwa Province	**4,921**	**7.85**	**1,941**	**9.5**	**395**	
Ratnapura	3,236	5.16	1,097	5.4	339	1.3
Kegalle	1,685	2.69	844	4.1	501	0.7

* Provisional

Source : [1] Survey General's Department

[2] Registrar General's Department

[3] Census of Population & Housing, 2012

Table 3. Population by Five Year Age Groups and Sex, 1981, 2001, 2012 and 2013

Age Group	Year 1981 [1] Total		Year 2001 [1] Total		Year 2012 [1] Total		Year 2013* [2]					
							Total		Male		Female	
	Number	%	Number	%	Number ('000)	%	Number ('000)	%	Number ('000)	%	Number ('000)	%
All ages	14,846,750	100.0	16,929,689	100.0	20,359	100.0	20,483	100.0	9,939	100.0	10,544	100.0
0 - 4	1,854,738	12.5	1,439,761	8.5	1,744	8.6	1,762	8.6	891	9.0	871	8.3
5 - 9	1,682,527	11.3	1,483,591	8.8	1,748	8.6	1,764	8.6	895	9.0	869	8.2
10 - 14	1,689,333	11.4	1,525,674	9.0	1,640	8.1	1,645	8.0	835	8.4	810	7.7
15 - 19	1,603,187	10.8	1,646,827	9.7	1,644	8.1	1,658	8.1	819	8.2	839	8.0
20 - 24	1,526,463	10.2	1,591,126	9.4	1,533	7.5	1,530	7.5	753	7.6	777	7.4
25 - 29	1,274,857	8.6	1,340,562	7.9	1,553	7.6	1,557	7.6	751	7.6	806	7.6
30 - 34	1,125,426	7.6	1,290,121	7.6	1,639	8.1	1,649	8.1	799	8.0	850	8.1
35 - 39	839,073	5.7	1,258,112	7.4	1,409	6.9	1,421	6.9	688	6.9	733	7.0
40 - 44	698,203	4.7	1,170,941	6.9	1,359	6.7	1,384	6.8	673	6.8	711	6.7
45 - 49	609,289	4.1	1,030,560	6.1	1,286	6.3	1,291	6.3	625	6.3	666	6.3
50 - 54	539,524	3.6	917,139	5.4	1,219	6.0	1,228	6.0	585	5.9	643	6.1
55 - 59	422,322	2.8	671,403	4.0	1,064	5.2	1,066	5.2	505	5.1	561	5.3
60 & above	981,808	6.6	1,563,872	9.2	2,521	12.4	2,528	12.3	1,120	11.3	1,408	13.4

* Provisional

Note : Year 2001 population excludes the districts Jaffna, Mannar, Vavunia, Mullaitivu, Kilinochchi, Batticoloa & Trincomalee.

Source : [1] Census of Population and Housing
[2] Registrar General's Department

Table 4. Vital Statistics by District

District	Crude Birth Rate (CBR)		Crude Death Rate (CDR)		Maternal Mortality Rate, 2010 Per 100,000 Live Births	Infant Mortality Rate 2010	Neo-Natal Mortality Rate	
	2012*	2013*	2012*	2013*			2009	2010
	Per 1,000 Live Births					Per 1,000 Live Births		
Colombo	15.7	16.1	6.7	7.0	7.2	15.6	8.4	9.1
Gampaha	14.4	14.6	5.6	6.0	18.6	3.9	3.2	2.9
Kalutara	15.4	15.8	6.3	6.6	24.7	5.6	4.1	4.3
Kandy	18.8	19.6	7.0	7.1	20.4	16.6	10.2	12.6
Matale	19.7	19.4	6.2	6.0	20.0	7.6	4.7	5.9
Nuwara Eliya	20.3	20.5	6.0	6.6	20.4	12.1	9.9	6.8
Galle	16.8	17.1	7.1	7.2	31.9	8.6	6.5	6.5
Matara	18.2	16.2	6.4	6.2	0.0	10.3	6.9	7.9
Hambantota	20.3	20.7	5.4	5.5	11.4	5.4	3.7	3.5
Jaffna	15.9	17.3	6.9	7.2	80.2	13.0	4.7	10.0
Kilinochchi	23.3	25.5	2.9	3.4	26.2	0.3	0.0	0.0
Mannar	19.9	19.5	3.4	3.8	0.0	0.0	0.8	0.0
Vavuniya	16.9	20.3	4.9	4.9	31.5	8.2	14.3	6.0
Mullaitivu	14.6	11.9	6.5	6.0	0.0	26.0	3.1	2.4
Batticaloa	18.4	20.0	5.4	4.8	48.9	19.2	14.1	15.9
Ampara	21.7	22.6	4.8	4.6	21.3	4.3	1.8	2.5
Trincomalee	22.2	20.8	3.8	4.1	49.3	3.0	2.7	1.5
Kurunegala	16.9	17.0	6.3	6.6	34.3	9.6	7.7	8.0
Puttalam	19.9	21.1	5.4	5.5	7.1	6.7	4.4	5.2
Anuradhapura	18.8	19.3	5.5	5.4	43.7	16.7	7.9	13.9
Polonnaruwa	16.5	18.6	4.7	5.3	0.0	2.7	5.3	2.3
Badulla	18.6	18.7	5.8	6.1	28.5	8.3	3.3	5.5
Monaragala	19.4	19.6	4.6	4.7	14.6	2.8	2.1	1.3
Ratnapura	17.9	18.5	6.0	6.2	5.0	7.2	5.1	4.9
Kegalle	16.7	16.3	6.5	6.9	27.5	6.1	4.6	4.0
Sri Lanka	**17.5**	**17.9**	**6.0**	**6.2**	**22.0**	**9.9**	**6.4**	**7.0**

* Provisional

Source : Registrar General's Department

Note : CBR and CDR are based on usual residence data.
All other indicators are based on place of occurance data.
Infant Mortality Rates for 2009 should be corrected as follows,
Kilinochchi - 1.5, Mannar - 1.6, Vavuniya - 35.8, Mullaitivu - 25.1
which was mistaken in Annual Health Bulletin - 2012

Table 5. Number of Households in Occupied Housing Units by Main Source of Drinking Water and District - 2012

Province/District	Total households	Main source of drinking water												
		Protected well within premises	protected well outside premises	Unprotected well	* Tap within unit	* Tap within premises but outside unit	* Tap outside premises	Rural water supply project	Tube well	Bowser	River/ tank/ streams/ spring	Rain water	Botteled water	Other
Sri Lanka	5,264,282	1,652,972	772,819	211,556	1,110,050	363,043	181,235	482,937	177,432	18,931	239,952	4,022	9,984	39,349
Western Province														
Colombo	572,475	123,735	11,188	1,951	360,380	29,938	26,539	12,728	2,065	38	1,560	112	828	1,413
Gampaha	604,009	317,581	43,463	13,128	126,947	26,607	17,208	18,388	35,527	481	274	131	605	3,669
Kalutara	305,737	138,335	41,714	13,508	63,237	9,212	5,633	20,378	7,272	90	4,933	90	43	1,292
Central Province														
Kandy	348,019	49,629	38,580	10,117	132,091	28,270	14,564	39,395	6,762	688	24,032	221	61	3,609
Matale	129,710	26,731	22,822	5,253	24,559	8,876	4,168	22,399	7,500	62	6,605	28	63	644
Nuwara-Eliya	181,182	9,149	10,157	6,899	19,002	22,837	11,826	38,262	1,169	66	60,177	103	17	1,518
Southern Province														
Galle	273,140	117,064	40,126	19,214	56,542	14,807	7,671	7,028	3,171	135	5,984	10	41	1,347
Matara	206,790	65,292	25,843	12,457	46,985	17,580	3,913	19,013	1,562	14	13,140	48	25	918
Hambantota	156,476	18,709	11,881	3,618	38,450	42,035	7,728	24,791	3,666	501	3,264	57	108	1,668
Northern Province														
Jaffna	140,323	54,642	44,554	1,255	2,407	2,963	14,251	-	15,607	3,142	13	3	53	1,433
Killinochchi	28,369	9,033	9,652	7,029	32	87	43	-	1,481	835	12	1	3	161
Mannar	23,975	5,700	6,644	661	1,192	3,834	1,302	-	1,666	2,785	32	2	42	115
Vavuniya	41,908	19,540	8,517	1,623	880	1,171	1,522	275	7,256	134	8	38	912	32
Mullaitivu	24,896	8,153	8,242	6,462	60	100	141	-	1,088	210	48	-	4	388
Eastern Province														
Batticaloa	134,966	77,504	29,831	2,965	4,110	4,762	802	796	12,184	210	994	135	78	595
Ampara	165,166	44,011	33,011	7,436	35,590	24,812	5,607	10,148	2,375	168	755	83	39	1,131
Trincomalee	96,951	26,911	22,617	3,175	15,596	15,106	4,170	1,001	1,408	4,425	1,090	12	81	1,359
North Western Province														
Kurunegala	443,349	230,275	111,409	25,653	15,640	6,355	4,656	34,950	9,312	142	2,389	343	444	1,781
Puttalam	202,796	57,030	34,591	3,661	17,626	13,074	5,545	19,864	34,696	3,961	491	715	3,445	8,097
North Central Province														
Anuradhapura	231,356	50,933	64,063	7,811	33,806	17,571	8,164	35,054	5,941	205	3,138	1,259	2,504	907
Polonnaruwa	111,010	29,968	25,434	7,627	12,098	8,554	2,979	18,437	3,273	28	1,620	174	480	338
Uva Province														
Badulla	214,900	29,028	27,523	12,707	28,328	15,963	7,813	45,155	2,198	106	44,812	205	40	1,022
Monaragala	120,137	25,872	20,186	7,076	15,009	13,785	4,251	20,424	5,483	69	6,892	79	21	990
Sabaragamuwa Province														
Ratnapura	285,893	49,680	37,636	14,384	28,830	24,976	12,868	75,632	4,235	399	34,825	111	34	2,283
Kegalle	220,749	68,467	43,135	15,886	30,653	9,768	7,871	18,819	535	37	22,864	62	13	2,639

Source : Census of Population and Housing, 2012

Note : ' * ' Refers to piped born water distributed through pipe lines by National Water Supply and Drainage Board or the Local Government Institution.

Table 6. Households in Occupied Housing Units by Type of Toilet Facility and District, 2012

Province/District	Total Households	Type of Toilet			
		Exclusive	Shared	Common	Not Using a Toilet
Sri Lanka	5,264,282	4,565,611	574,303	36,088	88,280
Western Province					
Colombo	572,475	509,447	43,101	19,602	325
Gampaha	604,009	529,623	72,180	1,447	759
Kalutara	305,737	279,716	24,776	458	787
Central Province					
Kandy	348,019	312,932	31,740	1,639	1,708
Matale	129,710	112,819	15,969	231	691
Nuwara Eliya	181,182	144,939	27,164	2,019	7,060
Southern Province					
Galle	273,140	246,407	25,192	502	1,039
Matara	206,790	187,602	18,289	462	437
Hambantota	156,476	138,062	17,728	58	628
Northern Province					
Jaffna	140,323	114,174	17,033	1,866	7,250
Mannar	23,975	17,471	3,657	342	2,505
Vavuniya	41,908	31,860	5,133	1,898	3,017
Mullaitivu	24,896	15,764	3,844	148	5,140
Kilinochchi	28,369	17,560	4,539	64	6,206
Eastern Province					
Batticaloa	134,966	99,173	18,523	345	16,925
Ampara	165,166	142,438	18,194	191	4,343
Trincomalee	96,951	75,723	16,516	1,071	3,641
North Western Province					
Kurunegala	443,349	391,708	46,208	869	4,564
Puttalam	202,796	172,310	22,973	988	6,525
North Central Province					
Anuradhapura	231,356	193,611	32,347	189	5,209
Polonnaruwa	111,010	94,835	13,906	135	2,134
Uva Province					
Badulla	214,900	183,329	28,963	402	2,206
Monaragala	120,137	104,608	13,027	186	2,316
Sabaragamuwa Province					
Ratnapura	285,893	248,948	34,647	648	1,650
Kegalle	220,749	200,552	18,654	328	1,215

Source : Census of Population and Housing, 2012

Table 7. Distribution of Government Medical Institutions and Beds by Regional Director of Health Services Division, December 2013

RDHS Division	Teaching Hospital		Provincial General Hospital		District General Hospital		Base Hospital Type A		Base Hospital Type B		Divisional Hospital Type A		Divisional Hospital Type B		Divisional Hospital Type C		Primary Medical Care Unit and Meternity Homes		Other Hospitals [1]		Total Hospitals		Beds per 1,000 Population	Primary Medical Care Units	MOH Area
	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds			
Colombo	7	8,038					2	1,043	1	308	1	104	6	396	2	64	5	NR	9	3,555	33	13,508	5.8	28	13
Gampaha	1	1,523			2	1,558	1	602	2	277	4	596	1	76	7	213			6	1,175	24	6,020	2.6	45	15
Kalutara					1	834	3	946	1	169	2	196	8	596	6	150					21	2,891	2.3	9	12
Kandy	3	3,606			1	473			2	470			14	996	33	1,041			7	133	60	6,719	4.8	28	23
Matale					1	797	1	302					4	272	14	344					20	1,715	3.5	15	12
Nuwara Eliya					1	453	1	105	1	157	3	315	7	509	13	352					26	1,891	2.6	22	13
Galle	2	2,233					2	790	1	121	1	110	8	630	10	256	2	20	2	9	28	4,169	3.9	23	19
Matara					2	1,195			2	420	2	246	6	487	5	133					17	2,481	3.0	20	17
Hambantota					1	654	1	277	2	365			8	615	9	299			1	NR	22	2,210	3.6	13	12
Jaffna	1	1,264					2	492	2	281			4	311	18	459					27	2,807	4.8	13	12
Kilinochchi					1	287			1	38			1	47	6	127					9	499	4.3	2	4
Mullaitivu					1	176			1	NR	3	171	2	55	3	NR					10	402	4.3	8	5
Vavuniya					1	584			1	153					8	120					10	857	4.9	2	4
Mannar					1	331							5	374	5	84					11	789	7.8	3	5
Batticaloa	1	931							4	570			4	265	10	326	2	65			21	2,157	4.1	14	14
Ampara					1	629			2	302					7	215					10	1,146	4. 8 [a]	16	7
Kalmunai							3	1,025	2	274			5	419	8	251	4	54			22	2,023		8	13
Trincomalee[3]					1	597	1	250	2	271					12	445	1	13			17	1,576	4.1	17	11
Kurunegala	1	1,843					1	623	3	763	7	831	13	1,007	21	528	1	11			47	5,606	3.4	53	29
Puttalama					1	581	1	369	1	377	2	250	4	261	11	280					20	2,118	2.7	27	12
Anuradhapura	1	1,946							3	395	4	466	10	621	21	691			1	15	40	4,134	4.8	22	19
Polonnaruwa					1	754			2	238	1	100	4	241	4	139					12	1,472	3.6	15	7
Badulla[2]			1	1,453			2	683	1	132	2	218	6	421	24	634					36	3,541	4.3	16	16
Monaragala					1	392			3	403	1	99	5	356	8	255					18	1,505	3.3	10	11
Ratnapura			1	1,125			1	455	3	575	7	815	8	423	18	358			1	8	39	3,759	3.4	12	18
Kegalle	1	794							3	746	5	471	1	53	12	153			2	31	24	2,248	2.7	20	11
Total	18	22,178	2	2,578	18	10,295	22	7,962	46	7,805	45	4,988	134	9,431	295	7,917	15	163	29	4,926	624	78,243	3.8	461	334

[a] Included Kalmunai data

Source : Medical Statistics Unit

NR : Not Responded

Note : 1. Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"

2. Twelve (12) Divisional Hospitals in Badulla RDHS area (DHC's) which has no indoor facilities are excluded

3. Wan-Ela Primary Medical Care Unit which has indoor facilities is included under PMCU & MH category

Table 8. Beds by Speciality and Regional Director of Health Services Division, December 2013

RDHS	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	1,101	2,205	1,697	1,570	1,575	14	35	793	-	1,565	372	95	184	142	527	54	566	156	58	-	12	787	13,508
Gampaha	282	1,354	897	671	930	-	400	-	50	239	23	43	9	42	283	-	27	-	-	270	21	479	6,020
Kalutara	402	621	435	540	495	-	-	-	-	39	-	-	17	-	26	15	-	-	-	-	-	301	2,891
Kandy	279	1,686	948	1,013	1,151	-	88	156	-	162	147	40	82	68	194	44	184	-	-	22	35	420	6,719
Matale	124	570	222	249	338	-	-	-	-	42	-	-	-	18	62	18	-	-	-	-	-	72	1,715
Nuwara Eliya	295	488	218	245	502	-	-	-	-	15	-	-	-	10	33	-	-	-	-	-	-	85	1,891
Galle	272	943	697	551	770	8	21	183	-	86	58	20	25	40	97	41	60	-	-	32	21	244	4,169
Matara	108	695	357	392	531	-	-	-	-	33	20	-	16	30	45	27	37	-	-	49	29	112	2,481
Hambantota	151	660	355	321	485	-	-	-	-	12	-	-	-	23	16	-	35	-	-	-	-	152	2,210
Jaffna	144	766	506	319	546	-	20	69	-	79	-	-	-	-	60	21	95	-	-	-	-	182	2,807
Killinochchi	22	203	70	66	101	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	27	499
Mullaitivu	145	50	45	59	67	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	36	402
Vavuniya	6	186	105	117	218	-	17	-	-	28	-	-	-	22	41	-	81	-	-	-	-	36	857
Mannar	-	326	62	96	194	-	-	-	-	19	-	-	-	-	34	-	.	-	-	-	-	58	789
Batticaloa	150	635	320	374	344	-	15	15	-	39	-	-	5	32	42	14	51	-	-	-	-	121	2,157
Ampara	122	314	146	185	229	7	-	-	-	16	-	-	-	-	34	-	28	-	-	-	-	65	1,146
Kalmunai	11	670	275	379	401	-	-	-	-	36	-	-	-	-	30	-	-	-	-	-	-	221	2,023
Trincomalee	61	505	224	229	354	-	12	-	-	30	-	-	-	-	44	-	15	-	-	-	-	102	1,576
Kurunegala	734	1,584	680	671	956	2	-	33	-	34	46	25	17	45	109	44	120	-	-	54	40	412	5,606
Puttalam	132	616	295	271	504	-	17	-	-	-	-	-	-	-	49	7	33	-	-	-	-	194	2,118
Anuradhapura	546	1,087	438	631	751	32	-	69	-	59	48	28	38	-	30	24	69	-	-	-	-	284	4,134
Polonnaruwa	159	396	200	192	295	8	-	-	-	-	-	-	-	-	51	-	61	-	-	-	-	110	1,472
Badulla	341	920	515	459	638	-	-	116	-	74	49	-	30	44	66	23	56	-	-	26	29	155	3,541
Monaragala	191	418	168	290	324	-	-	-	-	-	-	-	-	-	34	-	.	-	-	-	-	80	1,505
Ratnapura	225	1,237	537	560	753	3	22	18	-	29	19	-	20	22	73	31	59	-	-	-	22	129	3,759
Kegalle	97	707	385	360	479	-	-	-	-	22	-	-	-	33	42	-	-	-	-	-	-	123	2,248
Total	6,100	19,842	10,797	10,810	13,931	74	647	1,452	50	2,668	782	251	443	571	2,022	363	1,577	156	58	453	209	4,987	78,243

Includes:

Source:Medical Statistics Unit

[1] Beds in medical and surgical intensive care units, wards for priests, armed service personnel and medical and surgical paying wards

[2] Beds in 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, 1988 - 2013

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
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*	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*	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	4.2	1,134	5.6	30,063	148.7	270	1.3	1475[4]	7.3	5,331	26.4	3,016	14.9
2009	13,737	67.8	1,046	5.1	1,084	5.3	31,297	153.0	264	1.3	1398[4]	6.8	5,389	26.3	2,768	13.5
2010	14,668	71.0	1,139	5.5	1,107	5.4	35,367	171.2	380	1.8	1436[4]	7.0	5,477	26.5	2,971	14.4
2011	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
2012	15,910	78.6	1,223	6.0	1,130	5.6	36,486	180.3	332	1.6	1510[4]	7.5	5,821	28.6	2,605	12.8
2013	16,690	81.5	1,279	6.2	1,064	5.2	35,629	173.9	322	1.6	1,763	8.1	5,950	29.0	2,848	13.9

* 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

[4] Excludes Supervising Public Health Inspectors

N/A - Not Available (2011 analysis is processing)

Note : All PGIM trainees were included in Dental Surgeons category in 2007 based on 2006 estimates which was not corrected. 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 Regional Director of Helath Services Division, December 2013

RDHS Division	Administrative Grade (Senior and Deputy Medical Officers)	Specialists (Curative care)	Hospital Medical Officers (D.M.O., S.H.O., H.O., MO in OPD, ect.)	Medical Officers in RDHS/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 **	Other Medical Officers	Medical Officers [2]	Total Medical Officers [1]	Regional Dental Surgeons	Consultant Dental Surgeons	Hospital Dental Surgeons	P.G.I.M Trainees**	Dental Surgeons [3]
Colombo	78	425	2,619	41	5	3	3	-	15	-	3	9	19	413	266	308	225	3,929	4,432	5	29	202	37	273
Gampaha	10	123	1,036	57	2	-	1	-	4	-	1	2	3	37	130	3	42	1,318	1,451	3	4	84	4	95
Kalutara	7	61	511	33	-	-	1	-	2	-	-	-	5	22	58	13	34	679	747	1	3	55	-	59
Kandy	12	147	1,112	41	1	-	-	-	5	-	1	-	2	7	112	201	118	1,600	1,759	1	7	112	14	134
Matale	3	34	184	16	-	1	-	-	2	1	1	2	2	6	51	2	30	298	335	1	1	26	-	28
Nuwara Eliya	3	33	169	15	-	-	-	-	1	1	-	-	4	6	25	-	7	228	264	1	1	27	1	30
Galle	8	81	528	32	1	-	2	-	-	5	1	3	1	25	105	82	10	795	884	1	4	51	1	57
Matara	4	38	318	30	-	-	1	-	2	2	1	1	2	12	35	1	13	418	460	1	2	35	-	38
Hambantota	5	29	241	15	-	-	-	1	-	2	1	1	3	7	61	-	4	336	370	1	-	27	-	28
Jaffna	7	49	287	13	-	-	-	-	1	-	1	1	2	6	58	30	42	441	497	1	-	33	-	34
Kilinochchi	-	7	54	5	-	1	-	-	-	-	-	1	1	2	-	-	-	64	71	-	-	2	-	2
Mullaitivu	-	-	47	3	-	-	-	-	-	-	-	-	1	2	-	-	-	53	53	-	-	3	-	3
Vavuniya	2	19	104	3	-	1	-	-	2	2	-	-	2	3	28	-	3	148	169	10	-	5	1	16
Mannar	2	11	50	5	2	1	-	-	1	2	1	1	-	2	-	-	2	67	80	-	-	12	-	12
Batticaloa	6	35	196	14	-	1	-	-	-	1	1	1	2	7	46	-	8	277	318	1	2	28	1	32
Ampara	3	31	258	10	-	1	-	-	4	3	-	1	2	13	30	-	1	285	319	1	1	19	1	22
Kalmunai	5	19	214	13	-	-	-	-	1	2	-	2	1	9	5	1	12	260	284	1	1	26	-	28
Trincomalee	3	32	182	13	-	1	-	-	1	2	1	-	2	4	20	1	5	232	267	1	-	19	1	21
Kurunegala	6	77	660	52	-	-	1	-	3	-	1	-	5	6	48	-	18	794	877	1	3	80	2	86
Puttalam	4	44	290	24	-	1	-	-	4	3	-	-	1	4	62	-	-	407	455	5	3	32	2	42
Anuradhapura	3	38	351	20	-	-	-	-	2	3	-	-	2	1	-	-	17	396	437	-	2	38	-	40
Polonnaruwa	3	30	191	12	-	2	-	-	1	-	-	2	1	1	38	1	7	256	289	1	1	24	1	27
Badulla	5	58	366	19	-	2	-	-	2	-	1	2	3	11	58	-	14	421	484	2	-	50	5	57
Monaragala	3	25	174	16	-	1	-	-	1	1	1	1	1	4	28	-	8	236	264	2	-	24	-	26
Ratnapura	7	67	382	27	-	1	-	-	2	7	1	1	2	9	84	-	15	531	605	2	2	54	2	60
Kegalle	6	41	322	20	-	-	-	-	-	-	1	-	7	10	66	-	46	472	519	1	1	27	-	29
Grand Total	195	1,554	10,846	549	11	17	9	1	56	37	18	31	76	629	1,414	643	681	14,941	16,690	44	67	1,095	73	1,279

** Include PGIM trainees drawing their salaries from the institutions concerned

[1] Total Medical Officers

[2] Total Medical Officers, exclude: Administrative and Specialists

[3] Total Dental Surgeons

Continued

Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by Regional Director of Healh Services Division, December 2013

District	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	179	67	322	55	7,834	44	1,160	9,482	6	11	-	7	37	61	329	514	207	143	39	106	24	20
Gampaha	101	25	98	16	2,316	30	241	2,726	3	-	-	7	31	41	109	95	36	47	19	33	1	3
Kalutara	61	15	75	1	1,229	25	-	1,345	1	3	-	13	19	36	48	54	16	8	3	30	1	4
Kandy	127	17	116	23	3,075	23	371	3,625	2	41	21	24	25	113	128	133	68	37	7	34	4	9
Matale	36	7	17	-	512	12	-	548	1	8	11	9	7	36	29	23	6	4	1	9	-	5
Nuwara Eliya	17	3	4	-	381	9	-	397	1	8	2	7	2	20	18	17	7	3	1	5	-	-
Galle	77	9	49	1	1,682	29	429	2,199	2	2	-	4	19	27	66	61	26	19	4	28	3	4
Matara	44	2	40	-	966	12	-	1,020	-	-	-	10	29	39	40	38	11	9	4	24	13	5
Hambantota	13	6	31	5	784	13	275	1,114	-	5	-	3	17	25	35	33	11	6	2	14	-	7
Jaffna	24	2	46	12	501	-	290	851	-	1	-	2	-	3	37	25	19	9	-	6	-	1
Kilinochchi	2	-	5	-	58	-	-	63	-	-	-	-	-	-	4	2	2	2	-	-	-	2
Mullaitivu	1	-	1	-	37	-	-	38	-	-	-	1	6	7	4	2	2	-	-	-	-	1
Vavuniya	2	2	17	4	178	2	100	303	-	1	-	-	1	2	14	15	5	2	-	3	-	2
Mannar	7	1	6	-	109	1	-	117	-	-	-	-	-	-	7	2	2	-	-	-	-	1
Batticoloa	17	7	38	10	548	13	206	822	-	9	-	1	4	14	30	26	12	8	3	2	-	-
Ampara	5	3	5	10	412	3	-	433	1	-	-	-	5	6	26	29	9	4	2	4	-	3
Kalmunai	14	4	11	1	515	5	-	536	-	7	-	5	2	14	30	31	12	3	-	3	-	3
Trincomalee	10	4	8	-	387	2	-	401	-	1	-	-	1	2	20	21	7	6	2	1	1	2
Kurunegala	105	18	94	46	2,017	32	231	2,438	5	-	1	22	39	67	85	82	23	18	6	40	3	4
Puttalam	27	5	39	-	559	6	-	609	1	-	1	2	19	23	37	39	7	4	1	10	1	3
Anuradhapura	32	5	37	17	1,047	10	354	1,470	1	-	-	4	8	13	46	51	19	9	2	11	2	-
Polonnaruwa	12	4	29	-	489	6	-	528	1	-	-	1	11	13	29	21	8	8	1	7	-	4
Badulla	34	9	46	18	986	13	229	1,301	1	6	1	10	31	49	54	56	19	15	4	13	1	4
Monaragale	9	5	10	-	414	11	1	441	-	1	-	8	37	46	21	22	8	4	-	11	-	4
Ratnapura	45	8	41	8	1,208	10	507	1,782	1	4	-	4	26	35	56	53	23	11	2	23	-	6
Kegalle	63	9	40	-	980	11	-	1,040	-	1	-	7	24	32	46	38	13	6	-	17	-	1
Grand Total	1,064	237	1,225	227	29,224	322	4,394	35,629	27	109	37	151	400	724	1,348	1,483	578	385	103	434	54	98

Continued

Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2013

District	Opthaimic Technologist	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	Foremen	Photograph Technicians	Audiology Technicians	Workmen Technicians	Orthapidic Technicians	Cinema Technicians	Assistant Technicians	Attendants	Other
Colombo	35	19	11	226	19	446	231	93	21	30	78	13	45	1	4	-	6	2	1	1,054	7,231
Gampaha	10	3	8	109	7	516	166	22	4	33	78	14	-	-	1	-	2	1	-	421	2,754
Kalutara	7	-	7	76	11	390	154	11	2	14	41	18	-	-	1	-	-	-	1	404	1,181
Kandy	9	3	9	88	13	492	213	26	9	13	89	13	-	-	3	-	-	-	1	752	3,947
Matale	4	1	1	39	6	196	55	6	-	9	43	11	-	-	-	-	-	-	-	152	681
Nuwara Eliya	3	1	3	30	5	189	100	4	1	1	39	3	-	-	-	-	-	-	-	220	887
Galle	9	2	6	82	8	315	169	18	3	3	62	9	-	-	1	-	-	1	-	299	2,103
Matara	5	2	8	61	17	279	143	8	2	15	48	14	-	-	1	-	-	-	-	291	1,220
Hambantota	2	1	8	50	12	218	122	7	-	7	42	16	2	-	-	-	-	-	-	217	1,077
Jaffna	1	1	17	45	13	141	84	5	1	-	50	17	1	-	-	-	-	-	-	447	1,129
Kilinochchi	-	1	7	15	10	80	27	-	-	1	16	7	-	-	-	-	-	-	-	53	334
Mullaitivu	-	-	2	9	4	31	14	-	-	1	5	5	-	-	-	-	-	-	-	58	197
Vavuniya	2	1	4	18	3	57	33	2	-	-	14	8	-	-	-	-	-	-	-	84	571
Mannar	-	1	4	20	4	56	37	-	-	-	14	3	-	-	-	-	-	-	-	89	442
Batticoloa	2	1	9	58	11	129	100	8	1	2	36	25	-	-	2	-	-	-	-	142	1,090
Ampara	3	-	4	35	12	89	44	8	1	1	23	15	-	-	-	-	-	-	-	103	903
Kalmunai	1	3	9	52	12	138	119	12	-	10	23	26	-	-	-	-	-	-	-	80	938
Trincomalee	4	1	9	39	12	121	76	4	-	5	25	27	-	-	-	-	-	1	-	223	750
Kurunegala	6	2	20	100	25	453	252	14	5	35	105	37	-	-	1	-	-	-	2	619	3,042
Puttalam	4	2	12	45	11	218	66	5	2	12	44	20	-	-	-	-	-	-	-	121	733
Anuradhapura	2	2	10	64	24	238	135	9	3	26	82	17	-	-	1	-	-	-	-	395	1,425
Polonnaruwa	3	1	6	33	5	119	46	6	-	5	21	10	-	-	-	-	-	-	-	150	797
Badulla	9	-	11	58	12	254	124	9	2	9	81	5	-	-	-	-	-	-	-	244	1,881
Monaragala	2	2	5	32	7	186	73	5	-	6	41	16	-	-	-	-	-	-	-	188	800
Ratnapura	5	6	17	84	17	336	145	10	2	16	50	9	-	-	-	-	-	-	-	364	1,852
Kegalle	4	2	12	76	9	263	120	5	-	8	46	14	-	-	-	-	-	-	-	228	1,219
Grand Total	132	58	219	1,544	289	5,950	2,848	297	59	262	1,196	372	48	1	15	-	8	5	5	7,398	39,184

Source : Medical Statistics Unit

Table 11. Distribution of Specialists in Curative Care Services[1] by Regional Director of Health Services Division, December 2013

RDHS Division	General Physician	General Surgeon	Obstetricians & Gynaecologists	Cardiologist	Chest Physician	Thoracic Surgeons	Neurologist	Neuro Surgeons	Dermatologists	Rheumatologists	Pshychiatrists	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 / Restorative	Others [2]
Colombo	48	39	32	16		5	9	5	10	5	15	39	5	8	14	9	7	6	44	23	11	12	6	12	3	29	1		13	4	11	59
Gampaha	26	15	14	3	4	2	3		3	5	8	21		5	6	2	1	1	10	10	5	3				6			5	2	2	13
Kalutara	8	4	6	1	1		1		3	1	3	7		2	3	1			6	3	2					4	1			1	3	3
Kandy	19	14	14	5	2	3	2	2	6	2	9	21	6	5	5	3	1	3	16	13	4	2	5	4	1	6			7	8		15
Matale	5	4	4		1				2		2	3		1	2	1			2	2	1					2						1
Nuwara Eliya	3	3	5						2	1	1	4		1	2				2	1	1					2						
Galle	18	11	12	1	1	2	2	1	3	1	3	15	1	1	3	2		1	10	8	2	2	2	2	1	4			2	1	1	5
Matara	5	4	3	1			1		2	1	1	5		1	2	1			4	1	1	1				1				1	1	5
Hambantota	7	5	5		1				2		1	6		1	1	1			5	2	1					1					1	
Jaffna	9	5	4	3			1	1	2	1	1	4		2	2	1		1	4	3	1			1	1	3					1	
Kilinochchi	2	2	1						1											1												
Vavuniya	3	2	2				1				1	2				1			2	1	1					1					1	1
Mannar	2	2	1						1			1		1					1	1	1											
Batticaloa	5	3	3	1	1		1	1	1		1	2		1	1	1	1	1	2		1			2	1						1	2
Ampara	4	3	4				1		1		1	3		1	1	1			2	1												
Kalmunai	5	5	4									3			1				1							1						
Trincomalee	5	5	5						2		1	4		1	1	1			3	1	1					1						
Kurunegala	9	6	7	2	1		1		3	1	2	8		2	2	2		1	3	2	2	2		1	2	4				1	3	7
Puttalam	6	4	6		1				3		2	5		2	2	1			3	2	1					2				2		1
Anuradhapura	8	3	3	1			1	1	1	1	1	3		1	1	1		1	3	1	1	1		1		2				1	1	2
Polonnaruwa	4	2	3	1	1				1		1	3		1	1	1			1	1	1	1				1					1	3
Badulla	8	4	4	1	1	1	1	1	3		2	6		2	1	1		1	3	2	1	1		1	1	3				1	1	1
Monaragala	4	3	3						1		1	4		1	1				3	1	1					1						1
Ratnapura	7	6	6	1	1		1	1	2	1	2	7	1	2	2	2		1	4	4	2	1	1	1	1	3					1	3
Kegalle	6	4	4	2	1				4		1	5		2	1	1			4	2	1					1					1	2
Total	226	158	155	39	17	13	26	13	59	20	60	181	13	44	55	34	10	17	138	86	43	26	14	25	11	78	2	0	27	22	30	124

Includes :

Source : Medical Statistics Unit

[1] Specialists of the Faculties of Medicine working in Teaching Hospitals

[2] Virologists, Consultant JMO's, Immunologists, Parasitalogists, Nepharalogists & Neonatalogists

Table 12. National Expenditure, Health Expenditure and GNP, 2008 - 2013

Item	2008	2009	2010	2011	2012	2013
National Expenditure (Rs million)	996,126	1,747,064	1,751,113	1,961,053	2,192,234	2,411,606
Health Expenditure (Rs million)	68,604	67,448	80,027	82,179	89,291	120,346
Health Expenditure as a percent of National Expenditure	6.9	3.9	4.6	4.2	4.1	4.9
Per Capita Health Expenditure (Rs)	3,393	3,298	3,875	3,938	4,392	5,875
GNP(Rs billion)	4,312	4,769	5,530	6,472	7,434	8,439
Health Expenditure as a percent of GNP	1.59	1.41	1.45	1.26	1.20	1.43

Source: Management Development and Planning Unit, Department of Health Services

Table 13. Summary of Health Expenditure and Source of Fund, 2008 - 2013

(Rs Million)

Item	2008	2009	2010	2011	2012	2013
Health Expenditure						
Recurrent Expenditure	57,956	57,953	67,213	69,801	74,184	100,968
Capital Expenditure	10,649	9,495	12,814	12,378	15,107	19,378
	68,605	67,448	80,027	82,179	89,291	120,346
Source of Fund						
Consolidated Fund	65,677	65,286	74,048	79,433	81,781	111,988
Foreign Aid	2,927	2,162	5,979	2,745	7,510	8,358
	68,604	67,448	80,027	82,178	89,291	120,346

Source: Management Development and Planning Unit, Department of Health Services

Table 14. Summary of Health Expenditure by Programme, 2013

(Rs.Million)

Programme	Health Expenditure 2013		
	Ministry Of Health	Provincial Health	Total
Recurrent Expenditure			
01. Operational Activities	**67,910.97**		
01. Minister's Office	80.05		
02. Ministry Administration and Establishment Services	947.05		
03. Medical Supply Division	27,527.14		
04. National Drugs Quality Control Unit	43.19		
06. Teaching Hospital Maintenance	19,752.38		
07. District General and Base Hospital Maintenance	10,940.54		
08 Special Hospitals and Treatment Units Maintenance	6,623.72		
09. Other Hospital Maintenance	878.72		
10. Co-operated Hospitals	1,118.18		
02. Development Activities	**7,648.37**		
11. Human Resources Development	5,442.45		
14. Health Promotion and Diseases Prevention	615.50		
16. National Nutrition Programme	1,395.72		
17. Medical Research	194.70		
Total	**75,559.34**	**25,409.00**	**100,968.34**
Capital Expenditure			
01. Operational Activities	**507.20**		
01. Minister's Office	35.19		
02. Ministry Administration and Establishment Services	137.73		
03. Medical Supply Division	14.91		
10. Co-operated Hospitals	319.37		
02. Development Activities	**16,928.08**		
11. Human Resources Development	100.55		
12. Relief and Reconstruction in Tsunami Affected Areas	23.85		
13. Hospital Development Projects	14,878.12		
14. Health Promotion and Diseases Prevention	1,146.06		
15. Control Of Communicable and Non Communicable Diseases	674.33		
16. National Nutrition Programme	67.45		
17. Medical Research	37.72		
Total	**17,435.28**	**1,943.00**	**19,378.28**
Total Health Expenditure			
01. Operational Activities	**68,418.17**		
01. Minister's Office	115.24		
02. Ministry Administration and Establishment Services	1,084.78		
03. Medical Supply Division	27,542.05		
04. National Drugs Quality Control Unit	43.19		
06. Teaching Hospital Maintenance	19,752.38		
07. District General and Base Hospital Maintenance	10,940.54		
08. Special Hospitals and Treatment Units Maintenance	6,623.72		
09. Other Hospital Maintenance	878.72		
10. Co-operated Hospitals	1,437.55		
02. Development Activities	**24,576.45**		
11. Human Resources Development	5,543.00		
12. Relief and Reconstruction in Tsunami Affected Areas	23.85		
13. Hospital Development Projects	14,878.12		
14. Health Promotion and Diseases Prevention	1,761.56		
15. Control Of Communicable and Non Communicable Diseases	674.33		
16. National Nutrition Programme	1,463.17		
17. Medical Research	232.42		
Total	**92,994.62**	**27,352.00**	**120,346.62**

Source : Management Development and Planning Unit, Department of Health Services

Table 15. Indoor Morbidity and Mortality Statistics by Broad Disease Groups, 2013

	Disease Group	Total*	Live Discharges (%)									Deaths
			Sex		Age Group							
			Male	Female	under 1	1 - 4	5 - 16	17 - 49	50 -69	70+	Not Known	
1	Intestinal infectious diseases (A00-A09)	124,437	48.4	51.6	10.4	24.0	17.5	24.4	15.2	8.4	0.1	56
2	Tuberculosis (A15-A18)	8,324	70.5	29.5	0.5	1.0	3.1	42.6	40.3	12.5	-	318
3	Other bacterial diseases (A20-A49)	18,722	70.4	29.6	14.7	7.0	7.9	43.2	21.4	5.8	0.1	3,194
4	Infections with sexual mode of transmission (A50-A64)	379	38.7	61.3	1.3	1.6	4.8	65.5	23.9	2.9	-	2
5	Viral diseases (A80-B34)	290,067	56.6	43.4	5.7	15.1	18.4	41.4	14.5	4.9	0.1	201
6	Malaria (B50-B54)	106	77.4	22.6	-	2.8	13.2	67.9	12.3	3.8	-	-
7	Helminthiases (B76,B77,B79,B80)	275	52.4	47.6	0.7	27.6	41.5	21.1	7.3	1.8	-	-
8	Other infectious and parastic diseases	9,947	51.7	48.3	5.3	11.3	15.3	43.5	19.3	5.2	0.1	2
9	Neoplasms (C00-D48)	97,861	45.1	54.9	0.4	2.6	4.6	29.0	49.5	13.9	-	4,539
10	Iron dificiency anaemias (D50)	5,752	37.5	62.5	0.5	3.8	6.3	36.5	31.2	21.6	0.2	7
11	Haem. con. and other diseases of blood and ... (D51-D89)	23,884	49.0	51.0	2.2	8.2	22.7	31.7	21.1	14.1	-	99
12	Diabetes mellitus (E10-E14)	84,259	45.9	54.1	-	0.1	1.1	27.8	52.0	18.6	0.3	643
13	Malnutrition and vitamin deficiencies (E40-E46,E50-E56)	1,630	53.3	46.7	2.3	10.2	9.2	23.9	37.1	17.1	0.2	8
14	Oth eno, nutr and metabo... (E00-E07,E15-E34,E58-E89)	23,870	35.4	64.6	1.6	2.3	5.7	40.6	35.5	14.1	0.2	100
15	Mental and behavioural disorders (F00-F99)	46,615	57.2	42.8	-	0.2	3.3	62.3	27.5	6.1	0.6	-
16	Diseases of the nervous system (G00-G98)	66,347	50.1	49.9	2.5	5.5	12.2	41.9	26.6	11.1	0.2	585
17	Diseases of the eye and adnexa	143,293	49.0	51.0	0.9	2.6	6.3	22.2	44.1	23.8	0.0	-
18	Dis of the ear.. (H60-H61,H65-H74,H80-H83,H90-H95)	40,506	49.0	51.0	4.6	13.4	18.8	35.6	20.2	7.4	0.1	-
19	Rheum. fever and rheum. heart dis. (I00-I02,I05-I09)	3,083	39.2	60.8	-	1.2	16.5	35.3	33.6	13.2	0.2	34
20	Hypertensive diseases (I10-I15)	100,224	41.3	58.7	-	-	-	20.2	47.5	31.7	0.6	578
21	Ischaemic heart disease (I20-I25)	103,656	55.2	44.8	-	-	0.2	19.2	52.5	28.0	0.2	5,975
22	Other heart diseases (I26-I51)	38,345	53.5	46.5	0.3	0.3	1.0	21.7	44.8	31.7	0.3	3,396
23	Cerebroavascular disease (I60-I69)	40,168	58.4	41.6	-	0.1	0.3	11.7	45.6	41.8	0.5	3,470
24	Other diseases of the circulatory system (I70-I84)	39,867	60.7	39.3	0.1	0.6	1.8	40.9	42.6	13.9	0.1	181
25	Influenza (J10-J11)	1,651	40.0	60.0	4.8	15.2	13.5	36.5	20.8	9.2	-	18
26	Pneumonia (J12-J18)	24,290	54.4	45.6	12.6	17.5	12.0	20.3	24.3	13.3	0.1	2,489
27	Other dise. of the upper respir. tract (J00-J06,J30-J39)	126,122	51.1	48.9	10.9	21.0	18.9	27.3	15.2	6.6	0.2	31
28	Diseases of the resp. system exclu... (J20-J22, J40-J98)	449,987	52.9	47.1	8.4	13.8	13.8	21.5	26.4	15.9	0.1	3,216
29	Diseases of teeth and supporting structure (K00-K014)	16,741	54.8	45.2	1.0	10.2	22.0	39.0	21.0	6.7	0.0	-
30	Diseases of the gastrointestional tract (K20-K92)	278,347	54.4	45.6	0.8	3.1	10.6	45.9	28.5	11.0	0.1	2,297
31	Diseases of skin ad subcutaneous tissue (L00-L08,L10-L98)	195,072	57.2	42.8	2.2	7.5	11.4	37.7	30.0	11.2	0.1	43
32	Disorders of the musculoskeletal system (M00-M99)	157,434	52.2	47.8	0.1	1.1	7.9	44.4	33.2	13.0	0.3	58
33	Diseases of the urinary system (N00-N39)	208,496	55.4	44.6	1.8	4.1	7.0	44.9	29.3	12.7	0.1	2,531
34	Diseases of breast (N60-N64)	11,694	10.7	89.3	1.3	1.2	5.0	67.8	20.5	4.1	0.0	2
35	Diseases of the male genital organs (N40-N50)	20,118	100.0	-	1.0	8.1	12.8	31.9	27.9	18.0	0.2	3
36	Disor. of female genito-urinary sys. (N70-N98, N99.2, N99.3)	80,659	-	100.0	0.1	0.4	2.8	71.8	21.1	3.8	0.0	8
37	Abortions (O00-O08)	49,646	-	100.0	-	-	0.7	98.5	0.7	-	0.1	3
38	False labour (O47) and those admitted...	11,729	-	100.0	-	-	0.7	99.2	-	-	0.1	-
39	Other obstetric conditions	261,571	-	100.0	-	-	0.6	99.3	-	-	0.1	53
40	Single sponteaneous dilivery (O80)	222,566	-	100.0	-	-	0.3	99.6	-	-	0.0	-
41	Slow fetal growth, fetal malnutrition and... (P05-P07)	7,534	49.7	50.3	96.7	2.6	-	-	-	-	0.7	632
42	Other conditions originating in the perinatal period (P00-P04, P08-P96)	31,849	52.3	47.7	93.9	4.3	-	-	-	-	1.8	707
43	Congenital malformations deformations... (Q00-Q99)	12,909	58.6	41.4	35.9	34.8	16.2	10.3	2.4	0.4	0.1	558
44	Signs, symptoms and abnormal clinical findings (R00-R99)	497,787	50.0	50.0	3.4	7.8	12.1	40.2	25.2	11.1	0.2	1,928
45	Traumatic injuries (S00-T19, W54)	869,858	66.4	33.6	0.7	7.2	17.4	49.7	18.8	6.0	0.2	1,341
46	Burns and corrosion (T20-T32)	15,435	56.4	43.6	2.9	23.2	17.3	40.6	12.7	3.3	0.1	241
47	Toxic effects of pesticides (T60.0,T60.1-T60.9)	21,133	60.1	39.9	0.5	3.8	9.7	70.4	12.7	2.7	0.2	502
48	Snake bites (T63.0)	40,468	60.4	39.6	0.4	2.9	12.7	54.2	25.2	4.6	0.1	95
49	Tox. effe. of ot. sub. oth tha.. (T36-T59,T61-T62,T63.1-	60,338	48.1	51.9	0.9	8.2	15.6	60.5	11.7	2.9	0.1	249
50	Effects of unspecified external causes... (T33-T35,T66-T79)	45,588	53.3	46.7	2.0	7.5	19.5	44.1	20.2	6.5	0.1	93
51	Complications of surgical and medical care... (T80-T88)	10,021	51.1	48.9	3.8	7.1	13.3	42.7	24.1	8.8	0.2	25
52	Sequelae of injuries, poisoning and of other... (T90-T98)	4,467	60.2	39.8	1.8	6.0	14.2	48.9	21.7	7.3	0.1	16
53	Persons encountering health services.... (Z00-Z13,Z40-Z54)	504,203	52.8	47.2	3.7	6.4	11.7	39.7	26.8	11.6	0.2	-
54	Sterilizations (Z30.2)	6,742	3.0	97.0	-	-	-	94.1	5.5	-	0.4	-
55	Undiagnosed/Uncoded (245)	370,053	51.5	48.5	2.5	3.7	7.8	46.8	28.2	10.7	0.3	3,712
	Total	5,926,125	48.9	51.1	3.4	6.7	10.7	44.9	24.0	10.3	0.2	44,239

* Total = (Number of Live Discharges + Deaths)

Source : Medical Statistics Unit

Table 16. Trends in Hospital Morbidity and Mortality by Broad Disease Groups, 2005 - 2013

Disease Group by International Classification of Diseases (10th Revision)	Cases per 100,000 population (Morbidity)								Cases per 100,000 population (Mortality)							
	2005	2006	2007	2008	2009 [5]	2010 [6]	2012	2013	2005	2006	2007	2008	2009 [5]	2010 [6]	2012	2013
1. Certain infectious and parasitic diseases	1,693.8	2,153.6	2,034.8	2,477.8	2976.1	2693.2	2364.5	2,208.0	13.3	11.5	12.3	13.7	15.5	17.2	16.6	18.4
2. Neoplasms	282.2	289.7	329.0	359.2	368.8	403.2	470.9	477.8	14.0	16.3	17.5	17.2	18.5	21.5	22.2	22.2
3. Diseases of the blood & blood-forming organs & certain disorders involving the immune mechanism	83.6	84.7	95.7	97.2	113.4	124.6	138.8	144.7	0.4	0.5	0.3	0.4	0.5	0.6	0.5	0.5
4. Endocrine, nutritional and metabolic diseases	348.7	377.5	401.6	394.8	455.3	465.1	518.3	535.9	4.0	3.4	3.2	3.3	4.0	4.0	4.0	3.7
5. Mental and behavioural disorders	215.7	211.1	201.6	199.8	195.2	213.7	223.2	227.6	-	-	-	-	-	-	-	-
6. Diseases of the nervous system	250.2	274.7	293.3	290.0	308.4	313.8	329.3	323.9	2.4	2.7	2.7	2.6	3.2	3.0	2.9	2.9
7. Diseases of the eye and adnexa	418.6	458.1	512.0	580.7	648.4	646.7	697.9	699.6	-	-	-	-	-	-	-	-
8. Diseases of the ear and mastoid process	96.5	108.9	129.4	141.2	161.9	168.9	184.9	197.8	-	-	-	-	-	-	-	-
9. Diseases of the circulatory system	1,236.0	1,266.6	1,364.6	1,382.9	1436.7	1490.1	1573.1	1,588.4	52.6	55.6	59.9	59.0	60.6	63.1	65.4	66.6
10. Diseases of the respiratory system	2,139.2	2,536.2	2,399.0	2,745.5	2910.3	2873.7	2892.7	2,939.3	20.2	18.7	18.5	25.0	21.9	24.1	25.2	28.1
11. Diseases of the digestive system	1,080.5	1,132.5	1,188.1	1,190.2	1295.6	1375.5	1439.3	1,440.6	14.3	11.3	12.1	12.4	12.3	12.0	10.4	11.2
12. Diseases of the skin and subcutaneous tissue	591.7	664.7	730.5	725.6	874.4	901.7	970.0	952.4	-	-	-	-	-	-	0.1	0.2
13. Diseases of the musculoskeletal system and connective tissue	585.2	604.8	614.4	643.0	689.3	708.3	789.7	768.6	0.6	0.6	0.2	0.2	0.3	0.2	0.3	0.3
14. Diseases of the genito urinary system	1,155.4	1,254.8	1,325.8	1,273.8	1411.0	1506.8	1578.3	1,567.0	6.5	7.8	9.1	9.1	10.7	11.1	12.1	12.4
15. Pregnancy, childbirth and the puerperium [1, 4]	3,689.4	4,241.8	4,521.3	4,316.0	4528.6	4613.9	5299.6	5,389.3	3.5	0.9	1.4	1.5	1.1	1.0	0.9	1.0
16. Certain conditions originating in the perinatal period [2,3]	8,630.2	-	-	-	-	-	9188.4	11,448.5	417.3	-	-	-	-	-	222.2	389.2
17. Congenital malformations, deformations and chromosomal abnormalities	59.8	59.9	63.9	64.1	58.5	61.9	55.8	63.0	2.4	2.7	2.8	3.0	2.9	3.1	2.6	2.7
18. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified	1,317.9	1,545.5	1,633.4	1,827.6	2180.2	2143.7	2300.1	2,430.2	9.0	7.7	9.1	8.3	10.5	9.7	8.6	9.4
19. Injury, poisoning and certain other consequences of external causes	3,460.6	3,809.0	4,090.0	4,200.6	4585.4	4832.9	5316.3	5,210.7	19.6	17.4	17.1	14.8	17.2	15.2	13.9	12.5

[1] Rate per 100,000 females of the reproductive age group

[2] Per 100,000 live births / infant population

[3] Not calculated for the year 2006 - 2010 since infant population was not available

Excludes:

[4] 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

[5] Kilinochchi and Mullaitivu districts

[6] Mullaitivu district

Source: Medical Statistics Unit

Table 17. Trends in Hospitalization and Hospital Deaths of Selected Diseases, 2004 - 2013

Disease and ICD Code		Number of Hospitalization per 100,000 Population									Number of Deaths per 100,000 Population								
		2004	2005	2006	2007	2008	2009	2010	2012	2013	2004	2005	2006	2007	2008	2009	2010	2012	2013
Intestinal infectious diseases	(A00-A09)	668.5	670.7	692.9	706.8	627.5	791.6	732.4	634.4	607.5	0.9	2.2	0.4	0.4	0.4	0.5	0.4	0.2	0.3
Tuberculosis	(A15-A19)	58.0	43.1	37.1	35.2	34.9	38.3	48.7	39.0	40.6	3.3	1.7	1.4	1.4	1.4	1.4	2.2	1.5	1.6
Diphtheria	(A36)	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Whooping cough	(A37)	-	-	0.7	-	-	-	-	0.5	0.2	-	-	-	-	-	-	-	-	-
Septicaemia	(A40, A41)	16.7	18.2	20.1	20.3	23.7	27.1	28.2	33.6	38.1	5.9	5.9	7.1	8.5	9.0	10.2	11.5	12.6	14.4
Rabies	(A82)	0.5	0.3	0.3	0.3	0.3	0.2	0.3	0.2	0.2	0.3	0.2	0.2	0.2	0.2	0.1	0.2	0.1	0.1
Measles	(B05)	0.7	0.7	0.5	0.7	0.7	0.8	0.7	0.4	23.2	-	-	-	-	-	-	-	-	-
Viral hepatitis	(B15-B19)	19.2	18.5	20.1	33.1	15.2	45.3	14.5	15.9	16.1	0.1	-	0.1	-	-	-	-	-	-
Malaria	(B50-B54)	44.8	24.4	11.4	5.2	3.1	5.2	2.9	0.6	0.5	0.1	-	-	-	-	-	-	-	-
Helminthiasis	(B76, B77, B79, B80)	7.1	4.2	2.3	1.5	2.0	2.4	1.1	1.2	1.3	-	-	-	-	-	-	-	-	-
Diabetes mellitus	(E10-E14)	246.8	265.2	296.8	307.3	296.7	343.9	357.2	388.1	411.4	2.5	3.4	3.0	2.7	2.9	3.5	3.3	3.3	3.1
Nutritional deficiencies	(E40-E46, E50-E56)	8.8	11.7	6.9	7.2	7.9	9.1	6.5	7.6	7.9	0.2	0.2	0.1	0.1	0.1	0.2	0.1	-	-
Anaemias	(D50-D64)	62.5	69.6	68.7	74.5	77.2	87.8	96.6	105.6	111.9	0.5	0.3	0.4	0.2	0.3	0.4	0.4	0.3	0.4
Hypertensive disease	(I10-I15)	417.2	429.1	480.4	469.8	466.4	478.5	476.9	486.4	489.3	2.7	3.6	3.0	2.9	2.8	2.6	3.4	2.6	2.8
Ischaemic heart disease	(I20-I25)	336.4	353.9	399.9	427.1	423.0	450.4	478.2	494.9	506.1	19.2	19.1	20.7	22.7	22.1	23.7	24.8	27.6	29.1
Asthma	(J45)	832.1	817.3	910.4	893.5	970.2	973.8	948.2	928.0	910.8	4.3	4.3	3.8	3.6	4.1	3.3	3.7	3.1	3.0
Diseases of the liver	(K70-K76)	119.8	106.5	85.8	87.3	86.2	84.3	85.1	77.5	82.2	13.5	11.6	9.5	10.3	10.5	10.1	9.8	8.3	8.7
Abortions [1]	(O00-O08)	809.1	734.9	841.7	859.4	870.5	878.0	836.1	959.3	922.4	0.2	0.4	0.1	0.1	0.1	0.1	-	-	0.1

[1] Rate per 100,000 females of the reproductive age group

Source: Medical Statistics Unit

Table 18. Leading Causes of Hospitalization, 2013

Rank Order	ICD Code (10th Revision)	Causes of Hospitalization	Number of Cases	Proportionate Morbidity	Rate per 100,000 Population
1	S00-T19, W54	Traumatic injuries	869,858	18.1	4,246.7
2	R00-R99	Symptoms, signs and abnormal clinical and laboratory findings	497,787	10.4	2,430.2
3	J20-J22, J40-J98	Diseases of the respiratory system, excluding diseases of upper respiratory tract	449,987	9.4	2,196.9
4	A80-B34	Viral diseases	290,067	6.0	1,416.1
5	K20-K92	Diseases of the gastrointestinal tract	278,347	5.8	1,358.9
6	O10-O46, O48-O75, O81-O99, Z35	Direct and indirect obstetric causes	240,407	5.0	1,173.7
7	N00-N39	Diseases of the urinary system	208,496	4.3	1,017.9
8	L00-L99	Diseases of the skin and subcutaneous tissue	195,072	4.1	952.4
9	M00-M99	Diseases of the musculoskelital system and connective tissue	157,434	3.3	768.6
10	H00-H59	Diseases of the eye and adnexa	143,293	3.0	699.6
11	J00-J06, J30-J39	Diseases of the upper respiratory tract	126,122	2.6	615.7
12	A00-A09	Intestinal infectious diseases	124,437	2.6	607.5
	A00-T98, Z35 Z00-Z13, Z30.2 Z40-Z54,W54	All causes[1]	4,796,410	100.0	23,416.5

[1] Analysed all discharges (Live Discharges+Deaths) excluding;
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
Undiagnosed/Uncoded

Source: Medical Statistics Unit

Table 19. Leading Causes of Hospital Deaths, 2013

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	5,975	14.7	29.2
2	C00 - D48	Neoplasms[1]	4,539	11.2	22.2
3	I60 - I69	Cerebrovascular disease	3,470	8.6	16.9
4	I26 - I51	Pulmonary heart disease and diseases of the pulmonary circulation	3,396	8.4	16.6
5	J20 - J22 J40 - J98	Diseases of the respiratory system, excluding diseases of the upper respiratory tract	3,216	7.9	15.7
6	A20 - A49	Zoonotic and other bacterial diseases	3,194	7.9	15.6
7	N00 - N39	Diseases of the urinary system	2,531	6.2	12.4
8	J12 - J18	Pneumonia	2,489	6.1	12.2
9	K20 - K92	Diseases of the gastrointestinal tract	2,297	5.7	11.2
10	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	1,928	4.8	9.4
11	S00 - T19, W54	Traumatic injuries	1,341	3.3	6.5
12	P00 - P04, P08 - P96	Conditions originating in the period excluding disorders related to short gestation, low birth weight, slow fetal growth and fetal malnutrition	707	1.7	3.5
13	E10 - E14	Diabetes mellitus	643	1.6	3.1
14	P05 - P07	Slow fetal growth, fetal malnutrition and…	632	1.6	3.1
15	G00 - G98	Disease of the nervous system	585	1.4	2.9
	A00-T98, Z00-Z13, Z35 Z40-Z54, W54	All causes[2]	40,527	100.0	197.9

[1] Includes deaths reported (not classified by type of neoplasm) from Cancer Institute, Maharagama

[2] Analysed all deaths excluding undiagnosed/uncoded

Source: Medical Statistics Unit

Table 20. Leading Causes of Hospitalization, 2002 - 2013

Disease and ICD (10th Revision) Code		2013		2012		2010		2009		2008		2007		2006		2005		2004		2003		2002 [1]	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Traumatic injuries	(S00-T19)	1	18.1	1	17.0	1	16.2	1	15.6	1	15.6	1	16.1	1	17.0	1	16.2	1	16.5	1	16.7	1	14.5
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	2	10.4	2	9.8	2	9.5	2	9.8	3	9.1	3	8.7	3	8.4	3	7.7	3	8.0	3	7.6	4	6.3
Diseases of the respiratory system excluding diseases of upper respiratory tract	(J20-J22, J40-J98)	3	9.4	3	9.1	3	9.4	3	9.6	2	10.3	2	9.7	2	10.4	2	9.3	2	10.0	2	10.8	2	9.7
Viral diseases	(A80-B34)	4	6.0	4	6.7	4	7.9	4	9.1	4	8.5	4	6.4	4	7.3	5	5.0	4	7.5	4	6.3	3	6.4
Diseases of the gastro-intestinal tract	(K20-K92)	5	5.8	5	5.8	5	5.7	5	5.4	5	5.6	5	5.9	5	5.9	4	5.9	5	6.0	5	6.3	5	5.6
Direct and indirect obstetric causes[2]	(O10-O46, O48-O75, O81-O99, Z35)	6	5.5	6	4.9	6	4.7	6	4.6	6	4.8	6	5.4	6	5.1	6	4.7	6	4.9	6	4.7	6	4.0
Diseases of the urinary system	(N00-N39)	7	4.3	7	4.3	8	4.0	8	3.8	7	3.7	7	4.0	7	3.9	7	4.0	7	4.1	7	4.1	8	3.8
Diseases of the skin and subcutaneous tissue	(L00-L99)	8	4.1	8	4.1	7	4.0	7	3.9	10	3.1	8	3.9	9	3.6	9	3.4	9	3.6	10	3.5	10	3.1
Diseases of the musculoskeletal system and connective tissue	(M00-M99)	9	3.3	9	3.4	10	3.2	10	3.1	9	3.2	10	3.3	10	3.3	10	3.4	10	3.5	9	3.6	9	3.3
Diseases of the eye and adnexa	(H00-H59)	10	3.0	10	3.0	11	2.9	12	2.9														
Diseases of the upper respiratory tract	(J00-J06,J30-J39)	11	2.6	12	2.6	12	2.8	11	3.0	11	2.8	11	2.5	11	2.6								
Intestinal infectious diseases	(A00-A09)	12	2.6	11	2.7	9	3.3	9	3.6	8	3.6	9	3.7	8	3.8	8	3.9	8	4.0	8	3.8	7	3.9

Excludes:

Source : Medical Statistics Unit

[1] Kilinochchi District

[2] Single spontaneous delivery, false labour and those admitted and discharged before delivery

Table 21. Leading Causes of Hospital Deaths, 2005 - 2013

Disease and ICD (10th Revision) code		2013		2012		2010		2009		2008		2007		2006		2005	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Ischaemic heart disease	(I20-I25)	1	14.7	1	14.4	1	12.8	1	12.8	1	12.5	1	13.1	1	12.6	1	11.4
Neoplasms[1]	(C00-D48)	2	11.2	2	11.6	2	11.1	3	9.5	3	9.8	2	10.1	3	9.9	4	8.3
Cerebrovascular disease	(I60-I69)	3	8.6	4	8.7	4	8.7	4	8.4	4	8.7	4	9.2	4	8.9	5	7.7
Pulmonary heart disease and diseases of the pulmonary circulation	(I26-I51)	4	8.4	3	9.0	3	8.7	2	10.0	2	10.0	3	10.1	2	10.0	2	15.4
Diseases of the respiratory system, excluding diseases of upper respiratory tract	(J20-J22) (J40-J98)	5	7.9	5	7.2	5	7.0	5	6.7	5	8.0	6	6.5	6	6.9	6	7.3
Zoonotic and other bacterial diseases	(A20-A49)	6	7.9	6	7.1	6	6.6	7	6.3	7	6.2	7	5.6	7	4.9	10	4.2
Diseases of the urinary system	(N00-N39)	7	6.2	7	6.3	8	5.7	8	5.7	9	5.1	9	5.2	8	4.7		
Pneumonia	(J12-J18)	8	6.1	8	5.7	9	5.2	10	4.9	8	5.9	11	4.0	10	4.4	9	4.3
Diseases of the gastro-intestinal tract	(K20-K92)	9	5.7	9	5.4	7	6.2	6	6.6	6	7.0	5	7.0	5	6.9	3	8.5
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	10	4.8	10	4.5	10	5.0	9	5.7	10	4.7	8	5.3	9	4.7	7	5.3
Traumatic injuries	(S00-T19)	11	3.3	11	3.7	11	3.7	11	4.6	11	3.7	10	4.0	12	3.8	8	5.0
Conditions originating in the period excluding disorders related to short gestation, low birth weight, slow fetal growth and fetal malnutrition	(P00 - P04, P08 - P96)	12	1.7	12	2.0												
Diabetes mellitus	(E10 - E14)	13	1.6	14	1.7												
Slow fetal growth, fetal malnutrition and...	(P05 - P07)	14	1.6	13	1.8												

[1] Includes deaths reported from the Cancer Hospital (not analysed by site and type of neoplasm)

Source: Medical Statistics Unit

Table 22. Leading Causes of Hospitalization by District, 2013[1]

Disease and ICD (10th Revision) Code / District and Rank Order		Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullaitivu	Batticaloa	Ampara [2]	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Ratnapura	Kegalle
Traumatic injuries	(S00-T19)	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	2	4	2	3	2	2	3	2	2	2	2	2	6	2	3	2	3	3	2	3	2	2	3	3	4	3
Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	(J20-J22, J40-J98)	3	5	3	2	3	3	2	3	3	3	3	3	3	3	2	3	2	2	3	2	3	3	2	2	2	2
Viral diseases	(A80-B34)	4	3	4	5	5	7	6	6	4	5	9	12	4	8	5	8	5	9	4	6	6	4	7	4	3	4
Diseases of the gastrointestinal tract	(K20-K92)	5	8	5	4	4	5	5	5	5	4	8	4	2	5	4	4	4	4	5	5	7	6	4	5	5	5
Direct and indirect obstetric causes	(Z35,O10-O46,O48-O75,O81-O99)	6	6	7	7	6	6	4	7	6	9	6	9	9	4	7	5	6	7	6	4	4	5	5	7	6	6
Diseases of the urinary system	(N00-N39)	7	7	9	8	7	8	12	8	11	6	7	5	14	7	9	6	7	5	7	10	5	8	6	6	7	9
Diseases of the skin and subcutaneous tissue	(L00-L99)	8	9	6	6	9	10	11	4	9	7	5	6	15	6	6	7	8	8	9	7	9	7	9	10	8	7
Diseases of the musculoskeletal system and connective tissue	(M00-M99)	9	11	11	11	8	11	9	10	7	11	4	8	11	13	14	9	13	6	8	12	11	10	8	8	11	8
Diseases of the eye and adnexa	(H00-H59)	10	10	8	13	10	4	18	11	8	15	10	7	16	21	23	13	15	11	14	8	15	9	14	15	9	14
Diseases of the upper respiratory tract	(J00-J06,J30-J39)	11	16	14	9	13	9	8	14	10	14	13	10	10	9	18	10	12	14	11	11	8	12	10	12	10	10
Intestinal infectious diseases	(A00-A09)	12	14	11	12	12	12	7	13	13	10	14	14	8	12	11	16	10	16	10	9	10	11	12	9	12	11

[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 RDHS Division

Source: Medical Statistics Unit

Table 23. Leading Causes of Hospital Deaths by District, 2013

Disease and ICD (10th Revision) Code / District and Rank Order		Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullaitivu	Batticaloa	Ampara [2]	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Ratnapura	Kegalle
Ischaemic heart diseases	(I20-I25)	1	2	1	1	3	1	2	2	1	1	3	3	2	1	4	2	1	1	1	1	2	2	2	1	1	1
Neoplasms [1]	(C00-D48)	2	1	8	9	1	6	6	1	11	7	4	10	4	2	6	5	12	7	5	13	4	6	1	6	6	9
Cerebrovascular disease	(I60-I69)	3	5	3	3	4	4	4	4	2	6	6	5	5	20	8	8	4	4	3	7	6	3	9	9	2	3
Pulmonary heart disease and diseases of the pulmonary circulation	(I26-I51)	4	4	4	2	6	2	1	7	3	3	5	4	1	3	1	1	5	3	7	2	9	5	4	7	4	2
Diseases of the respiratory system, excluding diseases of upper respiratory tract, pneumonia and influenza	(J20-J22, J40-J98)	5	6	5	6	5	3	3	6	4	2	7	7	12	12	9	4	6	5	2	11	7	8	5	2	3	4
Zoonotic and other bacterial diseases	(A20-A49)	6	3	6	4	7	9	7	5	6	12	2	2	9	9	5	19	3	6	4	4	3	4	7	4	7	6
Diseases of the urinary system	(N00-N39)	7	7	10	10	9	7	9	9	10	11	8	1	13	6		6	2	2	8	8	1	1	6	3	9	11
Pneumonia	(J12-J18)	8	9	7	7	8	5	5	3	7	4	9	6	8	5	2	12	7	10	9	5	5	7	3	5	8	7
Diseases of gastrointestinal tract	(K20-K92)	9	8	2	8	11	8	8	10	8	9	10	8	14	8		9	16	9	6	3	11	11	10	11	5	8
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	10	10	11	5	2	13	10	11	5	10	1	15		11		3	15	29	16	6	8	15	15	8	13	5
Traumatic injuries	(S00-T19)	11	12	9	11	10	11	20	8	9	8	12	11	6	4	10	7	9	13	13	14	10	9	8	12	10	10
Conditions originating in the perinatal period, excluding disorders related to short gestation, low birth weight, slow fetal growth and fetal malnutrition	(P00-P04, (P08-P96)	12	16	14	12	14	12	18	12	16	14	13	9	15	7			8	21	10	12	14	14	11	14	15	21
Diabetes mellitus	(E10-E14)	13	13	12	18	13	14	12	13	18	5	22	21	10	16		26	18	8	20	15	18	20	18	18	18	12
Slow fetal growth, fetal malnutrition and...	(P05-P07)	14	15	16	13	17	10	19	17	12	19	11	22		13		18	10	19	12	17	15	12	19	13	14	15
Diseases of the nervous system	(G00-G98)	15	14	15	14	15	18	13	15	15	16	18	18		10	3	16	19	23	14	16	13	13	17	19	11	16
Hypertensive diseases	(I10-I15)	16	18	17	27	12	15	11	14	17	13	16		3	17		20	11	12	18	9	25	28	12	20	12	13
Congenital malformations deformations...	(Q00-Q99)	17	11	19	15	16	16	22	16	13	27	19			18		22	14	22	15	27	16	16	16	22	23	22
Toxic effects of pesticides	(T60)	18	23	18	16	20	17	15	18	19	15	21	13		14		23	13	31	11	10	12	10	13	10	16	17

Includes :

[1] Deaths reported from Cancer Hospital (not analysed by site and type of neoplasm)

[2] Kalmunai RDHS Division

Source: Medical Statistics Unit

Table 24. Cases and Deaths of Poisonning and Case Fatality Rate[1] by Regional Director of Health Services Division - 2013

RDHS Division	Poisoning by Drugs, Medicaments and Biological Substances		Toxic effects of Pesticides				Toxic Effects of Other Substances Mainly Non Medicinal		Total				Case Fatality Rate
			Organophosphate and Carbamate Insecticides		Other Pesticides				No.		Rate per 100,000 Population		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
Colombo	3,063	4	333	5	297	20	2,108	13	5,801	42	249.4	1.8	0.72
Gampaha	2,756	3	374	32	128	5	1,497	5	4,755	45	205.6	1.9	0.95
Kalutara	1,342	4	111	6	253	6	1,325	8	3,031	24	247.0	2.0	0.79
Kandy	2,106	2	779	16	302	11	2,618	10	5,805	39	419.4	2.8	0.67
Matale	703	1	633	7	221	4	914	2	2,471	14	505.3	2.9	0.57
Nuwara Eliya	623	-	757	10	131	-	1,581	-	3,092	10	430.0	1.4	0.32
Galle	1,411	3	221	14	208	10	1,371	10	3,211	37	300.7	3.5	1.15
Matara	947	3	132	7	155	4	1,435	15	2,669	29	325.9	3.5	1.09
Hambantota	1,170	4	727	12	791	7	961	2	3,649	25	602.1	4.1	0.69
Jaffna	736	3	598	10	229	-	3,248	18	4,811	31	816.8	5.3	0.64
Kilinochchi	233	-	161	3	207	-	797	-	1,398	3	1,205.2	2.6	0.21
Mullaitivu	220	-	72	-	24	-	49	-	365	-	392.5	-	-
Vavuniya	227	-	234	6	65	-	1,146	3	1,672	9	960.9	5.2	0.54
Mannar	199	5	84	-	72	-	394	-	749	5	741.6	5.0	0.67
Batticaloa	736	5	315	2	55	-	1,135	1	2,241	8	423.6	1.5	0.36
Ampara [2]	959	1	457	9	243	5	743	1	2,402	16	365.0	2.4	0.67
Trincomalee	903	8	320	1	298	1	484	-	2,005	10	522.1	2.6	0.50
Kurunegala	2,811	6	2,506	76	572	12	2,193	24	8,082	118	497.7	7.3	1.46
Puttalam	1,163	5	724	41	171	-	1,307	8	3,365	54	437.6	7.0	1.60
Anuradhapura	1,783	3	1,636	34	827	9	1,775	17	6,021	63	693.7	7.3	1.05
Polonnaruwa	1,001	3	677	23	404	8	612	5	2,694	39	660.3	9.6	1.45
Badulla	905	3	1,031	29	163	7	1,713	15	3,812	54	463.7	6.6	1.42
Monaragala	724	3	809	25	157	3	449	4	2,139	35	469.1	7.7	1.64
Ratnapura	1,612	6	822	14	292	-	788	5	3,514	25	320.3	2.3	0.71
Kegalle	642	1	278	8	77	-	720	7	1,717	16	203.4	1.9	0.93
Sri Lanka	28,975	76	14,791	390	6,342	112	31,363	173	81,471	751	397.7	3.7	0.92

[1] Deaths per 100 cases

[2] Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 25. Distribution of Patients with Mental Disorders by Regional Director of Health Services Division , 2013

RDHS Division	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 Use of 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	356	-	646	-	315	-	3,940	-	3,033	-	281	-	116	-	80	-	771	-	6,505	-
Gampaha	69	-	967	-	126	-	1,273	-	1,598	-	197	-	6	-	12	-	540	-	3,190	-
Kalutara	27	-	516	-	33	-	421	-	363	-	79	-	4	-	20	-	244	-	1,344	-
Kandy	73	-	886	-	47	-	566	-	2,470	-	297	-	75	-	71	-	277	-	2,292	-
Matale	2	-	271	-	17	-	218	-	583	-	76	-	7	-	6	-	71	-	668	-
Nuwara Eliya	7	-	165	-	6	-	197	-	260	-	39	-	10	-	10	-	252	-	686	-
Galle	58	-	358	-	3	-	1,309	-	863	-	32	-	10	-	6	-	204	-	1,980	-
Matara	25	-	368	-	24	-	177	-	410	-	135	-	1	-	11	-	224	-	965	-
Hambantota	6	-	74	-	29	-	186	-	47	-	33	-	-	-	11	-	313	-	652	-
Jaffna	20	-	269	-	23	-	1,041	-	414	-	115	-	13	-	19	-	156	-	1,656	-
Kilinochchi	-	-	3	-	10	-	98	-	52	-	7	-	40	-	-	-	24	-	182	-
Mullaitivu	-	-	-	-	-	-	88	-	42	-	3	-	-	-	-	-	18	-	-	-
Vavuniya	20	-	52	-	3	-	251	-	238	-	120	-	72	-	3	-	35	-	556	-
Mannar	-	-	144	-	58	-	72	-	56	-	14	-	27	-	51	-	33	-	399	-
Batticoloa	4	-	380	-	17	-	89	-	71	-	172	-	19	-	34	-	79	-	794	-
Ampara	8	-	26	-	57	-	147	-	130	-	67	-	-	-	4	-	32	-	341	-
Kalmunai	3	-	66	-	21	-	227	-	65	-	48	-	3	-	49	-	66	-	483	-
Trincomalee	8	-	55	-	42	-	79	-	180	-	68	-	14	-	23	-	97	-	386	-
Kurunegala	84	-	998	-	170	-	874	-	1,780	-	66	-	3	-	43	-	318	-	2,556	-
Puttalam	6	-	137	-	74	-	66	-	155	-	30	-	1	-	45	-	66	-	425	-
Anuradhapura	13	-	134	-	66	-	421	-	713	-	56	-	49	-	11	-	379	-	1,129	-
Polonnaruwa	5	-	128	-	3	-	128	-	222	-	49	-	32	-	16	-	193	-	554	-
Badulla	232	-	160	-	151	-	846	-	441	-	34	-	3	-	35	-	546	-	2,007	-
Monaragala	3	-	67	-	52	-	123	-	113	-	35	-	1	-	6	-	131	-	418	-
Ratnapura	35	-	383	-	78	-	372	-	163	-	27	-	17	-	29	-	93	-	1,034	-
Kegalle	17	-	289	-	27	-	139	-	242	-	68	-	-	-	40	-	20	-	600	-
Total	1,081	-	7,542	-	1,452	-	13,348	-	14,704	-	2,148	-	523	-	635	-	5,182	-	31,802	-

Source : Medical Statistics Unit

Table 26. Case Fatality Rate[1] for Selected Diseases, 2008 - 2013

Disease	ICD Code	2008			2009			2010			2012			2013		
		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	(A01)	2,909	2	0.1	4,381	7	0.2	3,599	2	0.1	2,349	5	0.2	1,961	3	0.2
Tetanus	(A34, A35)	70	4	5.7	39	10	25.6	29	8	27.6	91	5	5.5	170	4	2.4
Shigellosis	(A03)	3,381	2	0.1	3,396	2	0.1	3,338	3	0.1	2,833	1	-	2,000	2	0.1
Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight	(P05-P07)	7,790	636	8.2	6,962	609	8.7	7,350	877	11.9	7,182	696	9.7	7,534	632	8.4
Measles	(B05)	149	1	0.7	162	-	-	147	-	-	80	-	-	4,755	-	-
Whooping cough	(A37)	-	-	-	-	-	-	-	-	-	95	-	-	50	-	-
Viral hepatitis	(B15-B19)	3,066	2	0.1	9,257	8	0.1	2,989	8	0.3	3,228	9	0.3	3,288	9	0.3
Malaria	(B50-B54)	634	2	0.3	1,060	1	0.1	595	-	-	124	-	-	106	-	-
Tetanus neonatorum	(A33)	1	-	-	-	-	-	1	-	-	-	-	-	13	-	-
Diseases of the liver	(K70-K76)	17,419	2,116	12.1	17,245	2,074	12.0	17,582	2,015	11.5	15,760	1,681	10.7	16,836	1,790	10.6
Septicaemia	(A40, A41)	4,799	1,818	37.9	5,540	2,090	37.7	5,817	2,364	40.6	6,829	2,569	37.6	7,814	2,945	37.7
Snake bites	(T63.0)	38,381	58	0.2	39,813	86	0.2	42,234	88	0.2	41,538	76	0.2	40,468	95	0.2
Hypertensive diseases	(I10-I15)	94,296	565	0.6	97,857	541	0.6	98,485	705	0.7	98,869	524	0.5	100,224	578	0.6
Ischaemic heart disease	(J20-J25)	85,511	4,466	5.2	92,107	4,856	5.3	98,755	5,122	5.2	100,611	5,619	5.6	103,656	5,975	5.8
Pneumonia	(J12, J18)	22,515	2,121	9.4	22,713	1,850	8.1	23,875	2,099	8.8	23,679	2,233	9.4	24,290	2,489	10.2
Asthma	(J45, J46)	196,151	830	0.4	199,139	676	0.3	195,825	772	0.4	188,654	623	0.3	186,565	610	0.3
Bactrial meningitis	(G00, G03)	3,281	125	3.8	4,771	158	3.3	4,569	122	2.7	3,311	120	3.6	3,683	100	2.7

[1] Deaths per 100 cases

Source: Medical Statistics Unit

Table 27. Inpatients Treated and Hospital Deaths by Type of Institution and RDHS Division, 2013

RDHS Division	Teaching Hospital		Provincial General Hospital		District General Hospital		Base Hospital Type A		Base Hospital Type B		Divisional Hospital Type A		Divisional Hospital Type B		Divisional Hospital Type C		Primary Medical Care Unit and Maternity Homes	Other Hospitals with Indoor Patients		Total		Inpatients per 1,000 population	Hospital Deaths per 100 cases
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Cases	Deaths	Cases	Deaths		
Colombo	575,666	7,647	-	-	-	-	143,758	846	16,243	79	8,165	5	43,523	84	5,523	6	-	103,378	1,937	896,256	10,604	385	1.2
Gampaha	125,537	1,089	-	-	177,389	1,680	62,751	493	27,575	104	40,724	119	7,926	8	25,772	64	-	27,104	168	494,778	3,725	214	0.8
Kalutara	-	-	-	-	94,594	849	115,299	791	9,468	11	15,144	30	45,475	60	11,154	9	-	-	-	291,134	1,750	237	0.6
Kandy	255,377	3,368	-	-	37,326	273	-	-	51,014	343	-	-	65,155	205	67,108	89	-	3,645	4	479,625	4,282	347	0.9
Matale	-	-	-	-	63,758	472	48,510	323	-	-	-	-	14,944	33	22,506	32	-	-	-	149,718	860	306	0.6
Nuwara Eliya	-	-	-	-	44,769	379	16,743	94	15,693	83	13,969	27	25,332	79	21,912	50	-	-	-	138,418	712	193	0.5
Galle	164,776	2,070	-	-	-	-	78,474	400	6,406	21	3,210	7	41,056	83	26,383	19	-	576	-	320,881	2,600	300	0.8
Matara	-	-	-	-	98,695	1,143	-	-	33,317	112	14,549	21	35,445	58	6,640	7	-	-	-	188,646	1,341	230	0.7
Hambantota	-	-	-	-	55,358	256	40,944	309	28,116	104	-	-	47,326	58	21,141	1	-	-	-	192,885	728	318	0.4
Jaffna	124,761	1,455	-	-	-	-	33,212	83	15,047	40	-	-	19,691	38	6,560	8	-	-	-	199,271	1,624	338	0.8
Kilinochchi	-	-	-	-	33,140	104	-	-	2,828	-	-	-	666	-	3,996	18	-	-	-	40,630	122	350	0.3
Mullaitivu	-	-	-	-	13,920	19	-	-	2,410	-	11,406	4	1,902	-	740	-	-	-	-	30,378	23	327	0.1
Vavuniya	-	-	-	-	55,907	299	-	-	4,232	21	-	-	-	-	1,081	-	-	-	-	61,220	320	352	0.5
Mannar	-	-	-	-	19,242	100	-	-	-	-	-	-	7,357	8	1,202	-	-	-	-	27,801	108	275	0.4
Batticoloa	55,727	203	-	-	-	-	-	-	44,496	43	-	-	15,170	5	13,879	8	2,195	-	-	131,467	259	249	0.2
Ampara[1]	-	-	-	-	50,204	317	73,511	319	42,112	121	-	-	16,061	10	20,766	14	-	-	-	202,654	781	308	0.4
Trincomalee	-	-	-	-	41,791	331	17,121	55	26,019	55	-	-	-	-	17,905	121	-	-	-	102,836	562	268	0.5
Kurunegala	170,126	2,621	-	-	-	-	58,592	591	74,594	383	56,725	118	69,949	142	36,126	39	-	-	-	466,112	3,894	287	0.8
Puttalam	-	-	-	-	49,141	501	45,220	373	32,039	240	15,983	35	8,403	5	16,726	15	-	-	-	167,512	1,169	218	0.7
Anuradhapura	127,482	1,847	-	-	-	-	-	-	42,029	120	36,526	58	53,021	61	44,487	43	-	586	-	304,131	2,129	350	0.7
Polonnaruwa	-	-	-	-	90,638	687	-	-	25,255	118	9,564	25	20,792	4	9,999	18	-	-	-	156,248	852	383	0.5
Badulla	-	-	91,477	998	-	-	63,275	602	14,402	80	16,949	63	20,101	41	42,069	41	-	-	-	248,273	1,825	302	0.7
Monaragala	-	-	-	-	51,155	393	-	-	31,412	91	7,985	16	27,160	38	29,480	27	-	-	-	147,192	565	323	0.4
Ratnapura	-	-	109,622	1,202	-	-	61,649	481	56,045	428	43,685	97	21,784	11	17,150	37	-	-	-	309,935	2,256	283	0.7
Kegalle	63,108	563	-	-	-	-	-	-	65,363	507	35,642	74	3,472	3	10,519	1	-	20	-	178,124	1,148	211	0.6
Total	1,662,560	20,863	201,099	2,200	977,027	7,803	859,059	5,760	666,115	3,104	330,226	699	611,711	1,034	480,824	667	2,195	135,309	2,109	5,926,125	44,239	289	0.7

[1] Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 28. Selected Non-Communicable Diseases, 2012-2013

Disease	2012					2013				
	Live Discharges		Deaths		Case Fatality Rate *	Live Discharges		Deaths		Case Fatality Rate *
	Male	Female	Male	Female		Male	Female	Male	Female	
Diabetes Mellitus	35,523	42,702	350	325	0.86	38,407	45,209	331	312	0.76
Essential hypertension	36,864	52,261	189	193	0.43	36,330	53,608	187	219	0.45
Other Hypertensive diseases	4,116	5,104	79	63	1.52	4,791	4,917	100	72	1.74
Ischaemic heart diseases	52,423	42,569	3,240	2,379	5.58	53,941	43,740	3,528	2,447	5.76
Cerebrovascular diseases	20,859	13,932	1,989	1,429	8.95	21,421	15,277	2,013	1,457	8.64
Chronic obstructive pulmonary diseases	24,217	7,271	797	189	3.04	26,441	8,218	891	179	2.99
Asthma	93,337	94,694	362	261	0.33	92,905	93,050	320	290	0.33
Alcoholic liver diseases	6,011	605	563	45	8.42	5,647	671	508	45	8.05
Other diseases of liver	5,300	2,163	781	292	12.57	6,230	2,498	899	338	12.41
Neoplasms	40,187	51,023	2,538	1,981	4.72	42,128	51,194	2,559	1,980	4.64
Renal failure	13,528	6,802	1,466	643	9.40	15,627	7,560	1,426	736	8.53

* Deaths per 100 cases

Source : Medical Statistics Unit

Table 29. Outpatient Attendance by District and Type of Institution, 2013

District	Teaching Hospitals	Provincial General Hospitals	District General Hospitals	Base Hospitals Type A	Base Hospitals Type B	Divisional Hospitals Type A	Divisional Hospitals Type B	Divisional Hospitals Type C	Primary Medical Care Units with Maternity Homes	Other Institutions with Indoor Facility	Other Institutions without Indoor Facility	Primary Medical Care Units	Grand Total	Attendance per 1000 Population
Colombo	3,302,392	-	-	630,500	209,495	153,121	727,015	164,604	-	863,922	-	461,881	6,512,930	2,800.1
Gampaha	593,656	-	666,508	265,113	268,124	590,481	86,170	469,466	-	254,275	-	699,469	3,893,262	1,683.2
Kalutara	-	-	382,768	669,883	76,462	159,253	650,178	336,512	-	-	28,159	215,848	2,519,063	2,053.0
Kandy	902,323	-	288,148	-	315,131	-	972,840	1,125,229	-	183,629	110,038	390,189	4,287,527	3,097.9
Matale	-	-	358,327	170,200	-	-	251,768	414,062	-	-	-	265,643	1,460,000	2,985.7
Nuwara Eliya	-	-	205,683	95,067	145,184	91,270	258,064	336,266	-	-	-	300,538	1,432,072	1,991.8
Galle	524,876	-	-	377,009	72,658	69,521	552,739	417,488	-	75,431	-	528,431	2,618,153	2,451.5
Matara	-	-	282,838	-	211,230	165,513	428,338	215,400	-	-	-	486,633	1,789,952	2,185.5
Hambantota	-	-	272,330	139,619	253,766	-	636,744	370,054	-	-	-	243,778	1,916,291	3,162.2
Jaffna	308,398	-	-	252,391	190,764	-	280,855	434,489	-	-	-	232,068	1,698,965	2,884.5
Kilinochchi	-	-	209,561	-	41,472	-	25,515	112,285	-	-	-	7,231	396,064	3,414.3
Mullaitivu	-	-	113,292	-	29,124	137,986	31,231	28,213	-	-	-	-	339,846	3,654.3
Vavuniya	-	-	251,588	-	58,210	-	-	169,597	-	-	18,905	28,230	526,530	3,026.0
Mannar	-	-	151,111	-	-	-	128,525	111,804	-	-	-	17,740	409,180	4,051.3
Batticoloa	265,165	-	-	-	501,266	-	187,539	348,739	-	-	6,846	324,012	1,633,567	3,088.0
Ampara	-	-	253,606	515,718	442,119	-	288,138	541,980	56,097	-	79	321,343	2,419,080	3,676.4
Trincomalee	-	-	123,847	120,507	245,064	-	-	312,536	-	-	-	314,604	1,116,558	2,907.7
Kurunegala	569,242	-	-	193,464	432,196	639,537	937,088	753,726	-	-	-	703,329	4,228,582	2,603.8
Puttalam	-	-	223,736	180,155	156,765	210,505	210,792	356,351	-	-	-	378,116	1,716,420	2,232.0
Anuradhapura	242,928	-	-	-	331,767	467,107	565,312	721,750	-	15,536	-	339,329	2,683,729	3,091.9
Polonnaruwa	-	-	315,360	-	231,339	107,397	272,391	205,007	-	-	-	146,809	1,278,303	3,133.1
Badulla	-	290,983	-	360,909	156,942	248,308	315,488	849,613	-	-	-	384,684	2,606,927	3,171.4
Monaragale	-	-	197,871	-	367,302	109,599	385,907	430,131	-	-	-	148,714	1,639,524	3,595.4
Ratnapura	-	336,919	-	181,650	496,103	544,987	352,507	519,511	-	-	-	187,430	2,619,107	2,387.5
Kegalle	402,661	-	-	-	455,663	438,019	62,322	310,255	-	23,433	20,315	405,061	2,117,729	2,509.2
Total	7,111,641	627,902	4,296,574	4,152,185	5,688,146	4,132,604	8,607,466	10,055,068	56,097	1,416,226	184,342	7,531,110	53,859,361	2,629.5

Source : Medical Statistics Unit

Table 30. Outpatient Attendance by RDHS Division, 2013

RDHS Division	Quarter				Total Visits
	First	Second	Third	Fourth	
Colombo	1,564,994	1,672,015	1,636,030	1,639,891	6,512,930
Gampaha	952,226	1,015,007	949,888	976,141	3,893,262
Kalutara	609,783	670,595	609,088	629,597	2,519,063
Kandy	1,050,022	1,095,179	1,055,316	1,087,010	4,287,527
Matale	365,110	369,439	337,670	387,781	1,460,000
Nuwara Eliya	353,477	362,437	347,791	368,367	1,432,072
Galle	628,423	674,953	648,767	666,010	2,618,153
Matara	453,426	454,959	428,259	453,308	1,789,952
Hambantota	474,632	469,572	470,367	501,720	1,916,291
Jaffna	411,794	422,701	411,117	453,353	1,698,965
Kilinochchi	100,013	102,280	92,568	101,203	396,064
Mannar	102,268	100,722	98,727	107,463	409,180
Vavuniya	138,127	136,294	121,250	130,859	526,530
Mullaitivu	82,415	86,574	83,483	87,374	339,846
Batticaloa	408,135	417,333	400,182	407,917	1,633,567
Ampara	245,433	256,282	235,414	230,007	967,136
Trincomalee	282,214	279,147	272,794	282,403	1,116,558
Kalmunai	369,329	380,737	345,081	356,797	1,451,944
Kurunegala	1,024,608	1,119,492	1,006,794	1,077,688	4,228,582
Puttalam	415,479	445,275	406,127	449,539	1,716,420
Anuradhapura	681,346	676,230	635,859	690,294	2,683,729
Polonnaruwa	332,021	317,862	306,419	322,001	1,278,303
Badulla	646,024	671,215	634,616	655,072	2,606,927
Monaragala	398,019	431,816	385,998	423,691	1,639,524
Ratnapura	636,814	663,313	649,595	669,385	2,619,107
Kegalle	507,050	558,732	519,291	532,656	2,117,729
Grand Total	13,233,182	13,850,161	13,088,491	13,687,527	53,859,361

Source : Medical Statistics Unit

Table 31. Outpatient Department (OPD) Visits by Type of Hospital, 2013

Hospital Type	Quarter				Total Visits
	First	Second	Third	Fourth	
Teaching Hospitals	1,718,846	1,817,702	1,796,394	1,778,699	7,111,641
Provincial General Hospitals	152,026	167,800	159,348	148,728	627,902
District General Hospitals	1,086,380	1,086,763	1,055,029	1,068,402	4,296,574
Base Hospitals - Type A	1,012,151	1,077,898	1,009,569	1,052,567	4,152,185
Base Hospitals - Type B	1,411,276	1,486,750	1,369,698	1,420,422	5,688,146
Divisional Hospitals - Type A	1,000,039	1,089,322	991,140	1,052,103	4,132,604
Divisional Hospitals - Type B	2,121,021	2,228,198	2,069,676	2,188,571	8,607,466
Divisional Hospitals - Type C	2,468,639	2,588,625	2,416,564	2,581,240	10,055,068
Primary Medical Care Units with Maternity Homes	14,090	13,608	13,115	15,284	56,097
Other Institutions with Indoor Facility [1]	346,076	357,714	346,252	366,184	1,416,226
Other Institutions without Indoor Facility	47,284	47,108	44,373	45,577	184,342
Primary Medical Care Units	1,855,354	1,888,673	1,817,333	1,969,750	7,531,110
Total Visits	13,233,182	13,850,161	13,088,491	13,687,527	53,859,361

[1] Includes; Mental, Chest, Leprosy, Police, Prison, Fever, Cancer, Dental and Rehabilitation hospitals

Source: Medical Statistics Unit

Table 32. Clinic Visits by Quarter, by RDHS Division, 2013

RDHS Division	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total	
	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits
Colombo	204,265	944,326	196,524	913,041	234,534	1,006,205	221,230	994,120	856,553	3,857,692
Gampaha	159,645	476,766	150,054	477,953	172,557	521,168	161,396	503,739	643,652	1,979,626
Kalutara	77,994	232,443	76,930	238,533	87,767	261,094	87,350	269,325	330,041	1,001,395
Kandy	122,284	571,343	114,369	544,723	119,454	575,200	134,860	611,623	490,967	2,302,889
Matale	31,921	152,650	31,981	149,118	34,988	154,064	40,449	156,837	139,339	612,669
Nuwara Eliya	33,873	141,811	31,903	137,294	30,712	142,718	33,795	147,131	130,283	568,954
Galle	72,700	243,618	67,521	237,259	72,133	250,199	74,393	250,896	286,747	981,972
Matara	62,345	183,167	62,674	185,828	67,762	194,693	65,693	189,425	258,474	753,113
Hambantota	32,783	125,430	32,995	118,021	40,914	137,789	37,680	129,193	144,372	510,433
Jaffna	46,352	264,181	50,680	274,174	50,132	282,590	47,415	277,883	194,579	1,098,828
Kilinochchi	8,336	26,476	9,506	31,727	10,598	32,292	9,696	29,552	38,136	120,047
Mullaitivu	10,399	22,149	9,853	21,831	10,485	24,668	10,344	25,918	41,081	94,566
Vavuniya	17,218	58,734	18,756	61,055	19,376	61,377	16,792	61,117	72,142	242,283
Mannar	9,617	34,484	9,334	35,625	4,571	20,190	10,175	37,730	33,697	128,029
Batticoloa	26,489	109,609	26,304	114,159	29,079	122,605	30,289	124,750	112,161	471,123
Ampara	36,752	84,504	28,116	85,611	29,017	88,741	31,246	89,831	125,131	348,687
Kalmunai	32,277	100,900	37,194	110,973	33,940	110,085	36,918	106,404	140,329	428,362
Trincomalee	22,108	78,946	25,149	86,040	25,250	87,186	20,435	81,264	92,942	333,436
Kurunegala	90,954	406,877	91,795	415,635	99,672	447,087	100,931	461,647	383,352	1,731,246
Puttalam	43,500	152,449	47,384	166,356	52,637	174,103	52,243	171,303	195,764	664,211
Anuradhapura	49,619	217,107	54,736	214,432	48,691	225,746	50,479	231,101	203,525	888,386
Polonnaruwa	38,478	122,988	40,935	122,943	40,866	130,046	44,274	137,078	164,553	513,055
Badulla	74,284	280,061	80,365	286,702	81,658	295,489	87,778	297,083	324,085	1,159,335
Monaragala	35,241	108,103	32,898	102,595	31,214	107,283	29,702	104,938	129,055	422,919
Ratnapura	77,841	269,585	75,049	263,976	84,084	289,704	93,261	297,074	330,235	1,120,339
Kegalle	48,911	209,729	61,570	212,780	69,520	229,215	63,857	231,962	243,858	883,686
Total	1,466,187	5,618,436	1,464,575	5,608,384	1,581,611	5,971,537	1,592,681	6,018,924	6,105,054	23,217,281

Source : Medical Statistics Unit

Table 33. Clinic Visits by Quarter, by Type of Hospitals, 2013

Type	Quarter 1		Quarter 2		Quarter 3		Quarter 4		Total	
	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits	First Visits	Total Visits
Teaching Hospitals	350,367	1,670,931	345,853	1,637,863	378,419	1,750,713	373,456	1,781,809	1,448,095	6,841,316
Provincial General Hospitals	43,909	197,603	43,108	196,594	45,252	206,981	45,256	208,680	177,525	809,858
District General Hospitals	261,910	777,102	260,009	810,858	273,843	849,860	269,791	851,832	1,065,553	3,289,652
Base Hospitals Type A	149,595	549,983	161,871	573,616	190,473	629,189	182,979	608,359	684,918	2,361,147
Base Hospitals Type B	132,640	518,001	142,415	506,947	160,151	555,357	170,077	586,150	605,283	2,166,455
Divisional Hospitals Type A	86,588	290,919	84,462	295,668	96,296	322,477	87,741	325,039	355,087	1,234,103
Divisional Hospitals Type B	151,368	538,182	147,417	531,053	146,529	556,353	154,468	550,054	599,782	2,175,642
Divisional Hospitals Type C	140,722	525,189	138,007	518,652	139,591	532,974	154,796	551,069	573,116	2,127,884
Primary Medical Care Units and Maternity Homes	231	1,720	203	1,756	198	1,915	491	1,408	1,123	6,799
Other Hospitals and Clinics [1]	46,678	183,056	44,216	172,626	47,129	189,488	43,178	179,295	181,201	724,465
Primary Medical Care Units	102,178	365,750	97,014	362,751	103,730	376,230	110,448	375,229	413,370	1,479,960
Grand Total	1,466,187	5,618,436	1,464,575	5,608,384	1,581,611	5,971,537	1,592,681	6,018,924	6,105,054	23,217,281

[1] Includes; Mental, Chest, Leprosy, Police, Prison, Fever, Cancer, Dental and Rehabilitation hospitals

Source : Medical Statistics Unit

Table 34. Utilization of Medical Institutions by Regional Director of Health Services Division, 2013

RDHS Division	Teaching Hospitals			Provincial General Hospitals			District General Hospitals			Base Hospitals Type A			Base Hospitals Type B		
	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate
Colombo	3.31	76.45	71.41							1.64	153.98	72.30	3.11	66.89	57.52
Gampaha	3.05	88.57	78.32				1.94	123.15	70.49	2.12	108.95	67.22	1.55	111.26	48.10
Kalutara							2.51	115.92	85.31	1.87	128.68	71.45	1.63	52.88	23.66
Kandy	3.57	77.58	82.44				2.56	84.26	69.08				2.30	112.54	73.81
Matale							2.42	87.44	61.42	1.73	180.28	93.89			
Nuwara Eliya							2.63	108.07	84.30	2.53	121.49	90.17	1.75	115.74	56.60
Galle	3.25	75.91	76.89							2.22	111.62	69.25	2.21	62.52	39.56
Matara							2.67	89.02	72.31				2.30	86.21	55.12
Hambantota							2.41	92.51	61.54	2.03	157.38	93.27	1.60	106.29	47.63
Jaffna	2.81	95.76	74.20							2.30	72.36	46.25	1.81	60.38	30.20
Kilinochchi							2.40	142.31	97.06				2.25	85.55	53.81
Mullaitivu							3.38	112.62	108.20				3.00	90.08	74.75
Vavuniya							2.33	101.18	66.87				2.92	35.00	28.07
Mannar							2.38	59.20	38.75						
Batticaloa	2.20	77.85	55.74										4.60	84.97	108.81
Ampara							2.53	94.35	66.98				1.96	104.62	62.22
Kalmunai										2.32	81.69	52.56	2.09	66.27	38.47
Trincomalee							2.33	73.58	47.50	1.98	72.54	39.62	1.68	101.59	49.20
Kurunegala	2.97	95.31	80.26							2.38	97.98	64.14	2.46	107.03	73.06
Puttalam							2.42	89.17	63.19	1.85	134.25	69.78	2.15	98.28	61.41
Anuradhapura	3.36	68.70	64.82										1.87	119.80	63.77
Polonnaruwa							1.92	125.35	66.26				1.92	115.35	61.09
Badulla				3.37	65.13	60.92				2.53	97.17	69.41	1.77	130.46	64.81
Monaragale							2.51	138.24	101.02				1.70	98.95	47.43
Ratnapura				2.54	106.52	76.35				3.00	143.70	119.75	2.27	134.13	84.51
Kegalle	2.53	94.26	65.81										2.62	104.19	77.55
Average	**3.18**	**80.11**	**73.80**	**2.92**	**82.58**	**67.43**	**2.35**	**102.51**	**69.89**	**2.13**	**117.07**	**71.21**	**2.29**	**98.58**	**63.65**

Continued

Source: Medical Statistics Unit

Table 34. Utilization of Medical Institutions by Regional Director of Health Services Division, 2013

RDHS Division	Divisional Hospitals Type A			Divisional Hospitals Type B			Divisional Hospitals Type C			Primary Medical Care Units & Maternity Homes			Other Hospitals		
	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate	Duration of Stay	Bed Turn Over Rate	Bed Occupancy Rate
Colombo	1.42	76.68	30.18	1.23	106.08	37.67	1.41	110.74	42.97				7.99	37.28	85.39
Gampaha	2.46	70.72	48.75	1.24	139.19	48.20	1.54	141.20	62.78				9.50	23.73	65.28
Kalutara	1.32	75.57	27.60	1.41	87.84	34.40	1.85	68.47	34.81						
Kandy				1.89	74.22	39.36	2.02	69.03	39.95				8.77	17.14	45.73
Matale				1.59	55.63	25.07	2.48	65.69	53.82						
Nuwara Eliya	2.67	43.92	32.44	1.75	63.06	31.09	1.31	83.56	30.82						
Galle	1.41	31.53	12.33	1.80	70.55	35.32	1.35	115.01	43.37				3.33	63.67	60.18
Matara	2.78	70.67	57.90	2.02	83.49	47.04	1.53	65.44	28.24						
Hambantota				1.29	93.39	33.81	1.30	85.51	31.35						
Jaffna				2.65	70.19	51.77	2.03	22.47	12.69						
Kilinochchi				2.84	30.94	24.49	4.99	60.14	83.63						
Mullaitivu	1.47	49.77	20.93	1.81	100.63	50.38	1.49	16.44	6.70						
Vavuniya							1.88	20.43	10.57						
Mannar				1.82	21.80	10.96	1.09	61.44	18.38						
Batticaloa				2.14	76.73	46.01	2.80	62.76	48.54	1.14	196.17	61.19			
Ampara							1.21	62.96	21.16						
Kalmunai				2.60	46.04	33.23	2.28	56.38	35.48						
Trincomalee							1.50	74.95	31.36						
Kurunegala	1.36	72.67	27.94	1.57	73.18	31.53	1.65	76.23	34.74						
Puttalam	1.80	60.35	30.19	1.61	53.93	24.68	1.55	68.45	30.05						
Anuradhapura	1.69	78.14	36.90	1.55	95.26	41.11	1.92	81.20	43.25				7.96	41.40	96.51
Polonnaruwa	1.55	88.50	37.63	1.79	81.96	40.28	1.89	89.16	46.57						
Badulla	1.91	92.09	48.38	1.94	54.63	29.48	1.84	71.40	36.29						
Monaragale	2.12	83.43	48.60	1.51	74.73	32.72	1.13	150.18	46.68						
Ratnapura	1.81	66.39	33.41	1.49	67.83	27.85	1.65	62.68	28.89						
Kegalle	1.51	89.00	37.82	1.40	60.93	23.48	1.50	103.46	42.74				214.16	0.40	149.62
Average	**1.80**	**70.50**	**35.62**	**1.68**	**73.77**	**34.64**	**1.76**	**74.40**	**36.87**	**1.14**	**196.17**	**61.19**	**8.37**	**32.45**	**78.18**

Source: Medical Statistics Unit

Table 35. Average Duration of Stay (Days) in Selected Types of Hospitals per Quarter, 2002-2013

Type of Hospital	2002	2003	2004	2005	2006	2007	2008	2009	2010	2012	2013
National Hospital, Colombo	5.3	5.0	4.8	4.4	4.4	4.3	4.3	4.2	4.0	3.9	3.9
Teaching Hospitals					3.6	3.6	3.5	3.4	3.3	3.1	3.2
Provincial Hospitals [1,2]	4.0	4.0	3.9	4.2	3.1	3.3	3.2	3.1	2.6		
Base Hospitals [3]	3.0	3.2	3.0	3.0	2.4	2.3	2.2	2.1	2.1		
District Hospitals	2.3	2.3	2.3	2.2	1.9	2.0	2.1	2.1	1.8		
Pheriperal Units	2.1	2.2	2.2	2.0	1.9	2.0	1.9	1.9	1.6		
Rural Hospitals [4]	2.1	2.0	2.1	1.9	1.8	1.9	1.9	2.2	1.6		
Provincial General Hospitals										2.9	2.9
District General Hospitals										2.4	2.3
Base Hospitals Type A										2.0	2.1
Base Hospitals Type B										2.1	2.3
Divisional Hospitals Type A										1.7	1.8
Divisional Hospitals Type B										1.7	1.7
Divisional Hospitals Type C										1.6	1.8
Childrens' Hospital	3.2	3.3	3.0	3.1	2.9	3.3	3.2	3.0	2.8	2.8	2.9
Eye Hospital	5.7	6.7	8.0	7.3	3.8	3.3	3.8	4.4	3.6	4.0	4.2
Cancer Hospital	8.8	9.3	8.9	10.0	8.3	8.2	7.0	7.0	7.0	5.9	5.8
Mental Hospitals	63.8	67.5	54.6	62.8	30.2	60.0	65.9	60.2	27.7	28.7	36.5
Chest Hospitals	NA	NA	25.0	8.7	14.4	NA	12.5	10.5	14.7	12.3	15.7
Maternity Hospitals	4.7	4.1	4.5	5.5	5.7	3.6	3.3	3.4	3.6	3.5	2.7
Maternity Homes	2.9	2.4	2.4	2.2	3.1	2.6	1.4	1.6	1.6	1.4	1.1
Leprosy Hospitals					73.3	77.0	87.9	75.0	88.1	84.4	77.6
Rehabilitation Hospitals					24.5	30.0	26.1	26.9	26.5	24.0	29.3

[1] Includes Teaching Hospitals upto 2005

Source : Medical Statistics Unit

For the year 2009

[2] Includes Provincial General Hospitals and General Hospitals

[3] Includes District Base Hospitals

[4] Includes Estate Hospitals

Table 36. Registered Births and Hospital Births 1970 - 2013

Year	Registered Live Births [1]	Live Births in Government Hospitals [2]	% of Live Births in Government Hospitals
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	338,218	241,390	71.4
1991	356,593	262,388	73.6
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	340,649	287,514	84.4
1997	333,219	284,955	85.5
1998	322,672	287,514	89.1
1999	328,725	300,866	91.5
2000	347,749	314,352	90.4
2001	358,583	325,813	90.9
2002	367,709	307,272	83.6
2003	370,643	316,465	85.4
2004	364,711	336,642	92.3
2005	370,731	341,539	92.1
2006	373,538	353,361	94.6
2007	386,573	356,852	92.3
2008	373,575	352,523	94.4
2009	368,304	339,437	92.2
2010	364,565*	334,137	91.7
2011	363,415*	338,466*	93.1
2012	355,900*	340,800	95.8
2013	365,792*	347,053	94.9

* Provisional

Source: [1] Registrar General's Department

[2] Medical Statistics Unit

Table 37 :Live Births, Maternal Deaths, Still Births and Low Birth Weight Babies in Government Hospitals by Districts, 2013

District	Live Births	Maternal Deaths		Still Births		Low Births [4]	
		Number	Rate [1]	Number	Rate [2]	Number	Rate [3]
Colombo	43,350	6	13.8	309	7.1	7,329	16.9
Gampaha	25,118	2	8.0	155	6.1	4,156	16.5
Kalutara	16,564	1	6.0	109	6.5	2,204	13.3
Kandy	29,298	21	71.7	240	8.1	5,657	19.3
Matale	10,258	1	9.7	70	6.8	1,758	17.1
Nuwara Eliya	11,346	0	0.0	81	7.1	3,198	28.2
Galle	18,999	2	10.5	108	5.7	2,677	14.1
Matara	12,286	2	16.3	88	7.1	2,048	16.7
Hambantota	10,786	3	27.8	55	5.1	1,317	12.2
Jaffna	9,507	1	10.5	86	9.0	1,165	12.3
Killinochchi	2,572	0	0.0	15	5.8	326	12.7
Mullaitivu	767	0	0.0	4	5.2	82	10.7
Vavuniya	4,514	1	22.2	36	7.9	501	11.1
Mannar	1,545	0	0.0	4	2.6	179	11.6
Batticaloa	9,917	4	40.3	63	6.3	1,511	15.2
Ampara [5]	13,811	2	14.5	53	3.8	2,017	14.6
Trincomalee	7,910	1	12.6	35	4.4	1,208	15.3
Kurunegala	25,037	7	28.0	155	6.2	3,738	14.9
Puttalam	15,203	2	13.2	62	4.1	1,826	12.0
Anuradhapura	15,416	2	13.0	112	7.2	2,800	18.2
Polonnaruwa	7,448	2	26.9	45	6.0	1,335	17.9
Badulla	16,601	7	42.2	84	5.0	3,703	22.3
Monaragala	7,278	0	0.0	45	6.1	1,043	14.3
Ratnapura	20,633	1	4.8	153	7.4	4,085	19.8
Kegalle	10,869	2	18.4	69	6.3	2,058	18.9
Sri Lanka	347,033	70	20.2	2,236	6.4	57,921	16.7

[1] Per 100,000 live births

[2] Per 1,000 total births

[3] Per 100 live births

[4] Birth weight less than 2,500 grams

[5] Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 38. Performance of Dental Surgeons by District, 2013

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	6,018	51,586	9,745	1,161	14,001	551	34	43	59,985	23,663	25,043	21,328	19,708	1,652	3,827	296,098
Gampaha	6,636	54,820	16,126	1,144	6,816	695	73	15	31,946	19,115	13,040	2,541	7,549	1,455	3,679	189,127
Kalutara	6,590	38,078	8,910	784	5,992	929	125	15	27,578	10,282	7,342	817	5,013	1,173	1,078	135,470
Kandy	4,579	51,113	13,262	971	11,912	755	49	22	33,650	22,813	19,776	4,127	11,290	2,612	6,918	183,995
Matale	1,985	14,381	4,626	248	3,002	110	8	8	6,626	4,950	2,885	1,006	2,243	839	44	47,242
Nuwara Eliya	1,258	16,129	4,365	676	2,530	721	16	10	7,352	6,383	3,472	331	2,583	437	269	53,029
Galle	4,386	42,593	7,162	304	2,673	236	30	10	29,076	10,486	8,717	1,375	4,633	1,569	1,942	135,232
Matara	1,400	19,464	4,682	1,461	2,238	191	72	25	13,344	8,948	3,563	1,538	6,132	717	1,056	77,974
Hambantota	1,733	17,442	4,270	1,281	3,227	275	11	11	8,908	4,666	2,785	367	1,443	444	416	64,788
Jaffna	3,092	27,437	7,056	1,364	7,866	307	33	12	12,716	5,223	4,154	3,091	3,739	1,588	1,172	105,142
Kilinochchi	1,983	8,299	1,530	45	6	6	-	-	3,071	3,433	3,082	1,024	1,815	810	4	15,312
Mannar	336	2,307	1,251	819	204	147	7	9	992	346	694	321	521	388	231	13,083
Vavuniya	828	7,716	516	23	110	120	9	5	3,488	743	2,169	1,183	1,502	281	1,220	49,974
Mullaitivu	235	3,913	1,457	143	278	65	6	6	727	290	702	109	590	178	290	10,024
Batticaloa	5,781	22,790	3,421	1,156	1,389	270	60	42	2,887	1,563	2,670	556	910	483	2,465	57,807
Ampara	4,938	20,981	3,795	398	1,629	289	8	3	4,527	3,573	6,151	2,265	1,749	420	1,504	67,639
Trincomalee	4,394	22,523	7,860	626	3,682	264	14	7	4,341	4,894	4,610	1,549	4,228	1,558	456	67,475
Kurunegala	7,049	54,811	19,497	1,498	8,957	1,203	103	41	29,898	21,779	13,682	3,651	12,304	3,247	23,659	221,782
Puttalam	2,347	17,644	3,529	162	1,895	313	7	3	5,525	2,446	3,742	1,186	2,094	433	1,099	53,023
Anuradhapura	3,399	15,523	4,069	1,598	3,487	439	13	2	6,737	3,426	4,096	970	2,901	699	4,004	66,678
Polonnaruwa	1,341	4,596	98	164	88	1	7	-	3,923	1,534	231	201	1,140	83	35	20,303
Badulla	3,866	21,091	5,216	773	7,965	251	54	12	13,536	9,962	7,225	1,634	5,358	1,198	747	94,683
Monaragala	3,266	15,222	4,930	94	4,831	159	86	42	13,095	8,054	9,601	1,423	7,158	1,153	150	98,988
Ratnapura	2,979	27,483	5,616	255	3,825	596	123	22	22,852	9,539	9,976	3,441	3,455	974	2,352	106,771
Kegalle	2,101	26,941	6,017	356	7,647	297	31	8	14,944	7,091	13,261	1,645	3,640	1,175	181	104,682
Sri Lanka	82,520	604,883	149,006	17,504	106,250	9,190	979	373	361,724	195,202	172,669	57,679	113,698	25,566	58,798	2,336,321

Based on the consolidated statistics submitted by the Regional Dental Surgeons and Monthly Dental Returns

Source: medical Statistics Unit