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Medical Statistics Unit

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Preface

This is the 30th issue of the series of Annual Health Bulletins, published since 1980. The Annual Health Bulletin, 2015 includes comprehensive information of government health sector in Sri Lanka during the year 2015 and reflects the health status of the country and trends over the period as well. The Annual Health Bulletin, which is the main publication for health data dissemination, provides information needed for various purposes such as planning and management of healthcare services, monitoring and evaluation of health and health related programs and projects, disease prevention activities, etc.

Statistics pertaining to four major areas namely morbidity, mortality, resource availability and provision of services as well as descriptive profiles and performance statistics of health and health related programs, campaigns and institutions are included in this publication.

I wish to place on my appreciation and grateful thanks to all officials who have given their generous support by providing data and write-ups which made this publication a success.

Medical Statistics Unit is responsible for collecting and compilation of health data and preparation of the Annual Health Bulletin. I highly appreciate the valuable service and dedication rendered by the staff of Medical Statistics Unit.

Anura Jayawickrama
Secretary
Ministry of Health, Nutrition and Indigenous Medicine

Message from the Director General of Health Services

With the vision of building a healthier nation, Ministry of Health, Nutrition and Indigenous Medicine together with Department of Health Services have initiated many strategies, programs and projects which have helped to achieve a remarkable progress in provision of health care services as well as prevention, control and elimination of diseases. The main health indicators reveal that Sri Lanka has achieved high standards of health development compared with countries with similar economic status. These achievements are the results of evidence – based planning, dedicated implementation procedures and continuous monitoring and evaluation of health interventions. Health statistics play a vital role in this process.

The Annual Health Bulletin (AHB) 2015; the 30th of the series; presents the health status of the country during the year 2015 and summary of health statistics pertaining to government health sector on morbidity and mortality, provision of services, health workforce, health expenditure and demographic statistics. Health information is an important national asset in the health system. It is expected that the contents of AHB will be beneficial for the policy-makers, planners, service providers and development partners to support for results based planning and policy formulation, to track health-system performance and to make effective health related decisions. The AHB will also be helpful to the general public as a document which provides details of health sector of the country.

It is my great pleasure to note that implementation of electronic Indoor Morbidity and Mortality Return (e-IMMR), a web based system of inpatient data collection, has been established through the Medical Statistics Unit of the Ministry of Health, to make a platform for e-Health implementation in Sri Lanka. More than 60 percent of the hospitals in the country, have sent IMMR data on time, accurately and with detailed data through the e-IMMR system. I gratefully appreciate the commitment of all the officers who have worked hard during the previous years to achieve this success.

I wish to extend my gratitude to all officials who have given their generous support by providing data and write-ups of their respective institutions and programs which was instrumental in improving the value of this publication.

Finally I gratefully appreciate the dedicated service rendered by the staff of Medical Statistics Unit headed by Deputy Director (Statistics), who are directly responsible for data collection, compilation and preparation of AHB.

Dr. J. M. W. Jayasundara Bandara

Director General of Health Services

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Key Health Indicators - 2015

Indicator		Year	Data	Source
Demographic Indicators				
Total population (in thousands)		2015*	20,966	Registrar General's Department
Land area (sq. km)		1988	62,705	Survey General's Department
Population density (persons per sq. km)		2015*	334	Registrar General's Department
Crude birth rate (per 1,000 population)		2015*	16.0	Registrar General's Department
Crude death rate (per 1,000 population)		2015*	6.3	
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	3.8	Census of Population & Housing, 2012
Socio-economic Indicators				
GNI per capita at current prices (Rs.)		2015**	508,936	Department of Census & Statistics
Human development index		2015	0.766	UNDP, Human Development Report, 2015
Unemployment rate	Total	2015	4.7	Department of Census & Statistics
	Female		7.6	
	Male		3.0	
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	2015	18	Ministry of Education
	Private Schools		19	
	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)				Department of Census and Statistics (Life Tables for Sri Lanka 2011-2013 by District and Sex)
	Female	2011-2013 [1]	78.6	
	Male		72.0	
Neonatal mortality rate (per 1,000 live births)		2013*	5.8	Registrar General's Department
Infant mortality rate (per 1,000 live births)		2013*	8.2	
Under-five mortality rate (per 1,000 live births)		2013*	10	
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)		2013*	26.8	Registrar General's Department
Low-birth-weight per 100 live births in government hospitals %		2015	16.0	Medical Statistics Unit
Percentage of under five children				Family Health Bureau
	Under weight (weight-for-age)	2015	15.6	
	Wasting (Acute undernutrtion or weight-for-height)		12.2	
	Stunting (Chronic malnutrition or height-for-age)		9.6	

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	2015	94.1	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 Pouplation & Housing, 2012
Health Resources			
Government health expenditure as a percent of GNP	2015	1.66	Department of Health Services
Government health expenditure as a percent of total government expenditure	2015	5.65	
Per capita health expenditure (Rs.)	2015	8,639	
Medical Officers per 100,000 population	2015	87.0	Medical Statistics Unit
Population per Medical Officer	2015	1,149	
Dental Surgeons per 100,000 population	2015	6.4	
Nurses per 100,000 population	2015	202.3	
Public Health Midwives per 100,000 population	2015	28.8	
Number of hospitals	2015	631	
Number of hospital beds	2015	80,581	
Hospital beds per 1,000 population	2015	3.8	
Number of Medical Officer of Health (MOH) Divisions	2015	341	

* Provisional

** Revised Provisional

[1] Number of deaths used for this period corresponds to usual residence

[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 26.5^0C to 28.5^0C (79.7^0F to 83.3^0 F) in the low country and from 14^0C to 24^0C (58^0F to 75^0F) 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 Anuradhapura, Polonnaruwa and Sigiriya.

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

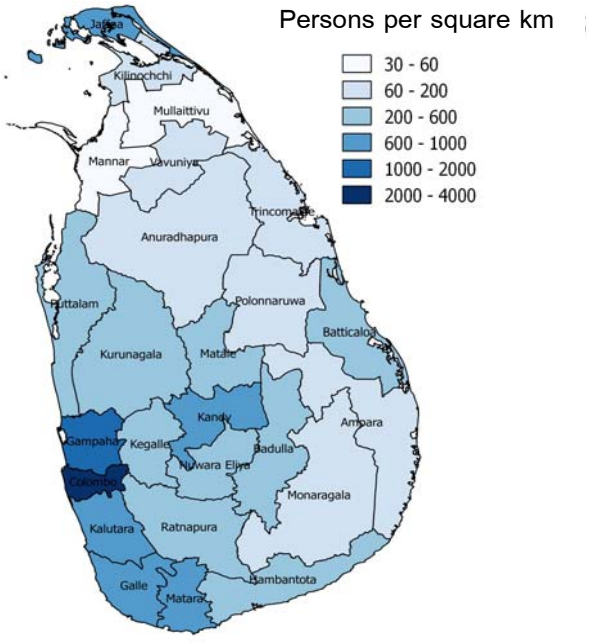
The fourteenth national Census of Population and Housing which covered the entire island after a lapse of 30 years since 1981 was conducted by the Department of Census and Statistics on 20th March 2012. The data were collected from persons according to their place of usual residence. According to the final results of the census, enumerated population was 20,359,439.

The estimated mid year population of Sri Lanka for the year 2015 is 20,966 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 2,375 thousand. This is followed by Gampaha district which records a population of 2,354 thousand. Mullaitivu district records the lowest population (94 thousand) among the districts, followed by Mannar district with a population of 104 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.

Fig 1.1 : Population Density by District, 2015



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 population density of the country has increased by 41 percent. Population density for the year 2015 is 334 persons per square kilometer (Detailed Table 2).

Population densities among districts show huge regional variations. Colombo district shows the highest density of 3,513 persons per square kilometer in 2015. The next highest density of 1,755 was recorded from the adjoining district Gampaha.

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.

According to Registrar General's Department, annual population growth rate is 0.94 percent during the year 2015 (Fig 1.2).

has decreased into 25.2 percent during the period from 1981 to 2015 whilst the population aged 60 years and over has increased into 12.4 percent (Fig 1.3). Accordingly, population of Sri Lanka seems to be gradually shifting to an aging population.

Fig 1.3 : Population by Broad Age Group, 1981 and 2015

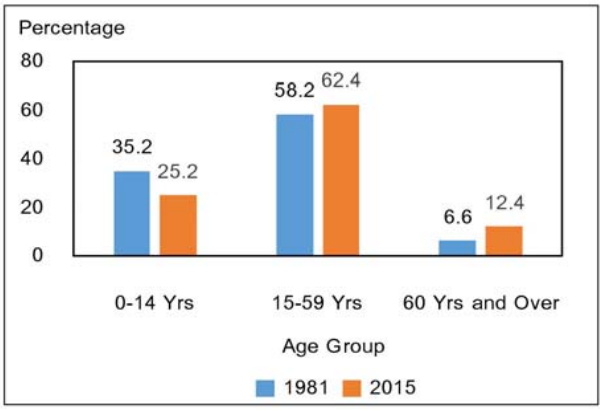
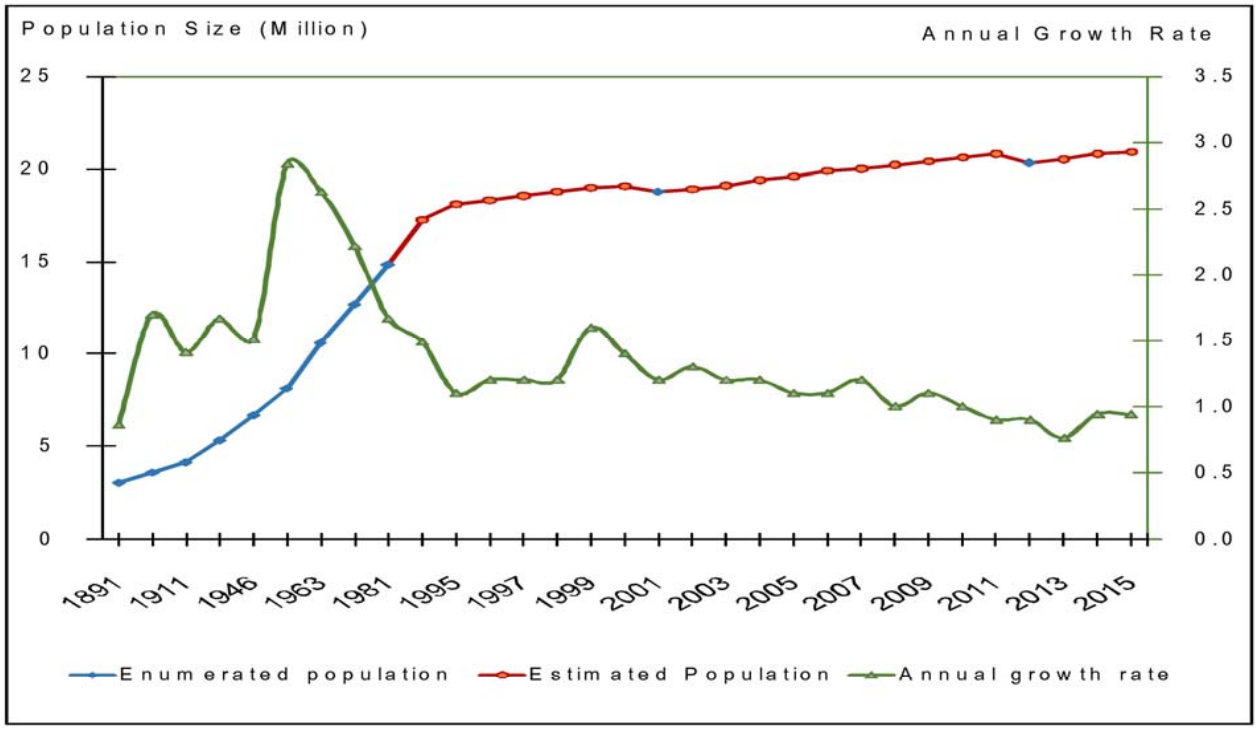


Fig 1.2 : Population Size and Annual Growth Rate, 1891 - 2015



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

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

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 49.1 percent in 2015.

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 60.3 in 2015 due to relative decline in the proportion of children.

Table 1.1 : Percentage Distribution of Population by Broad Age Groups, Aging Index and Dependency Ratio

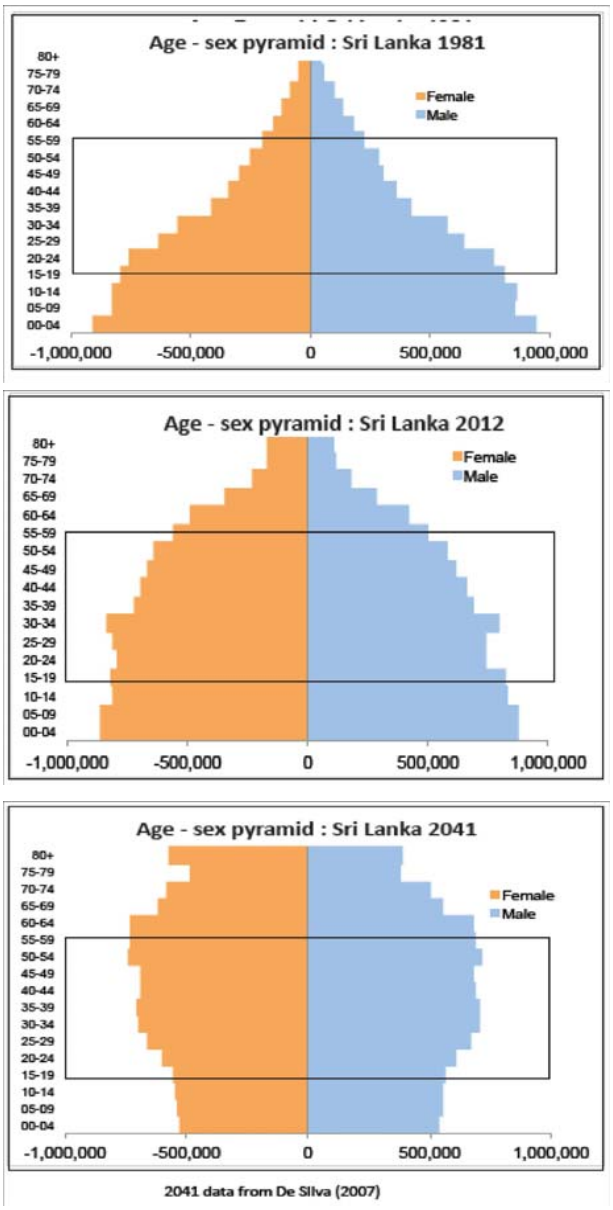
Year	0 - 14 yrs (A)	15 - 59 yrs (B)	60 yrs and over (C)	Aging Index (C/A)	Dependency Ratio (A+C)/B
1911	40.9	54.8	4.3	10.5	82.5
1946	37.2	57.4	5.4	14.5	74.2
1971	39.0	54.7	6.3	16.2	82.8
1981	35.2	58.2	6.6	18.8	71.8
2001 [1]	26.3	64.5	9.2	35.0	55.0
2012 [2]	25.2	62.4	12.4	49.1	60.2
2015 [3]	25.2	62.4	12.4	49.1	60.3

[1] *Excludes Northern province, Batticaloa and Trincomalee districts in Eastern province*

[2] *Census of Population – 2012*

[3] *Estimated mid year population – RGO*

Fig 1.4 : Population of Sri Lanka by Age and Sex, 1981, 2012 and 2041



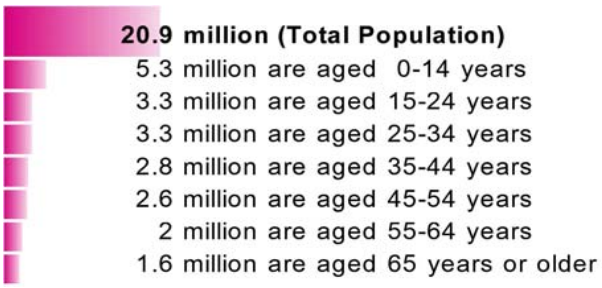
Source : Census of Population and Housing 2012 - Key Findings, Department of Census and Statistics.

Shape of the age-sex pyramid is being changed over the years due to various reasons such as changing patterns of births, deaths and migration of the population. In 1981, broad base represented fairly large number of children in the population.

By 2012, shape of the pyramid has been changed with the increasing of working age population. Further it can be seen that population aged 60 and above is larger than corresponding population of 1981 as a result of improvement of health sector in Sri Lanka.

As can be seen in the last figure, in 2041, shape of the age-sex pyramid will be changed in to the shape of a 'barrel'. Therefore elderly population will be increased than previous years. This situation should be considered by future policy makers specially for making health policies.

Fig 1.5 : Estimated Population* of Sri Lanka by Age Group, 2015



**Provisional*

Source : Registrar General's Department

1.3.3 Age-Sex Composition

A detailed age-sex breakdown is given in Detailed Table 3. Significant variations cannot be seen in the population among 5 year age groups.

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 93.8 in Sri Lanka for the year 2015. It indicates an excess of females over males. When comparing the sex ratios in 1981, 2001 and 2015 it shows a decreasing trend.

The age specific sex ratios in 2015 are declining gradually with increasing the age with fluctuations in some age groups.

Sex ratio under 4 years is 101.7 for the year 2015 which reflects more males among children less than 4 years of age. According to Registrar General's Department, sex ratio at birth is 103.0 (provisional) for the year 2015. 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 2015

Age Group in Years	Sex Ratio in Year		
	1981[1]	2001[1,2]	2015[3]
All Ages	103.9	97.9	93.8
Under 1	104.1	104.5	101.7
1 - 4	103.8		
5 - 9	103.6	103.1	101.9
10 - 14	104.1	104.5	102.2
15 - 19	102.7	103.6	99.5
20 - 24	100.3	98.0	93.8
25 - 29	99.8	93.8	92.0
30 - 34	102.0	95.4	94.5
35 - 39	100.6	95.2	94.8
40 - 44	106.0	96.6	94.8
45 - 49	102.0	97.1	92.7
50 - 54	111.1	95.9	91.2
55 - 59	110.2	92.8	88.9
60 - 64	116.2	92.7	86.4
65 - 69	111.0	88.0	81.1
70 - 74	115.7	85.0	78.9
75 and Over	107.3	84.6	67.7

[1] *Census of Population & Housing*

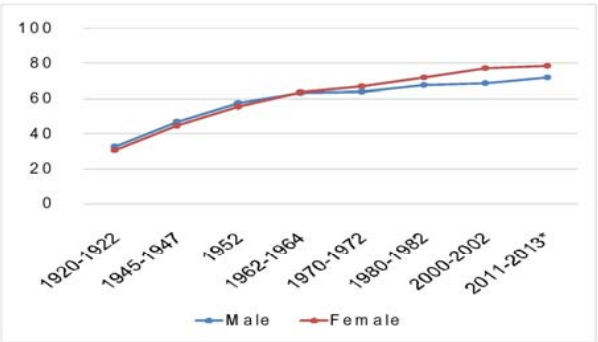
[2] *Excludes Northern Province, Batticaloa and Trincomalee districts in Eastern Province*

[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.

Fig 1.6: Life Expectancy at Birth by Sex, 1920 - 2013



Source: Department of Census and Statistics

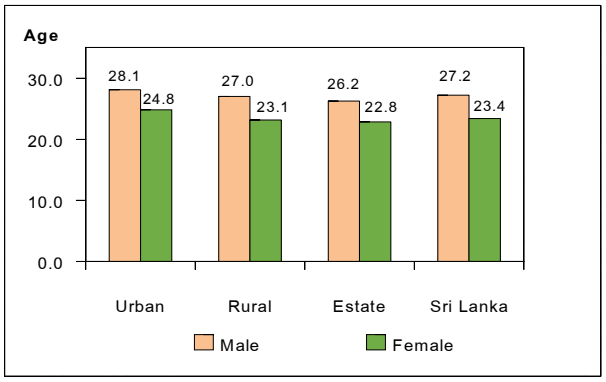
* Number of deaths used for this period corresponds to usual residence

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.

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.

Fig 1.7 : Singulate Mean Age at Marriage by Sex and Sector, 2012



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.

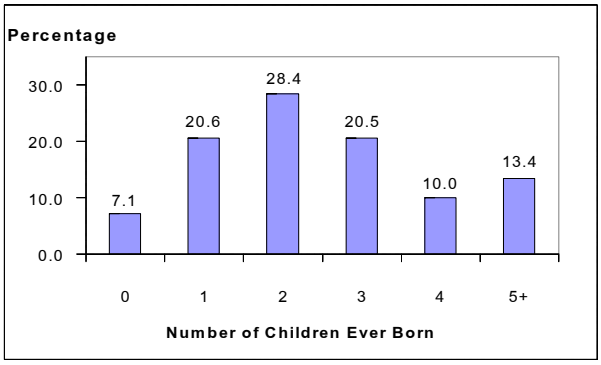
1.3.7 Children Ever Born

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 age 15 years and above.

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

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

Fig 1.8 : 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.

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 and penalties, etc.

With respect to the compilation of vital statistics, there is a well organized system for the flow of necessary information from registration officers to the statistical branch where compilation of vital statistics is taken place.

Table 1.3 : Vital Statistics, 1960 - 2015

Year	Estimated Mid-year Population ('000)	Crude Birth Rate	Crude Death Rate	Maternal Mortality Ratio Per 100,000 Live Births	Infant Mortality Rate	Neo-natal Mortality Rate
		Per 1,000 Population			Per 1,000 Live Births	
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	5.8	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	6.30	22.0	9.9	7.0
2011*	20,869	17.4	5.91	...	9.1	6.4
2012*	20,424[b]	17.5	6.00	21.9	8.5	6.1
2013*	20,579[b]	17.9	6.21	26.8	8.2	5.8
2014*	20,771[b]	16.9	6.20	...	...	...
2015*	20,966[b]	16.0	6.30	...	...	...

* Provisional *Source : Registrar General's Department*

Note: a. Data for Mullaitivu and Killinochchi districts are not available
b. Estimates on mid-year population for 2012-2015 have been revised based on final data of the Census of Population & Housing, 2012

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 of 1965 - 2015 are presented in Table 1.3.

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 1.9, 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 2015 (provisional) is 16.0 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 and not according to place of occurance) is presented in the Detailed Table 4.

Both Trincomalee and Ampara districts reported the highest CBR (20.5) and the lowest CBR was reported from Mullaitvu district (12.2) for the year 2015.

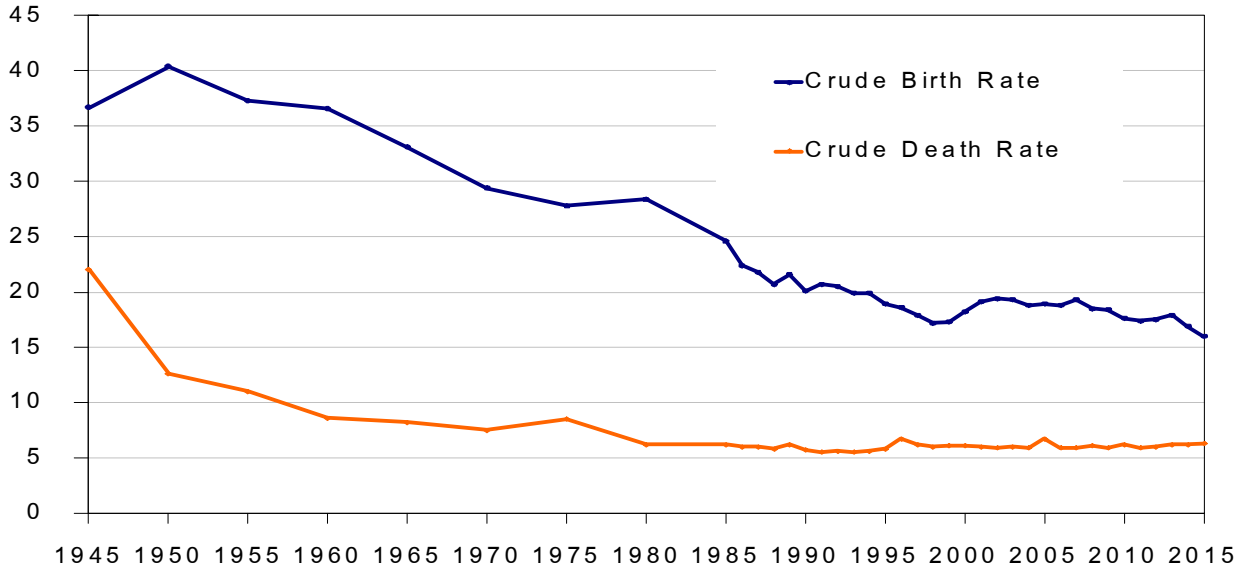
1.4.2 Crude Death Rate (CDR)

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 condition. The mortality continued to decline during the last few decades, although the pace of decline has lowered.

Fig 1.9 : Crude Birth and Death Rates, 1945 - 2015



Source : Registrar General's Department

The CDR for 2015 (Provisional) was 6.3 per 1,000 persons (Table 1.3). 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. Galle district recorded the highest CDR (7.6) followed by Colombo and Kandy districts (7.0) for the year 2015 (Detailed Table 4).

1.4.3 Maternal Mortality Ratio (MMR)

Maternal Mortality Ratio is 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 2013 and the MMR reported is 26.8 (provisional) per 100,000 live births (Table 1.3).

2. According to government hospital statistics (government institutions only) the corresponding MMR is 23.2 per 100,000 live births (Detailed Table 40) for the year 2015.

3. Maternal Mortality Ratio (MMR) reported by Family Health Bureau (FHB) for the year 2015 is 33.7 per 100,000 live births.

FHB has developed a system to monitor maternal deaths and section 5.1.1.5 gives details of maternal deaths reported to FHB during the year 2015. It is important to note that more than 90 percent of registered live births occur in government institutions (Detailed Table 39).

1.4.4 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 1.3). Figure 1.10 illustrates the trend graphically.

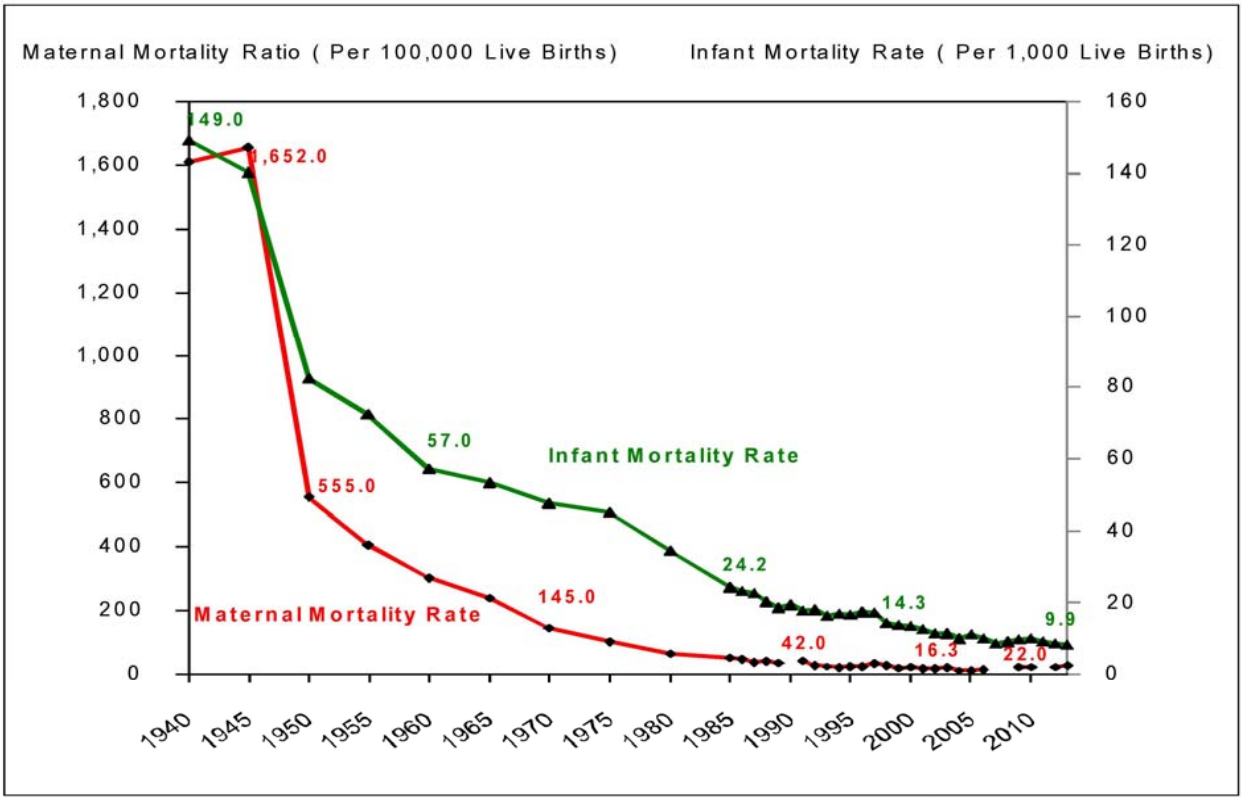
The IMR for the year 2013 (provisional) produced by the Registrar General's Department by districts are given in Detailed Table 4. IMR for the year 2013 is 8.2 per 1,000 live births.

1.4.5 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 1.4. 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 end of the year 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.

Fig 1.10 : Trends in Maternal and Infant Mortality Rates, 1940 - 2010



Source : Registrar General's Department

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 1.4 : 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

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 1.3). The NNMR rate recorded for 2013 is 5.8 (Provisional) per 1,000 live births.

The Neo-natal Mortality Rate for the year 2013 (provisional) produced by the Registrar General's Department by districts are given in Detailed Table 4.

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.

1.5 Sustainable Development Goals (SDG)

United Nations Member States agreed to the 2030 Sustainable Development Agenda which covers Economic Development, Social Inclusion and Environmental Sustainability in the summit held in September 2015. It includes 17 Sustainable Development Goals and 169 targets which will be implemented at national level starting from 1st of January, 2016 all over the world.

Health status of the country is related with the goal 3 named as "Ensure healthy lives and promote well-being for all at all ages" and includes 17 targets specially related to child health, maternal health, HIV/AIDS, and other diseases.

Table 1.5 : 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

1.6 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 DHS surveys was carried out in 1987, 1993, 2000 and 2006/07. Next DHS survey is already planned to be conducted in 2016.

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 surveys to monitor the progress of the health sector.

1.7 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 was 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 were mostly limited to residencial sector level in order to preserve the reliability of them.

The data related to health situation of the households 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 a 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)

1.8 Social Indicators

1.8.1 Literacy Rate

A person who has ability to read and write at least one language is 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 figures for the rural and estate sectors are 95.7 and 86.1 precent respectively.

1.8.2 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.

1.8.3 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 1.6 : Percentage of Population (5 years and over) with Difficulties by Type of Difficulty

Type of Difficulty	Percentage 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

1.9 Water Supply and Sanitation

1.9.1 Source of Water Supply for Drinking

The Census of Population and Housing - 2012 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.

1.9.2 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 inpatients and outpatients. The public sector provides for bulk of inpatient care, approximately 95 percent, providing a safety net to citizens. More than six million hospitalizations occurred in 2015. Share of outpatient care is divided almost equally between public and private sector. A total of fifty five million outpatient visits occurred in 2015 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.

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.

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.

2.1.1 National Health Policy Vision

Foster a healthier nation that contributes to Sustainable development.

2.1.2 Mission

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

2.1.3 National Health Development Plan

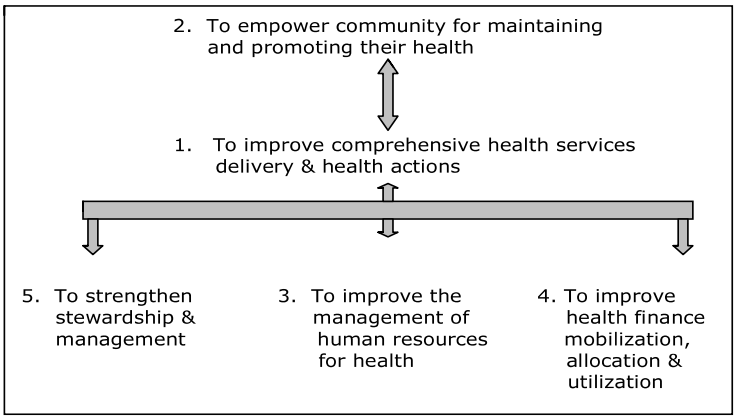
The National Health development plan 2012- 2017 is currently being implemented. The development plan has been based on the health master plan strategic areas.

2.1.4 National Health Policy and its Contribution to Achieve Government Policy

The Health policy principles are coherent with Sri Lankas overall development policies. 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.

The master plan for period 2016 - 2025 will identify the strategic framework for sector development in keeping with the agenda for sustainable development, universal health coverage and will further be guided with national government vision and policy statements.

Fig 2.1 : Interrelationship between the Strategic Objectives of the Master Plan, 2005-2015



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.

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 responsibe 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.

The Ministry of Health has several other training institutes throughout the country such as Nurses Training Schools, National Institute of Health Sciences, etc. which are 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.

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 the governments sole manufacturer and supplier of drugs. The capacity of which is being enhanced further. Public private partnerships too are in being considered to expand production capacities. 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. Their involvement needs to be promoted to achieve health goals.

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 policies, goals, strategies and recommended interventions are given by these units as directives to guide health sector development and service delivery.

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 2015 there were 1104 (upto PMCU) curative care hospitals in government health services. The distribution of these institutions according to the standard categorization is in Detailed Table 7.

Specialized care is provided through Base, District General, Provincial General and Teaching Hospitals and some selected specialized hospitals.

Non specialist hospitals are the Divisional hospitals and Primary Medical Care units. A total of 969 are available. These are served by non specialist medical officers with occasional outreach clinics conducted by specialists from nearby larger hospitals. There is a recent trend to deploy Specialists in Family Medicine to some of the larger Divisional Hospitals providing primary curative care.

2.2.2 Preventive/Community Health Services

Community health services are organized into health units and most of them coincide geographically with divisional secretariat areas. These are commonly known as Medical Officer of Health (MOH) areas. There are 341 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 Medical Officers of Health 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
- A life cycle approach is to be adopted to address chronic NCDs

2.3 Key Developments in the Health Sector in 2015

2.3.1 Health Policy Development

The Directorate of Policy Analysis and Development functioned as the Secretary for policy development under the chairmanship of Director General Health Services to develop the National Health Strategic Master Plan 2016-2025. The process was initiated in 2015 and engaged a vast number of experts both within and outside the Ministry of Health to obtain ideas and proposals to develop the Master Plan.

2.3.2 Greater Emphasis on Addressing Non Communicable Diseases

A multi sector strategic plan was developed to address non communicable diseases. Emphasis was given to further expand services for screening through the setting up of Healthy Lifestyle Centres (HLCs). Currently there are 821 HLCs.

2.3.3 Establishment of the National Medicinal Drug Regulatory Authority

2.3.3.1 National Medicine Regulatory Authority (NMRA)

National Medicine Regulatory Authority (NMRA) was established under parliamentary act no. 05 in 2015. This act is given the legislative framework to control medicine including vaccine & biological product, medical devices & border line products. The main objective of this act is to ensure that all the medicine, medical devices and borderline products available in Sri Lanka are efficacious, safe & in acceptable quality, ensure uninterrupted supply & rational uses. This act was implemented from 1st of July 2015.

2.3.4 Global Influence in Taking Migration & Health Development Aagenda Forward

Health of migrants is a key social determinant for development in Sri Lanka. 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.

Sri Lanka recognizes that addressing health of migrants particularly those residing in countries of destination, require an international dialogue. Sri Lanka has taken the lead in addressing the issue of universal coverage for health of migrants at the World Health Assembly and the Colombo Process Meeting. The deliberations have been successful to move the agenda of health of migrants forward.

2.4 Organization Development Unit

The Organization Ddevelopment Unit is responsible for the direction and coordination of all activities to improve the organizational effectiveness of the Ministry of Health.

Followings are the main activities of the Organization Development Unit in 2015.

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 - 2014 to develop a National Health Performance Framework. The framework identifies indicators according to 3 dimensions; effectiveness, efficiency and equality which will be used in the future to identify performance in health status, health services and contribution of important determinants of health. The framework is also coherent with monitoring of sustainable development goals. The draft National Health Performance Framework was completed during 2015.

2.4.2 Capacity Building of Health Staff

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 oversees the implementation of the Migration Health 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 and 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.

2.4.3.1 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 of 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. Sri Lanka is to be part of a multi country study to be conducted with the support of IOM to identify specific service and protocol gaps in conducting health assessments by different service providers.

3. Health promotion and improvement in occupational health is envisaged for internal migrants with the support of the Ministry of Labour. The policy on occupational safety and health lead by the Ministry of Labour will address this issue.

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 Foreign Employment, 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. Several advocacy strategies were used to promote the adoption of the coordinated care plan and to improve Family Background Report recently introduced by the Ministry of Foreign Employment.

2.4.4 Coordination of Organization Reform

2.4.4.1 Reforms in Primary Care

A key organization change, i.e. for strengthening primary health care through a mechanism of 'shared care' was proposed. Several tools were developed for the implementation of the shared care cluster system; supervision tool, health performance indicators. These have been advocated through the Health Development Committee Meeting and have been piloted. The organization changes are coordinated in collaboration with the Primary Care Services Unit.

2.4.4.2 Shared Care Cluster System to Strengthen Primary Health Care Towards a Rational System to Address Universal Health Access

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 health care needs)

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

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.

2.4.4.3 Organization Reform Proposed to Support HR Coordination

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 component in Health Strategic Plan was printed and circulated. The Organization Development Unit has proposed a central HRH unit to coordinate all policy and administration functions relevant to HRH within the Ministry of Health.

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. Facilitation to update current organization structure of the Ministry of Health and those of individual directorates/units.

2.5 Planning Unit

Directorate of planning is the central coordinating body of the Ministry of Health, Nutrition and Indigenous Medicine which executed planning functions. Every year the Annual Action Plans of the line ministry institutions are compiled and published by the directorate. This document is one of the most important documents published by the ministry which describes annual activities and expenditure forecast of its institutions. Likewise the Annual Action Plan 2015 was prepared by the directorate of planning and published in the first quarter.

Training of health staff in planning and monitoring is another important function carried out by the directorate. In 2015, three such workshops were conducted for the different categories of health staff in all line ministry institutions.

Preparation of new health cadre norms for Medical Officers, Radiographers, Medical Laboratory Technologists and Pharmacists were completed. The job descriptions of Surgical and Oncology Pharmacists were also completed in the year 2015. Approval of the Department of National Planning was obtained to adopt a new Workload Indicator for Staffing Need (WISN) tool to develop cadre norms for Nursing Officers.

The directorate processed 36 new project proposals to the Department of National Planning and obtained recommendation for 30 projects.

The Global Alliance for Vaccine and Immunization (GAVI) - Heath System Strengthening (HSS) Project, which launched in 2008 was completed in 2015. This project served all districts in the Northern and Eastern provinces, Badulla district in the Uva province and Nuwara Eliya district in the Central province.

The project provided support in terms of infrastructure and human resource development in aforesaid districts to improve maternal, child care and immunization.

Planning Unit undertook the Korea Sri Lanka Friendship Hospital – in Godagama, Matara which had been identified as a project with a low performance. The Planning Unit managed to reactivate the project with the initiation of the “Follow-Up Project” and the “Phase II” with funding support of the Korea International Cooperation Agency and the Government of Korea.

The directorate is instrumental in training postgraduate trainees in Community Medicine and Medical Administration on Health Planning. The Health Planning module of those post-graduate courses were conducted by the directorate.

The project evaluation committee of the ministry is coordinated by the directorate of planning. This committee is responsible for evaluating and providing recommendations for project proposals received from line ministry institutions.

Establishment of Planning and Development Units and providing resources to those units was continued in the year 2015. A total of thirteen Planning and Development Units in line ministry hospitals were provided with information technology equipments and furniture.

2.6 Directorate of Healthcare Quality and Safety

Healthcare Quality & Safety Programme in Sri Lanka is a centrally driven, locally led and clinically oriented programme which dates its way back to 1989.

Directorate of Healthcare Quality & Safety, Ministry of Health, Nutrition & Indigenous Medicine which was established in September 2012, functions as the apex body of the National Healthcare Quality and Safety Programme. Currently, Directorate of Healthcare Quality & Safety is located in Castle Street Hospital for Women premises.

2.6.1 Achievements in 2015

- Capacity building of staff of healthcare institutions of line ministry institutions and institutions under provincial council.
- Activities were conducted to facilitate the establishment of fully functioning Quality Management Units (QMUs) in Base Hospitals and above.
- Established functioning Quality Management Units (QMUs) in all line ministry hospitals.
- Monitoring and evaluation of institutional quality improvement programme. Four (04) Quarterly Performance Review Meetings for line ministry institutions and two district review meetings were conducted, for institutions under provincial council.
- As a capacity building programme, Introduction to Healthcare Quality Assurance of Programme was conducted.
- Training of Trainers Manual was published in all three languages, to facilitate the ongoing training Programmes. Launching of the manual was done and training of master trainers was initiated.
- Training on Quality Indicators related to Hospital Acquired Infections and collecting data on quality indicators related to Hospital Acquired Infections.
- Third Country Training Programme on 5S-CQI-TQM (Contiguous Quality Improvement and Total Quality Management) was conducted for nine developing countries to share knowledge and experience of Healthcare Quality & Safety.
- Infection Control Training on Surgical Safety Check List & Training on Patient Safety were conducted to enhance quality and safety of patient care.
- Development of a film on Responsiveness Initial Activities related to the healthcare was done and production will be conducted in 2016.
- Forms and Guidelines on reporting Adverse Events and Readmissions were finalized and introduced to the health system to ensure patient safety and to optimize patient care.
- Revision of national clinical guidelines was initiated to revise 2 selected guidelines from each college. Printing of the, Revision of Thyroid Cytology Reporting compiled by Sri Lanka College of Pathologists is in progress.

National Council for Accreditation of Healthcare Services in Sri Lanka, was established. Standards and measurable elements will be developed with the consultative support of ACHS (Australian Council for Accreditation of Healthcare Services) during 2016 & 2017.

Sri Lanka has achieved remarkable improvements in Healthcare Quality & Safety due to the collaborative effort of Ministry of Health & healthcare institutions island wide.

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 2015, there were 631 government sector medical institutions with indoor health facilities. It includes 16 Teaching Hospitals including National Hospital of Sri Lanka (Teaching Hospitals of Institute of Cancer, Mental, Dental, Rehabilitation and Chest Hospitals are categorized under "Other Hospitals" and not counted here), 3 Provincial General Hospitals, 20 District General Hospitals, 71 Base Hospitals categorized as type A and B, 482 Divisional Hospitals categorized as type A, B and C and 14 Primary Medical Care Units with Maternity Homes. In addition to that there are 25 specialized hospitals categorized under "Other Hospitals" (Detailed Table 7) include Prison Hospitals, Police Hospital, Army Hospital and hospitals for treatment of chronical diseases such as tuberculosis leprosy, cancer, mental illnesses, etc.

In 2015 there were 341 MOH Offices headed by Medical Officers of Health, carrying out preventive services in Sri Lanka.

The total bed strength of the said institutions is 80,581. The total bed strength of Teaching Hospitals is 19,696.

There were 474 Primary Medical Care Units which have only outdoor and clinical facilities. Other than that there are 14 Primary Medical Care Units which have limited indoor facilities only for maternal services and the total bed strength is just 188 (Detailed Table 7).

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

The highest hospital bed strength was recorded in Colombo (14,367) followed by Kandy Regional Director of Health Services Area (6,980). Mullaitivu Regional Director of Health Services Area recorded the lowest bed strength (515) followed by Kilinochchi with a bed strength of 563.

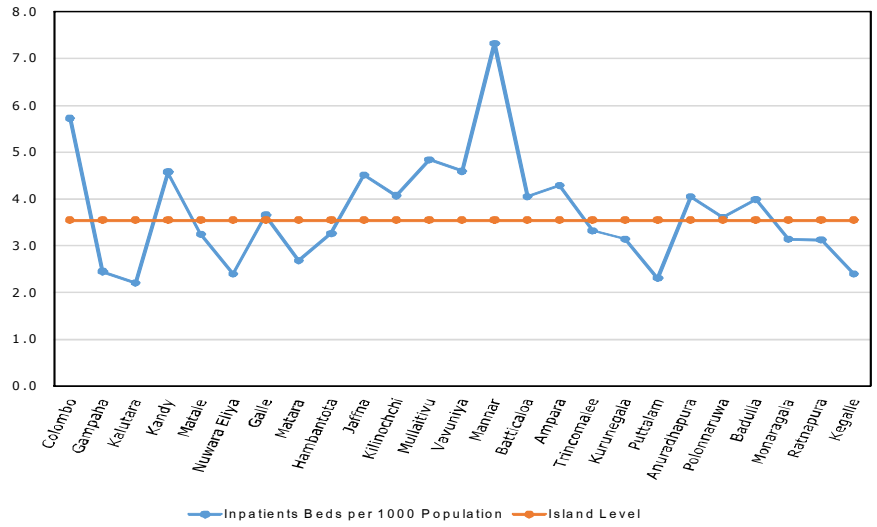
The largest function of the healthcare delivery system in the island is performed by the National Hospital of Sri Lanka. It maintains its services in various specialties, including a well equipped accident service, a cardiology unit and several intensive care units. It excludes dental, maternal, paediatrics 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 3.5 per 1,000 population (Detailed Table 7a)

The highest number of beds per 1,000 population is reported to be 7.3 from Mannar and the next highest is from Colombo which is 5.7.

The lowest rate was reported from Kalutara (2.2) followed by Puttalam (2.3).

Fig 2.2 : Beds per 1,000 Population by District, 2015



All the districts in Northern and Eastern provinces except Trincomalee 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.

Table 2.1 : Number of Health Institutions and Hospital Beds, 2006 - 2015

Item	2011	2012	2013	2014	2015
Hospitals [1]	638	621	624	622	631
Hospital Beds [1]	73,939	76,087	78,243	80,105	80,581
Hospital Beds per 1,000 Population	3.5	3.8	3.8	3.9	3.8
Inpatient Beds per 1,000 Population	3.3	3.5	3.5	3.6	3.5
Central Dispensaries/Primary Medical Care Units	459	487	461	475	473
MOH Areas	327	337	334	338	341

[1] Includes Primary Medical Care Units and Maternity Homes

Source : Medical Statistics Unit

Table 2.2 : Availability of Hospital Beds by Type of Institution, 2015

Type of Institution	Total Number of Institutions	Hospital Beds (Range)	Average Number of Hospital Beds	Number of Hospitals Having Less than Average Number of Hospital Beds
Teaching Hospitals	16	279 - 3,396	1,231	11
Provincial General Hospitals	3	1,347 - 1,828	1,556	2
District General Hospitals	20	146 - 1,063	605	9
Base Hospital Type A	24	162 - 659	359	12
Base Hospital Type B	47	24 - 389	160	29
Divisional Hospital Type A	50	37 - 225	107	21
Divisional Hospital Type B	130	22 - 115	69	65
Divisional Hospital Type C	302	2 - 70	29	154
Primary Medical Care Unit and Maternity Homes	14	9 - 21	13	7
Other Hospitals *	25	8 - 1,491	227	19

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

Source: Medical Statistics Unit

Note : Average number of hospital beds was calculated based on the number of institutions from which data is received.

Fig 2.3 : Number of Beds and Hospital Beds per 1,000 Population, 2004 - 2015

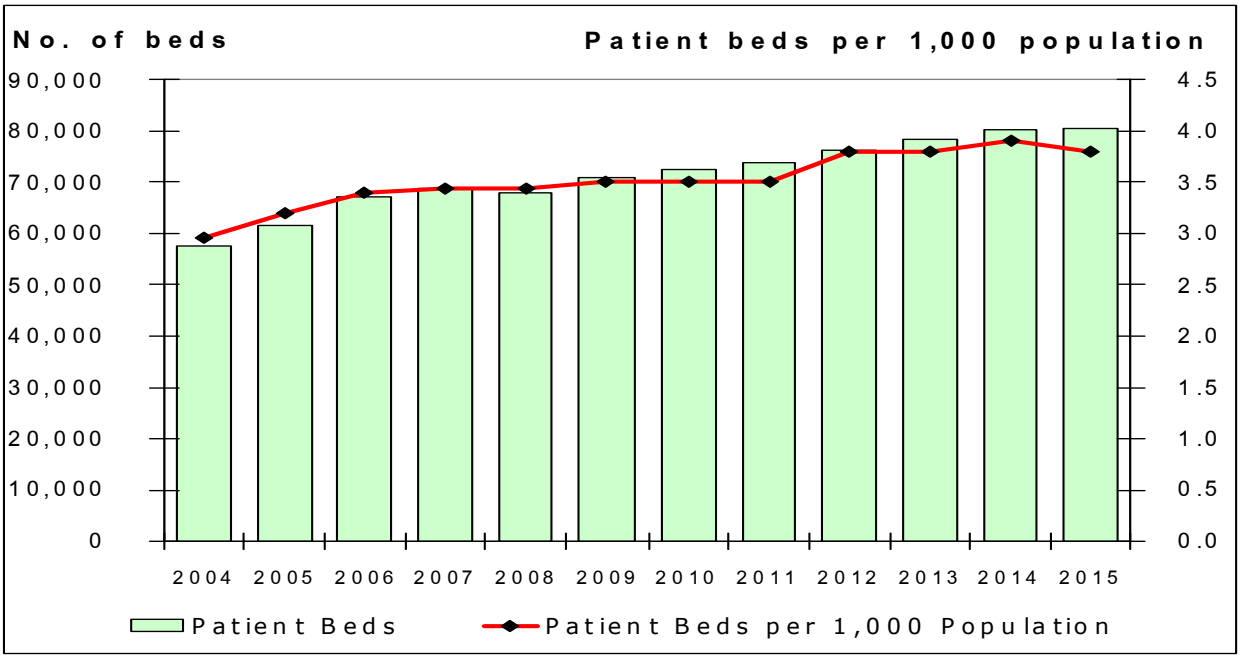
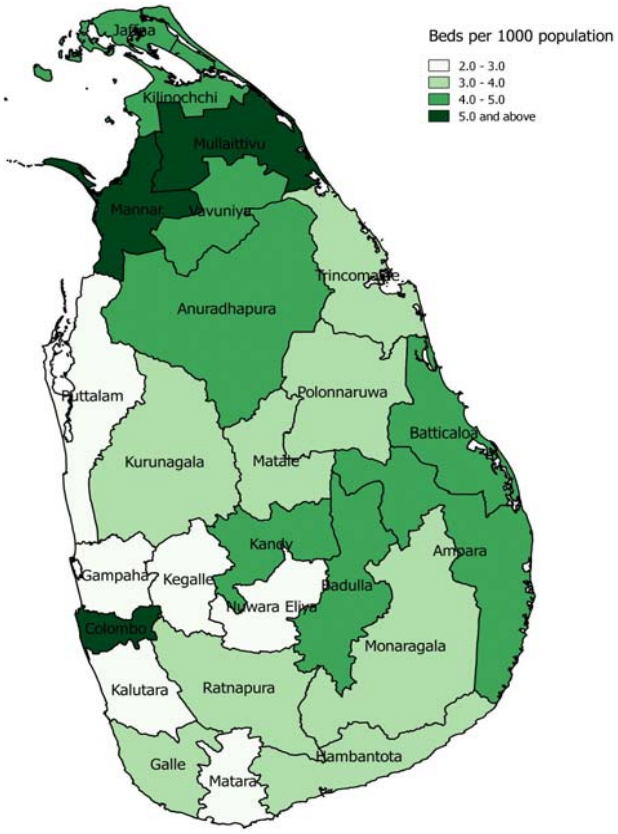


Fig 2.4 : Distribution of Hospital Beds by District, December 2015



2.8 Health Manpower

The total number of Medical Officers has increased to 18,243 in 2015. Accordingly, Medical Officers per 100,000 population has also been increased; in 2014 85 to 87 in 2015. (Detailed Table 9)

There were 8 districts which have more than 87 Medical Officers per 100,000 population. Those are Colombo, Kandy, Ampara, Killinochchi, Galle, Vavuniya, Mannar and Jaffna. It was 182 in Colombo and 131 in Kandy. The minimum rate was reported from Nuwara Eliya as 37 followed by Kurunegala with the rate of 55.

Total number of nurses were 42,420 in 2015. There were 185 nurses per 100,000 population in 2014 and 202 in 2015.

Although the national figure is 202, there are 7 districts which had been able to maintain a higher rate than that. The minimum was 61 from Nuwara Elliya. All the districts in Northern, Sabaragamuwa and North Western provinces have lower rates than the national figure.

Fig 2.5 : Distribution of Medical Officers (MO), December 2015

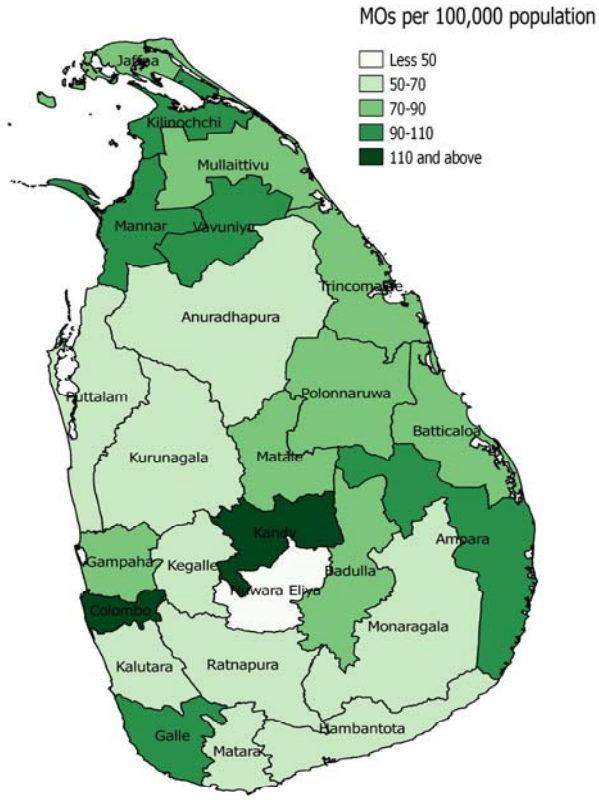


Fig 2.7 : Distribution of Public Health Midwives (PHM), December 2015

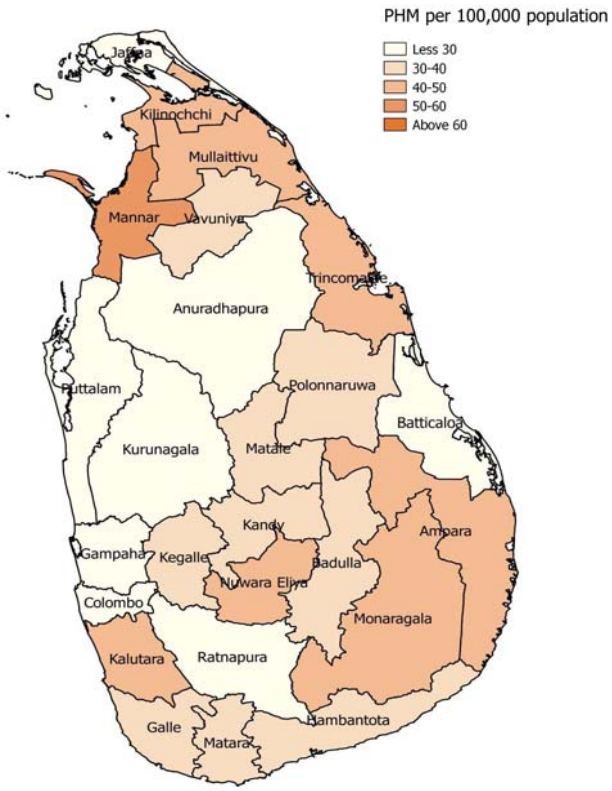


Fig 2.6 : Distribution of Nursing Staff, December 2015

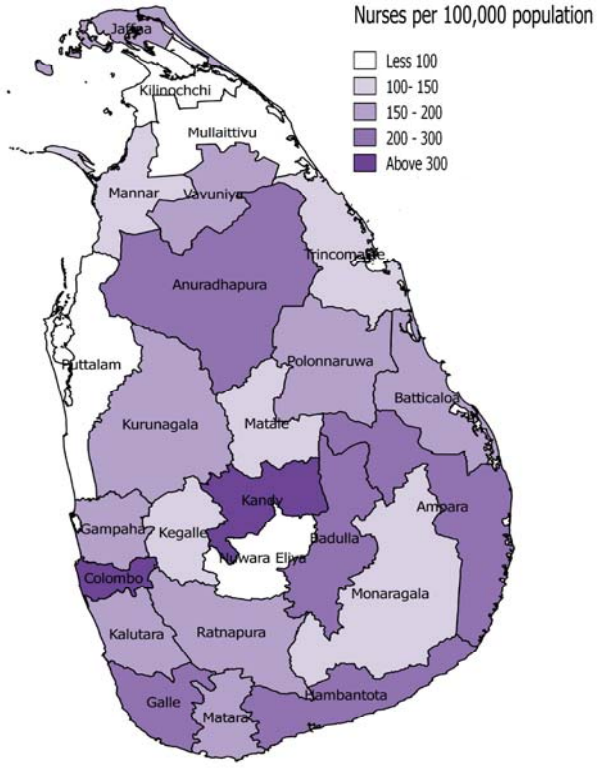
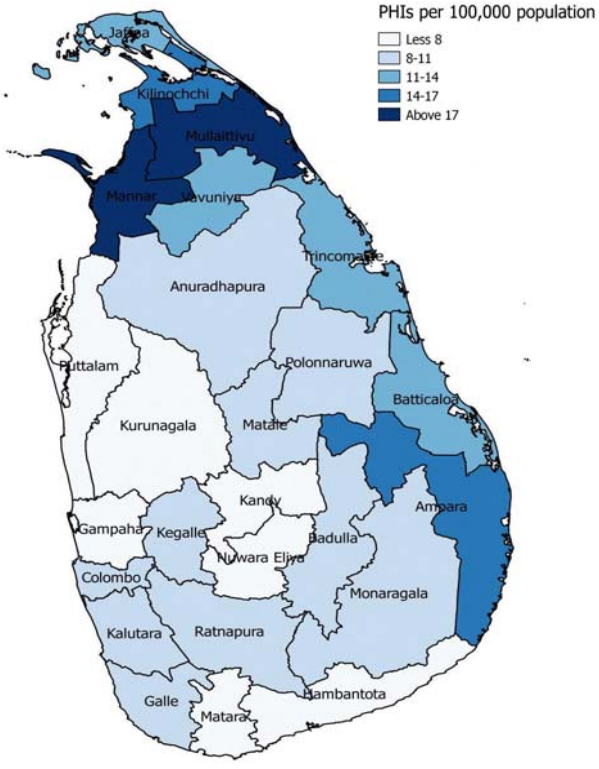


Fig 2.8 : Distribution of Public Health Inspectors (PHI), December 2015



2.9 Medical Services Division

2.9.1 Deputy Director General (Medical Services) I

The Division of Deputy Director General (Medical Service) - I; DDG (MS) - I, caters to a wide range of services pertaining to intern medical officers, post graduate trainees, specialist medical officers and medical administrators. Yearly more than 1,000 intern medical officers are appointed and around 3,000 postgraduate trainees are following around 50 different specialities ranging from Diplomas, Masters Degrees and Doctoral Studies (MD). Nearly 1,600 specialist medical officers are providing specialist care for the nation and 280 medical administrators are distributed in health institutions at different levels of care: Base Hospitals, District General Hospitals, Provincial General Hospitals and Teaching Hospitals. In addition, the National Transplant Programme (NTP) in the government sector falls under the direct purview of DDG (MS) I.

Development of tertiary level medical facilities in major hospitals and other institutions including establishment of necessary infrastructure facilities, provision of medical equipments and providing administrative support are major functions of the division.

2.9.1.1 Directorates under the Purview of DDG (MS) I

There are four directorates under the purview of DDG (MS) I

Tertiary Care Services (TCS)
Health Quality and Safety (HQ&S)
Registered Medical Officers (RMO)
Nursing - Medical Services (Nursing-MS)

2.9.1.2 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

These services are provided on a web based platform for easy access.

√ 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 twenty indicators. All hospitals are required to measure the indicators and also to conduct a patient satisfaction survey at least annually. Introduction of surgical safety checklist in all hospitals is another milestone achieved in improving patient safety.

2.9.1.3 Priorities under DDG (MS) I for 2015

1. Establishment of regional transplant ethics committees
2. Accreditation of healthcare institutions
3. Capacity building of medical administrators (Scaling up medical administrative abilities for innovative management)
4. Improve web based management information system for tertiary care services
5. Upgrading of services of all hospitals above the level of Base Hospitals Category B

2.9.2 Deputy Director General (Medical Services) II

2.9.2.1 Directorates under the Purview of DDG (Medical Services) II

- Medical Services
- Primary Care Development
- Private Health Sector Development
- Medical Service Administration
- Prison Medical 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 2015

1. To modernize routine activities of central level Medical Service Branch with the support of relevant stakeholders in order to achieve satisfied medical officer work force
2. To support medical service through development of physical and human resource aspect of curative care institutions
3. To support and strengthen medical service through organizational development of curative care institutions
4. To strengthen medical service 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 adhered to prepared time schedule by preparing a data base of vacancies.
- Accomplish the requirement of Medical Services Unit with adequate infrastructure (furniture and IT equipments) and well equipped the staff in office management and IT management.
- Assesment of norms and cadre of grade MOs while reviewing and defining standards of each facility in each level by completed facility survey in all levels of institutions. Complete development plans for identified hospitals in secondary and tertiary care based on the gaps identified by facility survey, complete development plans for identified primary care institutions in view of achieving well utilized primary care institutions catering to current needs and demand.
- Formation of a HR data base system for proper human resource management and development of medical officers.
- Recognizing of productivity, quality and safety improvement programme to improve a system for preparedness & management of disaster while improving a system for preparedness & management of injury.

2.9.2.6 The Main Responsibilities

1. Managemnt and coordination of the health institutions
2. Organizing the hospital directors meeting for reviewing and coordination in curative care institutions in every two months time
3. Providing facilities and doctors for mobile health services
4. Facilitating the progress review meetings, Provincial Director's meetings and the parliamentary select committee decisions
5. Organizing the medical facilities for visits of state heads and other VIP's
6. Attending for hospital inspections and supervision
7. Conducting and attending the legal and disciplinary matters of the doctors and attending the complaints from public and hospital staff
8. Look into the public complaints and other medical or non-medical requests
9. Implementing the recommendations sent by the Human Right Commission, Public Service Commission and courts
10. Monitoring and coordination of private sector health service

2.9.2.7 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 extra duties 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. Advertising the special post vacancies requested from certain hospitals/special units as per the service needs
12. Appointing medical officers for special posts in external institutions

2.9.2.8 Attending for System Development of Curative Care Service and HRM of Medical Officers

- Attending to concerns regarding the improvements/developments of the accident and emergency care services
- Provision of the data base for the medical officers
- Organizing training programmes for the medical officers
- Facilitating the functions of hospital based Sports Medical Units, Health Information Management Unit and Reproductive Health Service Unit
- Providing annual funds for development activities of various health related institutions
- Development of prison health care

2.9.2.9 Progress and Achievements in Year 2015

1. Appointing 1,321 medical officers in 2 batches who completed their internship in 2014 and 2015 to island wide institutions in all provinces for opening of new units and closed institutions
2. 2,508 Annual transfer orders have been implemented on 1st of January, 2015 as per the Public Service Commission guidelines
3. Establishment of Sports Medical Units for every General Hospital and training of medical service in sports medicine covering all provinces
4. Commencement of upgrading 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 for transfers, appointments and grade promotions
6. Transfer orders of 437 medical officers of North & East and 469 special appeal transfer orders have been considered during 2015

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

1. Annual Transfers Enhancement Project :
   Establishment and reinforcement of annual transfers through Human Resource Management System, enabling online application and implementation on annual transfers and duty assume letters.

2. Sport Medicine:
   a) Island wide training of 1,000 Medical Officers to cover preventive care functions of all provinces
   b) Establishment of Sports Medicine Units in hospitals
   c) Organizing health education
   d) Base line data collection and analysis
   e) Performance Assessment Analysis - Medical Services Development

3. Costing Programme for Curative Care Institutions:

Restructuring and establishment will be done, initiating with capacity building for the staff and equipments purchasing

a) To calculate the cost of service per patient in curative healthcare institutions at point of delivery
b) To make aware the service recipients about the cost of service which they received
c) To compare the efficiency of government curative health care institutions

4. Human Resource Information Management System (HRIMS):

a) To develop a computerized solution to maintain the personal recode of each and every medical officer in the country
b) To facilitate the process of absorption of the qualified doctors to the state health care system by means of the developed computerized software system
c) Identification of vacancies and recruitment of new cadre according to the requirement
d) To facilitate grade promotions, salary increments, transfers, retirements, extension of service and carrier development activities
e) Facilitate the provision of benefits which are common to the government servants (such as insurance, W & OP, vehicle permit, abroad leave, etc.)

5. Primary Care Service :

Enhanced with development of specialists service to the primary health care level and necessary funds are allocated to purchase equipments and logistics for strengthening of primary health care under the supervision of D/PHC and prison hospitals are also under way for special project with the assistance of ICRC.

6 . Special Projects :

a) Rasavi Project

Construction of a State of the Art New Cancer Unit at CI Maharagama. This new ward complex is capable of providing necessary services for cancer patients and other patients concern.

b) Accident and Emergency Service Development

To establish well equipped Accident and Emergency Care Units in the line ministry hospitals. Initially constructing 14 new units and upgrading at 14 hospitals. Conducting of capacity building programs including foreign and local training for the staff attached to accident and emergency care services.

2.10 Director Nursing (Public Health Services)

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

Post Basic College of Nursing is the only government higher education institute for registered nurses in the country, attached to NHSL, under the administration of ET & R Unit, Ministry of Health, Sri Lanka. Mainly it produces nurse managers and nurse educators to serve all over the country focusing to uplift the health care status of the nation. In addition, PBCN conducts short courses for registered Sri Lankan nurses and overseas nurses to sharpen specified required skills in various specialties.

Table 2.3 : Trainings Conducted

Title	Level	Duration		Number of Trainees
		Institutional Training	Clinical Training	
Operating Theater Nursing	Certificate	3 months	3 months	110
Intensive Care Nursing (1st Batch)	Certificate	3 months	3 months	50
Intensive Care Nursing (2nd Batch)	Certificate	3 months	3 months	56
Emergency Nursing	Certificate	3 months	3 months	41
Enterostomal Therapy	Certificate	3 months	3 months	41
Nephrology Nursing (1st Batch)	Certificate	3 months	3 months	31
Nephrology Nursing (2nd Batch)	Certificate	3 months	3 months	22
Teaching & Supervision	Diploma	1 year	6 months	84
Ward Management and Supervision (1st Batch)	Diploma	1 year	6 months	187
Ward Management and Supervision (2nd Batch)	Diploma	1 year	6 months	383

2.11 Post Graduate Institute of Medicine (PGIM)

The Post Graduate Institute of Medicine (PGIM) was established by the PGIM ordinance No.01 in 1980 and was affiliated to the University of Colombo. This institute is providing instructions, training and research in range of specialties and sub specialties in Medicine. The PGIM is training both medical and dental graduates for the award of the degrees of Doctor of Medicine, Master of Science, Post Graduate Diplomas and Certificates. The PGIM works in close collaboration with the Ministry of Higher Education, Ministry of Health, Faculties of Medicine of Universities and Professional Colleges.

The PGIM has been contributing immensely during the past thirty three years towards the development of specialist doctors needed by the country.

1. PGIM conducted 126 variety of examinations including selection/Certificates/PG Diploma/ MSc/ MD examinations in addition to the in course assessments.

2. New courses have not started in year 2015, but action was taken to prepare the prospectus for the following new training programmes to be implemented during the year 2016.
   - Postgraduate Diploma in Palliative Medicine
   - MSc in Clinical Pharmacology and Therapeutics
   - MD and Board Certification in Health Informatics
   - Board Certification in Clinical Neurophysiology
   - Board Certification in Paediatric Radiology
   - Board Certification in Cardiothoracic Surgery

3. Following curricula/prospectuses of existing programmes were revised during the course of this year.
   - Postgraduate Diploma in Tuberculosis and Chest Medicine
   - Postgraduate Diploma in Child Health
   - MD and Board Certification in General Medicine
   - MD in Community Dentistry
   - MD in Community Medicine
   - Board Certification in Paediatric Intensive Care
   - Board Certification in Paediatric Nephrology
   - MD and Board Certification in Paediatric Cardiology
   - Board Certification in Community Paediatrics
   - Board Certification in Paediatric Neurology

4. Graduate output during the year 2015 is as follows.
   - PG Certificate - 87
   - PG Diplomas - 281
   - MSc - 66
   - MD - 273
   - Board Certification - 212

5. New entrance during the year 2015 is as follows.
   - PG Certificate - 60
   - In-service - 19
   - PG Diplomas - 324
   - MSc - 126
   - MD - 451

6. Conducted 3 workshops for trainers/examiners.

7. Conducted 3 workshops for trainees.

8. Number of research/theses/dissertations done by PG trainees in year 2015 is 206.

2.12 National Intensive Care Surveillance (NICS)

National Intensive Care Surveillance is a critical care registry networking 76 Intensive Care Units (ICUs), 10 paediatric ICUs and 17 neonatal ICUs in government hospitals in 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 now 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 doctors, nurses and physiotheraphists in critical care skills, research and IT. During the year 2015 in colloboration with the Deputy Director General (Education, Training and Research), it has conducted training sessons for more than 500 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 2015 it had carried out 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) - II. Further details of NICS and its activities are available at www.nicslk.com, www.reports.nicslk.com, www.nics-training.com and can be contacted at info@nicslk.com or 94(0)112679038.

2.13 Health Finance

Total government expenditure on health amounted to Rs. 181.12 billion in 2015 compared to Rs. 155 billion in 2014. Meanwhile the expenditure on recurrent expenditure has been increased by 15 percent over 2014 to Rs. 149.8 billion in 2015. The capital investment on health has increased from Rs. 24.64 billion in 2014 to Rs. 31.33 billion in 2015. Capital investment in curative healthcare allocate in several investment areas such as hospital development projects, hospital rehabilitation, medical equipment and machinery, hospital furniture and vehicles to hospitals.

2.13.1 Major Capital Projects Completed by 2015

- Establishment of a center of excellence in Dental Institute of Sri Lanka with all facilities for dental diseases
- Construction of OPD & Clinical Complex at Castle Street Hospital for Women
- Completion of construction work at Cardio Thoracic Unit at Lady Ridgway Hospital
- Construction of the State of the Art Cancer Ward Complex at National Institute of Cancer, Maharagama under Razavi Project
- Theatre Complex at General Hospital, Kegalle
- Construction of Ward Complex at Teaching Hospital, Kandy
- Drug Stores at Mulleriyawa
- Development of District General Hospital, Hambantota and District General Hospital, Nuwara Eliya under Netherlands assistance with government funds
- Upgrading of National Blood Transfusion Servicses of Sri Lanka with emphasis on North & East
- Re-organization of OPD building at LRH, construction of Critical Care Unit and completion of partially constructed Neurology, Nephrology and Orthopedic wards at Lady Ridgeway Hospital
- Construction of OPD Ward Complex at Monaragala Hospital
- Construction of nurses quarters at Polonnaruwa General Hospital
- Construction of 9 stories building at Sirimavo Bandaranayake Children Hospital
- Accident Services at DGH Rathnapura at a cost of Rs. 428 millions

In addition to hospital development projects a major share of capital investment has also been channeled for hospital rehabilitation, purchasing vehicles, plant machinery and medical equipments, etc. Further a total capital investment of Rs. 3.502 million was provided to carry out new initiatives to control communicable and non-communicable diseases with domestic as well as foreign assistance.

The investment in indigenous systems, has been increased by 29% from 2014 to 2015 with a view to promote indigenous system of medicine to cater to the increasing demand for such system.

2.14 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 who are 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 2014 continuously. 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 2015, 26 training programs in all RDHSS were conducted to train the staff handling the hospital statistics.

At the end of 2015, system is being used in about 48 percent of total hospitals in the country. It is also important to note that 68 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 2015 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. In other words morbidity is an incidence of ill health in a population. Information on morbidity is one of the main useful information to measure country's health condition which reflects the development of the country.

Hence collecting and analyzing morbidity information is very much important. Therefore morbidity data is collected according to the disease type, gender, age and area of hospitalization. It would help to implement health policies, plan future health programs and compare morbidity trends and patterns across countries, etc.

Incidence rates and prevalence rates are major morbidity indicators.

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 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, collection 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 a 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, both morbidity and 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 also 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 still not absorbed into the data collection system. There are some other limited information collecting systems through surveys and 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 by the Medical Statistics Unit (MSU) from all government hospitals which have indoor facilities , except from the Primary Medical 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). Since 2012, MSU has introduced a web based system called eIMMR to collect morbidity and mortality data. Hospitals which have computer and internet facilities can send their data through eIMMR. Accurate, detailed and timely data collected through eIMMR from around three hundred hospitals are processed and published in this report.

3.2.1 Hospital Morbidity

The final diagnosis as mentioned in the Bed Head Tickets (BHT's) of the patients are recorded in a formal register, and then summarize to complete the IMMR return. Hospitals which sent data through eIMMR can directly enter the final diagnosis of patient into the system and system generates the IMMR report. 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 and development assistants, etc. are involving in the said activity.

Registered/assistant medical officers or sometimes medical officers, also engage in compilation of inpatient statistics in the hospitals. Though these officers are mainly employed to attend in the patient care, they perform the statistical activities as an additional duty.

During the year 2015, in government hospitals, 7.18% of the live discharges and 8.62% of the deaths are reported as undiagnosed or uncoded. To improve the data quality, number of undiagnosed BHT's should be minimized.

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 2008 - 2015.

As shown in the said table, number of cases related to some disease groups such as endocrine, nutritional and metabolic diseases (E00-E90), mental and behavioural disorders (F00-F99), diseases of the nervous system (G00-G99) and diseases of the respiratory system (J00-J99) are reported a slight decrease from 2013 to 2014 but again it has been increased in 2015. Cases of both pregnancy, childbirth and the puerperium (O00-O99) and congenital malformations,deformations and chromosomal abnormalities (Q00-Q99) are reported a slight decrease from 2013, while certain infectious and parasitic diseases (A00-B99) has shown a continuous decrease from 2012. Hospitalizations due to neoplasms (C00-D48), diseases of the blood & blood-forming organs & cetain disorders involving the immune mechanism (D50-D89), diseases of the ear and mastoid process (H60-H95) and diseases of the digestive system (K00-K93) have been continuousely increased from 2009. Though the number of cases related to diseases of the circulatory system (I00-I99) shows an incresing trend from 2009, it shows a slight decrease in 2015.

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

For the year 2015, 6,311,873 live discharges and 47,808 deaths have been recorded in government hospitals. 49% out of the live discharges and 59% 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 943,297 cases.

But on the other hand, out of total hospitalizations due to traumatic injuries, the percentage of deaths is just 0.17. 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 67 percent are male and out of total deaths due to traumatic injuries 75 percent are male.

Fig 3.1 : Percentage of Hospital Live Discharges and Deaths by Gender, 2015

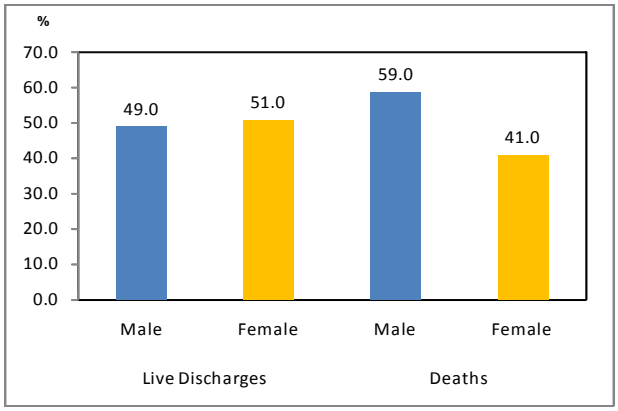
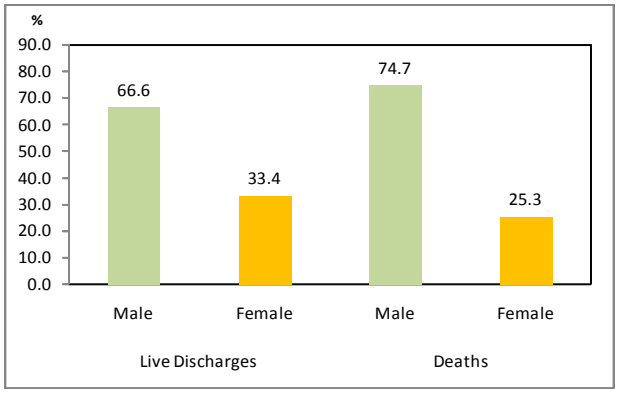


Fig 3.2 : Percentage of Hospital Live Discharges and Deaths from Traumatic Injuries by Gender, 2015



Detailed Table 17 shows the trends of some selected diseases. Increasing trend is shown in hospitalizations due to following diseases over the last five years.

- Ischaemic heart diseases (455.4 in 2011 and 532.1 in 2015 per 100,000 population)
- Anaemias (98.7 in 2011 and 137.3 in 2015 per 100,000 population)
- Septicaemia (17.7 in 2011 and 47.0 in 2015 per 100,000 population)

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 2006-2015. There is no change in the first 11 leading causes of hospitalization for 2015 compared with 2014. However neoplasms is ranked as the 12th leading cause for the first time in 2015.

Traumatic injuries ranked as the major cause of hospitalization over the last ten years as well as in 2015.

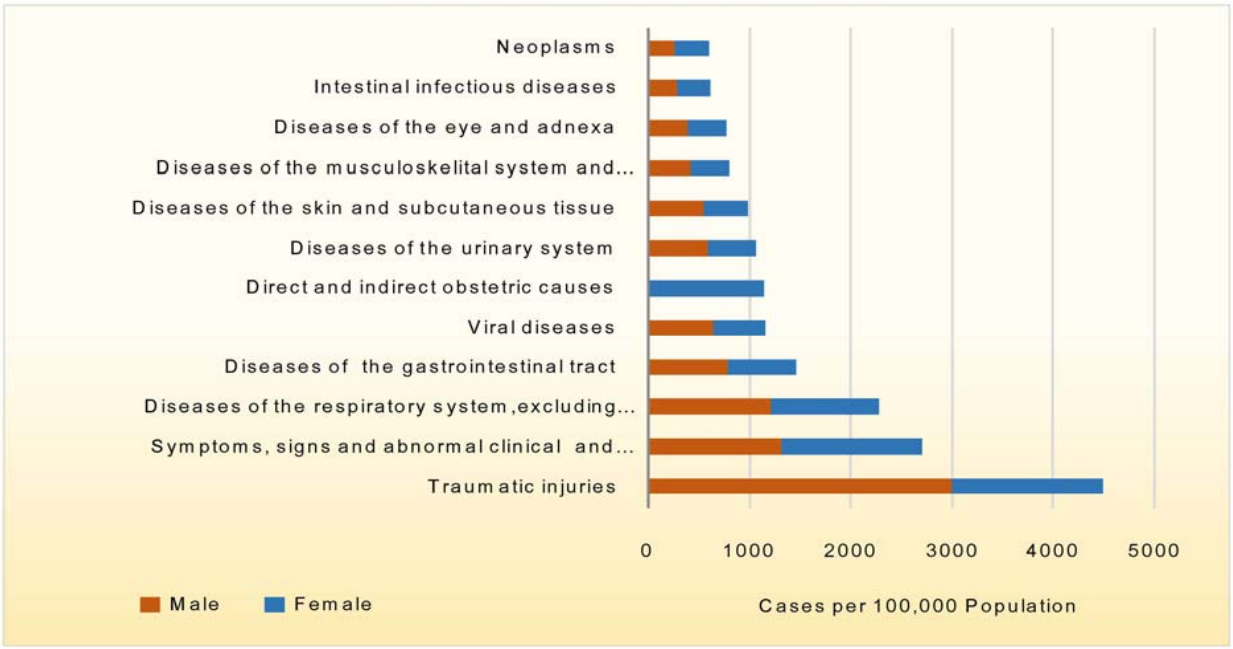
Symptoms, signs and abnormal clinical and laboratory findings which was the third leading cause from 2003 to 2008, ranked as the second since 2009, as well as in 2015. Diseases of the respiratory system has become the third leading cause since 2009 and it was second up to 2008. Hospitalizations due to diseases of the gastro-intestinal tract has become the fourth leading cause from the year 2014 and it was ranked as the fifth leading cause since 2006.

During 2015, hospitalizations due to viral diseases is the fifth leading cause of hospitalization for the country. But still it is the fourth leading cause for several districts like Matara and Puttalam according to statistics given in the Detailed Table 22.

Diseases of the urinary system are being important cause of hospitalization and it is ranked as seventh in 2015. But it is ranked as third and fourth leading cause for Kilinochchi and Mullaitivu districts respectively. Hospitalizations due to diseases of the eye and adnexa is remaining as the tenth leading cause since 2012. However it is ranked as the fourth leading cause for Matale district.

Graphical representation of the leading causes of hospitalization is given in Fig 3.3.

Fig 3.3 : Leading Causes of Hospitalization, 2015



3.2.1.2 Outpatient Morbidity

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

3.2.2 Hospital Mortality

Detailed Table 16 indicates that mortality due to neoplasms, diseases of the nervous system, diseases of the circulatory system, diseases of the digestive system, diseases of the musculoskeletal system and connective tissue, diseases of the genitourinory system and symptoms, signs and abnormal clinical and laboratary findings not elsewhere classified have been decreased in 2015.

It is estimated that only 30-40 percent of registered deaths occur in government hospitals.

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.

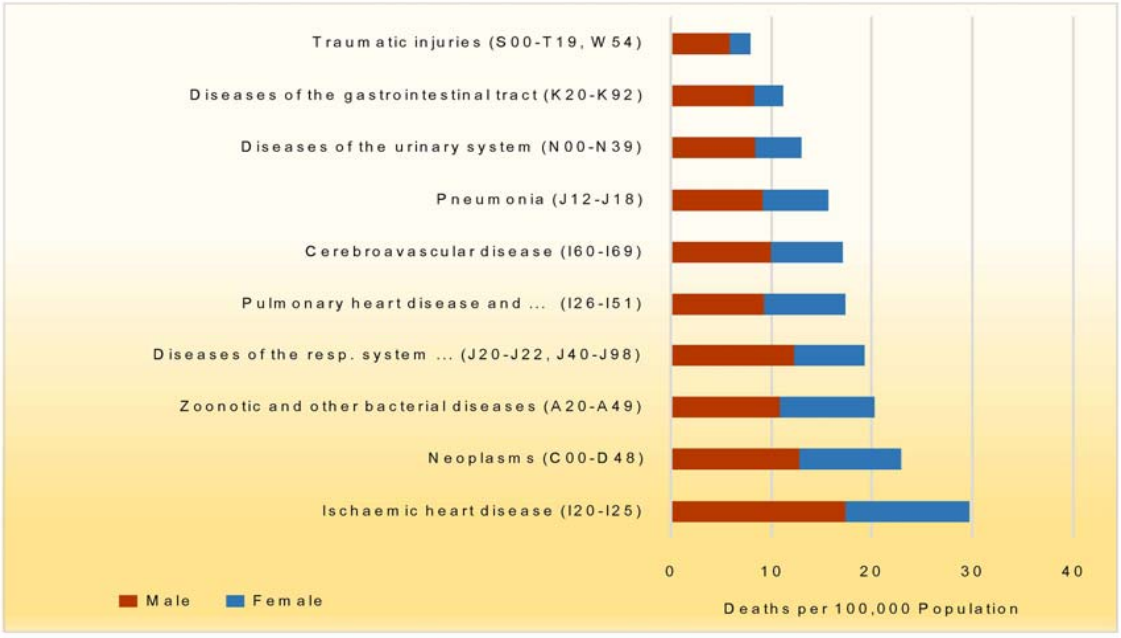
According to Detailed Table 19, ischaemic heart diseases, neoplasms, zoonotic and other bacterial diseases, diseases of the respiratory system excluding diseases of upper respiratory tract and pulmonary heart disease and diseases of the pulmonary circulation are ranked as the first five leading causes of hospital deaths. These deaths accounted for about 52 percent of analyzed hospital deaths. Ischaemic heart diseases ranked as the major leading cause of deaths since 1995.

Deaths per 100,000 population for the top ten causes have been shown in the Figure 3.4. There is a considerable gender difference in the number of deaths per 100,000 population according to the above said figure. Male deaths are relatively higher than corresponding female deaths for major leading causes of deaths.

Neoplasms ranked as the second leading cause of death since 2010.

Higher death rates associated with neoplasms in Colombo, Kandy, Galle, Jaffna, Badulla, Kurunegala and Anuradhapura districts is a result of cancer patients being transferred to the Teaching Hospitals in Maharagama (Colombo district), Kandy, Karapitiya, Jaffna, Anuradhapura and Provincial General Hospitals in Badulla and Kurunegala where advance facilities for the treatments of neoplasms are available.

Fig 3.4 : Leading Causes of Hospital Deaths, 2015

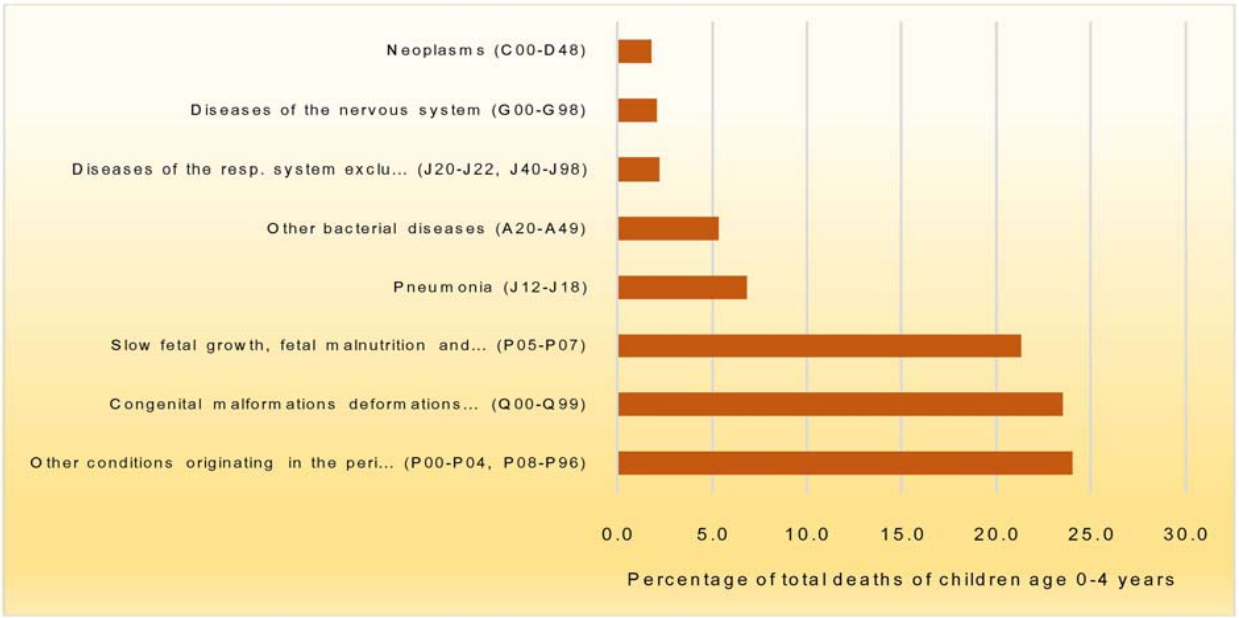


Zoonotic and other bacterial diseases is the third leading cause of death in 2014 and 2015 though it was ranked as the sixth leading cause in 2013. Cerebrovascular disease which was the third leading cause in 2013, ranked as fifth in the year 2014 and has become the sixth leading cause of death in 2015.

Leading causes of death for children in the age group of 0 to 4 years are represented in the Fig 3.5.

The major leading cause of death for children in the above age catergory is other conditions originating in the perinatal period (P00-P04, P08-P96). However according to the Fig 3.5, Congenital malformations,deformations and chromosomal abnormalities (Q00-Q99) and slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05-P07) are second and third leading causes of death respectively.

Fig 3.5 : Leading Causes of Hospital Deaths for Children Aged between 0-4 Years, 2015



3.2.2.2 Case Fatality Rate

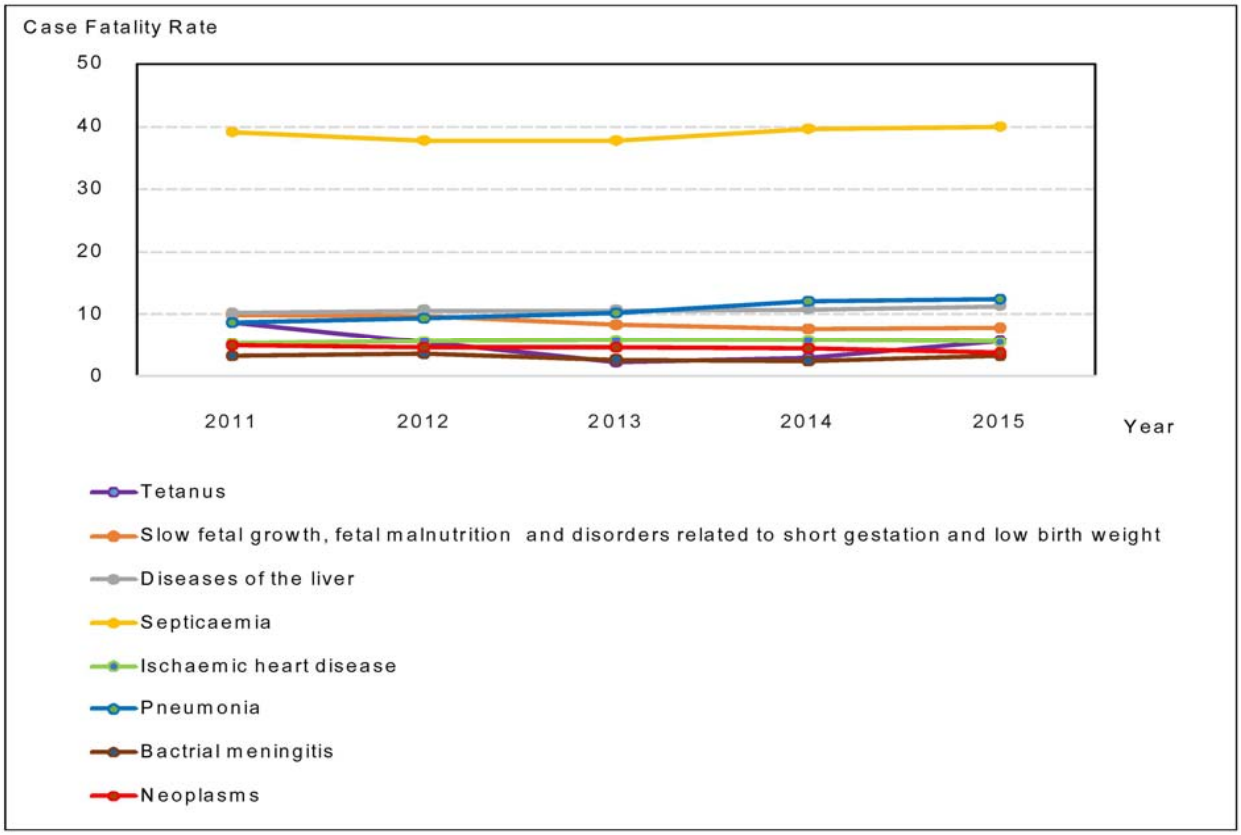
According to 2015 hospital statistics, septicaemia case fatality rate has been reported as the highest rate which is 40.0 and it is continously increasing since 2012 (Detailed Table 26). Case fatality rate of pneumonia is continuously increasing from 2009. In 2015 it is the second highest case fatality rate (12.4) among the selected diseases. However case fatality rate of liver diseases has also increased from 10.9 to 11.4 in 2015.

Graphical representation of the trends in case fatality rates of some selected diseases are given in Fig 3.6.

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, which are predominantly medically confirmed or at least medically examined.

Fig 3.6 : Trends in Case Fatality Rates of Selected Diseases, 2011 - 2015



4. Patient Care Services

4.1 Hospital Services

4.1.1 Inpatient and Outpatient Services

During the year 2015 the government curative care institutions have provided services to over 06 million inpatients, 54 million outpatients (Table 4.1) and about 25.8 million patients attended various clinics.

It is important to note that the above figures indicate the number of patient visits rather than the actual number of patients. That is repeated visits and transfers of the same patient for the same disease are counted separately. Policy makers, planners and researches are interested in both patient visits and actual number of patients. Health Identification Number (HIN) is going to introduce for this purpose.

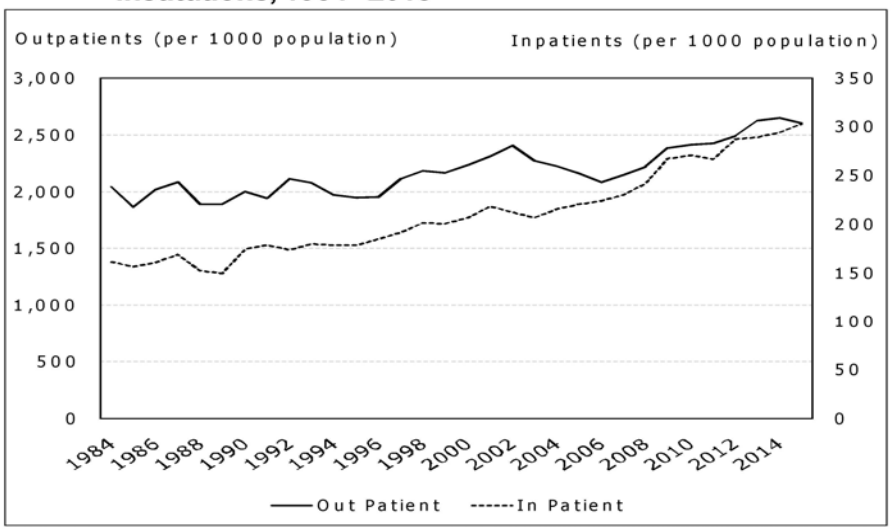
The district level details of inpatient and outpatient services are included in the Detailed Table 27 and onwards.

The number of inward treated patients are collected through the number of discharges from the hospitals and both live discharges and deaths are considered for this purpose.

The number of inward treared patients is increasing continuously and in 2015, it is recorded as 6,359,681 with 6,311,873 live discharges and 47,808 hospital deaths.

Colombo district hospitals recorded the highest number of inpatient attendance while the lowest is recorded from Mannar. The mean number of patients per district is 254,387 and nine districts recorded a higher number of inpatient visits than the mean value; namely Colombo, Gampaha, Kalutara, Kandy, Galle, Kurunegala, Anuradhapura, Badulla and Ratnapura.

Fig 4.1 : Inpatient and Outpatient Attendance in Government Medical Institutions, 1984 - 2015



Excludes :

Source : Medical Statistics Unit

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

Table 4.1 : Trends in Inpatient and Outpatient Attendance and Rates per 1,000 Population, 1998 - 2015

Year	Inpatients Treated		Outpatient Attendance[2]	
	Number '000	Rate[1]	Number '000	Rate[1]
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 [3]	5,474	267.7	48,782	2,385.4
2010 [4]	5,591	270.7	49,871	2,414.7
2011 [4]	5,611	268.6	50,682	2,425.9
2012	5,840	287.3	50,631	2,490.7
2013	5,926	289.3	53,859	2,629.4
2014	6,120	294.6	55,105	2,653.0
2015	6,360	303.3	54,652	2,606.7

[1] Rate per 1000 population

Source : Medical Statistics Unit

Excludes:

[2] Clinic Attendance
[3] Kilinochchi and Mullaitivu Districts
[4] Mullaitivu District

The outpatient visits shows a slight reduction in the number, as well as in the rate. Here also the number of OPD visits are reported, not the actual number of patients. It is an unavoidable limitation of the current hospital data collection system.

There were 54,652,070 OPD visits recorded for the year 2015, and the highest number is from Colombo district. Lowest number of visits were reported from Mullativu district. The average OPD visits per district is 2,186,083 and there were 10 districts which exceed this average. Those were all districts in Western province, Kandy, Galle, Ampara, Kurunegala, Anuradhapura, Badulla and Ratnapura.

4.1.2 Maternal Services

Table 4.2 illustrates the maternal services provided by different types of government health institutions. Total number of deliveries taken place in the government hospitals is recorded as 314,098 in the year 2015. When compared to 2014, deliveries reduced by 4.74%. There were 329,732 in 2014 and 346,065 in 2013. So declining trend of deliveries can be obsvered.

In 2015, there were 68 triplet or other multiple deliveries while in 2014, 53.

It should be noted that 96.4% of total deliveries are performed in Base and above graded hospitals. Those hospitals are usually the well facilitated institutions and therefore the majority of mothers are preferred to select such institutions.

Percentage of deliveries occurred in Teaching Hospitals is 28.7 percent. Among the Teaching Hospitals Castle Street Hospital for Women, Mahamodara and Anuradhapura has recorded the higher number of deliveries and Kurunegala Provincial General Hospital as well.

The caesarean section rate is increased by 1% from 2014 to 2015. Out of total deliveries, 33.2 percent of deliveries are recorded as caesarean section deliveries.

Caesarean section deliveries occurred in Base Hospital Type A and above are higher than one third of total deliveries. Percentage of caesarean section deliveries occurred in Divisional Hospitals Type A increased from 0.3 percent in 2014 to 6.9 percent in 2015.

During 2015, a total of 315,221 live births and 1,913 still births took place in government hospitals (Detailed Table 40). It is a decrease of 4.74% in live births and 2.94% in still births when compared with 2014.

Even though number of still births shows a decline in the year 2015 compared to the year 2014, still birth rate per 1,000 births has increased from 5.9 in 2014 to 6.0 in 2015. However, it is lower than the rate of 6.4 per 1,000 births in 2013. The highest still birth rate is reported from Nuwara Eliya district, and it is 10.7, which is close to a twice of the national figure. This may be due to the fact that, Nuwara Eliya district is different from other districts in climate, sector distribution and many other demographic and socio economic factors.

Table 4.2 : Maternal Services by Type of Institution, 2015

Type	Outcome of Dilivery			Total Diliveries		Method of Dilivery			
	Single Diliveries	Twin Diliveries	Other Diliveries	Number	%	Normal	Forceps	Caesarean	
								Number	%
Teaching Hospitals	89,219	1,036	40	90,295	28.7	57,198	1,422	31,675	35.1
Provincial General Hospitals	27,780	301	5	28,086	8.9	17,944	123	10,019	35.7
District General Hospitals	83,374	782	10	84,166	26.8	53,287	711	30,168	35.8
Base Hospitals Type A	61,365	496	8	61,869	19.7	40,054	655	21,160	34.2
Base Hospitals Type B	38,478	258	4	38,740	12.3	27,447	349	10,944	28.2
Divisional Hospitals Type A	3,360	11	-	3,371	1.1	3,137	2	232	6.9
Divisional Hospitals Type B	4,892	3	-	4,895	1.6	4,891	1	3	0.1
Divisional Hospitals Type C	2,402	7	-	2,409	0.8	2,409	-	-	-
Primary Medical Care Units and Maternity Homes	265	1	1	267	0.1	267	-	-	-
Total	311,135	2,895	68	314,098	100.0	206,634	3,263	104,201	33.2

Source : Medical Statistics Unit

The lowest still birth rate is from Trincomalee which is 1.8, while no still births reported from Mullaitivu district.

Not only for still birth rate, but also for the low weight birth rate, Nuwara Eliya is the leading district. Low weight birth rate in Nuwara Eliya is recorded as 24.7. Kilinochchi has the lowest low weight birth rate of 10.9 followed by Mullaitivu and Hambantota districts.

Fig 4.2 shows the changing pattern of the registered live births and government hospital live births, by time. In 2015, 94.1% of live births occurred in the government health institutions.

Fig 4.3 shows the trends in live births and deaths in government hospitals. Still births were not included in the live births or death distribution. According to Fig 4.3, percentage of live births occurred in government hospitals had an increasing trend and in 1990's it was more than 80 percent. In the year 2000, more than 90% live births occurred in the government hospitals and it was around 95% after the year 2012.

The percentage of deaths in government hospitals to the total registered deaths lies in between 30% and 40% with small fluctuations since 1980's.

Figure 4.4 indicates the district level distribution of live births in government hospitals. Pie charts are used to represent the low weight births and normal weight births.

4.1.3 Utilization of Medical Institutions

A proper referral system is not enforced in Sri Lanka. 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.

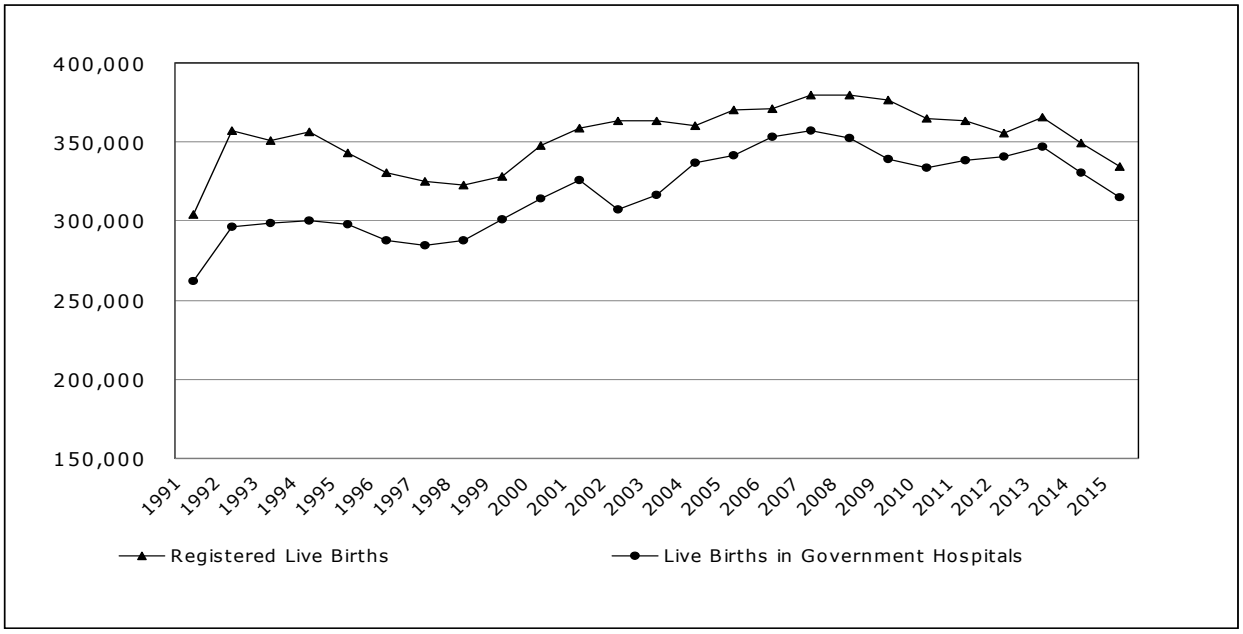
Several indicators are used to measure the utilization of medical institutions. Those are,

Average Duration of Stay - Average number of days a patient stay in the hospital (excluding healthy new borns).

Bed Occupancy Rate - The percentage of inpatient beds occupied over a given period.

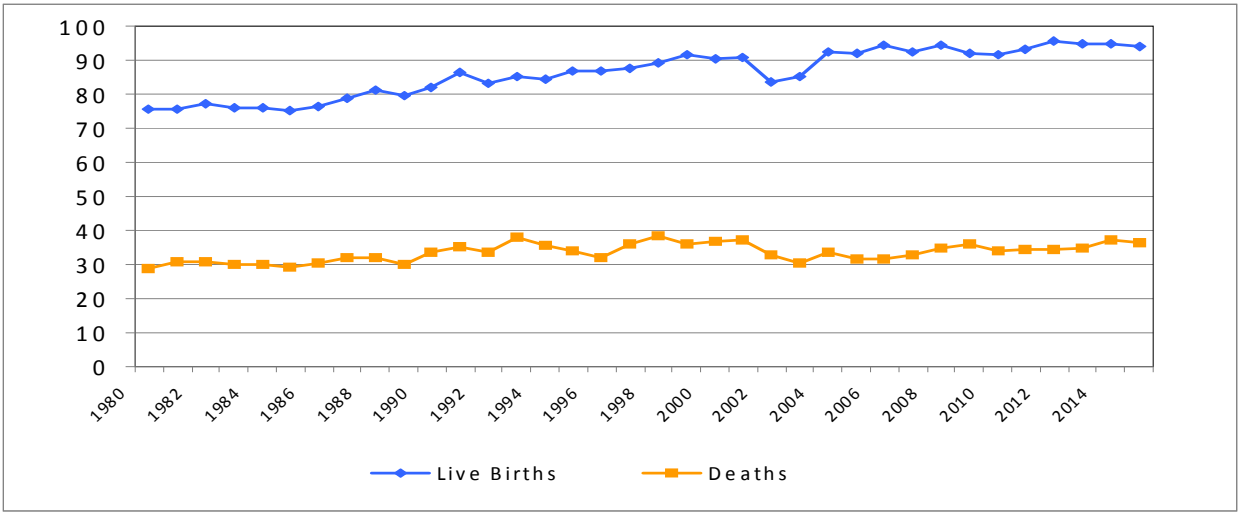
Bed Turnover Rate - The number of times, a hospital bed, on an average changes occupants during a given period of time.

Fig 4.2 : Registered Births Vs Hospital Births, 1991 - 2015



Source : Registrar General's Department and Medical Statistics Unit

Fig 4.3 : Live Births and Deaths in Government Hospitals as a Percentage of Registered Births and Deaths, 1980 - 2015

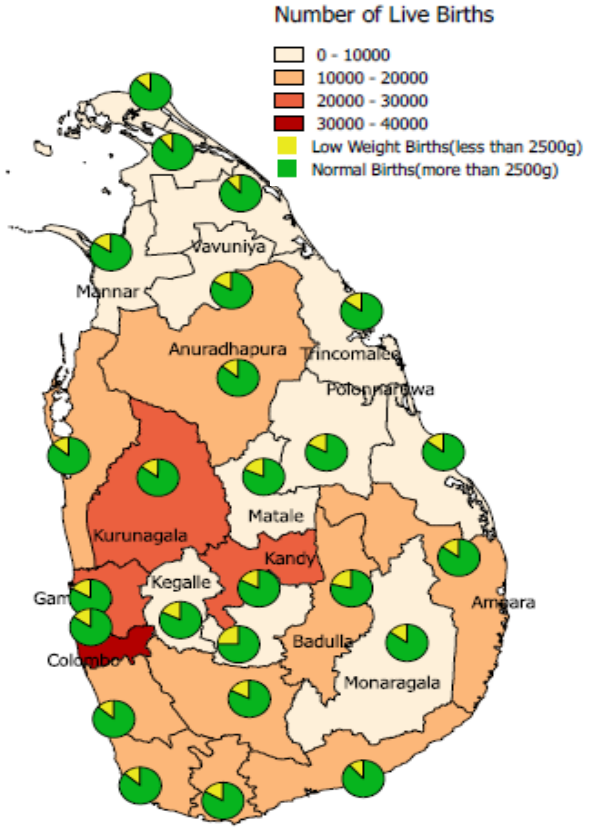


Source : Registrar General's Department and Medical Statistics Unit

Excludes:

1 : Northern & Eastern Provinces in 1990 and 1991
2 : Jaffna, Kilinochchi, Mullaitivu & Ampara Districts in 1995
3 : Kilinochchi and Mullaitivu Districts in 1996 and 2009
4 : Ampara District in 1997

Fig 4.4 : Distribution of Hospital Live Births by Place of Occurance in Sri Lanka, 2015



Source : Medical Statistics Unit

Average duration of stay is significantly high in the specialized hospitals such as Mental, Chest, Leprosy and Rehabilitation (Detailed Table 38). It varies with the type of hospital and accordingly, average duration of stay is usually higher in Teaching Hospitals than other hospital categories, except the said specialized hospitals. As indicated in the Detailed Table 38, Leprosy Hospitals has the highest duration of stay followed by Mental Hospitals and the Rehabilitation Hospitals. The lowest duration of stay is reported from all types of Divisional Hospitals.

District General Hospitals of Kalutara & Embilipitiya have indicated bed occupancy rates more than 100% and also the bed occupancy rates of some Base Hospitals such as Dambulla, Dikoya, Tangalle, Thambuththegama, Eravur and Akkaraipattu are more than 100%. Some of the Divisional Hospitals, Prison Hospitals and Rehabilitation Centres were also over crowded.

In 2015, the bed occupancy rates reported from 43 Divisional Hospitals are less than 10%. Bed occupancy rates over the types of hospitals are slightly fluctuated but in general, do not show a remarkable change.

Among Teaching Hospitals, Colombo South Teaching Hospital has recorded the highest bed occupancy rate which is 96.28% while Sri Jayawardanapura Hospital has the lowest bed occupancy rate, which is 51.08%. All Provincial General Hospitals have reported bed occupancy rates between 70% and 85%. While Kalutara and Embilipitiya District General Hospitals were over crowded, some District General Hospitals recorded lower bed occupancy rates between 20% and 30%.

Some of the Base Hospitals too recorded very low percentages for bed occupancy rate which are even less than 20%.

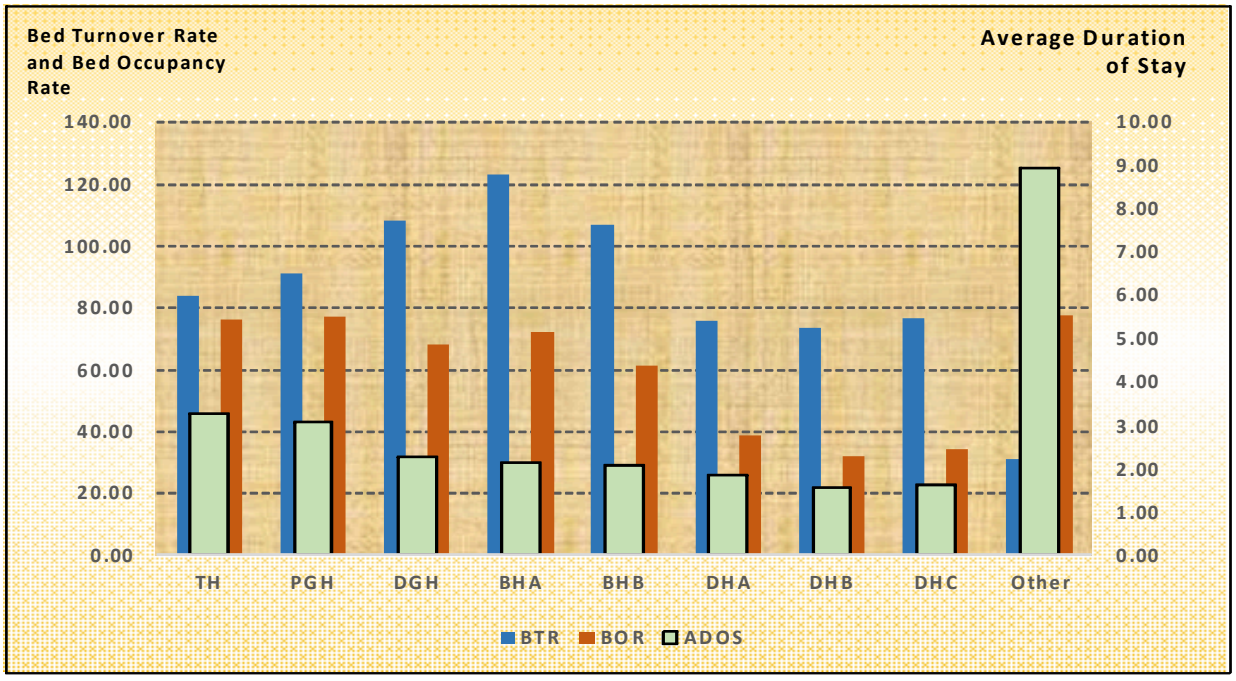
Some of the Divisional Hospitals recorded bed occupancy rates below 1% in contrast to some were over crowded.

Not only by the bed occupancy rate, but also from the bed turn over rate, the Colombo South Teaching Hospital indicates the highest among Teaching Hospitals, which is 120.18. Jaffna is the other Teaching Hospital with a bed turn over rate over 100. Sri Jayawardanapura Teaching Hospital has the lowest bed turn over rate among the Teaching Hospitals.

Most of the Provincial General Hospitals and District General Hospitals are having higher bed turnover rates. Mental Rehabilitation Centers, Leprosy Hospitals and some Divisional Hospitals are having the lowest bed turn over rates.

Fig 4.5 shows the bed turn over rate (BTR), bed occupancy rate (BOR) and average duration of stay (ADOS) by types of hospitals. However, the "other" hospital category is having big variations. Eventhough all the "other" hospitals are categorized under one category it cannot be reasonably campared among those hospitals by this categorization.

Fig 4.5 : Utilization of Medical Institutions, 2015



Source : Medical Statistics Unit

4.2 Oral Health Services

4.2.1 Vision

Healthy smiling Sri Lankan nation with 20 functional teeth at the age of 80 years.

4.2.2 Goal

Twenty functional teeth at the age of eighty years among Sri Lankans.

4.2.3 History of the Oral Health Services

In 1925 the first dental clinic was established in Ward Place, Colombo. This was the beginning of the government oral health services and the beginning of the employing of government dental surgeons.

Dental surgeons were initially graduated by Faculty of Medicine, Colombo and from 1947, they were graduated from University of Peradeniya. In 1951 training of school dental nurses commenced leading to the establishment of the school dental services in Sri Lanka.

4.2.4 Oral Health Services

The administration of the entire oral health care delivery system of the Ministry of Health of Sri Lanka was brought under the guidance of the Deputy Director General Dental Services (DDG / DS) from 2002.

Oral Health Services are provided to the public by both government & private sector. However, nearly 60-65% of services are provided by the government sector in both urban & rural set ups. Moreover majority of the dental surgeons who work in the government sector are involved in part time private practice. Nearly 2% of the oral health services are provided through universities, tri forces, police and non-governmental organizations to their employees and families.

Oral health services in public sector, provided by the government are mainly consist of two components.

1. Curative Care Services – provided through the clinics located in Peripheral Units, District Hospitals, Base Hospitals, District General Hospitals and Teaching Hospitals.
2. Preventive Care Services – provided through School Dental Clinics (SDC), Adolescent Dental Clinics (ADC) and Community Dental Clinics (CDC).

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

School Dental Clinics (SDC) are located in school premises providing oral health care to children between 3-13 years. During the year 2015, there were 488 SDC manned by 383 SDTs. Sixty two ADCs which are located in school premises were manned by Dental Surgeons catering to the children above 13 years of age and special groups. Community Dental Clinics (CDC) are located in highly populated metropolitan areas and Dental Surgeons working in these clinics are focusing on preventive care to specialized groups like pregnant mothers and children below 3 years of age.

One hundred and five new Dental Surgeons and 34 School Dental Therapists were recruited during the year 2015 and at present there are 1,536 Dental Surgeons working at the public sector.

4.2.5 Specialized Services

The five main specialties in the oral health care services in Sri Lanka are Oral & Maxillo Facial Surgery, Orthodontics, Community/Public Health Dentistry, Restorative Dentistry and Oral Pathology. In the year 2015, there were 70 Dental Consultants belonging to these specialized fields under the Ministry of Health. OMF surgeons were attached to the Teaching Hospitals, National Dental Hospital (Teaching) Colombo, District General Hospitals and Base Hospitals. Restorative and Orthodontic consultants were attached to Teaching Hospitals, National Dental Hospital (Teaching) Colombo, Institute of Oral Health, Maharagama and District General Hospitals. Consultants in Community Dentistry were attached to National Dental Hospital (Teaching) Colombo, Institute of Oral Health- Maharagama, Family Health Bureau, Cancer Control Programme, Health Education Bureau and Office of Provincial Director of Health Services. Consultants in Oral Pathology were attached to Teaching Hospital, Karapitiya and National Dental Hospital (Teaching), Colombo.

The National Dental Institute - Colombo, Dental Hospital (Teaching) - Peradeniya and the Institute of Oral Health, Maharagama are the premier institutions of providing multi disciplinary tertiary oral health care services in Sri Lanka.

Table 4.3 : Distribution of Dental Consultants by Specialty

Specialty	Number
Oral & Maxillo-Facial Surgery	28
Orthodontics	21
Community Dentistry	11
Restorative Dentistry	9
Oral Pathology	1
Total	70

4.2.6 Mobile Dental Services

The Mobile Dental Unit at the National Dental Hospital (Teaching) Colombo and the Ministry of Health deploys to any destination of the country on request. During the year 2015 Mobile Dental Unit has conducted more than 200 mobile dental clinics and has provided dental care to more than 20,000 individuals of different age groups. Moreover several other districts are having their own mobile dental units to cater to the general public.

4.2.7 Oral Disease Trends

Ministry of Health with the collaboration with World Health Organization has conducted four National Oral Health Surveys in 1983/84, 1994/95, 2002/03 and 2015/16. The fourth National Oral Health Survey data collection is currently in progress.

These surveys indicate overall declining trend in prevalence and severity of dental caries and improvements in periodontal health despite prevailing a substantial problems among all age groups (Table 4.4, 4.5).

Table 4.4 : Prevalence and Severity of Dental Caries

Age group	Prevalence & severity	1983/84	1994/95	2002/2003
6 yrs	Prevalence	78.0%	76.4%	65.5% (5-yrs)
	DMFT	4.4	4.1	3.6 (5-yrs)
12 yrs	Prevalence	67.0%	53.1%	40.0%
	DMFT	1.9	1.4	0.9
35-44 yrs	Prevalence	92.0%	91.1%	91.5%
	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	12.0%	13.3%	27.2%
35-44 years	6.5%	2.1%	10.1%

4.2.8 Teeth Present and Prosthetic Treatment Need

According to the third National Oral Health Survey report 2002/2003, mean number of deciduous teeth present among 5 year old children was 19.5, mean number of permanent teeth present among 35-44 years was 26.36 and it was 12.15 among 65-74 years. Edentulousness rate among 65-74 years was 21.8.

4.2.9 Oral Health Related Behaviours

According to the third National Oral Health Survey report 2002/2003, use of fluoridated tooth paste and tooth brushes was high (around 75%) among all age groups except among elderly.

4.2.10 Use of Oral Health Care Services

According to the third National Oral Health Survey report 2002/2003, adults aged 35-65 years and children aged 13 years were the major consumers of dental services when compared the other index age groups. Furthermore, 5 and 12 year old school children visited mostly School Dental Clinics (7.37% & 35.82% respectively) on their last visit. Majority of adults (44.19%) aged 35-44 years visited hospital dental clinics and general dental practices (33.59%) on their last visit of dental care.

The most frequent type of treatment received was the extraction among all index age groups and it was around 75% among 65-74 age group.

4.2.11 Special Community Oral Health Care Programmes

There are four main ongoing special community oral health programmes conducting successfully island wide.

They are Oral Health Care Services to Pregnant Mothers, Early Childhood Caries Prevention Programme/Fluoride Varnish Programme, Save Molar Programme & Oral Potentially Malignant Disorder (OPMD) and Oral Cancer Prevention & Early Detection Programme.

Oral health care programme for pregnant mothers is geared to provide comprehensive oral health care to pregnant mothers in order to improve the oral health by reducing the complications of dental decay during pregnancy and prevent worsening of the existing oral disease. This will result in reducing the risk of transmission of caries causative bacteria to the new born and thereby reducing the possibilities of adverse pregnancy outcomes.

Identifying oral diseases at early stages enables curing them with simple interventions. Primary health care providers are advised to examine the children's teeth at the age of 12 &18 month and requested to refer them for dental advice and treatment if they detected any abnormalities during the screening. Ministry of Health decided to introduce Fluoride Varnish in to ADC, CDC and to the Dental Surgeons attached to the MOH offices in Sri Lanka in order to prevent and control the developing dental caries among young children.

Ministry of Health started the Save Molar Programme in the year 2013 to strengthen the primary oral health care services in Sri Lanka. The school children are screened and the high risk children were identified to seal the molar teeth with a sealant material which will protect the occlusal surfaces for carious attacks.

Ministry of Health with the collaboration of National Cancer Control Programme has commenced early detection and prevention of OPMD and Oral Cancer to strengthen the primary oral health care in Sri Lanka. In this programme high risk groups for OPMD are identified by applying the risk factor model. This strategy used for screening for OPMD and referring all those persons who score more than 12 in the risk factor model, to a Dental Surgeon at the nearest hospital.

5. Public Health Services

5.1 Community Health Services

5.1.1 Family Health programme - Family Health Bureau

The National Reproductive, Maternal, Newborn, Child Adolescent and Youth Health Programme (RMNCAYHP) has evolved for many decades and is a very well established programme providing services at the community level and institutional level covering all districts in Sri Lanka. This Programme consists of several packages based on evidence based effective interventions. The prime objective of the programme is to promote the health of families using the life cycle approach throughout the country with a special emphasis on mothers and children. Interventions are being implemented to reach target groups through continuum of care across the life cycle and health system. The origin of the RMNCAYH Programme dated back to 1926 and hence the current programme reflects the success of a programme which has evolved over many decades.

RMNCAYH 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 health
4. Adolescent and youth health
5. Family planning (FP)
6. Women's health incorporating premenopausal care and gender concerns

The Family Health Bureau (FHB) is the national focal point responsible for the planning, coordinating, directing, monitoring and evaluating the RMNCAYHP in the country. The roles and responsibilities of FHB include;

- 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 RMNCAYHP.
- 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/dstrict plans relevant to MCH
- Identify 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 RMNCAYH
- Manage logistic requirements related to RMNCAYHP 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 units that cover the different components of the National RMNCAYHP. These include a) Maternal Health, b) Maternal Morbidity and Mortality Surveillance, c) Intra-partum and Newborn Care, d) Child Health, Development and Special Needs, e) Child Nutrition, f) School Health, g) Adolescent and Youth 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 headed by a Public Health Specialist, who is the national programme manager for areas under the unit's purview.

The implementation of the RMNCAYHP is carried out by the Medical Officer of 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 while the Consultant Community Physicians at provincial level provides technical guidance at provincial level.

In performing the roles and responsibilities of FHB, 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.

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

The following technical advisory committees, working groups and sub committees meet regularly to discuss issues related to the RMNCAYHP.

- Technical advisory committee on Maternal Care and Family Planning chaired by Deputy Director General /Public Health Services (DDG PHS) II
- Technical advisory committee on Newborn and Child Health – chaired by DDG/PHS II
- Working group on School Health – chaired by Director General, Health Services (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 to the Minitry of Health

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

5.1.1.1 Reporting of the Performances of Family Health Programme

An “eligible family” is the unit of service recipient of the Family Health Program at community level.

“Eligible family” is defined as a family with a 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. Field services are provided through the Medical Officer of Health (MOH) units and in 2015 there were 340 MOH units functioning in the country.

Data on provision of services and the impact of the programme at Medical Officer of Health (MOH) areas are being collected through the Reproductive Health Management Information System (RH-MIS). Morbidity and mortality data are further collected through the Maternal Morbidity and Mortality Surveillance system. Information collected is used for monitoring and evaluation of the programme while timely operational researches provide supportive evidence for programme management.

In 2015, there were 320 MOHs and 306 AMOHs providing services in a network of 3,832 field clinic centers in the field level. Out of the grass root level health workers, 5,927 Public Health Midwives and 1,265 Public Health Inspectors (PHI) were providing services with 697 and 232 vacancies of respective categories in the field. Out of the Public Health Nursing Sisters carders of 445, only 232 were in position by the end of 2015 with 213 vacant positions in the field.

Summary information on RMNCAYHP is given in this section and the detailed information is available in the Annual Report published by the FHB of the Ministry of Health and in the official website of the FHB (www.fhb.health.gov.lk).

5.1.1.2 Pre-pregnancy Care

Interventions in improving maternal and child health should be initiated from the pre-conception stage. Therefore, a package of interventions for “pre-conception care” has been introduced to the RMNCAYH Programme from 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 childbearing age and their partners receiving a comprehensive package of pre-conception care. The care includes creating awareness, health promotion, Family planning, screening and appropriate mediations to reduce risk factors that might affect future pregnancies of the reproductive aged women.

This package is introduced so as 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.

Newly married couples are expected to participate at two sessions conducted by the Medical Officers of Health (MOHs).

In 2015, out of all primi mothers registered, 49.3% have attended at least for one session where as 25.3% has attended both sessions. Sri Lanka was one of the countries in the region that commissioned a pre pregnancy care package in the region. Even though the programme has commenced in most of the MOH areas in 2014, pre pregnancy care needs more focusing and improvement in future.

5.1.1.3 Maternal and Newborn Care

Maternal care has been the main focus of the RMNCAYHP from the inception. Therefore, the public health staff of Sri Lanka are well geared in providing the maternal care which includes the antenatal, intranatal and postnatal care.

5.1.1.3.1 Maternal Care

Provision of maternal care is through a package of evidence based interventions, which was revised in 2012 to improve the quality of the services provided. Care of pregnant mothers begins with the registration of pregnant mothers by a PHM either in the field or in a clinic. These mothers are then clinically assessed and screened for any risk factors associated with pregnancy, monitored for maternal and foetal wellbeing, provided with tetanus toxoids, nutrition supplementation, referral of high risk pregnancies for specialist shared care and prepare them for the deliveries.

Table 5.1.1 : Pregnant Mothers Registration and Care Received through Family Health Programme (FHP), 2009 - 2015

Indicator		2009 %	2010 %	2011 %	2012 %	2013 %	2014 %	2015 %
Pregnant mothers registered by PHMs out of estimated pregnancies		90.0	85.9	94.3	94.0	90.0	91.2	84.9
Pregnant mothers registered	before 8 weeks	66.0	69.8	72.6	75.2	75.4	76.2	77.1
	between 8-12 weeks	25.0	22.6	20.3	18.3	17.7	17.4	16.5
Teenage pregnant mothers out of all registered pregnancies		6.5	6.5	6.1	6.0	5.3	4.9	5.3
Pregnant mothers protected with Rubella at registration		94.8	95.4	95.9	96.8	97.0	98.2	97.6
Pregnant mothers tested for VDRL at the time of delivery		97.8	96.0	97.0	99.3	99.7	98.1	98.7
Pregnant mothers blood group tested at the time of delivery		99.9	99.8	99.6	100.0	99.9	97.8	99.0
Pregnant mothers protected for Tetanus out of reported deliveries		100.0	99.9	99.6	99.9	99.9	97.8	99.3
Mothers with low BMI at clinic visit before 12 weeks		25.4	25.4	24.6	23.8	23.0	24.3	20.2

Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

In 2015, 93.5% of pregnant mothers out of the total pregnancies have been registered by the midwives. Out of all pregnant mothers registered, 77.1% have been registered before 8 weeks of pregnancy. There had been 5.3% teenage pregnancies in 2015 and pregnant mothers with a low Body Mass Index (BMI) less than 18.5 were reported as 20.2% (Table 5.1.1). In the same year, pregnant mothers with BMI more than 25 was 21.3%. The increasing trend of overweight has been noted with concern and strategic interventions will be taken from 2016.

Great majority of registered mothers (94.6%) have visited a field antenatal clinic at least once during pregnancy. Nearly 90% of registered mothers (88.5%) had been visited at home by the PHM (Table 5.1.2).

There is a small percentage of pregnant mothers mainly in the urban area who receive all antenatal care in the private sector. Six hundred and ninety-seven vacancies of public health midwives have affected the home visits. The Ministry of Health has taken urgent measures to recruit more than 1,000 PHMM in 2016.

5.1.1.3.2 Pregnancy Outcome and Postpartum Care

PHMs report the pregnancy outcome of all pregnant mothers registered by them and visit them to provide postpartum care to ensure the health and wellbeing of the post-partum mothers and the newborns. During these field visits mothers and newborns are assessed for general health, breast feeding establishment, signs of postpartum complications and common illnesses. Mothers are provided with relevant advice and referrals if necessary.

Table 5.1.2: Health Contact with Public Health Staff, 2010 - 2015

Indicator	2010 %	2011 %	2012 %	2013 %	2014 %	2015 %
Registered pregnant mothers visited at least once at home by PHM	92.9	91.7	90.2	91.3	90.2	88.5
Registered pregnant mothers paying at least one field clinic visit	94.7	95.9	95.2	94.8	95.5	94.6

Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

Table 5.1.3 : Pregnancy Outcome and Postpartum Care for Mothers Registered during 2011 - 2015

Indicator	2011	2012	2013	2014	2015
% of Pregnancy outcome reported out of registered pregnancies	88.7	88.8	91.5	93.7	90.2
% of deliveries reported out of total live births registered	88.1	89.8	87.7	91.6	93.7
% of deliveries reported out of total estimated pregnancies	69.7	76.9	76.7	75.3	73.8
% of Institutional deliveries out of total reported deliveries	99.9	99.9	99.9	99.7	99.9
Number of home deliveries	478	312	336	525	280
% of Home deliveries out of total reported deliveries	0.2	0.2	0.1	0.1	0.1
% of Caesarean sections out of total institutional deliveries reported	28.7	30.5	31.1	32.1	33.8
% of Postpartum mothers receiving at least 1 visit by PHM during 1st 10 days out of estimated births	77.4	77.3	80.6	79.3	73.6
% LSCS out of total reported deliveries	28.7	30.5	31.1	32.1	33.8
Average number of home visits during first 10 postpartum days	1.8	1.7	1.7	1.7	1.7

Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

In 2015, 95.5% of all live births registered by the Registrar General's Department have been registered by the PHMs. Pregnancy outcome was reported for 90.2% of pregnancies registered with PHMs. Almost all reported deliveries (99.9%) had taken place in institutions. Number of home deliveries has gone down drastically over the years and only 280 have taken place in 2015. More than three out of ten reported deliveries were Caesarean sections (Table 5.1.3). Approximately 74% of mothers were visited at home by PHMs at least once during the first ten days of postpartum and the average number of postpartum home visits was 2 per mother. During these postpartum visits, PHMs have reported antenatal morbidities in 27% of pregnant mothers and 11.3% of postpartum morbidities among mothers following deliveries. These morbidity rates could be higher than the reported figure and need more attention in 2016.

Considering the pregnancy outcome, low birth weight among newborns is still a problem encountered even though the percentage has gone down slightly during last three years. In 2015, 11.4 % of the newborns were reported with low birth weight through the RHMIS (Figure 5.1.1). There is an under reporting of this figure due to inadequate postpartum care and the LBW figure reported through the maternity statistics return collected by the Medical Statistics Unit is 16.0%.

5.1.1.3.3 Care for the Mother and Newborn

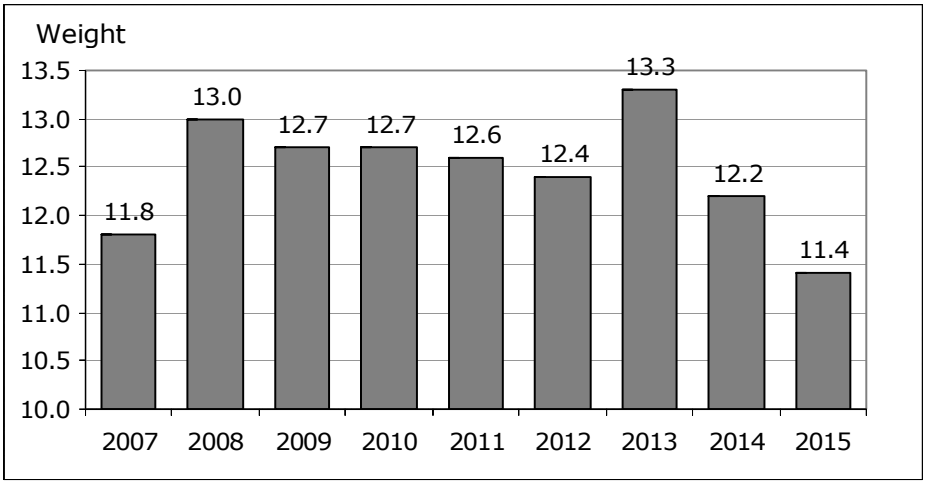
Almost all the pregnant mothers deliver in a hospital (99.9%; RHMIS) and of them many deliver in hospitals with specialist facilities (92%). Number of deliveries in Divisional Hospitals are reducing every year. In 2011, there were 17,252 deliveries reported from Divisional Hospitals and it has reduced to 9,809 in 2015.

Hospitals providing maternal and neonatal care are dispersed widely throughout the country. With the development of road networks delivery facilities are available within easy access. For sick newborns Special Care Baby Units and Neonatal Intensive Care Units are established and the distribution is shown in figure 5.1.2.

Mother baby centers to care for sick babies and mothers are available only in 18 specialist hospitals. It is expected that all the specialist hospitals providing care for the newborns should have a mother baby centre. Lactation Management Centres (LMC) to support mothers with breastfeeding problems are available in 46 specialist hospitals. LMC should also be available in all the specialist hospitals.

Improving the quality of newborn care has been a priority for the country to achieve Millennium Development Goal of reducing child mortality. New interventions and practices were introduced to the country over the years to streamline the neonatal information system and to improve quality of follow up of newborns since birth.

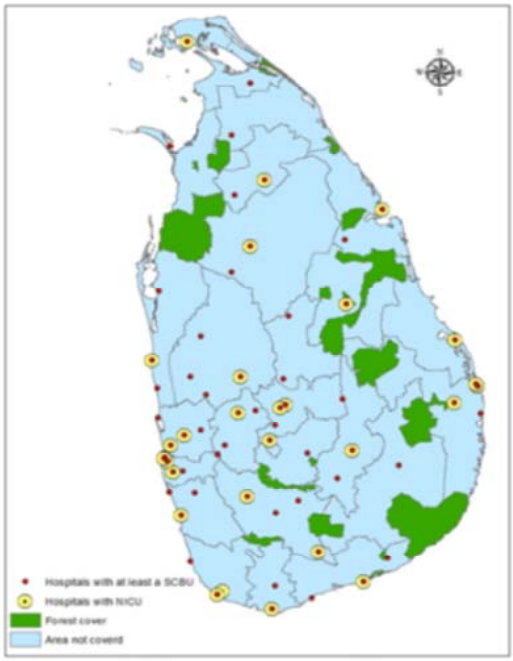
Fig 5.1.1 : Low Birth Weight Percentages among New Borns from, 2007 - 2015



Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

Bottle Neck Analysis (BNA) to identify the gaps in the current newborn care programme was completed in 2015 to facilitate development of Every Newborn Action Plan (ENAP). ENAP and the strategic plan will be completed in 2016.

Fig 5.1.2 : Distribution of Special Care Baby Units and Neonatal Intensive Care Units in the Country



As the skilled attendance at birth coverage has been achieved, a special focus is on improving quality of maternal and new born care. Clinical Management Guidelines on Maternal and Newborn Care has been introduced along with a mobile application for easy use. Quality assessment tools for quality assurance in maternal and newborn care are finalized and used in 10 hospitals in the country.

Newborn screening for congenital hypothyroidism and to screen for critical congenital heart diseases was introduced throughout the country in 2015.

In-service training programmes – Essential Newborn Care (4 days), Breastfeeding Counselling (5 days), Neonatal Advanced Life Support (1 day) and Labour Room Management (2 days) was conducted in 20 Teaching, Provincial and District General hospitals in the country.

5.1.1.4 Infant and Child Care

Child care is also an integral component of the programme from the inception. PHM should register infants for domiciliary and clinic care which includes immunization, growth assessment and development. In 2015, nearly 85% of infants have been registered by PHMs and out of registered infants, 75% have been visited by PHM at least once with an average of 7 visits per infant (Table 5.1.4).

Eighty-eight percent of the infants have been weighed by PHMs and 100% of the infants registered have been seen by a MOH in their clinics. Eighty percent of the 1-2 year age group had been weighed by the PHMs in the weighing posts and among 2-5 year group only 78.7% had been covered. More attention should be paid to increase the 2-5 year weighing coverage by all field staff.

Table 5.1.4 : Infant and Child Care Provided by the Field Staff, 2011 - 2015

Indicator	2011	2012	2013	2014	2015
% Of infants registered by PHMM	89.9	88.2	91.7	90.6	84.7
% Of infants having at least 1 home visit after 42 days out of registered infants	72.3	69.0	63.9	58.0	53.7
Average number of home visits per infant	6.6	7.1	7.4	7.5	7.0
% of infants weighed	84.0	83.2	85.7	84.3	88.2
% of young children (1-2 years) weighed	77.1	76.1	79.3	77.1	80.2
% of under 5 years children (2-5 years) weighed	78.3	78.8	77.8	31.5	78.7
% of infants making at least one clinic visit (of registered infants)	97.9	100.0	99.6	99.1	100.0
Average number of clinic attendance for an infant	5.2	5.3	5.2	5.3	4.5
% of estimated infants given Vitamin A at 6 months	80.3	76.4	68.9	68.8	71.6
% of estimated children given Vitamin A at 18 months	82.0	74.7	70.7	71.9	74.9
% of estimated children given Vitamin A at 3 years	85.3	78.8	71.4	73.1	74.5

Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

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. The under reporting of vitamin A coverage needs to be addressed at all levels.

5.1.1.4.1 Child Health, Development and Care for Children with Special Need

Early Child Care and Development (ECCD) interventions have been introduced to the child health component 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

NRMNCAYHP 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 the aim 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 during subsequent field visits. In order to enhance the capacity of PHC workers on ECCD education, FHB developed a new training package on child development in 2015.

This package is used to train PHMs in the form of cascade training throughout MOH areas of the country. Master trainings were conducted in 11 districts during 2015 and all districts will be covered by the end of 2016.

FHB submitted to the Ministry of Health a concept paper on the basis and the need for integrating a community based special need interventions and specialist child development centers at district level. This proposal was accepted and initial plans for establishing the first special need center in the Colombo district was approved.

Development of National Strategic Plan on Child Health 2016-2020 was initiated and will be completed in 2016.

5.1.1.4.2 Under Nutrition among Children under the Age of Five

Over the years, rates of under nutrition have gradually declined and Sri Lanka showcase better nutrition indicators compared to many of the South East Asian countries. However, reducing under nutrition among children under the age of five years to be in par with other health and social indicators remains a challenge despite all relevant evidence based interventions to improve nutrition status being implemented through the RMNCAHP of the Ministry of Health.

Breast feeding and appropriate complementary feeding is promoted at community level through the PHM and through the MCH field clinics by the public health staff headed by Medical Officers of Health. The ten steps of the Baby Friendly Hospital Initiative (BFHI) is implemented in all health institutions providing maternity care island wide. Growth, monitoring and promotion of children under five is of priority concern and PHMs assess the length/height and weight of under five children at assigned time intervals in the routine programme to monitor growth in order to detect nutritional problems early and provide timely interventions.

Table 5.1.5 : Percentages of LBW and Under Weight of Infants, Young Children and Preschoolers from 2011 - 2015

Indicator	2011 (%)	2012 (%)	2013 (%)	2014 (%)	2015 (%)
LBW	12.6	12.4	13.3	12.2	11.4
Moderately underweight infants	6.3	6.0	6.3	5.8	5.7
Severely underweight infants	1.2	1.3	1.3	1.2	1.2
Moderately underweight young children (1-2 years)	15.9	14.7	13.9	13.2	12.1
Severely underweight young children (1-2 years)	3.6	3.3	3.0	2.9	2.3
Moderately underweight preschoolers (2+ to 5th year)	22.6	19.8	19.5	17.6	18.3
Severely underweight preschoolers (2+ to 5th year)	4.2	3.9	3.8	3.4	2.0

Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

According to the routinely collected data through the RHMIS, in 2015, 5.7% of infants had moderate underweight and 1.2% had severe underweight. Among 1-2 year age group, 12% of children were underweight with a severe under weight of 2.3%. Among 2-5 year age group, 18% were having moderate underweight where as 2% had severe underweight (Table 5.1.5). Over the years severe underweight among 1-2 year age group and under 5 year age group has reduced slightly. However, under nutrition among infants, 1-2 year and 2-5 year age groups remain a challenge over the years. Therefore, it is needed to think about newer approaches of addressing the issue.

Provision of Vitamin A supplementation, Zinc supplementation during diarrohea, de-worming, provision of supplementary food "Thriposha" to undernourished children and therapeutic food for severe acute malnourished children are implemented throughout the country. In 2015, a policy decision was taken to scale up the Multiple Micro Nutrient (MMN) supplementation programme island wide based on a national compliance study from 2016. In 2015, thirteen health districts were covered involved in the MMN programme to combat anemia among infants and young children. Special nutrition clinics have been established in the field to implement targeted interventions to malnourished mothers and children.

To further strengthen the implementation of nutrition interventions, the 'National Strategy for Infant & Young Child Feeding, Sri Lanka 2015-2020' was finalized to provide guidance to all relevant stake holders in improving nutrition status of children.

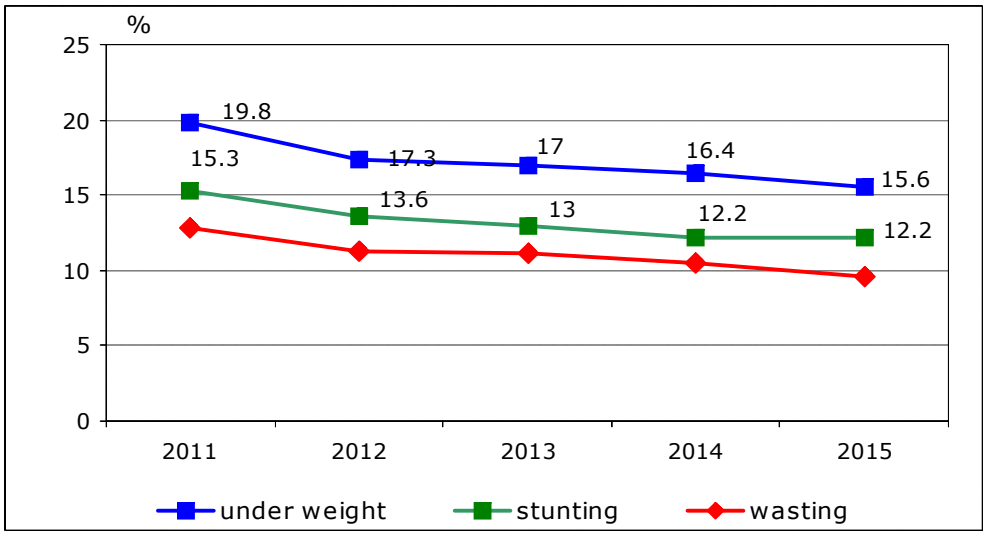
To draw more attention on nutrition, every year the month of June is declared as the "nutrition month". Intensive nutrition promotional activities are being carried out during this month focusing more on pregnant mothers, children and adolescents and all under five children.

Theme for 2015 nutrition month was "Healthy food for better strength, capacity and productivity". During this month, an extra effort is made to reach the whole population of under five children and hence, the assessment coverage of nutrition month is understandably higher than the routine assessment when these children are measured at assigned intervals. During the nutrition month of 2015, 93.2% of all under five children had been assessed for their growth.

The trends of under nutrition among under five children during the period from 2011 to 2015 according to nutrition month data which had a significantly high weighing coverage than routine programme are shown in Fig 5.1.3. It shows a declining trend albeit slow in all three indices, underweight (weight for age < -2SD), stunting (length/height for age < -2SD) and wasting (weight for length/height < -2SD) over the years.

In addition, to the development of the National Strategy on Infant and Young Child Feeding Sri Lanka 2015-2020, updating Child Health Development Record (CHDR), introduction of preterm growth charts and trainings were conducted in capacity building of health staff on WHO new child growth standards and Infant and Young Child Feeding (IYCF).

Fig 5.1.3 : Percentages of Grade 10 Children with Low BMI, 2011 - 2015



Source : School Health Return - H 797, Family Health Bureau

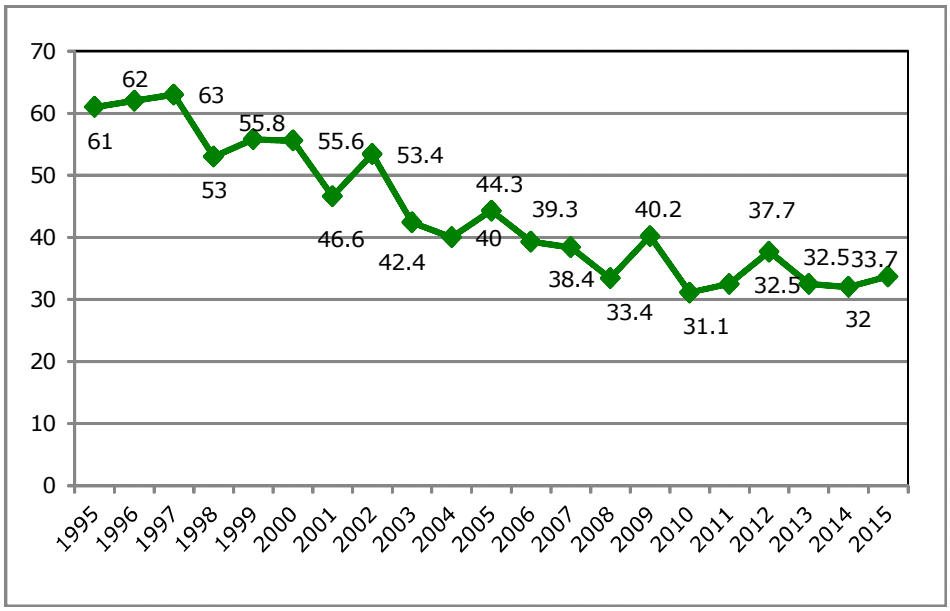
5.1.1.5 Maternal Death Surveillance and Response System

Maternal Mortality Ratio (MMR) is an overall quality index of a country's socio-economic development and healthcare. Sri Lanka reported a MMR of 1,694 per 100,000 live births in the year 1,947 and gradually reduced the same over the last few decades to achieve the best in the South Asian Region. Fig 5.1.4 shows the Maternal Mortality Ratio from 1995 to 2015.

Sri Lanka implements systematic maternal death surveillance with the involvement of key partners to further reduce deaths and improve care. Maternal deaths were made notifiable in 1985, case reporting to central level started in 1986 and systematic maternal death surveillance and response started in 1995. FHB coordinates the surveillance process island wide with the expertise contribution from Professional Colleges of Obstetricians, Anaesthesiologists, Community Physicians, Administrators, Physicians, Cardiologists and Forensic Pathologists.

A multitude of interventions, both health and non-health, have contributed to this achievement. Factors such as socio-economic development, free education and related high literacy rate of population, improved transport services, free health services, improved quality of obstetric care, control of communicable diseases,well organized PHC systems have been attributed to this success.

Fig 5.1.4 : Maternal Mortality Ratio in Sri Lanka, 1995 - 2015



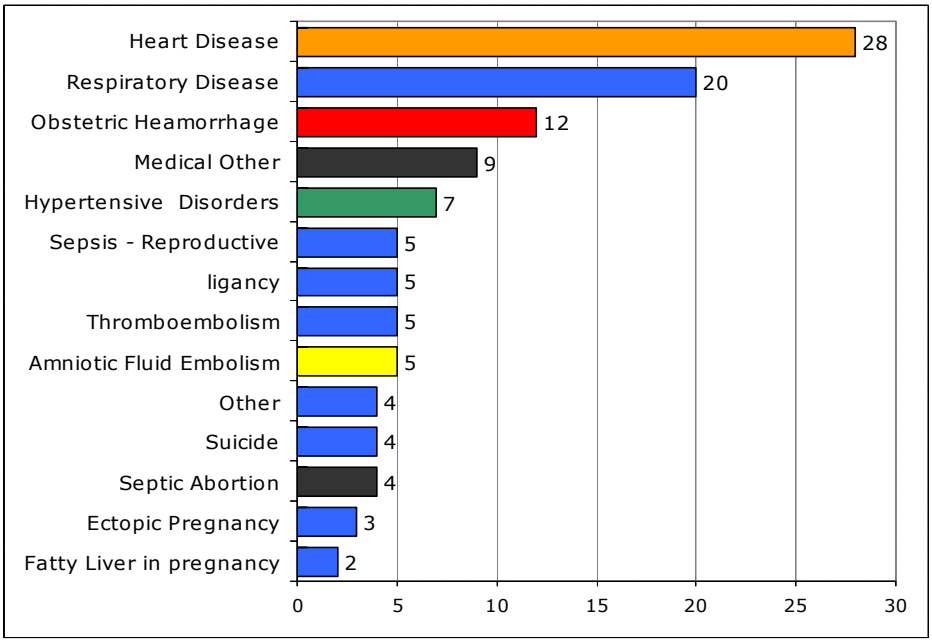
Source : Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau

Field and hospital health staff notifies, conduct post-mortems, investigate and report all maternal deaths to national level. At FHB, a database is maintained and comprehensive case scenarios are developed to be reviewed by an expert panel. At district level, each maternal death is reviewed based on 3 delays - deficiencies in seeking healthcare, reaching and treating.

Sixty-four percent of maternal deaths (n=72) were due to indirect causes whereas 41 (36%) were direct maternal deaths. The leading causes of maternal deaths were heart disease, respiratory diseases and obstetric haemorrhage (Fig 5.1.5). It is a notable change in the causality profile from direct obstetric causes to indirect medical causes. Cause-specific mortality ratios for almost all direct causes have come down.

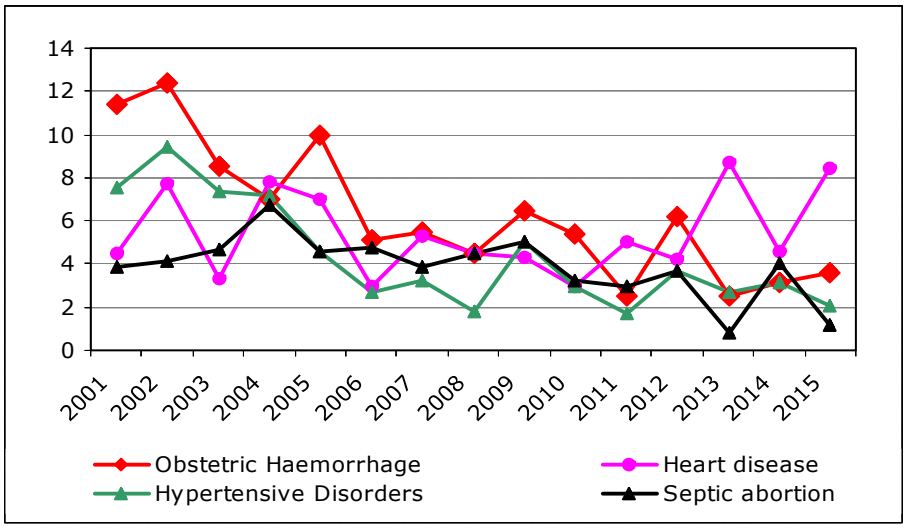
In 2015, timely notification of maternal deaths improved up to 90%. Coverage of conducting post-mortems was 96%. Receipt of death audit reports achieved 100% prior to conducting national maternal death reviews. Review of all probable maternal deaths (n=200) reported during the year was 100%. Following all reviews, 113 deaths were confirmed as maternal deaths giving a national maternal mortality ratio of 33.7 per 100,000 live births. The significant reduction of the denominator, live births (reduction is 14,894 in 2015) contributed to the stagnating level of MMR. However, Sri Lanka is well-placed with regard to maternal mortality on par with high income countries.

Fig 5.1.5 : Leading Causes of Maternal Deaths, 2015



Source : Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau

Fig 5.1.6 : Cause Specific Maternal Mortality Rates, 2001 - 2015



Source : Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau

Unmet need of family planning was identified in 26 cases (23%). Delays were identified in 78 (69%) cases. A proportion of 54% did not seek medical care on time. Five women had difficulties in reaching health facilities. In 34 cases, optimal care was not received from the health sector. Fifty-nine percent (n=67) were identified as *preventable* deaths.

MMR by RDHS areas during year 2015 are illustrated in Table 5.1.6. Eighteen districts reported less than five deaths. Kurunegala (12), Colombo (11) and Gampaha (10) districts reported higher number of deaths. However, the highest MMR was reported from Mullativu district (02 deaths and live births 1120). Kegalle, Trincomalee and Mannar are the other districts with higher MMRs. There are 11 districts reporting a MMR higher than the national MMR (Table 5.1.6).

Table 5.1.6 : Live Births, Maternal Deaths and Maternal Mortality Ratio by RDHS Area, 2015

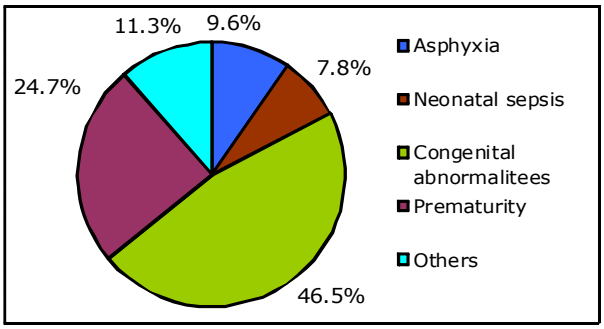
RDHS Area	Live births	Maternal Deaths	MMR
Ampara/Kalmunai	13,297	6	45.1
Anuradhapura	15,376	6	39
Badulla	15,076	3	19.9
Batticaloa	9,201	3	32.6
Colombo	50,894	11	21.6
Galle	19,220	5	26
Gampaha	24,271	10	41.2
Hambantota	10,750	2	18.6
Jaffna	7,855	3	38.2
Kaluthara	15,289	5	32.7
Kandy	28,099	9	32
Kegalle	9,605	7	72.9
Kilinochchi	2,026	0	0
Kurunegala	23,231	12	51.7
Mannar	1,677	1	59.6
Matale	9,342	3	32.1
Matara	11,224	3	26.7
Monaragala	7,065	3	42.5
Mullaitivu	1,120	2	178.6
Nuwara-Eliya	9,090	5	55
Polonnaruwa	7,038	2	28.4
Puttalam	13,720	4	29.2
Ratnapura	18,866	2	10.6
Trincomalee	7,790	5	64.2
Vavuniya	3,690	1	27.1
Sri Lanka	**334,821**	**113**	**33.7**

5.1.1.6 Under Five Child Morbidity and Mortality

All under five deaths are reported and field investigations are carried out by the public health staff. In 2015, 2,743 infant deaths with an Infant Mortality Rate (IMR) of 9.2 for 1000 live births have been reported from routine RHMIS data. Trend over the years of IMR is given in the Fig 5.1.9. Neonatal Mortality Rate of 6.6 per 1000 live births and early neonatal mortality rate of 4.9 per 1000 live births reported from the field in 2015 with a perinatal mortality rate of 5.5 per 1000 live births. According to routine RHMIS information system, 84.6% of infant deaths have been investigated.

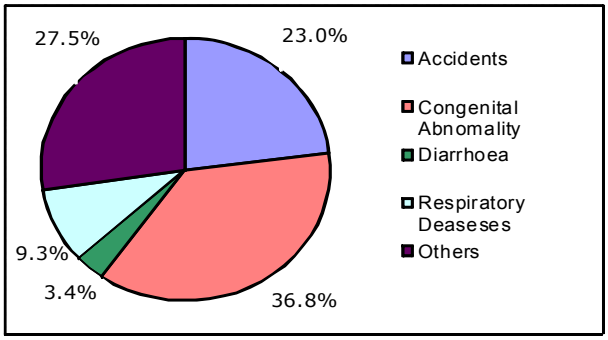
Causes of infant and 1-5 year child deaths identified during field investigations are given in Figures 5.1.7 and 5.1.8. Out of the infant deaths, congenital abnormalities and the prematurity are the commonest causes reported. Among under 5 year child deaths, commonest cause had been the congenital abnormalities. Deaths due to accidents are also contributed significantly as a cause of death.

Fig 5.1.7 : Percentage Distribution of Causes of Infant Deaths, 2015



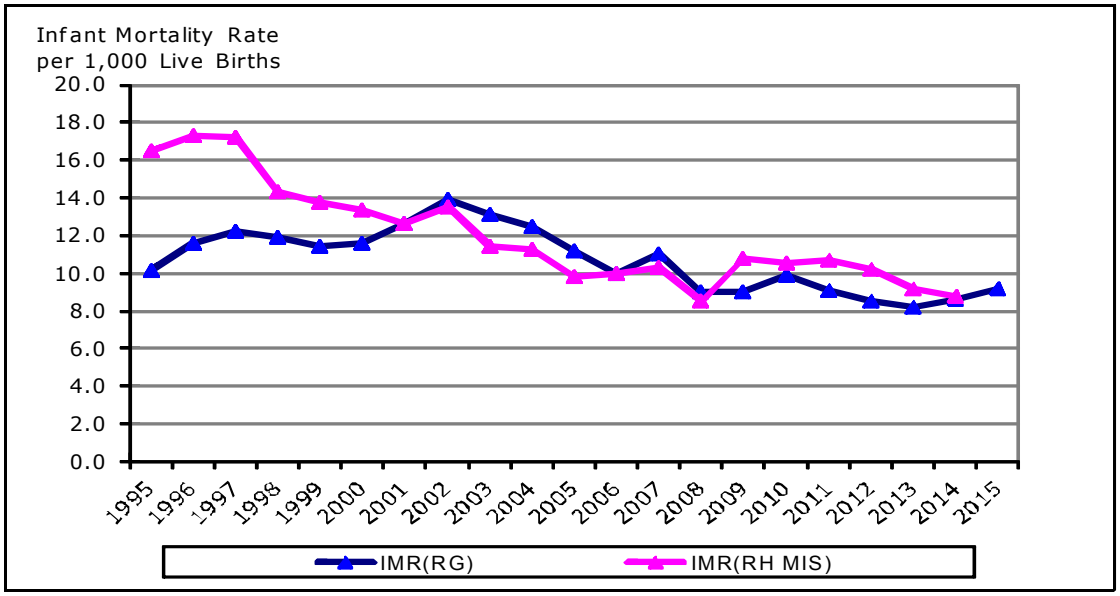
Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

Fig 5.1.8 : Percentage Distribution of Causes of 1 - 5 Year Child Deaths, 2015



Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

Fig 5.1.9 : Comparison of Trends in National IMRS Determined from RH - MIS and Registrar General's Department



5.1.1.7 Feto-Infant Mortality Surveillance

5.1.1.7.1 Perinatal Mortality Surveillance

Deaths in the perinatal period, still births and early neonatal deaths (END), provide an insight into the quality of antenatal and perinatal care.

A systematic perinatal death review process was formulated in the year 2006 by FHB and in the year 2014, 100% coverage was achieved in conducting perinatal death audits (PND) at least once during the year in all specialized facilities. In 2015, perinatal mortality data were collected in a special survey from all hospitals with labour rooms (both government and private sector) in the country in addition to the data available from the National Perinatal Mortality Surveillance system.

Data were received from a total of 452 hospitals including 21 private hospitals. Considering the total live births reported by Registrar General's Department for the year, the coverage of live births was 99.6%.

The analysis done in 2015 identified 1,386 still births and 1,623 ENDs to record a total of 3,009 PNDs. The still birth and early neonatal mortality rates were 3.9 per 1000 total births and 4.6 per 1,000 live births respectively for the year 2014 (Table 5.1.7). The perinatal mortality rate was 8.6 per 1000 total births. One third of PNDs occurred in primies. Birthweight < 1000g was reported in 36.3% (Still births - 16.5%, END - 19.5%) of all PNDs. Analysis of period of gestation showed that 9.9% of ENDs were <28 weeks and 63.7% of still births were less than 37 weeks.

Table 5.1.7 : Perinatal Mortality in 2014 Analyzed in 2015

Mortality surveillence	Special hospitals	Non-specialized peripheral hospitals	Private hospitals	Total
No. of hospitals	74	357	21	452
Live Births	331,152	10,916	6,294	348,362
Still Births	1,354	19	13	1,386
Live births and still births	332,506	10,935	6,307	349,748
Early neo natal deaths	1,593	18	12	1,623
Perinatal deaths	2,947	37	25	3,009
Still Birth Rate (SBR)	4.1	1.7	2.1	3.9
Early neonatal mortality rate (ENMR)	4.8	1.6	1.9	4.6
Perinatal mortality rate (PNMR)	8.9	3.4	4	8.6

A valid cause of death was given only in 61% of deaths. Prematurity or low birth weight accounted for 22% of PNDs. Sepsis was the second leading cause of death. Out of the ENDs, a majority 38% died within 24 hours. Two peaks (April & October) were noted in analysis by the month of the year.

Perinatal deaths reported to Family Health Bureau were analysed, action points identified and discussed at national level technical advisory committees to translate lessons learnt into actions or polices.

Service deficiencies identified such as issues in dating scans, delay in seeking care by pregnant mothers, shortage in supply of surfactants, inadequate capacity of medical officers in neonatal resuscitation and delays in transfer of newborns for more specialized care and actions taken to strengthen logistics, training and quality assurance has been initiated with the support of the hospital administration and the respective colleges.

New National Perinatal Death Surveillance System with revised individual PND data collection format based on World Health Organization's ICD – Perinatal Mortality and a user-friendly Monthly Hospital Reporting Format will be launched from the year 2016.

5.1.1.7.2 Infant Death Surveillance

Following the completion of pilot feto-infant mortality surveillance system in the districts of Colombo and Gampaha conducted in 2013 and 2014, a progress review was held in 2015 to identify the deficiencies.

With the feedback and technical inputs received from all stake holders at this review, a feto-infant mortality surveillance with individual infant death investigations at both institutional and field levels will be implemented nationwide from January 2016.

5.1.1.7.3 Child Injury Death Surveillance

Injuries are a common cause of deaths among children. With the reduction of deaths due to medical causes, injury-related deaths have emerged as a significant entity in child death profile. Family Health Bureau started child injury death reviews at field level from November 2015. All injury-related child deaths reported in mass media were investigated by a multisector team led by MOH.

The findings were reported in a structured format with key variables and also actions were taken to prevent similar deaths in the area.

5.1.1.7.4 Birth Defects Surveillance

The pilot project of the Birth Defects Surveillance was implemented in eleven secondary and tertiary care hospitals in the Southern Province. Mechanism of data collection, formats and web based data entry system will be revised based on the pilot project. Plan is to implement a national birth defects surveillance system throughout the country by 2017.

5.1.1.8 Care for School Children

As way back as 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 Medical Officer of Maternal and Child Health (MOMCH) being the chief coordinating officer at regional level. Designated officers are being assigned as School Medical Officers (SMO) in Kandy, Galle and Colombo to conduct school health activities in urban areas.

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 behavior
4. Healthy school environment
5. School community participation

According to Ministry of Education statistics for year 2015, Sri Lanka had approximately 4 million of school population and about 58% of them are in the adolescent age group (10-19 years).

There were 10,144 government schools island wide of which 4,984 (49.1%) schools had less than 200 children enrolled.

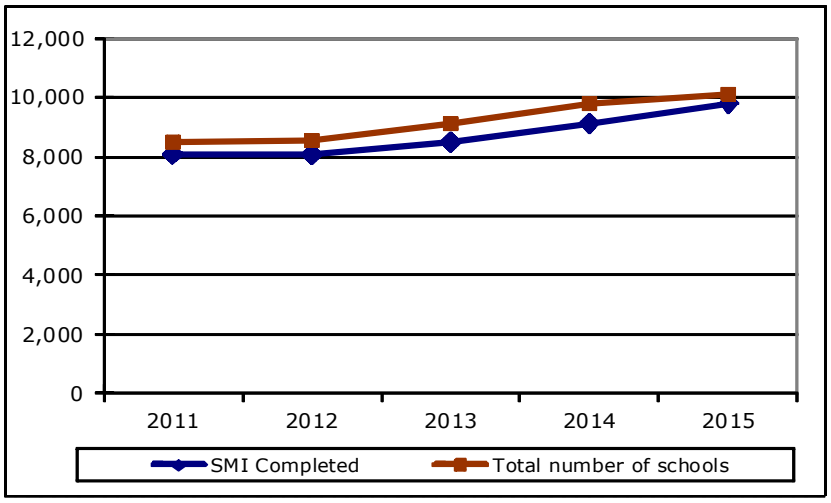
The coverage of schools with less than 200 and more than 200 students were 98.8% and 94.5% respectively (Figure 5.1.10).

5.1.1.8.1 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 (PHI) are responsible for annual sanitary survey in schools, organizing SMI and carrying out the initial screening of children prior to SMI in schools of their designated areas.

During 2015, school sanitary surveys were completed in 97.6% of schools.

Fig 5.1.10 : Trend of Total Number of Schools and Number of Schools where SMI were Conducted, 2011 - 2015



Source: (School Health Return- H 797) RHMIS, Family Health Bureau

It was reported that 24.4% of the schools were with inadequate toilet facilities where as 15% of schools were without drinking water facilities.

MOH then conducts the Medical inspection. In small schools (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 are carried out during the SMI.

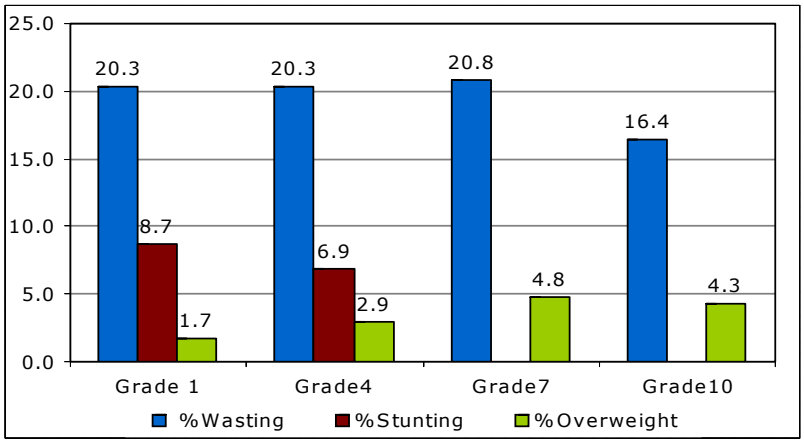
Worm treatment, provision of micronutrient supplementations (weekly iron folate), vitamin C to children are carried out throughout the year.

In 2015, only 332 out of 340 MOH areas (97.6%) submitted Quarterly School Health Returns (H797) for all four quarters. There were 10,144 schools and 1,729,268 children to be examined out of the enrolled 4,041,559 children. The SMIs were conducted in 9,794 schools resulting in overall school coverage 96.7%.

5.1.1.8.2 Malnutrition among School Children

During SMIs students are assessed for their nutritional status. Stunting is assessed in grades 1 and 4 only. In 2015, 8.7% 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 (20.8%) (Figure 5.1.11).

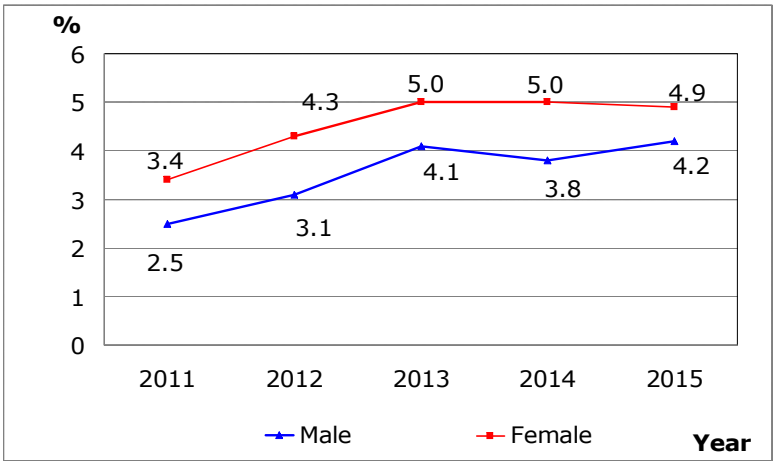
Fig 5.1.11 : Percentages of School Children in Different Grades with Stunting, Wasting and Overweight in 2015



Source: (School Health Return- H 797) RHMIS, Family Health Bureau

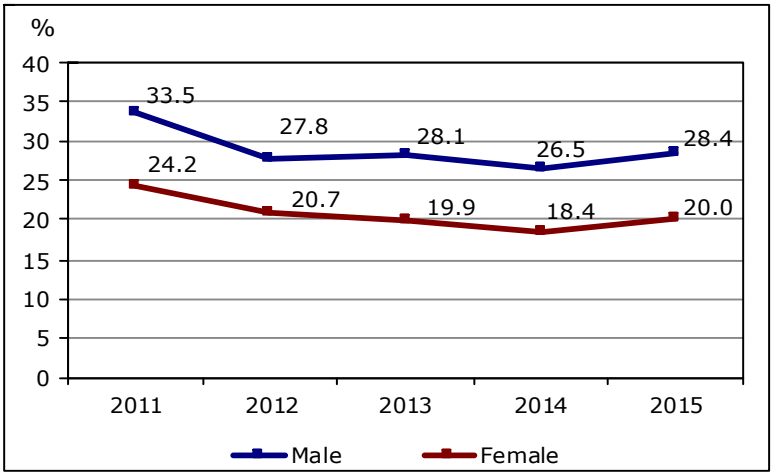
In addition, Body Mass Index (BMI) of all students in grade 10 is assessed and necessary nutritional interventions are done during the nutrition month each year. During year 2015, 97,279 (89.4%) grade 10 students were assessed for their nutritional status and trends of prevalence of overweight and low BMI among male and female students are given in Figures 5.1.12 and 5.1.13. Low BMI among grade 10 students in 2015 was 23.9%, whereas overweight among grade 10 students in 2015 was 4.3%.

Fig 5.1.12 : Percentages of Grade 10 Children with Overweight, 2011 - 2015



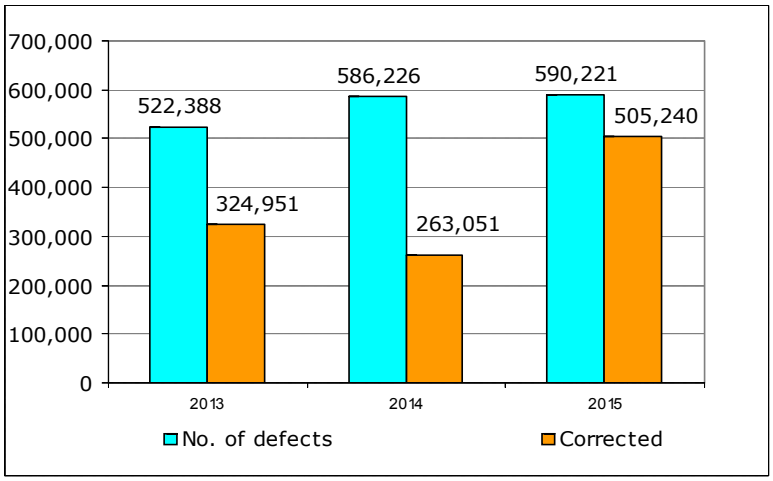
Source : Nutrition Month Survey

Fig 5.1.13 : Percentages of Grade 10 Children with Low BMI, 2011 - 2015



Source : Nutrition Month Survey

Fig 5.1.14 : Progress of the SMI Follow Up



Source : School Health Return - H797, FHB

5.1.1.8.3 Care for Children with Special Needs

Training had been done in 14 districts to train the MOHs and their teams to detect children with special needs and to refer them for appropriate mental health services, especially Attention Deficit Hyperkinetic Disorder (ADHD), learning disorders and autism spectrum disorders.

5.1.1.8.4 Strengthening Follow Up of Defects Detected Following SMI

Following up of children with special needs, heart disorders, visual defects & hearing defects has been strengthened. Follow up visits by the PHI for the students identified with correctable defects were closely monitored at the monthly MOH conferences and this has resulted in significant number of identified defects been corrected (Figure 5.1.14).

5.1.1.8.5 Strengthening the School Curriculum

School Health Unit together with National Institute of Education designed the new "Health and Physical Education" curriculum for students giving special attention to health promotion, life skills development and strengthening of physical activity.

Ministry of Education together with Family Health Bureau designed a training programme for teachers on "Health and Physical Education" and developed a resource guide. Two thousand and thirty teachers have already been trained in the above training programme.

5.1.1.8.6 Health Promoting School Initiative

This programme was launched in 2007 and appreciable level of effort had to be made to implement the programme at schools. The necessary technical guidance was provided by the School Health Unit of the Family Health Bureau for implementation. During 2015, all the schools were evaluated using an evaluation tool developed by experts in the field. Nearly 3,400 schools were accredited as Health Promoting Schools, while 720 schools achieved gold standard.

5.1.1.9 Care for Adolescents and Youth

Adolescent and Youth Health component was incooperated in to the NFHP in 2014 which includes the health needs of the 10-24 years age group. For provision of services to adolescents and young, Adolescent Youth Friendly Health Service (AYFHS) Centers under the name of "*Yowun Piyasa*" were being established in government hospitals.

There were only nine AYFHS centers functioning in the country by 2014. In 2015, national review of AYFHS was conducted with the participation all relevant stakeholders to identify the gaps and barriers that had affected the programme. Nine existing AYFHS centers were visited and revamping process was initiated. First provincial level review was conducted in the Western Province and AYFHS provision was strengthened in the western province.

By the latter half of 2015, ten new AYFHS centers were established in Western Province. Plans have been developed to establish AYFHS centers all over the country in phased out basis. Programmes to create awareness among hospital staff on AYFHS was conducted in parallel to the expansion of adolescent services. Five new "Yowun Piyasa" centers will be established in the Southern Province in 2016.

Revision of standards for AYFHS was initiated with the participation of the international expert on the field with the support from World Health Organization. Quality assessment tools for AYFHS were developed with the technical support from the same expert. Field testing of these tools and the development of service implementation guideline on AYFHS is planned to be carried out in 2016.

Circular on adolescent sexual and reproductive health service provision has been issued after obtaining legal clarification from the Attorney General to address the issues encountered by the public health staff in provision of adolescent sexual health services in the field. Guideline for public health staff on adolescent sexual and reproductive health service provision has been drafted, targeting the reduction of teenage pregnancies which was 5.3 % in 2014. Advocacy programme for honourable members of the judicial was conducted on the importance the provision of adolescent sexual and reproductive health services for the needy groups with the participation of Director General of Health Services.

Sexual and reproductive health package for public health midwives, as an aid on provision of adolescent sexual and reproductive health education for young persons in the field was developed.

IEC materials on teenage pregnancy prevention and tele-film on adolescent health and nutrition were developed. Development of youth health web site for 15-24 years age group was initiated which includes youth friendly content in all three languages.

Training of trainers were conducted to improve capacity building of primary health care workers and other officers who are dealing with young persons at AYFHS Centers. Capacity building of the staff of newly established AYFHS centers was conducted parallel to it. Steps were taken to strengthen the field health component of AYFH service provision through training of the trainers from the district level.

National Youth Health Survey 2012-2013 was completed and activities were planned for the dissemination of its findings in 2016. Future interventions would be developed based on the findings of the priority areas identified in the Youth Health Survey.

5.1.1.10 Family Planning Services

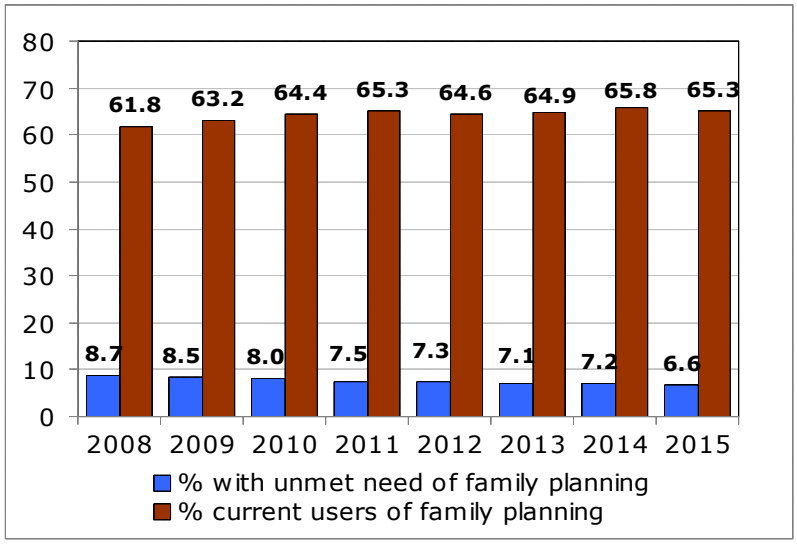
Family planning (FP) was accepted as a part of the national health policy in 1965, and its service components were integrated into MCH services. At present it constitutes a vital component of the RMNCAYHP. The programme offers a wide range of modern family planning methods enabling all couples to have a desired number of children with optimal timing. It also includes services for sub-fertile couples.

According to RH-MIS 65.3% of eligible families had been using a family planning method (current users) during year 2015. Proportions of modern method and traditional method users were 55.9% and 9.4% respectively. The trends in proportion of current users and unmet need for family planning among eligible families are given in Figure 5.1.15. An eligible family not expecting a child in next two years yet does not use any family planning method is considered as a family with unmet need.

Sri Lanka records the best family planning performance in the region. However, since of late, stagnations can be observed.

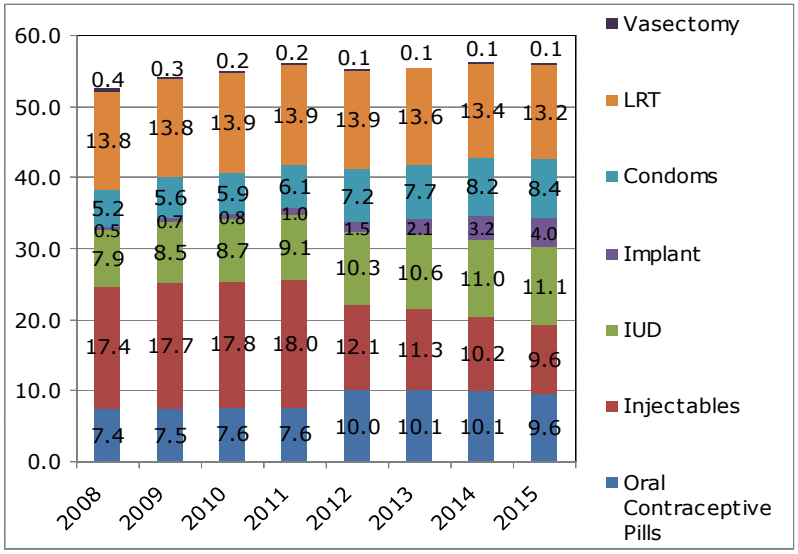
The method mix of the family planning use among eligible families is given in Figure 5.1.16. Intra uterine devices (IUD) were the most popular modern temporary method.

Fig 5.1.15 : Trend in Proportion of Current User and Unmet Need for Family Planning among Eligible Families, 2008 - 2015



Source : (MCH Quarterly return - H 50) RHMIS, Family Health Bureau
Eligible families – as reported by the PHM in H 509

Fig 5.1.16 : Modern Family Planning Methods Used by Eligible Families, 2008 - 2015



Source : (MCH Quarterly Return - H 509) RHMIS, Family Health Bureau

There has been an 8.4% reduction in the injectable users since year 2011. Possible contributory factors include reporting of adverse reactions to certain brands of injectable resulting in disturbed supply chain. A large percentage of injectable users seem to have shifted to other hormonal methods.

During 2015, Family Health Bureau prepared a docu-drama on family planning. Guideline on supervision of FP clinics were developed and a notification and investigation system for adverse events and failures related to FP was introduced. An action plan to achieve MDGs and a Reproductive Health Commodity Security plan were developed and disseminated.

In collaboration with SLCOG initiated a project on post-partum IUD insertion and field and hospital clinics were reviewed. For the first time in Sri Lanka, an external review of the National Family Planning Programme was initiated in 2015. This will be completed in 2016, which will be followed by development of strategies to improve family planning services.

5.1.1.11 Gender and Women's Health

The Government of Sri Lanka was signatory to the programme of action adopted at the International Conference on 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 Gender and Women's Health programme was recognized to address gender equity and equality and specific reproductive health issues of women and their partners throughout the life course.

As such, the Gender & Women's Health Unit acts as the nodal agency in the Health Sector addressing Gender, Gender Based Violence, and specific reproductive health issues of women and their partners throughout the life course.

Programmes conducted by the unit include prevention and response to GBV implemented by the preventive and curative health staff, package for newly married couples which provides pre conception care for the couple, package for migrant workers and their family members to address their reproductive issues and the Well Woman Clinic services.

5.1.1.11.1 Well Woman Clinic Services

The concept of Well Woman Clinics (WWC) was introduced in 1996 to screen women for reproductive organ malignancies. The screening programme for reproductive organ malignancies (Cervical and breast cancers) and non-communicable diseases (Hypertension and Diabetes Mellitus) was commenced through the primary health care infrastructure.

Sri Lanka stands as a pilot country in whole of South Asia to successfully implement the WWC services at primary health care level with the aim of improving the health status of women at their reproductive age and also at late reproductive age.

Family Health Bureau (FHB) is the focal point at the national level for WWC programme. In the implementation FHB works very closely with the National Cancer Control Programme, Sri Lanka College of Pathologists and Obstetricians and Gynaecologists.

At the end of 2015, a total number of 980 WWCs were functioning in the country. The clinic services are implemented through Provincial Health System where Medical Officers of Health and the Public Health team is responsible for conducting these clinics. The clinics based in hospitals are conducted by the Medical Officers attached to these institutions. If any abnormality is detected, the clients are referred to an appropriate clinic for specialized care and thereafter follow-up of the cases are done by the Public Health Midwife at the field.

Early detection and identification of pre-cancerous lesions of cervical carcinoma is one of the most important procedures in WWCs. A modified Bethesda system was adopted by the relevant colleges and organizations as the accepted reporting system for cervical smear screening and reporting in Sri Lanka. The target age group for WWCs services has been identified as women between the age group of 35- 60 years which is nearly a 25 percent of the population in Sri Lanka.

In 2007, it was decided that the age for cervical cancer screening should be limited to one age cohort annually, in order to yield a better coverage of the target population. Based on the epidemiological evidence, a decision was made to actively campaign to screen a cohort of females at the age of 35 years.

However, the other women who voluntarily request screening are also provided with services at WWCs including pap smear screening.

The coverage of attendance of 35 year age cohort of women to the WWCs in 2015 was 45.1%. (n=94,089). The problems detected among the women screened at WWCs for different NCDs are given in the Table 5.1.8.

Table 5.1.8 : Clinic Attendance and Morbidities Detected at Well Woman Clinics, 2011 - 2015

Activity	2011	2012	2013	2014	2015
First time attendees					
Under 35 years	10.2	8.0	6.0	6.1	9.3
35 years	39.4	46.3	51.7	53.9	58.1
Above 35 years	50.4	45.6	42.3	40.0	32.5
Number of 35 year cohort attending clinics	55,413	62,833	73,359	74,871	94,089
35 year cohort coverage with pap smear screening	25.5	28.9	33.9	34.6	41.8*
Cervical smears reported as high and low grade lesions	0.25	0.2	0.25	0.2	0.3
Cervical smears reported as malignant (Carcinoma)	0.04	0.02	0.04	0.03	0.02
Cervical smears reported HPV	0.2	0.1	0.1	0.2	0.2
Breast abnormalities detected	1.5	1.4	1.8	1.5	1.5
Diabetes Mellitus detected	1.8	2.0	2.0	1.8	1.6
Hypertension detected	4.0	3.7	4.1	3.6	3.4

Source : MCH Quarterly Return - H 509, Family Health Bureau

**35-year age cohort attendance to WWC were 45.1% in 2015*

In order to increase the coverage, an award ceremony was started in 2011 with the aim of motivating and encouraging the staff by appreciating best performance of WWC activities in the country. In 2011, only 3 MOH areas had a coverage of over 50% of the 35 year cohort whereas by 2015 there were 147 MOH areas having a 50% coverage while the districts of Ampara, Kegalle, Matale, Monaragala, Colombo, Hambanthota, Polonnaruwa and Kalutara had an overall coverage of over 50%.

From year 2010 full time cytroscreeners were appointed to a few institutions following a 14 day training at FHB and at the end of year 2015, 25 such full time cytoscreeners were functioning all over the country.

By the end of 2015, 38 Mithuru Piyasa centres were functioning in the country of which 16 were established in year 2015.

Also, the primary health care teams have been trained on their roles and responsibilities on prevention and management of GBV. The team members are sensitized on gender issues and gender stereotyping and on creating awareness on these issues among individuals, families and the community, in order to take action to prevent or minimize GBV. Further, the team members are trained on identifying GBV survivors and on providing befriending services and referring for other appropriate services within and outside the health system.

5.1.1.12 Health Sector Response to Gender Based Violence (GBV)

Establishment of Gender Based Violence (GBV) care centres by the name of *"Mithuru Piyasa"/ "Natpu Nilayam"* at state hospitals, which provides essential services for GBV survivors was a major step taken towards addressing GBV.

The term *"Mithuru Piyasa"* in Sinhala and *"Natpu Nilayam*" in Tamil means "Friendly Haven" and the term was selected after much thought. *"Mithuru Piyasa"/ "Natpu Nilayam"* centres are established in state hospitals covering all the provinces in the country and the aim is to establish such centres in all the state hospitals throughout the country.

5.1.1.13 Oral Health Services

FHB is responsible for provision of essential oral health care services through existing maternal and child health programme, mainly the School Dental Programme and Oral Health Programme for the pregnant mothers.

Table 5.1.9 : Services Provided by the Mithuru Piyasa Centres in 2015

Description	Number
New survivors seeking care over the year 2015	3,808
Subsequent consultation held with the survivors	2,307
Consultations held with the family members of survivors	1,733
Consultations held with the perpetrators	1,014
Consultations of 2015	8,862

5.1.1.13.1 School Dental Service

The main objective of the School Dental Service is to reduce morbidity due to common oral diseases in preschool and school children between the ages of 3 - 13 years. The services are delivered by 383 School Dental Therapists (SDTs) who work in School Dental Clinics (SDCs). Their target group includes students of grades 1, 4 & 7 and in schools with less than 200 students, all children below the age of 13 years.

All the School Dental Therapists around the country collectively have screened 75% of the total target group in 72% of the schools. Among screened 66% was identified as healthy or had completed their treatments.

However, out of screened population 44% are awaiting treatments which need to be addressed.

Though new appointments for School Dental Therapists were given there are several vacant clinics in each district. Still most of these vacant areas are covered by relief duty and by mobile clinics. Though the norm for SDT population ratio is 1:2000 currently it is 1:3025, which is approximately 1.5 times. Hence, this coverage was achieved totally due to the high commitment of SDTs.

5.1.1.14 Reviews and Supervision

RMNCAYHP is reviewed periodically at national and district levels to identify and improve the deficiencies and to assess whether the programme is producing the results as prioritised in the strategic and operational plans. Family Health Bureau conducted national MCH reviews in all twenty-six districts in 2015. Each district was visited by a team led by a Consultant Community Physician. In addition, MOMCH reviews were conducted bi-annually and in 2015 they were held in Badulla and in Colombo. Field supervisions were carried out in district of Badulla covering all MOH areas following the MOMCH review with the participation of all MOMCHs and Provincial Consultant Community Physicians. Three-day workshop for the Regional Supervising Public Health Nursing Officers (RSPHNOs) was conducted in Rathnapura followed by a field supervision covering all MOH areas in the district. Annual Nutrition Review was conducted in December 2015 to review nutritional indicators in all districts.

Three-day workshop was conducted for the Survey Statistical Officers (SSO) attached to the RDHS officers in order to improve the quality of RMNCAH data reported from the districts.

Table 5.1.10 : Work Performances of School Dental Services, 2014 and 2015

Year	Number of SDTT	Number of students 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		
2014	379	3,733	76%	58%	57%	7%	18%	2%	12%	19%	78%	69%
2015	383	3,035	72%	54%	55%	9%	19%	2%	13%	18%	75%	66%

[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

In 2015, a special oral health awareness/training programme was conducted in 18 districts for Public Health staff at district level. Supervisions were done by visiting the School Dental Clinics covering 14 districts with the aim of encouraging School Dental Therapists to identify the deficiencies at the ultimate level of service provision. In addition to building new dental clinics and renovations, 37 new School Dental Chairs and 33 micro-motors were distributed to School Dental Clinics throughout the country.

Supervision from each supervising categories of public health staff was monitored by the Family Health Bureau using the information received from the format C on supervisions. Format C have been received from 275 MOH offices out of all 340 MOH offices in 2015. As reported in H 509, there were 626 MOOH/AMOOH serving in the field. According to the return on supervision, they have done a total of 22,460 supervisions of expected 45,072 supervisions to be done annually.

Therefore, out of expected supervisions, only 49.8% have been covered by the MOOH/AMOOH.

Number of supervisions to be done by 232 PHNSS were 16,704 for the year. Only 11,968 have been carried out during the year giving rise to a percentage of 71.6. Number of supervisions to be carried out by 342 SPHMM were 41,040 of which only 21,815 were reported to be carried out. This gives rise to a percentage of 53.1. The field visits revealed that the reports submitted were far less than the supervisions reported in the format C. Overall, supervisions are inadequate and need close monitoring at divisional level, district level, provincial level and at national level.

5.1.1.15 Research

Family Health Bureau has also conducted several operational research in 2015, which included a study to assess the adherence to the implementation of the revised maternal care package and a rapid assessment on school health activities to evaluate the coverage of new interventions such as weekly iron folate supplementation and evaluation of school health activities through the education sector.

Basic research methodology training workshops were conducted in six districts and the rest of the districts will be covered in 2016. The aim is to promote operational research by the PHMM and PHII and provide opportunity to generate grass root level research for policy decisions and also provide opportunity to present research findings at an annual RH research symposium.

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 Mahaweli Development, Central Environmental Authority, Ministry of Labour and Trade Union Relations and other relevant stakeholders in addressing environmental health, occupational health and food safety 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 non-governmental agencies in the areas of environmental, 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
- Raising awareness among the public and other stakeholders on environmental health, occupational health and food safety
- Monitoring and evaluation of E&OH and food safety programmes

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 2015.

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 households in Sri Lanka have access to safe water. The percentage of households using piped born water for drinking is 31%. 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.

Issues on water quality were attended and investigations were carried out (eg. Chunnakem, Jaffna).

5.1.2.1.2 Healthcare Waste Management

World Bank funded second Health Sector Development Project is in operation from 2014 – 2018, where healthcare waste management has been included in the project. Under this project, Rs. 150 million was provided to 28 hospitals with the evaluation of proposals, to improve healthcare waste management facilities in order to obtain Environment Protection License (EPL) & Scheduled Waste License (SWL).

Needs assessments, waste audits, procurement of equipments, infrastructure development, (eg. construction of waste storage), installation of hazardous waste treatment facilities, improvement of waste water & sewerage systems were carried out utilizing these funds. Proposals were evaluated and approved to establish environmental friendly healthcare waste treatment facilities on cluster basis, island wide.

Budgetary allocations were provided for healthcare waste management under regular budget for hospitals under the central government. Technical guidance, provision of policy directions and inspections were carried out throughout the year as and when required.

Twenty seven hospitals under the cultural government were able to obtain Environmental Protection License (EPL). Trainings and evaluation programmes were carried out in all 9 provinces.

In addition two training programmes were carried out in collaboration with Department of Community Medicine, Faculty of Medicine, Colombo giving priority to the health institutions with healthcare waste management issues.

Five more training programmes were conducted on the request of hospitals for around 300 participants.

5.1.2.1.3 Inter Agency Co-ordination

Inter agency co-ordination activities were carried out with Ministry of Water Supply, National Water Supply and Drainage Board, Ministry of Education and UNICEF. Contributed in South Asian Conference on Water Sanitation and Hygiene (WASH), School International Learning Experience (WinS) under WASH programme and prepared the Water Sanitation and Hygiene (WASH) manual for school children.

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 bio diversity, cleaner production, water supply & sanitation, climate change, solid and hazardous waste management, minimization of usage of plastic and international conventions on Basel, Stockholm, Minamata and Rotterdam including assisting in developing inventories on Persistent Organic Pollutants (POPs) to strengthen the environmental health conditions in the 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 and environment, environmental hazards and environmental risk assessment, solid and hazardous management.

5.1.2.1.5 Development of IEC Material on Environmental Health

Draft IEC material were prepared.

5.1.2.1.6 Climate Change and Health

Initiated development of Intended Nationally Determind Contributions (INDCs) on climate change adaptation for health Sector.

5.1.2.1.7 Post Graduate Training

Students attached to Post Graduate Institute of Medicine, Colombo & Kelaniya following MSc in Community Medicine & MPH were 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

All workers in Sri Lanka have access to free health services at the curative as well as preventive health sectors. Treatment of occupational diseases, 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. Occupational accidents affecting significant number of workers and surrounding communities are considered as disasters and curative sector response is carried out immediately.

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 health issues resulting from hazards in the work environment, advice on preventive and protective remedial measures, carry out activities to promote overall health of the workers, conduct workers health surveillance and advise on basic facilities such as safe drinking water, sanitary latrines, meal and changing rooms, adequate washing facilities and first aid facilities at workplaces.

Cadre approval was obtained from the Management Services Department for 26 Medical Officers (Environmental and Occupational Health) to be appointed at RDHS level. Seven posts were advertised in 2015 annual transfer list of Medical Officers. Environmental and Occupational Health Units would be set up 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 from 2016.

The Directorate of Environmental and Occupational Health has carried out several activities to strengthen the occupational health programme in the year 2015.

5.1.2.2.1 Development Policies Related to Occupational Safety and Health

Ministry of Health contributed to the development of the Child Labour Elimination Policy in Sri Lanka.

5.1.2.2.2 Capacity Building of Provincial and District Level Public Health Staff on Occupational Health and Safety

Occupational health and safety is a specialized area and therefore building a critical mass of human resources on this area was identified as a priority in 2015. Public health staff need to be trained first, for them to carry out the activities of the national programme. Eight in service training programmes on Occupational Health and Safety for Medical Officers of Health (MOOH) and Additional Medical Officers of Health (AMOOH) were conducted at district level.

It is intended to address occupational health issues of the informal sector as well as small scale industry workers through them. Hundred and twenty MOOH and AMOOH in Trincomalee, Gampaha, Matara, Kegalle, Galle, Hambantota, Colombo and Ratnapura districts were trained.

Occupational Health and Safety Training for Supervising Public Health Inspectors (SPHII) and Public Health Inspectors (PHII) were conducted at district level. Hundred and eighty SPHII and PHII in Monaragala, Kalmunai, Batticaloa, National Institute of Health Sciences - Kalutara (NIHS), Puttalam and Jaffna districts were trained.

The occupational health module for Trainee Public Health Inspectors following basic training was carried out in Kadugannawa, Kurunegala and NIHS and around 225 PHI trainees were trained.

5.1.2.2.3 Conducting Operational Research to Plan Interventions on Occupational Health and Safety

A survey was conducted to assess the prevalence and correlates of occupational stress among Medical Officers of Health (MOOH) and Additional Medical Officers of Health (AMOOH) in Sri Lanka. The research was conducted to generate evidence to plan interventions on occupational mental health for MOOH and AMOOH.

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

Occupational health and safety awareness was done for workers in Katunayake BOI zone.

5.1.2.2.5 Symposia on Occupational Health and Safety

Sessions were conducted on occupational health and related topics in international and national level conferences.

5.1.2.2.6 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 was carried out.

Additionally Occupational Health Training was done for participants following Occupational Safety and Health Courses conducted by the Ministy of Industries.

5.1.2.2.7 Inter Sectoral Coordination

Strengthening inter sectoral coordination is essential in the field of occupational health. Several activities including provision of technical guidance were carried out with the Ministry of Environment and Mahaweli Development, Ministry of Labour and Trade Union Relations, Central Environmental Authority and relevant stakeholders to strengthen occupational health in other policies, action plans and projects.

- Chemical Accident Prevention and Preparedness Programme of CEA
  Joint chemical accident inspections were carried out with the Central Environmental Authority and recommendations made.
- Contributed to the development of National Implementation Plan (NIP) for Persistent Organic Pollutants.
- Contributed to the development of National Adaptation Plan (NAP) for climate change.
- Contributed to the development of Asbestos Phasing Out Plan in Sri Lanka.

5.1.2.3 The Food Control Administration Unit (FCAU)

The Food Control Administration Unit (FCAU) of the Ministry of Health functions under the Directorate of E&OH is the entity entrusted with the administrative aspect of the food safety activities.

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.
2. The relevant food legislation 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 1991 and Food (Amended) Act No. 29 of 2011. The Act is currently being further amended. At present there are 26 food regulations framed under the Food Act.
3. The Food Advisory Committee (FAC) established in terms of the Act advises the Hon. Minister on policy 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 activities and monitoring, including regulatory activities.
III. Strengthen the linkage with other Line Ministries, Provincial Authorities, International Agencies and NGOs, etc. to bring about effective, sound environmental management conducive for 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 on food safety for health workers, consumers, food manufacturers and food handlers throughout the country.
VI. Improve coordination of food safety related activities with the
    - Ministry of Agriculture,
    - Ministry of Commerce and Consumer Affairs,
    - Sri Lanka Customs,
    - Coconut Development Authority,
    - Sri Lanka Tea Board,
    - Sri Lanka Standard Institution,
    - FAO/WHO,
    - UNICEF,
    - Chamber of Commerce
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

5.1.2.3.4 New Food Regulations

Several food regulations were reviewed/framed and drafted during the year 2009/2015. Review of all the current regulations has been completed and the following regulations were published.

a. Food (Colouring Substances) Regulations
b. Food (Vinegar) Regulations
c. Food (Adoption of Standards) Regulations
d. Appointment of Additional Approved Analyst - Colombo Municipal Council
   Food (Sweetener) Regulations
   Food (Amendment of Shelf Life of Imported Food Items) Regulations

The following regulations have been reviewed for the publication. The Legal Draftsmen being consulted for the finalization of these regulations.

a. Food (Amendment of Irradiation) Regulations
b. Food (Amendment of Bottle Water) Regulations
c. Food (Amendment of Labelling & Advertisement) Regulations
d. Food (Amendment of Iodized Salt) Regulations
e. Food (Milk & Milk Products) Regulations
f. Food (Registration of Premises) Regulations

5.1.2.3.5 Enhance the Knowledge, Skills and Attitudes of Authorized Officers

- No. of 5 days training programs conducted for PHII on Food Safety - 04
- No. of in-service training programmes conducted for PHII on Health Skill Development in Food Hygiene - 10
- No. of review sessions of the work performance with F & Di & SPHII (D) - 02

5.1.2.3.6 Formulate/Review National Policies, Regulatory Framework and Regulations

- No. of Food Advisory Committee Meetings - 13
- No. of Food Advisory Sub Committee Meetings - 21
- No. of Labeling & Advertising Sub Committees - 11

5.1.2.3.7 Registration of Bottled of Packaged Water Manufacturing Premises

- No. of applications received - 42
- No. of assesssments carried out - 42
- No. of premised registered - 42
- Total amount of collected fees credited to the consolidated fund - Rs. 42,000/=

5.1.2.3.8 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 applications received - 23
- No. of applications for renewals - 23
- No. of inspections carried out - 47
- No. of permits issued - 23

5.1.11 Health Education Programmes Conducted by Authorized Officers for the Owners, Food Handlers and Consumers

Target group	No. of programmes	No. of participants
Owners and food handlers of Food Handlers Establishment	4,627	74,983
Field officers	782	15,891
Community	4,472	352,840
Teachers and students in schools	4,234	132,643

5.1.2.3.9 Activities of Food Inspection Unit at the Colombo Harbour

- No. of consignments inspected (FCL) : 29,763
- No. of consignments inspected (LCL) : 3,561
- No. of samples taken : 8,077
- No. of consignments rejected : 18

5.1.2.3.10 Issue Export Certificates for Export Food Consignments

- No. of certificates issued : 8,222
- No. of factories visited : 63
- Revenue collected to the consolidated fund (Rs. Million) : 8.2

5.1.3 Epidemiology Unit

Epidemiology Unit is the focal point of disease surveillance programme for communicable diseases in Sri Lanka. Disease surveillance programme involves routine notification, special surveillance on selected diseases such as vaccine preventable diseases, leptospirosis, human rabies and dengue fever. In addition, sentinel site surveillance is being carried out for influenza like illness and severe acute respiratory illness as which are potential to be endemic. The Epidemiology unit has skills in epidemiology and on disease surveillance activities in addition to extensive expertise in research capacities.

Epidemiology Unit is also the focal point for the National Immunization Programme (NIP). It 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 unit has achieved almost hundred percent coverage for all childhood immunizations.

With regard to communicable disease control activities in disasters, and in disease outbreaks in the country the surveillance activities of the Epidemiology Unit has been an immense support. Therefore, in spite of many disasters in the country such as floods, landslides and droughts the unit has been able to prevent emergence of communicable disease epidemics very successfully.

5.1.3.1 Disease Prevention and Control

Moreover the unit involves in training medical postgraduates and health staff on activities related to communicable disease control and the National Immunization Programme. It also serves as an international training centre on disease prevention and control and childhood immunization programme.

In addition to the above mentioned activities, surveillance of Chronic Kidney Disease (CKD) is also another responsibility that has been entrusted to the Epidemiology Unit.

5.1.3.1.1 Chickenpox

A total of 4,749 cases of chickenpox were reported in 2015 and 4,013 (84 %) were clinically confirmed. Colombo (499), Kurunegala (431), Gampaha (339), Kalutara (302), Galle (288) and Kegalle (288) were the leading districts reporting chickenpox. Highest reported age category was 25-50 years (42%). Secondary bacterial infection (33), pneumonia (9), encephalitis (5), and mayocarditis (4) were the complications reported.

5.1.3.1.2 Cholera

No cases of cholera were reported during the year 2015. The last case was reported in 2003.

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

During the year 2015, 29,777 cases of DF/DHF and 56 deaths were reported with a CFR of 0.18%. According to special surveillance data from hospitals, the highest number of cases were from the age group of 25-49 years (35.1%) followed by 15-24 years (26.0%) and 5-14 years (21.7%).

Out of the total reported cases, Dengue Fever (DF) was 26,918 (90.4%), while 2,859 (9.6%) was Dengue Haemorrhagic Fever (DHF). During the year 2015, blood samples of 1,781 patients were tested using IgM capture ELISA test at the Department of Virology, MRI, out of which 651 (36.5%) samples were confirmed as positive for dengue.

5.1.3.1.4 Dysentery

In the year 2015, a total of 4,654 cases of dysentery were reported. Jafna (1,087), Batticaloa (354) and Nuwara Eliya (331) being the leading districts reporting dysentery. Among the 3,338 cases which were clinically confirmed, the largest proportion (35%) belonged to the age group of 1-5 years.

5.1.3.1.5 Enteric Fever

A total of 906 cases of enteric fever were reported in 2015. The district of Jafna had reported the highest number of cases (186), followed by Colombo (101). Among the 686 cases which were clinically confirmed, the largest proportion of 25% belonged to the age group of 5-15 years.

5.1.3.1.6 Human Rabies

Twenty six cases of human rabies were reported in 2015. Kurunegala (08) and Colombo (04) were the leading districts which reported human rabies cases. The largest number of cases belonged to the age group of 25-50 years (46.2%).

5.1.3.1.7 Influenza

Influenza surveillance in humans and animals is conducted in the country as 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 2015 was 40,358 and proportion of ILI out the of total OPD visits was 1.14 %. Total SARI visits reported was 2,992 and the proportion of SARI out of total admissions was 4.6 %.

5.1.3.1.8 Encephalitis

During the year 2015, 203 cases of encephalitis were reported. Among the 135 cases which were clinically confirmed the largest number of cases belonged to the age group of 5-15 years (24%). The district reporting the highest number of cases was Ratnapura (24) followed by Colombo (18), Kegalle (17), Gampaha (16) and Badulla (16).

5.1.3.1.9 Leishmaniasis

The number of notified cases of leishmaniasis in 2015 was 1,283. Anuradhapura had the highest number (352) reported, followed by Hambanthota (322), Mathara (162), Kurunegala (151) and Polonnaruwa (135). Out of the total number reported 1,134 were clinically confirmed. Out of which the largest proportion 49% (560) belonged to the age group of 25-50 years.

5.1.3.1.10 Leptospirosis

A total of 4,455 cases of leptospirosis were notified in 2015. Out of reported cases 3,155 were clinically confirmed and the majority belonged to the age group of 25-50 years (53%). The districts reporting the highest number of cases were Gampaha (454), Kaluthara (447), Ratnapura (427) , Anuradhapura (410) and Kurunegala (372).

5.1.3.1.11 Measles

Two thousand four hundred and thirty two (2,432) suspected cases of measles were reported during 2015. Out of these cases 2,161 were laboratory tested and out of which 1,297 were lab confirmed by measles IgM testing. The total number of cases clinically and laboratory confirmed was 1,568. Number of measles cases has remained relatively low since year 2000 even though an unexpected outbreak was experienced in year 2013. In 2015, 44% of the affected were belonged to less than one year age group and it was 47% in the age group of more than 15 years.

5.1.3.1.12 Rubella

Suspected cases of rubella or measles reported during 2015, were 2,432 and out of them nine were laboratory rubella IgM positive cases and compatible with surveillance case definition of “fever and maculopapular rash, conjunctivitis, lymphadenopathy, arthralgia or arthritis”.

5.1.3.1.13 Congenital Rubella Syndrome (CRS)

Out of all blood samples tested for rubella IgM at MRI, sent from hospitals and specialized units taken from babies with congenital abnormalities, from mothers with history of fever and rash during pregnancy and from samples of TORCH screening, three babies were positive for rubella IgM antibody, out of which two were identified as post vaccinated and the remaining one was categorized as congenital rubella infection, thus all were excluded as non congenital rubella syndrome.

5.1.3.1.14 Mumps

A total of 398 cases of mumps were reported and 323 (81%) were clinically confirmed in year 2015. The districts reporting the highest number of cases were Kegalle (31), Kurunegala (30), Kaluthara (30), Mathara (27), Jafna (25), Monaragala (24), Ratnapura (23) and Galle (23). The age category reporting the highest number of cases was 25-50 years (46%). There were no reported complications of mumps.

5.1.3.1.15 Poliomyelitis Eradication: Acute Flaccid Paralysis (AFP) Surveillance

Since 1993 Sri Lanka has been free of poliomyelitis. Surveillance of Acute Flaccid Paralysis (AFP) is being carried out with the objective of identifying any potential poliomyelitis case which may present as AFP. A total of 81 non polio AFP cases were notified to the Epidemiology Unit in 2015 and non polio AFP rate was 1.53 per 100,000 population aged less than 15 years. Polio eradication programme strategies were successfully implemented in the country to maintain polio free status in the country.

5.1.3.1.16 Tetanus

A total 16 tetanus cases were reported in 2015 out of which 15 were clinically confirmed. Out of the 15 clinically confirmed cases 14 were from age of more than 25 years. Matale (2), Batticaloa (2), Trincomalee (2) and Kurunegala (2) were the districts which notified the highest number of cases.

5.1.3.1. 17 Viral Hepatitis

A total of 1,989 cases of viral hepatitis were reported in 2015 and Monaragala (486), Ratnapura (329), and Badulla (228) were the leading districts reporting viral hepatitis. Among the 1,564 clinically confirmed cases, 721 (46%) belonged to the age group of 25-50 years.

5.1.3.1.18 Whooping Cough

A total of 107 whooping cough patients were reported in year 2015, out of which 62 cases were clinically confirmed and 42 of the cases (68 %) belonged to the age group of less than one year. The leading districts reporting the highest number of cases were Kurunegala (12), Anuradhapura (11) and Colombo (11).

5.1.3.2 National Immunization Programme

The National Immunization Programme of the country has achieved 99% coverage for all childhood vaccines in 2015, while assuring high quality standards.

The Epidemiology Unit continuously conducts regular training on all aspects of the National Immunization Programme for both preventive and curative sector staff. Moreover the immunization activities are being reviewed and guided by the Epidemiology Unit at field level on regular basis.

It should be remarkably emphasized that vaccine storage capacity, ensuring efficient cold chain maintenance at national, district and divisional levels is being monitored closely. An Electronic monitoring system is in place in addition to other monitoring devices for cold chain maintenance thus ensuring vaccine quality at higher standard.

In 2015 all 341 MOH areas were able to enter EPI data to the Web Based Immunization Information System (WEBIIS). Forty four hospitals, out of 71 hospitals where births take place enter data to the system online at the time of registration of births. In 2015 the online data entry were being carried out while the prevailing paper based system in existence, in order to identify strengths and weaknesses of the online system. It has been planned to transform the paper based quarterly EPI (Expanded Programme on Immunization) return fully into the online system from first quarter of 2016.

The unit too functions as a WHO collaborative centre for training on immunization activities in the South East Asia Region. There were three teams from Nepal, Bangladesh and Timor-Leste who were trained on activities related to the National Immunization Programme.

Table 5.1.12 : Distribution of Notified Cases of Selected Notifiable Diseases by RDHS Division, 2015

RDHS Division	Dengue	Dysentery	Encephalitis	Enteric Fever	Food Poisoning	Human Rabies	Leptospirosis	Typhus Fever	Viral Hepatitis
Colombo	9,881	186	18	101	127	4	319	12	51
Gampaha	4,142	94	16	38	33	1	454	12	138
Kalutara	1,559	123	9	60	160	3	447	8	39
Kandy	1,325	185	7	33	73	-	136	77	156
Matale	401	51	2	10	13	-	65	9	36
Nuwara-Eliya	180	331	5	41	10	-	55	77	66
Galle	1,030	96	3	10	30	-	292	111	13
Hambantota	398	52	5	9	31	-	174	64	49
Matara	459	74	12	5	47	-	269	53	52
Jaffna	2,016	1,087	11	186	89	1	21	767	14
Kilinochchi	92	125	1	26	31	1	7	29	-
Mannar	105	23	3	6	6	-	9	24	-
Vavuniya	197	34	9	80	33	1	21	15	2
Mullaitivu	142	49	2	18	16	-	23	9	7
Batticaloa	1,474	354	8	30	182	1	34	4	14
Ampara	67	48	2	2	19	-	25	2	16
Trincomalee	587	144	-	39	57	-	19	26	108
Kurunegala	1,253	270	8	8	32	8	372	31	47
Puttalam	739	158	8	9	9	1	48	31	3
Anuradhapura	401	168	5	5	67	1	410	28	26
Polonnaruwa	250	66	5	17	13	-	162	1	13
Badulla	566	259	16	13	28	3	93	142	228
Monaragala	223	123	5	17	5	-	207	86	486
Ratnapura	1,041	317	24	45	10	1	427	75	329
Kegalle	711	91	17	95	26	-	353	56	89
Kalmunai	538	146	2	3	68	-	13	1	7
Sri Lanka	29,777	4,654	203	906	1,215	26	4,455	1,750	1,989

The source of information for dengue cases was from Dengue Sentinel Site Surveillance System

Source : H399 Notified

Table 5.1.13 : Age Distribution of Selected Notifiable Diseases, 2015

Age Group	Dysentery	Encephalitis	Enteric Fever	Human Rabies	Leptospirosis	Measles	Tetanus	Viral Hepatitis	Whooping Cough	Dengue	Rubella	Chickenpox	Mumps	Meningitis
Under 1	494	2	5	-	1	638	-	1	42	475	1	70	12	271
1 - 4	1,189	17	89	-	8	165	-	16	8	1,526	3	271	33	164
5 - 14	843	33	171	3	58	96	-	213	7	6,451	-	587	52	137
15-24	205	27	109	1	428	407	-	533	1	7,744	-	1,070	55	32
25-49	296	19	194	12	1,672	632	7	721	4	10,463	2	1,702	150	74
50-59	143	15	61	1	619	6	1	59	0	1,880	-	214	20	10
60 and above	168	22	57	9	369	6	7	21	0	1,238	-	99	1	16
Total	3,338	135	686	26	3,155	1,950	15	1,564	62	29,777	6	4,013	323	704

Source : H411a Clinically Confirmed Cases

Table 5.1.14 : Distribution of Selected Notifiable Diseases by Month, 2015

Month	Dysentery	Encephalitis	Enteric Fever	Human Rabies	Leptospirosis	Measles	Tetanus	Viral Hepatitis	Whooping Cough	Dengue	Rubella	Chikenpox	Mumps	Meningitis
January	466	16	127	1	478	141	1	187	9	6,345	2	360	42	80
February	296	16	89	1	256	157	1	169	8	3,731	2	439	31	53
March	272	21	103	7	398	241	2	117	9	1,962	-	446	29	58
April	226	9	61	1	274	241	1	98	4	1,293	1	428	29	68
May	357	15	72	2	376	296	2	102	4	1,625	-	579	44	92
June	372	9	58	4	247	230	3	97	10	1,477	1	331	32	66
July	425	14	84	2	244	419	2	104	11	2,125	1	331	36	73
August	288	7	52	1	176	355	2	95	6	1,604	1	296	26	67
September	372	13	65	1	235	209	-	351	19	1,099	-	310	30	71
October	610	27	66	2	537	160	1	385	12	2,066	-	438	38	100
November	545	33	64	2	663	99	1	171	6	2,762	-	423	24	100
December	425	23	65	2	571	61	-	113	9	3,688	-	368	37	76
Total	4,654	203	906	26	4,455	2,609	16	1,989	107	29,777	8	4,749	398	904

The source of dengue cases was from Dengue Sentinel Site Surveillance System

Source : H399 Notified

Table 5.1.15 : Cases, Incidence, Deaths and Case Fatality Rate (CFR) of Dengue Fever(DF)/ Dengue Haemorrhagic Fever(DHF), Leptospirosis and Encephalitis, 1996 - 2015

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	6.7	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	3.4	14	2.2	1,106	5.9	ND	-	90	0.5	3	3.3
2000	5,213	28.2	37	0.7	1,144	6	ND	-	123	0.6	2	1.6
2001	5,999	31.9	54	0.9	1,402	7.3	ND	-	59	0.3	9	15.3
2002	8,931	47.5	64	0.7	991	5.2	ND	-	68	0.4	15	22.1
2003	4,805	25.6	32	0.7	2,235	11.8	ND	-	165	0.9	20	12.1
2004	15,463	82.3	87	0.6	1,447	7.6	ND	-	112	0.6	9	8
2005	5,994	31.9	28	0.5	1,552	7.9	ND	-	60	0.3	6	10
2006	11,980	59.1	46	0.4	1,582	8	ND	-	130	0.7	1	0.8
2007	7,332	36.2	28	0.4	2,198	10.8	ND	-	203	1	6	3
2008	6,607	32.6	27	0.4	7,423	36.2	207	2.8	261	1.3	6	2.3
2009	35,095	172.7	346	1	4,980	23.8	145	2.9	223	1.1	4	1.8
2010	34,188	168.2	246	0.7	4,554	21.8	123	2.7	217	1	3	1.4
2011	28,473	140.4	186	0.7	6,694	31.2	100	1.5	166	0.8	3	1.8
2012	44,461	219.2	181	0.4	2,663	13.1	52	2	210	1	12	5.7
2013	32,063	162	89	0.3	4,308	21	80	1.8	357	1.7	31	8.7
2014	41,495	232	97	0.2	3,235	15.7	41	1.3	191	0.93	17	8.9
2015	29,777	142	56	0.19	4,455	21	71	1.6	203	1	17	8.3

Incidence Rate = Incidence Rate per 100,000 population

Source : H399 Notified

CFR = Case Fatality Rate

ND = No Data

Population for year 2015 = 20,966,000 (Source : Registrar General's Department, Sri Lanka)

Table 5.1.16 : Cases and Deaths of Dengue Fever/Dengue Haemorrhagic Fever and Leptospirosis by Age Group, 2015

Age Group	*Dengue				Leptospirosis			
	Cases		Deaths		Cases		Deaths	
	No	%	No	%	No	%	No	%
Under 1	475	1.6	-	-	1	0.03	-	-
1 - 4	1,526	5.1	5	8.9	8	0.25	-	-
5 - 14	6,451	21.7	9	16.1	58	1.84	-	-
15 - 24	7,744	26	6	10.7	428	13.56	4	5.6
25 - 49	10,463	35.1	25	44.6	1,672	52.99	25	35.2
50 - 59	1,880	6.3	8	14.3	619	19.62	25	35.2
60 and above	1,238	4.2	3	5.4	369	11.7	17	23.9
Total	29,777	100	56	100	3,155	100	71	100

Source of information of leptospirosis is from H399 and for dengue is from dengue sentinal site surveillance system

Population for year 2015=20,966,000 (Source : Registrar General's Department, Sri Lanka)

Table 5.1.17 : Incidence of Extended Programme of Immunization (EPI) Target Diseases, 1955 - 2015

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
2014	-	-	3,100	15.0	-	-	14	0.1	-	-	6,710	32.5	81	0.4
2015	-	-	2,432	12.0	-	-	16	0.1	-	-	7,402	35.3	107	0.5

Population for year 2015=20,966,000 *Source : H399 Notified*

(Source : Registrar General's Department, Sri Lanka)

Table 5.1.18 : RDHS Distribution of Immunization Coverage, 2015

Province	RDHS	BCG	PVV1	PVV3	OPV3	IPV1	MMR 1	MMR 2
Western	Colombo	92.2	96.2	93.1	95.9	80.8	95.1	102.5
	Gampaha	97.5	96.9	98.1	98.5	95.7	100.7	99.2
	Kalutara	99.1	98	98.4	98.3	97	99.7	98.9
Central	Kandy	96.2	98.9	97.5	97.6	83.6	96	99.9
	Matale	101.9	97.7	98.9	98.9	96.6	100.5	99.2
	Nuwara Eliya	99.3	97.9	98.8	98.8	95.8	100.7	97.2
Southern	Galle	96.1	98.3	96.9	97	94.9	97.1	98.1
	Hambantota	100	98.7	97.7	97.7	97.6	100.5	96.4
	Matara	95.9	98.9	98.5	98.5	94.4	101	99.1
Northern	Jaffna	101.6	97.5	97.8	97.8	93.7	102.2	89.9
	Kilinochchi	103.3	96.7	98.9	98.9	85.3	101	100.4
	Mannar	103.4	96.7	98.9	98.9	99.5	98.1	105.8
	Vavuniya	93.2	95.2	98.9	98.9	94.1	104.2	95.2
	Mullaitivu	80.1	93.5	98.9	98.9	79.3	98	121.9
Eastern	Batticaloa	101	98.9	97.5	97.5	97.5	97.8	95.6
	Ampara	100.2	98.9	98	98	99.2	95.3	95.7
	Trincomalee	100.2	97.4	98.9	98.9	96.8	101.4	90.1
	Kalmunai	97.9	98.9	97.1	97.1	100.1	96.6	93.5
North Western	Kurunegala	94.6	98.2	98.9	98.9	95.5	98.1	100.6
	Puttalam	100.8	97.6	98.9	98.9	81.8	98.4	95.2
	Anuradhapura	93.6	96.9	98.2	98.1	98	97.2	97.8
North Central	Polonnaruwa	98.4	98.7	98.9	98.9	87.5	98.6	99.5
	Badulla	104.5	98.5	97.8	97.9	91.7	95.5	95.6
	Monaragala	98.3	98	98.1	98.1	96.9	98.3	100.2
Sabaragamuwa	Ratnapura	89.3	97.8	97.8	97.8	93.4	98.3	96.6
	Kegalle	95.9	97.9	98.2	98.2	90.9	101.1	97.2

Note - Some districts reported more than 100% coverage for some vaccines. This is because in Sri Lanka children can receive their due vaccine at any clinic conducted by National Immunization Programme, other than from a clinic of their respective place of residency. Therefore, the numerator (no. of children vaccinated for a given vaccine) can exceed the denominator (estimated no of children in the respective district).

PVV = Pentavalant Vaccine
MMR = Measles, Mumps and Rubella Vaccine
LJE = Live Japanese Encephalitis Vaccine
OPV = Oral Polio Vaccine
DT = Diphtheria and Tetanus

Table 5.1.19 : Number of Selected Adverse Events by Vaccination in 2015

Description	BCG	OPV	PVV*	DPT	MMR	LJE	DT	TT	aTd	Total ** number of AEFI reported
Total number of AEFI reported	51	39	6,380	3,120	930	377	280	49	182	11,408
AEFI reporting rate/100,000 doses administered	18	2.4	679	930	129	99.4	87.2	16.8	60.4	
No. of high fever (>39°C) cases reported	6	12	2,390	1,288	186	80	63	2	15	4,042
Rate of reporting high fever/100,000 doses administered	2.1	0.7	255	384	25.8	21.1	19.6	0.7	5	
No. of allergic reactions reported	2	3	577	430	448	183	81	27	34	1,785
Rate of reporting allergic reactions/100,000 doses administered	0.7	0.2	61.4	122	62.1	48.3	25.2	9.2	11.3	
No. of severe local reactions reported	2		222	153	16	10	16	6		425
Rate of severe local reactions/100,000 doses administered	0.7		23.6	45.6	2.2	2.6	5	2.1		
No. of seizure (febrile/afebrile) reported		4	118	201	37	28	4			392
Rate of seizures/100,000 doses administered		0.2	12.6	59.9	5.1	7.4	1.2			
No. of nodules reported	6	6	1,567	383	21	3	19	7	6	2,018
Rate of nodules/100,000 doses administered	2.1	0.4	167	114	2.9	0.8	5.9	2.4	2	
No. of injection site abscess reported	18	1	621	99	7	4	13	1	2	766
Rate of injection site abscess/100,000 doses administered	6.3	0.1	66.1	29.5	1	1.1	4.1	0.3	0.2	
No. of hypotonic hypotensive episodes reported		1	9	1						11
Rate of hypotonic hypotensive episodes/100,000 doses administered		0.1	1	0.3						

*PVV- Pentavalent vaccine

**Total is given only for nine vaccines listed in the table

Table 5.1.20 : Sentinel Site Surveillance of Influenza Like Illness (ILI) and Severe Acute Respiratory Illness (SARI), 2015

Month	Human Surveillance							
	ILI Surveillance				SARI Surveillance			
	Total ILI visits reported	Proportion of ILI out of total OPD visits (%)	Total ILI samples tested	Influenza yield from ILI samples (%)	Total SARI visits reported	Proportion of SARI out of total OPD visits (%)	Total SARI samples tested	Influenza yield from SARI samples (%)
January	4,393	1.15	61	14.70	60	3.06	-	-
February	3,581	0.96	56	23.20	401	14.99	9	11.10
March	3,798	1.08	111	20.70	137	1.93	-	-
April	2,463	0.81	71	11.30	166	2.85	20	15.00
May	2,373	0.93	71	18.30	115	3.81	35	37.10
June*	2,673	1.05	-	-	204	3.00	-	-
July*	3,215	1.09	-	-	859	6.19	-	-
August*	4,352	1.79	10	-	390	5.27	2	-
September*	3,805	1.30	21	-	220	5.16	12	8.30
October	3,706	1.24	41	19.50	356	3.83	8	25.00
November	4,010	1.36	72	18.00	32	2.36	23	39.10
December	1,989	1.10	56	35.70	52	3.11	11	45.40
Total	40,358	1.14	570	20.50	2,992	4.60	120	28.30

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 of National Dengue Control Unit

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 develop sustainable dengue prevention, control and management programme through comprehensive integrated approach.

5.1.4.4 The Mission

To optimize planning, prediction and early detection at all levels for better control and prevention of dengue outbreaks through coordinated collaborative partnerships and sustainable efforts.

5.1.4.5 Goal

To reduce transmission of dengue so that it is no longer a major public health problem in Sri Lanka.

5.1.4.6 General Objective

To achieve and maintain mortality rate below 0.1% and to bring down current morbidity level by 50% in 2020.

5.1.4.7 Specific Objectives

1. To strengthen clinical management to reduce dengue mortality below 0.1% by 2020.
2. To collaborate and communicate to bring down the current morbidity level by 50% in 2020.
3. To reinforce surveillance, outbreak prevention and control.

Major components of control program are described below.

5.1.4.8 Epidemiological Surveillance

Epidemiological (disease) surveillance is carried out through the Epidemiology Unit. In 2015 a total of 29,777 dengue cases were reported from the entire country. This was less than last year's (233 per 100,000) corresponds to a rate of 142 per 100,000 population. There were 9 districts reporting more than 100 cases per 100,000 population indicating increasing geographic distribution during 2015 (Fig 5.1.17). Although the number of cases was 29,777 in 2015, the number of deaths was 60 with a case fatality rate of 0.20% which was in par with previous years' (Table 5.1.21). Web based sentinel site surveillance in collaboration with the Epidemiology Unit was further strengthened in 2015.

Fig 5.1.17 : Reported Incidence by District, 2015

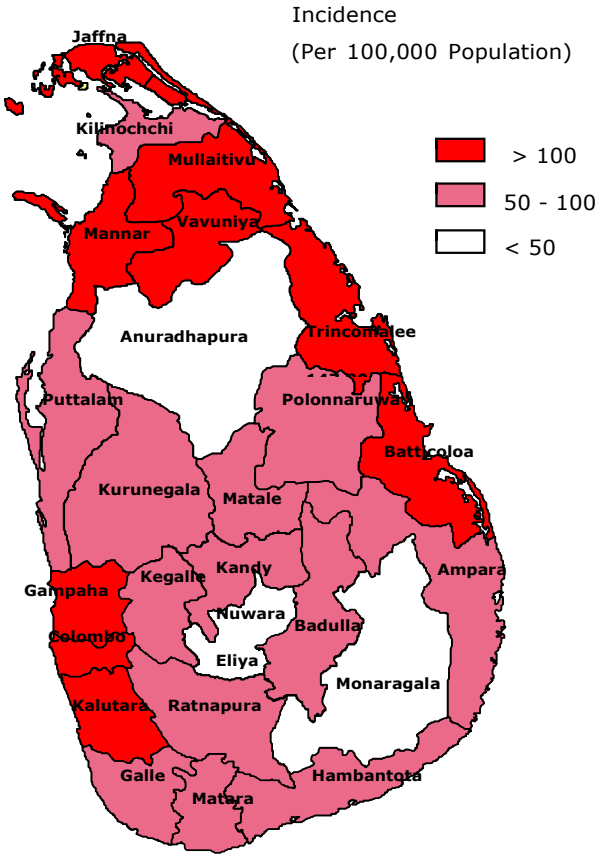


Table 5.1.21 : Case Fatality Rate, 2009 - 2015

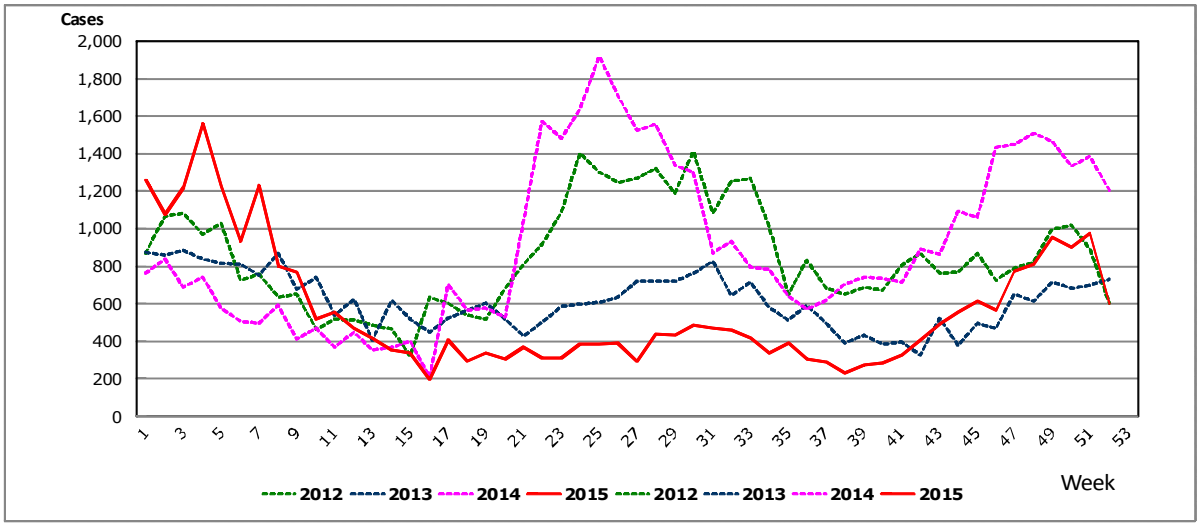
Year	Dengue Cases Reported	Dengue Deaths	Case Fatality Rate
2009	35,095	346	0.98
2010	34,105	246	0.72
2011	28,473	186	0.65
2012	44,461	181	0.41
2013	32,063	89	0.27
2014	47,502	97	0.20
2015	29,777	60	0.20

Source : Epidemiology Unit

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 2015 a total of 276,682 premises were inspected, where *Aedes* larvae were found positive in 23,040 (8.32%) premises. The types of containers are illustrated below (Fig 5.1.19).

Fig 5.1.18 : Seasonal Distribution of Dengue



Source : Epidemiology Unit

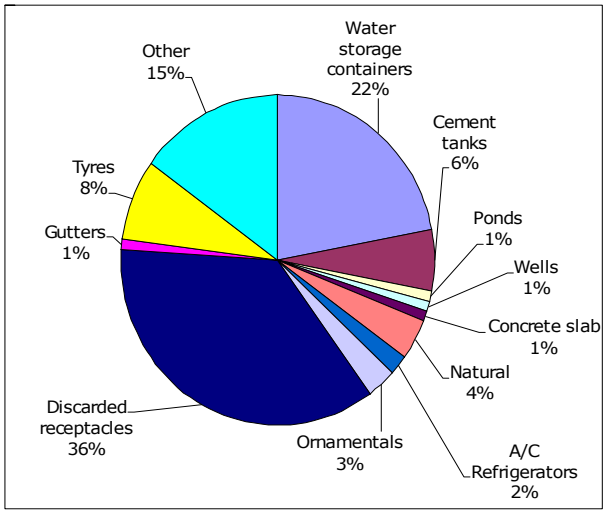
Two distinct peaks of case reporting in May – July and Oct – Jan are identified over the years associated with South-West and North-East monsoon rains respectively (Fig 5.1.18). Therefore it is evident that preventive activities should be initiated before the increase of cases. As such, bi-annual mosquito 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.

Fig 5.1.19 : Breakdown of Positive Containers (by type) Entomological Surveillance in 2015



5.1.4.10 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. Facilitated district and divisional level vector management staff to perform optimally to control dengue vectors by providing training, equipment, chemicals, technical guidance and other resources. 25 Mist blowers (based on requirement among all RDHS divisions), 5 vehicle mounted fogging machines, 75 binocular optical microscopes, 100 ladders and 1,000 observation mirrors were distributed.

5.1.4.11 Case Management

During 2015, curative health care personal were trained on proper management of dengue patients based on national guidelines coordinated by the Epidemiology Unit and Education, Training and Research Unit, Ministry of Health. Case management further enhanced by providing equipments for 66 existing HDUs, which includes micro haemato critcentrifuges (145 distributed to selected hospitals) and 15 portable US scan machines (NHSL - 02, Teaching Hospitals - 05, Provincial General Hospitals - 01, District General Hospitals - 02, Base Hospitals - 05).

Table 5.1.22 : HD Units of Health Institutions Provided with Equipments in 2015

Type of Hospital	No. of HDUs facilitated in 2015
Teaching Hospitals	12
Provincial General Hospitals	3
District General Hospitals	15
'A' Grade Base Hospitals	17
'B' Grade Base Hospitals	19
Total	66

In addition allocations were given with instructions to selected hospitals to improve or upgrade the case management facilities (Table 5.1.23).

Table 5.1.23 : Allocations for HD Units of Health Institutions, 2015

Type of Hospital	Allocations in Millions
Teaching Hospitals (05)	65
District General Hospitals (06)	35
'A' Grade Base Hospitals (05)	50
'B' Grade Base Hospitals (14)	80
Total	230

5.1.4.12 Outbreak Response : Emergency Dengue Control Programme in Western Province

- Weekly reporting of data revealed that highest number was reported in 25th week (1,915 cases) of which more than 60% were from the Western Province (WP) in 2014. In order to curtail this outbreak situation promptly, an emergency dengue control programme was conducted in WP as per the decision taken at the Presidential Task Force on Dengue Prevention (PTFD) meeting held on 9th June 2014.
- A series of mass scale premises inspection programmes were continued targeting houses, schools, institutions, public and religious places and bare lands, etc. A Civil-Military Cooperation (CIMIC) activity involving approximately 50,000 personnel from tri forces, Civil Defence Force, Police and Health services was conducted over the year.
- This emergency dengue control programme was targeted mainly at the GN divisions in selected high risk Medical Officer of Health (MOH) areas based on epidemiological data in the districts of Colombo, Gampaha, Kalutara (including Colombo MC and NIHS Kalutara) and other provinces. This activity was primarily aimed at detection of mosquito breeding sites and their elimination through source reduction on site augmented by health education, other vector control methods such as larviciding and fogging when needed and enforcing legal action when necessary.
- Seven successful mass scale premise inspection were conducted during 2015 in WP and outside WP. Activities are summarised in Table 5.1.24.

Table 5.1.24 : Summary of Emergency Dengue Control Programs in 2015

Phase	Date(s) - 2015	Premises visited	Premises with larvae	Larvae %	Notices	Legal Actions
Phase I	19 -21 Feb.	61,580	722	1.17	1,240	376
Phase II	4-6 June	66,884	1,644	2.46	2,277	681
Phase III	09-11 July	70,923	898	1.27	1,467	270
Phase IV	29-30 July	33,742	461	1.37	809	210
Phase V	12-14 Nov.	62,079	1,359	2.19	2,566	443
Phase VI	07-09 Dec.	53,281	1,101	2.07	2,112	505
Phase VII	21-23 Dec.	59,668	986	1.65	2,437	398
Total	**Western Province**	**408,157**	**7,171**	**1.76**	**12,908**	**2,883**
Phase II	Kandy, Jaffna, Batticaloa, Trincomalee, Puttalam, Kurunegala, Rathnapura	45,557	1,294	2.84	1,019	310
Total	**All**	**453,714**	**8,465**	**1.87**	**13,927**	**3,193**

5.1.4.13 Major Activities Carried out in 2015

- Two well-co-ordinated National Mosquito Control Programmes were carried out during 2015 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 (Table 5.1.25).
  - √ 1st Mosquito Control Week from 26th March to 01st April
  - √ 2nd Mosquito Control Week from 10th to 16th September
- 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 were held with the respective Governors and participation of relevant ministry officials where advocacy was provided regarding district, divisional and village committees.

Table 5.1.25 : Summary of National Mosquito Control Weeks (NMCW) 2015

Program	Number of premises inspected	Potential breeding places	% of Potential breeding premises	Larvae found	% of larvae	No. of notices issued	Legal actions
NMCW 1	670,194	150,374	22.43	14,257	2.12	20,945	3,673
NMCW 2	600,398	131,577	21.91	16,657	2.77	23,405	3,045
Total	1,270,592	281,951	44.35	30,914	4.9	44,350	6,718

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 into action at grass root level. In addition, this unit carries out in-service training programmes, 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 implementation of nutrition programmes in the country. This unit functions with the following objectives.

5.1.5.1 General Objectives

To ensure optimum nutrition wellbeing in the population of all age 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 wellbeing towards 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 achive desired economic and social development.

5.1.5.5 Activities Carried Out in 2015

Nutrition Division carried out the following activities for the year 2015.

1) Food Fortification

This division has been entrusted with exploring fortification as a strategy to combat micronutrient deficiency. Wheat flour fortification with iron and folic acid had done and the expert committee on fortification has identified the fortification of rice with iron and folic acid as next. The landscape analysis has been completed and the pilot programme will be commenced in near future.

2) Banners

Banners were prepared and modified for measuring nutritional status (BMI), food colour code and food plate for identifying healthy natural food verses processed food with high sugar, salt and fat. 7,000 Copies were printed and distributed to different institutions in health sector and to the schools.

3) Disease Based Dietary Guideline

The above document which was formulated in 2014, was introduced to heath staff including nurses & doctors. 4,000 Copies printed & distributed to the government hospitals. Reprinting of the document (another 6,000) is in progress.

4) Graphic Symbol

A demonstrable food plate was designed to Sri Lanka through a consultative meeting by Nutrition Division in Ministry of Health. Banners, posters and education materials will be prepared based on this.

5) Providing Infrastructure Facilities for Nutrition Promotion Clinics

Weighing and hight scales, tables, chairs and televisions were distributed for selected 07 nutrition clinics. A mechanism was formulated to coordinate medical officers in Nutrition Promotion Clinics with Directorate of Nutrition as the focal point.

6) Dietary Guideline for Buddhist Clergy and Dayaka Dayika

Two booklets of Dietary Guideline for buddhist clergy and dayaka dayika were distributed (20,000 copies) to all RDHS offices.

7) Public Health Guidelines

A document was formulated targetting prevention of 3 major non communicable diseases – cancer, diabetes and heart diseases.

8) A circular for healthy canteen prepared and awaiting distribution.

9) Training

In service, basic and post basic training programmes were conducted for medical doctors, nursing staff and nursing sisters and conducted lectures for Postgraduate Institute of Medicine in the streams of MSc Nutrition, MSc Community Medicine and MSc Medical Administration by the Nutrition Division as well.

5.1.6 Nutrition Coordination Division

5.1.6.1 Introduction

Nutrition Coordination Division is mandated to formulate a National Nutrition Policy and guidelines and coordinate all nutrition related activities within the institutions of Ministry of Health, Nutrition & Indigenous Medicine – e.g. Family Health Bureau, Health Education Bureau, Medical Research Institute, Non Communicable Disease Unit, Food Control Unit, Nutrition Division, Young, Elderly & Disabled Unit, other Provincial Authorities, other Ministries and Non Governmental Organizations.

5.1.6.2 Vision

Optimum nutritional status of the community with special reference to children and women.

5.1.6.3 Mission

Contribute to improve the nutritional status of the community through coordination, monitoring and facilitation of implementation of the nutrition interventions with intra and inter sectoral coordination.

5.1.6.4 Activities Implemented during 2015

5.1.6.4.1 District Nutrition Action Plan (DNAP)

Guideline for the implementation of the District Nutrition Action Plan (DNAP) was developed by the Nutrition Coordination Division. This document will guide the district health sector personal in developing the targeted nutritional interventions to overcome nutritional problems of their districts. According to the guidelines of the DNAP proposals on nutritional programmes were submitted by all the Regional Director of Health Services and were approved by the Ministry of Health. Funds for each district were released to all Provincial Directors of Health Services and the activities were implemented in each district under DNAP 2015 successfully.

5.1.6.4.2 Nutrition Aspects of Early Childhood Development Programme through Multi Sectoral Approach Programme

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 the preschool children.

- Nutrition Coordination Division conducted an orientation programme and a Training of Trainers (TOT) programme for the relevant officers in Anuradhapura and Jaffna districts (Eg. ECCD, CRPO, PHNS, SPHI, SPHM, etc) under the Preschool Nutrition Programme. Three day Teacher Training Programmes were held in Badulla, Hali Ella, Haldumulla and Welikanda D.S. Divisions.

5.1.6.4.3 Nutrition Awareness and Food Demonstration Programmes

Food Demonstration programme is one of the skill development nutrition programmes coming under the National Nutrition Programme.

Prevention and treatment of stunting and wasting remains a challenge. There are no proper supplementary nutritional products available in the market to feed children in a correct way. Hence, it is expected to provide knowledge and skills on nutrition to women by presenting new recipies using local products.

The above nutrition awareness and food demonstration programmes were held in Kegalle district in 2015. This was funded by GoSL.

This programme has been implemented in the MOH areas; Mawanella, Warakapola, Deraniyagala, Yatiyantota/Ruwanwella, Dehiowita and the total number of beneficiaries is 334.

5.1.6.4.4 Establishment of National Nutrition Surveillance System (NNSS)

Objective of the National Nutrition Surveillance System (NNSS) is to collect data on nutritional problems and food security in the respective districts timely and take actions immediately.

National Nutrition Surveillance is currently operating in District Secretariates in Nuwara Eliya district. Routinely collected data is uploaded to the database under the direct supervision of Nutrition Coordination Division.

5.1.6.4.5 Thriposha Programme

a : Assessment of the effectiveness of Thriposha programme in improving growth of 6-24 months old children in two MOH areas in Ratnapura district

The aim of the study is to assess the effectiveness of the Thriposha programme when delivered under ideal conditions (intervention area) and under existing field conditions (control area) in two MOH areas in Rathnapura district. This will enable the identification of factors which improve its effectiveness and make recommendation accordingly.

Study was commenced in October 2015 and the data collection is in process. It will be completed in May 2016. This Project is funded by World Food Programme.

b : Assessment of quality and quantity of Thriposha with the support of World Food Programme

Nutrition Coordination Division is planning to improve the quality and quantity of the Thriposha product with the objective of reducing the Moderately Acute Malnutrition (MAM) to single digit (5%) by 2030 in par with the Sustainable Development Goals (SDGs).

5.1.6.4.6 National Nutrition Month – June 2015

Nutrition Coordination Division is the focal point to conduct the National Nutrition Month Activities.

Theme for the National Nutrition Month 2015 was "**Healthy foods for better strength, capacity and productivity".** The Inauguration ceremony was held on 22nd June, 2015 at the National Institute of Health Sciences in Kalutara.

- Conducted number of programmes through the electronic and print media to create awareness among people on healthy food. There were high responses from non health sector in implementing these programmes.
- A circular was distributed to all the PDHSs, RDHSs, MOHs and Heads of the institutions to conduct district activities in par with the nutritional programmes and district reports sent to the Nutrition Coordination Division.

5.1.6.4.7 Sports Nutrition Programme

The objective of this programme is to enhance nutrition knowledge and practices of sports related personnel. This is being conducted with the participation of Ministry of Sports and Ministry of Education. Pilot project will be conducted in four educational zones within Colombo district to which includes 16 schools.

Preparation of training modules, leaflets and conduction of workshops will be carried out to achieve this objective.

5.1.6.4.8 Coordination & Collaboration with Other Agencies

- Function as Ministry of Health focal point for Nutrition Secretariat at President's Secretariat.
- Nutrition Coordination Division is the Secretariat to the Nutrition Steering Committee, which is chaired by the Secretary, Ministry of Health, Nutrition & Indigenous Medicine.
- Provide technical support to other ministries such as Ministry of Agriculture, Ministry of Education, Ministry of Child Development and Women's Empowerment, Ministry of Industry and Commerce, Ministry of Youth and Ministry of Sports on nutrition related issues.
- Working with UN agencies such as UNICEF, WHO, WFP and other NGOs such as World Vision Lanka, Child Fund, Sarvodaya, etc.

5.1.7 Quarantine Unit

The main responsibility of this unit is to protect Sri Lanka by the prevention of the spread of diseases into the country and to protect, prevent and control of international spread of diseases and other public health risks specially the Public Health Emergency of International Concern (PHEIC) while avoiding unnecessary interference with international traffic and trade. The legal frameworks supporting unit activities are Quarantine and Prevention of Diseases Ordinance of 1897 and International Health Regulations (IHR, 2005).

Sri Lanka is also legally bound to comply and obliged to implement the IHR (2005) with the other member states 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). According to IHR (2005), Quarantine Unit and Epidemiology Unit had been designated as national IHR focal points 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 The Main Functions of the Quarantine Unit

1. Develop policies and guidelines related to boarder health security and IHR 2005.
2. General administration of health offices at point of entries (ports and airports).
3. Inspection of vessels and cargo for contamination so that they are maintained in such a condition that they are free of sources of infection or contamination, including vectors and reservoirs.
4. supervision of any derating, disinfection, disinsection or decontamination of baggage, cargo, containers, conveyances, goods, postal parcels and human remains or sanitary measures for persons.
5. Inspection of conveyances and insurance of free pratique and sanitation certificates through respective health offices.
6. Monitoring and supervision of environment, sanitation and vector control activities at point of entries.
7. Provide yellow fever, oral polio vaccination and anti-malarial prophylaxis to travelers.
8. Maintain IHR core-capacities at point of entries.
9. Monitoring of implementation of IHR 2005 and reporting to WHO.
10. Training public health staff on boarder health security and IHR.
11. Conduct operational research related to IHR and boarder health security.
12. Support to implement Migration Health Policy.

5.1.7.2 Legal Instruments for Quarantine and Border Health Security

At present the following tools are being used to prevent and control the spread of diseases 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 to WHO
- International Health Regulation (2005)

5.1.7.3 Units Carrying Out the Quarantine Services in Sri Lanka

The ports and airport health offices carry out the quarantine services and boarder health security services in Sri Lanka under the guidance of Quarantine Unit.

- Port Health Office, Colombo Harbor
- Office of the Assistant Port Health Officer, at MRI (vaccinations only)
- Airport Health Office, Bandaranayke International Airport, Katunayake
- Port Health Office at Galle
- Port Health Offices at Magampura Rajapaksha International Port - Hambantota (MOH Ambalangoda covering up)
- Airport Health Office, Rajapaksha International Airport - Mattala
- Port Health Office at Trincomalee
- Port Health Office – Norochchole (MoH Kalpitiya covering up)

5.1.7.4 Major Achievements during 2015

√ Mapping Legal Framework current legal frameworks, routine practices, procedures, duties and systems in place for boarder health management. Mapping literature and global best practices in boarder health relevant to Sri Lankan context to review and present a cabinet memorandum to harmonize new and emerging public health issues with present system.

√ Established a 'Legislative Review Committee' – Legal Officers representing the relevant ministries/ stakeholders to discuss the amendments needed to link IHR with the domestic legal framework

√ Developed Standard Operational Procedure (SOPs) to strengthen the boarder health practices

√ Developed Public Health Emergency Contingency plan for Colombo Ports and BIA

√ Enhanced the capacity of Quarantine/Boarder Health Officers through in-service training programs

√ Introduction of "Malaria Screening" for people arriving from Malaria endemic countries was started at 24 hour functioning health desk in Airport Health Office, BIA Katunayake.

5.1.7.5 Activities of Quarantine and Boarder Health Security Routine Services

- **Issuance of free pratique to ships**

All the ships entering Sri Lanka should obtain free pratique from respective port health office prior to disembark travelers or goods. This is done after inspection of the ship and necessary documents.

- **Surveillance at point of entries**

Routine surveillance mechanism is operating at point of entries to detect any traveller with communicable diseases and this is carried out with multi stakeholder involvement. Especially during Public Health Emergency of International Concern (PHEIC); the surveillance for particular disease is further strengthen.

The exit and entry screening procedures will be implemented based on risk assessment of the disease outbreak situation and WHO temporary recommendations.

- **Monitoring and supervision of disinfection, disinfestations and procedures at point of entries**

Disinfection, disinfestations of air craft's and ship sanitation procedures are being carried out by professionals and monitored and supervised by the trained public health staff of the respective health office at point of entries.

- **Release of dead bodies**

The human remains or dead bodies release after excluding public health risk by the health officers at point of entries. if judicial procedure is required the dead body will be referred to judicial medical officer of the area.

- **Vector control at point of entries**

Medically relevant vector controlled activities are being monitored by respective health offices at point of entries and 400 meter perimeter with the support of MRI, Dengue Control Unit and Anti-Malaria Unit. These monitoring activities are carried out according to pre plan schedule throughout year.

- **Food and water sanitation at point of entries**

Maintaining food and water safety at point of entries is essential under IHR (2005) . Inspection of food items, catering establishments inside the premises of airport and port are routinely carried out under port/airport health offices.

The educational activities are carried out by the health offices to vendors of the food establishments. Inspection of food items, sampling of imported food items and forwarding to lab analysis are being done if requested by the custom authorities. A routine drinking water sampling activities are carried out with a view to ensure water safety to travelers and staff of the point of entries.

- **Vaccination and prophylaxis to travellers**

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

Travellers coming from yellow fever endemic counties are refereed to health office at BIA and all crew members of the ships arriving at ports are being screened for yellow fever certificate. Malaria screening is conducted among returning refugees from selected high risk countries in collaboration with anti-malaria campaign. Oral polio vaccine is given to high risk travellers of endemic countries based on WHO recommendations.

Table 5.1.26 : Activities Carried Out by the Airport Health Officer - BIA Katunayake

Activities		Number
1. Yellow Fever Surveillance		
1.1 No. with valid certificate		412
1.2 No. without valid certificate & deported		-
2. Disinfections of Aircrafts		
2.1 No. of flights arrived		26,400
2.2 No. of flights has to be disinfected		24,108
2.3 No. of flights disinfected		21,989
3. Passenger Arrivals & Departures		
3.1 No. of passengers arrived		4,266,643
3.2 No. of passengers departured		
4. Release of Human Remains		
4.1 No. of human remains released		472
4.2 No. released to J.M.O. for postmortem		25
4.3 No. of alleged suicides		24
4.4 Surveillance of other infectious diseases		-
5. Airport Sanitation		
5.1 No. of sanitary inspections carried out including food establishment		153
5.2 No. of food samples taken under food act		12
5.3 No. of defectives found	prosecuted	-
	warned	5
6. Other Activities		
6.1 No. of Polio vaccine doses given		-
6.2 Health education given to staff		61
6.3 No. of water samples taken for bacteriology analysis		22

5.1.7.6 Medical Management of Suspected Passengers with Communicable Diseases

The passengers suspected with communicable diseases are being assessed by medical offices at point of entries and decide the course of action. Infectious Disease Hospital, Colombo (IDH) is designated as the referral point for the management of travellers with infectious diseases at the national level during PHEIC while Base Hospital Negambo, North Colombo Teaching Hospital and National Hospital Colombo will also facilitate the management of incoming passengers with infectious diseases as required. The transportation of suspected travellers to hospitals has been arranged according to the published public health emergency plans.

Table 5.1.27 : 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 flights arrived		436(Domestic 14)
2.2 No. of flights has to be disinfected		19
2.3 No. of flights disinfected		-
3. Passenger Arrivals & Departures		
3.1 No. of passengers arrived		Foreign 1202
		Domestic 1544
3.2 No. of passengers departured		-
4. Release of Human Remains		
4.1 No. of human remains released		-
4.2 No. released to J.M.O. for postmortem		-
4.3 No. of alleged suicides		-
4.4 Surveillance of other infectious diseases		-
5. Airport Sanitation		
5.1 No. of sanitary inspections carried out including food establishment		32
5.2 No. of food samples taken under food act		F/B08 IF/B02
5.3 No. of defectives found	prosecuted	2
	warned	6
6. Other activities		
6.1 No. of Polio vaccine doses given		
6.2 Health talks given to staff		
6.3 No. of water samples taken for bacteriology analysis		6

Table 5.1.28 : Summary of the Activities Carried Out by the Port HealthOfficer - Colombo Harbour

Indicator	Number
No. of ship arrivals/pratique granted	4,289
No. of yellow fever vaccines given	79
No. of ship sanitation exemption certificates issued	231
No. of human remains released	3
No. of under graduates trained	78

Table 5.1.29 : Summary of the Activities Carried Out by the Port Health Officer - Galle Harbour

Indicator	Number
No. of ship arrivals/pratique granted	22
No. of yellow fever vaccines given	37
No. of ship sanitation exemption certificates issued	3
No. of human remains released	0
No. of under graduates trained	8

Table 5.1.30 : Summary of the Activities Carried Out by the Port Health Officer - Hambantota Rajapaksha International Harbour

Indicator	Number
No. of ship arrivals/pratique granted	289
No. of yellow fever vaccines given	0
No. of ship sanitation exemption certificates issued	0
No. of human remains released	0
No. of under graduates trained	0

Table 5.1.31 : Summary of the Activities Carried Out by the Port Health Officer - Tricomalee Harbour

Indicator	Number
No. of ship arrivals/pratique granted	134
No. of yellow fever vaccines given	28
No. of ship sanitation exemption certificates issued	6
No. of human remains released	0
No. of under graduates trained	0

Table 5.1.32 : Summary of the Activities Carried Out by the Assistant Port Health Officer - MRI, Colombo

Indicator	Number
Total no. of yellow fever vaccination	3,915
Total no. of Meningococcal Meningitis Vaccination	1,691
Total no. of Oral Polio Vaccination (Booster)	1,683

5.1.8 National Blood Transfusion Service

National Blood Transfusion Service (NBTS), 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 98 functioning hospital based blood banks and 2 standalone blood centres (National Blood Centre & Southern Regional Blood Centre (SRBC) - Kamburugamuwa) affiliated to 19 cluster centres, depending on the geographic distribution. (New cluster centres established in 2015 - Hambantota & Peradeniya)

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 19 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 who gives clinical and technical guidance.

This report compiles the consolidated statistics of the performance of the blood banks of the National Blood Transfusion Services for the year 2015.

5.1.8.1 Vision

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

5.1.8.2 Mission

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

5.1.8.3 Achievements in 2015

1. NBTS was able to maintain 100% collection of the blood from voluntary blood donations during the year 2015.
2. Two (2) cluster centres were introduced to the cluster system at Hambantota & Peradeniya.
   - Hambantota consists of 3 hospital Blood Banks
   - Peradeniya consists of 6 hospital Blood Banks
3. Two (2) new blood banks were added to Ragama cluster - Minuwangoda & Meerigama

Table 5.1.33 : Geographical Distribution of Blood Banks, 2015

Province	Cluster centre	Blood banks
Western	NBC	NHSL
		CSHW
		CSTH
		DMH
		LRH
		SJGH
		Accident ser.
		IDH-Angoda
		CETH-Mulleriyawa
		NINDT-Maligawatta
		Army Hospital
	Chilaw	Marawila
		Negambo
		Puttalam
		Kalpitiya
	CNTH	Gampaha
		Wathupitiwala
		Welisara
		Meerigama
		Minuwangoda
	Kalutara	Horana
		Kethumathi
		Panadura
	CIM	Awissawella
		Homagama
		Karawanella
Central	Kandy	Dambulla
		Gampola
		Matale
		Nawalapitiya
		Rikillagaskada
	Peradeniya	Warakapola
		Kegalle
		Mawanella
		Dickoya
		Nuwara Eliya
Southern	Karapitiya	Balapitiya
		Elpitiya
		Mahamodara
		Udugama
	Kamburugamuwa	Kamburupitiya
		Matara
		Walasmulla
	Hambantota	Tangalle
		Tissamaharama
Northern	Jaffna	Killinochchi
		Mullaitivu
		Point Pedro
		Thelippalai
	Vavunia	Mannar
		Cheddikulam

Table 5.1.33 : Geographical Distribution of Blood Banks, 2015 (Ctd.)

Eastern	Batticaloa	Valachchenai
		Kattankudy
	Trincomalee	Kantale
		Kinniya
		Muthur
	Ampara	Akkaraipattu
		Dehiattakandiya
		K'munai N
		K'munai S
		Mahaoya
		Samanthurai
		Pothuvil
North Central	Anuradhapura	Padaviya
		Thambuttegama
		Polonnaruwa
		Medirigiriya
North Western	Kurunegala	Dambadeniya
		Kuliyapitiya
		Nikaweratiya
Uva	Badulla	Bibila
		Diyathalawa
		Mahiyanganaya
		Monaragala
		Welimada
		Wellawaya
Sabaragamuwa	Rathnapura	Balangoda
		Embilipitiya
		Kahawatta

* *Kamburugamuwa New (Korean) is planning to open in 2016*

Table 5.1.34 : Blood Collection and Component Preparation

Total Blood Collection	395,000
Component Preparation	
Platelets	313,726
Fresh Frozen Plasma (FFP)	344,788
Cryoprecipitate (Cryo)	162,318

Table 5.1.35 : Comparison of Annual Blood Collection

Year	Voluntary collection	Replacement collection	Total collection
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
2014	380,367	-	380,367
2015	395,500	-	395,500

Fig 5.1.20 : Annual Blood Collection

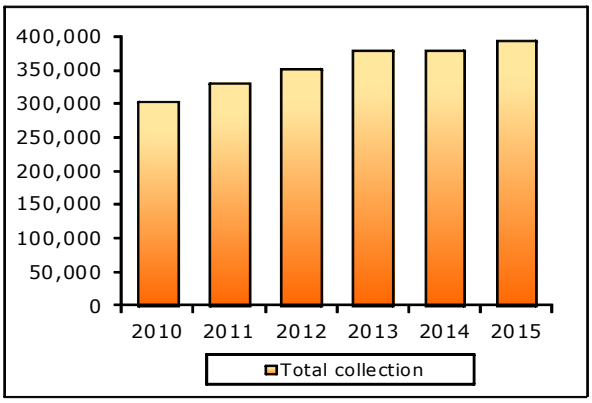


Table 5.1.36 : Component Preparation and Comparison with Previous Years

Component Preparation	2011	2012	2013	2014	2015
RCC	335,746	361,149	380,760	379,774	393,348
Platelets	179,315	199,489	189,879	220,335	313,726
FFP	294,910	319,869	282,231	344,091	344,788

Fig 5.1.21 : Comparison of Blood Component Preparation

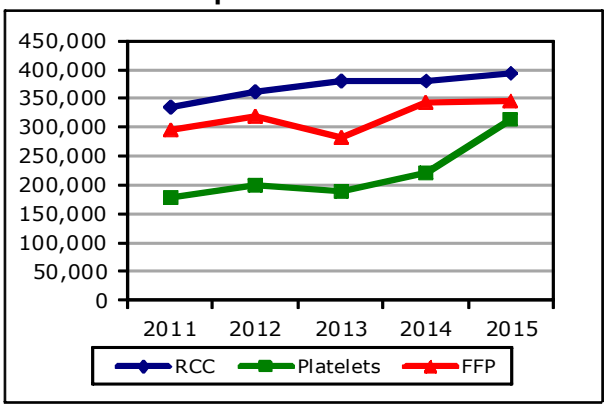


Table 5.1.37 : Performance of Human Leukocyte Antigen (HLA) Laboratary

Typing and cross matches	2013	2014	2015
Class I	2,876	2,293	2,288
Class II	2,856	2,297	2,214
Cross match	2,076	1,365	1,471
B27	194	352	194
PRA (Class I, Class II)	207	179	295
Transplantation			
Kidney (Patients, Donor)	2,721	2,455	2,094
Bone marrow (Patients, Donors)	136	192	108
AP donor	14	11	32
Cadaveric donars	22	7	15

PRA - Panel Reactive Antibodies

HLA laboratary of NBTS is the only place in Sri Lanka to do the cross matches for organ transplantation.

Fig 5.1.22 : Comparison of HLA Laboratory Statistics

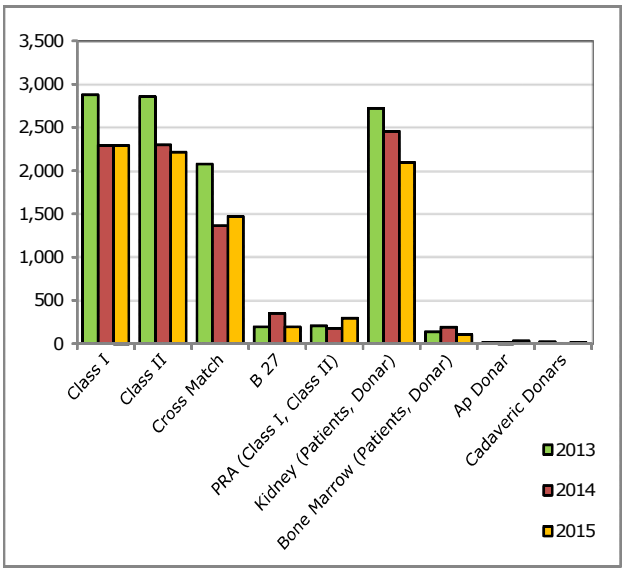


Table 5.1.38 : Performance of Reference Immunohaematalogy Laboratory

Test category	2013	2014	2015
Difficult compatibility testing	3,263	2,413	2,656
Antenatal screening	1,371	1,640	1,263
Antibody titrations	398	243	394
DAT profile	790	637	603
Extended phenotypes	237	303	439
Cold agglutination titration	50	38	154
Iso haemagglutination test	43	80	54
Haemolysin test	26	26	55
Confirmation of Bombay O	13	111	22
Elution studies	11	30	26
Transfusion reaction investigations	15	14	49

Fig 5.1.23 : Comparison of Imunohaematalogy Laboratory Statistics

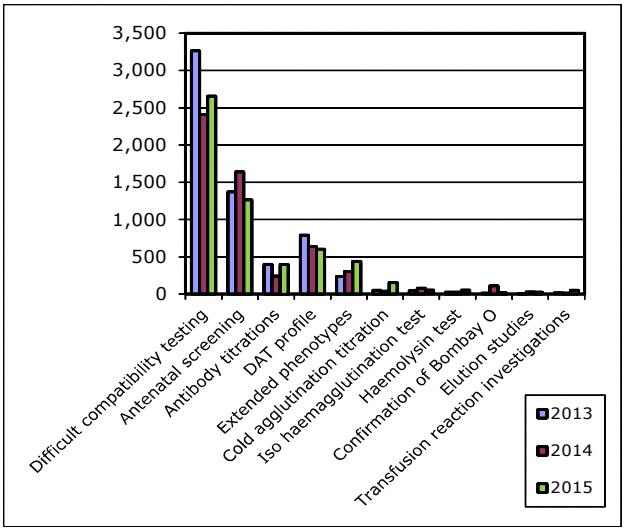
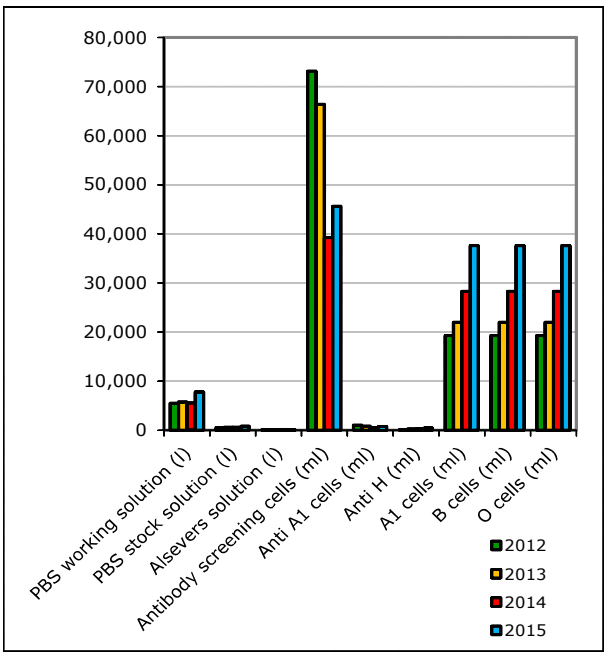


Table 5.1.39 : Performance of Reagent Laboratory

Reagents prepared	2012	2013	2014	2015
PBS working solution (l)	5,510	5,730	5,565	7,785
PBS stock solution (l)	520	610	620	810
Alsevers solution (l)	108	116	148	172
Antibody screening cells (ml)	73,114	66,390	39,255	45,650
Anti A1 cells (ml)	1,030	838	483	775
Anti H (ml)	80	248	328	475
A1 cells (ml)	19,280	21,980	28,275	37,625
B cells (ml)	19,280	21,980	28,275	37,625
O cells (ml)	19,280	21,980	28,275	37,625

Fig 5.1.24 : Comparison of Statistics of Reagent Laboratory



5.1.8.4 Statistics of Teaching and Training Unit

5.1.8.4.1 Training Programs Conducted for Staff Categories of NBTS

1. Postgraduate Training programs
   - Haematology - 11 Medical Officers
   - Virology - 2 Medical Officers
   - Diploma Trainees - 8 Medical Officers
   - Oncology Senior Registrar - 1 Medical Officer
   - Basic Lab Sciences – 2 Medical Officers
2. Medical officers - 4 weeks programs
3. Nursing officers – 4 weeks and 2 weeks programs

4. Medical Laboratory Technologists – 8 weeks programs
5. Public Health Inspectors - 4 weeks Program
6. Pharmacists - 1 week programme
7. Junior staff/Lab orderly – 1 week programs
8. Ambulance drivers - 3 days programme

5.1.8.4.2 Teaching Sessions

1. Medical students (University of Colombo) – 1 week training for each group for 12 groups
2. Medical students (USJP) – 3 days – lecture & demonstration
3. Medical Laboratory Technologist students – Faculty of Sri Jayewardenepura (only introduction and bench training)
4. Students from MLT Schools - MRI & Peradeniya
5. Foreign Trainees (SAATM)
6. One day training programs,
   a. Navy officers
   b. Pharmacists
   c. Post Basic Nursing School
   d. NTS students
   e. School pupils

5.1.8.5 Awareness Programs

a) All staff categories of NBTS
b) Related clinical staff

Table 5.1.41 : Teaching and Training (Staff)

Trainees	2012	2013	2014	2015
Medical officers (4wks)	74	118	136	67
Medical officers (2wks)	4	30	-	-
Postgraduate trainees	19	23	4	24
Nursing officers (4wks)	24	1	29	6
Nursing officers (2wks)	25	22	97	88
MLT (8wks)	10	1	8	2
Lab orderly(4wk)	0	1	8	7
Junior staff	43	18	19	12
Pharmacists (NBTS)	2	-	-	-

Table 5.1.42 : Teaching and Training Sessions

Trainees	2013	2014	2015
Medical Students, University of Colombo	206	204	180
PG Students	13	9	-
MLS Students	79	85	124
Intern Pharmacists	18	11	10
Post Basic Nursing Officers	122	131	120
Medical Students - USJP	131	150	-
Medical Assistants - Navy	102	115	131
Public Health Inspectors	-	66	-
AATAM Fellowship (MLT)	-	-	1

Table 5.1.40 : Awareness Programmes

Programmes	Representatives	Sponsors	Number
Digital Temperature Monitor	MOICs-NBC	Company	15
NBTS-Laboratory Work	MLS students	MOH	36
NBTS- Orientation	Baccalaureate Nurses	MOH	21
Immunohaematology	TM PG's	Bio CSL (Wet/Dry)	40
Immunohaematology	MOBB's	Bio CSL (Wet/Dry)	59
Immunohaematology	BB MLTs	Bio CSL (Wet/Dry)	43
NBTS Orientation & Mobile Camp Organizing	Railway Guard Officers	NBC	67
Haemovigilance	BB MO's, NO's	NBTS	205
TTI " Passion for Excellence"	NBC MLT's	ECI	21
" Best Practices in Transfusion and Transplantation Medicine"	NBTS MO's, PGs, CTPs	(AATM-SLC, IMMUCO)	47
"Professional Ethics, Quality & Safety in Transfusion Medicine"	NBTS/NOs	MOH	44
"Advances in Transfusion Medicine"	MOIC (Clusters), PG trainees, CTP's	CIC(Wet/Dry)	65
"Advances in Transfusion Medicine"	MLT	CIC	36
Training & Awareness of NBTS Information System	MO Blood Banks PHI NOs MLT's	NBC	283

5.1.8.6 The Project of NAT Facility at National Blood Centre

5.1.8.6.1 Introduction

Nucleic Acid Testing (NAT) was introduced to the National Blood Centre (NBC) by the State of Art Technology Project funded by the government of the Netherlands.

Nucleic Acid Testing directly amplifies and detects the genetic material (DNA or RNA) of viruses in order to screen for the existence of transfusion transmitted infections in donated blood (Eg:Human Immunodeficiency Virus-HIV, Hepatitis B Virus-HBV and Hepatitis C Virus-HCV).

5.1.8.6.2 Advantages in Implementing NAT in the National Blood Transfusion Service

Even though the high cost for the infrastructure and consumables, NAT provides the following advantages,

- Safeguard the blood safety furthermore in reducing the window period by early detection of viral infections and before appearance of antibodies.
- Fulfils an International requirement for the provision of plasma products for Plasma Fractionation Plants.
- Detects mutant, variant viruses that may not be detected by antibody detection methods.

5.1.8.7 Review Report of Nucleic Acid Testing (NAT) Facility at National Blood Centre (NBC) – up to 31st December 2015

5.1.8.7.1 Infrastructure Development and Staff Training

- Equipments installations were done in a temporary NAT laboratory in December 2015.

- Testing was initiated in February 2014 after training sessions were conducted for four operators.

5.1.8.7.2 Testing Summary

- NAT testing were done for the samples collected in - house or from mobile campaigns conducted by the NBC.
- Following table summarizes the testing done up to 1st January 2016.
- Total tests performed - 118,916
- Total Samples tested - 105,600
- Out of the above tested samples, two NAT yields was gained. (NAT yield is taken as serology negative but NAT positive sample).
  One for hepatitis B Virus and one for HIV.

5.1.8.8 Frozen Red Cell (FRC)

Has 2 methods

1. High Glycerolization Method (HGM) 40%
   1. Kept at -80^{0}C in deep freezer for 10 years
   2. Relatively low cost
   3. Method selected for Sri Lanka

2. Low Glycerolization Method (LGM) 19%
   1. Kept at -196^{0}C in liquid nitrogen for 30 years

Machine used in Sri Lanka - Haemonetics ACP 215

Two main procedures
1. Glycerolization/Freezing
2. Deglycerolization/Washing

Both procedures can be done with ACP 215 in a closed system.

5.1.8.8.1 Advantages

1. Can store RCC for longer period - even up to 10 years.
2. Suitable to store rare blood groups.
3. Can use to store blood units selected for patients multiple antibodies.

5.1.8.9 Annual Statistics 2015

- Conducted as a pilot project.
- One (1) local training programme was conducted at NBC in 2015 - 2/3/2015 to 4/3/2015

Table 5.1.43 : Glycerolization and Deglycerolization Units

Glycerolization Procedures	Units	Deglycerolization Procedures	Units
O Rh D Positive	15	O Rh D Positive	7
AB Rh D Positive	1		
B Rh D Positive	1		
Bombay O Rh D Positive	6		
Total	23	Total	7

5.1.8.10 PATHOGEN INACTIVATION of Platelets

- Currently implemented as a pilot project at NBC.
- Procedure done using INTERCEPT blood system.

The INTERCEPT Blood System is designed for high throughput processing of platelets and plasma from whole blood and aphaeresis collections.

With INTERCEPT, can efficiently control the safety of components by implementing amotosalen-based pathogen inactivation technology.

System inactivates a broad spectrum of viruses, bacteria, protozoa and contaminating donor leukocytes in platelet components.

5.1.8.10.1 Advantages

1. Reduce the risk of TTI.
2. Increase the shelf life of platelets up to 7 days.
3. Prevents Transfusion Associated Graft Versus Host Disease.

Table 5.1.44 : Annual Statistics, 2015

Month	No. of PL pools	Issues	Discards
January	12	5	7
February	12	9	3
March	49	36	13
April	20	16	4
May	41	37	4
June	64	64	
July	85	78	7
August	79	74	5
September	77	77	
October	69	69	
November	15	15	
December			
Total	523	480	40

Discards were due to pack leakage and quality failures during training period.

5.1.8.11 Future Plans

Stepwise expansion for provision of testing for all the blood collected island wide.

5.1.8.12 Special Development Activities of 2015

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

1. Peripheral blood bank development project
2. Upgrading the National Blood Transfusion Services (NBTS) with State of the Art Technology.

During the year, a major part of the blood bank development project titled 'Upgrading the National Blood Transfusion Services (NBTS) with State of the Art Technology' has been completed.

Two main constructions including new wing to the National Blood Centre (NBC) and Blood Bank building (12,675 sqft) and to National cancer Institute - Maharagama (12,647 sqft) are being conducted under the project and 88% of the construction has been completed in the new wing to NBC while 95% of construction completed in the building of National Cancer Institute.

Under the said project, the work is been in progress to upgrade the NBTS with latest technology including testing of donated blood with NAT facility, establishment of Cord Blood Banking facility, establishment of stem cell harvesting and storing facility, upgrading of Human Leukocyte Antigen (HLA) testing laboratory and establishment of Frozen Red Cell (FRC) facility. Computerization and networking of NBTS is also in progress.

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. 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 economic and social productivity. The mission is to promote the health of the people through community mobilization, advocacy for behavior change and evidence based communication interventions through decentralized system.

As a whole, HEB has been successful and received recognition for its remarkable contribution for health promotion through integrated multidisciplinary approach.

5.1.9.2 Strategic Objectives

HEB conducts activities under main five strategic objectives,

1. Developing policies, plans and technical guidelines pertaining to health promotion, advocacy and communication.
2. Communication for public awareness and behavioral changes leading to health promotion.
3. Development of health education, promotion, advocacy and communication materials.
4. Capacity building of health care personnel and others involved or interested in health promotion.
5. Monitoring & evaluation of health promotion programs.

Furthermore, HEB also actively involves in conducting and supporting preventive, control and health promotion activities offered by other units in the health and non health sectors. HEB also shares its expertise by providing technical consultations for advisory committees, workshops, research and surveys on request to other public organizations.

5.1.9.3 Major Achievements in 2015

5.1.9.3.1 Strategic Objective Number 1

Developing policies, plans and technical guidelines pertaining to health promotion, advocacy and communication

Policies, plans and technical guidelines pertaining to health promotion developed by HEB provide common objectives to be achieved by different sectors and technical guidelines in order to assure the standards of health promotion activities.

Following are the major achievements for 2015.

- The communication strategy on Reproductive Health (RH) was developed, launched and the advocacy done.
- Development of Action Plan (2015 - 2020) to implement Behavioral Change Communication (BCC) strategy guide on RH communication.
- Finalized a health promotion preschool manual.
- Development of BCC strategy guide on RH communication, Family Planning (FP), Well Woman Clinic (WWC), Maternal and Neonatal Health (MNH), Gender Based Violence (GBV) and Adolescent Sexual and Reproductive Health (ASRH) in Sinhala, Tamil & English medium.
- Mothers' Support Group Guidelines printed and distributed for the districts.
- Revision of the National Nutrition Communication Strategy.
- Complementary feeding booklet is ready to be printed.
- Development of life skill manual for substance misuse among school children.
- Development of a MOH training module on health promotion.
- National level advocacy meeting was conducted for political leaderships, policy makers and relevant stakeholders on BCC strategy guide to improve RH communication.
- Provision of technical guidance on oral health promotion at consultative meetings, research and surveys.
- Conducted consultative meetings of the sub-committee on Nutrition Communication to make decisions regarding nutrition communication. (Eg. IEC material development, social marketing, etc.)

- Advocacy done on school health promotion programme for Medical Officers of Health and school principals in Kegalle, Rathnapura and Nuwara Eliya districts.
- Conducted a TOT on "Strengthening School Health Promotion Program by Developing a Healthy Setting" in selected educational zones.

Following are the major ongoing activities for 2015.

√ Developing communication strategy for Chronic Kidney Disease

Furthermore routinely, HEB provided technical consultations for advisory committees, workshops, research and surveys on invitation by other public organizations to share its expertise.

5.1.9.3.2 Strategic Objective Number 2

Communication for public awareness and behavioral changes leading to health promotion

Media seminars and media briefings are the main, continuous awareness program for the media personnel by HEB aimed to create public awareness about emerging current health problems, health promotion, health programs for behavior changes and life style modification towards good health in the community. Media seminars are typically held with the participation of 10 or more expert resource persons and around 90 media personnel representing both printed and electronic media. This service to create public awareness aiming lifestyle modification towards good health in the community has been provided for years (since 1980s) by HEB and appraised by all sectors. Every year HEB conducts 15 - 20 media seminars on current health issues and national and international days on particular health related issues.

Other than the media seminars following activities were also done for public awareness.

- Production of TV spots on iron deficiency in Sinhala, Tamil and English languages.
- Production and visualizing of two songs on prevention of tobacco and alcohol in Sinhala and Tamil languages with English subtitles.
- Production and visualizing of a song on health care and empathy among healthcare workers in Sinhala and Tamil languages with English subtitles.
- Production of three docudramas on nutrition promotion of estate sectors.
- Conducted a poster competition on the 'right to smoke free living' among school children.
- A national art competition was carried out among school children on stroke prevention.
- Development of exhibits for the Food Festival.

In addition, HEB provided technical expertise for interviews on emerging and current health issues for newspapers, radio and TV.

HEB played a vital role in public awareness about emerging health problems, health promotion and healthy behavior changes by actively participating in all mass scale health and health related exhibitions, national campaign days and community events.

HEB maintained 0710 107 107 "Suwasariya" 24X7 round the clock contact centre for the public with zero down time. It provides fast and accurate expert advice by doctors in all three languages about any health issue and assists the public to make better informed decisions regarding their health anywhere and anytime when they need help through telephone calls and e-mails. This service is well supported by a tri-lingual web site "www.suwasariya.gov.lk" intended for general public which is hosted with zero down time and contains articles about health promotion, prevention, common diseases and details about government health services.

5.1.9.3.3 Strategic Objective Number 3

Developing of health education, promotion, advocacy and communication materials

Various types of health education, promotion, advocacy and communication materials; both printed (posters, wall charts, pennants, leaflets, stickers, booklets) and electronic (short films, video clips, power point presentations) were produced over the period to address emerging and current health issues.

Following materials were developed by the HEB in year 2015 with regard to the above.

- Publishing of five booklets WWC, GBV, ASRH, FP & MNH on Behaviour Change Communication Strategy for Reproductive Health in Sinhala, Tamil & English

- Development and printing of five posters on WWC & MNH in Sinhala & English Medium
- Development of a docket on neonatal and maternal care
- Development of video scripts on WWC, GBV, ASRH, FP & MNH
- Development and printing of case scenarios on WWC, GBV, ASRH, FP & MNH
- Commenced the development of flash cards in all 3 languages to empower Mothers' Support Groups
- Development of NCD prevention leaflets, pennants and stickers in Tamil and English languages
- Preparation for publishing 'Sepatha' magazine in Sinhala medium
- Finalized supportive IEC materials for preschool programme on health promotion
- Publication of journal articles related to health promotion

5.1.9.3.4 Strategic Objective Number 4

Capacity building of health care staff and other personals involved or interested in health promotion

HEB routinely provides well-structured, continuous national level in-service training programs and orientation programs for health care staff.

Following are the activities done during the year 2015.

- Training of SDTs, MOOH, PHMM, PHII, community groups, preschool teachers and parents as facilitators for health promotion in preschool programmes
- RH Communication Programme conducted for primary health staff in Colombo, Kalutara, Jaffna, Kilinochchi, Nuwara Eliya & Hambantota districts
- Life skill programme was conducted for middle level health managers in selected areas
- District level training on RH Communication for primary health care staff
- Nutrition counseling programs conducted for all 3 districts in Central Province for Provincial CCP, MOO/MCH, MOOH/AMOOH, RSPHNO, PHNS, SPHM and HEOs
- Conducted TOT programs for teachers on school health promotion with regard to substance abuse
- Training of multi sectoral group for health promotion in Monaragala and Ampara areas in relation to a study on Integrating Nutrition Promotion and Rural Development (INPARD) in Sri Lanka
- Provided resources for PGIM lectures and supervising, reviewing postgraduate dissertations and projects
- Development of a training module on 'Basic Counselling Skills' for nurses
- Training of nursing officers of health education on communication skills and health promotion in Sabaragamuwa, Southern, North Central and North Western Provinces and liasion nursing officers of the NHSL
- Nursing officers/health education and HEOO island wide were trained on influenza with response to the urgent need due to influenza outbreak
- HEOOs were given a training at SLIDA on parallel thinking
- Several categories of HEB staff were trained on Diploma in English at SLIDA
- Staff of the HEB and HEOO of the districts were trained by a foreign expert on communication skills
- Provided training on communication for MOOH/ REE/MOO [MCH] during the rotational visit to HEB, as a part of their orientation course on Management of Community Health at NIHS, Kalutara
- Health promotion and community mobilization experience was shared with a team from WHO and Bangladesh

Apart from above in-service training, HEB routinely provides undergraduate and postgraduate training. Postgraduate training programs were carried out for medical officers on rotation from Post Graduate Institute of Medicine (PGIM) following Diploma in Child Health, Diploma in Disaster Management, MSc and MD Community Medicine, MSc and MD Medical Administration.

Establishing "Mother Support Groups" (MSG) at village levels is an example for a successful community based program conducted under the guidance of HEB. These Mother Support Groups take leadership and work cordially with other sectors and the community, towards the improvement of nutritional status and wellbeing of the children and families.

Developing households and public places such as hospitals, preschools, schools, villages, work places, etc., as health promotion settings is another successful program conducted by HEB and appreciated by all parties.

Another milestone is planning an e-learning system for public health workforce across the country and link them. This will facilitate them to update their knowledge in emerging health information while utilizing it for public awareness.

5.1.9.3.5 Strategic Objective Number 5

Monitoring & evaluation of health promotion programs

Following national, provincial, district and divisional (MOH) level reviews were conducted during 2015.

- National Annual Review of health promotion preschool programme
- Routine monitoring of preschool health promotion programme
- National review of implementation of BCC Strategy on RH Communication
- Provincial and national level reviews of Mothers' Support Groups
- District and provincial reviews of health promotion programs
- Quarterly reviews of health education officers
- Routine monitoring of calls to 0710 107 107 "Suwasariya" 24X7 round the clock contact centre for service quality
- Periodic (monthly) monitoring of "www.suwasariya.gov.lk" tri-lingual web site, based on visitors, page impressions and reviewers
- Periodic (annual) evaluation and descriptive study on health information seeking behavior of "Suwasariya" contact centre
- Routine monitoring and indexing published health related newspaper articles by HEB resource centre

5.2 Specialised Public Health Programmes

5.2.1 Anti Malaria Campaign

The Anti Malaria Campaign is a specialized campaign of the Ministry of Health, which comprises of the Directorate and twenty two decentralized district-level Regional Offices. With a vision of a "Malaria Free Sri Lanka" and a mission to "plan and implement a comprehensive programme to sustain intensive surveillance and outbreak preparedness, prevention and rapid response for malaria elimination in Sri Lanka and to prevent re-introduction of malaria to Sri Lanka", the campaign is mainly involved in the formulation of the National Malaria Policy for the sustainability of the malaria free status achieved, prevention of reintroduction, monitoring and evaluation of the country-wide malaria situation, provision of technical guidance and resource to provincial programmes to ensure sustaining zero transmission, co-ordination of training and research activities in malaria and liaisons with foreign donor agencies.

With zero transmission since 2012 the objectives and strategies now directed towards sustaining a malaria free status and preventing reintroduction of malaria to Sri Lanka.

5.2.1.1 Objectives

The objectives are as follows :

1. To sustain malaria free status by prevention of re-introduction of malaria to Sri Lanka
2. To obtain WHO certification of malaria elimination in Sri Lanka by 2016
3. To maintain zero mortality due to malaria in Sri Lanka

5.2.1.2 Strategies

1. Guarantee all people have access to early case detection through reliable and accurate diagnostic services and prompt and effective treatment through strengthening of surveillance for malaria case detection;
2. Guarantee that health care staff are competent and maintain skills and quality diagnostic services to detect malaria cases early and to provide effective treatment to prevent deaths due to malaria;
3. Improve systems for outbreak forecasting, preparedness, prevention and response;
4. Ensure the use of other appropriate and selective vector control methods with the aim of reducing local vector populations by strengthening of entomological surveillance and response through integrated vector control.
5. Establishing a rigorous Quality Assurance programme for malaria elimination to ensure that cases are not being missed and interventions are carried out as planned with a view to ensure that malaria is not re-introduced in to the country.
6. Strengthening information, education and communication activities so as to strengthen intersectoral collaboration for malaria elimination and to strengthen the knowledge within communities.
7. Improving programme management and performance to build capacity to ensure prevention of re-introduction of malaria in the country.
8. Engaging in operational and implementation research so as to provide evidence based guidance for future modifications of malaria elimination policies/strategies.
9. Monitoring and evaluation to ensure optimal programme implementation, management and performance which is a key element in obtaining performance based funding.

5.2.1.3 Malaria Situation in Sri Lanka, 2015

The Anti Malaria Campaign had set its targets on eliminating *P. falciparum* malaria from Sri Lanka by 2012 and *P. vivax* malaria by 2014. No indigenous malaria cases have been reported from any district in the country since November 2012, hence Sri Lanka entered into the prevention of reintroduction phase in November 2012. Ever since then all malaria cases have been due to importation. Robust interventions including radical cure through supervised treatment together with effective targeted entomological interventions paved the way to success.

In 2015 all 36 cases of malaria were imported, with mortality being zero. Classification of cases is based on information accruing from the rigorous case investigation which is carried out on every case of malaria detected with a view to determining if there is a chance of the case being locally acquired. Identification of high risk groups with targeted surveillance programs that include screening at ports of entry and effective inter-sectoral collaboration mitigated the risk of transmission and reintroduction of malaria to Sri Lanka.

5.2.1.4 Imported Malaria

Thirty six (36) cases of malaria were reported in 2015 all of which were confirmed imported after case investigation and critical review by the Case Review Committee of the Technical Working Group for malaria.

In 2015, most of imported malaria cases were diagnosed in, and reported from the Western Province which contains the districts of Gampaha, Kalutara and Colombo.

The majority of imported malaria cases were Sri Lankan nationals returning from travel abroad, with foreign nationals coming to Sri Lanka constituting 28% of imported malaria cases. Of the foreign nationals that were diagnosed the majority were from India and to a lesser extent, Pakistan.

Of the cases, 60% was diagnosed in government institutions and through special surveillance interventions carried out by the Anti Malaria Campaign, while, 40% of cases were diagnosed in the private health sector. The Anti Malaria Campaign is notified of all patients diagnosed in the private health sector, and treatment was issued to them by Anti Malaria Campaign with management guidance.

Most places of touristic interest and areas where much development activity is taking place are in the dry zone. These are the areas where the vector is present in high abundance, and therefore, of high receptivity, hence the threat of malaria being re-introduced to and re-established in the country is high.

Despite the wide availability of diagnostic services in the country, achieving early diagnosis of malaria is increasingly becoming a challenge as the country moves further away from cessation of transmission. Delays are being encountered in suspecting and diagnosing malaria infections.

This is because malaria is fast becoming a “forgotten disease” by healthcare practitioners and people at large. Consequently, clinicians often fail to include malaria in the differential diagnosis of fever, in favour of more prevalent febrile diseases such as dengue and other viral infections.

Declining government funding is becoming a challenge in continuing the high level of surveillance, outbreak preparedness and response for malaria.

5.2.1.5 Epidemiology

Table 5.2.1 : Malaria Incidence in Sri Lanka, 2015

Indigenous	Imported
0	36

There were no indigenous malaria cases reported during the year 2015 and also the number of imported malaria cases detected during this period, shows a decrease when compared with 2014 (no. of imported cases; 49). Fig 5.2.1 shows species distribution of these imported cases.

Fig. 5.2.1 : Species of Imported Malaria, 2015

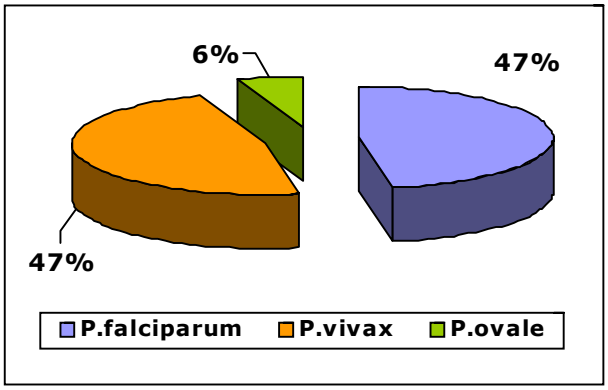
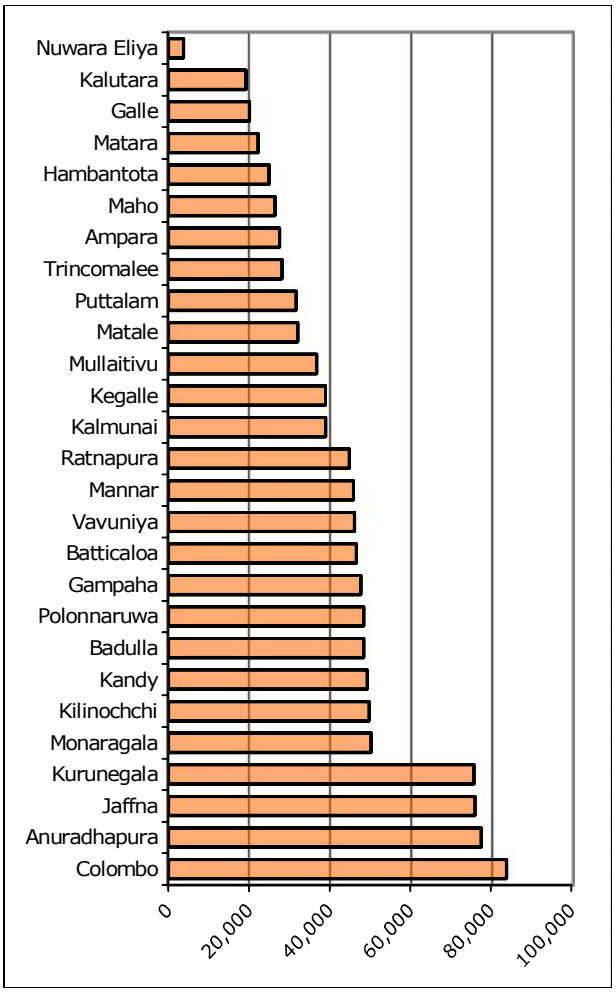


Table 5.2.2 shows country of origin of the imported malaria cases and nationality of these patients.

Table 5.2.2 : Distribution by Country of Origin & Nationality

Country of origin	Nationality		Total
	Sri Lankan	Foreign	
SEA Region	**8**	**9**	**17**
Bangladesh			**0**
India	8	6	**14**
Myanmar			**0**
Indonesia			**0**
Pakistan		3	**3**
African Region	**17**	**1**	**18**
Burkina Faso			
Central Africa	4		**4**
Gabon			
Ghana	1		**1**
Ivory Coast		1	**1**
Kongo			
Liberia	2		**2**
Madagascar	1		**1**
Malawi			
Mozambique	2		**2**
Nigeria	2		**2**
Sierra Leone	0		**0**
South Africa	1		**1**
Sudan	3		**3**
Tanzaniya	1		**1**
Uganda			**0**
Other	1	0	**1**
Saudi Arabia	1		**1**
Total	**26**	**10**	**36**

Fig 5.2.2 : Blood Smear Examination in Sri Lanka, 2015



5.2.1.6 Screening for Malaria

A total number of 1,142,466 blood smears were examined during 2015 for the purpose of detection of malaria parasites by the staff attached to the medical institutions and the Anti Malaria Campaign including its regional offices. Fig 5.2.2 shows the blood smears examined during the year by district.

Diagnosis is based on either microscopic examination of blood smears and/or Rapid Diagnostic Test (RDT) before treatment. If only a RDT has been performed the result is always confirmed by microscopy and if necessary by PCR. The diagnostic result of every patient reported has been re-confirmed at the AMC HQ Reference Lab.

Malaria microscopy services and RDTs are available in public sector health institutions throughout the country.

Malaria diagnostic services by way of microscopy and RDTs are also available in the private health sector - in private hospitals and private laboratories. If a blood smear has been examined at any other laboratory, the RMO validates the result through re-examination by the regional Public Health Lab Technician (PHLT) trained on Quality Assurance and Quality Control of malaria microscopy (QA/QC PHLT).

5.2.1.7 Status of Drug Resistance and Drug Policy

All the *P. falciparum* and *P. vivax* positive patients were followed-up, up to 42 days 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 2015 too.

5.2.1.8 Sustainable Vector Control Measures based on the Principles of Integrated Vector Management

Sri Lanka has high receptivity to malaria with the presence of suitable breeding places like paddy fields, irrigation wells, quarry pits, streams, river beds and sand pools. In addition, large scale development projects are going on which may lead to ecological changes suited for breeding of mosquitoes.

Ongoing construction projects are leading to the creation of new vector breeding sites, in previously endemic areas. Meanwhile, the principal vector of malaria, *A.culicifacies*, and secondary vectors such as *A. subpictus* are prevalent in the country. Mosquito species and their prevalence imply a continuing high receptivity to malaria in previously endemic areas. This, when combined with the increasing reports of imported malaria in diverse parts of the country, almost certainly points to a sustained high risk for malaria reintroduction unless rigorous measures are taken to prevent it.

Inbound migration from neighboring countries and from some African countries endemic for *P. falciparum* may make Sri Lanka vulnerable for introduction of virulent strains.

Entomological surveillance is carried out in selected sentinel sites on a routine basis and as spot checks in identified risk areas. In addition, entomological surveys are carried out when a malaria case is reported (imported) to evaluate the receptivity of the area for early response. This is a reactive survey carried out covering approximately a 1 km radius of the location of the case.

5.2.1.9 Financial Support

Financial support for the campaign is received from the government of Sri Lanka, Global Fund to Fight AIDS, Tuberculosis and Malaria (GFATM) and WHO.

5.2.2 National Programme for Tuberculosis Control and Chest Diseases (NPTCCD)

National Programme for Tuberculosis Control and Chest Diseases (NPTCCD) 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, Central Drug Stores of the NPTCCD, District Chest Clinics (DCCs) of Colombo and Gampaha are under the direct administrative purview of the Director, NPTCCD.

NPTCCD provides its services through a network of chest clinics, chest wards and laboratories. Inward facilities for Tuberculosis (TB) patients are provided at the National Hospital for Respiratory Diseases (NHRD) situated at Welisara, 12 chest wards and 3 temporary wards situated in government hospitals.

Diagnostic services are provided through National TB Reference Laboratory (NTRL), Intermediate Culture Laboratories in Kandy and Ratnapura, District Chest Clinic laboratories and 153 functioning Microscopy Centers (MC).

Central Drug Store (CDS) of the NPTCCD is responsible for estimation, procurement and supply of anti TB drugs. Fixed dose combinations of anti TB drugs are procured directly from Global Drug Facility to CDS. Distribution of anti TB drugs to District Chest Clinics is carried out on quarterly basis.

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 under the administrative scope of respective Provincial and District Health Authorities.

NPTCCD is responsible for infrastructure development and financial management of the institutions under its direct administrative purview. 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, NPTCCD is responsible for the formulation of policies and guidelines for control of TB and other respiratory diseases and for planning, implementation, monitoring and evaluation of the TB control activities carried out in the entire country. Surveillance of TB is another main activity carried out by the NPTCCD. It also acts as a coordinating body between the central ministry and provincial health sector and other governmental and non-governmental organizations.

NPTCCD carries out training of medical and paramedical staff engaged in TB care and carries out public awareness through various channels of communication.

The government of Sri Lanka is the main source of funding for the NPTCCD. In 2015, Rs. 165 million was allocated from the government funds and it was mainly used for payment of salaries and wages and for procurements. In addition, Global Fund for AIDS, Tuberculosis and Malaria (GFATM) provides financial assistance to carry out TB control activities island wide. World Health Organization (WHO) too provides technical and financial assistance to the programme. In 2015, World Bank also provided financial assistance to develop infrastructure facilities and to strengthen TB control activities at provincial level.

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 Goal of National Strategic Plan for TB Control (2015-2020)

Decrease the prevalence of TB by 10% by 2020 based on TB burden figures of 2014 as per the WHO estimates.

5.2.2.4 Objective of National Strategic Plan for TB Control (2015-2020)

Objective1 : To improve the TB control by detecting at least 80% of incident TB cases (all forms) by 2017 and 90% of incident cases by 2020.

Objective 2 : To improve the outcome of enrolled TB patients

a) by achieving 90% treatment success rate of all forms of non Multi Drug Resistant (MDR) TB patients and;
b) to maintain at least 75% of treatment success rate among MDR TB cases by 2017

Objective 3 : To integrate TB control activities in to general healthcare system by establishing TB diagnostic and treatment services in 40% of all hospitals up to the level of Divisional Hospitals Type B or above by 2017 and in 80% by 2020.

Objective 4 : To improve the accessibility to TB treatment and care by engaging 30% of all private health care providers (hospitals and general practitioners) in TB control by 2017, and 50% by 2020.

Objective 5 : Ensure that quality TB services in line with current international standards are provided by qualified and regularly supervised personnel at 100% of all implementation sites by 2017.

Sri Lanka has adopted new WHO classifications since 2015 and data are presented accordingly in this report.

5.2.2.5 Indicators

5.2.2.5.1 Incidence of TB

The Incidence of TB is defined by the WHO as the number of new and relapse cases reported in a specified time period.

5.2.2.5.2 Case Detection Rate

Case Detection Rate is defined as "Percentage of total number of incident TB cases notified out of the total number of estimated incident cases of TB during the given year".

5.2.2.5.3 Treatment Success Rate

Calculated by amalgamating both cure rate and treatment completion rate.

- **Cure Rate** – Cure Rate is defined as the proportion of non MDR TB cases registered in a specified time period that were cured out of the total number of non MDR TB cases registered in the same period.
- **Treatment Completion Rate -** This is defined as the proportion of non MDR 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 non MDR TB cases registered in the same period.

5.2.2.5.4 Lost to Follow up Rate

The Lost to Follow up Rate is defined as the percentage of TB cases registered in a specified period that interrupted treatment for more than two consecutive months.

5.2.2.5.5 Death Rate

The Death Rate is defined as the percentage of TB cases registered in a specified period that died from any reason during the course of treatment.

5.2.2.6 Case Detection

A total number of 9,575 cases of all forms of TB were reported from DCCs in 2015. It consists of 8,990 new cases, 573 retreatment and 12 previous treatment history unknown cases.

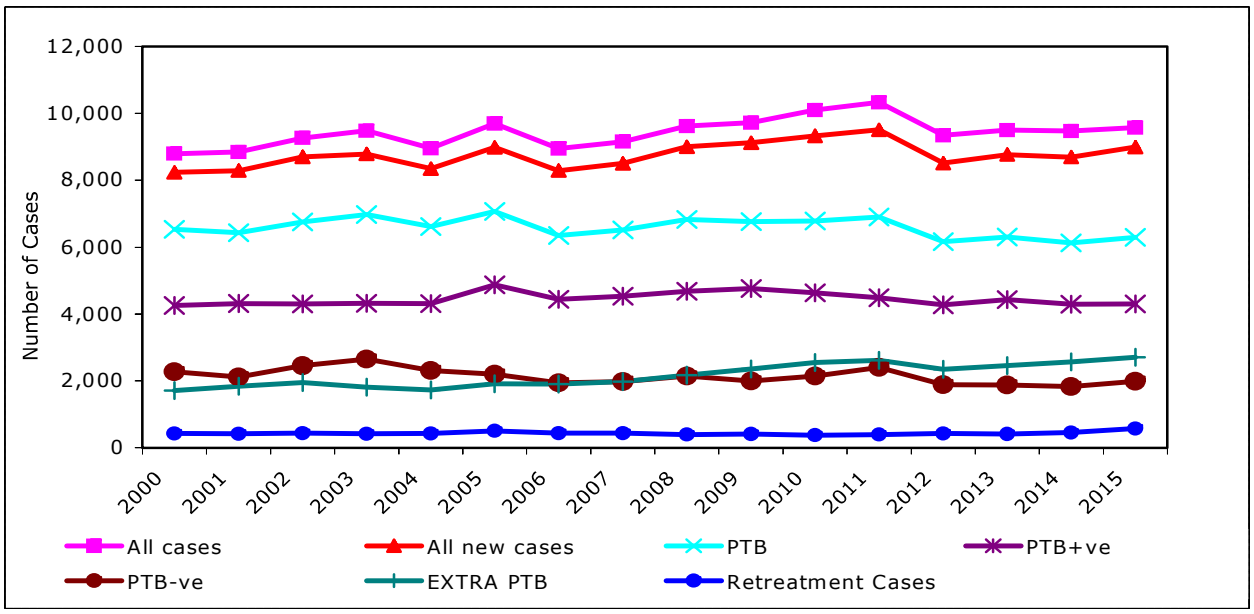
There were 4,299 (47.8%) new bacteriologically confirmed pulmonary TB cases of which 4,177 were sputum smear positive tuberculosis cases, 118 smear negative but culture positive and 4 X pert MTBRIF +ve cases. There were 1,992 (22.2%) new clinically diagnosed pulmonary TB cases and 2,699 (30.0 %) new EPTB cases.

Out of the retreatment cases, 303 (52.9%) were relapses, 105 (18.3%) were treatment after failure cases, 83 (14.5%) were loss to follow up cases and 82 (14.3%) were other previously treated cases.

Of the relapse cases, there were 253 (83.5%) bacteriologically confirmed pulmonary TB cases, 24 (7.9%) clinically diagnosed pulmonary TB cases and 26 (8.6%) EPTB cases.

Case detection rate is calculated only for incident (new & relapse) cases since 2012 and it was 68.4% in 2015.

Fig 5.2.3 : Case Detection of TB, 2000 - 2015



Upto 2014 PTB +ve include only sputum smear positive patients and PTB –ve include smear negative cases. In 2015 PTB +ve includes bacteriologically confirmed cases (smear positive, culture positive, Xpert positive) & PTB –ve includes clinically diagnosed patients (smear, culture or Xpert negative)

5.2.2.7 District Variation of Cases of TB

The highest number of all forms of TB cases was reported from the Western Province which accounts for 41.4% (3,962) of all cases of TB. Uva province account for 3.8% (369 cases) of the total case load which was the lowest number notified in a province in 2015. Colombo District alone accounts for 23.6% (2,264) of cases. The lowest number of all forms of TB (31) was reported from Mannar District.

Fig 5.2.4 : Case Detection of TB by Province, 2015

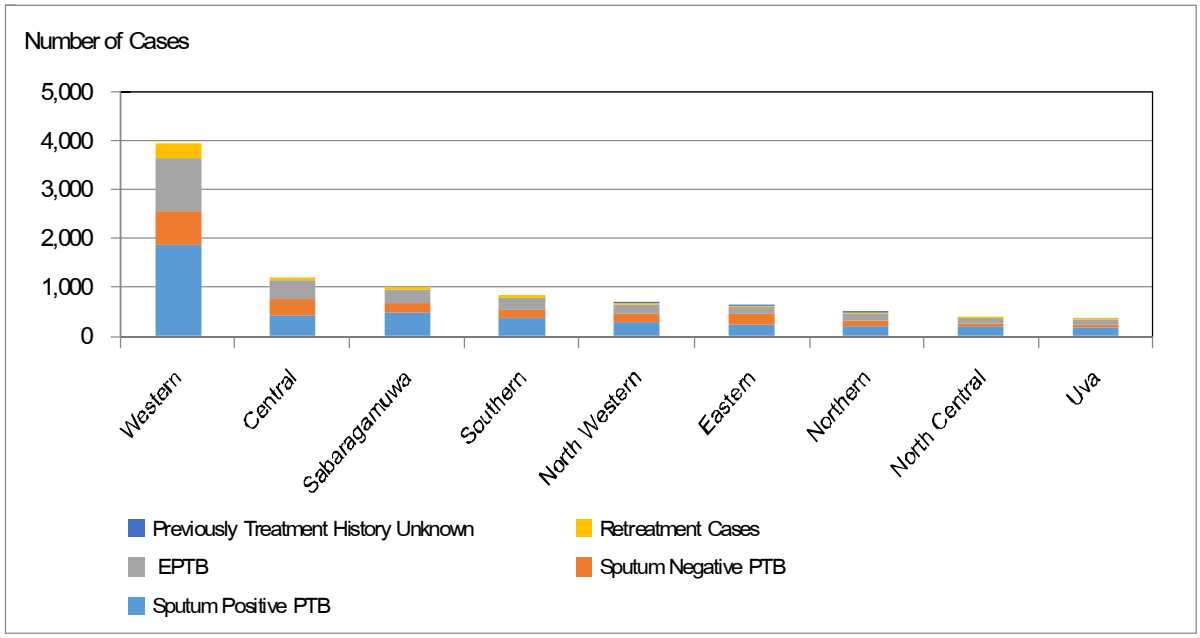


Table 5.2.3 : Distribution of Cases by District, 2015

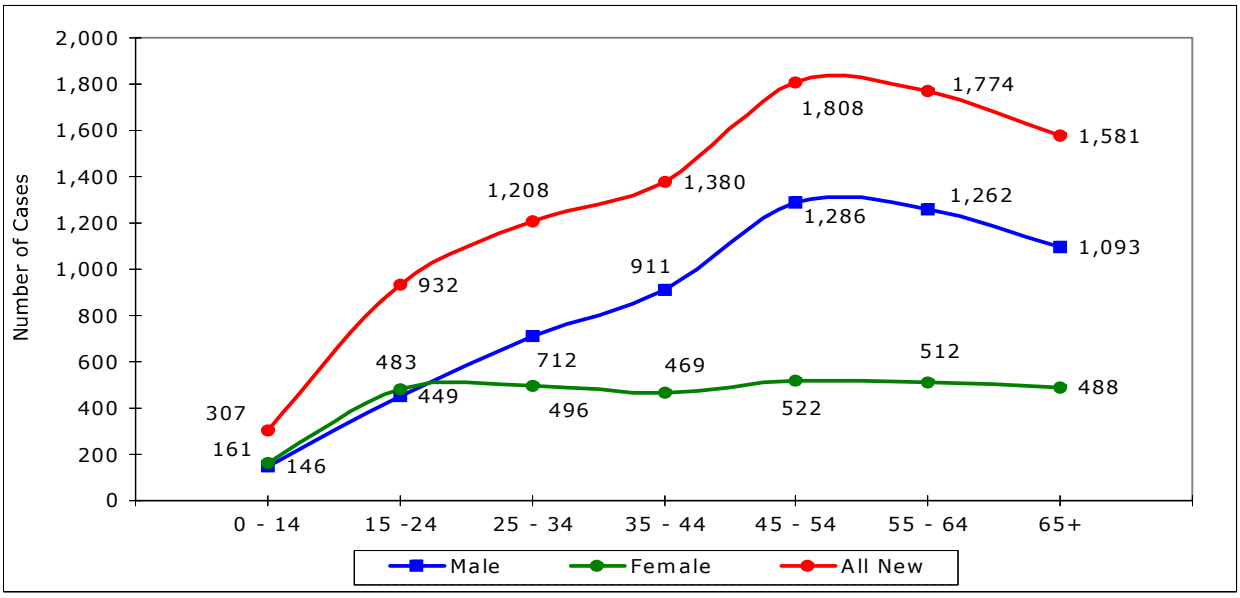
District	New Cases				Retreatment Cases												Previous Treatment History Unknown			Total
	Bacteriologically Confirmed (Sputum Positive)	Clinically Diagnosed (Sputum Negative)	EPTB	Total	Relapse			Treatment After Failure			Lost to Follow up			Other Previously Treatment						
					PTB	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	
Colombo	1,061	374	638	2,073	81	6	87	15	1	16	33	-	33	28	27	55	-	-	-	2,264
Gampaha	479	227	281	987	33	1	34	23	-	23	15	-	15	4	2	6	-	-	-	1,065
Kalutara	331	99	167	597	20	2	22	5	-	5	3	-	3	2	4	6	-	-	-	633
Kandy	211	226	217	654	14	6	20	4	3	7	2	2	4	6	2	8	-	-	-	693
Matale	73	35	74	182	2	1	3	4	-	4	-	-	-	-	-	-	-	-	-	189
Nuwara Eliya	154	61	90	305	9	1	10	5	-	5	1	-	1	-	-	-	-	-	-	321
Galle	235	83	128	446	16	4	20	3	-	3	1	-	1	-	1	1	-	-	-	471
Matara	97	46	66	209	9	-	9	2	-	2	-	-	-	-	-	-	-	-	-	220
Hambantota	50	30	56	136	4	1	5	1	-	1	2	-	2	-	-	-	-	-	-	144
Jaffna	113	58	86	257	6	-	6	4	-	4	2	-	2	-	-	-	2	2	4	273
Vavuniya	44	28	21	93	1	-	1	3	-	3	1	-	1	-	-	-	-	-	-	98
Batticaloa	64	29	47	140	6	-	6	2	-	2	2	-	2	2	-	2	-	-	-	152
Ampara	26	38	21	85	3	1	4	-	-	-	-	-	-	1	-	1	-	-	-	90
Kalmunai	85	109	33	227	9	-	9	1	-	1	-	1	1	1	-	1	1	-	1	240
Trincomalee	54	58	27	139	4	-	4	-	-	-	3	-	3	-	-	-	-	-	-	146
Kurunegala	217	122	136	475	7	-	7	6	-	6	5	-	5	-	-	-	4	-	4	497
Puttalam	76	34	63	173	8	-	8	2	-	2	1	-	1	-	-	-	3	-	3	187
Anuradhapura	140	20	82	242	3	-	3	4	-	4	1	-	1	-	-	-	-	-	-	250
Polonnaruwa	72	36	27	135	3	-	3	2	-	2	-	-	-	2	-	2	-	-	-	142
Badulla	118	47	85	250	6	-	6	3	-	3	2	1	3	-	-	-	-	-	-	262
Monaragala	65	12	27	104	3	-	3	-	-	-	-	-	-	-	-	-	-	-	-	107
Ratnapura	289	96	186	571	12	-	12	6	-	6	4	-	4	-	-	-	-	-	-	593
Kegalle	204	88	100	392	12	2	14	5	-	5	1	-	1	-	-	-	-	-	-	412
Mannar	13	4	9	26	4	-	4	-	1	1	-	-	-	-	-	-	-	-	-	31
Mullaitivu	12	13	16	41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	41
Kilinochchi	16	19	16	51	2	1	3	-	-	-	-	-	-	-	-	-	-	-	-	54
Total	4,299	1,992	2,699	8,990	277	26	303	100	5	105	79	4	83	46	36	82	10	2	12	9,575

5.2.2.8 Age and Sex Distribution of New Cases

The highest number of new cases of TB was in 45-54 age group (1,808 cases, 20.1%). The lowest number of new cases was seen in 0-14 age group (307 cases, 3.4%). More males; 5,859 (65.2%) were detected with TB than the females; 3,131 (34.8%).

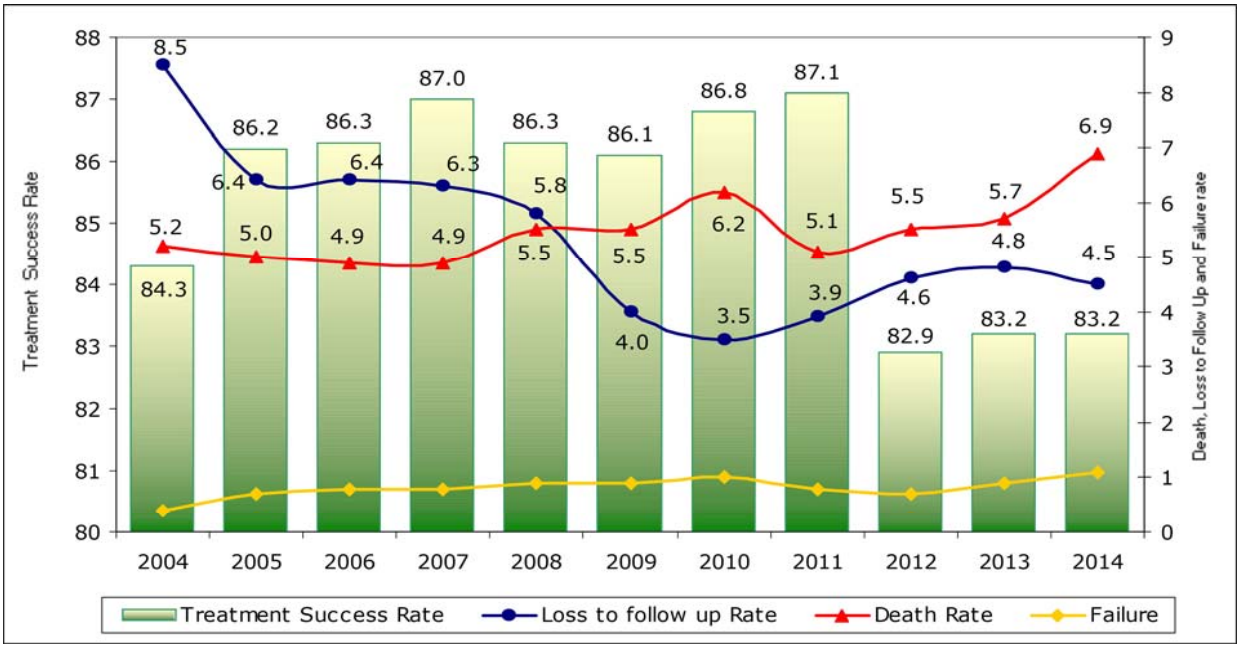
The highest number of new TB cases among both males (21.9%) and females (16.7%) was found in the age group of 45-54 years. The number of new TB cases among females (483) in 15-24 exceeds the number of male cases (449) detected among the same age group.

Fig 5.2.5 : Distribution of All New Cases of TB by Age Group in Sri Lanka, 2015



Source : Quarterly Reports of District Chest Clinics

Fig 5.2.6 : Treatment Outcome of All Forms of TB Cases, 2004 - 2014



Source : Quarterly Reports of District Chest Clinics

Table 5.2.4 : Treatment Outcome of All Forms of TB, 2014

RDHS Division	Total Number Registered	Cured		Treatment Completed		Treatment Success		Died		Failure		Lost to Followup		Not Evaluated	
		No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
Colombo	2,342	887	37.9	993	42.4	1,880	80.3	143	6.1	13	0.6	200	8.5	106	4.5
Gampaha	1,066	476	44.7	423	39.7	899	84.3	69	6.5	14	1.3	70	6.6	14	1.3
Kalutara	636	273	42.9	266	41.8	539	84.7	50	7.9	2	0.3	27	4.2	18	2.8
Kandy	676	191	28.3	356	52.7	547	80.9	50	7.4	5	0.7	19	2.8	55	8.1
Matale	172	65	37.8	86	50.0	151	87.8	12	7.0	1	0.6	0	0.0	8	4.7
Nuwara Eliya	250	64	25.6	99	39.6	163	65.2	22	8.8	13	5.2	7	2.8	45	18.0
Galle	473	206	43.6	193	40.8	399	84.4	27	5.7	6	1.3	23	4.9	18	3.8
Matara	280	107	38.2	128	45.7	235	83.9	27	9.6	5	1.8	0	0.0	13	4.6
Hambantota	139	50	36.0	67	48.2	117	84.2	13	9.4	0	0.0	3	2.2	6	4.3
Jaffna	256	65	25.4	152	59.4	217	84.8	28	10.9	4	1.6	5	2.0	2	0.8
Vavuniya	60	25	41.7	23	38.3	48	80.0	6	10.0	3	5.0	2	3.3	1	1.7
Batticaloa	193	88	45.6	73	37.8	161	83.4	10	5.2	1	0.5	4	2.1	17	8.8
Ampara	74	30	40.5	38	51.4	68	91.9	5	6.8	0	0.0	0	0.0	1	1.4
Kalmunai	177	66	37.3	81	45.8	147	83.1	16	9.0	0	0.0	4	2.3	10	5.6
Trincomalee	136	57	41.9	64	47.1	121	89.0	6	4.4	2	1.5	3	2.2	4	2.9
Kurunegala	568	202	35.6	283	49.8	485	85.4	39	6.9	4	0.7	17	3.0	23	4.0
Puttalam	182	78	42.9	68	37.4	146	80.2	15	8.2	5	2.7	10	5.5	6	3.3
Anuradhapura	238	142	59.7	83	34.9	225	94.5	6	2.5	5	2.1	1	0.4	1	0.4
Polonnaruwa	143	61	42.7	61	42.7	122	85.3	9	6.3	5	3.5	1	0.7	6	4.2
Badulla	234	96	41.0	94	40.2	190	81.2	18	7.7	6	2.6	5	2.1	15	6.4
Monaragala	91	46	50.5	32	35.2	78	85.7	8	8.8	0	0.0	0	0.0	5	5.5
Ratnapura	551	228	41.4	240	43.6	468	84.9	43	7.8	2	0.4	22	4.0	16	2.9
Kegalle	394	191	48.5	164	41.6	355	90.1	25	6.3	3	0.8	1	0.3	10	2.5
Mannar	50	12	24.0	31	62.0	43	86.0	6	12.0	0	0.0	1	2.0	0	0.0
Mullaitivu	36	15	41.7	15	41.7	30	83.3	4	11.1	0	0.0	1	2.8	1	2.8
Kilinochchi	56	28	50.0	22	39.3	50	89.3	0	0.0	1	1.8	4	7.1	1	1.8
Total	9,473	3,749	39.6	4,135	43.7	7,884	83.2	657	6.9	100	1.1	430	4.5	402	4.2

In 2014, total number of cases registered for treatment was 9,473. Out of them, number of patients who were successfully treated during their treatment course was 7,884 with a rate of 83.2%. There were 657 (6.9%) deaths and 430 (4.5%) lost to follow up cases. One hundred patients (1.1%) ended up in treatment failure and in 402 (4.2%) patients' treatment outcome was not evaluated at the time of reporting. There is a decrease in the treatment success rate in comparison to 2011 figures (87.1%) and an increase in death rate. The failure rate was 1.1% with 6 districts not having any single case of treatment failure. The loss to follow up rate was 4.5% with only 4 districts having lost to follow up rates above 5% (WHO target < 5%) and with 4 districts not having any single case of lost to follow up.

5.2.2.9 Multi Drug Resistant Tuberculosis (MDR TB)

MDR TB remains low (0.13%) in Sri Lanka when compared to other countries in the region. Only 13 cases of MDR TB were reported in year 2015.

Table 5.2.5 : Incidence of MDR TB, 2008 - 2015

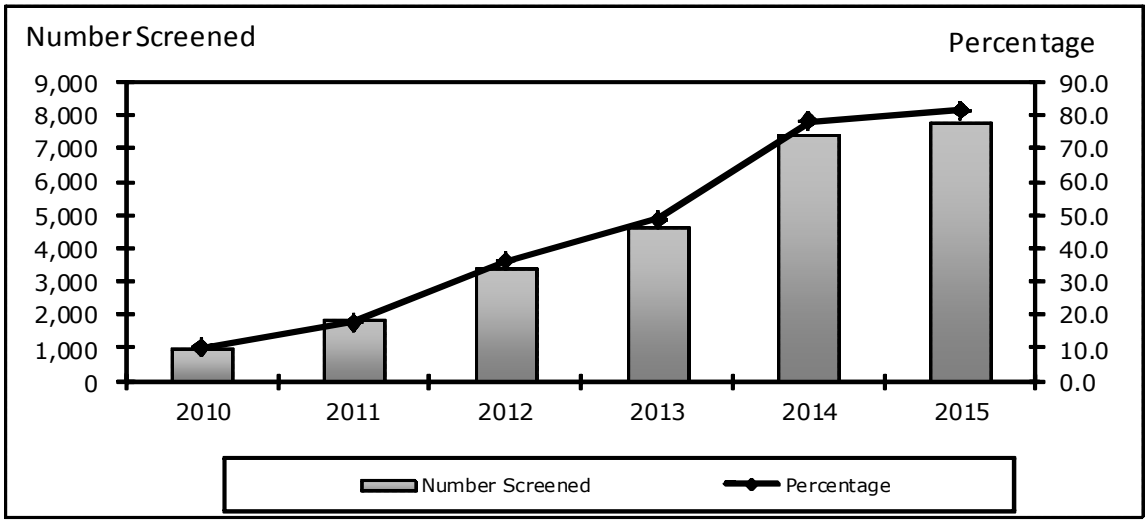
Year	2008	2009	2010	2011	2012	2013	2014	2015
MDR TB cases detected	8	4	8	12	5	4	13	13

5.2.2.10 TB/HIV Co-infection

Screening of all TB patients for HIV was made mandatory since 2013. The statistics from districts show a considerable increase of screening of TB patents for HIV when compared with past years.

In 2015, 7,827 (81.7%) of total registered TB patients were screened for HIV. Of these 5 patients (0.1%) were recorded HIV positive.

Fig 5.2.7 : Screening of TB Patients for HIV, 2010 - 2015



5.2.2.11 Key Activities Done in 2015

- The NPTCCD has initiated the revision of existing National Manual for Tuberculosis Control in order to incorporate new advances in TB diagnostics and to include revised TB definitions.
- Guidelines for Programmatic Management of Drug Resistance TB were finalized with the technical assistance from WHO.
- Childhood TB working group has been established in view of strengthening diagnosis of TB among children and new action plan has been prepared.
- Green Light Committee and Global Drug Facility annual missions were carried out successfully. Useful recommendations were given to improve anti TB drug management.
- National Tuberculosis Reference Laboratory was upgraded to bio safety level 3.
- The NPTCCD has taken further steps to strengthen case detection by carrying out active screening among high risk groups for TB such as prison inmates, drug addicts, patients with chronic diseases such as diabetes, Chronic Kidney Diseases (CKD).
- Word TB day was commemorated on 24th March, 2015 in Colombo under the theme of "4,000 Undetected, Reach, Treat and Cure for All" with the participation of large number of different stakeholders.
- Word Asthma Day was celebrated in 14th May, 2015 with collaboration of College of Pulmonologists of Sri Lanka targeting school children.

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 and 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 organization, 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 1969-2005. At present, *Wuchereria bancrofti* is the main LF infection being transmitted and few cases of Brugian filariasis have been reported.

The 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, 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 moults 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 amicrofilareamic and there is no currently available test to prove active filarial infection, the diagnosis of filariasis should be established on clinical grounds among chronic patients.

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) (Fig 5.2.8) mainly due to rapid and unplanned urbanization, increased population density and also due to the suitable climate for mosquito breeding. There are Regional Anti Filariasis Units (RAFUs) in seven endemic districts.

Staff of the AFC and RAFUs routinely conducts several activities: parasitological surveys (through night blood filming among humans); treat mf positive persons; entomological surveys and vector control activities; manage lymphedema patients.

In 1997, as a result of advances in diagnostics and treatment of LF, the disease was classified 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 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, Gates Foundation, 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

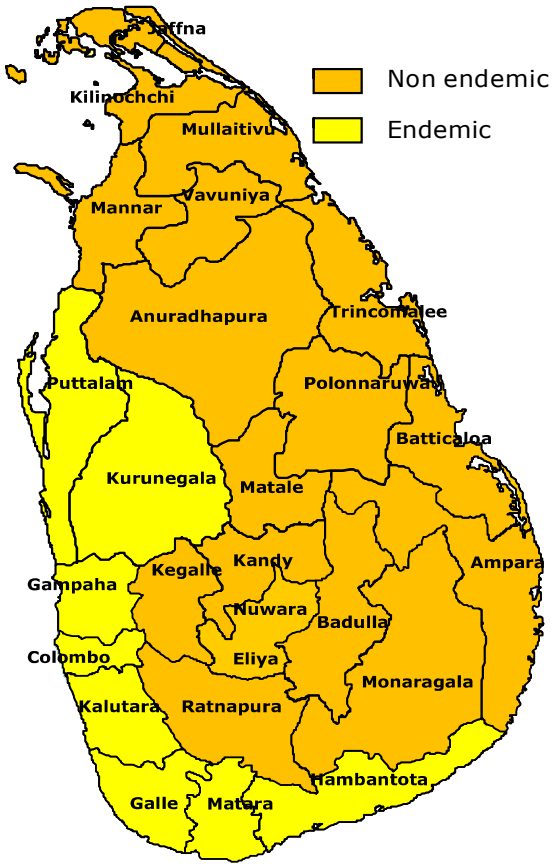
5.2.3.5 Specific Objectives

- 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 2015

a) Conducted routine and special night blood filming programmes in endemic areas
b) Provided treatment for mf positive and clinically suspected cases
c) Managed lymphoedema patients and educated them and caregivers on morbidity management measures (exercise, elevation, washing, bandaging, wearing of comfortable foot wear, etc.) to prevent complications and disabilities.
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) Central and regional work was reviewed and corrective measures were taken at monthly review meetings with Regional Medical Officers (Filariasis), patients and district review meetings with the staff attached to RAFUs
h) Conducted research activities to implement evidence-based strategic interventions
i) Conducted Mass Drug Administration Programme in 14 Medical Officer of Health Areas in Galle district

Fig 5.2.8 : Filariasis Endemic Districts in Sri Lanka



5.2.3.7 Achievements

- 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 mf rate in 2015 was 0.03%. This is very much below the WHO elimination target of < 1%.
- Transmission Assessment Surveys (TAS) conducted with the financial and logistic support from WHO and international partners among grade 1 and 2 school children in endemic districts in 2008 and 2011-2013 further confirmed the elimination status.
- In 2011, laboratory of AFC was refurbished and a PCR lab was established to conduct highly sensitive tests to monitor the burden of the disease. 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 verification process for the certification on elimination of filariasis. AFC is planning to submit a draft 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 AFC was launched on 02/07/2013. (www.filariasiscampaign.health.gov.lk)
- Mass Drug Administration programme was conducted in Galle district in 2014. Reported epidemiological drug coverage in 14 MOOH areas in Galle district was 72.72%.

5.2.3.8 Activities Carried out during 2015

5.2.3.8.1 Parasitological Activities in Endemic Districts

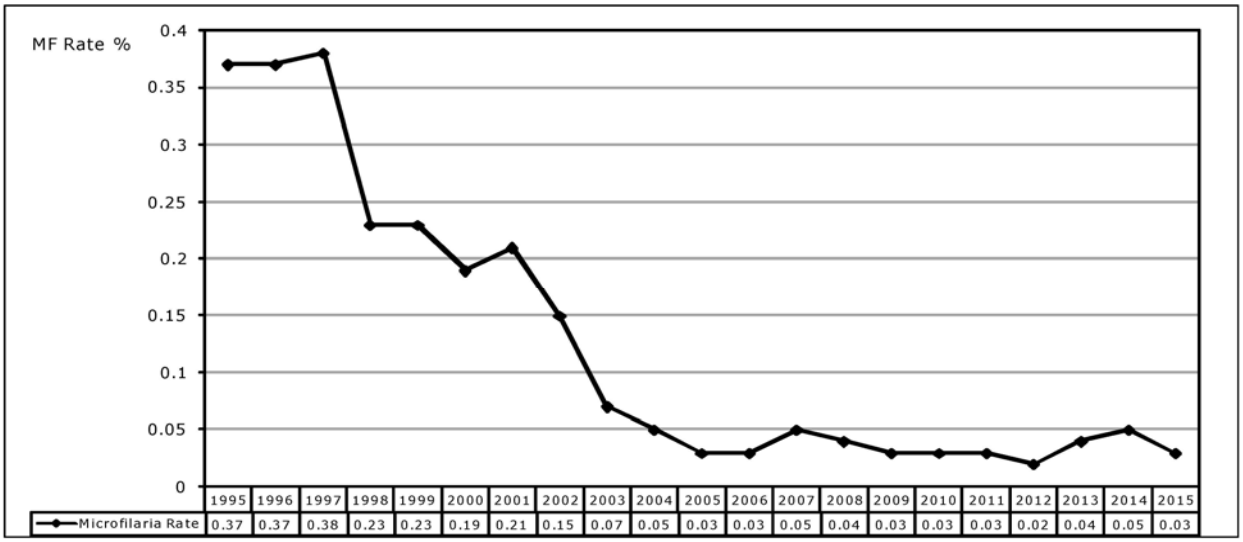
During this year 336,310 night blood films were examined for microfilaria by the thick blood smear technique from endemic districts. People in endemic areas were screened at the night blood filming centres, through house to house visits and during special surveys.

Of 336,310 night blood films examined in year 2015, 96 films were positive for micro filarial. Amongst majority of the cases were *Wucheraria bancrofti* while four cases were *Brugia malayi* (02 in Gampaha district, 01 in Puttlam district and 01 in Matara district). Microfilaria (mf) rate was 0.03% (mf rate – number of microfilaria positive persons per 100 persons tested) and mf density was 214.11 (Table 5.2.6). Fig 5.2.9 shows the distribution of mf rates in Sri Lanka since year 1995.

Table 5.2.6 : Results of the Night Blood Filming Surveys in 2015

District	No. of blood films examined	No. of positive blood films	microfilaria (mf) rate %	No. of microfilaria (mf)	microfilaria (mf) density
Colombo	46,304	2	0.00	27	225.05
Gampaha	50,412	6	0.01	19	52.79
Kalutara	72,033	12	0.02	124	172.26
Western Province	**168,749**	**20**	**0.01**	**170**	**214.11**
Galle*	19,495	46	0.24	756	273.97
Matara	81,798	19	0.02	95	104.41
Hambantota	5,456	4	0.07	119	395.91
Sourthern Province	**106,749**	**69**	**0.06**	**970**	**234.35**
Kurunegala	49,134	6	0.01	84	233.38
Puttalam	11,669	1	0.01	9	150.03
North Western Province	**60,803**	**7**	**0.01**	**93**	**221.47**
Total (Endemic Districts)	**336,301**	**96**	**0.03**	**1,233**	**214.11**

Fig 5.2.9 : Micro Filaria Rates in Endemic Districts, 1995-2015



5.2.3.8.2 Entomological Activities in Endemic Districts

a) Infected and Infective Rates

Infected rate (number of Culex quinquefasciatus mosquitoes with filarial parasite stages (mf, L1, L2 and L3) per 100 Culex quinquefasciatus) and infective rate (number of Culex quinquefasciatus mosquitoes with infective (L3) parasite stages per 100 Culex quinquefasciatus mosquitoes dissected) were 0.52% and 0.005% respectively for the year 2015. Fig 5.2.10 and Fig 5.2.11 shows the distribution of infected and infective rates of Culex quinquefasciatus in Sri Lanka since year 1995.

b) Molecular Biological Assays

Female Culex quinquefasciatus mosquitoes collected from endemic districts were subjected to PCR testing at AFC to determine the Wuchereria bancrofti parasite DNA in Culex quinquefasciatus mosquitoes. Results of these mosquito pools (20 mosquitoes in each pool) are given in Table 5.2.7.

Fig 5.2.10 : Mosquito Infected Rates in Endemic Districts, 1995 - 2015

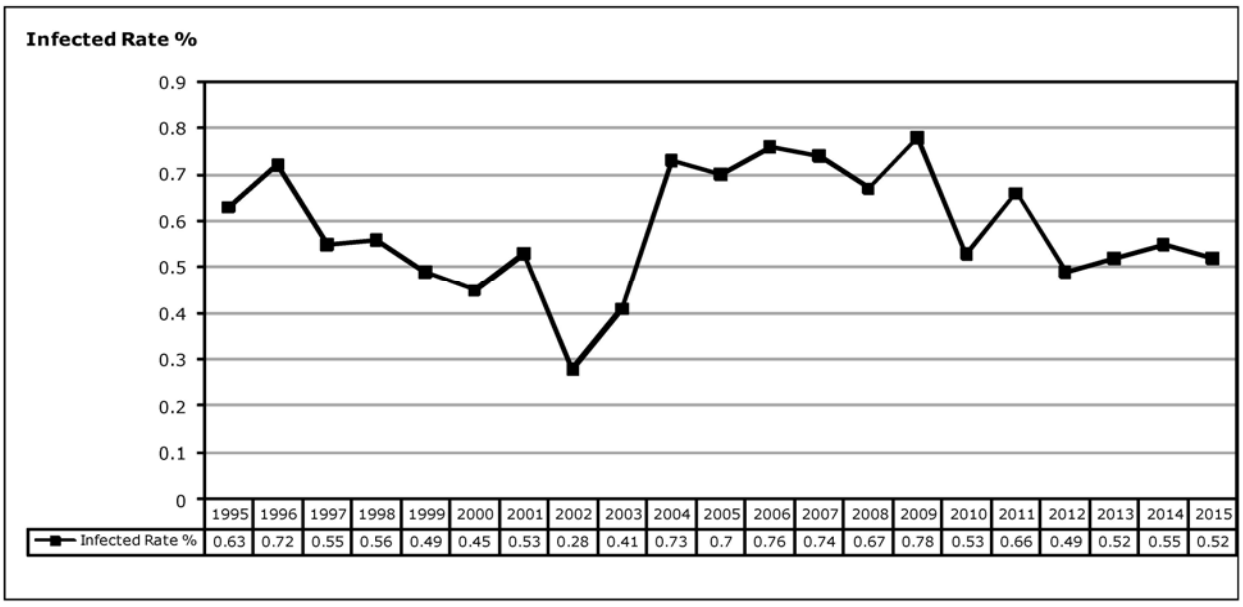
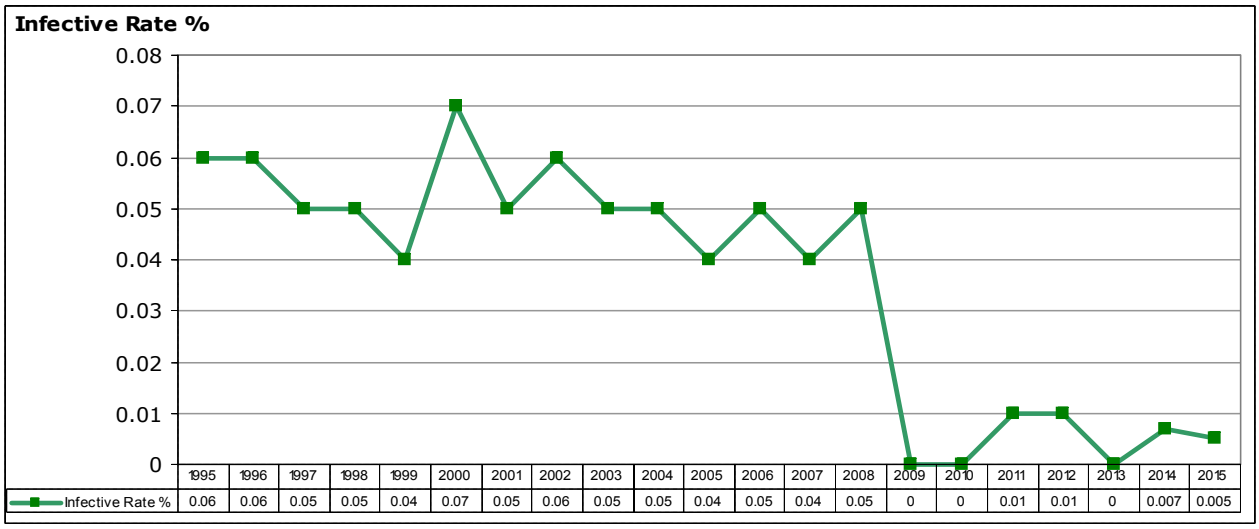


Fig 5.2.11 : Mosquito Infective Rates in Endemic Districts, 1995 - 2015



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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	0.007	0.005

Table 5.2.7 : Results of Molecular Biological Assays in 2015 in Endemic Districts

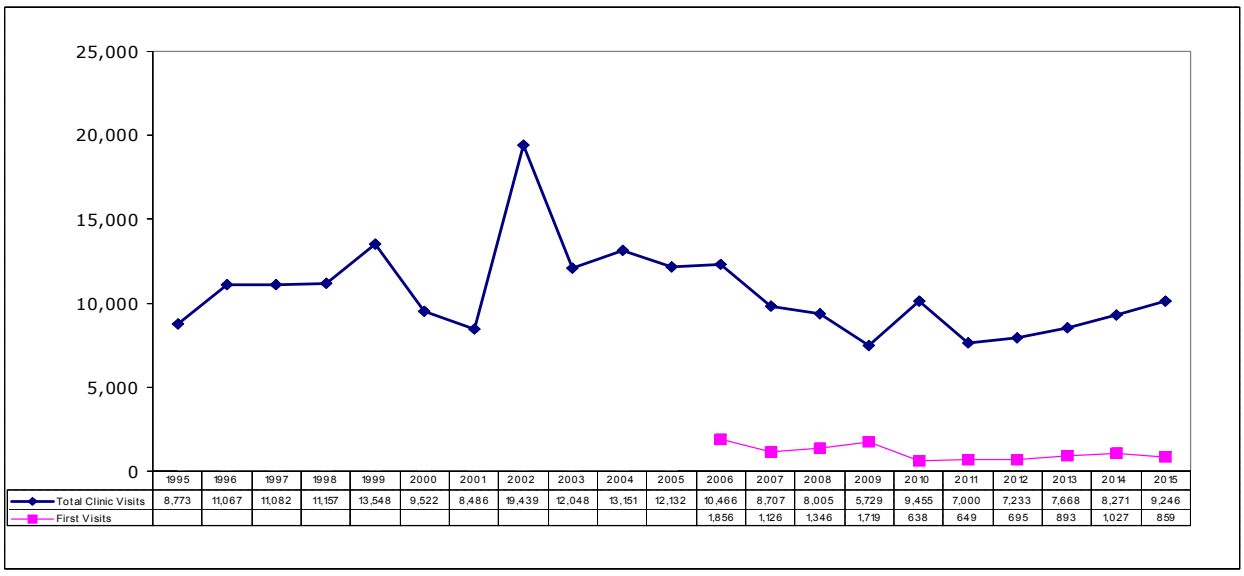
District		Culex quinquefasciatus		
		Pools Tested	Pools Positive	Pools Positive Rate %
Colombo	AFC	203	13	6.4
	Colombo-RAFU	62	1	1.61
Kurunegala		110	5	4.54
Puttlam		76	0	0
Galle		130	13	10
Matara		178	2	1.12
Gampaha		78	0	0
Kalutara		42	1	2.38
Hambantota		42	0	0
Total		**921**	**35**	**3.8**

5.2.3.8.3 Clinical Activities in Endemic Districts

Clinic Visits of Lymphoedema Patients

In 2015, the numbers of first visit lymphoedema patients attended the clinics of AFC and RAFUs were 857 and the numbers of clinic visits of past lymphoedema patients were 8,308. Fig 5.2.12 shows the distribution of number of lymphoedema patients presented to the clinics since year 1995.

Fig 5.2.12 : Lymphoedema Cases Managed at AFC and RAFUs, 1995 - 2015



	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
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	8,271	9,246
First Visits												1,856	1,126	1,346	1,719	638	649	695	893	1,027	859

5.2.3.8.4 Special Research Activities

a) Special Parasitological Surveys in Kegalle District (Non Endemic)

Table 5.2.8 : Results of Special Parasitological Survey in Kegalle District

MOH Area	Night Blood Film Survey					Antigen (ICT) Survey		
	No. of blood films examined	No. of blood films positive	Micro filarial (mf) rate	No. of micro filaria	Micro filarial density	No. of persons examined	No. of persons positive	%
Warakapola	971	2	0.206	2	16.67	511	2	0.39
Rambukkana	651	-	-	-	-	541	2	0.37
Total	**1,622**	**2**	**0.123**	**2**	**230.1**	**1,052**	**4**	**0.38**

Special night blood film survey and an antigen survey were carried out in Warakapola and Rambukkana PHI areas in Kegalle District (non- endemic) in 2015. Of 1,622 blood films examined through night blood film survey, 02 mf positive cases were detected in Warakapola PHI area. Of 1,052 persons subjected to antigen survey, 04 persons were positive, for which gave an antigen positive rate of 0.38% (Table 5.2.8).

b) Special Mosquito Survey in Kegalle District (Non Endemic)

Table 5.2.9 : Results of Special Mosquito Survey in Kegalle District

PHI Area	Culex quinquefasciatus		
	Pools Tested	Pools Positive	Pools Positive Rate (%)
Warakapola	117	-	-
Rambukkana	100	5	5
Total	217	5	2.3

Special mosquito survey was carried out in Warakapola and Rambukkana PHI areas in Kegalle district in 2015. In each PHI area, semi gravid and gravid female *Culex quinquefasciatus* mosquitoes were collected by keeping the gravid traps in randomly selected 50 locations. Altogether 217 pools (each pool consists of 20 vector mosquitoes) were created and tested in both PHI areas, of which 5 pools were positive (pool positive rate of 2.3%) for developmental stages of parasite (Table 5.2.9).

Total number of 880 collected mosquitoes were dissected to identify the parasitic stages in both surveyed areas (Warakapola-400, Rambukkana-480 mosquitoes).

However, parasitic stages were not found in the dissected mosquitoes. It denotes the zero transmission risk of filariasis in non-endemic districts especially adjacent to the filariasis endemic district in Sri Lanka.

c) Adult Transmission Assessment Survey in Galle District

Adult Transmission Assessment survey was carried out in 60 Public Health Midwife (PHM) areas in 12 Medical Officer of Health (MOH) areas in Galle district to determine the filariasis transmission within the district from June to October 2015. Filariasis Test Strips were used to detect Wuchereria bancrofti antigen in finger picked blood samples in community dwellers aged 18-70 years old. Sample collection and testing were performed by staff of Anti Filariasis Campaign, Regional Anti Filariasis Units - Galle, Matara and Kalutara. Antigen positive patients were subjected to night blood filming to determine microfilaraemia. Out of 60 PHM areas, 14 PHM areas (Patabandimulla, Ethiligoda, Kalahe, Brahmanawaththa(N), Piyagama, Wathugedara-1, Kumbalwella, Magalla, Palassa, Thalpe-1, Nalagasdeniya, Wenamulla, Wawulegoda and Boossa) showed antigen positive rate above 2% which shows ongoing transmission as defined by the WHO. Highest antigen rate (11.67%) was reported from Athiliyagoda PHM area in Galle Municipal Council area. Results of the study showed that there is ongoing filariasis transmission in some PHM areas in Galle district. All antigen positive persons were treated with DEC and Albendazole.

This study was funded by Gates Foundation and done in collaboration with Washington University, USA.

d) Special Mosquito Survey in Four Endemic Districts

Special mosquito surveys were conducted in four endemic districts (Galle, Matara, Gampaha and Kalutara) to detect parasite DNA in Culex quinquefasciatus mosquitoes in 2015. In this survey, six MOH areas namely Ambalangoda North, Balapitiya, Unawatuna in Galle district, Peliyagodawatta in Gampaha district, Kalutara North in Kalutara district and Weligama North in Matara district were selected by considering the results of previous study. Fifty locations were selected to set gravid traps for collecting the mosquitoes in each MOH area, to obtain maximum coverage. Four pools from each location (each pool consisting of 20 gravid and semi gravid mosquitoes) were collected and tested for parasite DNA by PCR method.

Around 200 mosquito pools were created for each MOH area. Out of 200 mosquito pools, 131 pools were positive with a pools positivity rate of 65.5% for MOH area Balapitiya. The pools positivity rate of Ambalangoda North and Unawatuna MOH areas in Galle district were 21% and 22% respectively. Similar results were shown in Weligama MOH area in Matara district (19.96%) while Peliyagodawatta and Kalutara North showed comparatively low mosquito pools positivity rates (4.5% and 5% respectively).

According to the above results, the risk of transmission potential was observed in surveyed MOH areas in Galle district and Matara district, especially in Balapitiya MOH area.

e) Wucheraria Bancrofti Antigen (ICT) Survey in Four Endemic Districts

With the financial and technical collaboration with National Institute of Health (NIH) - USA, University of St. Louise - USA and Liverpool School of Tropical Medicine - UK, a study was conducted to assess the elimination and interruption of transmission of Lymphatic Filariasis in Sri Lanka in 2011-2013. This study covered two high risk PHI areas each in eight endemic districts and 2 high risk areas from Colombo Municipality Council (CMC) area which doesn't come under Colombo Regional Director of Health Services area. Later Peliyagodawatta Public Health Field Officer area in Gampaha district was also added.

Repeated NIH study was conducted with the funds of Gates Foundation and assistance of Washington University, USA from January 2015 to December 2015 in 5 high risk areas selected from 2010-2013 survey and in Balapitiya PHI area. In each PHI/PHFO area Wuchereria bancrofti Antigen testing was done among 350 school children (grade 1 and 2 students) and 500 persons in the community (10 - 70 years of age). PCR testing for Wuchereria bancrofti was done among 200 female mosquito (Culex quinquefasciatus) pools.

Even though Kalutara PHI area showed a community antigen rate of 2% in NIH survey in 2010-2013, none of the samples showed positive results in the 2015 repeated survey. Unawatuna PHI area showed a reduction in community antigen rate from 3.4% (in NIH survey in 2010-2013) to 1.53% in 2015 repeated survey. Antigen rates in Kalutara and Matara districts were 0%.

5.2.4 Anti Leprosy Campaign

5.2.4.1 History of Leprosy in Sri Lanka

The oldest written history of leprosy in Sri Lanka dates back to 1708 when Dutch rulers set up a leprosy asylum in order to segregate patients as a mode of controlling the disease. After the Dutch era British rulers made the admission to this asylum compulsory with the introduction of lepers' ordinance No. 4 in 1901. They 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 emergences of drug resistance. In 1954, the vertical structure, Anti Leprosy Campaign (ALC) was started as the national programme for leprosy, which was responsible for diagnosis, management, rehabilitation and other control activities. The island wide introduction of short term effective chemotherapy; Multi Drug Therapy (MDT) – for all diagnosed patients in 1983 resulted a decline in number of patients 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 following the elimination of the disease as a public health problem.

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 National Plan of Action 2014-2016

The National Action Plan for control of leprosy 2014 - 2016 was prepared following a series of workshops based on the national strategic plan which was implemented throughout the country.

5.2.4.4 Vision

Leprosy free Sri Lanka

5.2.4.5 Mission

To stop transmission of the disease, and to plan and implement cost effective quality leprosy services to all persons affected with leprosy and to sustain such services to ensure reasonable quality of life to those affected.

5.2.4.6 Goal

Curtail active transmission of the disease through early detection and treatment, prevent grade 2 deformities by provision of quality leprosy services through early detection, treatment and rehabilitation services for those who need assistance, achieve zero grade-2 disability among child cases and to eliminate leprosy at district level in all districts by 2020.

5.2.4.7 Objectives

1. To reduce the rate of new cases per 100,000 population per year to the level of below 10 in all districts
2. To reduce the rate of new cases with grade-2 disabilities per 100,000 population per year from 0.7 to 0.5
3. To reduce the new child cases with disability reported per year down to zero
4. To improve the percentage of early reporting (less than 6 months of the onset of symptoms) up to 90%
5. To improve treatment completion rates up to 90%
6. To reduce proportion of treatment defaulters up to 5%
7. To reduce percentage of child cases in new cases up to 5%
8. To investigate all the relapse cases in the country at CLC with modern technologies (DNA Analysis and PCR)
9. To fight all forms of stigma associated with leprosy
10. To ensuring the rights of persons affected with leprosy

5.2.4.8 Current Situation

5.2.4.8.1 New Case Detection Rate in the Country

There was a gradual decreasing trend in new case detection rates from 1991-1999. Following that it was observed that there is slightly increasing trend up to 2002. The number of new cases detected in 2015 was 2098. From 2003 - 2015 it was observed that the new case detection rates were fluctuating around 10 per 100,000 population with more or less a flattened trend. There was slight increasing 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 2014 was 2,211. The reported prevalence at the beginning of 2015 was 0.7 per 10,000 population.

Fig 5.2.13 : New Case Detection Rates of Leprosy per 100,000 Population, 1990 – 2015

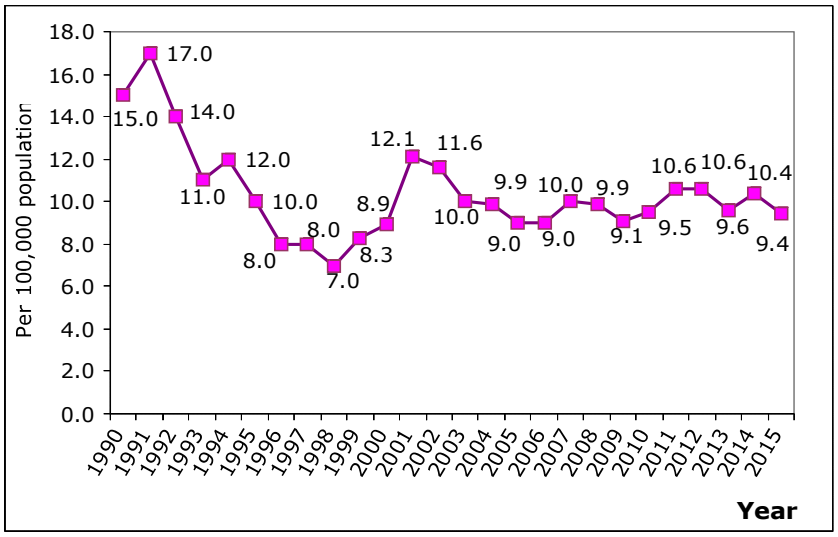
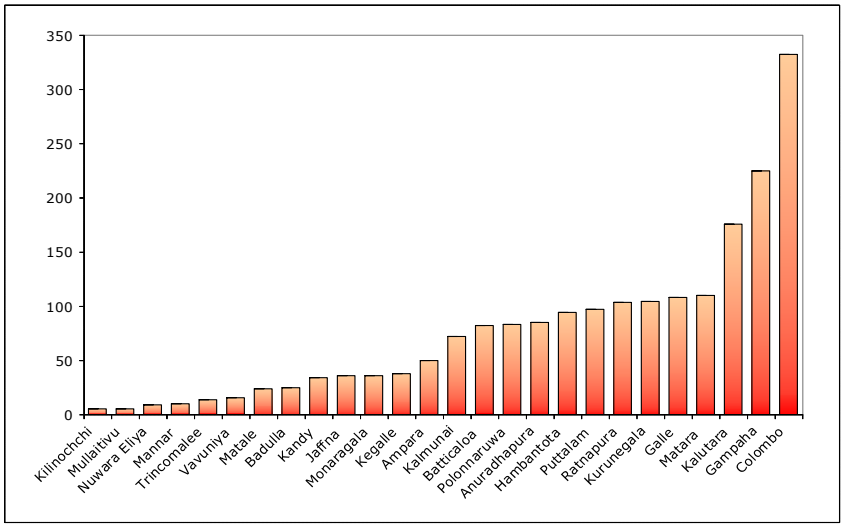


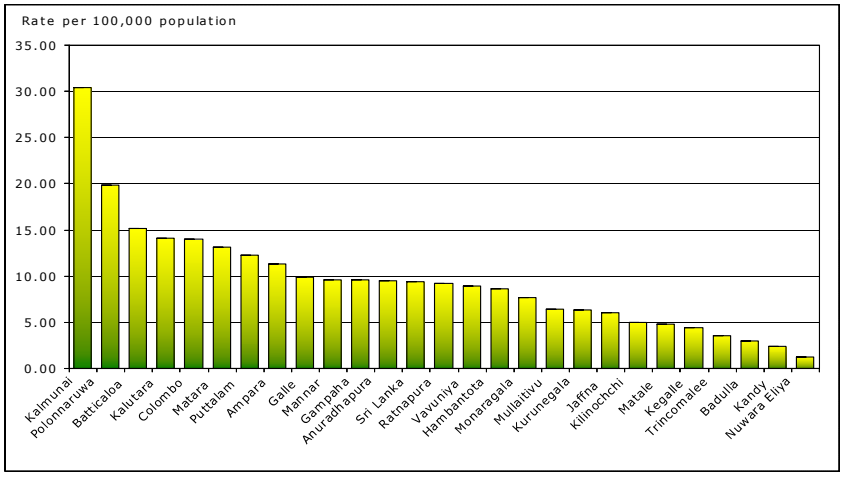
Fig 5.2.14 : Number of New Cases Detected by District, 2015



5.2.4.8.2 Number of Cases Reported in the Country

The highest number of new leprosy cases was detected in Colombo district followed by Gampaha & Kaluthara districts.

Fig 5.2.15 : New Case Detection Rate per 100,000 Population by District, 2015



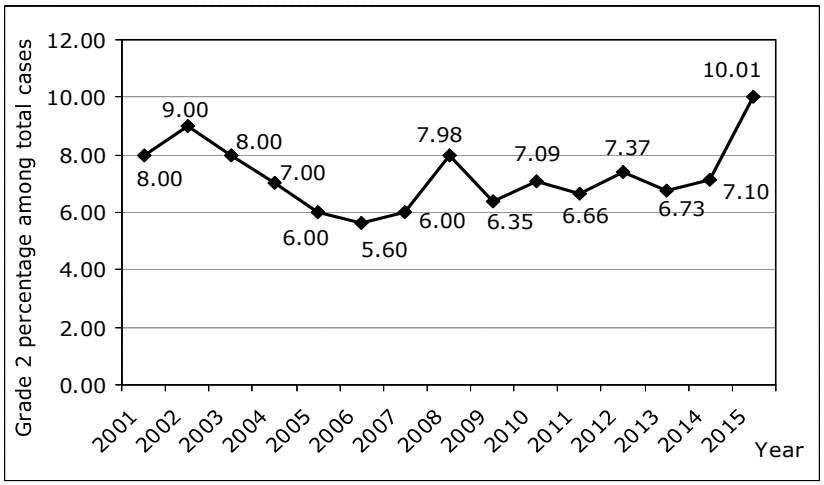
5.2.4.8.3 New Case Detection Rates by Districts, 2015

The highest new case detection rate for 2015 was seen in Kalmunai district (30.42 per 100,000 population) followed by Polonnaruwa & Batticaloa districts (19.81 & 15.16 per 100,000 population). Lowest new case detection rate of 1.22 per 100,000 population was reported from Nuwara Eliya district.

5.2.4.8.4 Grade-2 Deformity Percentage in the Country

Percentage with grade-2 deformities at the time of diagnosis shows a downward trend from 2002-2006 and then shows a fluctuating trend around 7%. However, in 2015 it was increased upto 10.01%. This may be due to improvement in detection of deformities and changes in the new "Patient File" which was introduced from 2015.

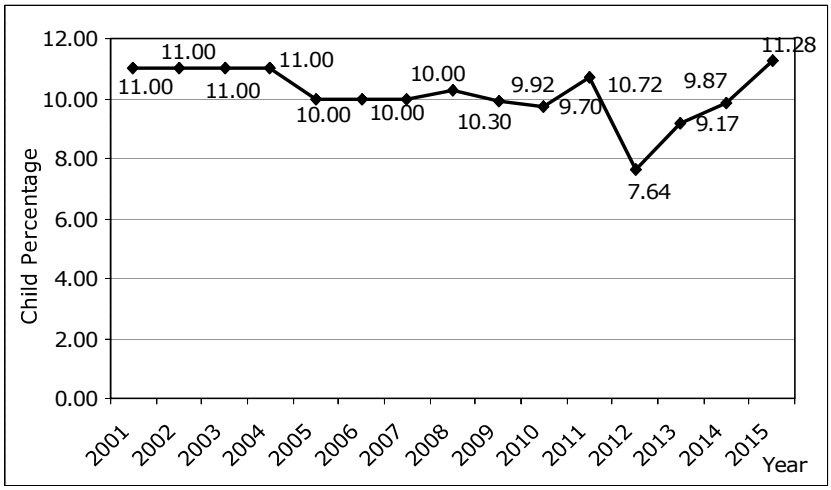
Fig 5.2.16 : Grade 2 Deformity Percentage at the Time of Diagnosis among Leprosy Cases in Sri Lanka, 2001 - 2015



5.2.4.8.5 Child Case Percentage in the Country

Child case percentage among new leprosy cases has been fluctuating around 10% from 2001-2011. In 2012, it has dropped to 7.64% and after that it shows an increasing trend. In 2015, child percentage was 11.28% indicating the active transmission of the disease in the country with increased detection of child cases.

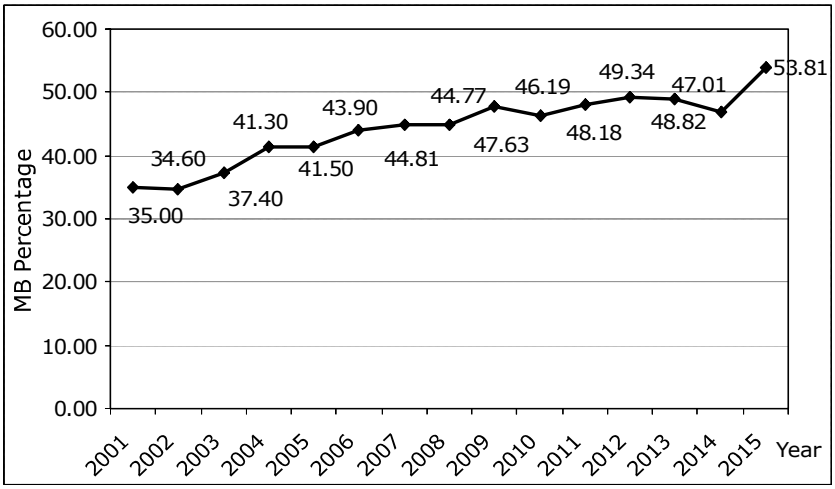
Fig 5.2.17 : Child Case Percentage among New Leprosy Cases, 2001 - 2015



5.2.4.8.6 Multi-Bacillary Percentage

Multi-bacillary (MB) percentage is seen increasing gradually over the past 10 years and in 2015 it was 53.81% indicating that the disease is still transmitting among the population.

Fig 5.2.18 : MB Percentage at the Time of Diagnosis of Leprosy Cases, 2001 - 2015



5.2.4.8.7 Epidemiological Profile by Province

The table below shows the provincial detection indicators of the country for the year 2015.

Table 5.2.10 : Provincial Detection Indicators, 2015

Province	Population	Leprosy Cases		NCDR	MB		Child		Grade 2 deformity	
		New cases	%		No.	%	No.	%	No.	%
Central	2,658,000	67	3.39	2.80	38	56.72	4	5.97	6	8.96
East	1,615,000	218	11.03	15.12	120	55.05	27	12.39	23	10.55
North	1,094,000	74	3.74	8.99	48	64.86	11	14.86	3	4.05
North Central	1,312,000	168	8.50	14.66	98	58.33	17	10.12	23	13.69
North Western	2,448,000	202	10.22	9.31	110	54.46	23	11.39	22	10.89
Sabaragamuwa	1,988,000	142	7.18	6.82	89	62.68	9	6.34	18	12.68
Southern	2,556,000	312	15.78	10.55	157	50.32	32	10.26	26	8.33
Uva	1,316,000	61	3.09	5.29	38	62.30	1	1.64	9	14.75
Western	5,979,000	733	37.08	12.54	366	49.93	99	13.51	68	9.28

5.2.4.9 Major Achievements in 2015

1. Strengthening of the current leprosy disease surveillance system.
2. Continuation of model Leprosy Control Programme (which was initiated in five high endemic districts including Colombo, Gampaha, Hambanthota, Ampara & Puttalam) in line with National Action Plan for control of leprosy 2014-2016.
3. Leprosy post exposure prophylaxis pilot study was started in 2015 in Puttalam & Kalutara districts.
4. Contact tracing at MOH level was initiated and strengthened island wide.
5. Strengthened the established satellite dermatology clinics by providing office equipment, spot lamps & torches.
6. Mobile skin clinics were conducted in Colombo CMC area where high number of patients were found.
7. House-to-house community screening in high endemic districts was started as a new strategy by the national campaign.
8. Training programmes were conducted for Regional Epidemiologists, MOO - Dermatology and other health staff such as SPHI-Dermatology, PHII & PHMM.
9. Initiated new training activities for health staff (Student PHI training programmes were conducted in 5 PHI training schools, trained 23 student PHLTs & 58 pharmacists).
10. World Leprosy Day activities were conducted with a press conference to increase the public awareness through mass media in 2015.
11. ALC acquired a vehicle from FAIRMED Foundation to conduct district monitoring and evaluation visits.

5.2.5 Public Health Veterinary Services

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). Worldwide, 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.

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 in the country. The two major enactments, the Rabies Ordinance of 1893 and the Dog Registration Ordinance of 1904 are clear evidence to prove that rabies had been identified as a problem during this period.

Although the official statistics are not available to gauge the rabies situation prevailed in the country until 1970s, the existing records indicate that rabies had been recognized as an important public health problem in Sri Lanka from early 1950s.The government has been concerned about the rabies menace over the decades and Public Health Veterinary Services (PHVS) of the Ministry of Health (MOH) was established in 1953 to entrust the rabies control programme in the country.

Presently, 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.

The programme had been decentralized since 1990. Provincial health services are responsible for implementation of the programme. The central programme provides technical support and guidance for the successful implementation of control activities at district level.

National strategic plan was developed targeting human rabies elimination by the year 2020 and new strategies were introduced. Partnership collaboration with different ministries was identified as a major strategy under one health approach.

5.2.5.1 Routine Activities

a) Activities Implemented by the Central Programme

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.

b) Activities Implemented by the Provincial Health Authorities

Provincial health services are responsible for implementation of awareness programmes, mass dog Anti Rabies vaccination programmes 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

5.2.5.2 Milestones in 2015

- **Revision of Post Exposure Treatment (PET) Circular**
  The revised circular on Post Exposure Treatment following animal bites was issued in 2015.

- **Modular Training Programme on Rabies Education**
  Harnessing support for community awareness on rabies prevention is crucial for rabies elimination. A training workshop was designed and conducted for curative and preventive health staff and facilitated to obtain international Rabies Educator Certificate from Global Alliance for Rabies Control.

- **Mop-up Vaccination Campaign**
  A Mop-up Vaccination Campaign was conducted in the RDHS of Kalutara to improve coverage of dogs vaccinated and thereby herd immunity against Rabies which has shown a decrease in Rabies among dogs in the area.

- **PET Training**
  The series of training programmes on “Post Exposure Treatment” for Medical Officers and Nursing Officers to strengthen cost effective use of PET in curative sector was continued during the year 2015.

5.2.5.3 Survey on Dog Population Size and Structure

Dog population survey which was initiated in four identified divisional secretary areas was completed in 2014. This survey could be identified as a major milestone as it was conducted after 1996. It was found that estimated human to total dog population ratio was 6.7:1 and human to domestic dog population ratio was 9.6:1. The tabulated household dog vaccination coverage was 69%. Total dog vaccination (including stray dogs) coverage was 48%.

5.2.5.4 Dog Vaccination by Department of Animal Production and Health

In keeping with multi-sectoral involvement for One Health Strategy, the dog vaccination in 17 identified MOH areas was conducted by the DAPH.

5.2.5.5 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 24 in 2015 (Table 5.2.11). Number of RDHSS with no cases was 16 (Fig 5.2.19) while in 2014 it was 14.

Comparative reduction in human rabies death could be the result of combined strategies implemented towards dog rabies control as well as human rabies control.

Out of 24 human rabies deaths 79% (19) is males while 21% (05) is females. Majority, 63% (15) of them are in the socio economically active age group of 15 - 60 years, 8% is in the age group of <15 years and 29% is in the group of >60 years.

Mainly the dogs have transmitted the disease to humans. Dog was responsible for 75% (n=18) of human rabies deaths investigated in 2015. Of the 18 deaths caused by dogs, 16 (89%) were stray dog bites.

5.2.5.6 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 2015 was 607. Majority 77.6% (471) of animal rabies was reported among dogs and 17.1% (104) cats, 1.5% (9) squirrels, 1.3% (8) cows, 0.5% (3) each among goats, mongoose and R/mongoose and 0.33% (2) each among G/mongoose and buffaloes were reported. One case (0.16%) each from rabbits and pigs was reported.

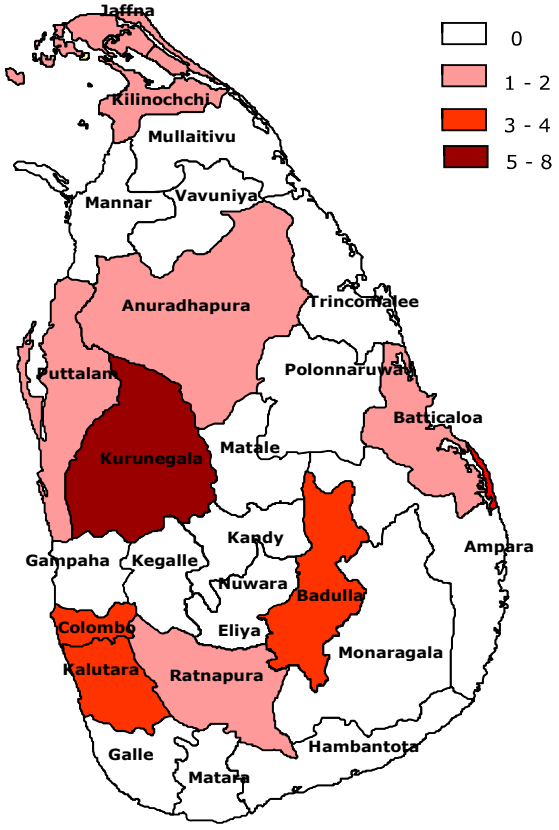
5.2.5.7 Achievements in 2015

- It was possible to maintain human rabies free status in 16 RDHSS, namely Gampaha, Kegalle, Polonnaruwa, Matale, Nuwara Eliya, Matara, Hambanthota, Galle, Monaragala, Vavuniya, Mullaitivu, Mannar, Trincomalee, Ampara, Kalmunai and Kandy. (Table 5.2.11, Fig 5.2.19)
- Human Rabies Deaths in 2015 were contained to 24.
- In the year 2015 it was possible to sterilize 133,427 dogs surgically and 8,017 dogs chemically.
- 1,446,933 stray and domestic dogs were vaccinated in year 2015.
- Participated for fifteen exhibitions island wide. Nearly 75,000 leaflets were distributed. Approximately 19,000 students and 22,700 adults were educated on rabies, vaccination of dogs and care following a dog bite.
- In 2015, 274,355 human rabies vaccine vials were provided for human rabies prevention.
- In year 2015, 100,220 serum (ERIG) vials and 7,186 human serum (HRIG) vials were provided for human rabies post exposure prophylaxis.
- 30 Training programmes, namely 25 PET training for curative health staff, 2 Rabies Educator Certificate programmes for District Rabies Control PHII and curative nursing staff, 2 training programmes on “One Health Approach” with the participation of district Health and Veterinary staff and one in-service training programme for District Rabies Control PHII were conducted.
- 70,000 Pigs were vaccinated against Japanese Encephalitis infection in high endemic districts.

Table 5.2.11 : Human Rabies Deaths Distribution by District

District	2008	2009	2010	2011	2012	2013	2014	2015
Ampara	-	1	1	-	2	-	-	-
Anuradhapura	3	6	4	1	2	3	1	1
Badulla	1	1	-	-	1	-	-	3
Batticaloa	7	6	5	8	4	4	1	1
Colombo	-	7	2	2	6	1	1	4
Galle	5	6	5	4	-	2	1	-
Gampaha	7	8	6	7	2	1	5	-
Hambantota	1	-	-	2	-	-	-	-
Jaffna	-	5	2	1	1	2	-	1
Kalutara	2	3	3	1	2	-	1	3
Kalmunai				1	1	-	-	-
Kandy	2	1	1	-	-	-	1	-
Kegalle	1	1	-	-	-	-	-	-
Kilinochchi	-	-	2	2	1	1	-	1
Kurunegala	11	4	3	4	4	1	1	8
Matale	-	1	1	-	2	-	-	-
Matara	1	1	-	1	4	2	-	-
Mannar	1	-	1	-	-	-	-	-
Monaragala	2	2	4	2	2	2	1	-
Mullaitivu	1	-	1	-	-	1	2	-
Nuwara Eliya	1	-	-	1	-	-	-	-
Polonnaruwa	-	-	-	-	1	1	-	-
Puttalam	5	1	1	2	2	2	3	1
Ratnapura	-	2	3	1	3	2	1	1
Trincomalee	-	1	2	1	-	1	-	-
Vavuniya	-	-	2	-	1	2	-	-
Grand Total	**51**	**58**	**49**	**49**	**41**	**28**	**19**	**24**

Fig 5.2.19 : Human Rabies Deaths Distribution by District



5.2.6 Directorate of Youth, Elderly, Disabled and Displaced Persons

The Directorate of Youth, Elderly and Disabled Persons is an apex body working on health of youth, elderly and persons with disabilities in Sri Lanka. The goal of this unit is to improve quality of health among youth, elderly and disabled persons through improvement of health facilities, disability prevention and health promotion by coordinating, planning and implementating activities related to programme areas.

5.2.6.1 Elderly Health Care

Sri Lanka has one of the rapidly ageing populations in South East Asia. According to the projections, the share of the population aged 60 years and more will increase from its current proportion of 12% to 16% by 2020 and 29% by 2050. The rising pattern of NCD among ageing population will contribute to increase the proportion of elderly living with disabilities. To overcome the above situation it is the vision of the unit to produce healthy, active and productive elderly population by improving physical, mental and social wellbeing of the present elders and promote healthy ageing to achieve more active and more productive elderly population in future.

Several activities have being completed in year 2015 by the Directorate of Youth, Elderly and Disabled Persons in parallel to the above objectives. Infrastructure facilities of selected Teaching, Provincial General and District General Hospitals were upgraded to improve elderly/disabled care and establishment of elder friendly health care units in state sector hospitals is progressing successfully. Of the advocacy programmes to promote active healthy ageing and prevention of disability, pre-retirement advocacy programmes for the state and private sector working employees were very successful. Advocacy programmes were held to promote elders' and youngers' good relationships. Programmes were conducted to make aware of the accessibility regulations for disabled persons. Training programmes were conducted for the care givers of elderly persons. Elderly care service delivery module with information and educational materials were developed. One of the major activities completed during this period was to launch the Elderly Health Care Policy to strengthen the activities of providing better health care for the elders.

Covering different target groups, training of trainers programmes were conducted on "Healthy Ageing" concept while health care professionals at Wattala and Kadugannawa were trained on elderly care. Directorate had successfully conducted many elderly care symposiums and had several multi stakeholders' advisory committee meetings on elderly care. Undergraduate and post graduate teaching on elderly health care are conducted in collaboration with universities. To commemorate International Elderly Day on 1st of October several programmes and activities were carried out by the Directorate. In collaboration with the vision 2020 programme spectacles and lenses were distributed. Facilitating the free cataract surgeries for the elders were done. Set of standards were introduced with the partnership of Elderly Secretariat and Sri Lanka Standards Institution to improve the quality of the elderly homes.

5.2.6.2 Youth Health Care

Young person's make a significant group with specific health needs requiring specialized services and they are the category of population that will inevitably take on the responsibilities of the country. As the future of the country largely depends on their wellbeing it is important to have a healthy productive young population. The objective of the Directorate of Youth, Elderly and Disabled Persons is to improve knowledge, attitudes and life skills among youth to reduce youth health problems and improve their wellbeing. The Directorate act as the authority in building the capacity of the health staff on youth friendliness, promoting life skills among youth and to implement advocacy and awareness programmes for young people, parents and community leaders through the provincial health authorities and the relevant heads of the health institutions. Directorate of Youth, Elderly and Disabled Persons is the focal point for the youth friendly health services which is an essential package of services including clinical services, basic counseling and provision of information in an accessible, acceptable and appropriate manner and one of the specific objectives of the Directorate is to strengthen the youth friendly health services in the country with the support of the central and provincial health authorities while continuous monitoring and evaluation of the services.

Activities completed during year 2015 in related to health of youths were to conduct several sensitization programmes on functions of youth friendly health services and life skill programmes to health care providers attached to selected Base Hospitals. Advocacy programme was conducted to act elders as resource to youth. Finalizing of the Youth Health Policy was carried out during this period which will be launched very soon.

5.2.6.3 Disability Health Care

Persons with disabilities deserve to have quality health services to improve the quality of their life. Main aim of the Directorate is to improve the health services for the disabled persons by improving quality health care on disability and rehabilitation, improving multi stakeholder network on disability health care and rehabilitation, promoting awareness on prevention of disabilities and by implementing the National Action Plan on disability.

Of the activities conducted by the Directorate of Youth, Elderly and Disabled Persons during year 2015 for the well being of persons with disabilities, developing rehabilitation services and facilities in Sri Lanka progressed well. The booklet on National Guidelines for Rehabilitation Services in Sri Lanka was developed and distributed island wide. Steering committee meetings were conducted periodically which was chaired by the Secretary of Health. Information system on disability health care was developed. Several training programmes for care givers, training of trainers on caring for disabled persons, awareness programmes for parents with disabled children were done. Under graduate and post graduate teaching on care of disabled were successfully completed. Establishment of rehabilitation units in regional hospitals and strokes units in Teaching and General Hospitals were carried out as a pilot project. Several programmes were held in commemoration of International Disability Day. Periodical review meetings were successfully conducted with NGOs, who provide rehabilitation care services in Sri Lanka and provided technical support to many organizations. The Directorate of Youth, Elderly and Disabled Persons was able to contribute successfully to the ongoing process of establishment of rehabilitation centers in underutilized regional hospitals and purchasing of logistics and materials for prosthetics and orthotics workshops.

An advocacy programmes were conducted on accessibility regulations in both preventive and curative sector. Another major activity was capacity building of multi disciplinary health team who were involved in disability health care and rehabilitation. The Directorate had multi stakeholder consultative meeting to integrate National Spinal Cord Injury Management Programme. Several Programmes were conducted to increase the awareness of health managers and other multi stakeholders in developing disable friendly environment for the disabled persons.

5.2.7 National STD/AIDS Control Programme (NSACP)

The National STD/AIDS Control Programme (NSACP) of the Ministry of Health, is the principal government organization that is responsible for the national response to HIV/AIDS in Sri Lanka. Being a specialized public health programme of the Ministry of Health, NSACP is responsible for coordinating, planning and implementation of the HIV National Strategic Plan and the AIDS Policy in the country.

The headquarters of the NSACP is situated at No. 29, De Saram Place, Colombo 10, Sri Lanka. As of end 2015, there are 30 full-time STD clinics and 23 branch STD clinics in Sri Lanka. Of these STD clinics, 13 have the capacity to provide anti retroviral treatment (ART) services. The only ART facility outside of NSACP is located in Base Hospital Angoda (IDH). NSACP networks with all these clinics by providing technical guidance and providing monitoring and evaluation services.

5.2.7.1 Situation of HIV Epidemic in Sri Lanka

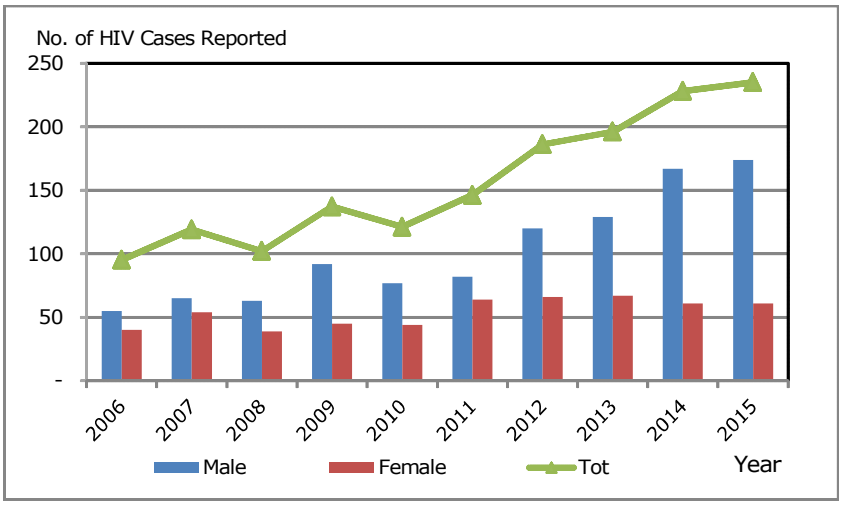
Since the identification of the first HIV infected Sri Lankan in 1987, a cumulative total of 2,308 HIV positive persons have been reported up to end of 2015. During 2015, 235 HIV cases were reported to the National STD/ AIDS Control Programme (NSACP).

This is the highest number reported in a year and this amounts to about 4.5 new HIV cases per week. However, the reported numbers represent only a fraction of HIV infected people in the country as many infected persons may perhaps not be aware of their HIV status and in addition, stigma and discrimination towards HIV infected people adversely affect voluntary testing for HIV.

5.2.7.2 Trends of Reported HIV Cases

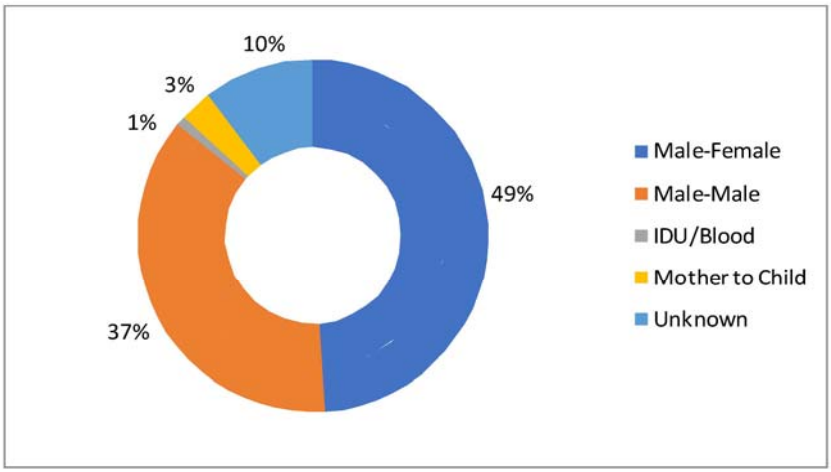
Reported HIV cases show a steady upward trend. In addition to increase in new HIV infections, increase in testing facilities, better surveillance and reporting have contributed to this trend. Number of cases reported annually have increased by 147% during the last 10 years.

Fig 5.2.20 : Trends of Reported HIV Cases by Sex



Above graph (Fig 5.2.20) indicates the proportion of males and females among reported HIV cases. Since 2011, proportion of males with HIV are gradually increasing. The male to female ratio of cumulative reported cases as of end 2015 was 1.7:1. However, during 2015 the male to female ratio has increased to 2.8:1.

Fig 5.2.21 : Probable Modes of Transmission in 2015 (N=235)



Sexual transmission accounted for 86% of all cases reported during 2015. Only 1 percent of reported HIV cases gave a history of injecting drug use. However, in 10% of cases, adequate data was not available to ascertain the probable mode of transmission.

5.2.7.3 HIV in Donated Blood

In Sri Lanka over three hundred thousand donated blood units are screened annually for transfusion transmissible infections (TTI). The National Blood Transfusion Service is promoting voluntary, unpaid, blood donors and conducting comprehensive pre-donor screening to ensure safer blood donations.

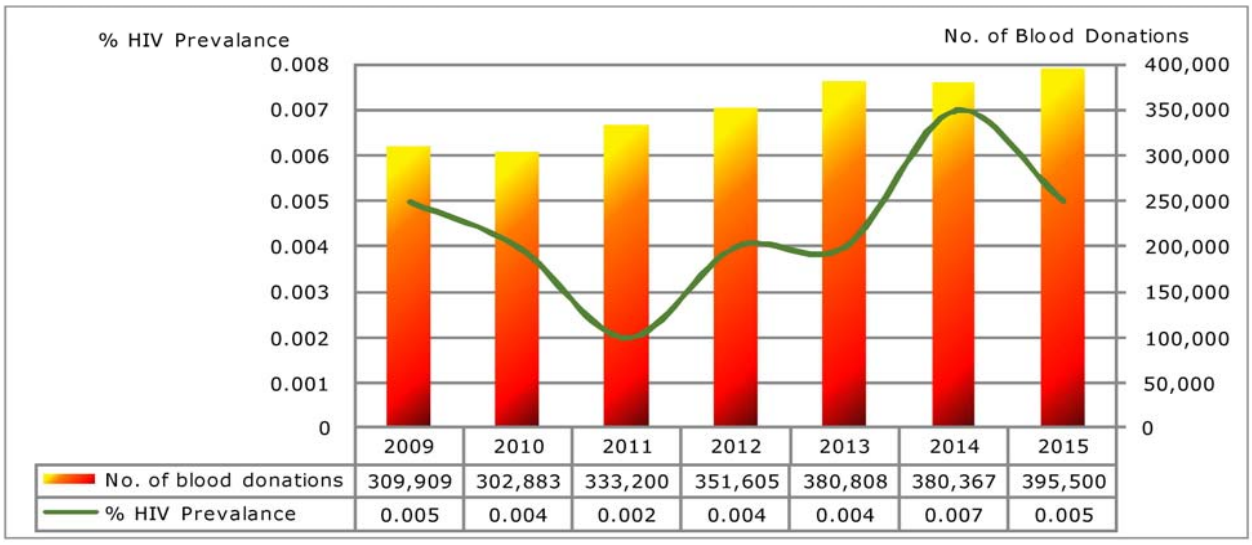
5.2.7.4 HIV in Antenatal Screening

Prior to scaling up of the Prevention of Mother to Child Transmission Programme, two premier maternity hospitals namely the De Soysa Maternity Hospital (DMH) and the Castle Street Hospital for Women (CSHW) have been screening antenatal mothers for HIV. Graph given below shows a gradual increase of HIV prevalence among antenatal women since 2013, in these two urban antenatal clinics.

5.2.7.5 HIV Testing Services

The term HIV testing services (HTS) is used to embrace the full range of services that should be provided together with HIV testing.

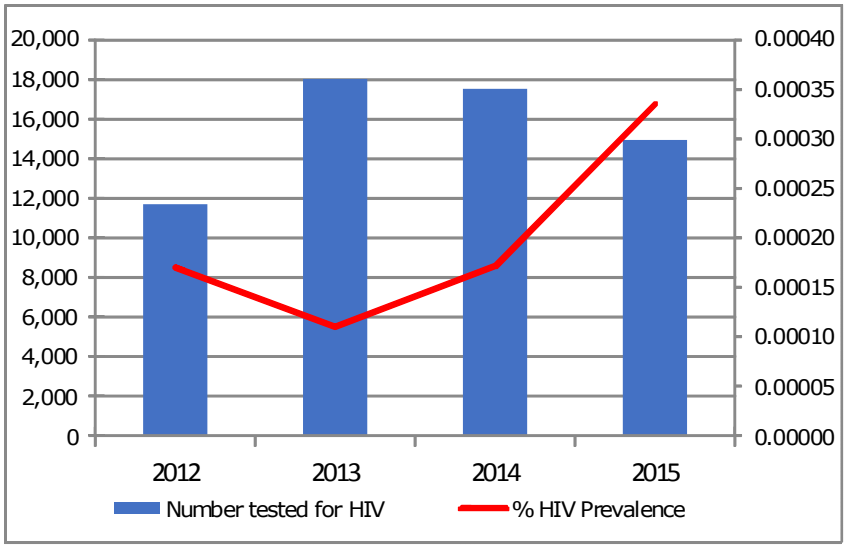
Fig 5.2.22 : Trend of HIV Infections in Donated Blood



	2009	2010	2011	2012	2013	2014	2015
No. of blood donations	309,909	302,883	333,200	351,605	380,808	380,367	395,500
% HIV Prevalance	0.005	0.004	0.002	0.004	0.004	0.007	0.005

Above graph indicates the HIV prevalence among blood donors from 2009 to 2015. Since 2011, it is estimated that HIV prevalence is < 0.1% in the general population of Sri Lanka. Although blood donors are representing the general population, due to the pre-donor screening process, HIV prevalence is considerably lower than that in the general population.

Fig 5.2.23 : HIV Testing in DMH and CSHW, 2012 - 2015



In 2015, over 1 million blood samples were tested for HIV and of them, 235 persons were found to be positive giving an overall test positivity rate of 0.02%. The highest test positivity rate is seen among STD clinic samples (which included STD clinic attendees, symptomatic patients, outreach samples and contacts of attendees - 0.18%) followed by TB screening samples (0.13%).

Table 5.2.12 : Details of HIV Testing Carried Out in Sri Lanka during 2015

Types of blood samples screened for HIV	Number tested	Number positive	Positivity rate
Blood donor screening (NBTS & private sector blood banks)	399,500	20	0.01%
Private hospitals and laboratories	217,889	46	0.02%
Antenatal mothers	279,196	11	0.00%
STD clinic samples*	79,900	144	0.18%
Tri–forces	25,969	1	0.00%
Prison HTC programme	11,382	3	0.03%
TB screening	7,827	10	0.13%
Total	1,021,663	235	0.02%

** (STD clinic samples include STD clinic attendees, testing symptomatic patients, outreach samples and testing of contacts of known HIV positives)*

5.2.7.6 HIV Treatment, Care and Support Services

By the end of 2015, a total of 948 PLHIV (People Living with HIV) were under HIV care services and of them 803 were on ART. During 2015, 235 persons were diagnosed with HIV. Of them 216 (92%) were registered in HIV care services during the same year. Number of PLHIV who are actively followed up in HIV care services (excluding lost to follow-up) as of end 2015 are given below.

Table 5.2.13 : Details of HIV Testing Carried Out in Sri Lanka by Support Services, 2015

ART Center	Pre- ART	ART	Total	Percentage (%)
1. Colombo	76	469	545	57.6
2. Ragama	7	102	109	11.5
3. IDH	4	79	83	8.8
4. Kandy	19	37	56	5.9
5. Kurunegala	11	16	27	2.9
6. Galle	5	22	27	2.9
7. Kalubowila	10	16	26	2.7
8. Jaffna	3	14	17	1.8
9. Anuradhapura	4	12	16	1.7
10. Ratnapura	0	12	12	1.3
11. Kalutara	2	8	10	1.1
12. Polonnaruwa	0	9	9	1.0
13. Gampaha	3	3	6	0.6
14. Negombo	0	4	4	0.4
Grand Total	144	803	947	100

HIV treatment, care and support services including Anti Retroviral Treatment (ART) services were provided to people living with HIV (PLHIV) to reduce illness, improve quality of life and also to prevent further transmission. The services offered include counseling, support for disclosure and partner notification, screening for co-infections, screening for non-communicable diseases, Cotrimoxazole prophylaxis and Hepatitis B vaccination, etc. In addition, females are offered family planning services, regular pap smear screening and PMTCT services during pregnancy.

National STD/AIDS Control Pogramme of the Ministry of Health is the sole provider of ART in Sri Lanka. Except Base Hospital Angoda (IDH), all other ART centers are STD clinics coming under the National STD/ AIDS Control Programme.

5.2.7.7 Sexually Transmitted Infections

One of the primary objectives of the National STD/ AIDS Control Programme is to provide comprehensive care for sexually transmitted infections (STIs). The most common sexually transmitted infections (STIs) are genital herpes, non-gonococcal infections, genital warts, gonorrhoea, chlamydial infection, syphilis and trichomoniasis. People who have contracted STIs are encouraged to seek services from STD clinics distributed throughout the island. All service delivery points are equipped with specially trained staff who provide curative and preventive services.

A total of 22,809 new patients had received services from the National STD/AIDS Control Programme during 2015. The Central Clinic, Colombo is the clinic with the highest service utilization serving the highly populated capital of the country. These patients are managed according to the standard guidelines on STD management, which include appropriate treatment, contact tracing, regular follow up and defaulter tracing.

The Table 5.2.14 summarizes the total diagnoses made of all STD clinic attendees during 2015. Genital herpes has been reported as the commonest presentation.

Table 5.2.14 : Diagnoses Reported from STD Clinics, 2015

Diagnosis	Male		Female		Total	
	No.	%	No.	%	No.	%
Genital Herpes	1,218	22.2	1,727	21.2	2,945	21.6
Candidiasis	971	17.7	1,618	19.9	2,589	19.0
Non-gonococcal Infections	556	10.1	1,663	20.4	2,219	16.3
Genital Warts	1,147	20.9	858	10.5	2,005	14.7
Bacterial Vaginosis	-	-	1,426	17.5	1,426	10.5
Late Syphilis	613	11.2	342	4.2	955	7.0
Gonorrhoea	329	6.0	125	1.5	454	3.3
Early Syphilis	125	2.3	55	0.7	180	1.3
Trichomoniasis	15	0.3	104	1.3	119	0.9
Chlamydia	35	0.6	31	0.4	66	0.5
Early Congenital Syphilis	3	0.1	4	0.0	7	0.1
Late Congenital Syphilis	4	0.1	3	0.0	7	0.1
Opthalmia Neonatorum	2	0.0	1	0.0	3	0.0
Chancroid	2	0.0	1	0.0	3	0.0
Other STI	466	8.5	192	2.4	658	4.8
Total STI	5,486	100.0	8,150	100.0	13,636	100.0

Significant proportions of clinic attendees have been seeking care for candidiasis (19%) and bacterial vaginosis (10%) though they do not belong to the category of STIs.

5.2.7.8 Elimination of Mother to Child Transmission of HIV

Number of samples tested for HIV among pregnant women increased from 17,000 in 2012 to 262,047 by the end of 2015. Eleven pregnant women were identified as having HIV infection through antenatal screening for HIV and one pregnant woman was identified due to contact tracing. In addition, four women with HIV who were under HIV care services became pregnant and received EMTCT services in 2015.

Appropriate services were provided to all pregnant women with HIV to eliminate mother to child transmission of HIV through STD clinics. Since 2011, all pregnant women diagnosed with HIV infection, who received services for EMTCT, delivered HIV uninfected babies.

5.2.7.9 Condom Promotion

Condom promotion is an important programme area in the National STD/AIDS Control Programme and carried out by different categories of health care providers such as doctors, public health nursing sisters, nurses and public health inspectors attached to STD clinics.

Condoms are provided to needy STD clinic attendees free of charge and also promoted during various awareness programmes. National STD/AIDS Control Programme developed a National Condom Strategy based on the key outcomes of the situation assessment of condom programming conducted during 2015.

5.2.7.10 Laboratory Services for Sexually Transmitted Infections

One of the primary roles of the laboratory is to screen, to diagnose and to monitor the patients with sexually transmitted infections. The range of tests provided covers mainly the bacterial and the viral STIs. In addition, the antibiotic resistance pattern of N. gonorrhoea is tested at the reference laboratory.

5.2.7.11 Multi - Sectoral Collaboration

The multi-sectoral unit of the NSACP oversees, coordinates and provides technical support for advocacy, capacity building, awareness and internalization of STI and HIV prevention activities of the multi-sectoral institutions.

Prevention interventions on STIs and HIV in the prison sector have been conducted since 2005. The objective of the prison sector programme is to prevent HIV/AIDS and other sexually transmitted infections among the prison community in Sri Lanka, through life skills based education and health promotion in prisons. Island-wide prison intervention programmes were conducted during 2011-15 under the theme of "Light for life".

Table 5.2.15 : Number of Laboratory Tests Carried Out at the Reference Laboratory of NSACP during 2015

Name of the test	Number of tests
HIV screening	82,709
Western Blot	642
HIV Viral load	651
CD4/CD8 count	1,731
VDRL	79,407
TPPA	10,074
GC culture	7,531
GC ABST	99
Chlamydia PCR	2,688
Cervical cytology	1,458
Full blood count	1,298
ESR	125
HBs Ag	779
Serum amylase	50
Blood sugar	295
Lipid profile	264
Blood urea	315
Serum creatinine	509
SGOT	556
SGPT	549
Alkaline phosphate	481
Serum bilirubin	490
Total protein	176
Serum albumin	155
Serum globulin	155
Direct bilirubin	404

The activities of the armed forces were based on the National Strategic Plan for 2013-2017. The objective of the armed forces training was to achieve positive behaviour change, improve knowledge on HIV and encourage safe sexual behaviours. The programme resulted in promoting HIV testing among them.

Youth programmes were carried out at island wide vocational training centers. Training of trainers programmes based on the training module were conducted for island-wide Youth Council officers and Youth Corps officers. A total of 47 Youth Corps trainers and 145 Youth Council officers were trained during 2015 as trainers.

The National STD/AIDS Control Programme was involved in revising the curriculum of the Health and Physical Education and was successful in including some aspects of sexual health education including HIV and STI prevention.

5.2.7.12 Dissemination of Information via Reports and Website

National STD/AIDS Control programme is carrying out HIV case reporting system, STD surveillance and monitoring and evaluation of all service provision clinics situated through the country. HIV and STD related information is regularly disseminated by the official website of NSACP <www.aidscontrol.gov.lk>. Both local and international reporting requirements are done by the Strategic Information Management Unit of NSACP. Public can seek specific information via emails <info@aidscontrol.gov.lk>.

5.2.8 National Cancer Control Programme (NCCP)

5.2.8.1 Background Information

National Cancer Control Programme (NCCP) which was established in 1980 is the national focal point for prevention and control of cancers in the country. It is responsible for advocacy for policy formulation, development of strategies and implementation of the activities for cancer prevention and control at national level, monitoring and evaluation of programme activities including surveillance of cancers at all levels and facilitating research related to cancer.

NCCP activities are conducted mainly using the government funds and are also supported by the World Health Organization (WHO) including the International Agency for Research on Cancer (IARC) and the World Bank through the Health Sector Development Project for improving facilities for cancer care and capacity building.

Cancer prevalence in Sri Lanka is estimated to be around 51,300 (within 5 years of diagnosis) in the country (Globocan estimates for 2012). The common sites of cancer among males are 'lip, oral cavity and the pharynx', 'trachea, bronchus and lungs', oesophagus, 'colon and rectum' and lymphoma and among females, breast, cervix uteri, thyroid gland, oesophagus, and 'colon and the rectum'. A considerable proportion of cancer cases report to healthcare institutions for diagnosis and treatment in advanced stages of the disease, resulting in poor survival and high mortality rates. Cancer is still associated with a lot of fear and to a lesser extent stigma in the country.

The overall crude cancer incidence rate (CR) was 82.6 per 100,000 population and the age standardized rate (ASR) was 87.5 per 100,000 population in 2009. The same ten cancer types had remained in the top ten positions since 2001.

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

- Ensure primary prevention of cancers by addressing risk factors and determinants by improved public awareness and empowerment.
- 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.
- Ensure sustained and equitable access to diagnosis and treatment facilities for cancers.
- Ensure rehabilitation, survivorship and palliative care facilities for cancer patients and support to their care givers at all levels.
- Strengthen cancer information systems and surveillance to monitor the progress and to evaluate the outcomes of cancer control actions.
- Promote professional education of doctors, nurses, technicians and health workers to augment trained human resources.
- 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 the rate of increase of the Crude Incidence Rate of oral cancer by 25% from existing level (from 2005 to 2009) of 0.73 by the year 2020.
- To reduce oral cancer detected at stages III and IV by 12% by the year 2020 from the baseline level of 72% in 2007.

5.2.8.6 National Policy & Strategic Frame Work on Prevention & Control of Cancers, Sri Lanka

National Policy on Prevention & Control of Cancers was approved by the Cabinet of Ministers and officially it was launched in December 2015.

5.2.8.7 National Advisory Committee on Prevention & Control of Cancers

National Advisory Committee on Prevention & Control of Cancers chaired by the Secretary 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. Three meetings of the Advisory Committee were held in year 2015.

5.2.8.8 Cancer Prevention & Control Activities at Provincial Level

The Provincial Directors of Health Services and Regional Directors of Health Services are the focal points at provincial and district levels respectively for cancer control activities. It is expected to coordinate these activities through establishment of district cancer control committees headed by the Regional Director of Health Services and with the participation of MO/ NCD, MO/MCH, RE, RDS, MOOH consultants in curative & preventive sector, etc.

5.2.8.9 Cancer Screening and Early Detection

In addition to the Well Women Clinics conducted under the patronage of Family Health Bureau and by Medical Officers of Health, screening for common cancers were supplemented by the National Cancer Control Programme through the Cancer Early Detection Centre, Narahenpita and through mobile clinics organized under Suwa Udana Programme and other programmes.

5.2.8.10 Cancer Surveillance

One of the main functions of the National Cancer Control Programme is the maintenance of the National Cancer Registry. Cancer incidence data collected from nine provincial cancer treatment centres are used for this purpose. Cancer incidence data for the year 2009 was published in 2015.

In addition, since 2012, population based cancer registry has been initiated for the Colombo district. These data are yet to be analysed.

Table 5.2.16 : Screening for Common Cancers Conducted by National Cancer Control Programme

Type of Screening		Suwa Udana Clinics organized by the ministry	Other mobile clinics attended through invitation	National Cancer Early Detection Centre	Total
No. of clinics held		19	63	308	390
Total no. of clinic attendees		563	2,136	2,779	5,478
Breast examination	No. examined	563	2,136	2,514	5,213
	No. of abnormalities detected	163	320	945	1,428
Vaginal examination	No. examined	271	953	895	2,119
	No. of abnormalities detected	71	153	115	339
Pap smears	No. of PAP smears taken	271	948	859	2,078
	No. of abnormalities detected	10	14	58	82
Oral examination	No. examined	563	2,136	2,689	5,388
	No. of abnormalities detected	20	19	27	66
Thyroid examination	No. examined	563	2,136	2,504	5,203
	No. of abnormalities detected	19	46	165	230
No. of Mammography done		-	-	414	414
No. of colposcopy examination done		-	-	37	37
No. of referrals made		245	563	387	1,195

Table 5.2.17 : Number of Newly Registered Cancer Patients at Government Cancer Treatment Centres*, 2008 - 2015

Cancer Treatment Centre	Year							
	2008	2009	2010	2011	2012	2013	2014	2015
NCI - Maharagama	11,163	11,756	11,513	12,403	12,550	12,689	13,247	13,890
TH - Kandy	3,648	3,634	4,046	5,042	3,717	3,516	4,000	4,023
TH - Karapitiya	1,764	1,866	1,793	2,193	2,158	2,455	2,479	2,394
TH - Jaffna	412	479	659	1,055	1,048	1,061	1,032	1,100
TH - Anuradhapura	712	551	641	698	803	850	1,114	1,300
PGH - Badulla	753	794	858	1,430	2,152	2,203	1,527	2,285
TH – Batticaloa**	-	169	565	727	1,094	932	897	900
TH - Kurunegala	538	804	806	1,174	1, 122	1,042	1,238	1,680
PGH – Rathnapura	319	485	636	735	808	767	807	902
Total	**19,309**	**20,538**	**21,517**	**25,457**	**25,452**	**25,515**	**26,341**	**28,474**

* There is an over-reporting of number of cases since some patients might get registered in more than one cancer treatment centre. For example after removing all duplicates, the correct number of new cases for 2008 was 16,511 and for 2009 it was 16,888.

** Provincial Cancer Treatment Center in TH Batticaloa commenced functioning in 2009

5.2.8.11 Trend from 2001 to 2009

The top ten cancers reported among females and males respectively from 2001 to 2009 are given in the following tables.

Table 5.2.18 : Number of New Cases Detected in the Top 10 Cancers among Females, 2001 - 2009

Cancer Site	2001	2002	2003	2004	2005	2006	2007	2008	2009
Breast	1,548	1,580	1,580	1,746	1,859	2,101	1,914	2,220	2,293
Cervix uteri	744	753	753	816	881	936	732	858	879
Ovary	466	539	539	627	596	671	529	637	698
Thyroid	337	451	451	555	592	683	656	815	816
Oesophagus	498	490	490	554	524	610	534	617	608
Lip, oral cavity & pharynx	369	364	364	414	377	390	398	477	520
Colon & rectum	245	258	258	310	353	372	405	508	517
Leukaemia	218	241	241	265	257	267	275	285	310
Lymphoma	223	144	144	230	243	257	257	288	252
Uterus	168	177	177	201	237	251	263	397	397
Total number of cases	5,901	6,351	6,445	7,009	7,314	7,875	7,279	8,816	9,030

Table 5.2.19 : Number of New Cases Detected in the Top 10 Cancers among Males, 2001 - 2009

Cancer Site	2001	2002	2003	2004	2005	2006	2007	2008	2009
Lip, oral cavity & pharynx	1,234	1,137	1,024	1,201	1,240	1,427	1,415	1,630	1,773
Trachea, bronchus & lungs	516	519	600	633	666	691	723	814	875
Oesophagus	420	416	449	461	498	486	530	664	656
Colon & rectum	241	280	278	354	388	371	409	477	489
Lymphoma	231	285	301	298	360	369	363	434	408
Larynx	284	303	262	290	324	341	343	393	393
Leukaemia	274	300	321	350	313	329	332	344	378
Prostates	250	297	259	273	303	321	305	369	381
Unknown primary site	282	276	319	232	257	303	326	423	404
Brain	131	153	163	147	171	196	164	138	149
Total number of cases	5,262	5,283	5,437	5,624	6,058	6,205	6,356	7,695	7,858

5.2.8.12 Trends in Cancer Crude Incidence Rates, 1985 - 2010

The trends of Crude Incidence Rate of cancers are given in the graphs below. Crude Incidence Rate is the number of new cancer cases detected per 100,000 population per year.

Fig 5.2.24 : Leading Five Cancer Sites of Females, 1985 - 2010

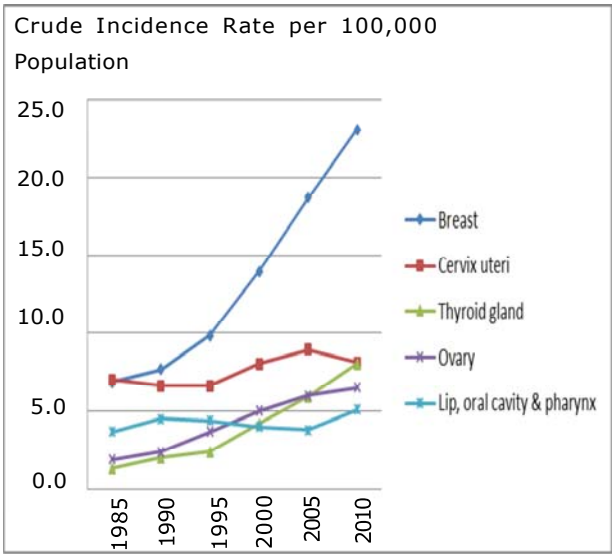
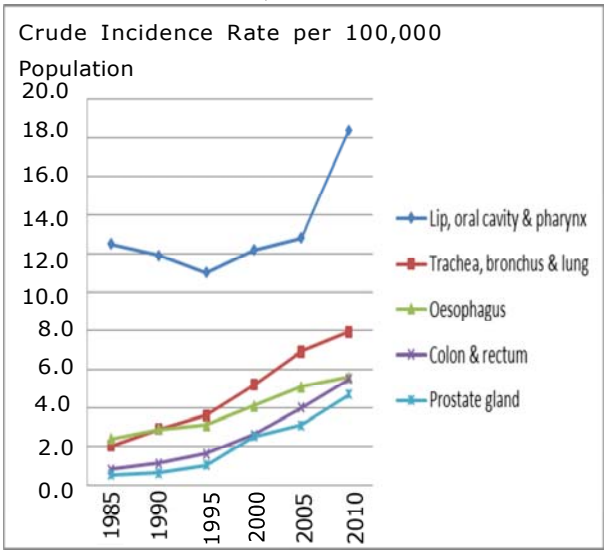


Fig 5.2.25 : Leading Five Cancer Sites of Males, 1985 - 2010



5.2.8.13 Age Standardized Cancer Trends from 1985 - 2010

Trends of age standardized incidence rates of main types of cancers reported among females and males from 1985 to 2010 are given in the following graphs.

Fig 5.2.26 : Age Standardized Incidence Rates (ASR) - Breast Cancer

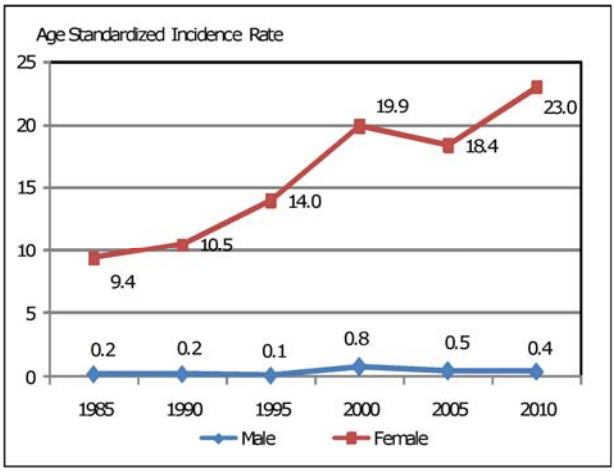


Fig 5.2.27 : Age Standardized Incidence Rates (ASR) - Lip, Oral Cavity and Pharyngeal Cancers

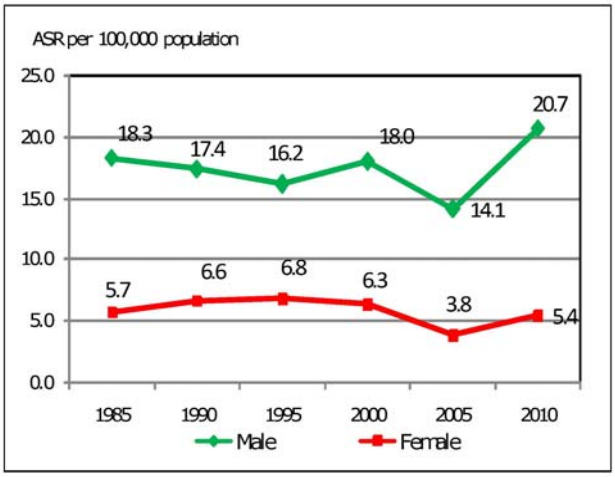


Fig 5.2.28 : Age Standardized Incidence Rates (ASR) - Uterine Cervix Cancers

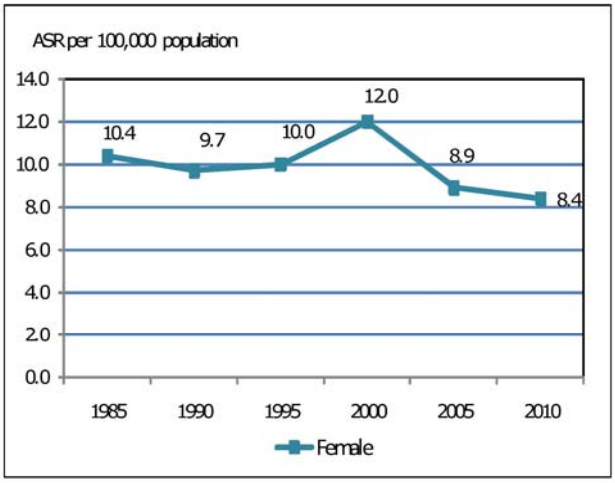


Fig 5.2.29 : Age Standardized Incidence Rates (ASR) - Ovarian Cancers

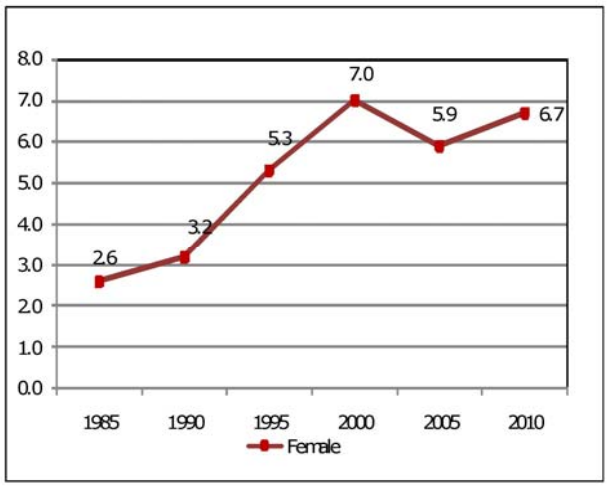


Fig 5.2.30 : Age Standardized Incidence Rates (ASR) - Colon and Rectum Cancers

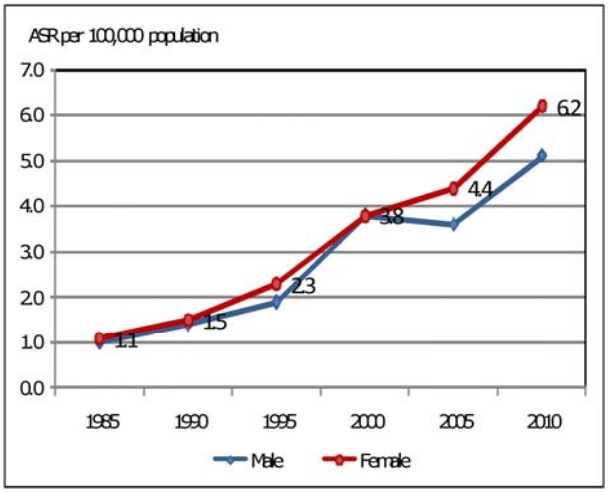


Fig 5.2.31 : Age Standardized Incidence Rates (ASR) - Oesophageal Cancers

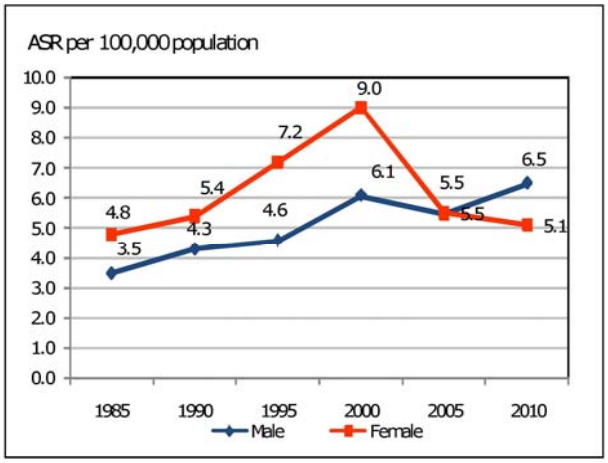


Fig 5.2.32 : Age Standardized Incidence Rates (ASR) - Thyroid Gland Cancers

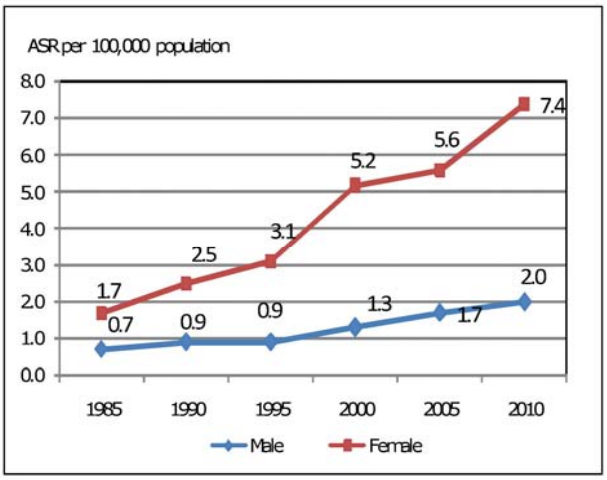
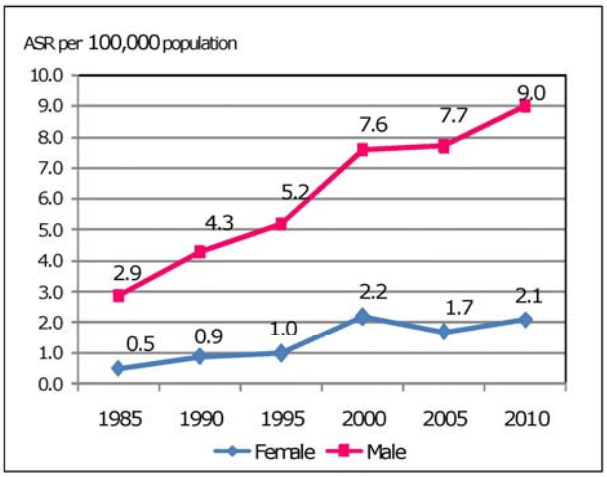


Fig 5.2.33 : Age Standardized Incidence Rates (ASR) - Trachea, Bronchus and Lung Cancers



5.2.9 National Non Communicable Disease (NCD) Prevention and Control Programme

Non Communicable Diseases (NCD) emerges with the transition of socio-economic, epidemiological and demographic conditions over the last few decades. Government hospital statistics indicate that in 2008, 71% of all annual deaths in Sri Lanka are due to chronic NCDs. Among all NCDs, Cardiovascular Diseases, Diabetes, Cancers and Chronic Respiratory Diseases are now the leading causes of mortality, morbidity and disability accounting for 29.6%, 9.4%, 3.9% and 8.5% respectively. The NCD Unit is the national focal point for prevention and control of acute and chronic NCDs in the country. The unit coordinates and implements its activities through the provincial and regional health authorities. The direction and guidance for the implementation and evaluation of the NCD programme is provided by Secretary, Additional Secretary (Medical Services), Director General of Health Services, Deputy Director General of NCD and Director (NCD). The programme is evaluated and assisted by National Steering Committee and National Advisory Body for NCDs.

5.2.9.1 Vision

A Country that is not burdened with Chronic Non Communicable Diseases (NCDs), deaths and disabilities.

5.2.9.2 Mission

The overall goal is to reduce the burden due to Chronic NCDs by promoting healthy lifestyles, reducing the prevalence of common risk factors and providing integrated evidence-based treatment options for diagnosed NCD patients.

5.2.9.3 Chronic NCD

5.2.9.3.1 Burden of Non Communicable Diseases

The National Policy on Chronic NCD Prevention addresses four major NCDs and strategies for reduction of shared modifiable risk factors: smoking, alcohol, obesity, unhealthy diet and sedentary lifestyles which are implemented through the existing health network with the support of both government and non-government organizations in the country.

The National NCD Policy emphasizes the promotion of health and well-being of the population by preventing the diseases and providing acute and integrated long term care for people with NCDs. Primary Health care facilities at the door step of the community has been strengthened by establishing sustainable screening programme through Healthy Life Style Centers (HLCs) and initiating availability of essential generic drugs and technologies to manage NCDs and other NCD related risk factors.

The mandate of the NCD Unit is to avert prevention and control of rapidly growing NCDs through expansion of services, guided by National NCD Policy leading to healthy life free of morbidity, disability and premature mortality with the partnership of relevant stakeholders to lessen the human, social and economic impact to the people in the country.

The activities of the NCD Unit were carried out based on the strategic objectives of the NCD policy and are as follows.

5.2.9.3.2 Objectives 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.

5.2.9.3.3 Key Strategies of Chronic NCD Prevention and Control Programme

- 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

5.2.9.3.4 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 has been indicated in the NCD policy.

NCD screening programme implemented through the NCD unit consists of 3 strategies.

I. To screen people in HLCs
II. To conduct workplace screening
III. To conduct mobile screening

Ministry of Health has taken an initiative to establish HLCs throughout the island to screen normal people. The target group to screen at Healthy Life style Centres are people who are between 40 to 65 years. Main aim of screening is to identify both behavioural and intermediate risk factors early in view of preventing pre mature deaths due to NCDs.

A DLI in Second Health Sector Development Project is to have at least two HLCs in one MOH area to screen the target population.

HLCs have been mainly established in health institutions. Wherever there is no health institution to establish HLC, approval has been given to establish HLCs in MOH office and in the field clinics.

5.2.9.3.5 Monitoring and Evaluation of the NCD Programme

1. Monitoring and evaluation of NCD programme is carried out by assessing the trends in morbidity and mortality due to major NCD. This is done by analysing routinely collected morbidity and mortality data.
2. Assessing the trend in the risk factors for NCD is usually done by conducting periodic surveys specially the STEP survey.
3. Conducting review meetings at the national and district levels
   (I) Central level review meetings
   * NCD steering committee meeting
   * National Advisory Board on NCD (NABNCD)
   * Quarterly MO(NCD) review meeting
   (II) District level review meetings
   * Quarterly review meeting

5.2.9.3.6 Landmark Events of NCD Prevention and Control Programme in 2015

- Establishment of 814 Healthy Life style Centers (HLCs) in primary health care institutions in 2015 for screening people between 40-65 years for early recognition of risk factors and prevention of premature deaths due to NCDs.
- Ministry of Health, Ministry of Youth Affairs and Skills Development and National Youth Services Council signed a Memorandum of Understanding (MOU) for mobilizing youth for NCD prevention.
  Main objective in signing a MOU is to educate the youth attached to the grass root level youth clubs on adopting healthy life styles.
  Two day residential training program consisting of lectures and practical sessions was conducted for district youth leaders at the provincial level.
  This program was reviewed 6 months after the workshop.
- The multi sectorial action plan for prevention & control of NCD has developed.
- Health warnings about dangers of smoking
  In order to develop high level of awareness of the health risks, suffering and disfigurement of tobacco use across all the age groups, Ministry of Health decided to include pictorial warnings covering 80% of the cigarette packet.

- A national consultative meeting to develop the National Action Plan on NCD prevention and control 2013 - 2020 was conducted with the participation of all relevant stakeholders.
- Training of Trainers Programme on National Guidelines on Management of NCDs at Primary Healthcare Level for provincial and district level Physicians and Medical Officers attached to Primary Healthcare Institutions was conducted.
- Island wide NCD Risk Factor Surveillance (STEPS) 2015 in collaboration with WHO has been completed.
- Heart diseases are leading cause of the death in the world. Therefore many initiatives have been taken globally and locally in view of preventing heart diseases in the community. As such World Heart Day will be commemorated yearly to make the community aware on the importance of healthy life style. World Heart Day 2015 Commemorated on 28th September 2015.
- Conducted one day orientation programme for newly appointed MOONCD on Non Communicable Diseases and how to implement the NCD prevention and control activities at the district level.
- Conducted healthy life style programme for upper and middle level managers of other ministries, departments & authorities. Aim was to educate them on healthy life style and to have a focal point in other ministries to conduct NCD related activities.
- Training curriculum for MO(NCD) was developed.
- NCD management guideline training programmes were conducted at the district level.

5.2.9.4 Acute NCD

5.2.9.4.1 Overview

The focal point for injury prevention in the Ministry of Health is the Non Communicable Disease (NCD) unit. It involves in planning programmes, developing guidelines and policies in preventing almost all types of injuries which could occur during one's lifetime from the date of birth to the death covering all ages from infancy to adulthood. The programmes are mainly funded through the funds of government of Sri Lanka and some of the activities are funded by the World Health Organization. NCD unit is working in collaboration with other stakeholders in view of integrating injury prevention into everyday life of people across homes, schools, work places and roads in Sri Lanka.

5.2.9.4.2 Injury Policy

NCD unit has already prepared the draft injury policy. The identified key strategies of the policy are

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 stakeholders 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.

Fig 5.2.34 : Number of MOH Areas with Two or More HLC's, 2015

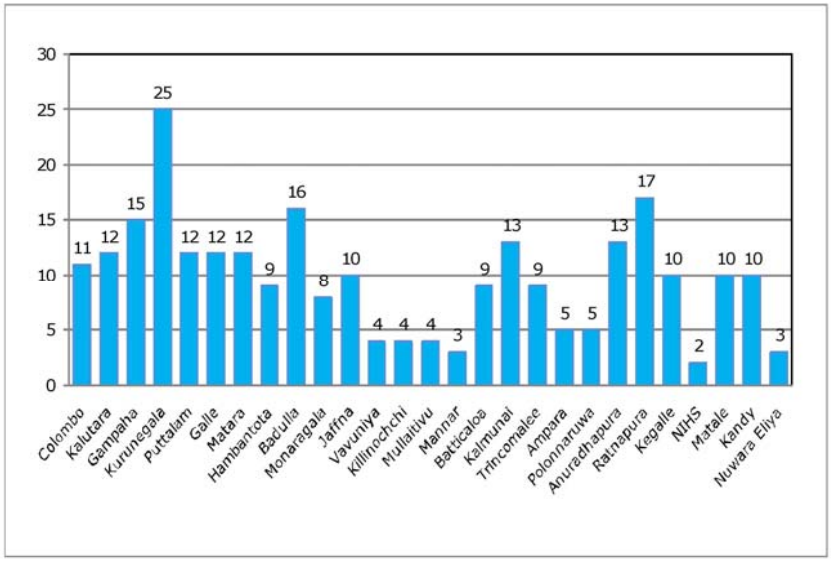


Table 5.2.20 : NCD Screeing Activities, Distribution of Risk Factors by District, 2015

RDHS Area	District Population	Total Screened	% of Smokers Detected	% of Tobacco Chewers Detected	% of Alcoholics	% of BMI 25 - 29.9	% of BMI > 30	% with BP>=140/ 90mm Hg	% with Blood Glucose >=126mg /dl	Total No. CVD Screened	% with CVD>30
Ampara	262,429	10,334	10.00	21.90	12.34	26.86	6.86	15.05	8.24	8,293	0.10
Anuradhapura	889,435	16,142	9.43	16.60	8.69	25.54	7.49	40.19	10.35	9,606	1.20
Badulla	904,810	16,139	8.93	21.44	10.21	25.57	6.91	14.38	13.76	16,139	0.51
Batticaloa	582,323	18,897	7.18	14.66	7.09	29.58	14.35	35.70	10.43	18,897	0.80
Colombo	1,723,144	14,108	6.97	9.44	6.55	32.59	2.41	64.86	13.00	10,759	0.43
Galle	1,073,574	12,263	4.49	6.68	4.43	26.98	7.92	32.65	12.67	4,234	0.59
Gampaha	2,403,448	26,414	5.98	11.24	7.78	39.48	15.90	47.91	15.74	21,892	0.33
Hambantota	670,600	8,665	4.39	12.22	5.33	21.60	4.96	21.20	4.50	7,946	0.29
Jaffna	614,540	15,644	8.11	14.43	7.72	25.70	9.23	21.15	9.02	15,401	0.08
Kalutara	996,085	13,086	5.00	12.30	8.95	30.30	8.59	14.67	10.44	11,182	0.17
Kalmunai	442,191	16,952	6.26	12.94	3.91	31.76	10.71	5.14	13.92	16,952	0.21
Kandy	1,469,889	15,794	5.55	6.95	4.64	24.38	7.81	18.18	9.28	7,532	0.50
Kegalle	850,613	23,065	0.18	0.11	0.25	6.26	1.60	0.84	1.41	12,747	0.40
Kilinochchi	139,237	3,869	9.18	18.97	11.19	23.52	9.12	41.15	14.60	3,791	0.34
Kurunegala	1,609,916	49,568	4.30	14.02	5.56	26.83	7.02	15.78	6.55	44,262	0.31
Mannar	161,457	8,341	8.63	13.18	9.72	18.27	11.22	15.57	11.74	5,341	0.49
Matale	512,403	5,361	4.03	5.26	3.41	26.75	12.24	12.65	13.15	271	0.00
Matara	820,347	14,580	3.70	8.11	4.18	23.24	8.00	26.04	8.88	8,508	0.33
Monaragala	448,543	25,717	7.00	14.69	9.05	23.63	6.30	19.65	7.61	25,717	0.77
Mullaitivu	127,892	6,460	10.19	16.67	10.88	24.60	6.53	19.61	11.16	3,820	0.00
Nuwara Eliya	832,593	1,300	13.92	26.00	18.08	24.31	7.00	42.23	11.15	981	1.12
Polonnaruwa	477,741	5,412	4.08	15.78	3.81	27.75	4.12	16.69	7.10	5,412	0.00
Puttalam	780,315	16,033	5.64	11.18	6.96	25.27	9.67	7.52	14.05	5,502	0.00
Rathnapura	1,098,064	24,612	5.88	25.08	9.12	23.96	5.41	19.27	8.71	24,061	0.10
Trincomalee	381,343	9,418	4.46	6.68	4.69	15.43	8.02	9.57	7.15	5,638	1.40
Vavuniya	193,406	9,557	15.60	25.88	14.71	19.54	5.46	13.75	10.25	9,557	0.21
NIHS	310,175	3,313	6.19	8.15	6.76	39.72	18.23	29.07	20.77	3,147	0.41
Total	20,776,513	391,044	6.15	13.34	6.95	25.60	8.03	15.63	9.80	307,588	0.42

BMI - Body Mass Index BP - Blood Pressure CVD - Cardiovascular Diseases

5.2.9.4.3 Injury Surveillance

As no proper injury surveillance system is available in Sri Lanka currently, NCD unit has initiated an injury surveillance system recently with the consultation of professionals. Following are the phases of national injury surveillance system.

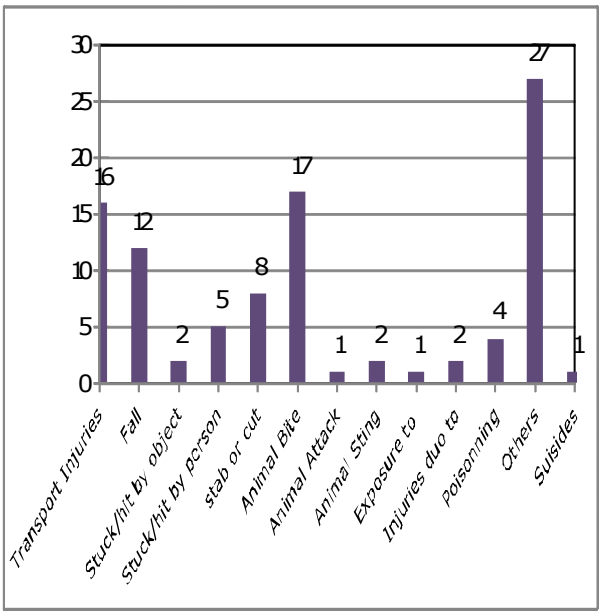
1. Establishing injury information system
2. Conducting special information system for selected injuries
3. Conducting death reviews
4. Implementation of a feedback system

This system has been piloted in 15 selected hospitals covering all provinces in Sri Lanka viz Provincial General Hospital Badulla, Teaching Hospital Batticaloa, National Hospital Sri Lanka, Lady Ridgeway Children's Hospital, Teaching Hospital Colombo South, Base Hospital Homagama, Teaching Hospital Karapitiya, Teaching Hospital Jaffna, District General Hospital Kalutara, Base Hospital Horana, District General Hospital Nawalapitiya, District General Hospital Matale, District General Hospital Polonnaruwa, District General Hospital Chilaw and Provincial General Hospital Ratnapura. It is planned to introduce the system throughout the country in 2016.

Until establishing a standard injury surveillance system in the country, the NCD unit has established a special mechanism to obtain some of the data related to injuries from base and above hospitals through district MO NCDs in 2014. Through this system, NCD unit was not able to obtain statistics of the number treated at the out patients departments such as OPD, ETU, A&E, PCU, ASU, etc. as well as at the wards. Most of the time, the data was obtained from the inward patients, but most of the statistics related to OPD patients were not obtained. But, the system helped to translate the injury types available in the IMMR from vague injury types to more practical way to more specific injuries such as road traffic.

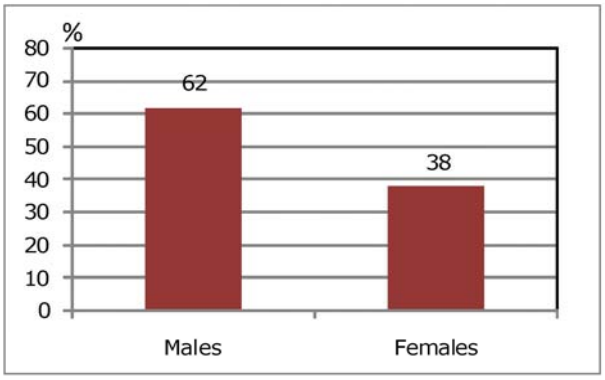
Though it is not completed due to many reasons, it gives some idea about the burden of injuries in Sri Lanka.

Fig 5.2.35 : Burden of Injuries by Specific Injury Type, 2015



According to the above figure, the commonly occurring injury type was animal bites (17%) while transport injuries (16%) and falls (12%) became the second and third commonest causes.

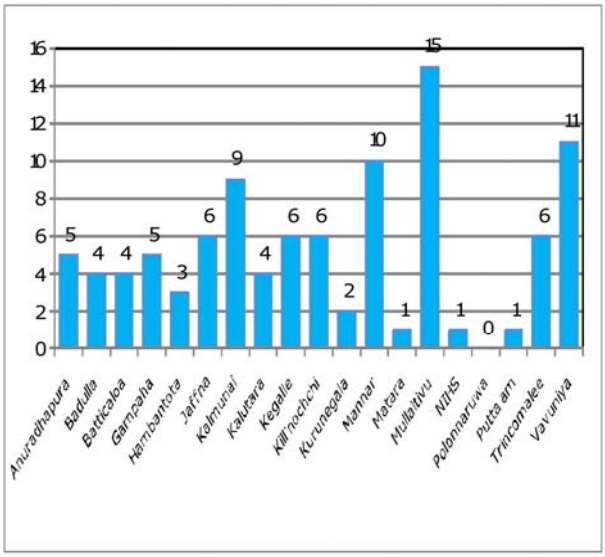
Fig 5.2.36 : Burden of Injuries by Sex, 2015



As in the other parts of the world, males (62%) were mostly affected than females (38%).

Moreover, when considered the actual numbers, most of the injuries reported from Gampaha district (23%). But the population standardized injury rate was highest in Mullativu district and generally in the Northern and Eastern provinces.

Fig 5.2.37: Population Standardized Rates of Injuries by Reported District



5.2.9.4.4 Awareness on Injury Prevention

Through the awareness programmes conducted by the NCD unit, public is made aware both on unintentional and intentional injuries. The public awareness programmes are usually being carried out through the health officers mainly through the public health staff and also through other relevant sectors. Training programmes for trainers in injury prevention, development of training manuals for trainers, developing action plans for specific injury types, developing public awareness educational materials are among some of the programmes conducted by the NCD unit. Moreover, public was specifically educated on road traffic injuries and importance of first aid through commemoration of important days related to injuries such as the Third United Nations Global Road Safety Week from 4th to 10th of May, 2015 and World Day of remembrance of Road Traffic Victims usually due on 3rd Sunday of November each year on 16th of November 2015. Moreover, islanded public awareness programmes related to different aspects of injuries were conducted through out the country mainly through MONCDs.

Safe community programme which has been piloted at the area around Base Hospital, Horana in Kalutara district was initially targeted the safety of the public from occurring injuries.

But with the successful results shown through the pilot programme, the concept of safe community has been expanded and aimed at safety of public from all sorts of problems including injuries, chronic non communicable diseases and also communicable diseases where ever possible. Hence the NCD unit has taken initiatives to introduce the programme in other parts of the country.

5.2.9.4.5 Pre Hospital and Post Admission Care for Injured

Improving pre hospital care as well as post admission care has been considered as a priority and crucial in prevention of accident related morbidities and mortalities. Among the number of steps taken to improve pre hospital care, first aid has been considered a priority area. Hence first aid and injury prevention programme has been planned for school children as well as for bus drivers, 3 wheel drivers and school bus/ van drivers.

5.2.9.4.6 Monitoring and Evaluation

Injury prevention action plans, strategies and activities are coordinated, monitored and evaluated at the national level by the National Committee for Prevention of Injuries (NCPI) which consists of all the relevant stake holders from both government and private sectors related to injury prevention chaired by the Director General of Health Services and also responsible to ensure that stipulated impact and outcomes are achieved through the health sector and other relevant sectors. Members of NCPI meet and discuss matters related to injury prevention and safety promotion issues once in 2 – 3 months. Moreover, technical working groups have been formed under the Director NCD to look in to specific areas related to injuries such as injury prevention and control, child injury prevention and control, drowning prevention and injury surveillance.

Additionally, NCD unit monitors all the relevant activities through review meetings at the district and national level. Moreover specific working groups comprising of relevant stakeholders have been functioning to achieve different objectives such as prevention of accidents, prevention of childhood injuries, prevention of drowning and establishing an injury surveillance system.

5.2.10 National Mental Health Programme

5.2.10.1 Introduction

Directorate of Mental Health is the national focal point of the Ministry of Health responsible for policy development, strategic planning, strengthening of mental health services through improved infrastructure, human resources and monitoring and evaluation of national mental health programme. In implementing this role, a close collaboration is established with professional bodies, provincial health authorities, other relevant ministries and departments, NGOs, civil societies and consumer groups.

5.2.10.2 Vision

A society where mental well-being and human rights are valued and promoted, and people with mental disorders have timely and affordable access to comprehensive, integrated, effective, and culturally appropriate mental health and psychosocial care, free from stigma and discrimination.

5.2.10.3 Mission

Establish an enabling environment for the enhancement of mental wellbeing for all, through mental health promotion, illness prevention, treatment and rehabilitation, psychosocial care and protection of human rights.

5.2.10.4 Goal

To develop comprehensive and high quality mental health care services for health promotion, prevention of mental disorders, treatment and rehabilitation, that are effective, accessible, equitable and affordable for the whole population across their lifespan in a collaborative and multi-sectoral manner while preserving and promoting the human rights and dignity of individuals.

5.2.10.5 Objectives

1. To strengthen effective leadership and good governance for mental health at all levels of care.
2. To provide comprehensive, integrated and responsive mental health and psychosocial care.
3. To implement mental health promotion and prevention strategies.
4. To protect the human rights of persons with mental illness and psychosocial disabilities.
5. To strengthen resources required for the delivery of services.
6. To strengthen monitoring, evaluation and information system.
7. To promote research and evidence based practices in mental health.
8. To promote advocacy to reduce mental health treatment gap, stigma and discrimination.

5.2.10.6 Major Strategies of National Mental Health Programme

- 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
- Monitoring and evaluation of the mental health program

5.2.10.7 Current Situation

Mental health problems are on the rise in Sri Lanka. According to NIMH statistics, one out of ten persons in Sri Lanka suffers from a mental illness, and only 20% receive treatment.

Mental health is an integral part of health. Population needs, mental health services and mental health promotion in Sri Lanka have undergone significant change. The more recent developments of mental health field are aimed at expanding the service delivery through infrastructure and human resource development while concentrating on improving quality of care. Based on available human resource data, there are 80 consultant psychiatrists deployed across the country providing mental health services. Currently, acute inpatient facilities are available in 22 of the 25 districts of Sri Lanka. Based on available human resources data, there are 71 consultant psychiatrists deployed across the country providing mental health services. Intermediate care rehabilitation facilities and long stay facilities are available in some districts. Outpatient facilities are available in most parts of the country through specialist clinics, divisional and out-reach clinics providing easy access for the services.

The Directorate of Mental Health of the Ministry of Health, has taken various steps to improve the coverage and quality of mental health services and capacity building of health staff related to mental health. Mental health care has been extended into the community through community support centers and alcohol rehabilitation centers at district levels. Currently there are 9 alcohol rehabilitation centers, 14 intermediate care units and 19 community support centers functioning in the country. Out of those, 10 community support centers are in northern part of Sri Lanka.

Table 5.2.21 : Human Resource in Mental Health

Consultant Psychiatrist	80
Medical Officer of Mental Health	253
Senior Registrar / Registrar	44
Psychiatric Nurse	23
Psychiatric Social Worker	62
Occupational Therapist	28

5.2.10.8 Key Activities Conducted in 2015

5.2.10.8.1 Formulation of Policies

Drafting the National Policy on Mental Health and Strategic Plan is in the process of finalizing and subsequent approval of the cabinet.

National Policy on Alcohol Control was printed and published as an extraordinary gazette in May 2016 and launched in August 2016.

Fig 5.2.38 : Trends in Mental Health Problems based on Hospital Admissions, 1996 - 2013

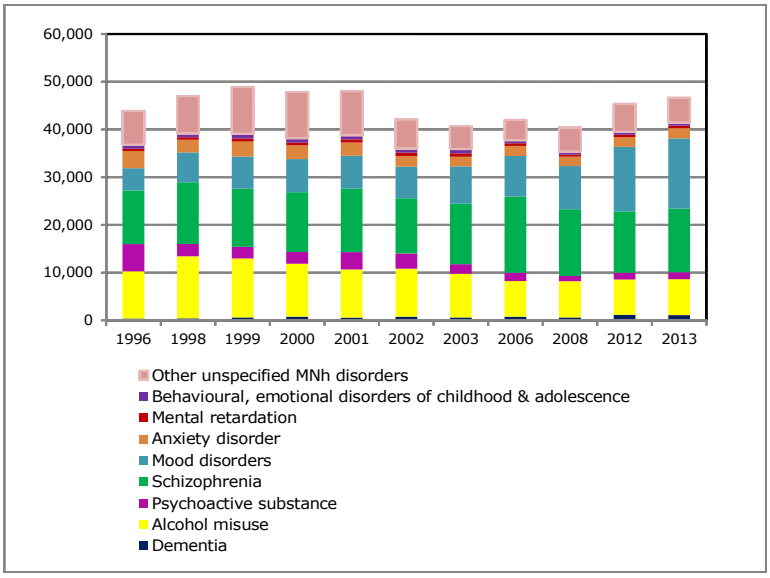
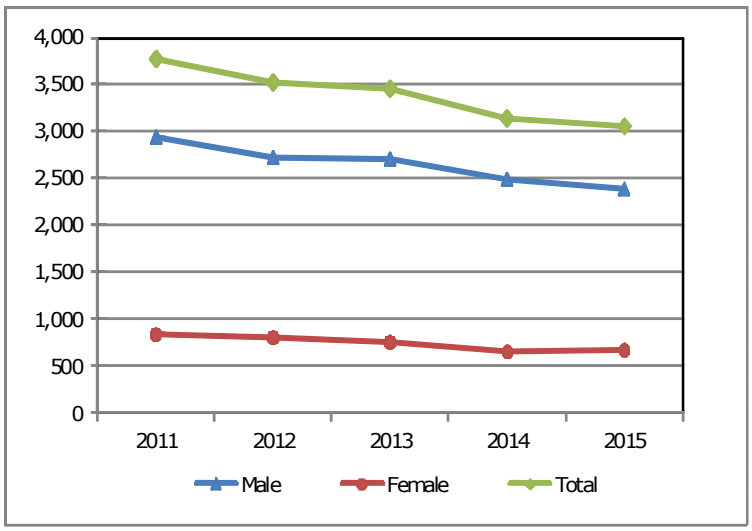


Fig 5.2.39 : Trends in Suisides, 2011 - 2015



5.2.10.8.2 Promotion of Mental Wellbeing

a. Promotion of mental well being for mental health work force

Conducted programmes for promotion of mental wellbeing for health care providers (Mindfulness Programme). These programmes help to alleviate workplace stress and also improve the work efficiency by attending to routine work with mindfulness.

b. Protection and promotion of the wellbeing of disaster victims

Protected the mental wellbeing of victims in recent disasters (flood affected areas in Colombo and Gampaha districts and landslide in Aranayaka) by means of providing psychological first aid in collaboration with mental health professionals at provincial level.

c. Protection and promotion of mental wellbeing by capacity building

Promoted child and adolescent mental health through training of all service providers.

Trained of MO, Mental Health district focal points.

Table 5.2.22 : Infrastructure Facilities on Mental Healthcare

Province	District	No. of Acute Inpatient Units	Long Stay Units	Intermediate Care Units	Alcohol Rehabilitation Centres	Community Support Centres
Western	Colombo	14	1	1	-	-
	Gampaha	4	-	-	1	1
	Kalutara RDHS area	-	-	1	-	1
	Kalutara NIHS area	1	-	-	-	1
Central	Kandy	3	1	1	1	5
	Matale	1	-	1	-	-
	Nuwara Eliya	1	1	1	1	1
Uva	Badulla	1		1	1	-
	Monaragala	-	-	-	-	-
Southern	Galle	2	-	1	-	-
	Matara	1	-	-	1	-
	Hambantota	1	1	-	-	-
Sabaragamuwa	Kegalle		1	-	-	-
	Ratnapura	1	-	-	-	-
North Western	Kurunegala	1		1	1	-
	Puttalam	-	-	-	-	-
North Central	Anuradhapura	1	-	1	-	-
	Polonnaruwa	1	-	-	-	-
Northern	Jaffna	1	-	1	1	1
	Vavuniya	1	-	1		1
	Kilinochchi	1	-	-	1	4
	Mullaitivu	-	-	-	-	3
	Mannar	1	-	-	-	1
Eastern	Ampara	1	-	1	-	-
	Kalmunai	1	-	1	-	-
	Trincomalee	1	-	-	-	-
	Batticaloa	1	-	1	1	-
Sri Lanka		41	5	14	9	19

d. Advocacy at central and provincial level

- Conducted media conferences on mental health
- Advocacy for political leadership and policy makers

√ Conduct national mental health committee meetings – Discuss the progress of implementation of MH programme, issues and propose solutions

√ Conduct of central and provincial level mental health advocacy meetings which have facilitated to identify the service gaps, remedial measures and fruitful dialogue for the improvement of mental health service

√ Commemoration of international days

♦ World Mental Health Day on October 10th - The theme for 2015 was “Dignity in Mental Health”. Programme was focused mainly on discrimination against stigma, marginalization and emotional and physical abuse in mental health facilities as well as in the community. Eminent persons in the field of psychiatry and film industry conducted discussions and persons with mental illness in groups and individually performed different activities including singing, dancing and a short drama.

♦ World Suicide Prevention Day on September 10th - The theme for 2015 was “Reaching Out and Saving Lives”. An all island poster competition was conducted and the day was graced with a drama, lecture discussions by a psychiatrist and a clinical psychologist and life stories by persons who have had suicidal attempts.

5.2.10.8.3 Develop Infrastructure and Human Resource

♦ Strengthening of district mental health units

- Renovation of Mental Health Unit at Senarathpura Hospital and DGH-Mannar to deliver a quality service
- Construction of a Community Support Center at Panadura to strengthen the promotion of mental wellbeing at community level
- Renovation of Mental Health Rehabilitation Center at DH, Mawatagama – This has improved the living conditions of inmates and their rights.
- Renovation of Mental Health Intermediate Care Unit at DH Kahawatta and a stay unit at Ridiyagama for female persons – This has added quality to the rehabilitation service and preservation of rights of female patients.
- Purchase of essential items for Rehabilitation Centers at Minuwangoda, Puttalam and Nuwara Eliya has enhanced the living conditions of inmates and rehabilitation process.

5.2.10.8.4 Monitoring and Evaluation of the Mental Health Program

√ Conduct of National Mental Health Forum in December 2016, the selected theme was "Dementia"

√ Conduct of National Mental Health reviews at central level with the participation of Medical Officers Mental Health - district focal point, Consultant Psychiatrists

√ Participation at provincial and district Mental Health review meetings

√ Conduct of Mental Health Committee meetings

√ National Survey on Mental Illnesses is in progress and nearing completion to validate a suitable instrument to conduct national prevalence survey on prevalence and treatment gap of mental illnesses

5.2.10.9 Future Directions

There is a growing recognition in the world that comprehensive mental health services cannot be provided without the active involvement of primary care health teams. Integrating mental health into primary health care is essential if the population is to have equitable access to care.

The primary health care network in Sri Lanka can be utilized to play a major role in preventing mental disorders and promoting mental wellbeing in the country.

Alcohol related mental health problems are rising. Stigma surrounding mental health is not a Sri Lankan problem and it is a global one, but it needs to be dealt with here as urgently as possible.

There is an urgent need to work on constructing a society and a culture that understands mental health, that tries to understand why people commit suicide and that does everything it can to support and help people to get through their battles with depression.

Depression is a significant contributor to the global burden of disease and affects people in all communities across the world. Today, depression is estimated to affect 350 million people. Efficacious and cost-effective treatments are available to improve the health and the lives of the millions of people suffering from depression. On an individual, community and national level, it is time to educate ourselves about depression and support those who are suffering from this mental disorder.

As Sri Lanka has the fastest growing ageing population in Asia, attention should be focused to provide care and promote wellbeing of patients with dementia.

Promotion of mental wellbeing in all population groups and at all settings is a priority to reduce the burden of non-communicable diseases, maternal, child and adolescent health problems, suicides, alcohol and drug abuse while contributing to increased life expectancy.

5.3 Medical Supplies and Logistics

5.3.1 Medical Supplies Division

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 to 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 pharmaceutical 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 Wellawaththa, 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.

5.3.1.1 Major Achievements

5.3.1.1.1 System Development

- Medical Supplies Management Information System has been established and it is fully functioning during the year 2015 and also medical items requirement of all health institutions from the year 2016 will be obtained online through web portal.
- Protocol & procedure development for streamline & regularize the activation of Supply Chain Management was done.

5.3.1.1.2 Monitoring and Coordination

- Conducted awareness programmes for 22 districts to improve medical supplies management in the year 2015 and up to 2016.
- Weekly supply position review meetings have been conducted regularly with the participation of the representatives of State Pharmaceutical Corporation and Ministry of Health to minimize out of stock situations.
- A plan of action is being implemented to dispose quality failed medical supplies at the district level. Districts of Kalutara, Matara, Galle, Hambantota, Colombo, Gampaha, Kandy, Kegalle, Batticaloa, Jaffna, Kurunegala, Badulla and Trincomalee have been completed by the end of 2015 and it is to be extended to other districts in the year 2016.

Table 5.3.1: The Value of Medical Supplies Issued, 2010 - 2015

in Millions

Medical Supplies Issued	2010	2011	2012	2013	2014	2015
Drug - Issues	10,220	12,175	13,619	14,499	16,123	15,796
Drug - Estimate	12,104	14,157	16,636	15,457	18,760	22,863
Surgical - Issues	3,622	3,473	4,142	4,874	5,673	6,780
Surgical - Estimate	7,572	5,392	8,916	10,441	13,001	13,826
Lab - Issues	618	2436	731	969	761	1736
Lab - Estimate	727	492	608	792	1,631	1,567
Total - Issues	14,460	18,084	18,492	20,342	22,557	24,312
Total - Estimate	20,403	20,041	26,160	26,980	33,391	38,256

5.3.1.1.3 Infrastructure Development

- Work initiated on the new administrative block on the roof top of MSD main building and 1st stage of the constriction has been completed in the year 2015 and remaining work is planned to be completed in the year 2016.
- Documentation has been completed and has been submitted for procurement approval to construct a pre-fabricated 40,000 sq feet store facility for MSD at the Welisara hospital premises.
- Purchased forklift & other warehouse equipments to improve the capacity of the warehouse operating at MSD.
- Introduced 13 local manufacturing companies and iniated to supply 60 items.
- Workshops have been organized at the institutions, in all districts to introduce Drug and Therapeutic Committees (DTC). With this effort now there are 80 institutions with functioning monthly DTC which sent reports regularly.
- Action has been initiated to air condition the main pharmaceutical stores complex of MSD. The tender has been awarded and construction & installation is being processed.
- Capacity building programme (local & foreign) has been initiated to improve knowledge, skills and attitudes of MSD staff and all paramedicals in institutions island wide.

5.4 Laboratory and Bio Medical Services

5.4.1 Laboratory Services

Directorate of Laboratory Services is responsible for establishing and enactment of essential and relevant legislations and also providing technical and managerial guidelines for the maintenance of laboratories in compliance with nationally and internationally accepted standards.

Total of 710 million rupees funds were allocated for the year 2015 to DDG(LS), out of which 350 million rupees was allocated for purchasing of laboratory equipments. During the year 2015, many laboratories were equipped with fully automated analyzers such as haematology analyzers and bio chemistry analyzers. Further, 13 million rupees was allocated to HIV screening. 250 Million rupees was allocated to MSD for purchasing of chemical reagents and 10 million rupees for service agreements. Over 100% of allocated funds were released to hospitals and actual expenditure was 121% of allocations for the year 2015.

Since the provincial level hospital laboratories are not directly supported by the directorate, it was decided to equip the provincial level laboratories with automated equipments to improve the overall quality of the services. Provincial hospital laboratory expansion programme was initiated to equip all PGH, DGH and Base hospitals with the estimated cost of 513 million rupees. It is expected to complete the programme by the end of 2016.

Also, improvement of accessibility and availability for necessary laboratory investigations to the population living in far remote and difficult areas was supported through mobile laboratory service attached to the director of Laboratory Services. In year 2015, mobile laboratory services were offered at around 85 centers all over the country and more than 40,000 tests were done through the service.

Table 5.4.1 : Allocations and Expenditure (Capital Fund)

Allocations received (in millions)	350
Allocations released to institutions (in millions)	531
Actual expenditure by institutions (in millions)	426
% expenditure from allocation received	121.0%
% expenditure from allocation released	80.0%

Table 5.4.2 : Allocations (World Bank Projects)

Total allocation (in millions)	100
Total released (in millions)	100
% of released over allocation	100%

Table 5.4.3 : WHO Programmes

Continued from previous year	1
Started	1
Completed	2
Continuing to next year	0

Table 5.4.4 : Mobile Laboratory Services

Total number of locations	85
Total number of service days	120

5.4.2 Bio Medical Engineering Services

The Division of Biomedical Engineering Services (BES) of the Ministry of Health is entrusted with procuring, installing, commissioning and maintaining medical equipments in line ministry hospitals. This division also provides technical assistance to the Provincial Health Authorities based on their requirements.

5.4.2.1 Responsibilities

1. Procurement of medical equipments
2. Repairs & maintenance of medical equipments
3. Training of end users and technical staff
4. Provision of local/foreign technical expertise in medical equipment

The headquarters of the Biomedical Engineering Services Division located in Colombo has workshop facilities, warehouse facilities for equipments and spare parts, storage and administrative functions. Biomedical Engineering Services has also started development of web based software for medical equipment Inventory Management System.

At present 07 Biomedical Engineers, 42 Foremen and 43 Technicians are attending on management of medical equipment.

A Regional Biomedical Engineering Unit was established in Southern Province and supervised by Biomedical Engineer appointed to TH/Karapitiya. The division has 22 hospital based maintenance units so that the down time of equipment as well as maintenance cost could be kept minimum. The division is in the process of recruiting Engineers to strengthen BES and establish new regional units.

5.4.2.2 Major Achievements in 2015

5.4.2.2.1 Preparing of Procurement Plan

Medical equipment requirements were taken from hospitals on priority basis and those requirements were assessed with the available data in BES and also with the information gathering from the hospital based Biomedical Engineering Service Units.

5.4.2.2.2 Training Programs for BES Staff and End Users

Number of training programs were arranged for the technical staff of the division as well as end users with the help of local and foreign experts.

5.4.2.2.3 Training for Engineering Graduates

The Biomedical Engineering Services have been providing facilities for industrial training to Engineering undergraduates from University of Peradeniya and Sir John Kothalawala Defence University.

Table 5.4.5 : Major Procurements in 2015

	Description	Cost (Rs. Million)
1	Provision of MRI Scanner for TH/Anuradhapura	225
2	Provision of 3 CT Scanners for GH/ Monaragala, TH/ Peradeniya, GH/ Kegalle	135
3	Provision of Mammography Machines for TH/Kandy, TH/Peradeniya, GH/ Badulla & NHSL	140
4	Provision of Cathlab for SBSCH	78
5	Provision of X- Ray machines for GH/ Ampara, GH/ Kegalle & BH/ Tangalle	16.2
6	Provision of 37 Dialysis Machines	56
7	Provision of Operation Theatre Equipments (45 OT lamps, 64 OT Tables, 9 Orthopedic OT Tables, 164 Diathermy Machines)	286
8	Provision of equipments to strengthen ICU in Line Ministry Hospitals	146
9	Provision of Opthalmic equipments	124
10	Provision of monitoring equipments for Line Ministry Hospitals	95
11	Provision of Operating Microscope for plastic surgery (NHSL and TH/ Karapitiya)	42
12	Provision of equipments to strengthen CSSD in Line Ministry Hospitals (20 High Pressure Sterilizers)	103
13	Provision of Ultra Sound Scanners, Multi Parameter Monitors , ECG Recorders and Defibrillators by Japanese Non Project Grant Aid (JICS)	500
14	Provision of Digital Fluoroscopy System for NHSL	90
15	Provision of Lithotriptor for TH/ Karapitiya	61
16	Provision of Monitoring System for Cardiothoracic Unit TH/ Karapitiya	59
17	Provision of Heart Lung Machine for LRH	35
18	Provision of Neurosurgical equipment for TH/ Jaffna (Neurosurgical operating table, Mayfield head fixuater, High speed drill systm & Ultrasonic aspitator)	32
19	Provision of Neurosurgical equipment for TH/ Batticaloa (Neurosurgical operating table, Mayfield head fixuater, High speed drill system & Ultrasonic aspitator)	32

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 functions under purview of the Deputy Director General (ET&R) and has three directorates i.e. Directorates of the Training, Research and Nursing (Education).

The ET&R unit is the focal point in policy formulation, providing technical guidance related to training and also coordinating basic training programmes for all staff categories except for basic degree programmes for Medical Officers and Dental Surgeons. Furthermore, the unit is responsible for capacity building of the health workforce through post basic and in-service training programmes. In addition, the unit develops policies and capacity in research related to health and provide financial allowances to the relevant officers for carrying out work place based research.

Medical Research Institute (MRI) and National Institute of Health Sciences (NIHS) are under the administrative and technical supervision of the DDG (ET&R).

Furthermore, ET&R Unit coordinates with Ceylon Medical College Council, University Grants Commission and other relevant academic and professional institutions and organizations in Sri Lanka with the objective of strengthening the human resource capacity of the health sector.

The unit has broadened its capacity in coordinating important training prorammes with the international organizations to improve the capacity of health workforce i.e. International Health Policy Program – Thailand, Temasek International and Nanyang Polytechnic International – Singapore to implement collaborative training programmes for the benefit of the healthcare professionals in the state health sector. Furthermore the unit facilitated and conducted study visits to regional countries to experience the Sri Lankan health system i.e. DPR Korea.

Following are the highlights of the activities carried out during 2015 by the unit.

6.1.2 Basic and Induction Training Programmes

Basic training for 17 categories of health staff (Nursing, Professional Supplementary to Medicine – PSM, Paramedical and Technical grades) is conducted at 16 Schools and 17 Schools of Nursing under the technical supervision of the DDG (ET&R).

The recruitment for basic training and deployment after the training is done by the administrative sections of the Ministry of Health in consultation with ET&R Unit. Following numbers were trained by the training institutions under the purview of ET&R Unit for the year 2015 (Table 6.1).

Table 6.1 : Number of New Recruits and Number Passed Out in 2015

Category of Staff	Number of new recruits in 2015	Number Passed out in 2015
Nursing Officers	1,809	1,855
Medical Laboratory Technologists	225	-
Pharmacists	296	-
Physiotherapists	67	-
Occupational Therapists	45	-
Radiographers	64	18
Public Health Midwives	210	112
Public Health Inspectors	193	-
Entomological Assistants	14	-
Ophthalmic Technicians	43	-
Dental Technicians (By Faculty of Dental Sciences - Peradeniya)	2	5
School Dental Therapists	31	-
EEG Recordists	24	17
Cardiographers	82	40
Public Health Laboratory Technicians	21	-
Dispensers	702	-
Prosthetics and Orthotics	8	-

Some of the basic training programmes i.e. Midwifery, Public Health Field Officer, Supervisory Public Health Midwife, Dispenser and Public Health Inspector are conducted in collaboration with the National Institute of Health Sciences and seven Provincial/Regional Health Training Centres (PHTC/RHTC) i.e. Anuradhapura PHTC, Batticaloa PHTC, Galle PHTC, Kadugannawa PHTC, Kurunegala PHTC, Jaffna RHTC and Rathnapura RHTC. These are conducted under the technical guidance (development of curricula and conduction of Training of Trainers) of the ET&R Unit as per the powers vested with the central government spelled out in the 13th amendment of the 1978 constitution.

Furthermore, some categories of the health staff i.e. drivers, overseers, seamstress and house warden are given induction training of shorter duration by the ET&R Unit. Attendants and health assistants are trained in collaboration with the hospitals under line/provincial ministries with technical guidance of ET&R Unit.

An orientation programme of 6 months was conducted for 182 graduates in 4 categories of professionals supplementary to medicine (Radiography: 10, Physiotherapists: 67, Pharmacists: 31, Medical Laboratory Science: 74) and 94 nursing graduates from the universities in Sri Lanka.

6.1.3 In-service Training Programmes for the Staff of the Ministry of Health

6.1.3.1 In-service Training Programmes Conducted by the ET&R Unit

More than 800 training programmes, conducted at different levels of healthcare institutions were funded by the ET&R Unit. A summary of the in-service training programmes funded by the ET&R Unit during the year 2015 are given in Table 6.2.

The ET&R Unit plays the leading role in coordination of in-service training programmes in the health sector by providing the necessary technical and financial assistance. Funds were allocated for the in-service training programmes depending on the institutional training needs and requests received during the year 2015. As per the annual records, Rs. 50 million allocated for the year 2015 has been completely utilized.

Table 6.2 : In-service Training Programmes Funded by the ET & R Unit

Category	Number of officers trained	Number of Programmes conducted
Multidisciplinary team based programmes		272
Medical Officers	6,382	115
Special Grade Nursing Officers	9,132	6
Nursing Tutors		11
Nursing Officers		127
PSM categories and Paramedical categories	7,085	26
Telephone Operators	180	15
Program and Planning Officers, Management Assistants & Development Officers	1,310	26
Health Assistants	1,155	51
Special training programmes	105	39
Other	188	35
Total	25,537	723

The ET&R Unit developed In-Service Training Programme (ISTP) management system which included reviewing of the training proposal for identification of training needs of institutions and the categories, approval for funding and monitoring & evaluation of the training programmes conducted. In-service training focal points at the institutional level were trained on this ISTP management system for smooth and effective coordination of in service training programmes.

ET&R Unit regularly conducts and, or provides direct supervised funding for in-service training programmes for different staff categories based on national training needs and special requests by the professional organizations and associations. The table below summaries the training programmes conducted under the direct supervised funding by the unit in 2015.

Table 6.3 : Training Programmes Conducted by the ET & R Unit

Category	Programme/area	Participants
Medical Officers	Good intern programme	1,100
	Language competency – Tamil	250
	Development of research capacity	40
Nursing Officers (special grade)	Supervisory management	40
Nursing Tutors	Supervisory management	80
	Training of trainers	125
Nursing Sisters	Training of trainers – health assistants training	60
Nursing Officer	National intensive care surveillance training	416
	Dengue management	285
PSM and Paramedical categories	Supervisory management	160
	First aid in poisoning	192
Telephone Operators	In-service training programme	180
Management Assistants	Management of work place and home based poisoning	220
Public Health Midwives	Trainer capacity development	231
Uncategorized – Clinical Trainers	Trainer capacity development in teaching and learning methods	333

6.1.3.2 Coordination of Overseas Training Programmes

In addition to local training programmes, ET&R Unit coordinated several overseas training programmes as well. A total of 102 officers, representing different categories of health staff have participated in these training programmes (Table 6.4).

6.1.4 Trainer Capacity Development and Infrastructure Development

ET&R Unit coordinated with the college of Medical Educationists and the World Health Organization to commence a trainer capacity development programme for the trainers involved in basic training programmes. The first such programme was commenced in November 2015 for 50 trainers and others will be trained in subsequent years.

Table 6.4 : Overseas Training Conducted for Health Staff

Country	Training Programme	Number Participated	Period
Singapore	Training on monitoring and evaluation	2	One Week
	Nursing management	25	Two weeks
	Gerontology for nursing	15	Four weeks
	Simulation based learning	15	Three weeks
	Critical and emergency care	30	Four weeks
	Nursing pedagogy	15	Three weeks

According to the Health Sector Development Project (HSDP) three training institutions (School of Nursing – Ratnapura, Kandana and School of Medical Laboratory Technology – MRI, Colombo) were upgraded. Total fund allocation was Rs. 10 million for purchasing of equipments and Rs. 80 million for institutional upgrade.

6.1.5 Research

Health research is an imperative part in the ever changing, continuously modernizing and rapidly evolving health system, as they provide updated and evidence-based knowledge for all health care decision makers, either in clinical or non-clinical fields.

The Deputy Director General – Education, Training and Research Unit (DDG - ET&R) of Ministry of Health will be the main focal point for promoting, coordinating, facilitating and regulating health research and the ET&R Unit is working towards to achieve its goal of promoting evidence based practices through conduct of ethically sound, relevant and quality health related research in Sri Lanka, confirming to national and international guidelines, while safeguarding the interests of research participants.

Education, Training & Research Unit coordinates the research activities in collaboration with National Health Research Council (NHRC) and aims to:

- Promote and facilitate health related research through:
  - √ Provision of guidance to potential researchers,
  - √ Review and approval of proposals for new research submitted for research allowance,
  - √ Review and approval of progress reports and publications submitted for continuation of research allowance.
- Disseminate findings of health related research through worldwide web and publications annually.
- Build capacity among prospective researchers in the Ministry of Health on research and statistical methods.
- Build capacity among prospective members of Ethical Review Committees in the Ministry of Health on ethics in health related research.
- Develop Standard Operational Procedures (SOPs), ToRs and guidelines for Ethics Review Committees in health care institutions.
- Identify priorities in health related research.
- Regulate health related research.

Ministry of Health had received a cumulative total of 1,233 new research proposals up to the end of 2015. Each research proposal was reviewed in accordance with the Management Services Circular Nos. 45 dated 07.04.2011 and 02/2014 dated 11.02.2014. In addition, the 6-month progress reports and evidence of publications/presentations were reviewed by the Research Management Committee for their eligibility for continuation of research allowance.

To facilitate and streamline the process further, guidelines for submission and evaluation of research proposals and for the functioning of Institutional Ethical Review Committee were formulated and made available.

6.1.6 Books, Journals and Publications

Rs. 1.2 million was allocated for basic training schools under the purview of ET&R Unit and Rs. 1.1 million for Teaching Hospitals and other institutions for the purchase of text books and journals. Furthermore the unit purchased necessary books and journals for the Ministry of Health library to improve the reader's choice in the library. Additionally, Nursing Procedure Manual was updated and distributed among the service providers of the Department of Health.

6.1.7 New Developments in 2015

Following activities were initiated with the objectives of improving the quality of educational Training.

1. Initiated the process of formulation of National Standards for Training Programmes and Training schools.
2. Initiated the process of development of the transformative education plan to improve the quantity, quality and the relevance of health professional's education in state health sector which was technically supported by the WHO.

6.2 Medical Research Institute

6.2.1 History

The MRI was established way back in the year 1900 and named as the "The De Soyza Bacteriological Institute". It was so named due to it being built and donated by Mr. J. W. C. De Soyza.

The first Director of the Bacteriological Institute was Dr. Aldo Castolani, who was appointed in 1903, and had served for 13 years contributing enormously to the development of the institute as well as to the field of medicine. He is remembered for introducing many noteworthy laboratory tests for the diagnosis of bacterial, fungal and also parasitic infections at a time when these diseases were very much evident. He introduced tests for Enteric fever, Tuberculosis and Filaria. He was a passionate researcher and a great writer thereby bringing much attention to Ceylon through his writings in the annals of Tropical Medicine. He discovered many new pathogens, while he also introduced the combined vaccine for Typhoid. He also defined new tropical diseases like, Ring worm infections and Bronchospirochaetosus.

In a later stage of his life, after he left the country during the First World War, he has described his period of stay and service in Ceylon;

"I left Ceylon in January 1915, but a part of my soul remained there. The memory of the Enchanted Island stirs in my heart an emotion which can only be expressed as love. I was in Ceylon from 1903-1915: the happiest days of my life. Ceylon is the most beautiful place in the world, far more beautiful than Hawaii or the Antilles. I was a lover of that wondrous country then; I still am and shall be to the end of my days"

6.2.2 Current Services

From that great beginning in 1900, through efforts of the great pioneers like Aldo Castallani, the present day MRI has a grand history and a rich culture of unparalleled medical research and diagnostic skills which have been polished with the newest technologies in biomedical research. At present the MRI provides multiple services to the health care sector of the country.

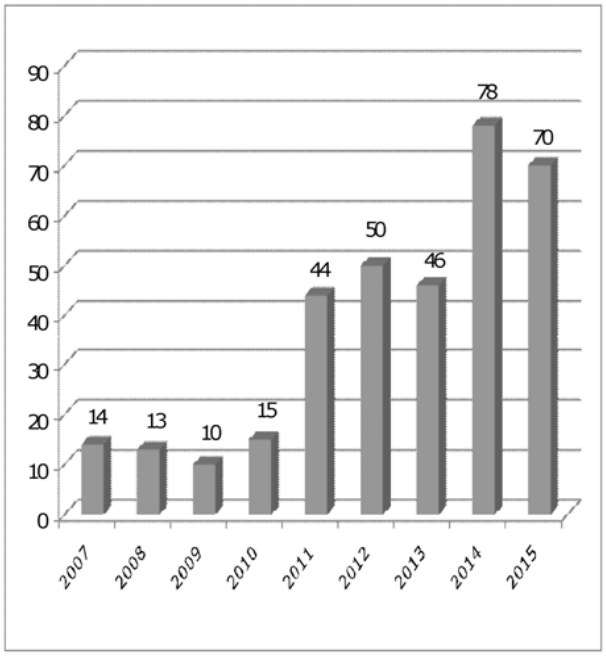
MRI functions as the regional reference laboratory for Poliomyelitis while being the national reference laboratory for Japanese Encephalitis, Measles, Rubella, Rotavirus, Influenza, Leptospirosis, Toxoplasmosis, Food and Water Microbiology, Immunological Investigations, Special Parasitological Investigations and Platelet Aggregation Studies. Additionally, the MRI is also the national control laboratory for the National Authority for Vaccines and Biologicals. MRI also carries out the pre-registration evaluation of pharmaceuticals and reagents.

Furthermore MRI conducts research in many medical areas namely; bacteriology, immunology, virology, mycology, parasitology, histopathology, hematology, biochemistry, nutrition, pharmacology, natural products and animal sciences. progress of the research activities at MRI over the last few years are illustrated in Fig 6.1.

MRI also provides training for Medical Post Graduate Students, MLT students, Entomology Assistants and thereby contributes enormously to the health care development of the country.

Therefore in 2015 many significant achievements have been gained.

Fig 6.1 : Research Participation Activities of MRI, 2007 - 2015



6.2.2.1 Department of Rabies

Has contributed generously to the national rabies prevention program with the following major achievements of; offering RFFIT for rabies antibody testing as a routine paid test and the establishment of real-time PCR for ante mortem diagnosis and difficult to diagnose post mortem samples diagnosis methods at the department.

6.2.2.2 Departments of Parasitology and Entomology

Many major activities were carried out during 2015. Attended several exhibitions held by schools and institutions (eg: GaaluSamaya at several schools). Successfully tested for parasites in the parliamentary kitchen. Continued successfully with the usual training programs of; Medical Laboratory Technologist students of the school and KDU, Military forces officers, nurses, medical students, postgraduate trainees and the MD doctors. Developed the insectary of MRI to a functional level and as a resource for testing. Selected a model village, implemented surveys and reduced prevalence of Dengue infection in the community. Conducted successful three day training in an insectary in India on maintaining cockroach colonies.

6.2.2.3 Department of Hematology

The following major achievements in 2015 are of note. Started the National External Quality Assurance program for coagulation tests (Tests are: PT, APTT, TT, and Fibrinogen). Expanded the National External Quality Assurance program for FBC (Full Blood Count) to include 60 hospitals up to the Base Hospital level - Type A. Newly established laboratory services for Von Willebrand Disease test profile (Tests are: vW Factor, vW Antigen, Factor V111).

6.2.2.4 Mycology Department

Also has its own achievements of note. The department started many new tests during 2015 (IgG anti-aspergillus antibodies, Anti mannanantibodies for Candida, Serum mannan antigen for Candida , Immunodiffusion test for Aspergillus spp. Antibodies, Immunodiffusion test for Aspergillusterreus antibodies, etc). Also launched a handbook; 'Handbook on Basic Medical Mycology' by the Head of Department in 2015. Two very successful workshops on 'Laboratory Diagnosis of Fungal infections' (each comprised two days) were held on 1st & 2nd weeks of October 2015.

6.2.2.5 Department of Virology

Has many new activities and achievements recorded. New diagnostics introduced are; validation and establishment of following real time PCR assays, EBV PCR for cancer patients, Parvo virus B19 PCR for cancer patients and patients with Fe deficiency anemia, Adeno virus (quantitative) PCR for patients with bone marrow transplantation, RSV and Parainfluenza virus PCR for childhood respiratory infections, Boca virus PCR (new respiratory virus) and also PCR assays for HPV, HHV6, WNV. Many presentations were held; Detection of BK virus in renal transplant recipients in National Hospital of Sri Lanka, Prevalence of subtypes of Respiratory Syncytial Virus and association of subtypes with disease severity in a selected group of children with acute lower respiratory infection were some of them. Several symposiums were also held; Symposium on "Influenza" with Obstetricians and Physicians, Symposium on 'Lessons learn from Influenza outbreak, 2015" (WHO sponsored) and Symposium on "Influenza management in pregnancy" with Family Health Bureau for Obstetricians.

6.2.2.6 Department of Immunology

Has the following achievements of note. Was able to identify and publish a new cause of anaphylaxis in Sri Lanka. This was a major achievement in the history of immunology in Sri Lanka. They were also able to identify a key risk factor in vaccine associated anaphylaxis which was another significant finding.

6.2.2.7 The Food and Water Department

Also has several significant achievements; relocation and refurbishment of Food & Water Laboratory, purchase of much needed equipments to establish molecular biology test methods for food and also planning and initiated work to establish molecular typing of salmonella.

6.2.2.8 The Bacteriology Department

Has the following new achievements in 2015. Conducted External Quality Assessment Scheme in Bacteriology for 70 state and private sector microbiology laboratories. Several new tests were introduced: MAT testing with pathogenic Serova panel (11 pathogenic Serova's), PVL gene detection in MRSA, Antimicrobial Susceptibility Testing for Leptospira and NDM gene detection in gram negative bacteria. Many research projects are ongoing. Many research presentations and publications done in 2015, of note are the following:

Performance of LipI32 recombinant protein antigen as a diagnostic intermediate for leptospirosis; Proceedings of the Poster Presentations of the Joint International Tropical Medicine Meeting,2015: p.79 Bangkok, Thailand, *Differentiation of severe leptospirosis from critical phase dengue infections; Oral presentation in program book 2nd ELS meeting on Leptospirosis and other rodent borne hemorrhagic fevers 2015:14, from 16-18th April Amsterdam, The Netherlands, Leptospirosis severity association with the humoral immune response; Oral presentation in program book 2nd ELS meeting on Leptospirosis and other rodent borne hemorrhagic fevers, April 2015:56 from 16-18th April, Amsterdam, The Netherlands; Successful containment of a nosocomial outbreak of Burkholderiacepacia in a special care baby unit of a Base Hospital in Sri Lanka; In International Conference on Prevention and Infection Control (ICPIC 2015), Geneva, Switzerland 16-19 June 2015 and Superoxide production by differentiated HL-60 cells interacted with Leptospira; 2nd ELS meeting on Leptospirosis and other rodent borne haemorrhagic fevers, April 2015; 58 from 16-18th April, Amsterdam, The Netherlands.*

6.2.2.9 Department of Nutrition

Also had the achievements of planning and obtaining budgetary approval from Planning Division, Ministry of Health for national survey on 'Iodine Deficiency Status in Sri Lanka'.

6.2.2.10 Department of Histopathology

Was also very active and showed the following achievements: establishment of external quality control program for Medical Laboratory Technologists, establishment of external quality control program for Consultant Histopathologists and acquiring a scanning electron microscope.

In addition, has conducted several workshops: *Workshop for External Quality Assurance for Medical Laboratory Technologists* and *Workshop for External Quality Assurance for Consultants*.

6.2.2.11 Bio Chemistry Department

Bio Chemistry Department is also a very active unit with several major achievements for 2015. These were; Workshop of quality assurance in biochemistry to MLTs for participating laboratories (>100 participants), EQA Expansion – NEQAS, EQA-Immunoassay – TSH (RIDAS) and New Born Screening for TSH in 4 provinces. Many new tests were also introduced in 2015; examples are: Serum Direct LDL (New Investigation), Serum 25-Hydroxy Vit D , Serum Anti Thyroglobulin Antibody, Serum Anti TPO Antibody, Serum BNP, Serum CA 19-9, Serum CA-125, Serum CEA, Serum SHBP, Whole Blood Tacrolimus, Serum Testosterone, Fluid/CSF – Immunofixation, Fluid/CSF - Protein Electrophoresis, Urine – Albumin/Creatinine Ratio, Urine Electrophoresis, Dried blood spot test for TSH New born screening, etc. are only some of them.

6.2.2.12 Department of Laboratory Animal Sciences

Had an important achievement of note: Introduction of "Hen Egg Chorio-AllantoicMembrae" method (HET-CAM), instead of Rabbit Eye Irritation test on toxicity.

6.2.2.13 The Health Information Management Unit

This unit is also an active unit and had these achievements in 2015: establishment of Health Information & Management Unit and implementation of MLIMS at the piloting level.

6.3 National Institute of Health Sciences

The NIHS is the leading health sector training institute in the country which coordinates public health manpower development activities under the Ministry of Health. Apart from this primary objective it also conducts health service research and provide guidance to Ministry of Health on its policy on health manpower development.

6.3.1 Training Activities

The training faculty has conducted nine basic training programs, thirty six in-service and post basic training programmes and one international training programme in the year 2015. In order to cater to an ever rising demand for health training, the NIHS is introducing new training technologies and strengthening the existing training programmes with necessary revisions of teaching modules.

NIHS has also revised several of its training curricula to improve the trainer/examiner capacity which will help the training activities in the future. These include PHM Part 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 for Tutor Training (Educational Science) Diploma.

6.3.2 Public Health Field Services

The NIHS is unique in possessing its own field training area which contains two MOH divisions catering for a population in excess of 318,000. Field practice area of NIHS is the only geographical area where the responsibility for the management of community health services directly lies with the Ministry of Health when compared to other MOH areas. NIHS field practice area serves in multiple ways including teaching/training activities, preventive/community health services and for research based activities.

Performance of public health activities in the field practice area was quite satisfactory with most indicators meeting the national standards. Maternal and child health services provide as domiciliary care by 84 Public Health Midwives and clinic care through 34 field clinic centres.

School health activities were quite satisfactory in the field training area with 100% coverage in School Medical Inspections. Well women clinic services shows gradual improvement over last few years with the highest 35 year age group coverage (44.4%) during year 2015.

6.3.3 Laboratory Services :

Food and Water Chemistry Laboratory

a) Brief Introduction

This is the very first food analytical laboratory of the Ministry of Health and provides services to all administrative areas except Colombo municipality limits in Sri Lanka since 1987. The food chemistry laboratory is supervised by a Chief Chemist who is gazetted as an additional approved analyst. The laboratory is authorized to analyze food and water samples under the Food Act. The laboratory plays a significant role in the country's national food control program with an effective inspectorate.

b) General administrative functions

(i) The Food chemistry laboratory will provide facilities for analyzing samples of food and drinking water with respect to food additives, adulterants, composition and hazardous chemical residue identification.

(ii) All samples received from the inspectorate are tested for compliance with food regulations and issue reports under the Food Act No. 26 of 1980 to the authorized officers.

(iii) The food laboratory is involved in analysis of imported salt, milk powder, fish and bottled water samples received from the Food Control Administration Unit.

(iv) Raw materials of Thriposha (a cereal based locally produced weaning food) and finished product are analyzed for proximate composition.

(v) The laboratory participates in the inter laboratory testing programs for drafting of food regulations.

(vi) The laboratory staff also participate in the consumer, food manufacturers and handlers education programs organized by the ministry.

(vii) The laboratory provides training facilities to the PHII, MLTT and other in-service trainees.

Table 6.5 : List of Training Programs Conducted at NIHS, 2015

	Training Programme	Number of Training Programmes Conducted
Basic Training Programmes		
1	Diploma in Medical Laboratory Technology 2014-2016/2015-2017	2
2	Public Health Midwife Part II Training 2015	1
3	Diploma in Pharmacy 2014-2015/ 2015-2017	2
4	Public Health Inspector Diploma Training 2014-2015/2015-2017	2
5	Public Health Laboratory Technician, 2015-2016	1
6	Dispenser Training Kalutara, Galle, Rathnapura, Kadugannawa, Kurunegala, Jaffna, Batticaloa	1
In-Service and Post Basic Trainning Programmes		
7	Pre Placement Training for Post Intern Medical Officers (AMOH)	2
8	Orientation on Management of Community Health for MOOH/RE/MOMCH/ MOO(PH)	2
9	Training of Trainers on Educational Science	4
10	Health Learning Material Development Workshop	1
11	MSC (Community Medicine & Community Dentistry) Trainees, 2015	1
12	Public Health Legislation for Medical Officers in Public Health	1
13	Master Training on Public Health Legislation for Medical Officers in Public Health	1
14	Orientation Programme for Nutritionists	1
15	Training Program for Staff of the Hospital Planning Unit	1
16	Training for Regional Epidemiologists on Web Based Immunization Information System	1
17	Training Programme for Medical Assistants of SLAF to Perform Preventive Health Duties	1
18	Inservice Training programme for Laboratory Orderlies	2
19	One day visit by undergraduates of Wayamba University	1
20	Regional Forum on Global Perspective for NCD Prevention and Control	1
21	In-Service Training Programme for Field Public Health Inspector Trainers	1
25	Developing Competencies of Clinical Trainers on Skill Training & Supervision Evaluation	1
26	Development of entrusted professional responsibilities of health care teams who are involved in pre examination phase of the diagnostic laboratory chain	1
27	Training programme on improvement of knowledge to develop a Learning Management system (LMS) for Diploma in Pharmacy	1
28	Training on Community Health for Management & Supervision for Post Basic Nursing Trainees	1
29	Short Course in Geographic Information System (GIS)	1
30	Orientation Programme of PSM Graduates	1
31	Training Programme on Development of Trainer Capacity on Educational Sciences MOH – Kalutara / Panadura / Beruwala	1
32	In-service Training Programme for Hospital Overseers	1
33	Training on Occupational Health & Safety for SPHII, PHII	1
34	Public Health Nursing Diploma Course, 2015/ 2016	1
35	Training Programme on Health Systems Research	1
36	Orientation Training Programme for PSM Graduates (Pharmacy, MLT, Physiotherapy)	1
37	Training Course in ICD Mortality Coding for Medical Record Officers	3
International Training Programmes		
1	Training Course on ICD-10 Mortality Coding for the Participants from Nepal	1

6.3.4 Microbiology Laboratory Services

Service laboratory at NIHS functions as a central facility to provide microbiology laboratory services to health care centers in its catering area.

- Provide microbiology laboratory services to DGH Kalutara, BH Panadura, Kethumathi Maternity Hospital - Panadura, BH Horana, BH Pimbura and other satellite hospitals in Kalutara district
- Provide VDRL testing facility to the MOH areas
- Provide Cervical Cytology (PAP Smear) screening in 07 MOH areas
- Provide training facilities to Post Graduate Doctors, MLT, MLS and PHI students

6.3.5 Research

Department of Research (DoR): Part of 'WHO collaborating centre for public health workforce development' functions as a centre of excellence in teaching and conducting Health System Research.

The department conducts minimum of two comprehensive training programmes on Health System Research for doctors and other health professionals.The department provides technical expertise in conducting HS research projects of national and regional importance to the Ministry of Health and Public Health focal points. Further, NIHS Ethics Review Committee (Accredited by FERCSL and NIH - US) functions in collaboration with the DoR in facilitating the highest possible ethical standards, in research conducted by health staff.

6.3.6 Infrastructure Development, Permanent Teaching Staff and Training Facilities

With its training activities rapidly expanding to include international community the NIHS has continued expanding its teaching and learning facilities in the year 2013, which will provide much needed infrastructure for its activities. In fulfilling above targets the service of a permanent teaching staff selected nationally become a must. The NIHS has already proposed this need to the ministry and discussions are on the way to decide the criteria for the recruitment.

6.3.7 WHO Collaborating Centre for Public Health Workforce Development

WHO Collaboratory Centre C was established in 2012 and it will engage in mutually beneficial activities to further strengthen the bond between the Ministry of Health and the WHO. NIHS performs as a WHO collaborating center by completing all due activities for last year by their respective deadlines.

Table 6.6 : Performance of the Food Chemistry Laboratory, 2015

Type of Sample	Number of Samples Received	Satisfactory	Unsatisfactory	Unsatisfactory Percentage
01. Cereals and flour	388	220	168	43.30
02. Pulses	249	155	94	37.75
03. Fish, meat & poultry products	68	50	18	26.47
04. Bread & bakery products	70	28	42	60.00
05. Fruit base products	170	150	20	11.76
06. Edible oils & fats	217	164	53	24.42
07. Milk & milk products	84	69	15	17.86
08. Spices				
(i) Chillie powder	332	308	24	7.23
(ii) Tumeric powder	275	243	32	11.64
(iii) Condiment powder	250	227	23	9.20
(iv) Whole spices	283	245	38	13.43
09. Vinegar	29	21	8	27.59
10. Iodated	891	637	254	28.51
11. Sugar & sugar products	287	282	5	1.74
12. Beverages	232	227	5	2.16
13. Potable water	351	263	88	25.07
14. Thriposha	31	31	0	0.00
15. Any other	375	353	22	5.87
16. Private samples	1,110	1,094	16	1.44
17. Court production	7	6	1	14.29
Total	5,699	4,773	926	16.25

Total number of samples received : 5,699
Number with unsatisfactory quality : 926
Unsatisfactory Percentage : 16.25%

Detailed Tables

Table 1. Administrative Divisions and Local Government Bodies, 2015

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	2015*			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**	**20,966**	**100.0**	**334**	**1.0**
Western Province	**3,593**	**5.73**	**5,979**	**28.5**	**1,664**	
Colombo	676	1.08	2,375	11.3	3,513	1.0
Gampaha	1,341	2.14	2,354	11.2	1,755	1.7
Kalutara	1,576	2.51	1,250	6.0	793	1.2
Central Province	**5,575**	**8.89**	**2,658**	**12.7**	**477**	
Kandy	1,917	3.06	1,416	6.8	739	0.9
Matale	1,952	3.11	502	2.4	257	1.0
Nuwara Eliya	1,706	2.72	740	3.5	434	0.6
Southern Province	**5,383**	**8.58**	**2,556**	**12.2**	**475**	
Galle	1,617	2.58	1,091	5.2	675	0.9
Matara	1,270	2.03	837	4.0	659	0.7
Hambantota	2,496	3.98	628	3.0	252	1.1
Northern Province	**8,290**	**13.22**	**1,094**	**5.2**	**132**	
Jaffna	929	1.48	597	2.8	643	-0.7
Kilinochchi	1,205	1.92	120	0.6	100	0.7
Mannar	1,880	3.00	104	0.5	55	-0.2
Vavuniya	1,861	2.97	179	0.9	96	2.0
Mullaitivu	2,415	3.85	94	0.4	39	0.7
Eastern Province	**9,361**	**14.93**	**1,615**	**7.7**	**173**	
Batticaloa	2,610	4.16	541	2.6	207	1.5
Ampara	4,222	6.73	677	3.2	160	1.7
Trincomalee	2,529	4.03	397	1.9	157	1.3
North-Western Province	**7,506**	**11.97**	**2,448**	**11.7**	**326**	
Kurunegala	4,624	7.37	1,658	7.9	359	0.9
Puttalam	2,882	4.60	790	3.8	274	1.4
North Central Province	**9,741**	**15.53**	**1,312**	**6.3**	**135**	
Anuradhapura	6,664	10.63	893	4.3	134	1.3
Polonnaruwa	3,077	4.91	419	2.0	136	1.5
Uva Province	**8,335**	**13.29**	**1,316**	**6.3**	**158**	
Badulla	2,827	4.51	844	4.0	299	0.9
Monaragala	5,508	8.78	472	2.3	86	1.6
Sabaragamuwa Province	**4,921**	**7.85**	**1,988**	**9.5**	**404**	
Ratnapura	3,236	5.16	1,127	5.4	348	1.3
Kegalle	1,685	2.69	861	4.1	511	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 2015

Age Group	1981 [1]		2001 [1]		2012 [1]		2015* [2]					
							Total		Male		Female	
	Population	%	Population	%	population ('000)	%	Population ('000)	%	Population ('000)	%	Population ('000)	%
All ages	14,846,750	100.0	16,929,689	100.0	20,359	100.0	20,966	100.0	10,151	100.0	10,815	100.0
0 - 4	1,854,738	12.5	1,439,761	8.5	1,744	8.6	1,797	8.6	906	8.9	891	8.2
5 - 9	1,682,527	11.3	1,483,591	8.8	1,748	8.6	1,801	8.6	909	9.0	892	8.2
10 - 14	1,689,333	11.4	1,525,674	9.0	1,640	8.1	1,690	8.1	854	8.4	836	7.7
15 - 19	1,603,187	10.8	1,646,827	9.7	1,644	8.1	1,694	8.1	845	8.3	849	7.9
20 - 24	1,526,463	10.2	1,591,126	9.4	1,533	7.5	1,578	7.5	764	7.5	814	7.5
25 - 29	1,274,857	8.6	1,340,562	7.9	1,553	7.6	1,599	7.6	766	7.5	833	7.7
30 - 34	1,125,426	7.6	1,290,121	7.6	1,639	8.1	1,688	8.1	820	8.1	868	8.0
35 - 39	839,073	5.7	1,258,112	7.4	1,409	6.9	1,451	6.9	706	7.0	745	6.9
40 - 44	698,203	4.7	1,170,941	6.9	1,359	6.7	1,399	6.7	681	6.7	718	6.6
45 - 49	609,289	4.1	1,030,560	6.1	1,286	6.3	1,324	6.3	637	6.3	687	6.4
50 - 54	539,524	3.6	917,139	5.4	1,219	6.0	1,256	6.0	599	5.9	657	6.1
55 - 59	422,322	2.8	671,403	4.0	1,064	5.2	1,096	5.2	516	5.1	580	5.4
60 & above	981,808	6.6	1,563,872	9.2	2,521	12.4	2,593	12.4	1,148	11.3	1,445	13.4

* Provisional

Note : Year 2001 population excludes the districts Jaffna, Mannar, Vavunia, Mullaitivu, Kilinochchi, Batticaloa & 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, 2013 Per 100,000 Live Births*	Infant Mortality Rate 2013*	Neo-Natal Mortality Rate	
	2014*	2015*	2014*	2015*			2012*	2013*
	Per 1,000 Population					Per 1,000 Live Births		
Colombo	15.4	14.4	6.8	7.0	12.5	13.6	9.7	8.0
Gampaha	13.7	13.1	6.0	6.2	11.3	5.9	4.7	4.6
Kalutara	14.8	14.2	6.5	6.8	12.0	4.9	4.2	4.0
Kandy	18.8	17.5	7.2	7.0	58.3	12.8	9.9	9.2
Matale	19.1	17.4	6.5	6.4	19.7	8.0	4.7	6.2
Nuwara Eliya	17.5	16.5	6.2	6.3	26.3	8.4	5.9	5.9
Galle	16.7	16.4	7.3	7.6	10.2	6.9	5.0	4.6
Matara	15.2	14.2	6.3	6.6	23.6	5.0	3.7	3.4
Hambantota	20.9	19.7	5.4	5.6	28.4	3.1	3.6	2.3
Jaffna	14.9	13.6	7.1	6.9	30.4	14.0	11.3	11.3
Kilinochchi	19.1	16.9	2.9	3.1	-	7.2	0.4	4.8
Mannar	15.4	18.1	3.7	3.8	57.5	3.4	-	1.7
Vavuniya	19.6	17.6	4.9	4.7	24.1	3.6	3.5	2.9
Mullaitivu	11.6	12.2	4.2	3.8	-	16.3	-	9.6
Batticaloa	18.1	17.3	4.8	4.9	76.2	12.0	14.3	9.2
Ampara	21.1	20.5	4.6	4.7	14.2	2.0	1.1	1.1
Trincomalee	22.1	20.5	4.1	4.4	-	1.9	-	0.9
Kurunegala	16.0	15.4	6.6	6.7	31.8	12.3	5.3	10.2
Puttalam	19.2	18.4	5.4	5.5	32.5	3.5	5.1	2.4
Anuradhapura	17.8	17.3	5.5	5.8	53.9	7.4	8.4	4.8
Polonnaruwa	17.7	16.9	5.5	5.2	53.2	8.5	1.6	6.0
Badulla	18.4	16.2	6.4	6.1	35.8	7.2	5.3	5.5
Monaragala	19.5	18.4	4.7	4.8	27.8	3.0	3.0	1.6
Ratnapura	18.0	16.7	6.1	6.1	19.7	4.3	3.8	3.2
Kegalle	16.0	14.9	6.9	6.9	19.5	5.7	3.0	4.6
Sri Lanka	16.9	16.0	6.2	6.3	26.8	8.2	6.1	5.8

* 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.

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 2015

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 [1]		Primary Medical Care Unit and Maternity Home		Other Hspitals [2]		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	8,178	-	-	-	-	3	1,308	1	293	1	112	5	367	3	120	4	49	8	3,940	32	14,367	6.0	28	15
Gampaha	1	1,536	-	-	2	1,594	1	597	2	267	4	603	1	80	7	211	-	-	5	1,182	23	6,070	2.6	45	16
Kalutara	-	-	-	-	1	892	3	1,009	2	146	2	206	7	522	6	176	-	-	-	-	21	2,951	2.4	8	13
Kandy	3	3,674	-	-	1	476	-	-	2	485	-	-	14	1,008	33	1,112	-	-	6	225	59	6,980	4.9	28	24
Matale	-	-	-	-	1	825	1	306	-	-	-	-	3	205	15	418	-	-	-	-	20	1,754	3.5	15	13
Nuwara Eliya	-	-	-	-	1	429	1	162	1	133	2	252	8	574	14	390	-	-	-	-	27	1,940	2.6	21	13
Galle	2	2,258	-	-	-	-	2	822	1	137	2	219	7	527	9	325	2	23	1	9	26	4,320	4.0	24	20
Matara	-	-	-	-	2	1,209	-	-	2	407	2	210	6	481	5	134	-	-	-	-	17	2,441	2.9	21	17
Hambantota	-	-	-	-	1	675	1	276	2	333	-	-	9	653	8	224	-	-	1	42	22	2,203	3.5	13	12
Jaffna	1	1,211	-	-	-	-	2	637	2	271	-	-	4	315	19	465	-	-	-	-	28	2,899	4.9	16	12
Kilinochchi	-	-	-	-	1	276	-	-	1	48	-	-	1	100	6	139	-	-	-	-	9	563	4.7	3	4
Mullaitivu	-	-	-	-	1	204	-	-	2	89	2	103	2	61	4	58	-	-	-	-	11	515	5.5	2	5
Vavuniya	-	-	-	-	1	649	-	-	1	153	-	-	1	31	7	58	-	-	-	-	10	891	5.0	3	4
Mannar	-	-	-	-	1	331	-	-	-	-	-	-	4	331	6	183	-	-	-	-	11	845	8.1	7	5
Batticaloa	1	943	-	-	-	-	2	390	2	232	2	203	3	158	12	373	1	12	-	-	23	2,311	4.3	14	14
Ampara	-	-	-	-	1	700	-	-	2	272	-	-	1	63	6	199	-	-	-	-	10	1,234	4.8 [a]	15	7
Trincomalee	-	-	-	-	1	609	1	230	3	298	-	-	-	-	11	365	1	17	-	-	17	1,519	3.8	16	11
Kalmunai	-	-	-	-	-	-	3	1,044	2	272	-	-	5	382	7	230	4	56	-	-	21	1,984		8	13
Kurunegala	-	-	1	1,828	-	-	1	659	3	748	9	1,030	11	823	21	532	1	10	-	-	47	5,630	3.4	53	29
Puttalam	-	-	-	-	1	588	1	361	1	358	2	256	4	214	8	220	1	21	-	-	18	2,018	2.6	31	12
Anuradhapura	1	1,896	-	-	-	-	-	-	3	381	4	461	10	632	21	679	-	-	1	15	40	4,064	4.6	21	19
Polonnaruwa	-	-	-	-	1	918	-	-	2	230	1	137	4	225	4	109	-	-	-	-	12	1,619	3.9	13	7
Badulla	-	-	1	1,493	-	-	2	808	1	144	2	230	8	527	33	582	-	-	-	-	47	3,784	4.5	16	16
Monaragala	-	-	-	-	1	453	-	-	3	446	1	102	5	349	8	258	-	-	-	-	18	1,608	3.4	10	11
Ratnapura	-	-	1	1,347	1	469	-	-	3	633	8	704	7	341	18	335	-	-	1	8	39	3,837	3.4	21	18
Kegalle	-	-	-	-	1	801	-	-	3	702	6	531	-	-	11	170	-	-	2	30	23	2,234	2.6	22	11
Total	16	19,696	3	4,668	20	12,098	24	8,609	47	7,478	50	5,359	130	8,969	302	8,065	14	188	25	5,451	631	80,581	3.8	474	341

[a] Included Kalmunai data

Source : Medical Statistics Unit

[1] Divisional Hospitals (DHC's) which have no indoor facilities are also included in some districts (Gampaha - 1, Vavuniya - 1, Babulla - 11, Kegalle -5)

[2] Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"

Table 7a. Distribution of Inpatient Beds[1] by Regional Director of Health Services Division, December 2015

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 Home	Other Hospitals[2]	Total Inpatient Beds	Inpatient Beds per 1,000 Population
Colombo	7,705			1,247	280	94	332	105	49	3,755	13,567	5.7
Gampaha	1,447		1,475	582	254	567	65	184		1,163	5,737	2.4
Kalutara			874	957	130	175	447	161			2,744	2.2
Kandy	3,479		447		459		895	964		219	6,463	4.6
Matale			784	282			183	376			1,625	3.2
Nuwara Eliya			425	136	119	228	526	330			1,764	2.4
Galle	2,134			750	133	206	442	288	13	8	3,974	3.6
Matara			1,143		368	177	433	111			2,232	2.7
Hambantota			637	262	322		580	197		42	2,040	3.2
Jaffna	1,185			604	245		274	379			2,687	4.5
Kilinochchi			242		41		83	121			487	4.1
Mullaitivu			179		80	89	53	53			454	4.8
Vavuniya			598		146		31	45			820	4.6
Mannar			316				294	150			760	7.3
Batticaloa	929			361	218	187	143	336	10		2,184	4.0
Ampara			626		249		58	168			1,101	4.3 [3]
Kalmunai				939	262		341	206	43		1,791	
Trincomalee			490	210	269			333	10		1,312	3.3
Kurunegala		1,732		629	709	929	727	459	6		5,191	3.1
Puttalam			532	335	333	227	180	185	19		1,811	2.3
Anuradhapura	1,722				346	412	551	555		15	3,601	4.0
Polonnaruwa			872		204	129	202	99			1,506	3.6
Badulla		1,439		652	124	198	464	482			3,359	4.0
Monaragala			441		399	100	315	221			1,476	3.1
Ratnapura		1,255	438		610	623	310	272		8	3,516	3.1
Kegalle			746		666	473		145		27	2,057	2.4
Total	18,601	4,426	11,265	7,946	6,966	4,814	7,929	6,925	150	5,237	74,259	3.5

[1] Excludes: Examination beds, Labour Room beds, OPD beds, etc.

Source : Medical Statistics Unit

[2] Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"

[3] Includes Kalmunai data

Table 8. Beds by Speciality and Regional Director of Health Services Division, December 2015

RDHS Division	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	1,644	2,100	1,647	1,959	1,734	14	26	741	-	1,578	350	123	204	142	496	57	534	193	53	-	12	760	14,367
Gampaha	291	1,331	941	700	911	-	406	-	39	242	21	42	10	89	268	-	46	-	-	272	22	439	6,070
Kalutara	596	607	375	527	499	-	-	-	-	42	-	-	-	-	26	14	52	-	-	-	-	213	2,951
Kandy	519	1,854	787	875	1,143	-	90	152	-	200	181	35	99	85	194	37	188	58	-	34	50	399	6,980
Matale	41	724	209	230	302	-	-	-	-	31	-	-	-	16	61	19	31	-	-	13	-	77	1,754
Nuwara Eliya	249	524	202	286	469	-	-	-	-	68	-	-	-	12	31	-	-	-	-	-	-	99	1,940
Galle	342	1,002	569	605	766	-	21	191	-	85	62	20	14	41	96	33	60	85	-	32	21	275	4,320
Matara	120	619	360	392	517	-	-	-	-	45	17	-	16	-	44	27	37	-	-	46	-	201	2,441
Hambantota	124	676	304	316	474	-	-	-	-	54	-	-	-	23	31	42	34	-	-	-	-	125	2,203
Jaffna	200	719	531	343	516	-	20	114	-	83	13	-	24	-	81	25	-	-	-	9	-	221	2,899
Kilinochchi	44	163	72	92	149	-	-	-	-	10	-	-	-	-	-	-	-	-	-	-	-	33	563
Mullaitivu	103	136	59	78	80	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59	515
Vavuniya	10	191	157	118	235	-	17	-	-	30	-	-	-	29	43	-	35	-	-	-	-	26	891
Mannar	6	352	57	106	222	-	-	-	-	19	-	-	-	-	34	-	-	-	-	-	-	49	845
Batticaloa	191	601	354	422	355	-	15	35	-	40	10	-	5	34	38	14	53	-	-	-	-	144	2,311
Ampara	131	327	169	196	233	8	-	-	-	28	-	-	3	-	33	-	30	-	-	24	-	52	1,234
Kalmunai	24	602	300	394	434	-	-	-	-	39	-	-	-	-	30	-	-	-	-	-	-	161	1,984
Trincomalee	66	466	257	230	318	-	12	-	-	30	-	-	-	-	44	-	-	-	-	-	-	96	1,519
Kurunegala	776	1,544	583	768	974	-	-	40	-	58	44	44	16	44	104	45	114	58	-	36	20	362	5,630
Puttalam	152	504	303	260	513	30	17	-	-	-	-	-	-	-	52	7	39	-	-	-	-	141	2,018
Anuradhapura	768	911	470	471	778	35	-	58	-	51	51	25	39	-	30	24	70	-	-	12	-	271	4,064
Polonnaruwa	306	273	218	245	271	-	-	-	-	26	-	53	-	-	48	8	59	-	-	-	-	112	1,619
Badulla	399	895	542	478	684	-	-	116	-	75	49	-	30	44	71	23	96	-	-	28	29	225	3,784
Monaragala	173	479	165	309	340	-	-	-	-	-	-	-	-	-	40	-	-	-	-	-	-	102	1,608
Ratnapura	326	989	486	590	755	20	39	68	-	37	25	28	20	22	73	25	94	-	-	-	22	218	3,837
Kegalle	61	741	355	336	455	-	-	-	-	20	-	-	-	33	42	-	-	-	-	-	22	169	2,234
Total	7,662	19,330	10,472	11,326	14,127	107	663	1,515	39	2,891	823	370	480	614	2,010	400	1,572	394	53	506	198	5,029	80,581

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, 1991 - 2015

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
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	15,273	73.2	1,147	5.5	1,063	5.1	35,870	171.9	349	1.7	1,501	7.2	5,491	26.3	2,884	13.8
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
2014	17,615	84.8	1,360	6.5	999	4.8	38,451	185.1	277	1.3	1,526	7.3	5,954	28.7	2,888	13.9
2015	18,243	87.0	1,340	6.4	936	4.5	42,420	202.3	290	1.4	1,604	7.7	6,041	28.8	2,765	13.2

* 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

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 2015

RDHS Division	Medical Officers																			Regional Dental Surgeons	Consultant Dental Surgeons	Hospital Dental Surgeons	P.G.I.M Trainees**	Dental Surgeons[3]
	Administrative Grade (Senior and Deputy) Medical Officers	Specialists (Curative Care)	Hospital Medical Officers (D.M.O., S.H.O., H.O., M.O. in OPD, etc.)	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[1]	Total Medical Officers[2]					
Colombo	79	530	2,887	64	3	4	4	4	17	-	7	9	10	70	202	174	266	3,721	4,330	4	32	186	18	240
Gampaha	10	130	1,238	58	-	-	1	-	8	1	1	1	5	46	122	13	56	1,550	1,690	7	5	80	2	94
Kalutara	10	74	529	42	-	-	1	-	3	4	-	-	4	31	96	7	65	782	866	1	3	58	2	64
Kandy	15	163	1,248	48	-	1	-	-	6	-	1	2	1	-	148	206	20	1,681	1,859	2	4	161	10	177
Matale	2	36	202	20	-	1	-	-	3	14	1	2	3	6	41	3	40	336	374	1	1	29	-	31
Nuwara Eliya	2	39	207	16	1	-	-	-	-	3	2	-	1	2	-	-	1	233	274	1	1	30	-	32
Galle	10	134	670	37	2	-	1	-	3	1	1	1	1	21	146	4	20	908	1,052	1	3	54	-	58
Matara	6	41	367	36	-	-	1	-	3	7	1	1	3	10	51	-	15	495	542	-	3	34	-	37
Hambantota	3	48	281	17	-	-	-	-	1	2	-	-	4	9	56	-	9	379	430	1	1	28	-	30
Jaffna	5	60	341	16	-	-	-	-	2	-	1	2	2	8	52	42	4	470	535	-	2	42	-	44
Kilinochchi	1	12	91	6	-	1	-	-	-	-	-	1	-	2	-	1	4	106	119	1	-	8	-	9
Mannar	2	16	26	6	-	1	-	-	1	1	-	1	1	2	-	-	39	78	96	1	-	11	-	12
Vavuniya	2	24	127	4	-	2	1	1	1	2	1	1	-	-	2	2	1	145	171	1	-	15	-	16
Mullaitivu	-	9	26	5	-	1	-	-	-	1	-	5	1	1	-	-	22	62	71	-	-	4	-	4
Batticaloa	8	37	273	15	-	-	1	-	-	1	1	1	-	7	51	2	8	360	405	1	-	28	1	30
Ampara	3	35	214	12	-	1	-	-	2	2	-	-	4	13	41	-	6	295	333	1	2	21	-	24
Trincomalee	6	40	179	13	-	2	-	-	-	-	1	1	4	10	43	1	17	271	317	2	-	29	-	31
Kalmunai	5	27	287	14	-	1	-	-	1	2	-	1	4	9	20	-	14	353	385	1	-	26	-	27
Kurunegala	5	74	632	52	-	2	1	-	3	11	2	1	5	12	88	3	25	837	916	2	5	72	-	79
Puttalam	4	49	213	23	-	-	-	-	1	3	-	-	4	12	34	2	132	424	477	3	-	28	-	31
Anuradhapura	7	57	412	28	-	-	-	-	-	3	1	2	2	4	61	-	10	523	587	1	17	38	-	56
Polonnaruwa	3	34	227	16	-	1	-	-	-	1	1	1	1	2	32	26	13	321	358	2	-	27	-	29
Badulla	8	62	407	23	-	1	-	-	6	1	1	2	2	13	44	-	28	528	598	3	-	47	-	50
Monaragala	3	28	174	14	-	1	-	-	1	1	1	1	3	5	30	-	27	258	289	2	-	22	-	24
Ratnapura	6	76	450	31	-	1	-	-	2	6	-	1	4	10	45	3	6	559	641	1	2	64	-	67
Kegalle	6	47	368	20	-	1	-	-	2	1	1	3	7	10	50	-	12	475	528	1	3	40	-	44
Sri Lanka	211	1,882	12,076	636	6	22	11	5	66	68	25	40	76	315	1,455	489	860	16,150	18,243	41	84	1,182	33	1,340

** Include PGIM trainees drawing their salaries from the institutions concerned

Continued...

[1] Total Medical Officers, exclude: Administrative and Specialists

[2] Total Medical Officers

[3] Total Dental Surgeons

Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by Regional Director of Helath Services Division, December 2015

RDHS Division	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 Technicians	Entomological Assistants
Colombo	135	64	274	52	7,724	33	1,412	9,559	8	9	-	7	18	42	360	515	197	170	24	31	21	24
Gampaha	81	22	83	15	2,544	28	878	3,570	3	-	1	5	25	34	119	102	35	53	18	31	5	8
Kalutara	54	9	60	22	1,425	36	559	2,111	1	1	-	6	11	19	54	76	15	9	2	37	1	6
Kandy	139	19	96	43	3,351	15	852	4,376	5	41	11	23	9	89	135	122	74	53	9	17	12	9
Matale	32	5	11	-	568	10	-	594	1	8	9	6	4	28	30	24	6	6	1	10	-	4
Nuwara Eliya	15	5	4	-	439	4	-	452	-	5	1	3	-	9	20	21	8	6	1	8	1	1
Galle	67	5	33	9	2,002	21	610	2,680	2	3	-	5	19	29	77	72	35	26	7	23	2	7
Matara	45	7	41	8	1,163	10	191	1,420	-	1	-	2	16	19	48	38	13	14	4	21	-	5
Hambantota	9	1	28	13	943	11	350	1,346	-	1	-	-	6	7	34	35	12	7	2	14	-	8
Jaffna	11	6	38	15	622	1	361	1,043	-	3	-	-	3	6	53	31	15	22	2	8	-	2
Kilinochchi	1	-	1	-	90	-	-	91	-	-	-	-	-	-	3	3	2	3	-	1	-	2
Mannar	4	1	6	-	115	1	-	123	-	-	-	-	1	1	6	6	2	2	-	1	-	2
Vavuniya	3	2	14	6	208	3	87	320	-	-	-	-	2	2	14	13	5	1	-	4	-	3
Mullaitivu	-	-	-	-	85	-	-	85	-	-	-	-	1	1	5	4	2	3	-	1	-	2
Batticaloa	12	13	35	1	622	14	174	859	-	7	-	1	3	11	35	30	11	11	3	3	-	2
Ampara	4	3	4	13	510	-	718	1,248	-	-	-	-	-	-	27	29	9	5	1	3	-	4
Trincomalee	11	5	8	-	417	3	-	433	-	1	-	-	-	1	30	21	7	9	1	2	-	6
Kalmunai	14	4	14	-	628	6	-	652	-	10	-	4	1	15	31	32	12	6	-	4	-	5
Kurunegala	103	21	86	30	2,124	28	637	2,926	3	-	1	18	15	37	89	84	28	21	3	42	2	5
Puttalam	28	3	34	-	611	3	-	651	1	-	-	2	7	10	41	35	8	9	1	13	1	4
Anuradhapura	30	9	60	12	1,322	9	445	1,857	-	-	1	2	4	7	55	54	19	19	2	15	2	5
Polonnaruwa	9	4	14	-	613	3	-	634	-	-	1	2	13	16	35	27	10	10	2	6	-	3
Badulla	38	10	53	7	1,130	17	655	1,872	2	11	-	9	18	40	66	59	18	25	3	12	1	3
Monaragala	10	3	6	-	506	10	-	525	-	1	-	6	16	23	26	25	8	5	1	12	-	5
Ratnapura	30	9	35	22	1,332	9	440	1,847	1	2	-	9	11	23	63	54	24	15	3	16	1	7
Kegalle	51	7	30	1	1,093	15	-	1,146	1	1	-	4	11	17	48	42	13	9	-	14	1	8
Sri Lanka	936	237	1,068	269	32,187	290	8,369	42,420	28	105	25	114	214	486	1,504	1,554	588	519	90	349	50	140

Continued...

Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2015

RDHS Division	Opthalmic Technicians	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	49	16	10	227	12	437	220	85	22	37	97	15	46	1	9	-	8	3	1	1,611	11,712
Gampaha	12	2	7	108	15	498	157	22	5	28	68	9	-	-	-	-	2	-	-	466	3,361
Kalutara	8	3	6	111	26	482	154	13	3	15	43	16	-	-	1	-	-	1	-	441	1,430
Kandy	18	4	9	92	13	475	212	24	9	13	81	13	2	-	5	-	4	-	-	707	4,230
Matale	5	1	3	40	7	164	75	6	-	10	40	7	-	-	-	-	-	-	-	163	622
Nuwara Eliya	4	1	3	36	12	307	101	3	-	1	42	2	-	-	-	-	1	-	-	212	971
Galle	12	2	10	82	16	313	163	15	4	7	62	9	-	-	3	-	-	1	-	437	2,494
Matara	6	2	13	53	16	270	129	8	2	8	45	17	-	-	2	-	-	-	-	362	1,376
Hambantota	3	-	9	40	19	200	109	6	1	3	36	12	-	-	2	-	-	-	-	254	1,110
Jaffna	2	1	12	60	11	125	60	4	2	2	46	17	-	-	1	-	-	-	3	447	1,595
Kilinochchi	1	-	4	15	4	47	15	1	-	2	17	7	-	-	-	-	1	-	-	99	488
Mannar	1	1	3	18	5	55	33	-	-	-	11	4	-	-	-	-	-	-	-	104	552
Vavuniya	2	1	4	16	4	67	26	1	-	-	11	6	-	-	-	-	-	1	-	91	684
Mullaitivu	-	-	5	16	2	39	19	-	-	-	5	6	-	-	-	-	-	-	-	100	442
Batticaloa	2	1	11	57	11	150	122	11	2	-	34	57	-	-	2	-	-	-	-	149	1,272
Ampara	3	1	9	29	13	107	57	9	1	3	23	13	-	-	-	-	-	-	-	187	993
Trincomalee	5	3	7	43	13	146	80	3	-	3	28	34	-	-	-	-	-	1	-	232	919
Kalmunai	4	2	13	49	12	145	146	10	1	5	24	44	-	-	-	-	-	-	-	181	1,180
Kurunegala	6	2	19	108	27	421	231	17	4	36	110	33	-	-	1	-	3	-	-	756	3,000
Puttalam	4	2	9	43	12	190	56	7	2	12	39	18	-	-	-	-	-	-	-	173	753
Anuradhapura	4	2	12	77	19	226	131	12	3	29	77	20	-	-	1	-	-	1	-	475	2,010
Polonnaruwa	3	1	4	34	8	122	53	8	1	2	25	8	1	-	1	-	-	-	-	198	932
Badulla	8	2	8	67	9	291	121	11	2	8	77	6	-	-	1	-	3	-	2	362	1,949
Monaragala	2	-	7	32	11	183	69	6	-	4	38	6	-	-	1	-	-	-	-	215	950
Ratnapura	8	3	17	79	19	313	110	11	2	11	51	10	-	-	2	-	-	-	1	399	2,383
Kegalle	6	2	10	72	14	268	116	5	-	6	47	14	-	-	1	-	-	-	-	249	1,712
Sri Lanka	178	55	224	1,604	330	6,041	2,765	298	66	245	1,177	403	49	1	33	-	22	8	7	9,070	49,120

Source : Medical Statistics Unit

Table 11. Distribution of Specialists in Curative Care Services[1] by Regional Director of Health Services Division, December 2015

RDHS Division	General Physicians	General Surgeons	Obstetricians & Gynaecologists	Cardiologists	Chest Physicians	Thoracic Surgeons	Neurologists	Neuro Surgeons	Dermatologists	Rheumatologists	Pshychiatrists	Paediatricians	Peadiatric Surgeons	ENT Surgeons	Eye Surgeons	Orthopedic Surgeons	Plastic Surgeons	Genito Urinary Surgeons	Anaesthesiologists	Histo-Pathologists / Chemical Pathologists	Haematologists	Bacteriologists / Microbiologists	Biochemists	Oncologists / Radiotherapists	Oncology Surgeons	Radiologists	Venereologists	Mycologists	Public Health / Community Health Physicians	Specialist Dental Surgeons-Orthodontists	Specialist Dental Surgeons-Maxillofacial/Restorative	Others[2]	Total
Colombo	38	34	37	12	1	6	6	6	9	4	17	33	5	8	15	13	7	3	50	21	11	10	2	13	4	32	4	1	40	8	10	88	548
Gampaha	18	11	10	4	3	2	2	-	5	4	4	15	-	5	5	4	1	1	8	6	4	2	-	-	-	5	2	-	-	2	2	13	138
Kalutara	9	6	8	1	1	-	1	-	3	1	3	9	-	2	2	1	-	-	3	3	3	-	-	-	-	4	1	-	-	1	8	-	70
Kandy	11	9	11	6	2	3	4	2	5	2	5	13	4	4	6	4	1	2	15	6	3	2	-	4	-	9	1	-	4	1	-	24	163
Matale	5	5	4	-	1	-	-	-	2	-	2	3	-	1	2	1	-	-	2	2	2	-	-	1	-	1	-	-	-	-	1	1	36
Nuwara Eliya	4	4	4	2	1	-	-	-	3	1	2	2	1	1	1	1	-	-	2	1	1	1	-	-	-	4	-	-	-	-	1	2	39
Galle	17	8	14	5	1	3	3	2	4	2	2	13	3	2	4	2	1	2	10	8	3	1	-	4	2	7	1	-	1	1	2	14	142
Matara	5	3	4	1	1	-	1	-	1	1	2	5	-	1	1	1	-	-	3	2	1	2	-	-	-	3	-	-	-	1	1	3	43
Hambantota	8	5	5	1	-	-	1	-	2	2	2	6	-	1	1	-	-	-	5	2	2	-	-	1	1	4	-	-	-	-	-	2	51
Jaffna	8	5	4	2	-	-	2	1	2	1	1	3	1	2	2	2	1	1	4	2	1	1	-	3	-	5	-	-	-	1	1	5	61
Kilinochchi	4	4	4	-	-	-	-	-	2	-	-	4	-	-	-	-	-	-	-	1	1	-	-	-	-	1	-	-	-	-	-	-	21
Mullaitivu	2	1	2	-	-	-	-	-	-	-	1	1	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	-	9
Vavuniya	4	2	2	1	1	-	1	-	1	-	1	2	-	1	-	1	-	-	2	1	1	-	-	-	-	2	-	-	-	-	1	-	24
Mannar	2	2	2	-	1	-	-	-	-	-	1	2	-	-	-	1	-	-	2	1	1	-	-	-	-	-	-	-	-	-	-	1	16
Batticaloa	5	4	3	1	1	-	1	1	1	-	-	4	1	1	-	1	-	1	2	2	-	-	-	1	1	1	1	-	-	-	1	1	35
Ampara	5	4	4	1	1	-	1	-	1	1	1	4	-	1	1	1	-	-	2	1	1	-	1	1	-	2	-	-	-	-	1	2	37
Kalmunai	6	5	5	-	-	-	-	-	-	-	1	4	-	-	1	-	-	-	2	1	-	-	-	-	-	2	-	-	-	-	-	-	27
Trincomalee	5	5	5	1	1	-	-	-	2	-	1	5	-	1	1	1	-	-	3	1	1	-	-	-	-	-	-	-	1	-	-	-	34
Kurunegala	10	6	7	-	1	-	-	-	3	1	4	9	1	1	2	-	-	-	5	2	3	-	-	2	1	5	-	-	1	-	3	9	76
Puttalam	7	5	6	1	1	-	-	-	3	-	2	5	-	2	4	1	-	1	2	2	1	1	-	-	-	3	-	-	-	1	-	1	49
Anuradhapura	8	3	5	1	-	1	1	1	2	-	-	7	1	-	1	2	1	1	4	2	1	1	-	-	6	2	1	-	2	16	1	2	73
Polonnaruwa	5	3	3	1	1	-	1	-	1	1	1	3	-	1	1	1	-	-	2	1	1	1	-	-	-	2	-	-	-	1	1	3	35
Badulla	8	4	6	1	1	-	1	1	3	1	2	6	-	2	1	2	-	1	4	3	1	1	-	2	1	4	-	-	-	1	1	4	62
Monaragala	6	3	3	-	1	-	-	-	1	-	1	5	-	1	1	-	-	-	2	1	-	-	-	-	-	1	-	-	-	-	-	2	28
Ratnapura	11	6	7	1	1	-	1	-	3	1	3	8	-	2	2	2	1	1	4	5	1	1	-	2	1	5	1	-	1	1	1	5	78
Kegalle	7	4	6	1	1	-	1	-	4	-	1	5	-	2	1	1	-	-	4	2	1	1	-	-	-	4	-	-	-	1	1	2	50
Total	218	151	171	44	23	15	28	14	63	23	60	176	17	42	55	43	13	14	144	79	45	25	3	34	17	108	12	1	50	36	37	184	1,945

Excludes:

[1] Specialists of the Faculties of Medicine working in Teaching Hospitals

Includes:

[2] Virologists, Consultant JMO's, Immunologists, Parasitalogists, Nephrologists & Neonatalogists

Source : Medical Statistics Unit

Table 12. National Expenditure, Health Expenditure and GNP, 2010 - 2015

Description	2010	2011	2012	2013	2014	2015
National Expenditure (Rs. million)	1,751,113	1,961,053	2,192,234	2,411,606	2,601,723	3,203,280
Govrnment Health Expenditure (Not Included Private Health Sector) (Rs. million)	80,027	82,179	89,291	120,346	155,008	181,123
Health Expenditure (Not Included Private Health Sector) as a Percent of National Expenditure	4.57	4.19	4.07	4.99	5.96	5.65
Mid Year Population ('000 Persons)	20,653	20,869	20,328	20,483	20,675	20,966
Per Capita Health Expenditure (Not Included Private Health Sector) (Rs.)	3,875	3,938	4,392	5,875	7,497	8,639
GNP/GNI (Rs. billion)	5,530	6,472	7,434	8,439	9,545	10,932
Health Expenditure as a Percent of GNP	1.45	1.26	1.20	1.43	1.62	1.66

Source : Central Bank of Sri Lanka - Annual Report 2015, Department of National Budget - Budget Estimate 2017
Ministry of Finance and Planning, Sri Lanka - Annual Report 2015,
Department of State Accounts, General Treasury - Financial Statements for the year ended 31 st December 2015

Table 13. Summary of Health Expenditure and Source of Fund, 2010 - 2015

(Rs. Million)

Description	2010	2011	2012	2013	2014	2015
Government Health Expenditure (Not Included Private Health Sector)						
Recurrent Expenditure	67,213	69,801	74,184	100,968	130,360	149,790
Capital Expenditure	12,814	12,378	15,107	19,378	24,648	31,332
	80,027	82,179	89,291	120,346	155,008	181,123
Source of Fund						
Consolidated Fund	74,048	79,433	81,781	111,988	136,123	168,905
Foreign Aid	5,979	2,745	7,510	8,358	18,885	12,218
	80,027	82,179	89,291	120,346	155,008	181,123

Source : Central Bank of Sri Lanka - Annual Report 2015, Department of National Budget - Budget Estimate 2017
Ministry of Finance and Planning, Sri Lanka - Annual Report 2015,
Department of State Accounts, General Treasury - Financial Statements for the year ended 31 st December 2015

Table 14. Summary of Health Expenditure by Programme, 2015

(Rs. Million)

Programme	Health Expenditure 2015			
	Ministry of Health	Department of Ayurveda	Provincial Health	Total
Recurent Expenditure				
01. Operational Activities	**89,283**	**98**	**-**	**-**
Minister's Office	68			
Ministry Administration and Establishment Services	2,878			
Medical Supply Division	32,064			
Hospital Operations	54,273			
02. Development Activities	**11,471**	**1,011**	**-**	**-**
Human Resource Development	8,383			
Health Promotion and Disease Prevention	848			
National Nutrition Programme	1,957			
Medical Research	282			
Clinical Trials Regulatory Division	1			
Total	**100,754**	**1,109**	**47,927**	**149,790**
Capital Expenditure				
01. Operational Activities	**5,599**	**11**	**-**	**-**
Minister's Office	14			
Ministry Administration and Establishment Services	501			
Medical Supply Division	170			
Hospital Operations	4,914			
02. Development Activities	**23,021**	**402**	**-**	**-**
Human Resource Development	188			
Hospital Development Projects	19,629			
Health Promotion and Disease Prevention	305			
Control of Communicable and Non Communicable Diseases	2,343			
National Nutrition Programme	243			
Medical Research	173			
Clinical Trials Regulatory Division	2			
Promotion of Indigenous Medicine	138			
Total	**28,620**	**413**	**2,300**	**31,333**
Total Health Expenditure (Recurrent+Capital)				
01. Operational Activities	**94,882**	**109**	**-**	**-**
Minister's Office	82			
Ministry Administration and Establishment Services	3,379			
Medical Supply Division	32,234			
Hospital Operations	59,187			
02. Development Activities	**34,492**	**1,413**	**-**	**-**
Human Resource Development	8,570			
Hospital Development Projects	19,629			
Health Promotion and Disease Prevention	1,154			
Control of Communicable and Non Communicable Diseases	2,343			
National Nutrition Programme	2,200			
Medical Research	455			
Clinical Trials Regulatory Division	3			
Promotion of Indigenous Medicine	138			
Total	**129,374**	**1,522**	**50,227**	**181,123**

Source : Central Bank of Sri Lanka - Annual Report 2015, Department of National Budget - Budget Estimate 2017
Ministry of Finance and Planning, Sri Lanka - Annual Report 2015,
Department of State Accounts, General Treasury - Financial statements for the year ended 31st December 2015

Table 15. Indoor Morbidity and Mortality Statistics by Broad Disease Groups, 2015

	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)	131,234	47.5	52.5	9.4	23.3	16.6	24.3	16.7	9.7	0.0	63
2	Tuberculosis (A15-A18)	8,551	69.4	30.6	0.2	1.1	2.6	38.9	42.8	14.4	0.0	314
3	Other bacterial diseases (A20-A49)	22,347	70.5	29.5	12.5	6.6	7.2	41.6	24.7	7.3	0.1	4,241
4	Infections with sexual mode of transmission (A50-A64)	641	57.7	42.3	2.0	2.3	4.5	56.6	31.4	3.0	0.2	-
5	Viral diseases (A80-B34)	243,292	55.8	44.2	5.2	14.5	17.9	40.4	16.6	5.4	0.0	159
6	Malaria (B50-B54)	48	62.5	37.5	4.2	6.3	10.4	60.4	14.6	4.2	-	-
7	Helminthiases (B76,B77,B79,B80)	96	65.6	34.4	7.3	20.8	24.0	20.8	26.0	1.0	-	-
8	Other infectious and parastic diseases	9,949	55.6	44.4	3.8	9.9	12.9	44.6	23.6	5.2	-	4
9	Neoplasms (C00-D48)	126,764	43.5	56.5	0.3	3.1	5.2	27.8	49.9	13.6	0.0	4,798
10	Iron dificiency anaemias (D50)	7,194	35.2	64.8	0.7	2.9	4.7	35.3	32.7	23.6	0.2	11
11	Haem. con. and other diseases of blood and ... (D51-D89)	29,265	47.8	52.2	1.9	8.4	21.9	30.8	22.3	14.7	0.0	96
12	Diabetes mellitus (E10-E14)	80,041	46.5	53.5	-	0.2	1.1	26.2	55.2	17.3	0.1	702
13	Malnutrition and vitamin deficiencies (E40-E46,E50-E56)	1,414	41.8	58.2	2.8	15.4	7.4	22.1	32.5	19.6	0.2	18
14	Oth eno, nutr. and metabo... (E00-E07,E15-E34,E58-E89)	29,027	34.7	65.3	1.4	2.2	5.0	38.6	36.9	15.8	0.1	110
15	Mental and behavioural disorders (F00-F99)	48,932	58.4	41.6	0.1	0.3	3.6	62.3	27.6	5.6	0.6	-
16	Diseases of the nervous system (G00-G98)	67,901	50.1	49.9	2.3	4.7	11.4	42.7	27.7	11.0	0.2	580
17	Diseases of the eye and adnexa (H00-H59)	164,918	50.0	50.0	0.7	2.4	6.5	23.4	43.9	23.0	0.1	-
18	Dis of the ear.. (H60-H61,H65-H74,H80-H83,H90-H95)	45,926	47.7	52.3	3.5	11.8	17.5	36.1	23.2	7.8	0.0	-
19	Rheum. fever and rheum. heart dis. (I00-I02,I05-I09)	2,816	45.1	54.9	-	1.1	15.5	39.7	32.3	10.4	0.9	40
20	Hypertensive diseases (I10-I15)	97,207	41.8	58.2	0.0	0.0	0.0	20.6	48.4	30.5	0.4	713
21	Ischaemic heart disease (I20-I25)	111,564	55.6	44.4	0.0	0.0	0.2	19.0	53.3	27.3	0.1	6,221
22	Other heart diseases (I26-I51)	39,991	52.6	47.4	0.3	0.2	1.2	20.7	45.4	32.1	0.1	3,630
23	Cerebroavascular disease (I60-I69)	44,130	60.7	39.3	0.0	0.1	0.3	11.7	46.8	40.8	0.2	3,584
24	Other diseases of the circulatory system (I70-I84)	41,933	59.7	40.3	0.1	0.7	2.0	40.4	43.2	13.6	0.0	199
25	Influenza (J10-J11)	2,270	49.1	50.9	4.6	9.9	10.8	45.4	21.4	7.9	-	29
26	Pneumonia (J12-J18)	26,451	53.3	46.7	10.8	16.9	9.8	19.0	27.6	15.8	0.1	3,288
27	Other dise. of the upper respir. tract (J00-J06,J30-J39)	125,865	50.6	49.4	9.6	21.5	18.5	26.9	16.7	6.7	0.2	47
28	Diseases of the resp. system exclu... (J20-J22, J40-J98)	480,347	53.0	47.0	7.8	13.3	12.7	20.0	28.4	17.6	0.1	4,030
29	Diseases of teeth and supporting structure (K00-K014)	17,259	54.5	45.5	0.9	10.3	20.7	39.8	22.0	6.2	0.0	-
30	Diseases of the gastrointestional tract (K20-K92)	306,688	53.8	46.2	0.8	3.0	10.3	44.5	30.2	11.2	0.1	2,337
31	Diseases of skin ad subcutaneous tissue (L00-L08,L10-L98)	207,789	56.7	43.3	2.0	7.0	10.2	36.8	32.1	12.0	0.0	84
32	Disorders of the musculoskeletal system (M00-M99)	168,587	53.2	46.8	0.1	1.1	7.5	45.3	33.6	12.3	0.1	47
33	Diseases of the urinary system (N00-N39)	225,042	55.4	44.6	1.6	3.8	6.2	43.7	31.4	13.3	0.0	2,710
34	Diseases of breast (N60-N64)	12,917	9.9	90.1	0.9	0.9	4.0	69.1	20.6	4.4	0.0	-
35	Diseases of the male genital organs (N40-N50)	20,175	100.0	-	1.0	7.9	13.1	29.8	30.8	17.3	0.0	5
36	Disor. of female genito-urinary sys. (N70-N98, N99.2, N99.3)	81,677	-	100.0	0.1	0.2	2.2	71.3	22.1	4.1	0.0	8
37	Abortions (O00-O08)	47,996	-	100.0	-	-	0.6	99.2	-	-	0.3	3
38	False labour (O47)	12,285	-	100.0	-	-	0.5	99.5	-	-	0.1	-
39	Other obstetric conditions and those admitted...	245,853	-	100.0	-	-	0.4	99.4	-	-	0.2	30
40	Single sponteaneous dilivery (O80)	196,501	-	100.0	-	-	0.3	99.6	-	-	0.0	-
41	Slow fetal growth, fetal malnutrition and... (P05-P07)	7,455	49.3	50.7	100.0	-	-	-	-	-	-	586
42	Other conditions originating in the perinatal period (P00-P04, P08-P96)	36,535	50.4	49.6	100.0	-	-	-	-	-	-	660
43	Congenital malformations deformations... (Q00-Q99)	11,482	58.3	41.7	36.8	33.6	15.4	10.1	3.3	0.8	0.1	678
44	Signs, symptoms and abnormal clinical findings (R00-R99)	567,764	48.8	51.2	2.8	7.4	11.8	39.1	26.9	12.0	0.1	1,002
45	Traumatic injuries (S00-T19, W54)	943,297	66.6	33.4	0.6	6.8	16.7	50.2	19.6	6.0	0.1	1,650
46	Burns and corrosion (T20-T32)	15,597	56.5	43.5	2.9	23.8	17.2	39.5	13.2	3.4		197
47	Toxic effects of pesticides (T60.0,T60.1-T60.9)	15,404	59.4	40.6	0.4	4.5	9.5	70.9	12.6	1.8	0.2	374
48	Snake bites (T63.0)	36,631	60.9	39.1	0.3	2.8	11.5	54.1	26.7	4.6		78
49	Tox. effe. of ot. sub. oth tha.. (T36-T59,T61-T62,T63.1-T65)	62,946	48.6	51.4	0.9	8.1	15.1	59.6	13.3	3.0	0.1	221
50	Effects of unspecified external causes... (T33-T35,T66-T79)	52,836	52.2	47.8	1.8	8.4	20.3	42.2	20.4	6.8	0.1	90
51	Complications of surgical and medical care... (T80-T88)	11,123	52.2	47.8	4.3	7.4	11.5	43.5	25.5	7.8	0.0	14
52	Sequelae of injuries, poisoning and of other... (T90-T98)	4,074	62.5	37.5	0.9	5.0	12.7	48.5	23.4	9.5	0.0	35
53	Persons encountering health services.... (Z00-Z13,Z40-Z54)	598,407	53.2	46.8	3.0	5.0	9.4	39.3	29.8	13.5	0.0	-
54	Sterilizations (Z30.2)	6,014	4.0	96.0	-	-	-	96.4	2.7	-	1.0	-
55	Undiagnosed/Uncoded	457,233	53.1	46.9	4.0	6.4	10.1	42.9	26.6	9.8	0.1	4,122
	Total	6,359,681	49.5	50.5	3.2	6.4	10.3	43.4	25.7	10.9	0.1	47,808

* Total = (Number of Live Discharges + Deaths)

Source : Medical Statistics Unit

Table 16. Trends in Hospital Morbidity and Mortality by Broad Disease Groups, 2008 - 2015

Disease Group by International Classification of Diseases (10th Revision)	Morbidity (Cases per 100,000 population)								Mortality (Cases per 100,000 population)							
	2008	2009 [5]	2010 [6]	2011 [6]	2012	2013	2014	2015	2008	2009 [5]	2010 [6]	2011 [6]	2012	2013	2014	2015
1. Certain infectious and parasitic diseases (A00-B99)	2,477.8	2,976.1	2,693.2	2,202.5	2,364.5	2,208.0	2,102.4	1,984.9	13.7	15.5	17.2	18.4	16.6	18.4	21.5	22.8
2. Neoplasms (C00-D48)	359.2	368.8	403.2	418.8	470.9	477.8	540.0	604.6	17.2	18.5	21.5	22.2	22.2	22.2	24.0	22.9
3. Diseases of the blood & blood - forming organs & certain disorders involving the immune mechanism (D50-D89)	97.2	113.4	124.6	128.9	138.8	144.7	154.9	173.9	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.5
4. Endocrine, nutritional and metabolic diseases (E00-E90)	394.8	455.3	465.1	455.1	518.3	535.9	524.9	527.0	3.3	4.0	4.0	4.1	4.0	3.7	3.8	4.0
5. Mental and behavioural disorders (F00-F99)	199.8	195.2	213.7	219.0	223.2	227.6	226.9	233.4	-	-	-	-	-	-	-	-
6. Diseases of the nervous system (G00-G99)	290.0	308.4	313.8	319.3	329.3	323.9	320.1	323.9	2.6	3.2	3.0	2.6	2.9	2.9	2.9	2.8
7. Diseases of the eye and adnexa (H00-H59)	580.7	648.4	646.7	647.0	697.9	699.6	758.8	786.6	-	-	-	-	-	-	-	-
8. Diseases of the ear and mastoid process (H60-H95)	141.2	161.9	168.9	180.4	184.9	197.8	200.0	219.0	-	-	-	-	-	-	-	-
9. Diseases of the circulatory system (I00-I99)	1,382.9	1,436.7	1,490.1	1,456.1	1,573.1	1,588.4	1,619.5	1,610.4	59.0	60.6	63.1	61.9	65.4	66.6	69.6	68.6
10. Diseases of the respiratory system (J00-J99)	2,745.5	2,910.3	2,873.7	2,709.9	2,892.7	2,939.3	2,847.0	3,028.4	25.0	21.9	24.1	23.1	25.2	28.1	30.1	35.3
11. Diseases of the digestive system (K00-K93)	1,190.2	1,295.6	1,375.5	1,386.5	1,439.3	1,440.6	1,482.9	1,545.1	12.4	12.3	12.0	10.1	10.4	11.2	11.6	11.1
12. Diseases of the skin and subcutaneous tissue (L00-L99)	725.6	874.4	901.7	903.7	970.0	952.4	1,038.9	991.1	-	-	-	0.2	0.1	0.2	0.3	0.4
13. Diseases of the musculoskeletal system and connective tissue (M00-M99)	643.0	689.3	708.3	736.8	789.7	768.6	777.1	804.1	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2
14. Diseases of the genitourinary system (N00-N99)	1,273.8	1,411.0	1,506.8	1,494.3	1,578.3	1,567.0	1,601.3	1,620.8	9.1	10.7	11.1	11.6	12.1	12.4	13.1	13.0
15. Pregnancy, childbirth and the puerperium [1,4] (O00-O99)	4,316.0	4,528.6	4,613.9	4,668.2	5,299.6	5,389.3	5,266.0	5,226.2	1.5	1.1	1.0	0.9	0.9	1.0	0.6	0.6
16. Certain conditions originating in the perinatal period [2,3] (P00-P96)	NA	NA	NA	NA	9,188.4	11,448.5	12,729.4	13,138.4	NA	NA	NA	NA	222.2	389.2	360.3	372.1
17. Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	64.1	58.5	61.9	52.9	55.8	63.0	58.7	54.8	3.0	2.9	3.1	2.6	2.6	2.7	2.9	3.2
18. Symptoms,signs and abnormal clinical and laboratory findings not elsewhere classified (R00-R99)	1,827.6	2,180.2	2,143.7	2,030.8	2,300.1	2,430.2	2,549.7	2,708.0	8.3	10.5	9.7	7.7	8.6	9.4	6.6	4.8
19. Injury, poisoning and certain other consequences of external causes (S00-T98)	4,200.6	4,585.4	4,832.9	4,880.2	5,316.3	5,210.7	5,289.8	5,446.5	14.8	17.2	15.2	15.2	13.9	12.5	12.4	12.7

[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

[5] Kilinochchi and Mullaitivu districts

[6] Mullaitivu district

NA - Not Available

Source : Medical Statistics Unit

Table 17. Trends in Hospitalization and Hospital Deaths of Selected Diseases, 2008 - 2015

Disease and ICD Code		Number of Hospitalizations per 100,000 Population								Number of Deaths per 100,000 Population							
		2008	2009 [2]	2010 [3]	2011 [3]	2012	2013	2014	2015	2008	2009 [2]	2010 [3]	2011 [3]	2012	2013	2014	2015
Intestinal infectious diseases	(A00-A09)	627.5	791.6	732.4	684.3	634.4	607.5	619.8	625.9	0.4	0.5	0.4	0.3	0.2	0.3	0.3	0.3
Tuberculosis	(A15-A19)	34.9	38.3	48.7	45.1	39.0	40.6	41.5	40.8	1.4	1.4	2.2	1.6	1.5	1.6	1.6	1.5
Diphtheria	(A36)	-	-	-	-	-	-	-	0.0	-	-	-	-	-	-	-	-
Whooping cough	(A37)	-	-	-	0.3	0.5	0.2	0.3	0.5	-	-	-	-	-	-	-	0.0
Septicaemia	(A40, A41)	23.7	27.1	28.2	17.7	33.6	38.1	44.2	47.0	9.0	10.2	11.5	11.3	12.6	14.4	17.5	18.7
Rabies	(A82)	0.3	0.2	0.3	0.7	0.2	0.2	0.3	0.7	0.2	0.1	0.2	0.1	0.1	0.1	0.0	0.0
Measles	(B05)	0.7	0.8	0.7	0.5	0.4	23.2	16.5	15.5	-	-	-	-	-	-	-	0.0
Viral hepatitis	(B15-B19)	15.2	45.3	14.5	12.4	15.9	16.1	15.2	12.9	-	-	-	0.1	-	-	-	0.0
Malaria	(B50-B54)	3.1	5.2	2.9	0.7	0.6	0.5	0.4	0.2	-	-	-	-	-	-	-	-
Helminthiasis	(B76, B77, B79, B80)	2.0	2.4	1.1	1.0	1.2	1.3	0.6	0.5	-	-	-	-	-	-	-	-
Diabetes mellitus	(E10-E14)	296.7	343.9	357.2	345.9	388.1	411.4	391.8	381.8	2.9	3.5	3.3	3.6	3.3	3.1	3.2	3.3
Nutritional deficiencies	(E40-E46, E50-E56)	7.9	9.1	6.5	7.2	7.6	7.9	4.6	6.7	0.1	0.2	0.1	0.1	-	-	-	0.1
Anaemias	(D50-D64)	77.2	87.8	96.6	98.7	105.6	111.9	121.7	137.3	0.3	0.4	0.4	0.4	0.3	0.4	0.4	0.4
Hypertensive disease	(I10-I15)	466.4	478.5	476.9	470.2	486.4	489.3	477.7	463.6	2.8	2.6	3.4	2.9	2.6	2.8	3.1	3.4
Ischaemic heart disease	(I20-I25)	423.0	450.4	478.2	455.4	494.9	506.1	524.3	532.1	22.1	23.7	24.8	25.3	27.6	29.1	30.6	29.7
Asthma	(J45)	970.2	973.8	948.2	893.6	928.0	910.8	916.3	911.0	4.1	3.3	3.7	2.9	3.1	3.0	2.9	3.2
Diseases of the liver	(K70-K76)	86.2	84.3	85.1	68.4	77.5	82.2	83.2	76.3	10.5	10.1	9.8	7.8	8.3	8.7	9.1	8.7
Abortions [1]	(O00-O08)	870.5	878.0	836.1	859.3	959.3	922.4	893.4	870.4	0.1	0.1	-	0.1	-	0.1	0.2	0.1

[1] Rate per 100,000 females of the reproductive age group

Source : Medical Statistics Unit

Excludes:

[2] Kilinochchi and Mullaitivu districts

[3] Mullaitivu district

Table 18. Leading Causes of Hospitalization, 2015

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	943,297	18.5	4,499.2
2	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	567,764	11.2	2,708.0
3	J20 - J22, J40 - J98	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	480,347	9.4	2,291.1
4	K20 - K92	Diseases of the gastrointestinal tract	306,688	6.0	1,462.8
5	A80 - B34	Viral diseases	243,292	4.8	1,160.4
6	O10 - O46, O48 - O75, O81 - O99, Z35	Direct and indirect obstetric causes	240,178	4.7	1,145.6
7	N00 - N39	Diseases of the urinary system	225,042	4.4	1,073.4
8	L00 - L99	Diseases of the skin and subcutaneous tissue	207,789	4.1	991.1
9	M00 - M99	Diseases of the musculoskelital system and connective tissue	168,587	3.3	804.1
10	H00 - H59	Diseases of the eye and adnexa	164,918	3.2	786.6
11	A00 - A09	Intestinal infectious diseases	131,234	2.6	625.9
12	C00-D48	Neoplasms	126,764	2.5	604.6
	A00 - T98, Z35, Z00 - Z13, Z30.2, Z40 - Z54, W54	All causes [1]	5,089,580	100.0	24,275.4

[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, 2015

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	6,221	14.2	29.7
2	C00 - D48	Neoplasms[1]	4,798	11.0	22.9
3	A20 - A49	Zoonotic and other bacterial diseases	4,241	9.7	20.2
4	J20 - J22, J40 - J98	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	4,030	9.2	19.2
5	I26-I51	Pulmonary heart disease and diseases of the pulmonary circulation	3,630	8.3	17.3
6	I60 - I69	Cerebrovascular disease	3,584	8.2	17.1
7	J12 - J18	Pneumonia	3,288	7.5	15.7
8	N00-N39	Diseases of the urinary system	2,710	6.2	12.9
9	K20 - K92	Diseases of the gastro-intestinal tract	2,337	5.3	11.1
10	S00 - T19, W54	Traumatic injuries	1,650	3.8	7.9
11	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	1,002	2.3	4.8
12	I10 - I15	Hypertensive disease	713	1.6	3.4
13	E10 - E14	Diabetes mellitus	702	1.6	3.3
14	Q00 - Q99	Congenital malformations deformations	678	1.6	3.2
15	P00 - P04, P08 - P96	Conditions originating in the perinatal period excluding disorders related to short gestation, low birth weight, slow fetal growth and fetal malnutrition	660	1.5	3.1
	A00-T98, Z00-Z13, Z35, Z40-Z54, W54	All causes [2]	43,686	100.0	208.4

[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, 2006 - 2015 [1]

Disease and ICD (10th Revision) Code		2015		2014		2013		2012		2011 [2]		2010 [2]		2009 [3]		2008		2007		2006	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Traumatic injuries	(S00-T19, W54)	1	18.5	1	18.5	1	18.1	1	17.0	1	17.0	1	16.2	1	15.6	1	15.6	1	16.1	1	17.0
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	2	11.2	2	10.8	2	10.4	2	9.8	2	9.4	2	9.5	2	9.8	3	9.1	3	8.7	3	8.4
Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia and influenza	(J20-J22, J40-J98)	3	9.4	3	9.0	3	9.4	3	9.1	3	9.3	3	9.4	3	9.6	2	10.3	2	9.7	2	10.4
Diseases of the gastro-intestinal tract	(K20-K92)	4	6.0	4	5.9	5	5.8	5	5.8	5	6.1	5	5.7	5	5.4	5	5.6	5	5.9	5	5.9
Viral diseases	(A80-B34)	5	4.8	5	5.5	4	6.0	4	6.7	4	6.2	4	7.9	4	9.1	4	8.5	4	6.4	4	7.3
Direct and indirect obstetric causes	(010-O46, O48-O75, O81-O99, Z35)	6	4.7	6	4.6	6	5.5	6	4.9	6	4.9	6	4.7	6	4.6	6	4.8	6	5.4	6	5.1
Diseases of the urinary system	(N00-N39)	7	4.4	7	4.4	7	4.3	7	4.3	7	4.3	8	4.0	8	3.8	7	3.7	7	4.0	7	3.9
Diseases of the skin and subcutaneous tissue	(L00-L99)	8	4.1	8	4.4	8	4.1	8	4.1	8	4.2	7	4.0	7	3.9	10	3.1	8	3.9	9	3.6
Diseases of the musculoskeletal system and connective tissue	(M00-M99)	9	3.3	9	3.3	9	3.3	9	3.4	9	3.4	10	3.2	10	3.1	9	3.2	10	3.3	10	3.3
Diseases of the eye and adnexa	(H00-H59)	10	3.2	10	3.2	10	3.0	10	3.0	11	3.0	11	2.9	12	2.9						
Intestinal infectious diseases	(A00-A09)	11	2.6	11	2.6	12	2.6	11	2.7	10	3.1	9	3.3	9	3.6	8	3.6	9	3.7	8	3.8
Neoplasms	(C00-D48)	12	2.5	13	2.3	15	2.0	15	2.0	15	2.0										

Excludes:

Source : Medical Statistics Unit

[1] 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

[2] Mullaitivu District

[3] Kilinochchi and Mullaitivu Districts

Table 21. Leading Causes of Hospital Deaths, 2008 - 2015

Disease and ICD (10th Revision) Code		2015		2014		2013		2012		2011 [2]		2010 [2]		2009 [3]		2008	
		Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Ischaemic heart disease	(I20 - I25)	1	14.2	1	14.8	1	14.7	1	14.4	1	13.4	1	12.8	1	12.8	1	12.5
Neoplasms[1]	(C00 - D48)	2	11.0	2	11.7	2	11.2	2	11.6	2	11.8	2	11.1	3	9.5	3	9.8
Zoonotic and other bacterial diseases	(A20 - A49)	3	9.7	3	9.1	6	7.9	6	7.1	6	6.7	6	6.6	7	6.3	7	6.2
Diseases of the respiratory system excluding diseases of upper respiratory tract , pneumonia and influenza	(J20 - J22, J40 - J98)	4	9.2	6	8.0	5	7.9	5	7.2	5	6.9	5	7.0	5	6.7	5	8.0
Pulmonary heart disease and diseases of the pulmonary circulation	(I26 - I51)	5	8.3	4	8.6	4	8.4	3	9.0	4	8.6	3	8.7	2	10.0	2	10.0
Cerebrovascular disease	(I60 - I69)	6	8.2	5	8.4	3	8.6	4	8.7	3	8.7	4	8.7	4	8.4	4	8.7
Pneumonia	(J12 - J18)	7	7.5	7	6.6	8	6.1	8	5.7	9	5.2	9	5.2	10	4.9	8	5.9
Diseases of the urinary system	(N00 - N39)	8	6.2	8	6.3	7	6.2	7	6.3	7	5.7	8	5.7	8	5.7	9	5.1
Diseases of the gastro-intestinal tract	(K20 - K92)	9	5.3	9	5.7	9	5.7	9	5.4	8	5.4	7	6.2	6	6.6	6	7.0
Traumatic injuries	(S00 - T19, W54)	10	3.8	10	3.5	11	3.3	11	3.7	11	3.6	11	3.7	11	4.6	11	3.7
Symptoms, signs and abnormal clinical and laboratory findings	(R00 - R99)	11	2.3	11	3.2	10	4.8	10	4.5	10	4.1	10	5.0	9	5.7	10	4.7
Hypertensive disease	(I10-I15)	12	1.6	14	1.5	16	1.4	18	1.3	16	1.5						
Diabetes mellitus	(E10 - E14)	13	1.6	13	1.6	13	1.6	14	1.7	14	1.9						

[1] Includes deaths reported from the Cancer Hospital (not analysed by site and type of neoplasm)

Source : Medical Statistics Unit

[2] Excludes Mullaitivu District

[3] Kilinochchi and Mullaitivu Districts

Table 22. Leading Causes of Hospitalization by District, 2015[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, W54)	1	1	1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1
Symptoms, signs and abnormal clinical and laboratory findings	(R00-R99)	2	3	2	2	2	2	3	2	2	2	2	2	1	2	7	2	2	3	2	2	2	2	2	3	3	3
Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia and influenza	(J20-J22, J40-J98)	3	4	3	3	3	3	2	3	3	3	3	3	6	4	2	3	3	2	3	3	3	3	3	2	2	2
Diseases of the gastro-intestinal tract	(K20-K92)	4	7	4	4	4	6	4	4	6	4	9	4	3	6	3	4	4	4	4	5	4	4	4	4	4	4
Viral diseases	(A80-B34)	5	6	8	6	5	5	5	9	4	8	8	8	5	8	5	8	5	6	6	4	5	7	7	6	6	7
Direct and indirect obstetric causes	(010-O46, O48-O75, O81-O99, Z35)	6	5	5	7	7	9	6	6	8	7	11	14	4	7	12	5	6	7	5	7	7	8	6	5	5	5
Diseases of the urinary system	(N00-N39)	7	8	9	8	6	7	12	7	10	6	7	6	7	3	4	7	7	5	7	9	6	6	5	7	10	8
Diseases of the skin and subcutaneous tissue	(L00-L99)	8	9	6	5	11	8	9	5	9	5	5	5	9	5	6	9	8	8	8	6	8	5	8	9	8	6
Diseases of the musculoskeletal system and connective tissue	(M00-M99)	9	11	10	9	10	10	10	11	7	10	4	7	13	9	8	6	9	9	9	13	9	9	9	8	9	9
Diseases of the eye and adnexa	(H00-H59)	10	10	7	13	8	4	16	10	5	15	6	9	38	14	25	10	14	10	12	8	19	10	11	14	7	13
Intestinal infectious diseases	(A00-A09)	11	15	11	11	12	12	7	12	12	9	13	13	14	11	14	16	10	14	10	10	13	12	12	10	11	12
Neoplasms	(C00-D48)	12	2	22	26	9	28	26	8	30	34	10	21	27	26	32	20	38	29	27	33	14	31	14	32	14	24

[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, Undiagnosed/uncoded

[2] Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 23. Leading Causes of Hospital Deaths by District, 2015

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 disease	(I20 - I25)	1	2	1	1	2	2	2	1	1	1	4	5	1	2	2	2	1	2	1	1	2	2	6	1	2	1
Neoplasms[1]	(C00 - D48)	2	1	8	9	1	9	11	4	8	9	2	7	11	6	7	13	9	8	2	10	5	7	2	8	7	8
Zoonotic and other bacterial diseases	(A20 - A49)	3	3	6	2	4	6	7	5	6	11	3	3	14	3	9	7	2	1	5	3	3	5	2	3	4	6
Diseases of the respiratory system excluding diseases of upper respiratory tract , pneumonia and influenza	(J20 - J22, J40 - J98)	4	4	5	5	5	5	3	3	3	2	1	2	6	1	3	6	3	6	4	7	6	6	5	2	3	3
Pulmonary heart disease and diseases of the pulmonary circulation	(I26 - I51)	5	5	3	3	6	3	1	9	2	4	8	4	2	7	4	1	6	4	8	2	9	4	7	4	1	2
Cerebrovascular disease	(I60 - I69)	6	6	4	4	3	7	4	6	4	7	5	8	6	8	9	4	5	6	3	6	7	3	9	5	5	3
Pneumonia	(J12 - J18)	7	9	7	6	9	4	5	2	5	3	6	6	5	13	9	11	4	5	6	5	4	8	1	7	6	5
Diseases of the urinary system	(N00 - N39)	8	8	9	8	7	8	10	10	7	5	7	1	8	4	7	8	7	3	9	9	1	1	4	6	8	11
Diseases of the gastro-intestinal tract	(K20 - K92)	9	7	2	7	8	10	12	7	9	13	9	11	-	8	9	9	13	11	7	4	10	10	11	9	9	9
Traumatic injuries	(S00 - T19, W54)	10	11	10	10	10	11	24	8	11	12	10	9	8	5	9	5	10	9	10	8	8	9	8	13	10	7
Symptoms, signs and abnormal clinical and laboratory findings	(R00 - R99)	11	13	15	11	13	1	9	11	12	6	11	21	8	8	1	3	12	28	18	17	17	13	18	10	12	10
Hypertensive disease	(I10-I15)	12	16	13	20	16	13	8	13	10	10	14	-	3	-	9	15	14	15	15	12	21	22	10	17	16	12
Diabetes mellitus	(E10 - E14)	13	12	12	15	11	15	14	18	16	8	22	15	-	-	-	12	20	13	14	13	15	18	14	19	21	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, 2015

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				Number		Rate per 100,000 Population		
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	
Colombo	1,926	5	218	11	208	8	2,089	17	4,441	41	187.0	1.7	0.92
Gampaha	2,212	6	261	11	185	7	1,881	11	4,539	35	192.8	1.5	0.77
Kalutara	1,556	2	46	1	222	4	1,775	7	3,599	14	287.9	1.1	0.39
Kandy	1,908	4	406	34	192	2	2,774	6	5,280	46	372.9	3.2	0.87
Matale	511	-	479	8	92	4	1,360	-	2,442	12	486.5	2.4	0.49
Nuwara Eliya	541	2	585	13	127	1	1,894	5	3,147	21	425.3	2.8	0.67
Galle	1,144	7	97	6	190	4	1,333	16	2,764	33	253.3	3.0	1.19
Matara	716	2	94	3	146	1	1,655	9	2,611	15	311.9	1.8	0.57
Hambantota	1,093	8	605	2	368	8	763	2	2,829	20	450.5	3.2	0.71
Jaffna	505	3	515	15	90	-	3,037	8	4,147	26	694.6	4.4	0.63
Kilinochchi	177	-	1	-	138	3	1,285	1	1,601	4	1,334.2	3.3	0.25
Mullaitivu	205	-	126	4	16	-	325	-	672	4	714.9	4.3	0.60
Vavuniya	258	-	277	4	22	-	1,302	1	1,859	5	1,038.5	2.8	0.27
Mannar	94	1	92	-	77	2	590	-	853	3	820.2	2.9	0.35
Batticaloa	1,149	3	349	2	141	1	1,293	-	2,932	6	542.0	1.1	0.20
Ampara [2]	970	1	494	4	395	5	1,200	2	3,059	12	451.8	1.8	0.39
Trincomalee	796	1	234	5	146	-	659	2	1,835	8	462.2	2.0	0.44
Kurunegala	2,240	1	1,482	45	257	5	2,297	22	6,276	73	378.5	4.4	1.16
Puttalam	838	5	826	33	122	-	1,809	5	3,595	43	455.1	5.4	1.20
Anuradhapura	1,538	-	1,056	47	740	2	2,728	9	6,062	58	678.8	6.5	0.96
Polonnaruwa	832	3	510	14	258	1	1,001	2	2,601	20	620.8	4.8	0.77
Badulla	758	1	638	23	130	-	2,211	18	3,737	42	442.8	5.0	1.12
Monaragala	496	-	405	5	279	1	1,070	5	2,250	11	476.7	2.3	0.49
Ratnapura	1,230	2	550	9	203	4	1,226	8	3,209	23	284.7	2.0	0.72
Kegalle	671	1	256	11	58	1	1,025	7	2,010	20	233.4	2.3	1.00
Total	24,364	58	10,602	310	4,802	64	38,582	163	78,350	595	373.7	2.8	0.76

[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 , 2015

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							
Colombo	376	1,033	403	4,230	3,084	279	255	98	665	10,423
Gampaha	104	1,250	190	1,417	1,665	219	14	13	531	5,403
Kalutara	18	447	16	427	352	119	4	8	266	1,657
Kandy	53	1,082	28	443	2,398	266	29	47	196	4,542
Matale	9	319	5	179	530	62	12	25	98	1,239
Nuwara Eliya	9	186	4	171	275	75	8	19	139	886
Galle	86	240	5	937	839	80	8	3	120	2,318
Matara	44	340	9	173	473	113	-	6	219	1,377
Hambantota	8	64	15	156	27	25	3	2	356	656
Jaffna	47	218	19	925	272	183	25	56	127	1,872
Kilinochchi	13	118	56	175	99	17	6	6	44	534
Mullaitivu	-	10	1	76	71	6	-	1	50	215
Vavuniya	9	38	5	264	223	72	5	9	46	671
Mannar	5	17	12	62	3	55	27	12	69	262
Batticaloa	9	377	11	85	106	96	2	35	135	856
Ampara	19	57	4	243	224	19	-	4	31	601
Kalmunai	13	7	116	329	81	81	11	5	25	668
Trincomalee	6	47	16	109	202	224	38	25	94	761
Kurunegala	70	707	55	632	1,922	72	13	110	209	3,790
Puttalam	10	289	8	76	170	40	1	7	97	698
Anuradhapura	49	166	29	693	858	158	43	24	498	2,518
Polonnaruwa	31	260	21	243	385	27	4	1	225	1,197
Badulla	580	180	115	800	446	67	5	94	182	2,469
Monaragala	10	57	8	139	286	69	1	6	122	698
Ratnapura	65	398	35	673	279	44	7	30	125	1,656
Kegalle	18	341	19	133	315	80	3	23	33	965
Total	1,661	8,248	1,205	13,790	15,585	2,548	524	669	4,702	48,932

Source : Medical Statistics Unit

Table 26. Case Fatality Rate[1] for Selected Diseases, 2011 - 2015

Disease and ICD Code		2011 [2]			2012			2013			2014			2015		
		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)	3,208	2	0.1	2,349	5	0.2	1,961	3	0.2	1,753	5	0.3	1,298	-	-
Tetanus	(A34, A35)	46	4	8.7	91	5	5.5	170	4	2.4	99	3	3.0	87	5	5.7
Shigellosis	(A03)	3,238	1	0.0	2,833	1	0.0	2,000	2	0.1	2,097	1	0.0	1,737	-	-
Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight	(P05 - P07)	7,114	708	10.0	7,182	696	9.7	7,534	632	8.4	7,434	571	7.7	7,455	586	7.9
Measles	(B05)	102	-	-	80	-	-	4,755	-	-	3,436	1	0.0	3,240	1	0.0
Whooping cough	(A37)	65	-	-	95	-	-	50	-	-	68	-	-	105	1	1.0
Viral hepatitis	(B15 - B19)	2,600	13	0.5	3,228	9	0.3	3,288	9	0.3	3,164	7	0.2	2,706	6	0.2
Malaria	(B50 - B54)	155	-	-	124	-	-	106	-	-	75	-	-	48	-	-
Tetanus neonatorum	(A33)	23	-	-	-	-	-	13	-	-	-	-	-	-	-	-
Diseases of the liver	(K70 - K76)	15,913	1,632	10.3	15,760	1,681	10.7	16,836	1,790	10.6	17,283	1,882	10.9	16,005	1,819	11.4
Septicaemia	(A40, A41)	6,049	2,360	39.0	6,829	2,569	37.6	7,814	2,945	37.7	9,171	3,634	39.6	9,845	3,930	39.9
Snake bites	(T63.0)	42,308	135	0.3	41,538	76	0.2	40,468	95	0.2	37,309	94	0.3	36,631	78	0.2
Hypertensive diseases	(I10 - I15)	98,729	612	0.6	98,869	524	0.5	100,224	578	0.6	99,224	649	0.7	97,207	713	0.7
Ischaemic heart disease	(I20 - I25)	100,332	5,289	5.3	100,611	5,619	5.6	103,656	5,975	5.8	108,905	6,346	5.8	111,564	6,221	5.6
Pneumonia	(J12 - J18)	23,421	2,064	8.8	23,679	2,233	9.4	24,290	2,489	10.2	23,062	2,802	12.1	26,451	3,288	12.4
Asthma	(J45 - J46)	187,085	610	0.3	188,654	623	0.3	186,565	610	0.3	190,333	612	0.3	191,004	667	0.3
Bactrial meningitis	(G00, G03)	3,479	114	3.3	3,311	120	3.6	3,683	100	2.7	3,813	95	2.5	3,167	104	3.3

[1] Deaths per 100 cases

[2] Excludes Mullaitivu District

Source : Medical Statistics Unit

Table 27. Inpatients Treated and Hospital Deaths by Type of Institution and RDHS Division, 2015

RDHS Division	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		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	Deaths	Cases	Deaths		
Colombo	580,689	7,691	-	-	-	-	159,247	1,109	22,730	210	8,151	23	36,904	76	9,501	30	111,534	1,932	928,756	11,071	391	1.2
Gampaha	137,580	1,759	-	-	176,632	1,486	74,056	578	32,442	175	40,624	129	10,358	6	27,637	25	29,129	195	528,458	4,353	224	0.8
Kalutara	-	-	-	-	94,418	867	135,889	959	10,530	6	15,054	29	41,395	70	12,997	14	-	-	310,283	1,945	248	0.6
Kandy	282,896	3,313	-	-	43,200	295	-	-	52,014	391	-	-	65,580	154	57,016	40	2,837	10	503,543	4,203	356	0.8
Matale	-	-	-	-	71,564	630	55,500	414	-	-	-	-	16,549	38	22,977	38	-	-	166,590	1,120	332	0.7
Nuwara Eliya	-	-	-	-	51,428	494	22,746	134	19,928	94	4,216	21	28,714	69	21,656	42	-	-	148,688	854	201	0.6
Galle	178,117	2,426	-	-	-	-	83,991	531	10,207	65	10,310	18	35,801	46	25,994	21	576	-	344,996	3,107	316	0.9
Matara	-	-	-	-	114,942	1,277	-	-	36,242	143	13,101	47	36,582	64	8,462	12	-	-	209,329	1,543	250	0.7
Hambantota	-	-	-	-	57,120	334	40,713	333	34,096	68	-	-	50,264	71	20,511	3	-	-	202,704	809	323	0.4
Jaffna	135,424	1,414	-	-	-	-	44,093	195	13,694	23	-	-	18,463	22	7,791	-	-	-	219,465	1,654	368	0.8
Kilinochchi	-	-	-	-	41,063	102	-	-	2,835	3	-	-	1,628	-	5,784	2	-	-	51,310	107	428	0.2
Mullaitivu	-	-	-	-	17,898	49	-	-	6,620	2	8,817	2	2,010	-	898	-	-	-	36,243	53	386	0.1
Vavuniya	-	-	-	-	56,600	337	-	-	4,866	23	-	-	1,211	1	3,805	2	-	-	66,482	363	371	0.5
Mannar	-	-	-	-	19,413	78	-	-	-	-	-	-	6,155	4	2,251	7	-	-	27,819	89	267	0.3
Batticaloa	69,370	216	-	-	-	-	32,505	50	23,566	19	9,237	4	8,402	6	19,915	1	-	-	162,995	296	301	0.2
Ampara[1]	-	-	-	-	53,680	472	84,866	323	50,963	121	-	-	21,223	17	24,069	18	-	-	234,801	951	347	0.4
Trincomalee	-	-	-	-	44,398	498	20,336	57	35,690	94	-	-	-	-	19,625	14	-	-	120,049	663	302	0.6
Kurunegala	-	-	173,464	2,756	-	-	53,896	290	75,798	319	78,796	185	51,613	97	34,390	32	-	-	467,957	3,679	282	0.8
Puttalam	-	-	-	-	52,536	629	48,264	409	42,458	368	14,379	34	9,022	11	12,695	9	-	-	179,354	1,460	227	0.8
Anuradhapura	139,852	2,133	-	-	-	-	-	-	47,756	167	37,220	66	47,521	78	41,208	51	590	-	314,147	2,495	352	0.8
Polonnaruwa	-	-	-	-	99,925	850	-	-	25,289	92	9,040	25	20,685	12	9,122	10	-	-	164,061	989	392	0.6
Badulla	-	-	102,235	992	-	-	74,903	634	17,154	153	17,956	65	29,275	33	30,474	25	-	-	271,997	1,902	322	0.7
Monaragala	-	-	-	-	55,762	387	-	-	39,770	158	7,397	7	22,726	34	28,975	17	-	-	154,630	603	328	0.4
Ratnapura	-	-	113,744	1,017	58,965	508	-	-	80,364	524	47,905	95	20,417	24	20,769	26	-	-	342,164	2,194	304	0.6
Kegalle	-	-	-	-	71,792	708	-	-	75,770	538	43,308	54	-	-	11,654	4	336	1	202,860	1,305	236	0.6
Total	1,523,928	18,952	389,443	4,765	1,181,336	10,001	931,005	6,016	760,782	3,756	365,511	804	582,498	933	480,176	443	145,002	2,138	6,359,681	47,808	303	0.8

[1] Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 28. Hospitalizations, Hospital Deaths and Case Fatality Rates of selected Non-Communicable Diseases, 2014 - 2015

Disease	ICD Code	2014					2015				
		Live Discharges		Deaths		Case Fatality Rate *	Live Discharges		Deaths		Case Fatality Rate *
		Male	Female	Male	Female		Male	Female	Male	Female	
Diabetes mellitus	(E10-E14)	37,296	43,408	339	332	0.82	36,889	42,450	347	355	0.88
Essential hypertension	(I10)	36,811	52,966	217	289	0.56	35,895	51,848	245	298	0.62
Other hypertensive diseases	(I12-I15)	1,933	1,659	14	26	1.10	1,714	1,767	31	12	1.22
Ischaemic heart diseases	(I20-I25)	56,792	45,767	3,738	2,608	5.83	58,544	46,799	3,624	2,597	5.58
Cerebrovascular diseases	(I60-I69)	23,221	15,434	2,118	1,460	8.47	24,619	15,927	2,074	1,510	8.12
Chronic obstructive pulmonary diseases	(J40-J44)	29,532	8,895	932	170	2.79	31,928	8,503	1,141	231	3.28
Asthma	(J45-J46)	94,062	95,659	334	278	0.32	94,382	95,955	339	328	0.35
Alcoholic liver diseases	(K70)	4,464	530	452	23	8.69	3,681	304	334	33	8.43
Other diseases of liver	(K71-K76)	7,418	2,989	983	424	11.91	7,361	2,840	1,066	386	12.46
Neoplasms	(C00-D48)	46,651	60,511	2,867	2,128	4.45	53,101	68,865	2,657	2,141	3.78
Renal failure	(N17-N19)	15,036	7,602	1,434	713	8.66	18,163	9,449	1,279	622	6.44

* Deaths per 100 cases

Source : Medical Statistics Unit

Table 29. Hospitalizations, Hospital Deaths and Case Fatality Rates of Selected Non Communicable Diseases by RDHS Division, 2015

RDHS Area	Neoplasms (C00-D48)			Diabetes Mellitus (E10-E14)			Essential hypertension (I10)			Ischaemic heart disease (I20-I25)			Cerebrovascular disease (I60-I69)		
	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *
Colombo	57,422	2,146	3.60	8,965	217	2.36	7,465	77	1.02	14,030	1,271	8.31	4,556	559	10.93
Gampaha	3,947	222	5.33	6,671	80	1.19	7,476	48	0.64	9,263	654	6.59	4,729	383	7.49
Kalutara	1,792	67	3.60	3,200	12	0.37	3,838	3	0.08	6,693	413	5.81	3,251	189	5.49
Kandy	13,411	496	3.57	6,759	106	1.54	8,006	63	0.78	7,893	458	5.48	4,451	397	8.19
Matale	898	40	4.26	2,205	14	0.63	2,645	23	0.86	2,184	171	7.26	1,051	67	5.99
Nuwara Eliya	824	21	2.49	2,503	13	0.52	3,806	26	0.68	2,783	111	3.84	1,386	89	6.03
Galle	12,742	326	2.49	3,097	34	1.09	3,132	52	1.63	6,071	377	5.85	2,431	249	9.29
Matara	871	66	7.04	2,270	13	0.57	2,447	46	1.85	4,576	187	3.93	1,590	154	8.83
Hambantota	326	37	10.19	2,710	38	1.38	3,224	32	0.98	3,444	108	3.04	964	45	4.46
Jaffna	5,354	170	3.08	2,764	7	0.25	1,982	21	1.05	2,332	150	6.04	1,593	146	8.40
Kilinochchi	229	7	2.97	427	-	-	517	-	-	565	13	2.25	191	3	1.55
Mullaitivu	99	2	1.98	391	-	-	447	-	-	565	10	1.74	87	1	1.14
Vavuniya	472	21	4.26	534	5	0.93	723	-	-	760	26	3.31	218	19	8.02
Mannar	163	2	1.21	600	-	-	498	1	0.20	981	23	2.29	132	4	2.94
Batticaloa	1,064	4	0.37	1,725	5	0.29	1,967	-	-	2,034	43	2.07	460	20	4.17
Ampara	205	29	12.39	1,063	2	0.19	1,440	10	0.69	1,483	72	4.63	352	56	13.73
Kalmunai	184	5	2.65	3,635	2	0.05	1,251	1	0.08	4,072	101	2.42	345	16	4.43
Trincomalee	548	31	5.35	2,153	12	0.55	1,704	1	0.06	1,873	99	5.02	463	37	7.40
Kurunegala	2,767	356	11.40	5,372	40	0.74	7,894	35	0.44	9,680	671	6.48	3,410	351	9.33
Puttalam	667	42	5.92	1,696	33	1.91	2,071	2	0.10	2,710	183	6.33	1,064	83	7.24
Anuradhapura	5,565	249	4.28	5,606	22	0.39	5,886	7	0.12	5,912	314	5.04	1,741	158	8.32
Polonnaruwa	591	59	9.08	1,396	7	0.50	1,570	3	0.19	2,131	105	4.70	941	94	9.08
Badulla	5,747	190	3.20	4,254	25	0.58	5,738	47	0.81	3,091	152	4.69	1,139	102	8.22
Monaragala	572	36	5.92	3,022	4	0.13	3,448	5	0.14	1,906	86	4.32	603	51	7.80
Ratnapura	4,463	111	2.43	3,621	4	0.11	3,386	8	0.24	4,999	241	4.60	2,015	169	7.74
Kegalle	1,043	63	5.70	2,700	7	0.26	5,182	32	0.61	3,312	182	5.21	1,383	142	9.31
Sri Lanka	121,966	4,798	3.78	79,339	702	0.88	87,743	543	0.62	105,343	6,221	5.58	40,546	3,584	8.12

* Deaths per 100 cases

Continued...

Source : Medical Statistics Unit

Table 29. Hospitalizations, Hospital Deaths and Case Fatality Rates of Selected Non Communicable Diseases by RDHS Division, 2015

RDHS Area	Bronchitis, emphysema and other chronic obstructive pulmonary disease (J40-J44)			Asthma (J45-J46)			Alcoholic liver disease (K70)			Other diseases of liver (K71-K76)			Renal failure (N17-N19)		
	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *
Colombo	3,010	139	4.41	11,175	88	0.78	422	82	16.27	1,567	328	17.31	962	198	17.07
Gampaha	2,398	143	5.63	21,079	27	0.13	601	98	14.02	1,652	262	13.69	533	99	15.66
Kalutara	2,168	55	2.47	9,700	26	0.27	286	10	3.38	475	64	11.87	1,016	76	6.96
Kandy	5,976	152	2.48	10,741	55	0.51	108	9	7.69	1,219	129	9.57	2,363	157	6.23
Matale	2,630	52	1.94	3,841	21	0.54	37	7	15.91	182	21	10.34	348	12	3.33
Nuwara Eliya	3,341	74	2.17	4,511	16	0.35	71	2	2.74	134	8	5.63	176	19	9.74
Galle	2,049	85	3.98	11,080	78	0.70	158	11	6.51	626	99	13.66	206	56	21.37
Matara	852	30	3.40	6,450	26	0.40	86	6	6.52	258	36	12.24	223	62	21.75
Hambantota	1,100	27	2.40	12,307	44	0.36	67	4	5.63	114	13	10.24	181	25	12.14
Jaffna	800	53	6.21	8,217	18	0.22	57	4	6.56	1,213	64	5.01	414	57	12.10
Kilinochchi	335	6	1.76	1,212	1	0.08	20	-	-	102	2	1.92	2,863	11	0.38
Mullaitivu	128	3	2.29	1,598	1	0.06	11	-	-	68	1	1.45	794	2	0.25
Vavuniya	385	14	3.51	1,447	1	0.07	7	-	-	138	6	4.17	618	57	8.44
Mannar	94	1	1.05	809	3	0.37	25	-	-	90	-	-	329	2	0.60
Batticaloa	371	5	1.33	4,656	1	0.02	18	-	-	48	6	11.11	646	8	1.22
Ampara	1,094	16	1.44	1,741	5	0.29	8	1	11.11	58	9	13.43	579	36	5.85
Kalmunai	1,266	13	1.02	6,731	5	0.07	15	-	-	35	4	10.26	273	8	2.85
Trincomalee	820	26	3.07	3,591	4	0.11	61	3	4.69	115	8	6.50	3,197	51	1.57
Kurunegala	1,827	87	4.55	16,984	88	0.52	932	32	3.32	488	146	23.03	1,597	159	9.05
Puttalam	335	18	5.10	4,595	16	0.35	357	43	10.75	225	51	18.48	256	22	7.91
Anuradhapura	1,681	78	4.43	9,393	25	0.27	39	16	29.09	189	34	15.25	5,739	311	5.14
Polonnaruwa	754	42	5.28	4,206	7	0.17	32	4	11.11	203	25	10.96	746	147	16.46
Badulla	2,310	93	3.87	8,019	36	0.45	167	6	3.47	249	27	9.78	1,907	179	8.58
Monaragala	1,182	44	3.59	8,910	12	0.13	28	4	12.50	157	14	8.19	1,045	36	3.33
Ratnapura	1,256	61	4.63	11,072	33	0.30	197	8	3.90	391	64	14.07	405	76	15.80
Kegalle	2,269	55	2.37	6,272	30	0.48	175	17	8.85	205	31	13.14	196	35	15.15
Sri Lanka	40,431	1,372	3.28	190,337	667	0.35	3,985	367	8.43	10,201	1,452	12.46	27,612	1,901	6.44

* Deaths per 100 cases

Source : Medical Statistics Unit

Table 30. Outpatient Attendance by District and Type of Institution, 2015

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	Total Attendance	Attendence per 1,000 Population
Colombo	2,399,221	-	-	722,757	223,453	159,690	581,866	283,369	-	640,329	-	512,422	5,523,107	2,325.5
Gampaha	583,809	-	562,155	247,789	277,307	578,327	74,360	453,839	-	221,853	25,522	754,161	3,779,122	1,605.4
Kalutara	-	-	378,983	538,535	152,446	166,217	534,354	338,709	-		30,779	202,184	2,342,207	1,873.8
Kandy	1,041,624	-	324,650	-	350,055	-	970,134	1,123,666	-	228,959	117,433	380,849	4,537,370	3,204.4
Matale	-	-	343,964	182,128	-	-	216,417	420,817	-	-	-	271,176	1,434,502	2,857.6
Nuwara Eliya	-	-	218,313	110,479	151,744	51,179	334,080	393,892	-	-	-	266,018	1,525,705	2,061.8
Galle	534,457	-	-	374,754	92,612	145,951	456,723	396,027	-	10,347	80,708	602,240	2,693,819	2,469.1
Matara	-	-	311,638	-	209,897	146,353	388,624	237,212	-	-	-	579,103	1,872,827	2,237.5
Hambantota	-	-	253,127	131,561	279,770	-	661,572	372,211	-	-	-	218,526	1,916,767	3,052.2
Jaffna	265,987	-	-	277,095	173,656	-	295,057	530,358	-	-	-	263,979	1,806,132	3,025.3
Kilinochchi	-	-	234,130	-	45,388	-	24,173	153,886	-	-	-	6,049	463,626	3,863.6
Mullaitivu	-	-	95,499	-	85,887	117,508	32,383	68,890	-	-	-	9,111	409,278	4,354.0
Vavuniya	-	-	259,652	-	65,407	-	22,958	159,749	-	-	31,484	33,412	572,662	3,199.2
Mannar	-	-	162,118	-	-	-	108,791	143,258	-	-	3,672	27,969	445,808	4,286.6
Batticaloa	258,824	-	-	302,923	273,007	108,957	114,169	410,277	-	-	6,787	204,829	1,679,773	3,104.9
Ampara	-	-	240,268	527,961	463,689	-	333,065	441,798	81,731	-	2,688	324,504	2,415,704	3,568.2
Trincomalee	-	-	134,411	129,627	322,281	-	-	292,137	-	-	28,408	327,513	1,234,377	3,109.3
Kurunegala	-	576,437	-	222,810	434,577	789,373	777,521	767,166	-	-	-	672,999	4,240,883	2,557.8
Puttalam	-	-	238,280	153,587	171,607	204,401	217,626	282,648	-	-	2,437	551,526	1,822,112	2,306.5
Anuradhapura	267,491	-	-	-	335,101	491,789	618,645	787,629	-	15,744	22,929	381,420	2,920,748	3,270.7
Polonnaruwa	-	-	359,646	-	230,155	103,556	264,515	206,617	-	-	-	138,105	1,302,594	3,108.8
Badulla	-	325,660	-	411,266	188,625	259,178	367,180	913,213	-	-	3,223	365,889	2,834,234	3,358.1
Monaragala	-	-	197,120	-	383,152	110,939	398,317	452,311	-	-	8,986	131,452	1,682,277	3,564.1
Ratnapura	-	350,809	192,208	-	585,186	614,739	326,211	551,387	-	-	53,444	353,426	3,027,410	2,686.3
Kegalle	-	-	418,109	-	507,671	514,152	-	290,703	-	21,753	29,691	386,947	2,169,026	2,519.2
Total	5,351,413	1,252,906	4,924,271	4,333,272	6,002,673	4,562,309	8,118,741	10,471,769	81,731	1,138,985	448,191	7,965,809	54,652,070	2,606.7

Source : Medical Statistics Unit

Table 31. Outpatient Attendance by RDHS Division, 2015

RDHS	Quarter				Total Visits
	First	Second	Third	Fourth	
Colombo	1,388,943	1,394,567	1,348,219	1,391,378	5,523,107
Gampaha	960,829	962,443	915,334	940,516	3,779,122
Kalutara	579,419	609,629	553,800	599,359	2,342,207
Kandy	1,081,518	1,175,131	1,113,138	1,167,583	4,537,370
Matale	366,683	371,634	333,246	362,939	1,434,502
Nuwara Eliya	364,059	392,022	377,295	392,329	1,525,705
Galle	688,826	710,754	641,605	652,634	2,693,819
Matara	447,515	479,434	452,333	493,545	1,872,827
Hambantota	482,411	490,993	449,627	493,736	1,916,767
Jaffna	449,464	423,574	438,183	494,911	1,806,132
Kilinochchi	113,504	123,500	109,726	116,896	463,626
Mannar	113,195	110,084	99,116	123,413	445,808
Vavuniya	139,325	146,044	130,482	156,811	572,662
Mullaitivu	103,041	106,597	93,705	105,935	409,278
Batticaloa	434,547	416,979	392,872	435,375	1,679,773
Ampara	232,693	243,439	220,568	230,051	926,751
Kalmunai	380,568	373,699	348,023	386,663	1,488,953
Trincomalee	327,055	315,409	276,386	315,527	1,234,377
Kurunegala	1,031,048	1,087,581	1,020,415	1,101,839	4,240,883
Puttalam	444,382	460,374	436,358	480,998	1,822,112
Anuradhapura	731,446	759,337	673,549	756,416	2,920,748
Polonnaruwa	342,457	322,709	301,491	335,937	1,302,594
Badulla	691,705	734,014	676,192	732,323	2,834,234
Monaragala	423,725	452,560	392,441	413,551	1,682,277
Ratnapura	719,401	767,736	730,892	809,381	3,027,410
Kegalle	531,589	569,935	530,320	537,182	2,169,026
Grand Total	13,569,348	14,000,178	13,055,316	14,027,228	54,652,070

Source : Medical Statistics Unit

Table 32. Outpatient Department (OPD) Visits by Type of Hospital, 2015

Hospital Type	Quarter				Total Visit
	First	Second	Third	Fourth	
Teaching Hospitals	1,342,198	1,363,550	1,312,511	1,333,154	5,351,413
Provincial General Hospitals	304,238	320,008	316,694	311,966	1,252,906
District General Hospitals	1,225,410	1,252,948	1,183,777	1,262,136	4,924,271
Base Hospitals - Type A	1,054,395	1,076,583	1,016,816	1,074,999	4,222,793
Base Hospitals - Type B	1,497,650	1,573,494	1,440,243	1,601,765	6,113,152
Divisional Hospitals - Type A	1,117,720	1,204,179	1,083,355	1,157,055	4,562,309
Divisional Hospitals - Type B	2,019,004	2,103,752	1,907,388	2,088,597	8,118,741
Divisional Hospitals - Type C	2,605,971	2,680,237	2,467,841	2,717,720	10,471,769
Primary Medical Care Units with Maternity Homes	19,345	21,428	19,257	21,701	81,731
Other Institutions with Indoor Facility[1]	268,744	286,574	286,607	297,060	1,138,985
Other Institutions without Indoor Facility	112,003	105,857	122,809	107,522	448,191
Primary Medical Care Units	2,002,670	2,011,568	1,898,018	2,053,553	7,965,809
Total Visits	13,569,348	14,000,178	13,055,316	14,027,228	54,652,070

[1] Includes; Mental, Chest, Leprosy, Police, Prison, Cancer, Dental and Rehabilitation hospitals

Source : Medical Statistics Unit

Table 33. Clinic Visits by Quarter, by RDHS Division, 2015

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	228,312	1,066,451	230,570	1,060,715	244,602	1,114,884	227,171	1,132,496	930,655	4,374,546
Gampaha	143,646	568,140	144,454	584,622	142,940	580,007	134,964	587,303	566,004	2,320,072
Kalutara	74,858	296,266	69,542	255,179	67,710	283,861	68,237	273,593	280,347	1,108,899
Kandy	141,746	671,898	140,264	663,310	145,109	714,779	143,298	697,443	570,417	2,747,430
Matale	33,485	165,025	31,700	164,870	31,233	169,601	31,693	172,491	128,111	671,987
Nuwara Eliya	26,621	148,061	32,619	161,342	36,198	160,176	33,399	166,368	128,837	635,947
Galle	105,086	275,047	103,806	255,518	119,562	291,515	77,217	284,779	405,671	1,106,859
Matara	74,802	208,531	67,957	203,784	69,739	215,362	65,162	213,721	277,660	841,398
Hambantota	36,000	143,190	38,734	141,588	44,241	151,573	45,603	157,136	164,578	593,487
Jaffna	53,170	295,275	53,760	290,303	56,252	292,028	47,203	278,507	210,385	1,156,113
Killinochchi	12,841	34,068	12,498	36,197	14,346	37,863	11,606	38,041	51,291	146,169
Mullaitivu	4,985	24,415	6,906	22,667	6,489	25,599	7,974	26,323	26,354	99,004
Vavuniya	17,741	70,737	20,288	81,245	20,437	84,055	19,065	84,835	77,531	320,872
Mannar	12,388	43,460	14,821	45,516	12,153	44,313	12,706	44,633	52,068	177,922
Batticoloa	30,966	138,320	28,723	133,662	27,449	138,903	26,886	145,936	114,024	556,821
Ampara	42,102	96,795	30,969	97,267	33,016	99,407	27,290	99,481	133,377	392,950
Kalmunai	30,565	129,277	26,201	125,038	28,610	128,336	27,451	129,981	112,827	512,632
Trincomalee	23,854	83,260	25,369	97,739	23,490	98,487	25,411	104,222	98,124	383,708
Kurunegala	82,967	346,035	71,640	343,362	79,072	372,045	75,824	364,443	309,503	1,425,885
Puttalam	49,917	170,336	49,992	179,121	53,562	189,421	53,226	186,925	206,697	725,803
Anuradhapura	58,906	261,854	49,068	252,934	48,009	250,405	46,022	261,345	202,005	1,026,538
Polonnaruwa	39,587	146,326	36,377	137,467	44,963	164,779	32,111	146,867	153,038	595,439
Badulla	64,021	314,864	62,222	309,229	67,076	324,123	78,864	330,874	272,183	1,279,090
Monaragala	36,590	120,949	40,171	118,000	45,092	135,318	36,540	128,729	158,393	502,996
Ratnapura	92,032	306,716	91,496	296,523	90,637	318,277	80,740	305,689	354,905	1,227,205
Kegalle	45,291	237,060	40,245	229,044	50,201	244,511	45,713	249,147	181,450	959,762
Total	1,562,479	6,362,356	1,520,392	6,286,242	1,602,188	6,629,628	1,481,376	6,611,308	6,166,435	25,889,534

Source : Medical Statistics Unit

Table 34. Clinic Visits by Quarter, by Type of Hospital, 2015

Type of Hospital	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	340,362	1,717,000	337,650	1,670,375	359,891	1,771,038	336,596	1,753,327	1,374,499	6,911,740
Provincial General Hospitals	53,735	258,365	52,678	237,676	59,118	263,349	52,750	245,362	218,281	1,004,752
District General Hospitals	297,364	981,208	289,057	995,513	295,960	1,045,006	287,237	1,022,061	1,169,618	4,043,788
Base Hospitals Type A	202,700	659,519	201,490	659,596	209,490	684,369	173,802	707,458	787,482	2,710,942
Base Hospitals Type B	148,829	620,780	137,534	608,648	146,891	644,967	137,746	643,080	571,000	2,517,475
Divisional Hospitals Type A	91,475	359,674	80,673	356,607	81,236	367,698	90,490	371,946	343,874	1,455,925
Divisional Hospitals Type B	104,998	545,584	108,219	530,647	122,031	569,392	113,100	559,219	448,348	2,204,842
Divisional Hospitals Type C	133,210	571,210	125,999	570,302	141,312	598,923	125,926	615,779	526,447	2,356,214
Primary Medical Care Units and Maternity Homes	1,840	5,359	1,737	5,161	1,772	5,580	1,669	5,885	7,018	21,985
Other Hospitals and Clinics [1]	86,018	258,424	78,821	259,380	84,383	277,263	64,790	273,293	314,012	1,068,360
Primary Medical Care Units	101,948	385,233	106,534	392,337	100,104	402,043	97,270	413,898	405,856	1,593,511
Grand Total	1,562,479	6,362,356	1,520,392	6,286,242	1,602,188	6,629,628	1,481,376	6,611,308	6,166,435	25,889,534

[1] Includes: Mental, Chest, Leprosy, Police, Prison, Fever, Cancer, Dental and Rehabilitation hospitals

Source : Medical Statistics Unit

Table 35. Rank Order of Clinic Visits in RDHS Divisions, 2015

RDHS Division and Rank Order / Type of Clinic	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Killinochchi	Mullaitivu	Vavunia	Mannar	Batticaloa	Ampara	Kalmunai	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Rathnapura	Kegalle
Medical	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	1
Dental	2	2	2	2	2	2	2	2	2	2	3	2	2	4	2	2	2	3	3	2	2	2	2	2	2	2	2
Gynaecology and Obstetrics	3	6	4	5	3	3	3	3	5	3	4	3	3	5	6	7	3	4	2	3	3	3	3	4	4	3	4
Eye	4	3	3	3	5	5	6	4	3	4	6	5	6	2	5	10	5	5	4	12	4	13	11	5	6	5	7
Diabetic	5	7	5	16	4	4	5	11	15	13	2	4	4	3	3	3	6	2	7	6	6	15	4	3	3	10	5
Surgical	6	5	8	6	6	7	7	5	7	7	5	6	8	11	8	4	4	6	6	9	8	4	7	6	7	6	8
Psychiatric	7	8	6	4	8	6	9	7	4	5	8	8	5	7	7	8	8	7	11	7	5	8	8	8	5	4	6
Skin	8	9	10	7	11	9	8	8	6	8	9	9	-	6	-	6	9	9	5	11	7	6	9	7	8	7	3
Cardiology	9	4	12	11	7	-	16	10	8	14	7	12	12	-	-	5	15	-	14	5	-	7	6	13	-	15	13
Paediatric	10	13	9	10	9	8	4	6	9	6	11	7	7	9	10	11	7	8	10	8	10	5	12	10	9	9	9
Baby	11	15	7	9	10	10	10	12	10	9	12	15	11	13	4	15	10	11	8	4	9	9	14	9	12	8	10
E.N.T.	12	11	11	8	13	11	13	17	13	10	13	10	-	8	12	13	12	10	9	13	11	11	13	11	11	11	11
Orthopaedic	13	12	14	12	14	13	12	13	16	12	10	11	-	12	13	9	13	-	12	15	12	14	5	14	13	13	12
Cancer	14	10	16	17	12	-	-	9	18	-	14	14	-	15	15	14	17	-	15	10	16	10	-	12	14	14	-
Other	15	16	13	15	18	12	15	19	11	17	16	16	9	14	11	12	18	12	13	14	14	17	16	15	10	16	14
Nerve	16	14	15	13	15	-	-	16	12	16	15	-	-	-	-	-	16	-	-	-	-	20	15	20	15	12	-
V.D.	17	20	17	14	21	15	11	20	14	15	-	-	-	10	9	16	11	13	-	17	13	12	17	19	-	18	-
Thoracic	18	17	19	-	19	14	14	14	17	11	19	13	-	16	14	-	14	-	-	16	15	-	10	18	17	-	-
Genito Urinary	19	19	18	-	16	-	-	15	-	-	17	-	10	-	-	17	-	-	-	-	-	16	-	17	-	17	-
Neuro Surgical	20	18	-	-	17	-	-	18	-	-	18	-	-	-	-	18	19	-	-	-	-	18	-	16	16	-	-
Rectum	21	21	-	-	20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	19	-	-	-	-	-

Source : Medical Statistics Unit

Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2015

Type of Clinic	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Killinochchi	Mullaitivu
Medical	11,407,213	1,520,962	1,036,968	508,989	1,186,379	350,276	375,034	414,433	376,165	304,677	431,498	52,978	49,758
Dental	3,092,664	354,765	244,519	178,856	309,937	91,286	58,399	179,688	147,523	74,077	110,575	21,674	12,321
Gynaecology and Obstetrics	1,637,838	265,466	121,960	57,809	159,134	38,580	40,523	89,675	35,838	44,163	75,803	15,940	9,536
Eye	1,429,569	341,546	208,440	84,712	121,750	26,169	25,681	82,200	49,309	32,201	60,388	8,081	4,617
Diabetic	1,300,349	250,815	118,076	2,704	151,453	34,893	26,727	20,077	11,940	2,920	119,669	12,576	9,439
Surgical	1,121,290	267,365	92,819	47,124	119,490	23,991	21,204	64,537	27,055	22,715	60,424	7,684	2,743
Psychiatric	1,057,186	213,179	105,264	64,840	101,691	26,086	13,492	39,503	41,150	28,403	48,375	5,262	4,852
Skin	813,614	150,524	65,863	33,090	67,889	19,191	15,133	31,876	30,809	19,183	46,923	5,253	-
Cardiology	736,672	299,123	25,656	14,913	108,220	-	186	23,988	24,938	2,369	49,971	1,365	93
Paediatric	693,600	67,449	83,869	21,939	85,528	23,632	34,295	42,950	16,121	26,834	29,065	6,867	4,123
Baby	632,562	58,802	94,888	24,954	74,618	15,654	7,651	15,628	15,894	11,943	28,989	788	129
E.N.T.	498,809	132,303	46,889	29,845	54,655	8,119	4,968	10,695	12,216	10,035	21,925	3,146	-
Orthopaedic	415,023	123,419	16,535	12,190	46,544	6,525	5,324	15,323	9,003	4,901	42,769	2,066	-
Cancer	348,617	148,422	9,836	291	58,654	-	-	30,377	288	-	8,141	919	-
Other	179,984	39,827	21,437	4,554	7,973	7,096	686	4,518	15,208	162	7,121	540	1,145
Nerve	178,851	59,324	10,074	11,728	39,730	-	-	10,832	12,625	793	7,889	-	-
V.D.	97,002	1,876	9,523	10,361	338	123	5,397	2,659	12,061	1,078	-	-	-
Thoracic	91,248	31,632	36	-	7,206	366	1,247	11,917	3,255	7,033	121	1,030	-
Genito Urinary	83,498	18,839	7,420	-	22,229	-	-	10,938	-	-	3,626	-	248
Neuro Surgical	70,170	28,696	-	-	21,038	-	-	5,045	-	-	2,841	-	-
Rectum	3,775	212	-	-	2,974	-	-	-	-	-	-	-	-

Continued...

Source: Medical Statistics Unit

Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2015

Type of Clinc	Vavuniya	Mannar	Batticaloa	Ampara	Kalmunai	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Rathnapura	Kegalle
Medical	118,495	72,438	249,333	196,713	222,113	185,424	730,679	306,029	532,004	286,312	571,238	227,638	566,991	533,689
Dental	25,820	20,876	55,840	48,271	70,279	29,914	174,546	103,681	114,518	72,756	186,290	87,128	201,885	117,240
Gynaecology and Obstetrics	24,788	11,264	19,958	27,877	34,385	33,270	119,623	65,017	76,324	34,591	79,769	32,485	73,944	50,116
Eye	28,206	11,495	17,542	17,873	24,428	29,868	15,085	48,975	18,317	13,104	57,921	16,924	55,599	29,138
Diabetic	27,896	19,938	42,287	16,951	77,153	15,625	64,301	33,520	10,691	27,257	82,584	50,392	23,558	46,907
Surgical	8,889	5,828	35,323	19,265	21,755	19,800	25,356	26,981	36,348	22,088	57,470	15,472	44,539	25,025
Psychiatric	14,683	7,813	17,974	10,606	19,932	5,921	46,914	33,947	25,624	18,747	38,185	18,911	66,917	38,915
Skin	18,137	-	21,136	9,649	8,221	26,157	21,681	27,539	29,844	16,016	49,339	12,275	34,855	53,031
Cardiology	-	-	30,221	1,285	-	1,341	65,058	-	28,396	26,479	12,510	-	13,436	7,124
Paediatric	13,533	2,395	11,338	11,166	15,029	6,389	33,547	24,488	32,961	12,249	28,021	12,124	27,022	20,666
Baby	5,785	17,557	5,232	9,165	5,854	13,965	78,355	25,053	24,949	7,649	33,647	5,320	33,002	17,091
E.N.T.	14,289	1,903	7,186	5,723	7,698	7,875	9,554	14,211	21,551	8,574	23,170	10,322	22,178	9,779
Orthopaedic	7,192	527	17,824	4,942	-	5,911	6,306	11,677	15,862	26,527	10,682	1,715	13,633	7,626
Cancer	663	131	7,177	547	-	319	23,718	38	21,949	-	23,028	608	13,511	-
Other	828	1,916	10,584	385	5,400	1,929	9,263	1,589	5,974	2,809	6,080	10,800	9,398	2,762
Nerve	-	-	-	1,084	-	-	-	-	109	3,513	493	430	20,227	-
V.D.	11,348	3,672	3,481	6,794	385	-	738	2,798	18,488	1,094	2,857	-	1,931	-
Thoracic	320	169	-	4,547	-	-	1,161	260	-	15,674	4,399	222	-	653
Genito Urinary	-	-	3,333	-	-	-	-	-	6,742	-	5,544	-	4,579	-
Neuro Surgical	-	-	1,052	107	-	-	-	-	5,298	-	5,863	230	-	-
Rectum	-	-	-	-	-	-	-	-	589	-	-	-	-	-

Source: Medical Statistics Unit

Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2015

RDHS Division	Teaching Hospitals			Provincial General Hospitals			District General Hospitals			Base Hospitals Type A			Base Hospitals Type B		
	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate
Colombo	3.40	71.34	76.03							1.83	73.08	145.21	2.77	62.28	81.56
Gampaha	3.34	91.20	98.83				1.85	61.15	119.69	2.17	75.63	126.50	1.72	54.13	114.40
Kalutara							3.16	105.46	120.97	1.82	73.04	145.92	1.41	22.88	58.95
Kandy	3.65	86.59	85.77				2.46	66.34	98.09				2.34	73.91	114.58
Matale							2.44	63.44	94.42	1.85	100.94	198.55			
Nuwera Eliya							2.48	85.58	124.98	1.91	104.85	199.98	1.63	66.12	147.13
Galle	3.28	80.90	89.34							2.11	65.75	113.33	2.01	45.61	82.12
Matara							2.37	67.56	103.64				2.22	54.71	89.48
Hambantota							2.60	68.07	95.11	2.28	101.74	162.11	1.73	44.84	94.09
Jaffna	2.63	80.74	111.34							2.43	52.07	77.80	1.97	31.64	58.46
Kilinochchi							2.01	83.38	150.43				1.99	42.87	78.38
Mullaitivu							1.83	41.60	82.77				1.56	27.87	65.26
Vavuniya							2.33	61.27	94.31				2.51	21.02	30.39
Mannar							1.21	22.60	66.13						
Batticaloa	2.96	84.00	81.80							1.98	55.70	102.44	1.93	64.95	121.98
Ampara							2.47	60.92	89.39				1.89	60.47	116.07
Kalmunai										3.06	75.45	89.57	2.16	46.24	77.49
Trincomalee							2.26	50.45	81.04	1.45	34.07	85.39	1.55	58.90	138.14
Kurunegala				2.96	82.62	101.99				2.17	55.22	92.54	2.44	71.82	106.72
Puttalam							1.77	58.04	119.31	2.06	83.68	147.20	2.06	75.75	133.75
Anuradhapura	3.09	61.29	71.85										2.02	73.08	131.56
Polonnaruwa							2.04	68.94	122.71				1.88	61.82	119.70
Badulla				3.82	72.67	68.83				2.69	89.76	120.94	1.63	63.83	141.98
Moneragale							2.29	84.04	133.61				2.00	57.44	104.42
Ratnapura				2.63	74.82	103.08	2.57	101.22	142.81				1.98	73.73	135.28
Kegalle							2.34	65.51	101.59				2.36	76.54	117.51
Total	**3.31**	**76.91**	**83.20**	**3.08**	**77.23**	**91.07**	**2.28**	**68.31**	**108.43**	**2.13**	**72.29**	**123.04**	**2.07**	**61.42**	**107.93**

Continued...

Source : Medical Statistics Unit

Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2015

RDHS Division	Divisional Hospitals Type A			Divisional Hospitals Type B			Divisional Hospitals Type C			Other Hospitals		
	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate	Aerage Duration of Stay	Bed Occuancy Rate	Bed Turn Over Rate
Colombo	1.54	30.13	71.24	1.36	42.20	113.19	1.36	35.45	95.14	8.71	81.37	33.35
Gampaha	2.38	48.97	74.72	1.07	43.49	148.64	1.37	64.56	171.85	9.49	71.16	26.85
Kalutara	1.47	30.38	75.52	1.39	33.86	88.89	1.74	36.60	76.84			
Kandy				1.71	34.95	74.08	1.62	33.01	73.86	9.66	40.90	15.01
Matale				1.32	30.04	83.09	2.10	37.06	64.19			
Nuwera Eliya	1.73	18.68	39.26	1.80	31.06	62.81	1.45	32.24	80.89			
Galle	2.09	28.98	50.45	1.71	37.01	78.79	1.44	40.66	102.70	3.33	60.18	63.67
Matara	1.73	38.54	81.01	1.53	35.44	84.13	1.41	30.15	77.90			
Hambantota				1.44	35.36	89.18	1.31	35.11	97.49			
Jaffna				1.95	35.94	67.04	1.96	14.87	27.65			
Kilinochchi				2.44	11.87	17.59	2.91	58.67	73.34			
Mullaitivu	1.45	33.35	83.75	1.27	31.87	91.45	1.40	12.51	32.42			
Vavuniya				1.16	10.72	33.58	1.25	21.55	62.98			
Mannar				1.20	7.39	22.35	1.35	6.48	17.44			
Batticaloa	1.50	35.35	85.76	1.87	24.88	48.33	2.30	47.21	73.81			
Ampara				1.26	23.53	68.13	1.49	27.04	66.18			
Kalmunai				2.19	29.55	48.93	1.91	31.10	59.31			
Trincomalee							1.67	31.92	69.70			
Kurunegala	1.42	29.91	76.82	1.52	29.30	70.29	1.57	30.57	70.94			
Puttalam	2.10	35.64	61.83	1.39	18.41	48.12	1.48	26.00	64.09			
Anuradhapura	1.92	47.53	90.20	1.67	37.47	81.65	1.84	35.07	69.42	6.39	41.45	23.38
Polonnaruwa	1.27	24.53	70.05	1.78	42.87	87.79	1.90	51.24	98.08			
Badulla	1.50	37.36	90.36	1.75	28.57	59.43	1.56	31.99	74.65			
Moneragale	1.89	38.00	73.16	1.50	28.38	68.66	1.13	46.88	150.92			
Ratnapura	1.62	34.55	77.77	1.32	24.37	67.42	1.45	28.91	72.78			
Kegalle	1.81	43.24	86.69				1.52	37.17	89.04	40.92	156.16	12.32
Total	**1.73**	**36.08**	**75.88**	**1.59**	**31.51**	**72.30**	**1.62**	**34.14**	**76.48**	**8.94**	**77.53**	**30.98**

Source : Medical Statistics Unit

Table 38. Average Duration of Stay (Days) in Selected Types of Hospitals per Quarter, 2004 - 2015

Type of Hospital	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015
National Hospital, Colombo	4.8	4.4	4.4	4.3	4.3	4.2	4.0	4.3	3.9	3.9	3.7	3.7
Teaching Hospitals			3.6	3.6	3.5	3.4	3.3	3.2	3.1	3.2	3.3	3.2
Provincial Hospitals [1,2]	3.9	4.2	3.1	3.3	3.2	3.1	2.6					
Base Hospitals [3]	3.0	3.0	2.4	2.3	2.2	2.1	2.1					
District Hospitals	2.3	2.2	1.9	2.0	2.1	2.1	1.8					
Pheriperal Units	2.2	2.0	1.9	2.0	1.9	1.9	1.6					
Rural Hospitals [4]	2.1	1.9	1.8	1.9	1.9	2.2	1.6					
Provincial General Hospitals								3.5	2.9	2.9	3.2	3.1
District General Hospitals								2.5	2.4	2.3	2.4	2.3
Base Hospitals Type A								2.3	2.0	2.1	2.1	2.1
Base Hospitals Type B								2.2	2.1	2.3	2.1	2.1
Divisional Hospitals Type A								1.8	1.7	1.8	1.9	1.7
Divisional Hospitals Type B								1.9	1.7	1.7	1.6	1.6
Divisional Hospitals Type C								1.8	1.6	1.8	1.7	1.6
Childrens' Hospital	3.0	3.1	2.9	3.3	3.2	3.0	2.8	3.0	2.8	2.9	2.8	2.9
Eye Hospital	8.0	7.3	3.8	3.3	3.8	4.4	3.6	4.3	4.0	4.2	4.5	3.5
Cancer Hospital	8.9	10.0	8.3	8.2	7.0	7.0	7.0	6.7	5.9	5.8	5.1	4.7
Mental Hospitals	54.6	62.8	30.2	60.0	65.9	60.2	27.7	33.6	28.7	36.5	38.7	51.2
Chest Hospitals	25.0	8.7	14.4	NA	12.5	10.5	14.7	14.3	12.3	15.7	14.7	15.9
Maternity Hospitals	4.5	5.5	5.7	3.6	3.3	3.4	3.6	3.1	3.5	2.7	3.7	3.8
Maternity Homes	2.4	2.2	3.1	2.6	1.4	1.6	1.6	1.8	1.4	1.1		
Leprosy Hospitals			73.3	77.0	87.9	75.0	88.1	74.5	84.4	77.6	87.7	81.9
Rehabilitation Hospitals			24.5	30.0	26.1	26.9	26.5	33.0	24.0	29.3	30.0	30.0

[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 39. Registered Births and Hospital Births, 1975 - 2015

Year	Registered Live Births [1]	Live Births in Government Hospitals [2]	% of Live Births in Government Hospitals
1975	375,857	251,039	66.8
1980	418,373	316,394	75.6
1985	389,599	292,970	75.2
1990[a]	294,120	241,390	82.1
1991[a]	304,347	262,388	86.2
1992	356,842	296,484	83.1
1993	350,707	298,567	85.1
1994	356,071	300,180	84.3
1995	343,224	297,949	86.8
1996[b]	330,963	287,514	86.9
1997[b]	325,017	284,955	87.7
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	363,881	334,137	91.8
2011	363,415*	338,463	93.1
2012	355,900*	340,800	95.8
2013	365,792*	347,033	94.9
2014	349,715*	330,898	94.6
2015	334,821*	315,221	94.1

* Provisional *Source : [1] Registrar General's Department*
Excludes: *[2] Medical Statistics Unit*
[a] Northern and Eastern Provinces
[b] Kilinochchi and Mullaitivu Districts

Table 40. Live Births, Maternal Deaths, Still Births and Low Birth Weight Babies in Government Hospitals by District, 2015

District	Live Births	Maternal Deaths		Still Births		Low Weight Births [4]	
		No	Rate [1]	No	Rate [2]	No	Rate [3]
Colombo	38,463	8	20.8	242	6.3	5948	15.5
Gampaha	22,086	4	18.1	113	5.1	3699	16.7
Kalutara	15,277	2	13.1	96	6.2	2072	13.6
Kandy	26,624	13	48.8	211	7.9	4643	17.4
Matale	9,346	-	-	38	4.0	1724	18.4
Nuwara Eliya	9,681	2	20.7	105	10.7	2,395	24.7
Galle	18,420	3	16.3	116	6.3	2512	13.6
Matara	10,515	1	9.5	74	7.0	1747	16.6
Hambantota	10,606	2	18.9	56	5.3	1235	11.6
Jaffna	7,532	3	39.8	55	7.2	962	12.8
Kilinochchi	2,029	-	-	14	6.9	222	10.9
Mullaitivu	981	-	-	-	-	114	11.6
Vavuniya	3,364	1	29.7	29	8.5	567	16.9
Mannar	1,706	-	-	5	2.9	271	15.9
Batticaloa	8,220	5	60.8	73	8.8	1205	14.7
Ampara [5]	13,196	2	15.2	52	3.9	1,972	14.9
Trincomalee	7,730	2	25.9	14	1.8	1176	15.2
Kurunegala	22,961	6	26.1	65	2.8	3373	14.7
Puttalam	13,449	1	7.4	70	5.2	1891	14.1
Anuradhapura	15,384	1	6.5	107	6.9	2161	14.0
Polonnaruwa	6,905	1	14.5	39	5.6	1196	17.3
Badulla	15,948	6	37.6	118	7.3	3397	21.3
Monaragala	6,972	2	28.7	31	4.4	1051	15.1
Ratnapura	18,406	3	16	136	7.3	3,222	17.5
Kegalle	9420	5	53.1	54	5.7	1684	17.9
Sri Lanka	315,221	73	23.2	1,913	6.0	50,439	16.0

[1] Per 100,000 live births

Source : Medical Statistics Unit

[2] Per 1,000 total births

[3] Per 100 live births

[4] Birth weight less than 2,500 grams

[5] Includes Kalmunai RDHS division

Table 41. Performance of Dental Surgeons by RDHS Division, 2015

RDHS Division	Extractions				D.A.A. Treated	Infection	Leukoplakia	Oral Carcinoma	Restoration				Scaling	Minor Surgery	Prevention Community	Total Visits [1]
	Deciduous	Permanent Caries	Permanent Periodontal	Other					Temporary	Amalgam	Composite	Advanced Conservtion				
Colombo	2,605	39,573	6,538	929	11,190	535	90	15	43,742	16,791	18,301	15,509	12,563	1,028	1,139	209,619
Gampaha	4,272	38,608	8,690	865	5,450	204	53	4	24,653	9,044	14,457	1,672	6,081	1,710	2,735	136,297
Kalutara	4,427	29,671	5,562	627	4,488	666	302	18	26,742	10,081	11,601	1,876	4,497	2,210	1,354	121,114
Kandy	764	14,377	2,110	351	3,093	130	3	3	7,648	4,332	4,023	1,012	2,802	1,073	3,864	43,816
Matale	1,225	8,371	2,007	173	2,906	181	16	4	6,827	3,354	2,351	1,042	2,370	288	398	34,785
NuwaraEliya	969	13,173	4,004	629	3,842	995	2	1	6,017	5,415	2,161	408	1,559	234	60	42,144
Galle	1,935	23,278	3,009	215	1,972	123	17	9	17,484	4,369	8,763	1,449	2,790	1,050	1,813	78,227
Matara	712	15,294	2,414	1,248	509	155	7	-	12,666	5,379	3,025	3,352	3,052	182	40	50,038
Hambantota	1,341	12,136	3,842	1,056	2,087	236	11	1	9,220	4,046	4,495	2,196	1,843	1,681	5,504	62,732
Jaffna	3,013	26,182	6,324	913	8,058	218	25	64	12,488	4,834	4,945	2,668	4,899	2,188	801	103,313
Mannar	387	4,040	1,147	387	188	56	16	20	1,087	906	1,186	337	848	303	2,091	21,856
Vavuniya	157	28	2	-	-	3	-	-	97	70	1,006	3	86	3	-	4,429
Mullaitivu	314	1,108	762	86	253	32	1	-	738	1,207	591	198	537	46	-	7,571
Batticoloa	5,908	21,938	4,163	262	1,158	168	21	3	3,695	1,881	3,060	311	975	339	522	61,872
Ampara	420	4,382	14	3	-	41	-	-	2,430	1,011	1,028	1,637	429	143	206	16,601
Trincomalee	4,256	14,676	3,315	701	2,628	149	1	1	1,664	2,710	1,523	405	2,669	485	44	41,233
Kurunegala	385	1,234	366	81	348	23	-	-	891	1,197	396	39	398	96	886	8,004
Puttalam	1,625	13,260	2,288	153	1,241	119	-	4	3,032	2,441	2,524	550	1,386	487	199	39,369
Anuradhapura	1,144	6,518	1,912	667	3,173	106	14	2	3,945	1,980	1,223	971	1,785	831	173	30,199
Polonnaruwa	1,840	3,537	764	250	1,147	-	-	-	1,804	1,366	151	147	1,326	114	-	15,255
Badulla	4,870	30,542	4,374	1,363	14,055	642	107	19	21,971	15,427	10,198	2,440	10,018	2,268	2,736	150,470
Monaragala	3,034	15,927	5,149	355	9,133	146	127	116	17,154	5,660	13,011	2,132	6,990	3,752	-	98,337
Ratnapura	3,054	25,839	4,653	245	4,620	352	24	55	31,091	12,367	18,671	2,389	5,432	1,576	3,111	118,590
Kegalle	124	846	249	16	170	14	2	-	363	61	1,204	43	268	137	-	3,821
Total	48,781	364,538	73,658	11,575	81,709	5,294	839	339	257,449	115,929	129,894	42,786	75,603	22,224	27,676	1,499,692

Note : Based on the consolidated statistics submitted by the Regional Dental Surgeons and Monthly Dental Returns

Source : Medical Statistics Unit

[1] Total visits do not equal to row totals as selected procedures has considered