

# **ANNUAL HEALTH BULLETIN 2016**



**Ministry of Health, Nutrition and  
Indigenous Medicine  
Sri Lanka**

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## Preface

This Annual Health Bulletin of 2016, published by the Ministry of Health, Nutrition and Indigenous Medicine of Sri Lanka is the 31<sup>st</sup> in the series, which is being published since 1980. The Annual Health Bulletin, which is the main publication for health data provides information and indices which illustrate health situation of the country and needed for various purposes such as planning and management of healthcare services, monitoring and evaluation of health and health related projects and programmes, disease surveillance activities etc.

The demand for accurate health statistics and therefore the need of the Annual Health Bulletin (AHB) was a seriously felt need over the past with the introduction of the evidence based decision making. As the AHB played a significant role in the health planning process, it was necessary to improve the quality and coverage of the health statistics as well as the methodology of presentation of the information in AHB; thus the timely requirement of restructuring the AHB. Therefore it was decided to change the structure of AHB so as to meet the needs of health service planners and other sectors using health data. The new structure presents health information on four major areas; Health Status of the country, Health Risk Factors among the population, Health Service Coverage and Health System inputs and outputs.

I appreciate the generous contribution made by the officers of the Ministry and its institutions, by providing data and write-ups which is the core of this publication.

Wasantha Perera  
Secretary  
Ministry of Health, Nutrition and Indigenous Medicine





# Message from the Director General of Health Services

Annual Health Bulletin is the main annual publication of the Ministry of Health, Nutrition and Indigenous Medicine. Since 1980, the Bulletin has provided comprehensive information on the state health sector in Sri Lanka to meet the information needs of policy makers, health planners, researchers and other interested stakeholders.

This year, based on stakeholder input the Ministry of Health, Nutrition and Indigenous Medicine identified the need to revise the Annual Health Bulletin to provide more strategic information to support policy formulation and program decision-making. Hence, a Technical Working Committee was appointed to collaborate with the Medical Statistics Unit and the experts from Bloomberg Philanthropies' Data for Health Initiative, to lead the effort to revise the Annual Health Bulletin.

The main body of the 2016 Annual Health Bulletin (AHB) has a new structure that organizes the information into four major health domains, content that focuses more on the results of the year, and improved data visualizations that help communicate key information. Some of the data has been moved to tables in the appendix, for convenient reference. As we are in transition to the new strategic focus the future edition should be further improved with the feedback of the key stakeholders.

The 2016 AHB presents an overview of the country's health status, the risk factors which have contributed to current health status and may help determine the future health status of the country, details of service coverage, and information on the health system which facilitated the provision of health services. It is expected that the revised AHB will be used by the policy makers, health planners, health administrators and the development partners as the main reference document for strategic decision making in Health Sector.

At this occasion, let me thank Dr. Champika Wickramasinghe (DDG-NCD) and Dr. Udaya Ranasinghe (Senior Assistant Secretary - Medical Services) for facilitating and leading the process, and all the DDGs for supporting and providing valuable insights. I would like to take this opportunity to extend my sincere gratitude to Mrs. Sajeewa Kodikara Director, Medical Statistics Unit and her staff for their hard work, members of the Technical Working Committee for providing their expertise, and the medical officers who involved in the editorial work. I also thank the two experts from Bloomberg Philanthropies Data for Health Initiative, Dr. Cecilia Fabrizio and Mr. Richard Delaney, for sharing their expertise on advanced data analysis and visualization. Finally, I thank all the Directors and other health staff who gave their support by sharing the data and information and by providing the writes-ups, without which this publication would not have become a reality.

**Dr. Anil Jasinghe**  
**Director General of Health Services**



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## List of Abbreviations

A & E	Accident and Emergency
ACHS	Australian Council for Accreditation Standards
ADC	Adolescent Dental Clinics
AFC	Anti Filaria Campaign (AFC)
AFP	Acute Flaccid Paralysis
AHB	Annual Health Bulletin
AIDS	Acquired immune deficiency syndrome / acquired immunodeficiency syndrome
ALC	Anti-Leprosy Campaign (ALC)
AMC	Anti-Malaria Campaign
ARC	Alcohol Rehabilitation Centre
ARV	Antiretroviral (drugs)
ASRH	Adolescent Sexual and Reproductive Health
BCC	Behaviour Change Communication
BES	Biomedical Engineering Services
BH-A	Base Hospital – Type A
BH-B	Base Hospital – Type B
BHT	Bed Head Tickets
BIA	Bandaranaike International Airport
BMICH	Bandaranaike Memorial International Conference Hall
CBR	Crude Birth Rate
CCSCH	Codex Committee on Spices and Culinary Herbs
CDC	Community Dental Clinics
CDR	Crude Death Rate
CDS	Central Drug Store
CFR	Case Fatality Ratio
CIM	Cancer Institute Maharagama
CIMIC	Civil-Military Cooperation
CIN	Cervical intraepithelial neoplasia
CKD	Chronic Kidney Disease
CMC	Colombo Municipal Council
CMR	Child Mortality Rate
CVD	Cardiovascular Diseases
DAPH	Department of Animal Production and Health
DDG	Deputy Director General
DF	Dengue Fever
DGH	District General Hospital
DGHS	Director General of Health Services

DHF	Dengue Haemorrhagic Fever
DHS	Demographic and health Survey
DMFT	Mean number of Decayed, Missing or Filled Teeth
DNAP	District Nutrition Action Plan
DSS	Dengue Shock Syndrome
EOH & FS	Environment, Occupational Health and Food Safety
eIMMR	Electronic Indoor Morbidity & Mortality Return
ELISA	Enzyme-linked immunosorbent assay
EMTCT	elimination of Mother to Child Transmission
ENAP	Every new born Action Plan
ENND	Early neonatal deaths
ENNMR	Early Neonatal Mortality Rate
EPI	Expanded programme on Immunization
EPTB	Extra Pulmonary Tuberculosis
ET & R	Education Training and Research
ETU	Emergency Treatment Unit
EUH	Estate and Urban Health
FAC	Food Advisory Committee
FBS	Fasting Blood Sugar
FC	Finance Commission
FCAU	Food Control Administration Unit
FHB	Family Health Bureau
fIPV	fractional Inactive Polio Vaccine
FRC	Frozen Red Cell
GAP	Good Agriculture Practices
GBV	Gender Based Violence
GC/MS	Gas chromatography–mass spectrometry
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GIS	Geographic Information System
GMP	Good manufacturing practices
GNI	Gross National Income
GoSL	Government of Sri Lanka
HbA1c	Hemoglobin A1C
HDU	High Dependency Unit
HEB	Health Education Bureau
HIV	Human Immunodeficiency Virus
HLA	Human Leukocyte Antigen
HLC	Healthy Life Style Centres
HMIS	Health Management Information System (HMIS)
HPLC	High-performance liquid chromatography

HPV	Human papilloma virus
HQ&S	Health Quality and Safety
HRM	Human Resource Management
HRMIS	Human Resource Management Information System
HRO	High Reliable Organizations
HTC	Hospital Transfusion Committees
IARC	International Agency for Research on Cancer (IARC)
ICD	International Classification of Diseases
ICEAP	Institute of Continuing Education for Animal Production
ICTA	Information & Communication Technology Agency of Sri Lanka
ICU	Intensive Care Unit
IDH	Infectious Disease Hospital
IEC	Information Education and Communication
IEC	Information Education and Communication
IgM	Immunoglobulin M
IHR	International Health Regulations
ILI	Influenza like illness
IMMR	Indoor Morbidity and Mortality Return
IMR	Infant Mortality Rate
IPV	Inactive Polio Vaccine
ISH	International Society of Hypertension
IVM	Integrated Vector Management
ITI	Industrial Technology Institute
JEE	Joint External Evaluation
JEE	Joint External Evaluation
LAB	Laboratory
LIMS	Laboratory Information Management System
LKR	Sri Lankan Rupees
LPEP	Leprosy post exposure prophylaxis
LS	Laboratory Services
LSCS	A lower (uterine) segment Caesarean section
MAM	Moderate Acute Malnutrition
MB	Multi-bacillary
MCH	Maternal and Child Health
MDR	Multi Drug Resistant
MDSR	Maternal Death Surveillance and Response
MFA	Ministry of Foreign Affairs
MIC	Minimal Inhibitory Concentration
MLT	Medical Laboratory Technologist
MMR	Maternal Mortality Ratio



MMR	Measles, Mumps, and Rubella
MNH	Maternal and Neonatal Health
MO/MCH	Medical Officer/ Maternal and Child Health
MO/NCD	Medical Officer/ Non-Communicable Diseases
MOH	Medical Officer of Health
MRI	Medical Research Institute
MRSA	Methicillin-resistant Staphylococcus aureus
MS	Medical Services
MSD	Medical Supplies Division
MSG	Mother Support Groups
MSMIS	Medical Supplies Management Information System
MSU	Medical Statistics Unit
NAT	Nucleic Acid Testing
NATA	National Alcohol and Tobacco Authority
NBC	National Blood Centre
NBTS	National blood transfusion services
NCCP	National Cancer Control Programme
NCI	National Cancer Institute
NDCU	National Dengue Control Unit
NGO	Non-Governmental Organization
NHSL	National Hospital of Sri Lanka
NIC	National Influenza Centre
NIHS	National Institute of Health Sciences
NIP	National Immunization Programme
NNMR	Neonatal Mortality Rate
NNSS	National Nutrition Surveillance System
NOHPP	National Oral Health Promotion Program
NPTCCD	National Programme for Tuberculosis Control & Chest Diseases
NRR	National Renal Registry
NSACP	National STD and AIDS Control Programme
NTD	Neglected Tropical Diseases
OD	Organizational Development
OGP	Open Government Partnership
OIC	Officer In-charge
OPD	Out Patient Department
OPMD	Oral Potentially Malignant disorder
PAP	Papanicolaou (Papanicolaou smear)
PCI	Percutaneous Coronary Intervention
PCR	Polymerase Chain Reaction
PCR	Polymerase chain reaction

PCU	Preliminary Care Unit
PET	Protocol for anti-rabies post exposure therapy
PGH	Provincial General Hospital
PHEIC	Public Health Emergency of International Concern
PHI	Public Health Inspector
PHM	Public Health Midwife
PHR	Personal Health record
PHS	Public Health Services
PHVS	Public Health Veterinary Services
PI	Pathogen Inactivation of Platelets
PLHIV	People Living with HIV/AIDS
PMCU	Primary Medical Care Unit
PND	Perinatal Deaths
PNMR	Perinatal Mortality Rate
PNMR	Perinatal Mortality Rate
PNMR	Perinatal Mortality Rate
PPE	Personal Protective Equipment
PPHI	Principal Public Health Inspector (PPHI)
PRA	Panel reactive antibodies
PTFD	Task Force on Dengue Prevention
PWID	Persons Who Inject Drugs
PWUD	Persons Who Use Drugs
QA/QC	Quality Assurance and Quality Control
RAFU	Regional Anti Filariasis Unit
RCT	Rank container Terminal
RDQA	Routine Data Quality Assessment
RE	Regional Epidemiologist
RHMIS	Reproductive Health Management Information System
RMNCAYHP	Reproductive, Maternal, New-born, Child, Adolescent and Youth Health
RMO	Registered Medical Officers
RMSD	Regional Medical Supplies Division
SARA	Service Availability and Readiness Assessment
SARI	Severe Acute Respiratory Tract Infections
SBR	Still Birth Rate
SDC	School Dental Clinics
SDG	Sustainable Development Goals
SLAAS	Sri Lanka Association for the Advancement of Science
SLENAP	Sri Lanka Every New-born Action Plan
SLIDA	Sri Lanka Institute of Development Administration

SMI	School Medical Inspection
SPC	State Pharmaceutical Corporation
SPHI	Supervising Public Health Inspector
SPHM	Supervisory Public Health Midwife
SPS	Sanitary and Phytosanitary
STD	Sexually Transmitted Disease
STEMI	ST Elevation Myocardial Infarction
STI	Sexually Transmitted Infection
TB	Tuberculosis
TCS	Tertiary Care Services
TFR	Total Fertility Rate
TH	Teaching Hospital
TORCH	Toxoplasmosis, Other (syphilis, varicella-zoster, parvovirus B19), Rubella, Cytomegalovirus (CMV), and Herpes
TOT	Training of Trainers
U.N.	United Nations
U5MR	Under five Mortality Rate (U5MR)
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund (United Nations International Children's Emergency Fund)
VDRL	Venereal disease research laboratory
VPD	Vaccine Preventable Diseases (VPD)
WEBIIS	Web Based Immunization Information System
WFP	World Food Programme
WHO/ ISH	World Health Organisation and International Society of Hypertension
WP	Western Province
WTO	World Trade Organization
WWC	Well Women Clinic
YED	Youth, Elderly and Disability

## Key Health Indicators 2016

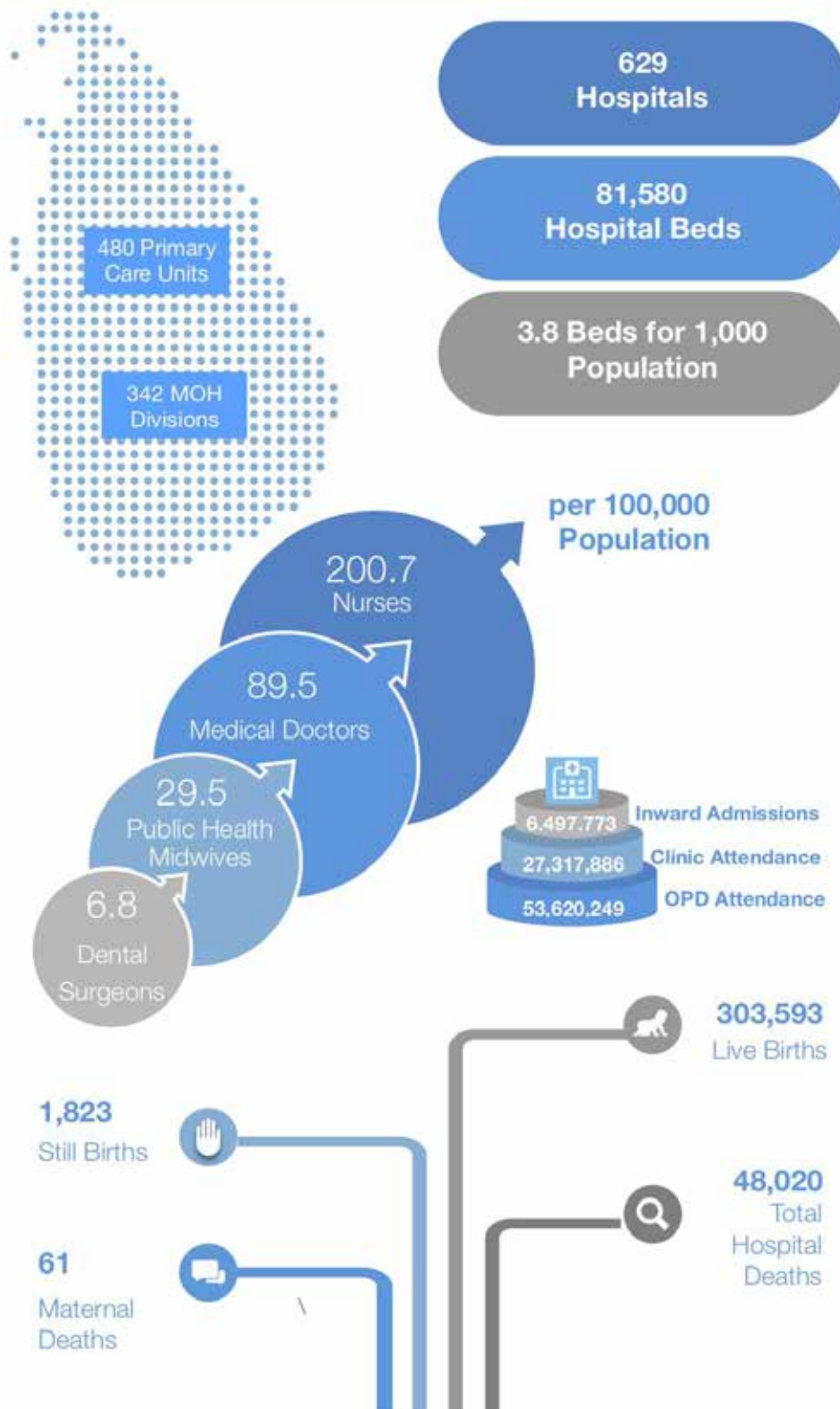
Indicator		Year	Data	Source
<b>Demographic Indicators</b>				
Total population (in thousands)		2016*	21,203	Registrar General's Department
Land area (sq. km)		1988	62,705	Survey General's Department
Population density (persons per sq. km)		2016*	338	Registrar General's Department
Crude birth rate (per 1,000 population)		2016*	15.6	Registrar General's Department
Crude death rate (per 1,000 population)		2016*	6.2	Registrar General's Department
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	
<b>Socio-economic Indicators</b>				
GNI per capita at current prices (Rs.)		2016	546,408	Department of Census & Statistics
Human development index		2016	0.768	UNDP, Human Development Indices and Indicators: 2018 Statistical Update
Unemployment rate	Total	2016	4.4	Department of Census & Statistics
	Female		7.0	
	Male		2.9	
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 (%) (10 years or more)	Total	2012	95.7	Census of population & Housing, 2012
	Female		94.6	
	Male		96.9	
Pupil teacher ratio in	Government Schools	2016	18	Ministry of Education
	Private Schools		20	
	Pirivenas		10	
Singulate mean age at marriage (years)	Female	2012	23.4	Census of population & Housing, 2012

Indicator		Year	Data	Source
<b>Health and Nutrition Indicators</b>				
Life expectancy at birth (years)				
	Female	2011-2013	78.6	Department of Census and Statistics (Life Tables for Sri Lanka 2011-2013 by District and Sex)
	Male		72.0	
Neonatal mortality rate (per 1,000 live births)		2015*	6.0	
Infant mortality rate (per 1,000 live births)		2015*	8.5	
Under-five mortality rate (per 1,000 live births)		2015*	10.1	
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)		2014*	25.7	Registrar General's Department
Low-birth-weight per 100 live births in government hospitals %		2016	15.5	Medical Statistics Unit
Percentage of under five children		2016		Demographic and Health Survey, 2016
Underweight (weight-for-age)			20.5	
Wasting (Acute undernutrition or weight-for-height)			15.1	
Stunting (Chronic malnutrition or height-for-age)			17.3	
<b>Primary Health Care Coverage Indicators</b>				
Percentage of pregnant women attended by skilled personnel		2016	99.5	Demographic and Health Survey, 2016
Percentage of live births occurred in government hospitals		2016	91.7	Medical Statistics Unit
Current contraceptive usage of currently married women age 15-49 years (%)	Modern method	2016	53.6	Demographic and Health Survey, 2016
	Traditional method		11.0	
Population with access to safe water (%)		2012	81.1	Census Population & Housing, 2012

Indicator		Year	Data	Source
<b>Health Resources</b>				
Government health expenditure as a percent of GNP		2016	1.67	Central Bank of Sri Lanka - Annual Report 2016, Department of National Budget - Budget Estimate 2018, Ministry of Finance and Planning, Sri Lanka - Annual Report 2016, Department of state Accounts, General Treasury - Financial Statements for the year ended 31st December 2016
Government health expenditure as a percent of total government expenditure		2016	6.2	
Per capita health expenditure (Rs.)		2016	9,081	
Medical Officers per 100,000 population		2016	89.5	Medical Statistics Unit
Population per Medical Officer		2016	1,118	
Dental Surgeons per 100,000 population		2016	6.8	
Nurses per 100,000 population		2016	200.7	
Public Health Midwives per 100,000 population		2016	29.5	
Number of hospitals		2016	629	
Number of hospital beds		2016	81,580	
Hospital beds per 1,000 population		2016	3.8	
Number of Medical Officer of Health (MOH) Divisions		2016	342	

\* Provisional

Health Services in Government Hospitals - 2016



# Health Status



# 1. Country Profile

## 1.1. Background

Sri Lanka, officially known as the Democratic Socialist Republic of Sri Lanka is an island situated off southern coast of India in the northern Indian Ocean of South Asia, separated from the Indian sub-continent by a narrow strip of shallow water, known as Palk Strait. Sri Lanka lies between northern latitudes 5° 55' - 9° 50' and eastern longitudes 79° 42' - 81° 52'. It has total area of 65,610 square kilometres including 2,905 square kilometres of inland water.

The island has a central mountainous region, 'Hill country' with peaks as high as 2,524 meters above the sea level and is surrounded by a plain is known as 'Low country' which is narrow in East, West and South, broadens in the North. A number of rivers spring up from the mountain peaks and flow towards the sea through low lying plains following a radial pattern. These topographical features affect the wind pattern, rainfall, temperature, humidity and other climatic features.

The climatic condition of the country is also affected by its proximity to the equator as well as the elevation above sea level and the monsoons. The mean temperature ranges from 26.5°C to 28.5°C (79.7°F to 83.3°F) in the low country and from 14°C to 24°C (58°F to 75°F) in the hill country. Sri Lanka receives an average 2,000 mm of rain annually, amounting to about 130 billion cubic meters of water. 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.

Sri Lanka has a parliamentary democratic system in which the sovereignty of the people and legislative powers are vested in Parliament. The executive authority is exercised by a Cabinet of Ministers, presided over by the Executive President.

For the purpose of administration, Sri Lanka is divided into 9 provinces, 25 districts and 331 divisional secretary areas (Annexure 1: Detailed Table 1). The provincial administration is vested in the Provincial Councils. Local government which is the lowest level of government in Sri Lanka is responsible for providing supportive services for the public.

In the year 1931 Universal Franchise was granted to all Sri Lankan citizens above the age of 18 years and the free education system was established in the year 1938. Following independence, the country adapted a free health policy and provides free health care for all Sri Lankans and it helps to reach higher Human Development Index than all other countries in South Asian region.

## 1.2. Population size and growth

The fourteenth national Census of Population and Housing which covered the entire island after a lapse of 31 years since 1981 was conducted by the Department of Census and Statistics on 20<sup>th</sup> March 2012. 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 first Census of Population in Sri Lanka was held in the year 1871 and population was 2.4 million. So, Sri Lankan population has grown more than eight times since the year 1871.

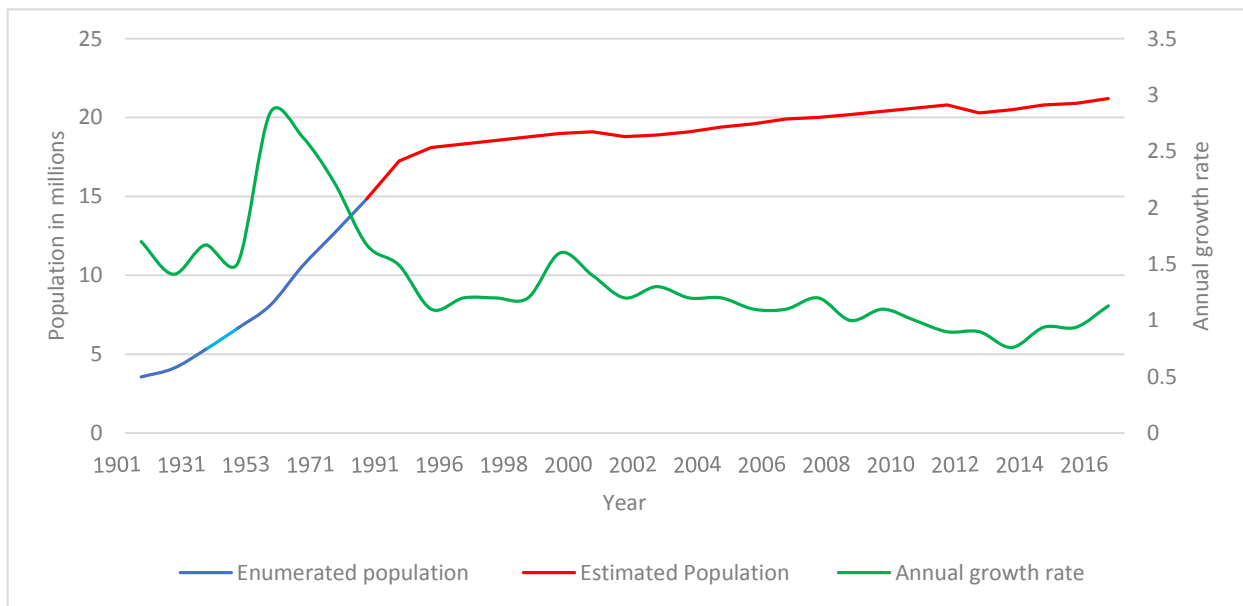
Estimated mid-year population of Sri Lanka for the year 2016 is 21.203 million (Annexure 1: Detailed Table 2).

As shown in Figure 1.1, according to Registrar General's Department, annual population growth rate was 1.13 percent during the year 2016, which added around 200,000 persons

during the year 2016 to the total population, due to natural increase.

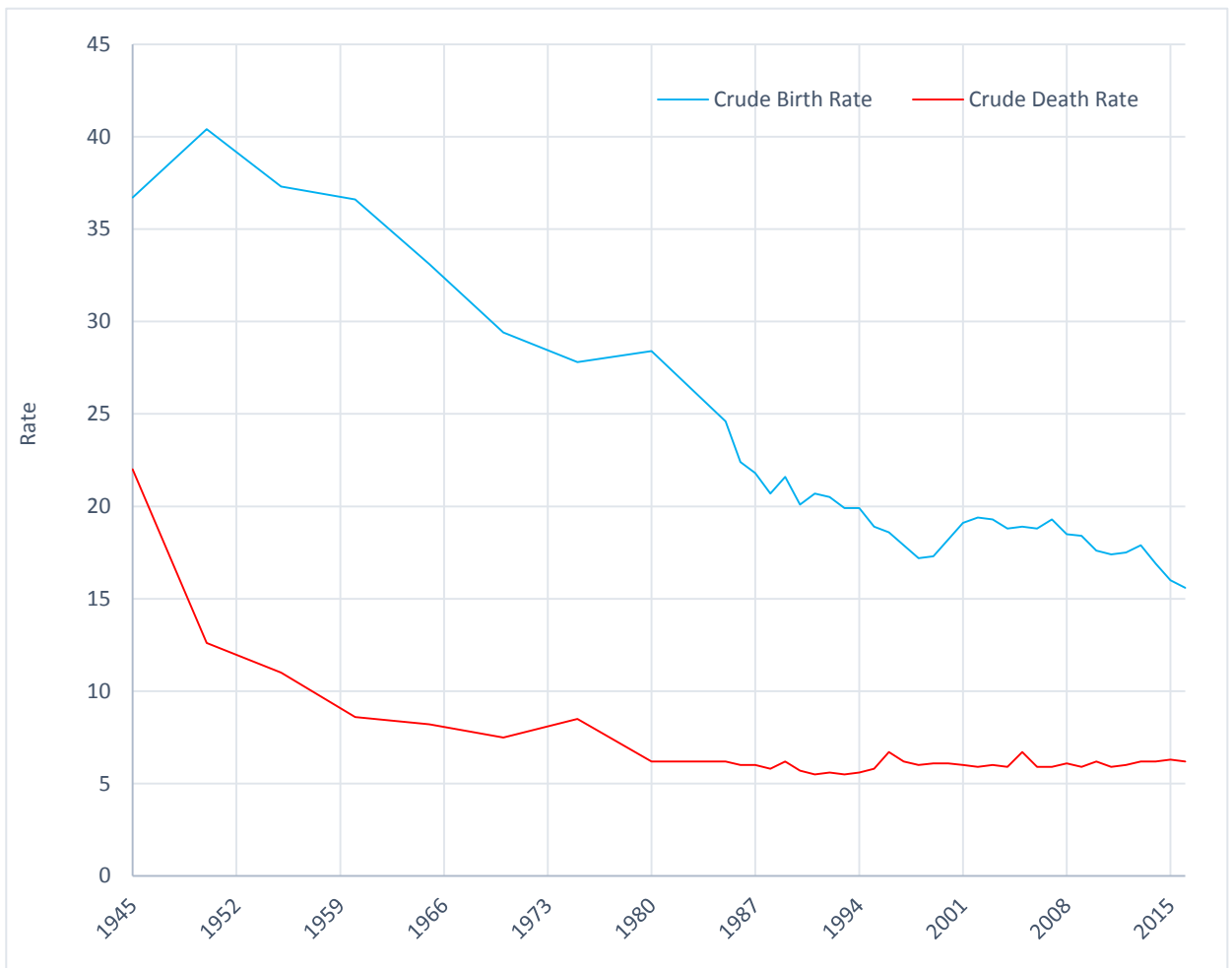
The first significant decline in Crude Birth Rate (CBR) began in 1950s, fertility decline gathered momentum in 1960s through to the year 2000 and has been relatively flat since then (Figure 1.2). CBR was 15.6 per 1000 persons in 2016 (provisional).

The rapid mortality decline observed during the post-World War II period in Sri Lanka and gradual decrease can be seen up to 1980s. During last few decades, Crude Death Rate (CDR) was somewhat steady with small fluctuations and CDR in 2016 was 6.2 deaths per 1000 population (Provisional).



**Figure 1.1: Population Size and Annual Growth Rate, 1901 – 2016**

Source: Department of Census and Statistics

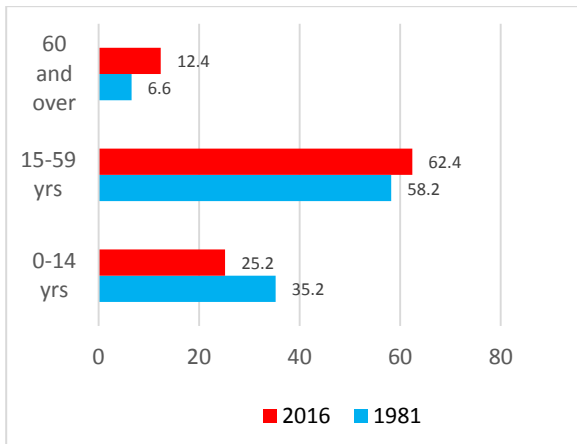


**Figure 1.2: Crude Birth and Death Rates, 1945 – 2016**

*Source: Registrar General's Department*

As a result of declining overall mortality and infant mortality rates, life expectancy has continuously risen. At the same time low

fertility rates and high life expectancy involves in declining share of children and increasing share of elderly.



**Figure 1.3: Population by Broad Age Group, 1981 and 2016**

Source: Department of Census and Statistics

Accordingly, percentage of child population (<15 years) in the year 2016 shows a significant decline compared to the year 1981 and at the same time working age population as well as elderly population show an increase. So, population of Sri Lanka was gradually shifting older. (When estimating population for the year 2016, it was assumed that age structure of the year 2016 remained as same as age structure of

**Percentage of elderly population has doubled during the period 1981 to 2016**

the last Census of Population & Housing which was held in the year 2012).

According to the report of Census of Population & Housing, 2012, median age of population was 31 years which means that half of the population was below the age of 31 years. The median age was around 21.3 years until 1981.

**Table 1-1 : Percentage Distribution of Population by Broad Age Groups, Aging Index and Dependency Ratio**

Year	0 - 14 years (A)	15 - 59 years (B)	60 years and over (C)	Aging Index (C/A)*100	Dependency Ratio (A+C)/B*100
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 <sup>1</sup>	26.3	64.5	9.2	35.0	55.0
2012 <sup>2</sup>	25.2	62.4	12.4	49.1	60.2
2015 <sup>3</sup>	25.2	62.4	12.4	49.1	60.3
2016 <sup>3</sup>	25.2	62.4	12.4	49.0	60.2

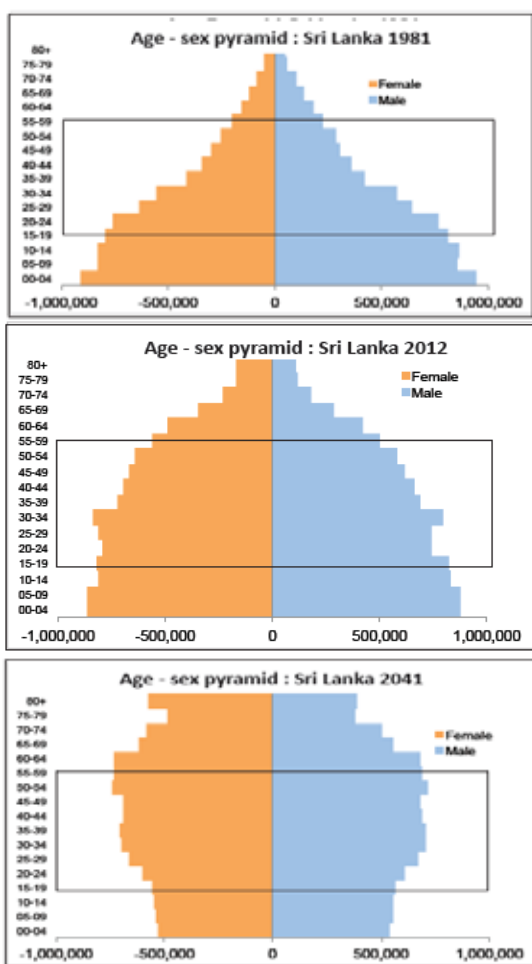
<sup>1</sup> Excludes Northern Province, Batticaloa and Trincomalee districts in Eastern province

<sup>2</sup> Census of Population and Housing – 2012

<sup>3</sup> Estimated midyear population – Registrar General's Department

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 49.0 percent in 2016. Shifting of median age and increasing trend of aging index are also referring to aging of Sri Lankan population.

It is noticeable that dependency ratio, which is an approximation of the average number of dependents that each person of working age must support, has decreased from 71.8 in 1981 to 60.2 in 2016, due to relative decline in the proportion of children.



**Figure 1.4: Population Trends for Sri Lanka by Age and Sex, 1981, 2012 and 2041**

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

It is important to note that working age population was 62.4 percent in 2012 and shows an increase from 58.2 in 1981, i.e. the working age population was significantly larger than the dependant population.

### Age-Sex Composition Trends

During the past decades, Sri Lankan population has changed significantly in size, as well as in age and sex structure. Changing pattern of age and sex structure of past, current and future is shown in Figure 1.4. A detailed age-sex breakdown is given in Annexure I: Detailed Table 3.

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*In 1981, the base is broad representing a large number of children in the population*

---



---

*Working age population has increased compared to the child population in 2012*

---



---

*Expected structure in 2041 shows that growing of elderly population with less number of children population*

---

## Demographic Transition

Demographic transition is a transition from undesirable state of slow growth of population where mortality and fertility rates are high to a desirable state of slow population growth with low fertility and mortality levels. As discussed above changes in Sri Lankan population size, growth, fertility, mortality and the age structure reveal that Sri Lanka is undergoing a phase of demographic transition. Each country undergoes a period known as a “window of opportunity” during the age structure transition.

Demographic window which is defined by U.N. Population Department as the period when the proportion of children and youth under 15 years falls below 30 percent and the proportion of people 65 years and older is below 15%. Sri Lanka currently has the “window of opportunity” or in other words “demographic dividend” or “demographic bonus” to achieve rapid economic growth with a larger working age population compared to the population in non- working age population (dependents).

Continuing of aging will lead to decline of working age population and increase in dependents. According to Department of Census and Statistics the window of opportunity for Sri Lanka expected to last about 40 years from early 1990’s to early 2030’s.

## 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 2016. It indicates an excess of females over males, i.e. population is female biased. When comparing the sex ratios in 1981, 2001 and 2016 it shows a decreasing trend.

The age specific sex ratios in 2016 are declining gradually with increasing age with fluctuations in some age groups.

Sex ratio under 4 years was 101.8 for the year 2016 which reflects more males among children less than 4 years of age. According to Registrar General’s Department, sex ratio at birth was 104.5 per 100 females (provisional) for the year 2016.

However, with the increase of age, the sex ratio shows a decreasing trend indicating more females than males in older age groups.

---

***According to Department of Census and Statistics, the window of opportunity for Sri Lanka is expected to last about 40 years from early 1990’s to early 2030’s***

---

**Table 1-2 : Age Specific Sex Ratio 1981, 2001 and 2016**

Age Group in Years	Sex Ratio (No of males per 100 females) in Year		
	1981 <sup>1</sup>	2001 <sup>1,2</sup>	2016 <sup>3</sup>
All Ages	103.9	97.9	93.8
Under 1	104.1	104.5	101.8
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	99.4
20 - 24	100.3	98.0	93.9
25 - 29	99.8	93.8	91.8
30 - 34	102.0	95.4	94.6
35 - 39	100.6	95.2	94.8
40 - 44	106.0	96.6	94.9
45 - 49	102.0	97.1	92.7
50 - 54	111.1	95.9	91.0
55 - 59	110.2	92.8	88.8
60 - 64	116.2	92.7	86.5
65 - 69	111.0	88.0	81.0
70 - 74	115.7	85.0	78.8
75 and Over	107.3	84.6	67.6

*1 Census of Population & Housing*

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

*3 Estimated midyear population – RGO*

Sex ratio was 93.8 in Sri Lanka for the year 2016. i.e. an excess of females over males. Up to age 14, sex ratio was over 100, and afterwards all age groups have a female biased population. In other words, younger age groups and older age groups have more females.

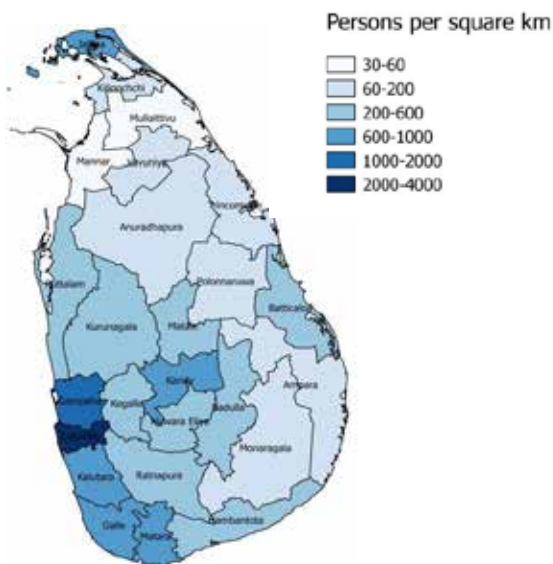
## Population Density

Population density is defined as number of persons in a unit area. It is vital to study population density by districts, as overcrowding might lead to many health hazards.

Population density for the year 2016 was 338 persons per square kilometre which

shows an increase of 47 percent from 230 persons per square kilometre since 1981.

Population densities among districts show marked regional variations. Colombo district shows the highest density of 3,543 persons per square kilometre in 2016. The next highest density of 1,769 was recorded from the adjoining district Gampaha.



**Figure 1.5: Population Density by District, 2016**

Source: Registrar General's Department

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***Over half of the population is concentrated in the Western, Central and Southern provinces which jointly cover less than one fourth of the total land area of the country***

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### 1.3. Introduction to Sri Lankan Health Sector

The Sri Lankan health system comprises of different systems of medicine; Traditional, Western, Ayurvedic, 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 bulk of inpatient care, providing a safety net to citizens.

More than six million hospitalizations occurred in 2016. A total of fifty-three million outpatient visits occurred in 2016 in public sector. The public sector has an extensive network of health care institutions and has a system for Ayurvedic care. The private sector provides access to all types of care at a cost while the public sector provides the free health facilities.

The public health sector is organized as two parallel streams:

- community health services focusing mainly on promotive and preventive health
- curative care services ranging from non-specialized primary care to specialized care delivered through a variety of hospitals

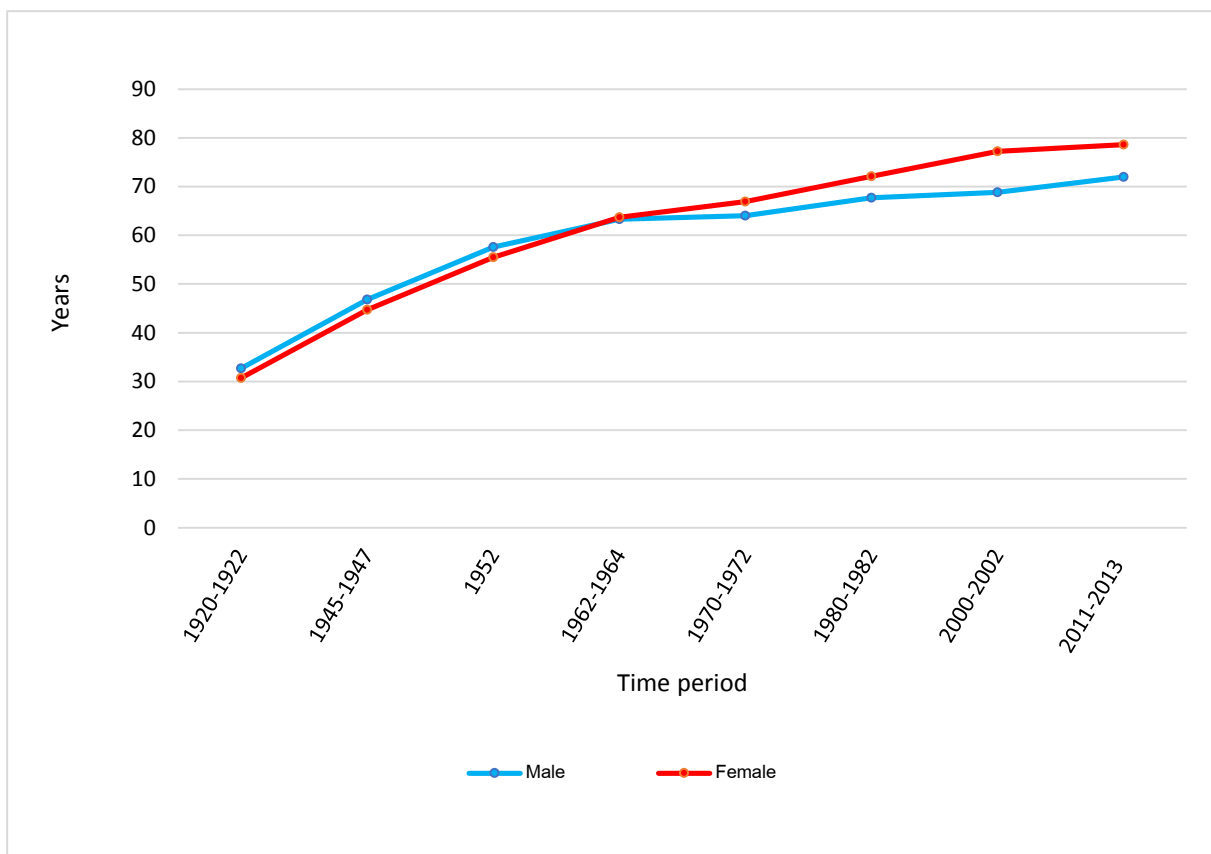
Ministry of Health, Nutrition and Indigenous Medicine of the central government is the leading agency providing stewardship to health service development and regulation. The delivery of care in public sector is decentralized and management of primary care in some

specialized allopathic hospitals are by the provincial health authorities. Ministry of Health, Nutrition and Indigenous Medicine of the central government is also responsible in ensuring resources for health such as trained human resources, drug supply and major health infrastructure developments.

### 1.4. 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. "Life Tables for Sri Lanka 2011 – 2013 by District and Sex" published by Department of Census and Statistics shows that life expectancy at birth was 72 years for males and 78.6 years for females during the period 2011 - 2013.



**Figure 1.6: Life Expectancy at Birth by Sex, 1920 – 2013**

Source: Department of Census and Statistics

## 1.5. Trends in Fertility Rates

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.

Table 1.3 reveals that the TFR declined steadily from 2.8 in the year 1987 to 1.9 in the year 2000, which was below the replacement level of fertility (Replacement level of fertility is defined as an average of 2.1 children per woman). Afterwards it increased to above the replacement level of fertility during the period 2003 to 2012. Currently TFR is 2.2 children per woman according to the Demographic and Health Survey (DHS) 2016.

**Table 1-3 : Age-Specific Fertility Rates (per 1,000 women) and Total Fertility Rates, 1987 – 2016**

Age Group (Years)	2013-2016 DHS 2016	CPH 2012	2004-2007 DHS 2006/07	1995-2000 DHS 2000	1988-1993 DHS 1993	1982-1987 DHS 1987
15 - 19	21	36	28	27	35	38
20 - 24	86	107	101	83	110	147
25 - 29	143	147	145	118	134	161
30 - 34	115	118	121	98	104	122
35 - 39	55	58	54	40	54	71
40 - 44	10	16	13	8	14	23
45 - 49	1	2	1	1	4	3
TFR	2.2	2.4	2.3	1.9	2.3	2.8

*Source: Department of Census & Statistics*

## 2. Morbidity and Mortality

### **Morbidity**

Morbidity refers to the state of being diseased or unhealthy within 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. Incidence rates and prevalence rates are major morbidity indicators. Morbidity data is collected according to the disease type, gender, age and area of hospitalization.

### **Mortality**

In demography, mortality 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 helps:

- 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

Various indicators are computed using both morbidity and mortality information such as Cause-Specific Death Rates, Case Fatality Rates, Crude Death Rate, Maternal Mortality Ratio, Child Mortality Rate, Standardized Mortality Rates and Age Specific Mortality Rates, etc.

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. Since IMMR provide data of only hospital deaths and more than 70% of the deaths occur in the field, mortality information is also collected from the vital registration system which was established in 1867.

The main mortality indicators computed are age-sex specific mortality rates and number of deaths.

## 2.1. 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 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 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. Since 1996, the IMMR 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 four hundred hospitals are processed and published in this report.

IMMR collects data only from patients admitted to government western medicine practiced institutions.

## 2.2. Hospital Morbidity

### Data Collection Methodology

The final diagnosis, as mentioned in the Bed Head Tickets (BHT's) of the patients, are recorded in a formal register, and then summarized 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, and Development Officers 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.

In 2016, 6.02% of the live discharges and 10.54% of the deaths are reported as undiagnosed or un-coded.

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.

### **Trends in hospital morbidity and mortality**

*Annexure 01: Detailed Table 16, gives trends in hospital morbidity and mortality by ICD broad disease groups for the period 2008 - 2016.*

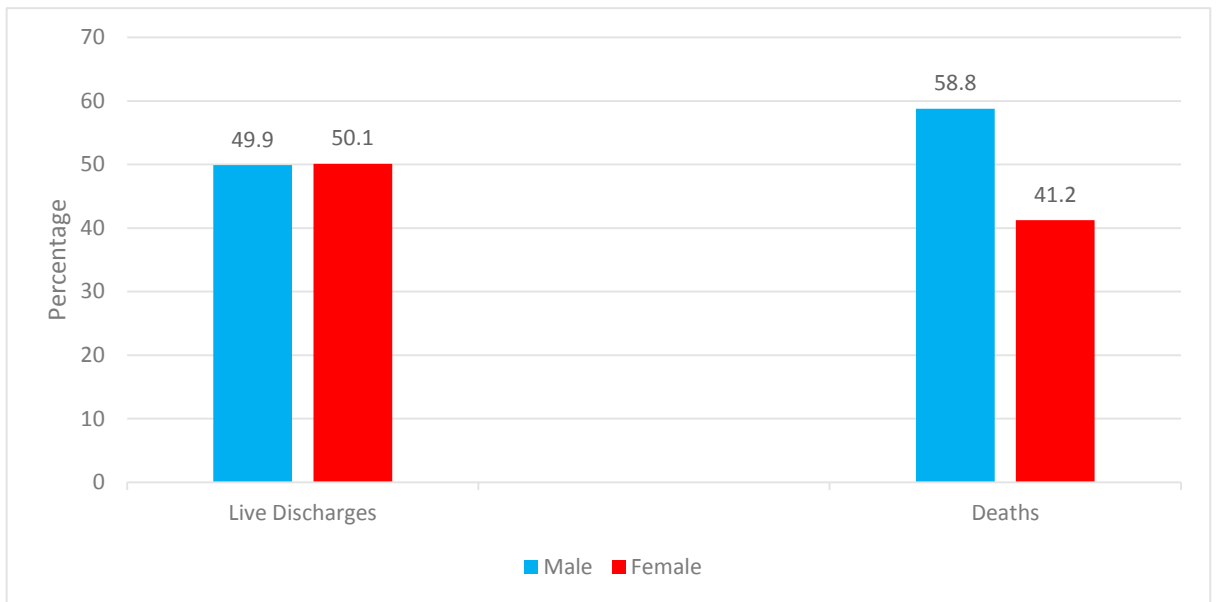
As shown in the said table, morbidity due to “neoplasm (C00-D48)”, “diseases of the blood & blood-forming organs & certain disorders involving the immune mechanism (D50-D89)”, “diseases of the eye and adnexa (H00-H59)”, “diseases of the ear and mastoid process (H60-H95)” and “diseases of the digestive system (K00-K93)” have been continuously increasing from 2010. Endocrine, nutritional and metabolic diseases (E00-E90), mental and behavioral disorders (F00-F99), diseases of the nervous system (G00-G99), diseases of the musculoskeletal system and connective tissue (M00-M99), diseases of the genitourinary system (N00-N99), certain conditions

originating in the perinatal period (P00-P96) and injury, poisoning and certain other consequences of external causes (S00-T98) have experienced a slight increase from 2014.

Number of cases related to some disease groups such as certain infectious and parasitic diseases (A00-B99), diseases of the circulatory system (I00-I99), diseases of the skin and subcutaneous tissue (L00-L99) and congenital malformations, deformations and chromosomal abnormalities (Q00-Q99) have reported a slight decrease from 2014 to 2015 but again it has been increased in 2016. Cases of, Pregnancy, childbirth and the puerperium (O00-O99) have experienced a slight decrease from 2013.

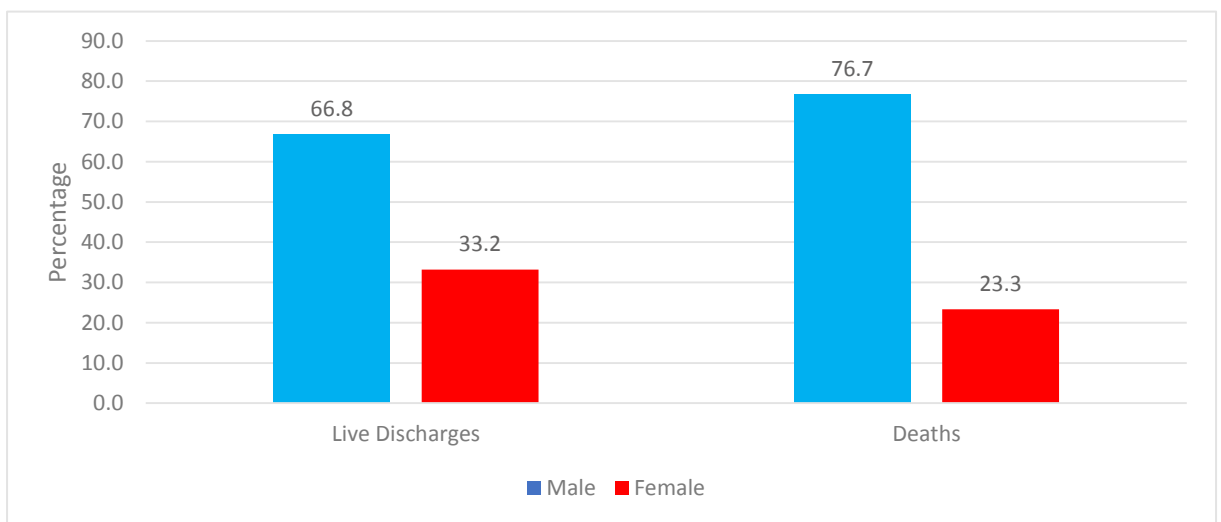
In spite of the efforts taken to improve the quality of the final diagnosis in the patient records, the group named symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (R00-R99), has still increased.

For the year 2016, 6,449,753 live discharges and 48,020 deaths have been recorded in government hospitals. 50% out of the live discharges and 59% out of the deaths are males. (Figure 2.1). As shown in Figure 2.2 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 77 percent are male.



**Figure 2.1: Percentage of Hospital Live Discharges and Deaths by Gender, 2016**

*Source: Medical Statistics Unit, Ministry of Health*



**Figure 2.2: Distribution of Live Discharges and Deaths due to Traumatic Injuries by Gender, 2016**

*Source: Medical Statistics Unit, Ministry of Health*

Annexure 01: Detailed Table 17 shows the trends of some selected diseases. Increasing trend is shown in hospitalizations due to following diseases over the last six years.

- Ischemic heart diseases (455.4 in 2011 and 540.5 in 2016 per 100,000 population)
- Anaemias (98.7 in 2011 and 156.9 in 2016 per 100,000 population)
- Septicaemia (17.7 in 2011 and 56.1 in 2016 per 100,000 population)

### Leading Causes of Hospitalization

There was no change in the first 5 leading causes of hospitalization for 2016 compared with 2015. Neoplasms was ranked as the 11th leading cause in 2016 whereas it was the 12th leading cause in 2015. Traumatic injuries ranked as the major cause of hospitalization over the last ten years as well as in 2016. (Annexure 01: Detailed Table 18 gives the leading causes of hospitalization of the country, and Annexure 01: Detailed Table 22 indicates the district profile of the same. Annexure 01: Detailed

Table 20 presents trends in leading causes of hospitalization during the period 2007-2016).

Symptoms, signs and abnormal clinical and laboratory findings which was the third leading cause from 2003 to 2008, ranked as the second since 2009 until 2016. Diseases of the respiratory system became the third leading cause since 2009 and it was second up to 2008. Hospitalizations due to diseases of the gastro-intestinal tract became the fourth leading cause from the year 2014 and it was ranked as the fifth leading cause since 2006.

During 2016, hospitalizations due to viral diseases was the fifth leading cause of hospitalization for the country. However, it was still the fourth leading cause for Colombo and Galle districts according to statistics given in the *Annexure 01: Detailed Table 22*.

Diseases of the urinary system are being important cause of hospitalization and it is ranked as sixth in 2016. Hospitalizations due to diseases of the eye and adnexa remained the tenth leading cause since 2012.

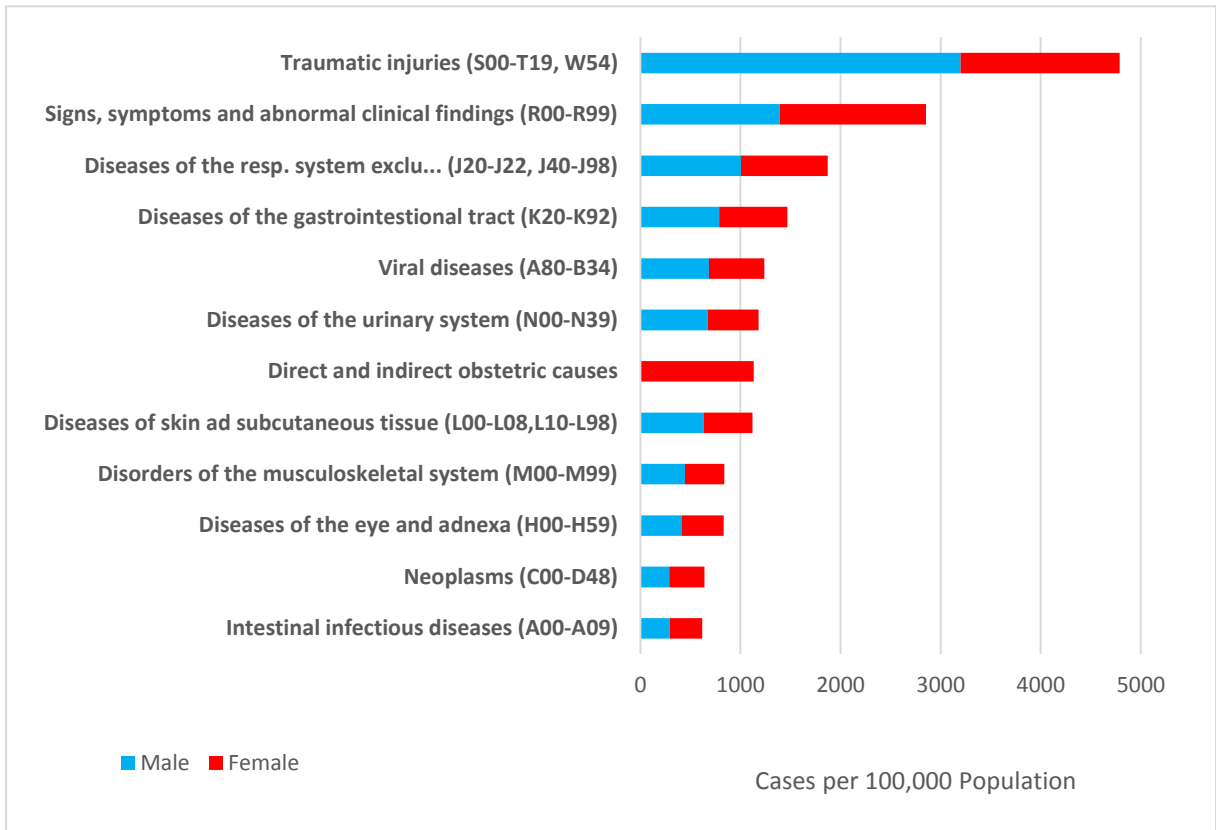
Graphical representation of the leading causes of hospitalization is given in Figure 2.3

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***Traumatic injuries (S00-T19, W54) has been the major cause for hospitalization with 1,015,426 cases reported in 2016. Fortunately, the percentage of deaths due to traumatic injuries is only 0.2%***

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**Figure 2.3 : Leading Causes of Hospitalization, 2016**

Source: Medical Statistics Unit, Ministry of Health

### 2.3. Hospital Mortality

Mortality due to neoplasms, certain infectious and parasitic diseases, endocrine, nutritional and metabolic diseases, diseases of the skin and subcutaneous tissue, diseases of the musculoskeletal system and connective tissue and injury, poisoning and certain other consequences of external causes increased in 2016 in comparison with 2015. (Annexure 01: Detailed Table 16)

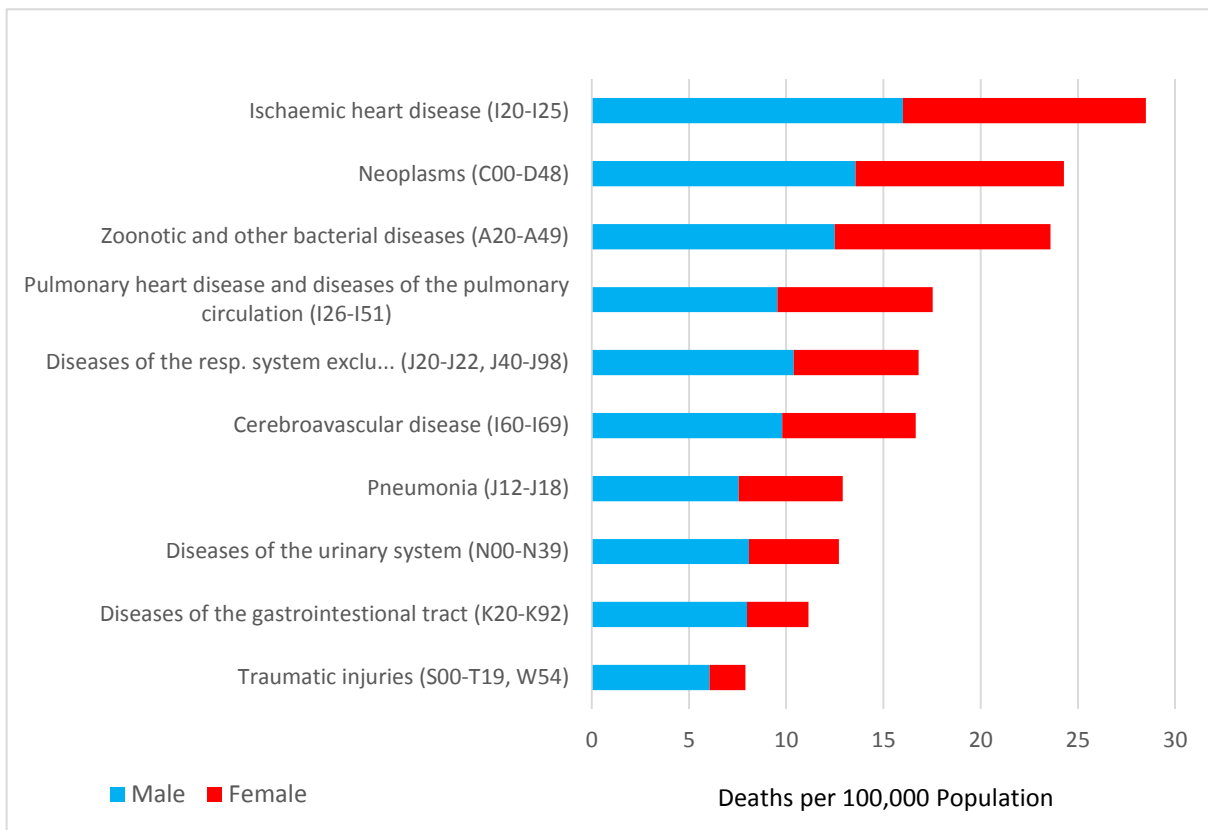
It was estimated that only 30-40 percent of registered deaths occur in government hospitals.

**Only 30-40 percent of registered deaths occur in government hospitals**

### 2.3.1. Leading Causes of Hospital Deaths

Deaths per 100,000 population for the top ten causes are shown in the Figure 2.4. There was a considerable gender difference in the number of deaths per 100,000 population according to the figure 2.4. Male deaths were relatively higher than corresponding female deaths for major leading causes of deaths.

Neoplasms ranked as the second leading cause of death since 2010. Higher number of deaths associated with neoplasms in Colombo, Kandy, Galle, Jaffna, Badulla, Kurunegala and Anuradhapura districts was 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.

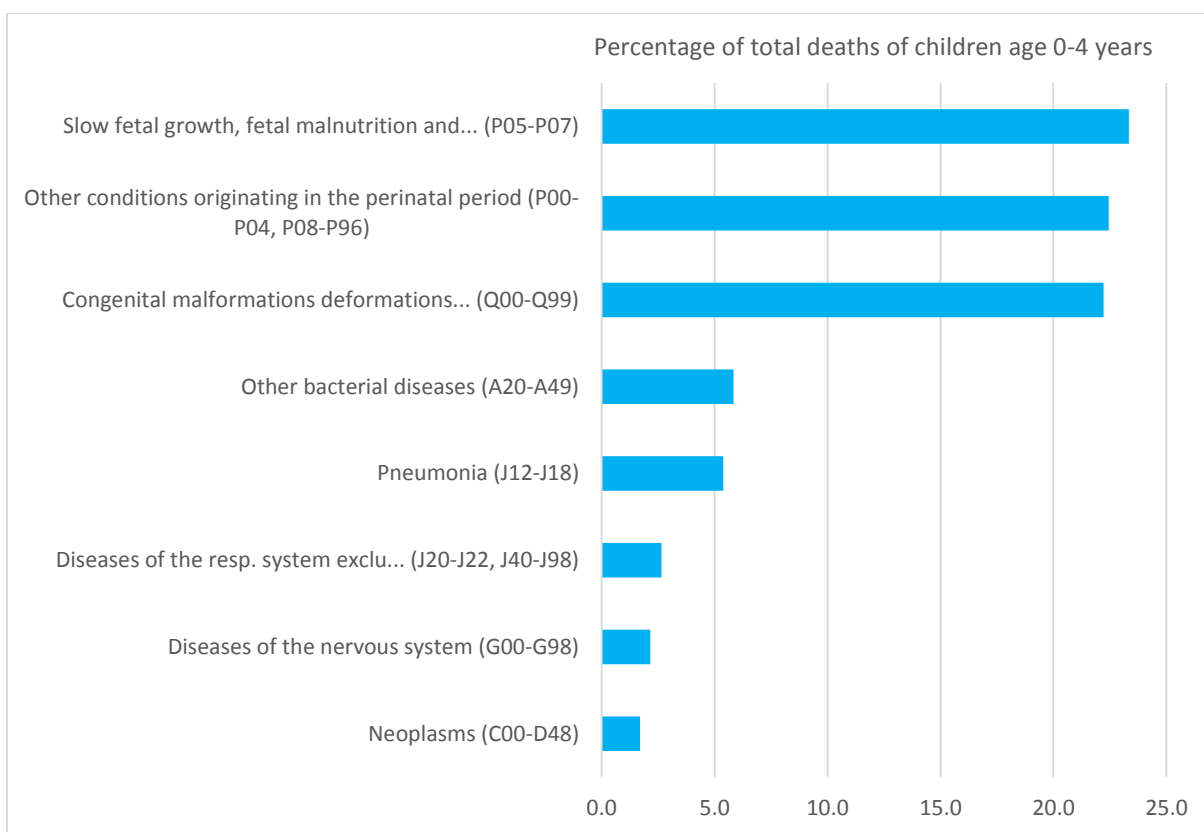


**Figure 2.4 : Leading Causes of Hospital Deaths, 2016**

Source: Medical Statistics Unit, Ministry of Health

Zoonotic and other bacterial diseases grew from the sixth leading cause from 2010 to 2013 to the third leading cause of death from 2014 to 2016. Cerebrovascular disease which was the third leading cause in 2013, ranked as fifth in

the year 2014 and fell to be the sixth leading cause of death in 2015 and 2016. Leading causes of death for children in the age group of 0 to 4 years are presented in the Figure 2.5.



**Figure 2.5 :Leading Causes of Hospital Deaths for Children Aged between 0-4 Years, 2016**

Source: Medical Statistics Unit, Ministry of Health

As shown in Figure 2.5, other conditions originating in the perinatal period (P00-P04, P08-P96) and congenital malformations

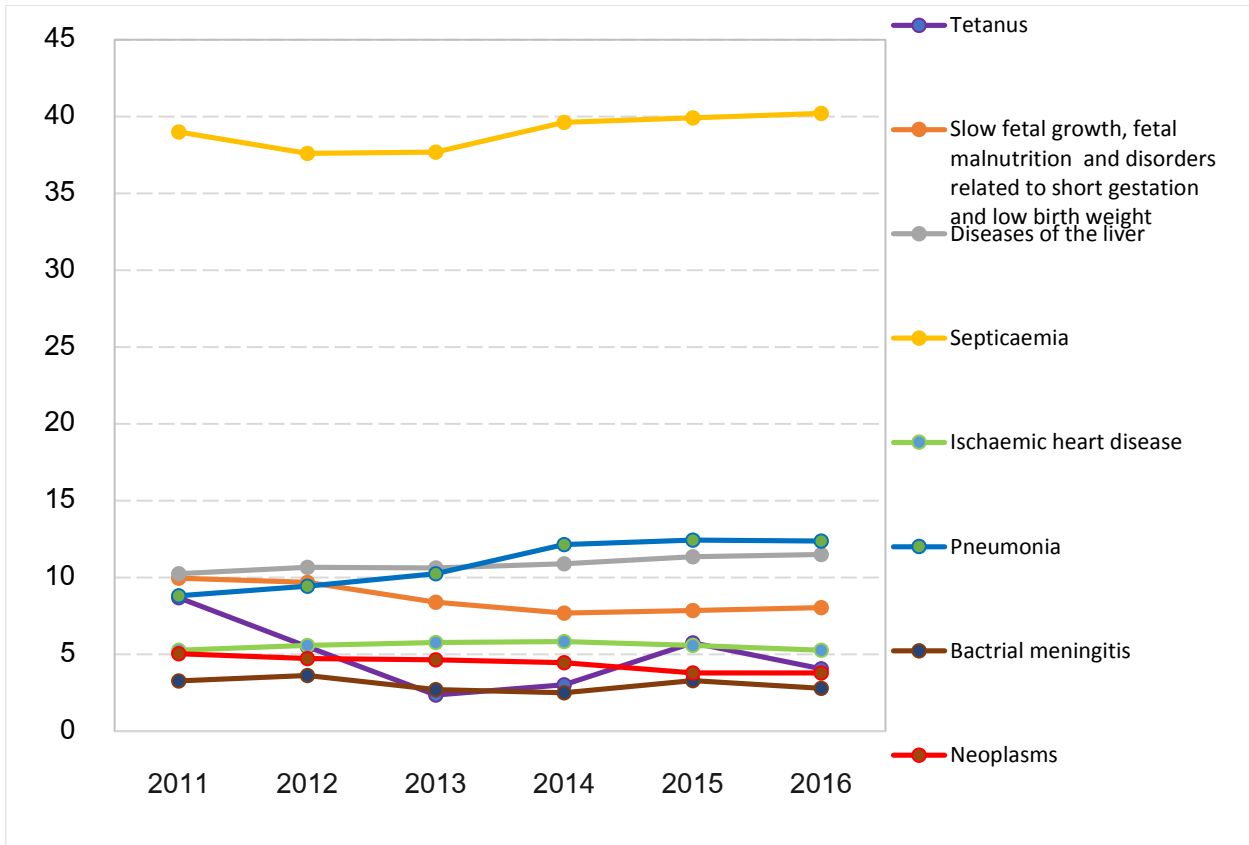
deformations and chromosomal abnormalities (Q00-Q99) were second and third leading causes of death respectively.

***The major leading causes of death for children (0-4 years) was slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight***

### 2.3.2. Case Fatality Rate

According to 2016 hospital statistics, septicemia case fatality rate has been reported as the highest rate which was 40.2/100 cases and it has steadily risen since 2012 (Annexure 1 Detailed Table 26). Case fatality rate of pneumonia is also continuously increasing from 2011. It was remaining as the second highest case fatality rate from 2014 up to 2016 among

the selected diseases. Other than that case fatality rates of shigellosis, slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight, viral hepatitis and liver diseases increased in 2016 compared to 2015. Graphical representation of the trends in case fatality rates of some selected diseases are given in Figure 2.6.



**Figure 2.6: Trends in Case Fatality Rates of Selected Diseases, 2012 – 2016**

Source: Medical Statistics Unit, Ministry of Health

### 2.4. Registration of Deaths

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 was evident by the large number ascribed to symptoms, signs and ill-defined conditions.

What is disturbing was the relatively large number of such causes of death among the urban deaths, which are predominantly medically confirmed or at least medically examined.

### 3. Health Related Sustainable Development Goals (SDG)

United Nations Member States agreed to the 2030 Sustainable Development Agenda (the “Agenda”) which covers economic development, social inclusion and environmental sustainability in the summit held in September 2015. The Agenda includes 17 Sustainable Development Goals and 169 targets which began to be implemented in, 2016.

Health status of the country falls under the Sustainable Development Goal 3 (SDG 3) named as “Ensure healthy lives and promote well-being for all at all ages”.

The Goal 3 includes 13 targets related to child health, maternal health, HIV/AIDS and other diseases, focusing mainly on Universal Health Coverage (UHC).

Achieving SDG 3 is also affected by status of other SDGs such as “End poverty in all its forms everywhere” (Goal 1), “End hunger, achieve food security and improved nutrition and

promote sustainable agriculture” (Goal 2), “Ensure inclusive and equitable quality education and promote lifelong learning opportunities for all” (Goal 4), “Achieve gender equality and empower all women and girls” (Goal 5), “Ensure availability and sustainable management of water and sanitation for all” (Goal 6). In essence, all SDGs are interconnected; therefore, achieving goals related to SDG 3 is also dependant on achieving these other goals.

The Ministry of Health, Nutrition and Indigenous Medicine had several stakeholder meetings to identify suitable indicators which are practical and capable of achieving the SDG 3 targets. This process identified forty four indicators, preferred data sources and base line values to track achieving SDG 3 target of ensuring healthy lives and promote wellbeing for all at all ages. Out of the 44 indicators, 35 are on SDG 3 and the remain 9 indicators are on other non-health indicators but related to health.

There are 13 targets to be achieved in SDG3. They are:

Target 3.1	By 2030, reduce the maternal mortality ratio less than 70/100,000 live births
Target 3.2	By 2030, end preventable deaths of newborns and children under 5 years of age, with all countries aiming to reduce neonatal mortality to at least as low as 12 per 1000 live births and under 5 mortality to at least as low as 25 per 1000 live births
Target 3.3	By 2030, end the epidemics of AIDS, Tuberculosis, Malaria and Neglected Tropical diseases and combat hepatitis, water borne diseases and other communicable diseases
Target 3.4	By 2030, reduce by one third premature mortality from non-communicable diseases through prevention and treatment and promote mental health and well-being
Target 3.5	Strengthen the prevention and treatment of substance abuse, including narcotic drug abuse and harmful use of alcohol
Target 3.6	By 2020, halve the number of global deaths and injuries from road traffic accidents
Target 3.7	By 2030, ensure universal access to sexual and reproductive health care services, including for family planning, information and education, and the integration of reproductive health into national strategies and programmes
Target 3.8	Achieve Universal Health Coverage, including financial risk protection, access to quality essential health care services and access to safe, effective, quality and affordable essential medicines and vaccines for all
Target 3.9	By 2030, substantially reduce the number of deaths and illnesses from hazardous chemicals and air, water and soil pollution and contamination
Target 3.10	Strengthen the implementation of the WHO Framework convention on Tobacco control in all countries as appropriate
Target 3.11	Support the research and development of vaccines and medicines for the communicable and non-communicable diseases that primarily affect developing countries, provide access to affordable essential medicines and vaccines, in accordance with the Doha Declaration on the TRIPS Agreement and Public Health, which affirms the right of developing countries to use to the full the provisions in the Agreement on Trade- Related aspects of intellectual Property Rights regarding flexibilities to protect public health, and, in particular, provide access to medicines for all
Target 3.12	Substantially increase health financing and the recruitment, development, training, and retention of the health workforce in developing countries, especially in least developed countries and small island developing states
Target 3.13	Strengthen the capacity of all countries, developing countries, for early warning, risk reduction and management of national and global high risks

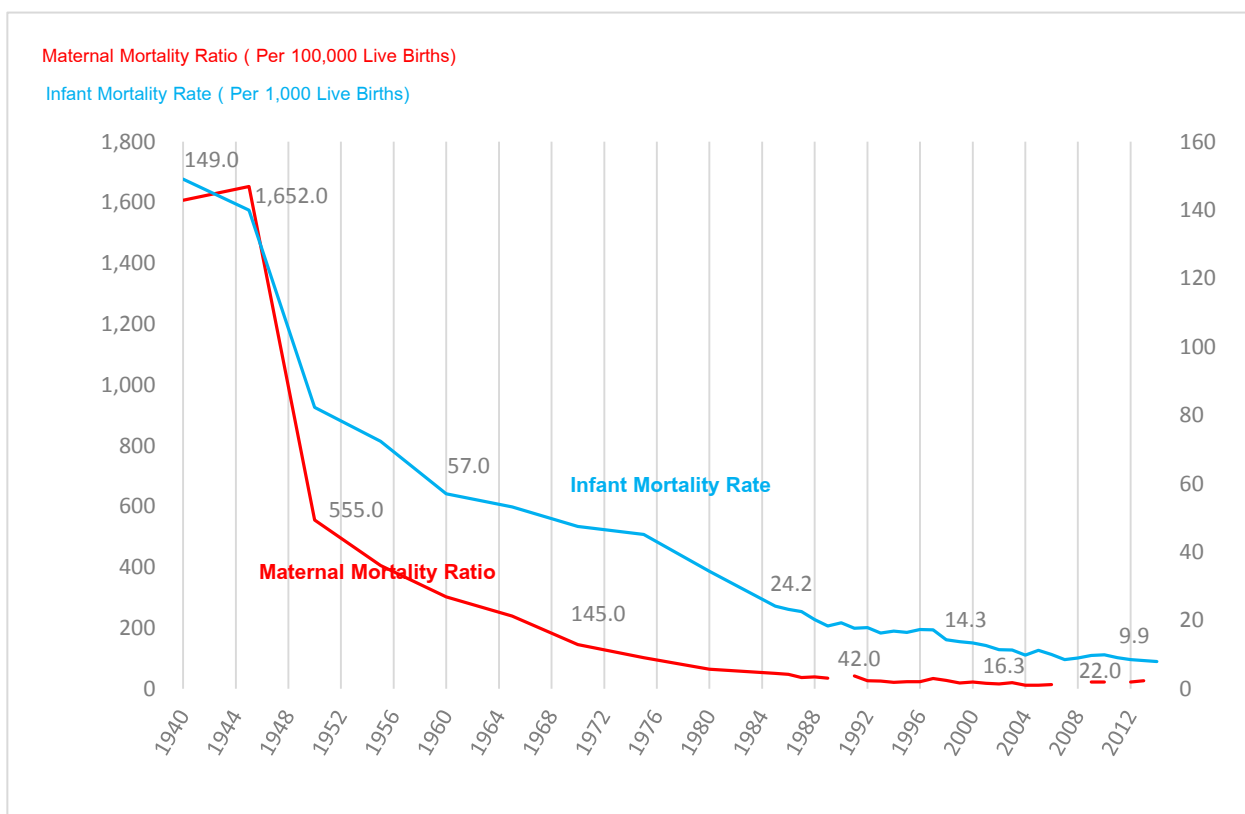
## 4. Reproductive, Maternal, New-born, Child Adolescent and Youth Health

### 4.1. Maternal and Child Health

#### 4.1.1. Maternal Mortality Ratio

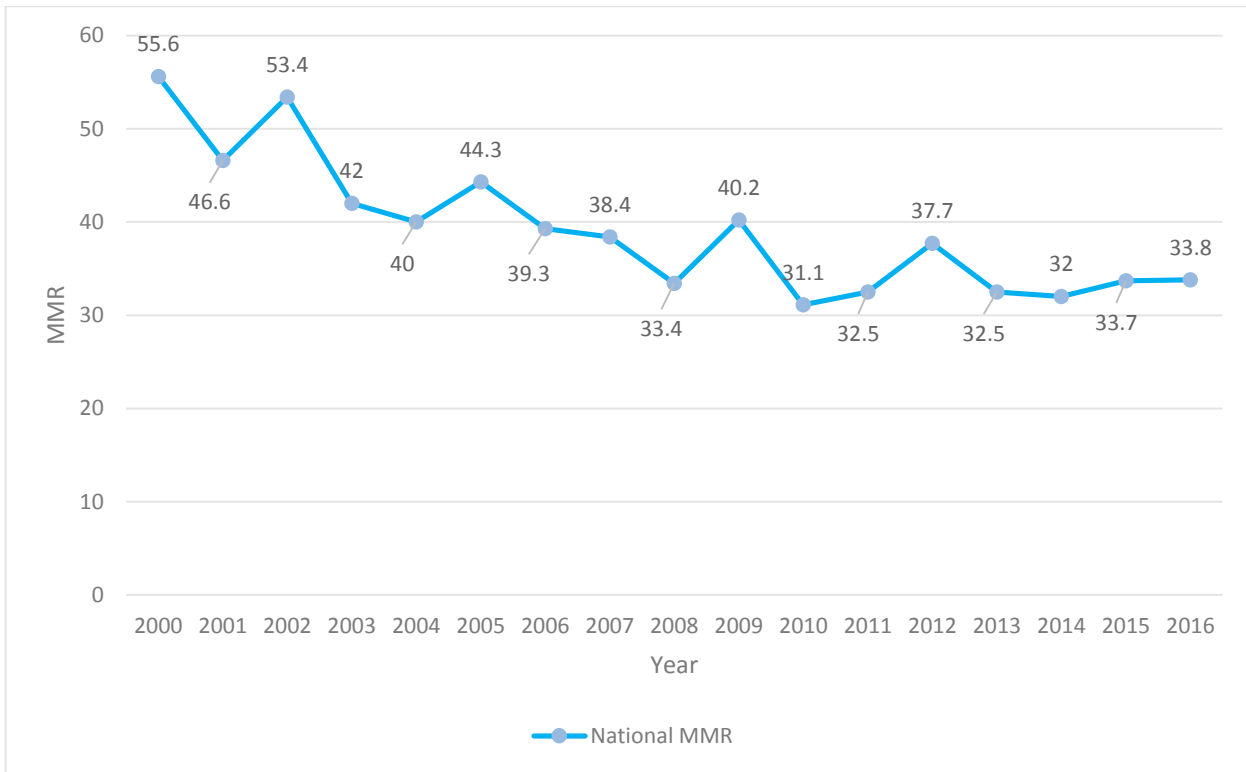
A maternal death is defined as the death of a woman while pregnant or within 42 days of termination of pregnancy, irrespective of the duration and site of the pregnancy, from any cause related to or aggravated by the pregnancy or its management but not from accidental or incidental causes.

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. According to Registrar General's Department MMR for the year 2014 is 25.7 per 100,000 live births (provisional).



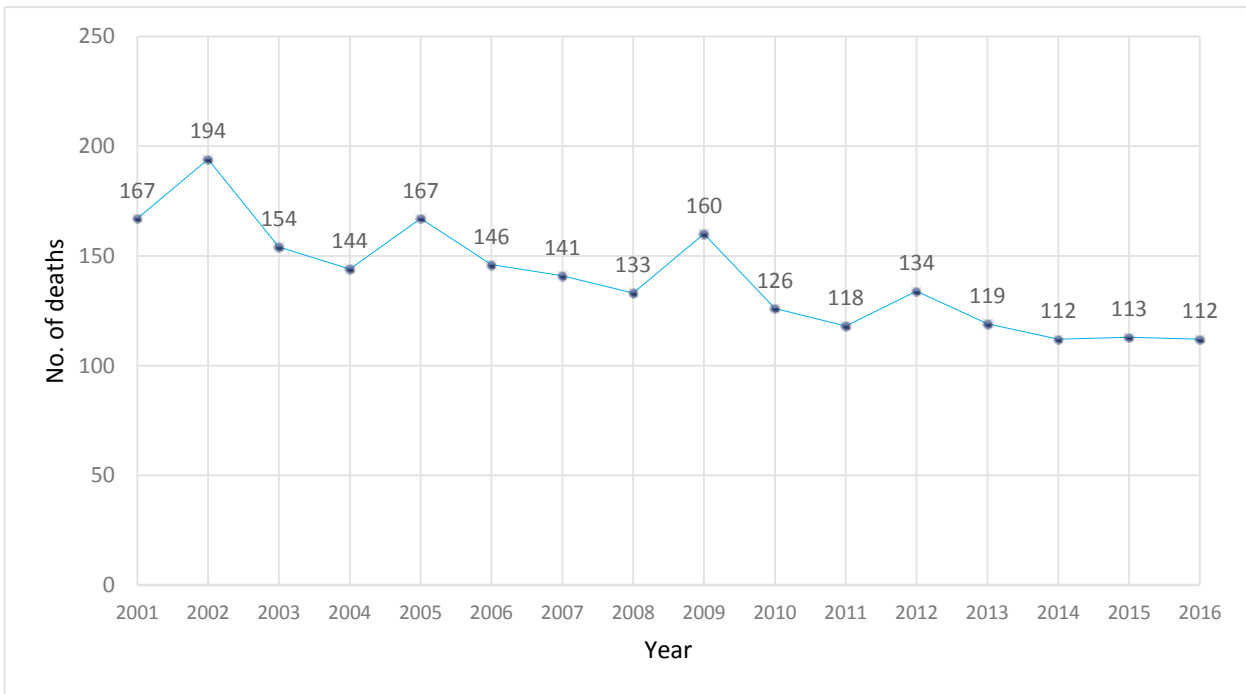
**Figure 4.1: Trends in Maternal and Infant Mortality Rates, 1940 – 2014**

Source: Medical Statistics Unit, Ministry of Health



**Figure 4.2: National MMR 2000 – 2016**

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



**Figure 4.3: Number of Maternal Deaths (2001 – 2016)**

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



Maternal Mortality Ratio is the number of maternal deaths (excluding accidental or incidental causes) per 100,000 live births for a specified year

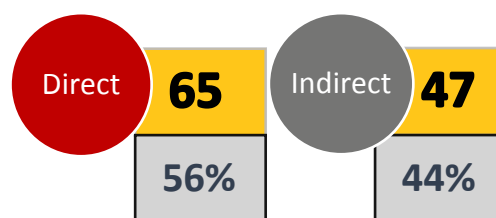


Figure 4.4 : Maternal deaths by categories

Family health Bureau is collected maternal mortality through the Maternal Death Surveillance and Response (MDSR) system. According to MDSR system MMR is 33.8 per 100,000 registered live births (provisional) for the year 2016

According to RHMIS of the Family Health Bureau, in 2016 there were 112 maternal deaths in the country.

Out of 112 deaths 65 (56%) were due to direct causes whereas 47 (44%) were due to indirect causes.

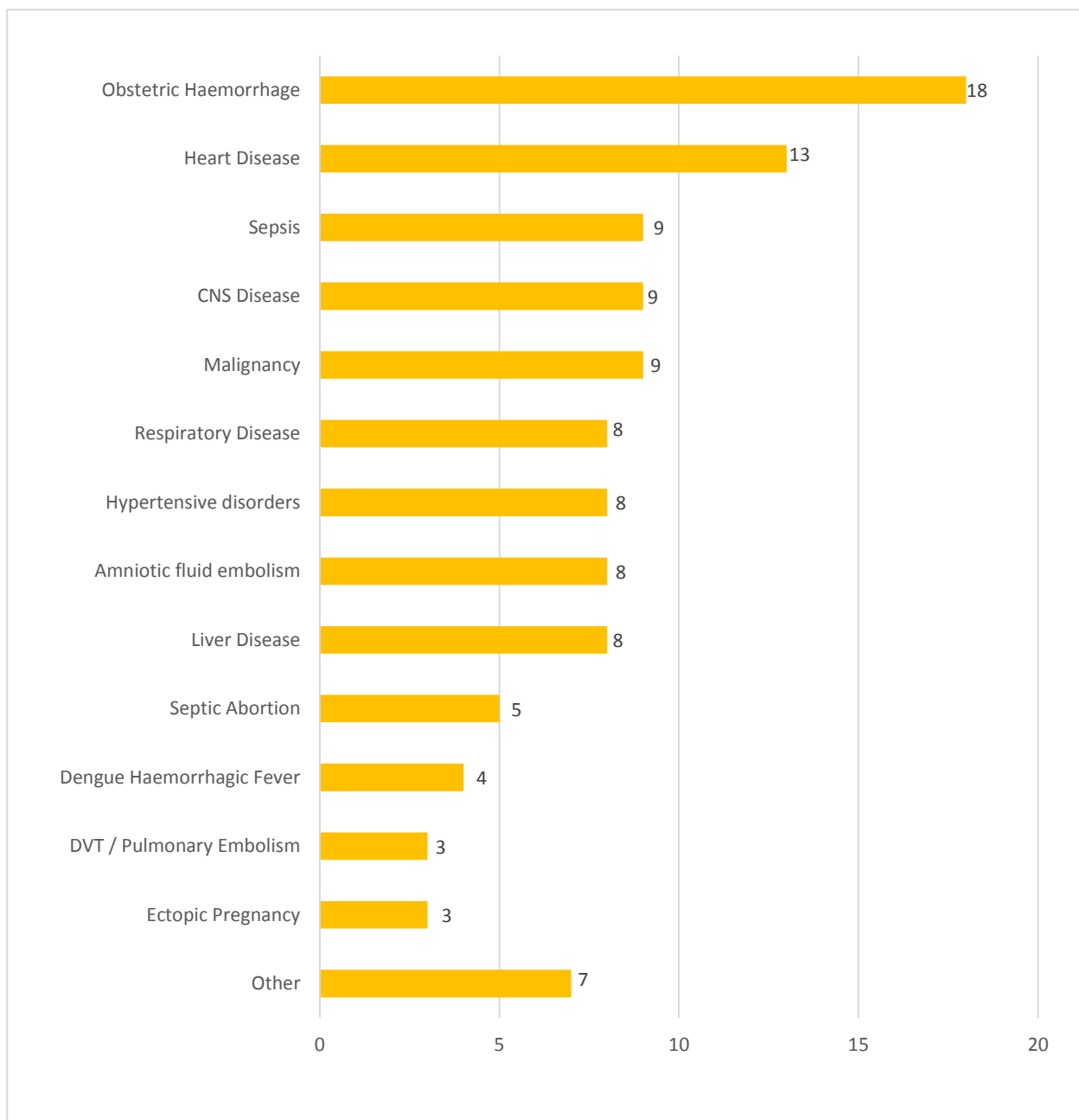
Figure 4.5 shows the leading causes of maternal deaths in 2016. According to the figure, Obstetric Haemorrhages and Heart disease complicating pregnancy account to highest number of maternal deaths.

*Maternal mortality ratio remains static over the past few years*

*Most of the deaths are due to Obstetric Haemorrhages and heart disease complicating pregnancy*

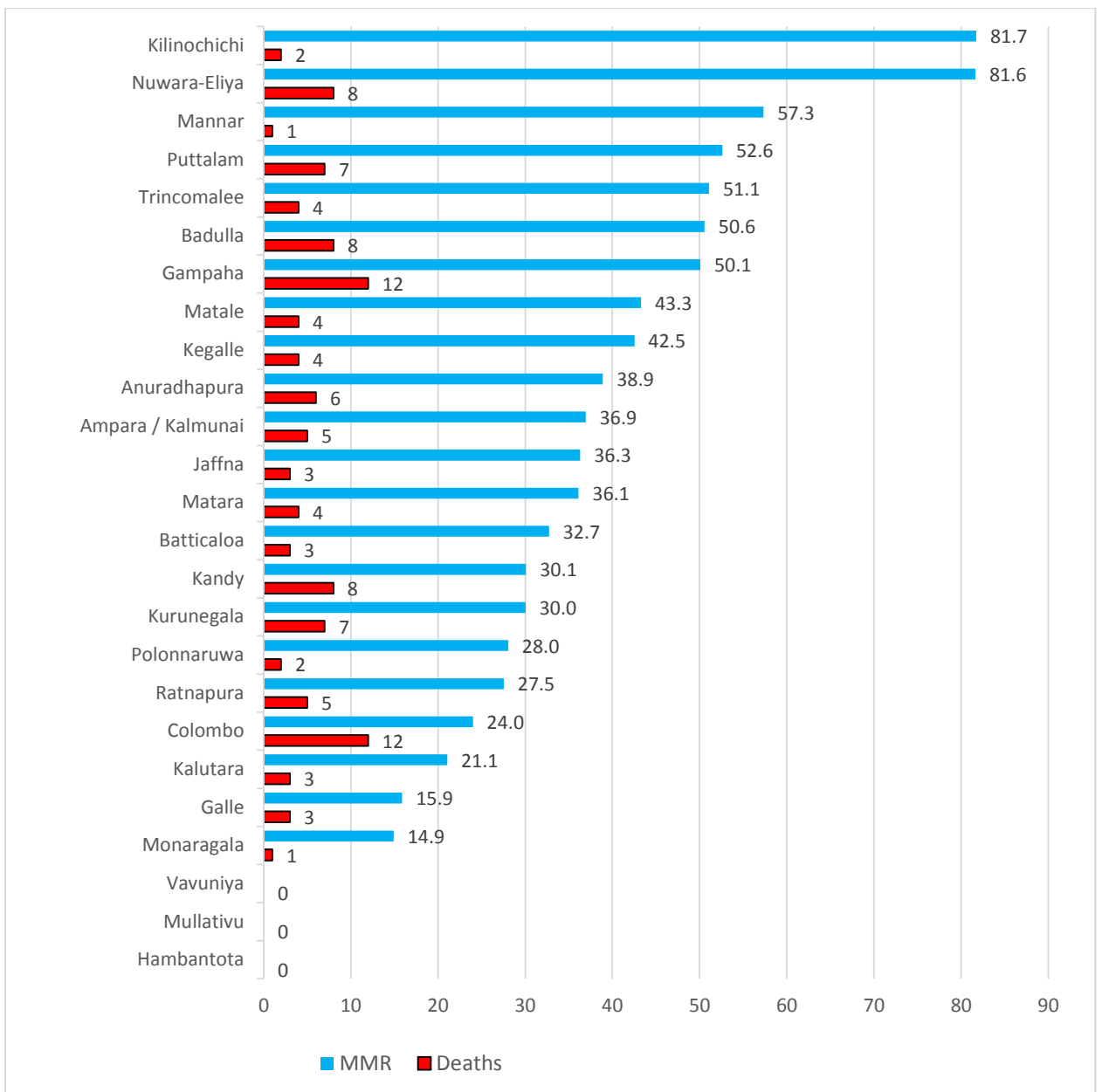
**Direct maternal deaths** -Deaths resulting from obstetric complications of the pregnant state (pregnancy, labour and puerperium), from interventions, omissions, incorrect treatment or from a chain of events resulting from any of the above.

**Indirect maternal deaths** -Deaths resulting from previous existing disease or disease that developed during pregnancy and not due to direct obstetric causes but aggravated by the physiologic effects of pregnancy.



**Figure 4.5: Leading causes of maternal deaths in 2016**

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



**Figure 4.6: MMRs and maternal deaths by district**

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

***Kilinochchi and Nuwaraeliya districts had the highest maternal mortality ratio***

### 4.1.2. Still Birth Rate

During 2016, a total of 303,593 live births and 1,823 still births took place in government hospitals (Annexure 01: Detailed Table 40). This was a decrease of 4.7% in still births when compared with 2015. According to the Medical Statistics Unit, still birth rate in the state sector hospitals of Sri Lanka was reported to be 6.0 per 1000 (total births occurred in government hospitals) in 2016. The highest still birth rate was reported from hospitals in NuwaraEliya district, and it was 11.5, which is close to twice the national figure. This may be due to the fact that, NuwaraEliya district is different from other districts in climate, sector distribution and many other demographic and socio-economic factors. The lowest still birth rate was from Trincomalee which was 2.8.

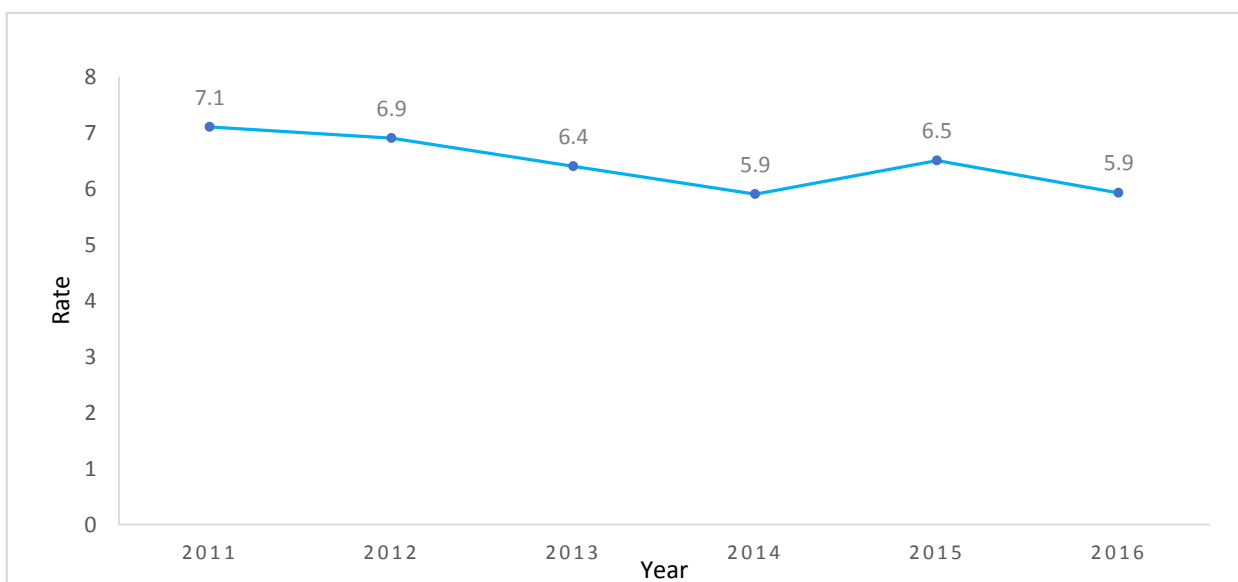
According to RHMIS, still birth rates have been falling over the years.

In order to reduce the still birth rate from 6.4/1000 (births reported from RHMIS system) in 2013 to 3.5/1000 total births by the end of 2025, as given in *Every New-born Action Plan* (WHO 2014), a still birth rate of 4.5/1000 total births by 2020 must be achieved. Given that the still birth rate showed an annual decline of 4.6% for the period of 2007 – 2013 (SLENAP, 2017), it appears that the country was on course to achieve the goals for stillbirths.

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***The highest still birth rate was reported from NuwaraEliya district, which was about twice the national figure***

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**Figure 4.7: Still Birth Rate**

Source: RHMIS 2016, Family Health Bureau

### 4.1.3. Neonatal Mortality Rate

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.

Early Neonatal Death Rate (ENDR) was compared globally as an important indicator in *Every New Born Action Plan* (ENAP). ENDR for 2016, reported by RHMIS, was 4.4 per 1000 Live Births (Figure 4.8).

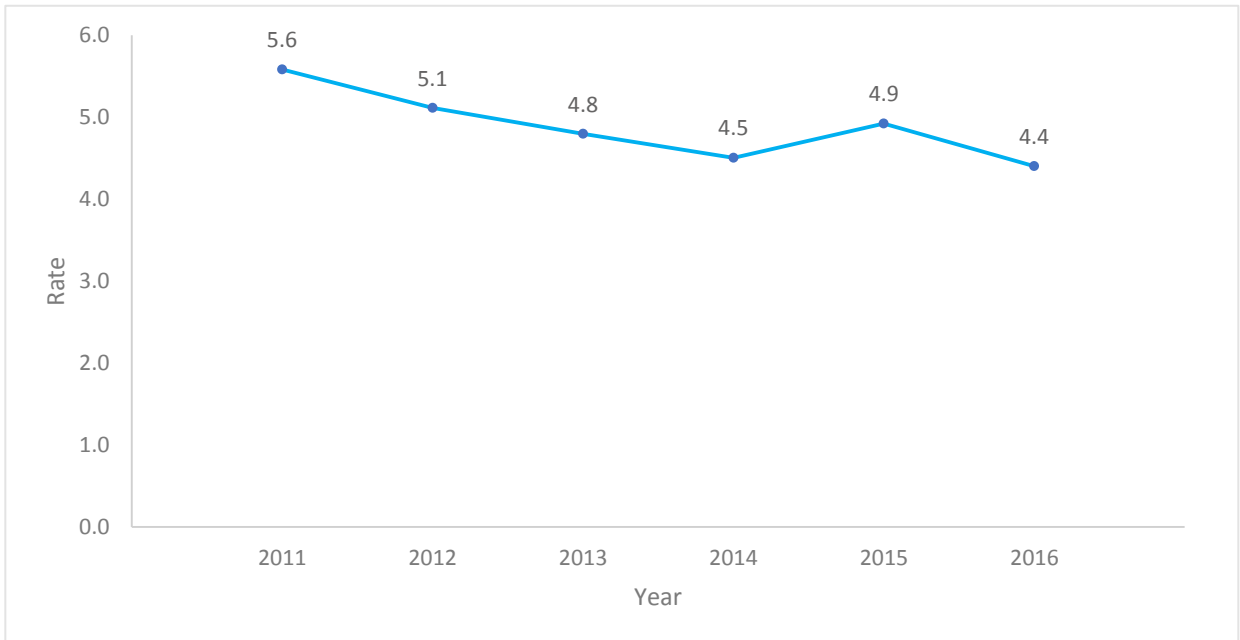
Foeto- infant mortality surveillance by FHB collects individual data by each case and analyse in detail. Surveillance data for 2015 indicate ENDR of 4.8 where as RHMIS system for same year has reported 4.9. These indicators need to be compared with data from civil registration system.

Due to a strong clinical focus, the neonatal mortality rate (NNMR) has steadily decreased over the last 5 years.

According to the Registrar General's Department, the NNMR rate recorded for 2015 was 6.0(Provisional) per 1,000 live births. The Neonatal Mortality Rate for the year 2015 (provisional) produced by the Registrar General's Department by districts are given in annexure 01 (Annexure 01: Detailed Table 4).

According to Demographic and Health Survey – 2016, Neo-natal Mortality Rate is 7 per 1,000 live births for the year 2016.

Neonatal 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

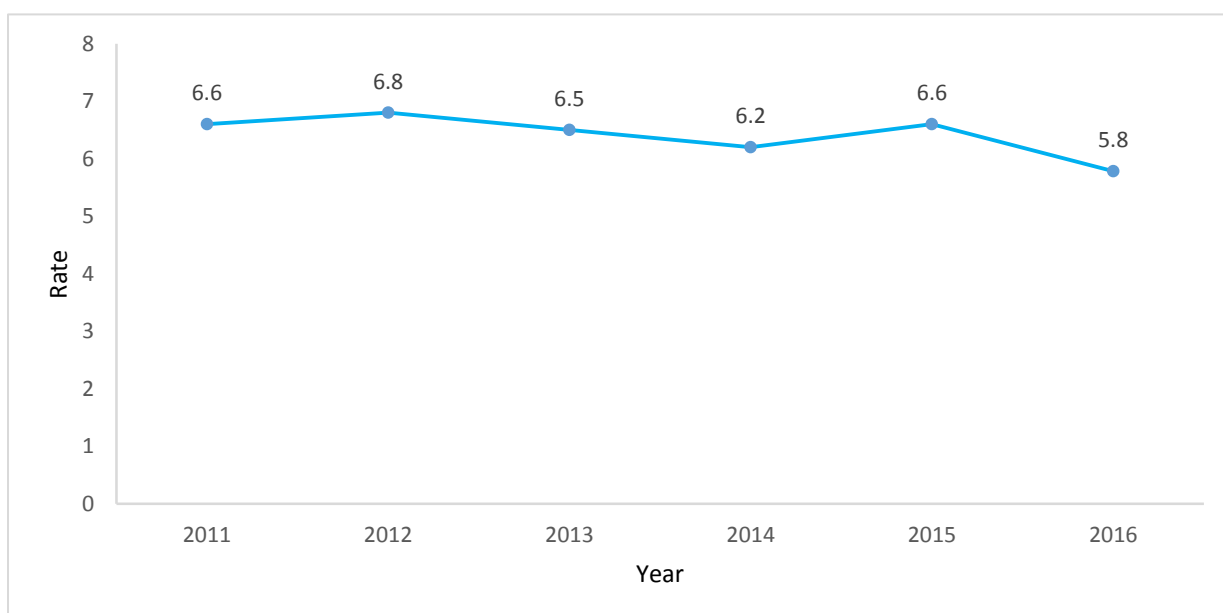


**Figure 4.8: Early Neonatal Mortality Rate**

Source: RHMIS 2016, Family Health Bureau

In order to achieve the target goal of Every Newborn Action Plan (WHO 2014) of a Neonatal Mortality Rate of 3.4/1000 Live Births by 2025 it is required for the country to reach a Neonatal Mortality Rate of 4.2/1000 Live Births by 2020. A Time series analysis of Neonatal Mortality Rates from 1996 – 2012 depict that the country can achieve the expected target if we continue to reduce the neonatal mortality with the same rate of reduction as shown from (1996-2012).

To achieve the targets set for 2030 for, Neonatal Mortality Rates, and Still Birth Rates, priority packages of interventions have been identified to strengthen care during labour and child birth, essential newborn care, care of the sick and small newborn and care beyond newborn survival.



**Figure 4.9: Neonatal Mortality Rate**

Source: RHMIS 2016, Family Health Bureau

**Table 4-1: Epidemiology of Perinatal Deaths in 2015 as reported from the Foeto -infant Morbidity and Mortality Surveillance**

	Specialized hospitals	Non-specialized / peripheral hospitals	Private hospitals	Hospitals of Forces	Number/ Non-weighted rate
<b>No. of Hospitals</b>	81	494	11	4	590
<b>Live births</b>	303705	8760	9129	413	322,007
<b>Stillbirths</b>	1694	9	22	3	1,728
<b>Total births</b>	305399	8769	9151	416	323,735
<b>ENND</b>	1540	1	14	Nil	1,555
<b>PND</b>	3234	10	36	3	3,283
<b>Stillbirth rate</b>	5.5	1.0	2.4	7.2	5.3
<b>ENNMR</b>	5.0	0.1	1.5	Nil	4.8
<b>PNMR</b>	10.5	1.1	3.9	7.2	10.1

- ENND – Early Neonatal Deaths
- PND – Perinatal Deaths
- ENNMR – Early Neonatal Mortality Rate
- PNMR – Perinatal Mortality Rate

*Source: Foeto -infant Morbidity and Mortality Surveillance System, Maternal & Child Morbidity & Mortality Surveillance Unit - Family Health Bureau*

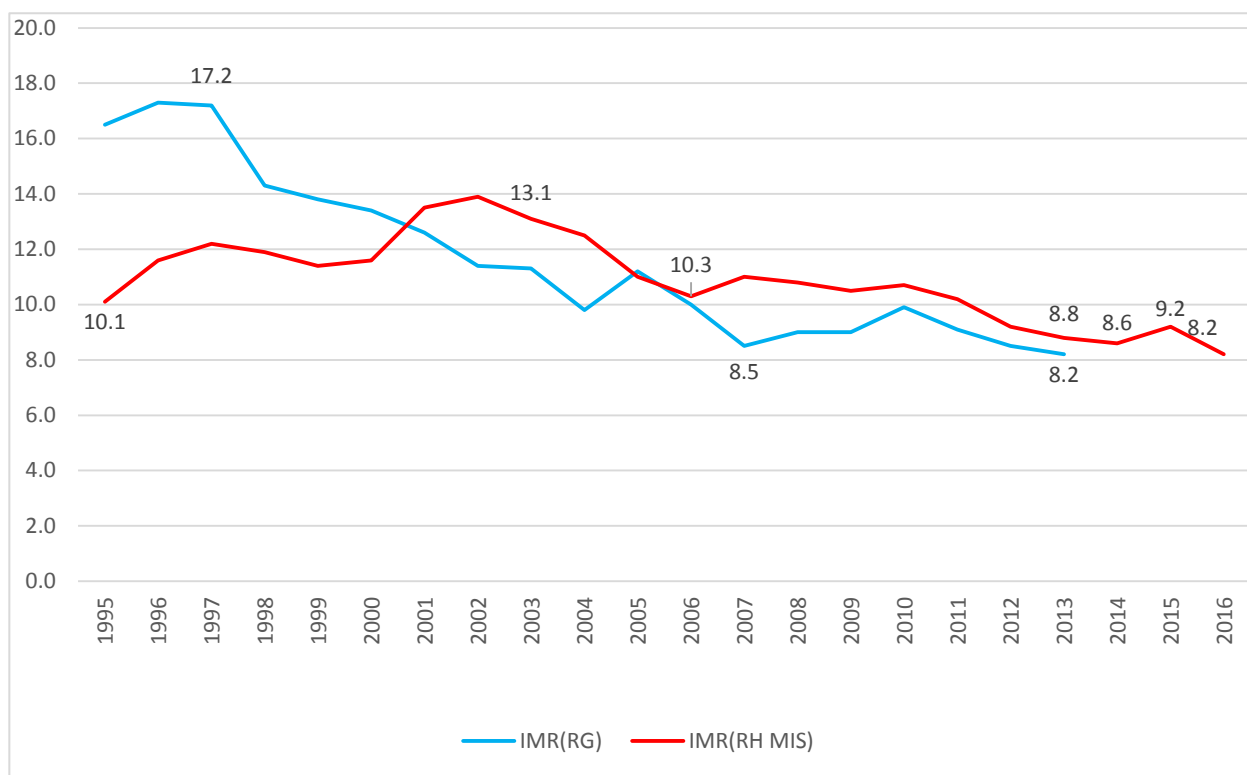
#### 4.1.4. Infant Mortality Rate

The IMR for the year 2015 (provisional) produced by the Registrar General's Department by districts are given in Detailed Table 4 (Annexure 1). IMR for the year 2015 is 8.5 per 1,000 registered live births. According to Demographic and Health Survey – 2016 Infant Mortality Rate is 10 per 1,000 live births for the year 2016.

Infant Mortality Rates of Sri Lanka have reduced to the level of many high-income countries.

In 2016, 2,545 infant deaths have been reported with an Infant Mortality Rate (IMR) of 8.2 for 1000 live births from routine RHMIS.

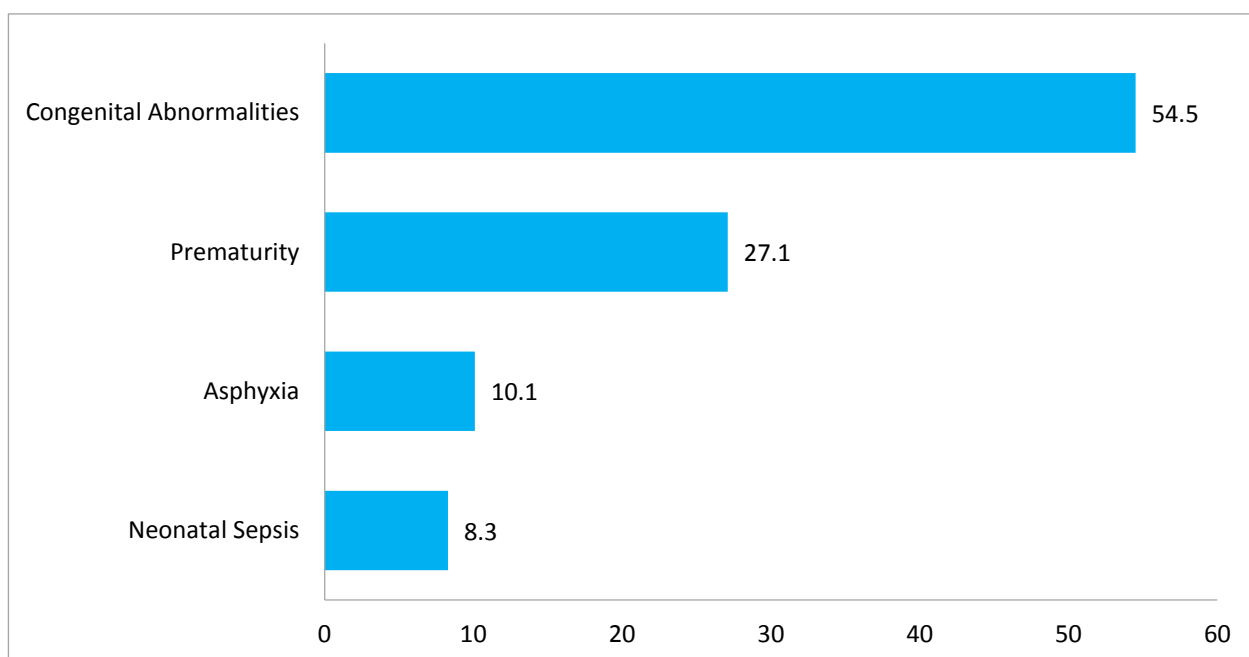
Out of infant deaths, 55% were due to non-preventable congenital abnormalities, while nearly 45% were due to preventable causes: prematurity, asphyxia and neonatal sepsis. Out of total infant deaths, 1793 (70.5%) were due to neonatal deaths. Out of neonatal deaths, 1353 (75%) were early neonatal deaths.



**Figure 4.10: Comparison of trends in National IMRs determined from RH – MIS and Registrar General's Department**

Source: RHMIS 2016, Family Health Bureau





**Figure 4.11 : Percentage distribution of cause of infant deaths 2016**

*Source: RHMIS 2016, Family Health Bureau*

#### 4.1.5. Under Five Mortality Rate

Latest information on under-five mortality published by the Registrar General's Department is given in Table 4.2 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 occurred in end of the year 2004. According to Demographic and Health Survey – 2016 under-five mortality rate is 11 per 1000 live births.

The Child Mortality Rate (CMR) was 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 - 2016, Child Mortality Rate was 1 death per 1,000 children surviving to 12 months of age.

The Under Five Mortality Rate is the number of deaths of children less than 5 years old per 1,000 live births per year

According to Demographic and Health Survey – 2016

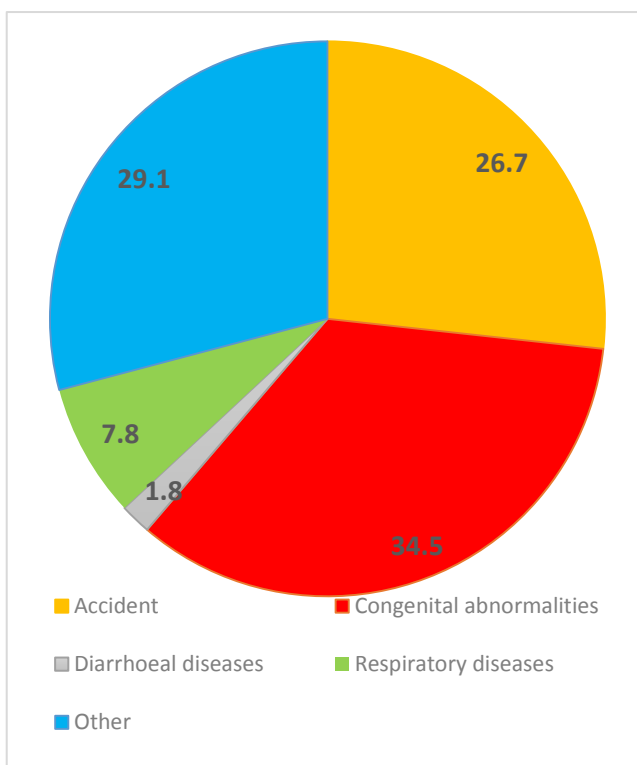
- Under Five Mortality Rate (U5MR) is 11 per 1000 live births
- Child Mortality Rate (CMR) was 1 death per 1,000 children surviving to 12 months of age

**Table 4-2: Under Five Mortality Rate per 1,000 Registered Live Births**

Year	Under Five Mortality Rate per 1,000 Live Births
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
2014*	9.4
2015*	10.1

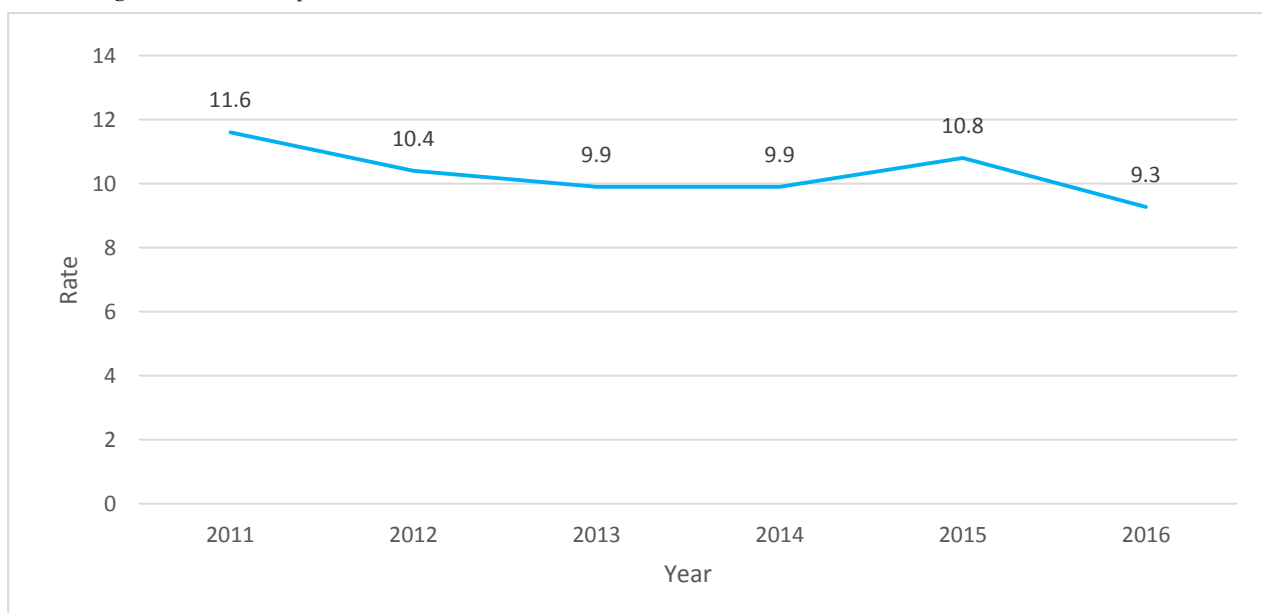
\*Provisional

Source: Registrar General Department



**Figure 4.12: Percentage distribution of cause of 1-5-year child deaths 2016**

Source: RHMIS 2016, Family Health Bureau



**Figure 4.13: Under five mortality rate per 1000 live births**

Source: RHMIS 2016, Family Health Bureau

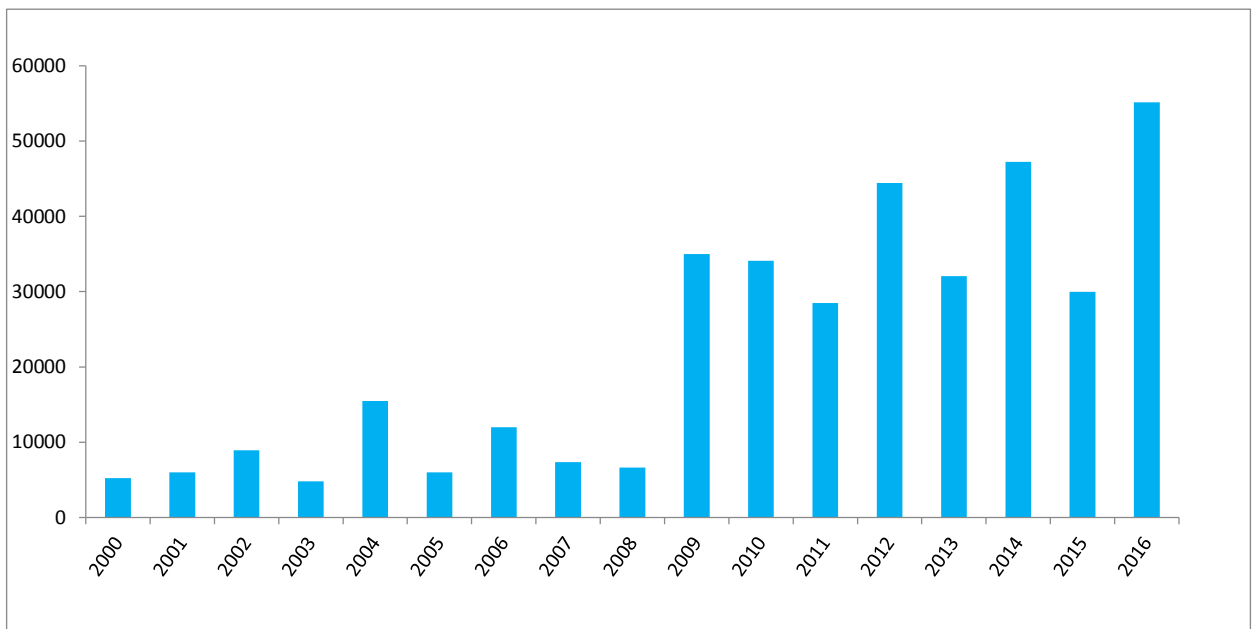
## 5. Infectious Diseases/ Communicable Diseases

### 5.1. Dengue Fever (DF) / Dengue Haemorrhagic Fever (DHF)

Dengue is the most important mosquito-borne viral disease at present worldwide, and an estimated 2.5 billion people are at risk of being infected in countries in the tropical and sub-tropical areas where it is a major public health problem and Sri Lanka is no exception. It is estimated by some studies that 390 million dengue infections occur per year globally, of which only 96 million are apparently manifested in any level of clinical or sub-clinical severity<sup>1</sup>. This estimation is more than three times the dengue burden calculated by the World Health Organization<sup>2</sup>.

Dengue has been recorded for more than a half-century in our country, mainly in urban and sub-urban areas. There has been a steady outward distribution into more rural areas since the major outbreak in 2009 and resetting of endemic level to about 35,000 cases recorded per year. Year 2015 showed a relatively low recording of just under 30,000 cases but 2016 proved to be otherwise.

At the end of 2016, a total of 55,150 cases were reported (See Figure 5.1 & 5.3), with an overall incidence of 262 per 100,000 population. There were 97 deaths at a Case Fatality Rate (CFR) of 0.17% (Figure 5.2).



**Figure 5.1: Annual Trend in Dengue Cases 2000 to 2016**

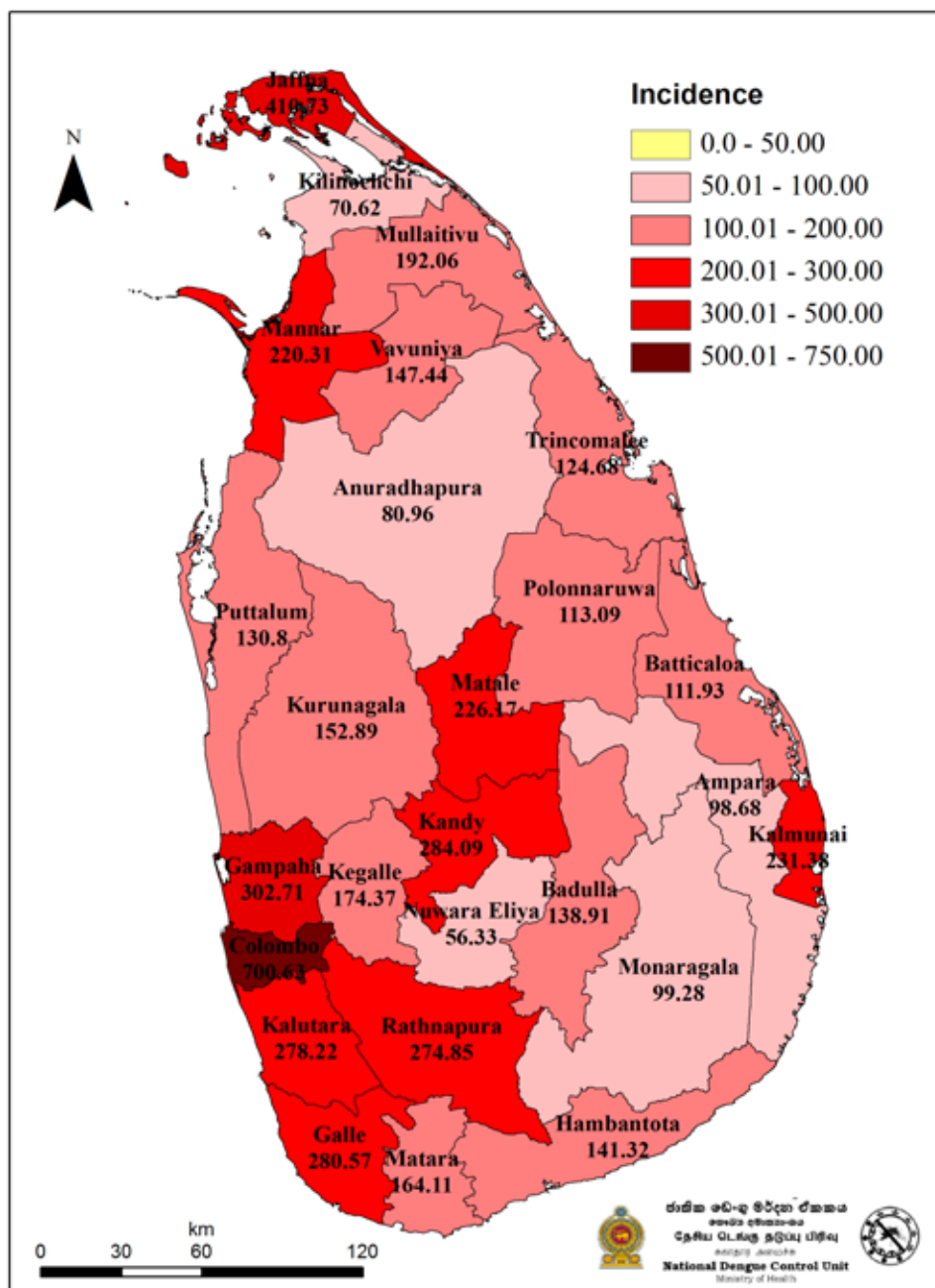
Source: Epidemiology Unit

<sup>1</sup> Bhatt S. (2013). The global distribution and burden of dengue. *Nature*.

<sup>2</sup> World Health Organization. Dengue: Guidelines for Diagnosis, Treatment, Prevention and Control.

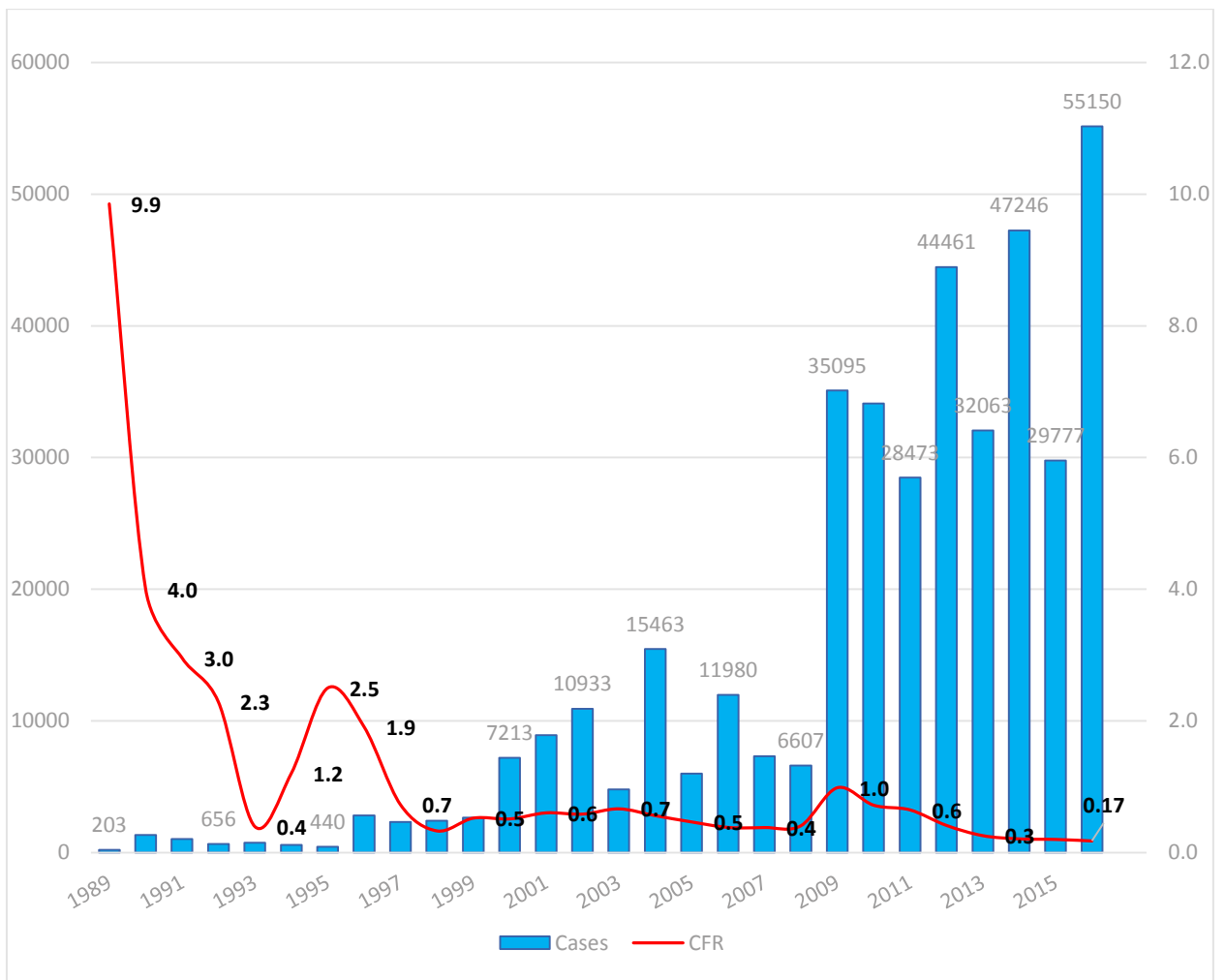
WHO/HTM/NTD/DEN/2009.1 (*World Health Organization, 2009*).

*At the end of 2016, a total of 55,150 cases were reported, with 97 deaths at a Case Fatality Rate (CFR) of 0.17%*



**Figure 5.2: Dengue incidence according to the districts of the country in 2016**

Source: National Dengue Control Unit (NDCU)



**Figure 5.3: Cases and Case Fatality Ratio (CFR)**

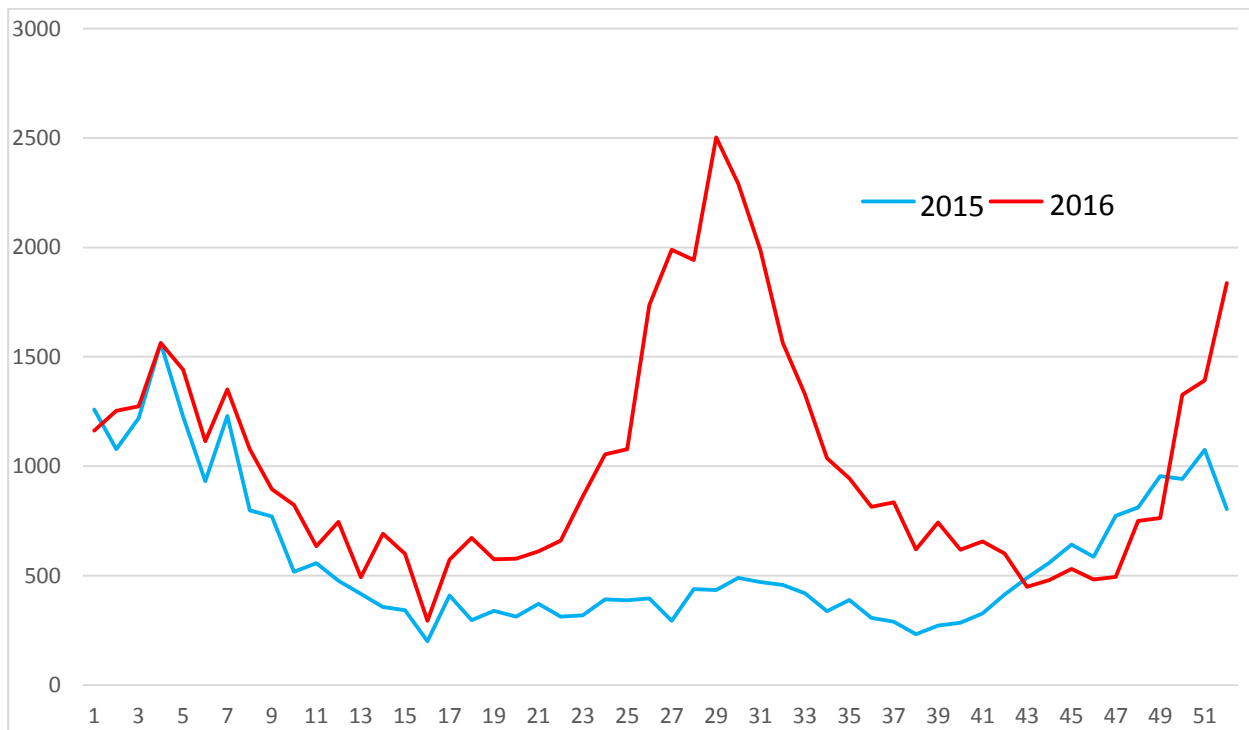
Source: NDCU

**Case Fatality Rate (Ratio) (CFR)** is a measure of the severity of a disease and is defined as the proportion of reported cases of a specified disease or condition which are fatal within a specified time. Dengue CFR 0.17% in 2016 means for every 1,000 cases there were less than 2 deaths. Incidentally, CFR for Dengue was highest in 1989 (9.9%) and in 1997 (4.9%). More recently, in the 2009 outbreak, CFR was 1.0% and thereafter, there is a steady decline in deaths with improved clinical management and capacity building of health-care institutions. CFR is conventionally expressed as a percentage

Weekly reporting of dengue cases during 2016 showed the seasonal pattern related to the 2

monsoon periods. (See Figure 5.4). The high case reporting in the middle of the year (May-July) is attributed to the Southwest monsoon rains. However, a major flood situation was also experienced in densely populated Colombo suburbs and other parts of the Western province during this period. Similar seasonality

pattern was seen during last five years. The first peak from the 23<sup>rd</sup> to 37<sup>th</sup> weeks correlates with the South West monsoonal rain mainly in the wet zone of the country while the 2<sup>nd</sup> peak from 35<sup>th</sup> to 50<sup>th</sup> week correspond with the North Eastern monsoonal rain and dry zone of the country (Figure 5.5).



**Figure 5.4: Weekly reporting of cases in 2016 indicating seasonality**

Source: Epidemiology Unit

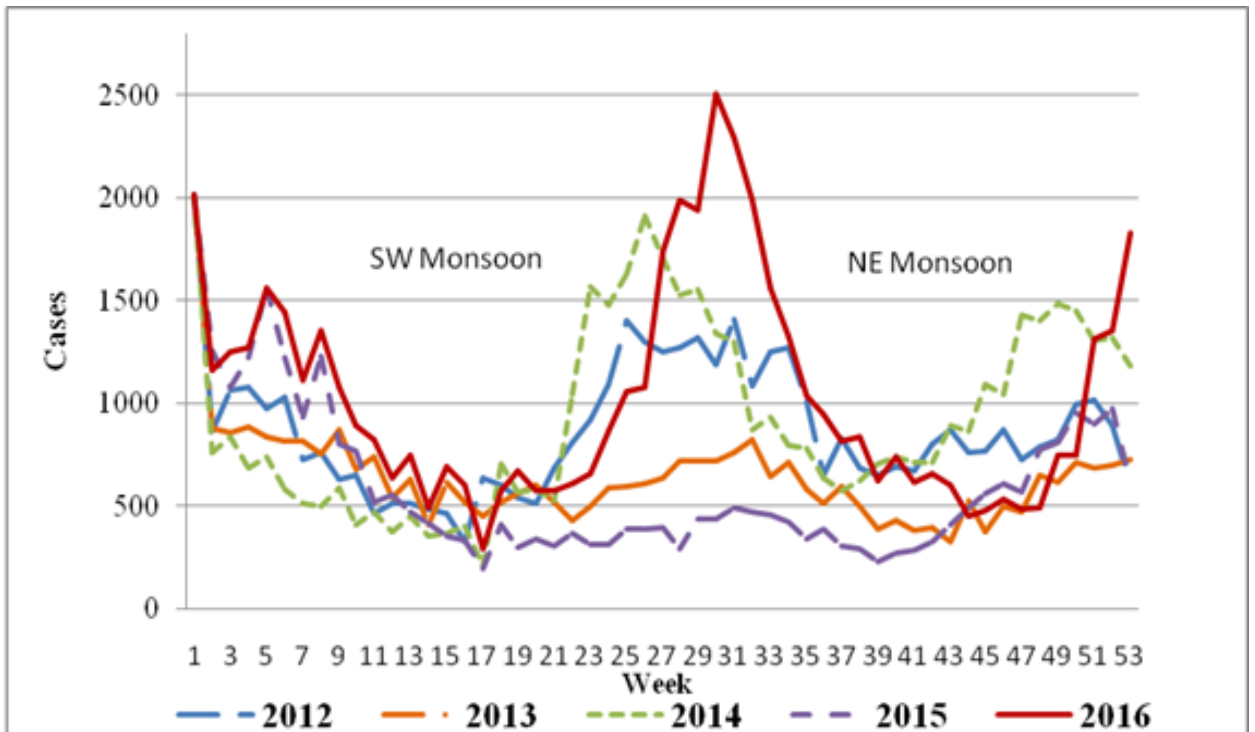


Figure 5.5: Weekly reporting of cases over the past five years indicating the seasonality

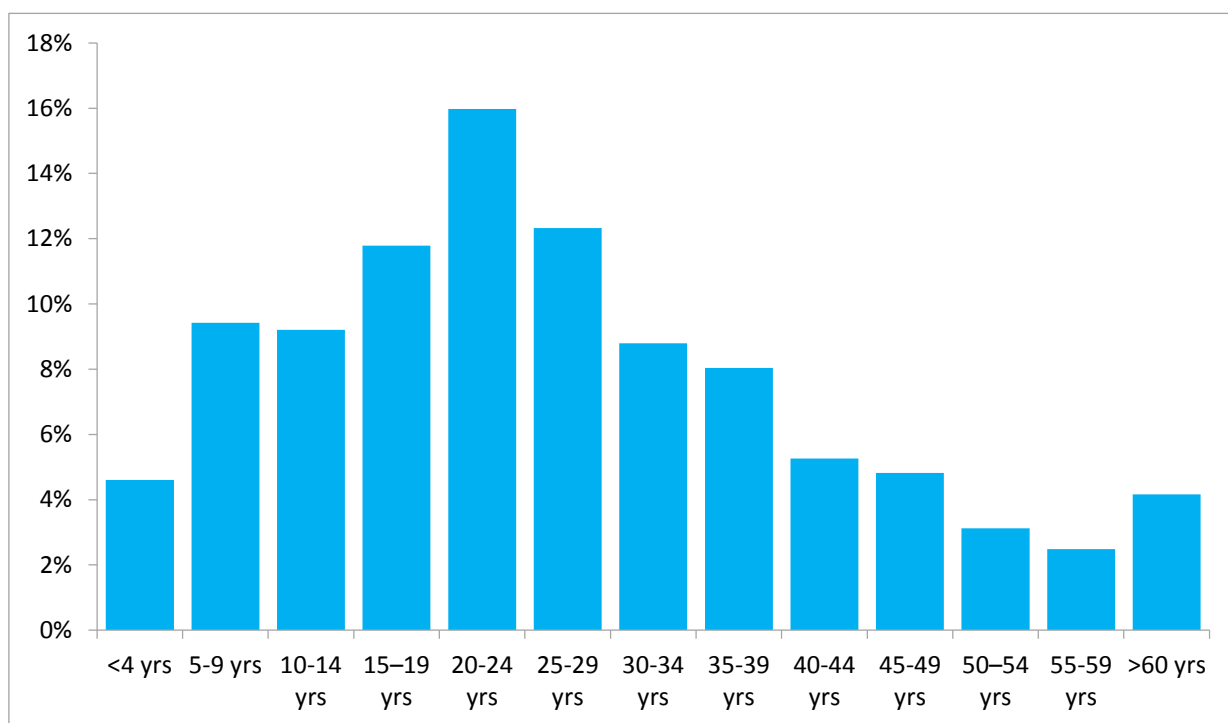
Source: NDCU

The overall age distribution of dengue patients in 2016 showed a modal age in the 20-24-year-old group (See Figure 5.6) indicating that dengue is now prevalent among adults as much as children where dengue was predominantly seen among children at the turn of the century. It is noteworthy that over 30% of the reported patients were in the school-going age (between 5-19 years).

Out of the total hospitalized dengue patients in 2016, the majority of cases (86.5%) had the

Dengue Fever (DF), while 13.5% were diagnosed with the more severe Dengue Haemorrhagic Fever (DHF) and life-threatening Dengue Shock Syndrome (DSS).

During the year 2016, the Department of Virology at Medical Research Institute (MRI) Colombo has tested blood samples of 1,593 patients from all over the country using IgM capture ELISA test, out of which 652 (41 %) samples were found to be serologically positive for dengue.



**Figure 5.6: Age Distribution as a percentage of the total cases in 2016**

Source: Epidemiology Unit

Dengue is now prevalent among adults as much as children whereas dengue was predominantly seen among children at the turn of the century

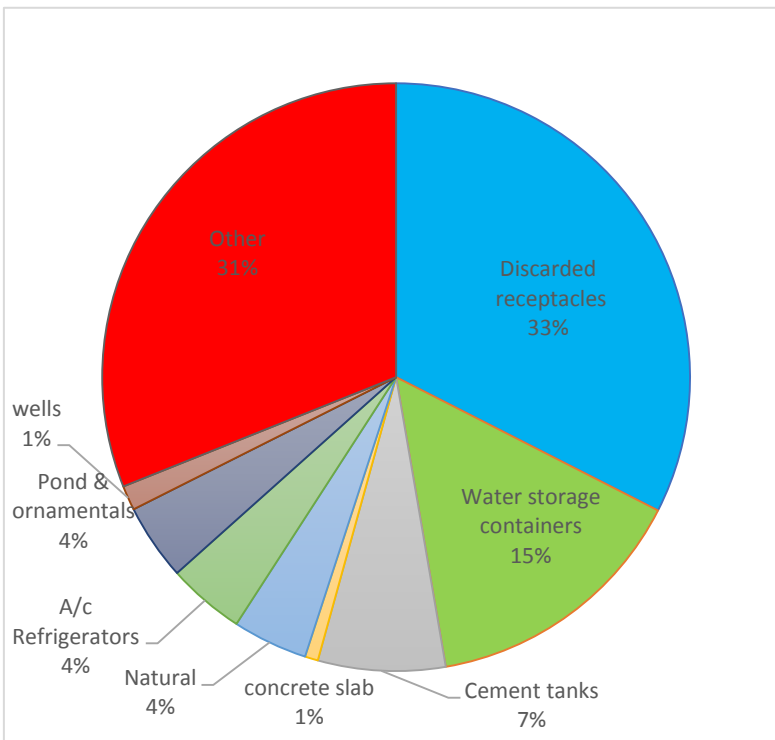


## Integrated Vector Management (IVM)

### Entomological surveillance

Entomological surveillance for Dengue is carried out under the preview of National Dengue Control Unit by national and sub national teams. 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 2016 a total of 224,596 premises were inspected through central level campaigns, where *Aedes* larvae were found positive in 15,352(6.82%) premises. The types of containers are illustrated in Figure 5.7.



**Figure 5.7 : Summary of Vector breeding sites (2016)**

*Source: Island wide entomological surveillance data, NDCU*

### Vector Control

Vector control activities including source reduction (elimination of breeding places), biological and chemical vector control 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 were carried out on a high-risk approach based on epidemiological and entomological parameters. Facilitating district and divisional level vector management staff to perform optimally to control dengue vectors by providing training, equipment, chemicals, technical guidance and other resources.

Figure 5.7 shows the summary of breeding places according to the island wide entomological surveillance data throughout the year. Majority (33%) accounts for discarded receptacles, 21% for water storage containers such as cement tanks, barrels, buckets etc. and 4 % each have contributed as ponds or ornamentals, air conditioners or refrigerators (trays) and natural places. Other breeding places category (31%) represents collective percentages for tyres, roof/rain gutters, tube wells, earth pipes, water meters and all the other miscellaneous places.

***Key messages and Recommendations:***

- Dengue cases showed a rising trend, associated with urbanization and physical development. Vector indices show majority of vector mosquito breeding occurs in discarded receptacles. Continuous public awareness on elimination of breeding places, keeping their own premises/school/work places/etc. as dengue mosquito breeding free and implementing feasible sustainable waste management policies are highly recommended, especially before monsoonal rains in high transmission risk areas.
- CFR was low due to effective training of health staff in the curative sector with facilitation of health institutions for patient management. For early diagnosis, timely treatment seeking behavior and prompt laboratory investigations of suspected individuals are recommended.
- Facilitation of preventive sector on vector control by the public health authorities with multi sectorial approach for timely interventions is recommended. Scaling up of solid waste management in high risk areas is essential with special emphasis on non-degradable container removal.

*Content source: Epidemiology Unit and National Dengue Control Unit*

## 5.2. Tuberculosis

### Introduction

Tuberculosis (TB) continues as a public health problem in the country and the estimated incidence in 2016, was 65/ 100,000 population. Around 9,000 cases are reported every year and the ratio for new pulmonary to new EPTB was 2.5 in 2016.

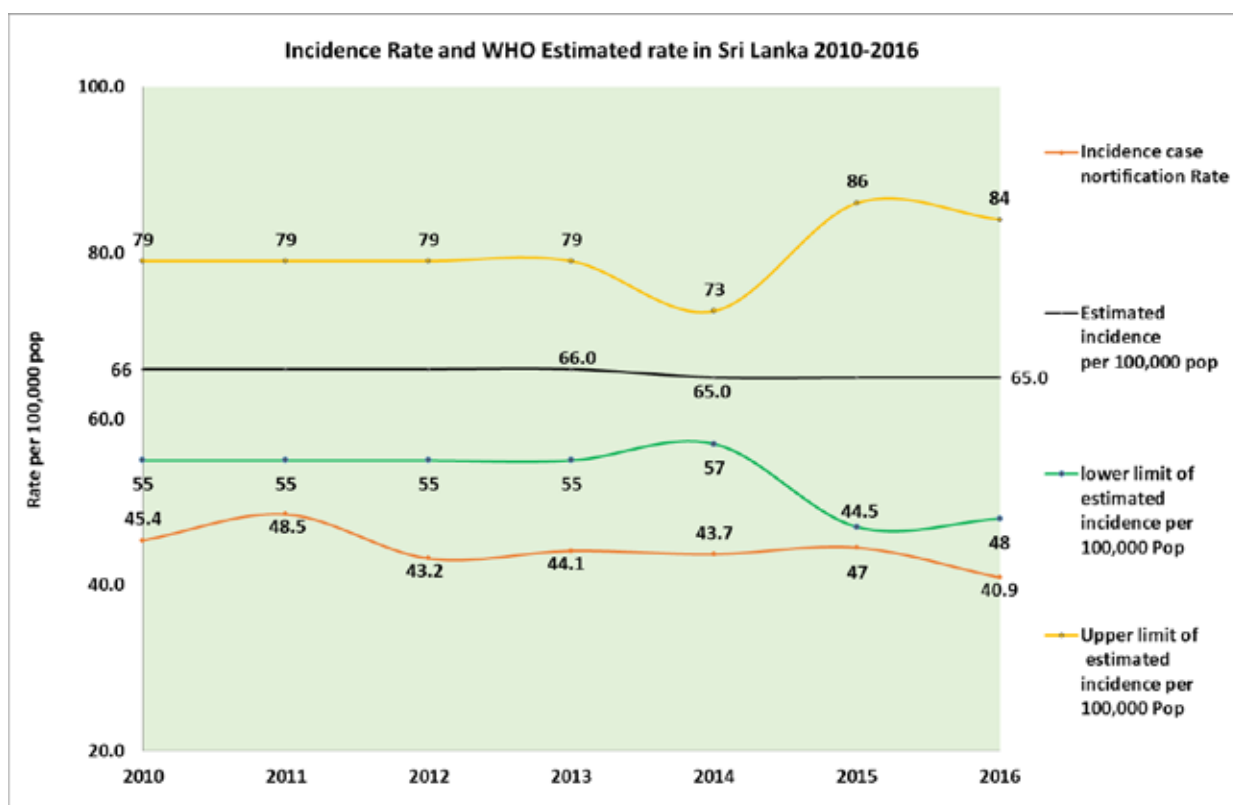
There were 17 newly diagnosed Multi Drug Resistant TB (MDR) patients in the country in 2016 and the number of new HIV cases detected among the TB patients screened at DCCS is 5.

In 2016, 8,332 new and relapse cases (40.9/100 000 population) were notified to the National Programme and there was a gap around 4000 cases between number notified and the estimated.

The observed inadequacies were

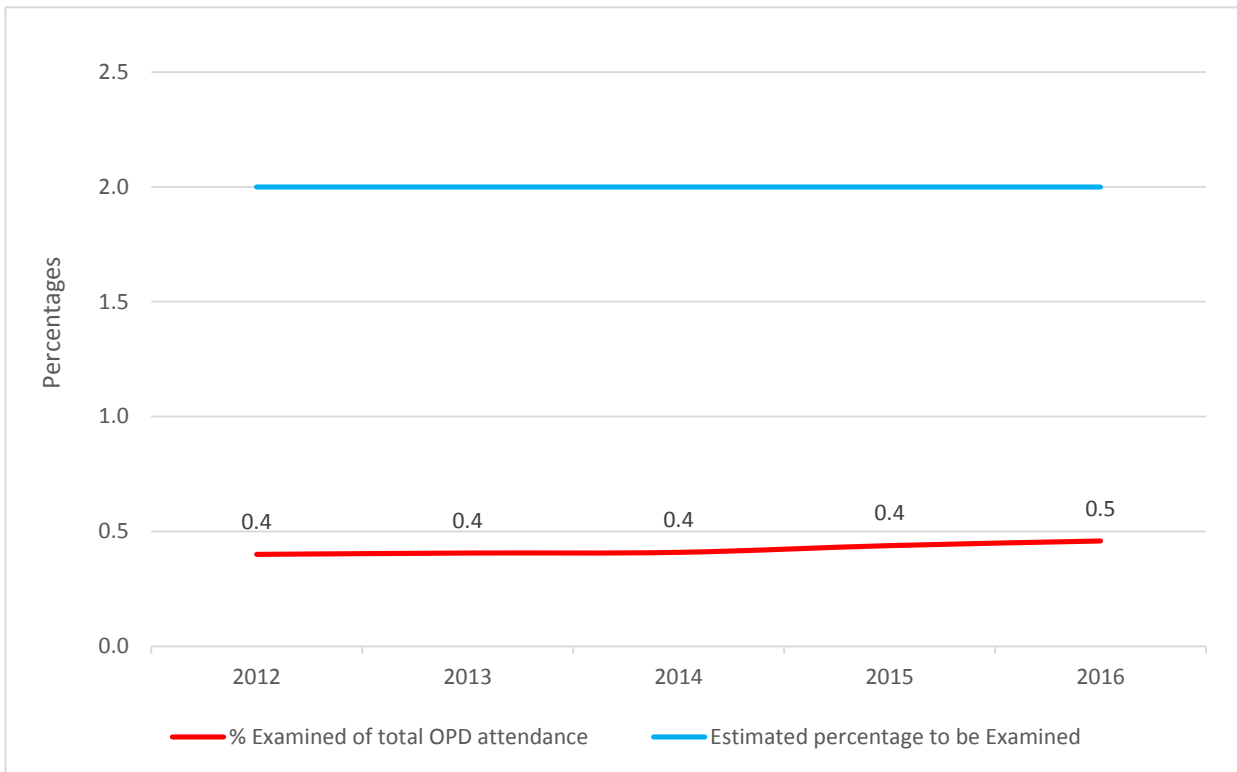
- Less referrals from primary health care settings for sputum investigations
- Inadequate investigation of contacts

Treatment success rate for 9,575 patients started treatment in 2015 was 84.1%. Clinical practice has shown late presentation and comorbid factors as main reasons for deaths.



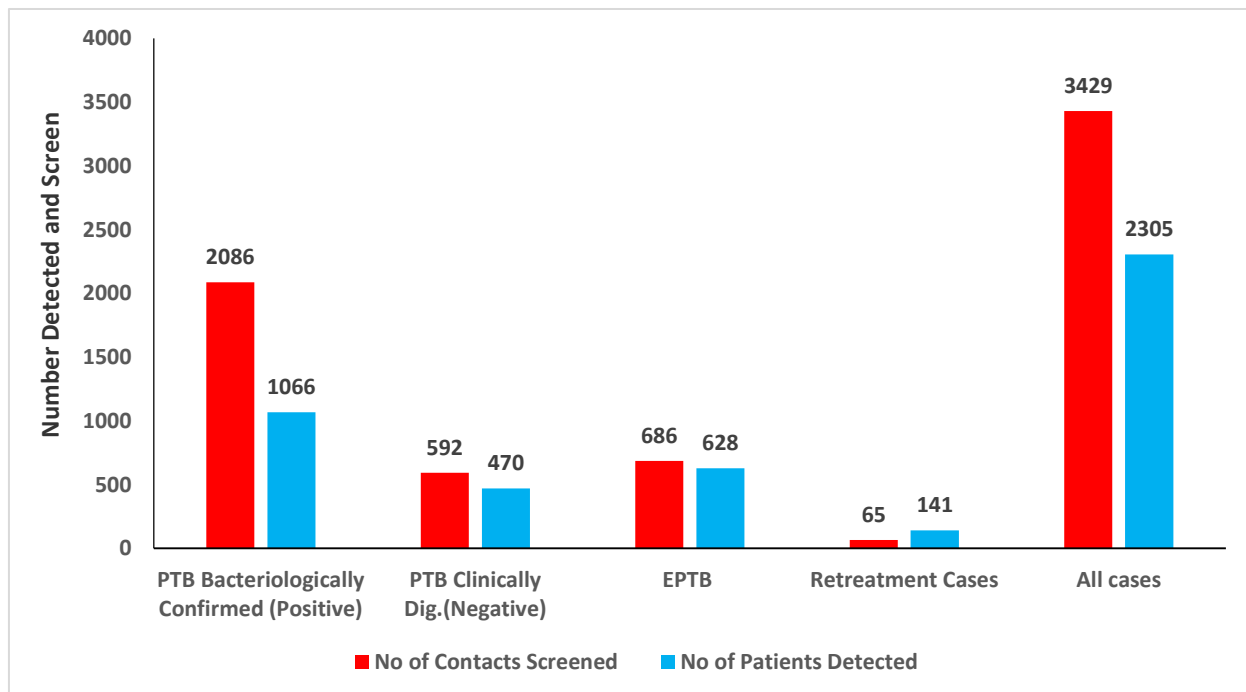
**Figure 5.8 : Gap between the estimated TB cases (new & relapse) and notified case**

Source: National Programme for Tuberculosis Control & Chest Diseases



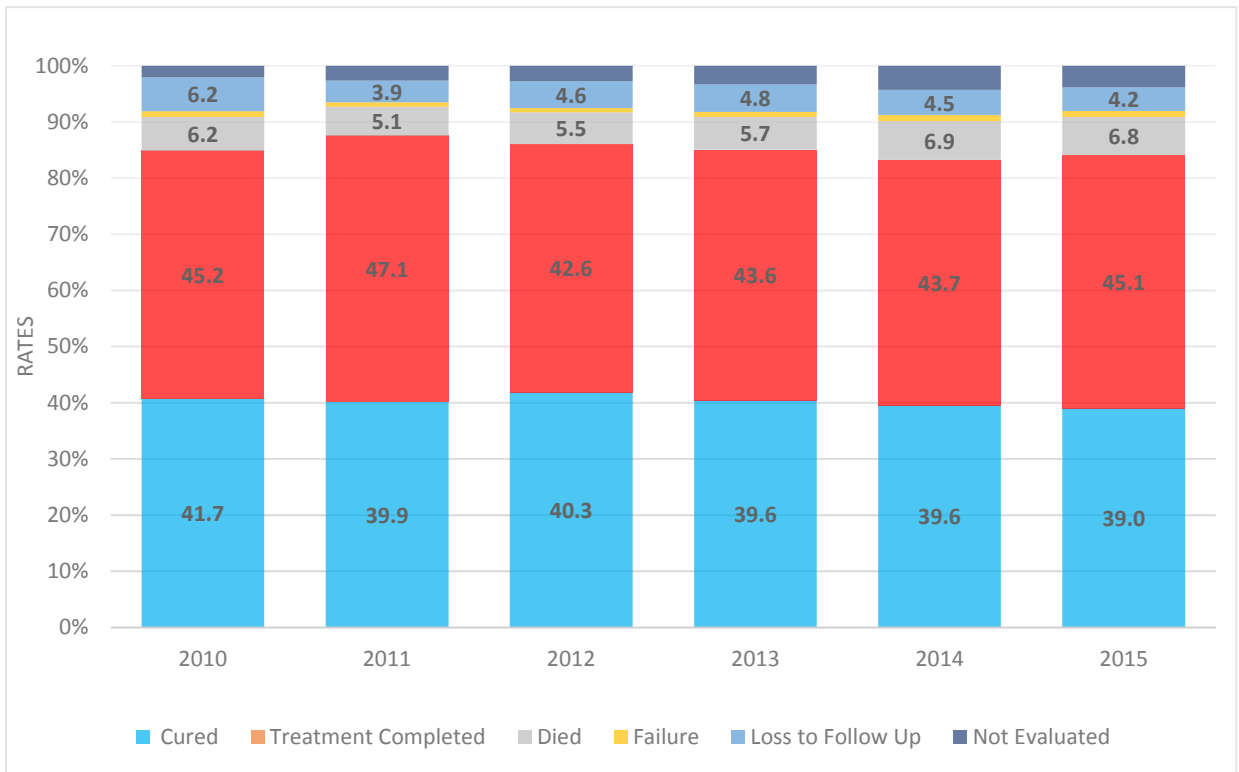
**Figure 5.9 : Percentage of presumptive TB cases referred for sputum microscopy of total OPD attendance- 2012-2016**

Source: National Programme for Tuberculosis Control & Chest Diseases



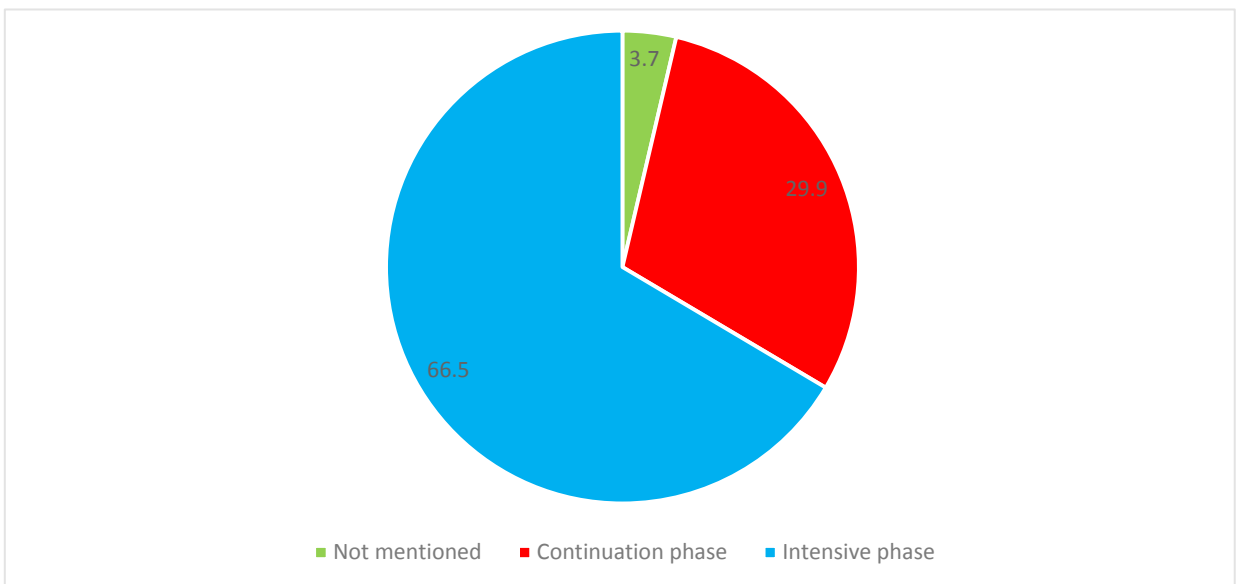
**Figure 5.10 : Contacts screening of TB patients, Q4 -2016**

Source: National Programme for Tuberculosis Control & Chest Diseases



**Figure 5.11 : Treatment outcome of all forms of TB-2010-2015 (Cured +Treatment completed = Treatment Success)**

Source: National Programme for Tuberculosis Control & Chest Diseases



**Figure 5.12 : Treatment phase of death occurrence- 2015 patient cohort**

Source: National Programme for Tuberculosis Control & Chest Diseases

**Recommendations:**

- Presumptive TB cases (TB suspects) need to be identified early and referred for sputum examinations at OPD settings.
- Active screening need to be strengthened among the contacts of TB patients. Family size in Sri Lanka is 4, therefore at least 3 contacts per patient should be screened.
- Early diagnosis of patients and management of comorbid factors will prevent deaths due to complications & comorbidities, improving the treatment success.

*Content Source: National Programme for Tuberculosis Control and Chest Diseases*

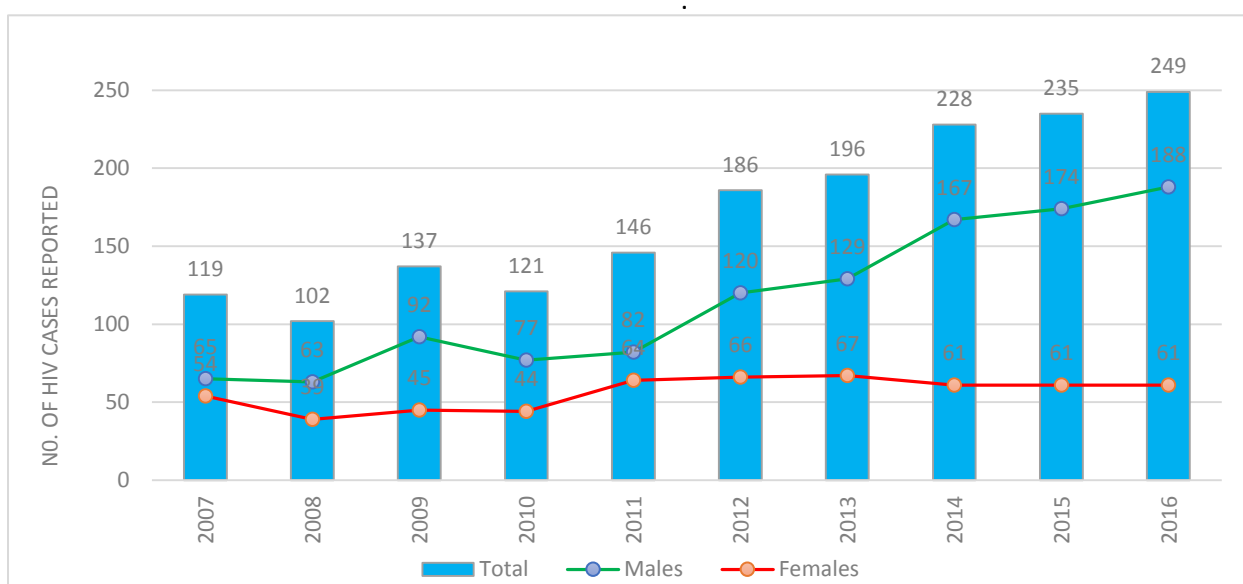
### 5.3. HIV/ AIDS and Sexually Transmitted Infections (STIs)

#### Situation of HIV epidemic in Sri Lanka

During 2016, a total of 249 HIV cases were newly reported in Sri Lanka. This was the highest number reported in a year since the identification of the first HIV infected Sri Lankan in 1987. However, the reported numbers do not represent all HIV infected people in the country as many infected persons may perhaps not be aware of their HIV status.

In addition, stigma and discrimination towards HIV hinders seeking HIV testing services.

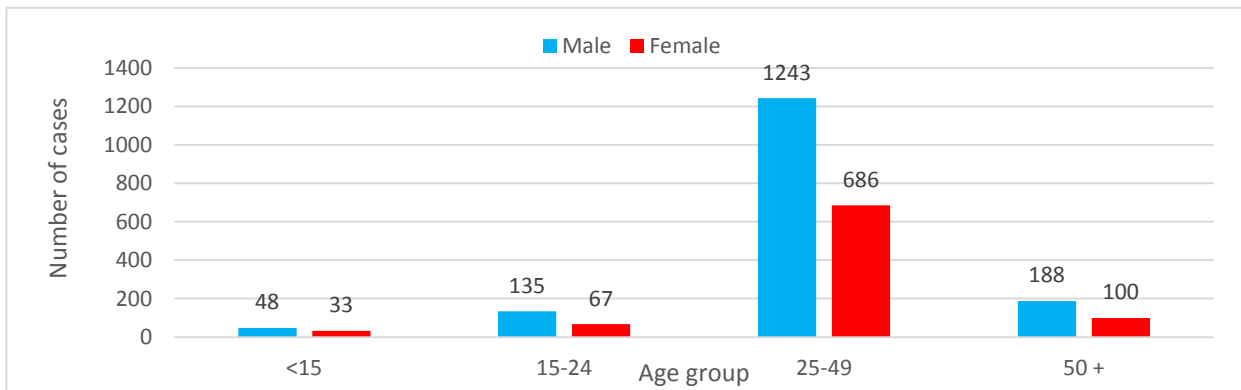
Since 2011, the proportion of males with HIV has been gradually increasing (Figure 5.13). The male to female ratio of cumulative reported cases up to end of 2016 was 1.8:1. However, among newly reported HIV cases during 2016, the male to female ratio increased to 3.1:1.



**Figure 5.13 : Trends of reported HIV cases by Sex, 2007- 2016**

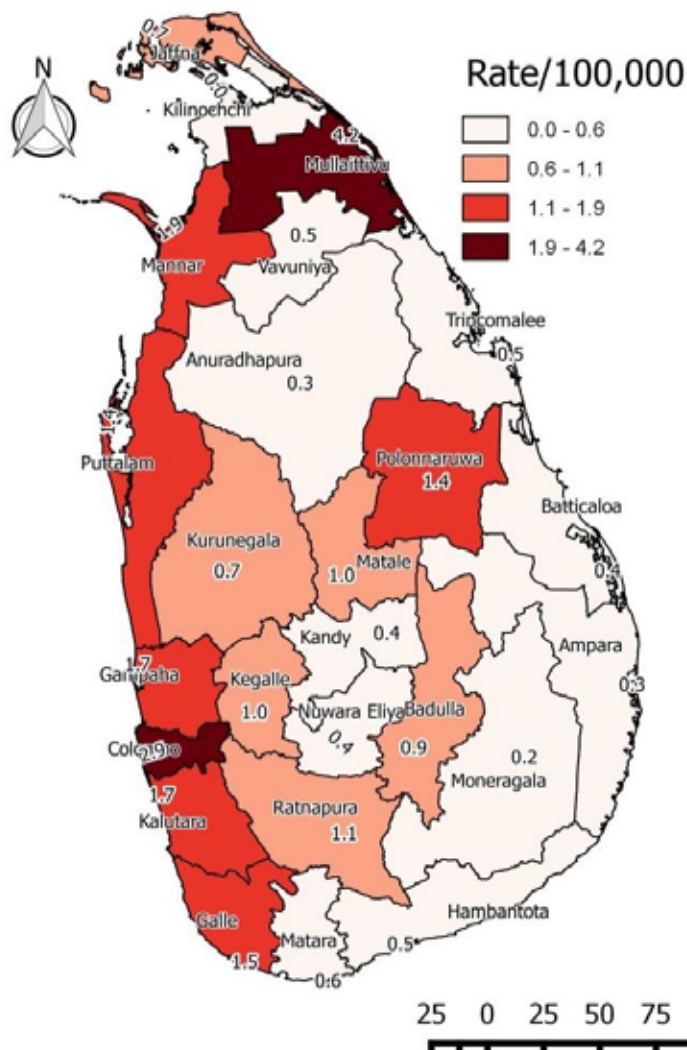
Source: National Programme for Tuberculosis Control & Chest Diseases

Figure 5.14 shows age and sex distribution of cumulative reported HIV cases since 1987 (N=2500, age and sex not reported in 57 cases). Majority of the cases were in 25-49 year age group



**Figure 5.14 : Cumulatively reported HIV cases by Age Groups (2016)**

Source: National STD & AIDS Control Programme

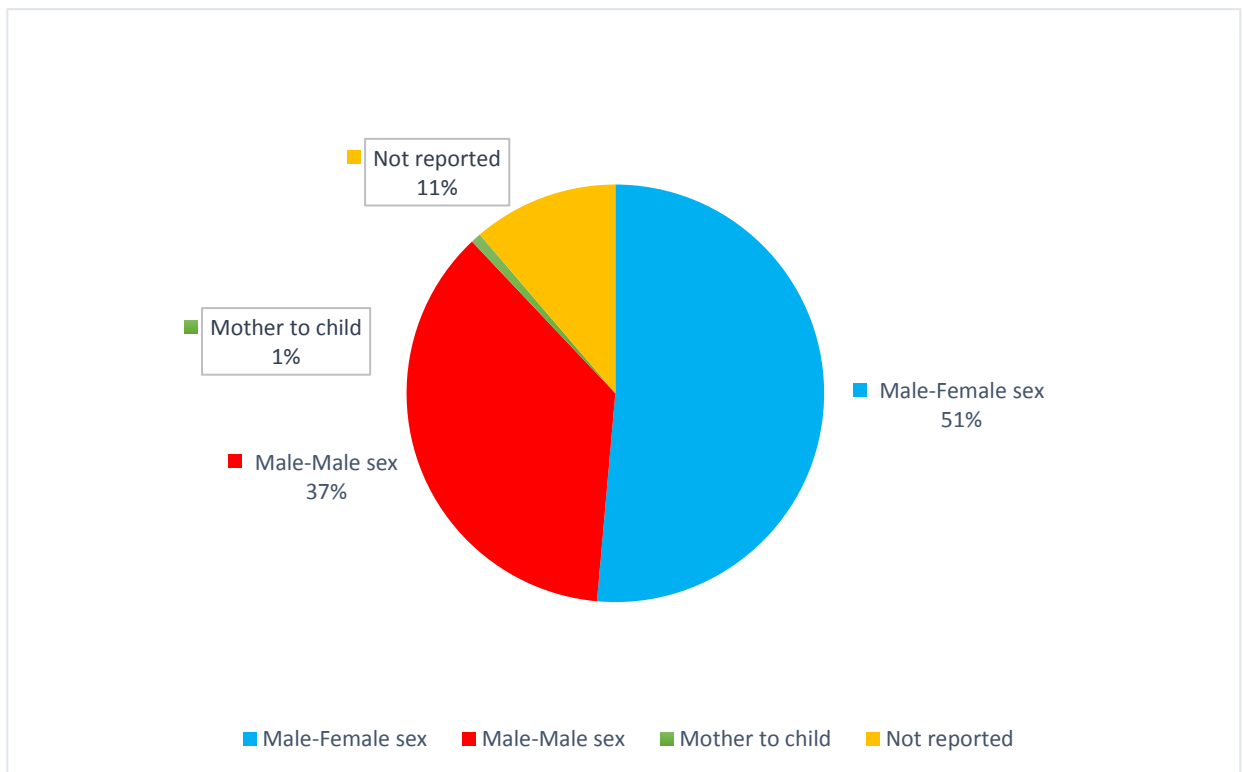


As shown in the Figure 5.15, Mullaitivu and Colombo had the highest rate of reported HIV cases during 2016. Six other districts showed a HIV case rate of over 1 per 100,000 population. These districts were Gampaha, Kalutara, Galle, Puttalam, Mannar and Polonnaruwa.

**Figure 5.15 : Rate of HIV cases reported in 2016 per 100,000 population**

Source: National STD & AIDS Control Programme





**Figure 5.16 : Probable modes of transmission of HIV cases reported in 2016 (N=249)**

Source: National STD & AIDS Control Programme

Sexual transmission accounted for 88% of all cases reported during 2016. However, in 11% of cases adequate data was not available to ascertain the probable mode of transmission.

### HIV testing services in 2016

HIV testing services are critical in national response to HIV epidemic in the country. Over the years the number of HIV tests carried out in the country has been increased. However, total number of HIV tests done may be underreported in the private sector as there is no formal mechanism established to report all the HIV tests. However, all confirmed positive HIV results are reported to NSACP as

confirmatory test (Western Blot) is available only at the national reference laboratory of NSACP. Diversification of testing and service delivery methods were attempted during 2016 (Table 5.1).

### HIV treatment and care services

Globally there is consensus that activities for HIV prevention and care services need to be accelerated to reach the targets of ending AIDS by 2030. Early enrollment in ART services contributes significantly to reducing HIV transmission while minimizing morbidities and mortality related to HIV/AIDS.

Content Source: National STD/AIDS Control Programme

**Table 5-1 : Relative Productivity of HIV testing methods and testing details in 2016**

Types of blood samples screened for HIV	Number tested	Percentage of samples	Number positive	Percentage of positives	Positivity rate (%)
Blood donor screening (NBTS and private blood banks)	417,428	37	23	9	0.01
Antenatal mothers	323,518	29	11	4	0.003
Private hospitals, laboratories and Sri Jayewardenepura GH	225,047	20	40	16	0.02
STD clinic samples*	90,271	8	160	64	0.18
Tri-forces	29,236	3	4	2	0.01
Survey sample	23,615	2	1	0	0.004
Prison HIV testing programme	12,776	1	6	2	0.05
TB screening	7,896	1	4	2	0.05
<b>Total</b>	<b>1,129,787</b>	<b>100%</b>	<b>249</b>	<b>100</b>	<b>0.02</b>

\*(STD clinic samples include; clinic attendees, symptomatic patients, outreach samples and testing of contacts)

Source: National STD & AIDS Control Programme

In the year 2016, the number of newly diagnosed PLHIV was 249. Of these, 227 (90%) were linked to HIV care services.

According to the progress report of WHO SEA Region in 2016, the ratio of newly enrolled in care to newly diagnosed HIV cases was closer to 1 in Sri Lanka, suggesting strong linkages.

### Situation of STIs during 2016

Monitoring and evaluation of STD services were carried out by the Strategic Information Management unit of the National STD/AIDS

Control Programme. In low level HIV epidemics, STIs act as a sensitive marker of high risk sexual activity.

Therefore, monitoring STI rates can help to identify vulnerability to HIV and also help to evaluate the success of prevention programmes. In addition, STI services are critical entry points for HIV prevention in low-level epidemics.

Early diagnosis and treatment of STI will decrease related morbidity and reduce the likelihood of HIV transmission.

**Table 5-2 : Number of PLHIV in pre-ART stage as of 2016**

	Name of clinic	Pre- ART stage	ART stage	Total in care	Percentage
1	Colombo	26	581	607	54
2	Ragama	4	131	135	12
3	IDH	2	83	85	8
4	Kandy	4	53	57	5
5	Galle	1	44	45	4
6	Kurunegala	3	26	29	3
7	Kalubowila	3	25	28	2
8	Jaffna	1	21	22	2
9	Anuradhapura	2	16	18	2
10	Kalutara	1	17	18	2
11	Ratnapura	1	17	18	2
12	Chilaw	3	14	17	2
13	Gampaha	1	10	11	1
14	Negombo	1	10	11	1
15	Polonnaruwa	0	8	8	1
16	Kegalle	3	4	7	1
17	Matara	0	4	4	0
18	Matale	0	3	3	0
19	Badulla	1	1	2	0
20	Hambantota	0	0	0	0
21	Batticaloa	0	0	0	0
	<b>Grand Total</b>	<b>57</b>	<b>1068</b>	<b>1125</b>	<b>100</b>

Source: National STD & AIDS Control Programme

**Table 5-3 : Number of STIs reported during 2016**

Diagnosis	Male		Female		Total	
	No.	%	No.	%	No.	%
Genital Herpes	1,302	31	1,718	35	3,020	33
Non-gonococcal infections	596	14	1,595	33	2,201	24
Genital Warts	1,152	27	926	19	2,078	23
Syphilis	597	14	337	7	934	10
Gonorrhoea	235	6	66	1	301	3
Trichomoniasis	10	0	55	1	65	1
Other STIs	330	8	200	4	530	6
<b>Total</b>	<b>4,222</b>	<b>100</b>	<b>4,897</b>	<b>100</b>	<b>9,129</b>	<b>100</b>

Source: National STD & AIDS Control Programme

A total of 21,973 new patients had received services from the National STD/AIDS Control Programme during 2016 while a total of 65,820 clinic visits were made by all STD attendees. Among them 9,129 STI diagnoses were made as summarized in Table 5-3 above. Genital herpes has been reported as the commonest STI presentation.

### Elimination of Mother to Child Transmission (EMTCT) of syphilis and HIV

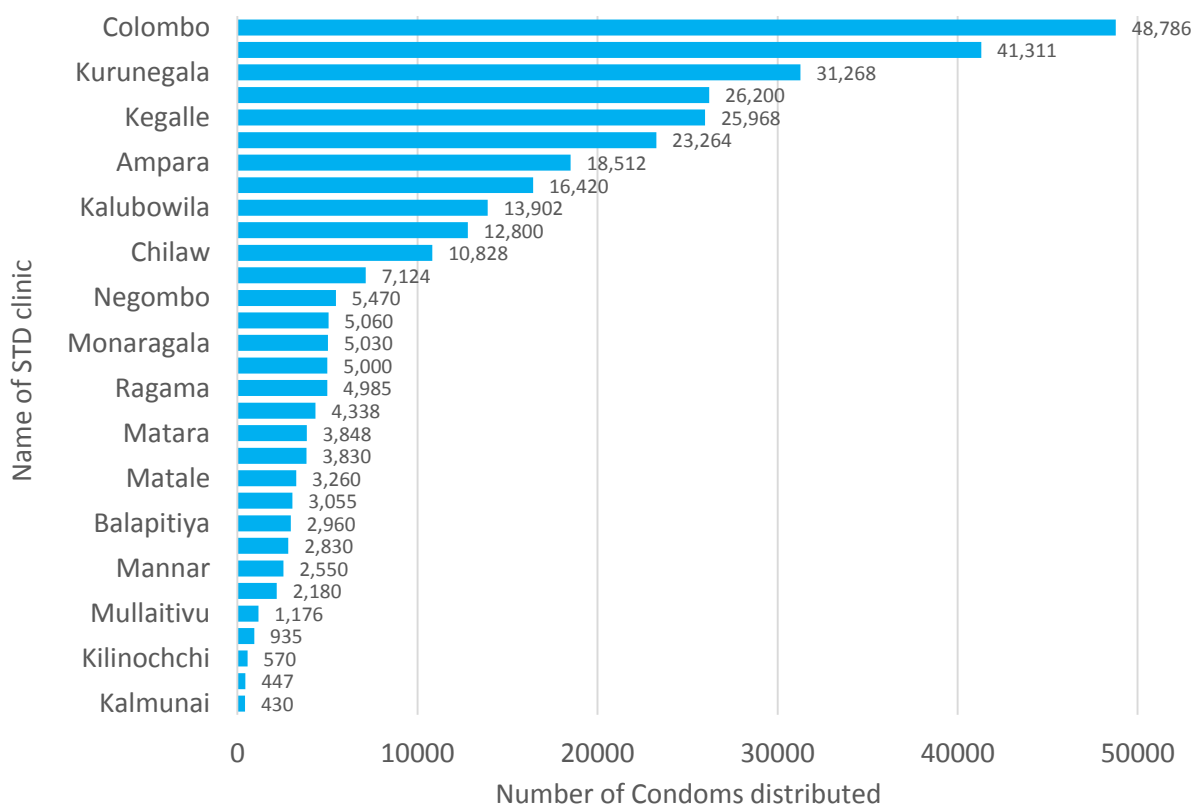
The elimination of Mother to Child Transmission (EMTCT) of syphilis and HIV programme was scaled up to cover the whole country in 2016. During 2016 the EMTCT programme was carried out mainly with government funds while UNICEF assisted in printing IEC (Information Education and

Communication) material, conducting review meetings and purchasing safe delivery kits.

Sri Lanka has achieved the required status in relation to indicators for validation of EMTCT of syphilis by the end of 2016 and is likely to satisfy indicators for EMTCT of HIV by the end of 2017.

### Condom promotion

Condom promotion remains an effective method of prevention of STIs including HIV throughout the world. Use of condoms has the added advantage of protection against unnecessary pregnancies. The NSACP promotes condoms through its network of STD clinics and peer-led targeted intervention programmes among Key populations.



**Figure 5.17 : Number of condoms distributed by STD clinics during 2016**

Source: National STD & AIDS Control Programme

## 5.4. Vaccine preventable disease

### 5.4.1. Encephalitis

During the year 2016, 238 suspected cases of Encephalitis were notified to the Epidemiology Unit. Out of the total suspected cases, 184 were clinically confirmed. The districts notified the highest number of cases were Ratnapura (36) followed by, Kegalle (22), Gampaha (18), Kandy (18) and Matara (17). The number of deaths due to encephalitis was 14.

### 5.4.2. Mumps

A total of 407 cases of Mumps were reported in 2016 to the Epidemiology Unit and 311 (76.4 %) were clinically confirmed. The districts reporting the highest number of cases were Kurunegala (33), Jafna (33), Anuradhapura (29) Galle (28) and Kegalle (28). The age category reporting the highest number of cases was 25-50 years (40.9 %).

### 5.4.3. Measles

A total of 341 suspected measles and rubella cases were notified to the Epidemiology Unit in 2016. Out of total 341 suspected notified measles and rubella cases, 292 (86%) were tested at the measles rubella National Laboratory, MRI. A total of 75 cases was measles IgM positive and confirmed as measles cases. Virus isolation samples have not been done during 2016.

Out of the total lab confirmed measles cases 13 (17%) were among less than 9 month age group and 45 cases (60%) were above 15 years of age. Thus measles incidence for the year 2016 was 0.1 per million population.

The indicator of non-Measles non-Rubella rate for the year was 1 per 100,000 population and it is less than the expected rate of 2/100,000 population.

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***The country has achieved the expected target of zero endogenous rubella cases for 2016***

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### 5.4.4. Rubella

The non-Measles non-Rubella rate was 1 per 100,000 populations and has only achieved half the expected rate of 2 per 100,000 populations. Out of the suspected cases for measles rubella (341) and tested at the Laboratory (292), no cases were positive for rubella IgM antibodies. In fact, no rubella Laboratory confirmed cases for 2016.

### 5.4.5. Congenital Rubella Syndrome (CRS)

A total of 784 blood samples were tested for Rubella IgM at MRI, sent from hospitals and specialized units taken from babies with congenital abnormalities, from mothers with a history of fever and rash during pregnancy and from samples of TORCH screening.

Out of the blood samples tested, three were positive for rubella IgM. These three samples

were taken from babies more than nine months of age and identified as due to post vaccination of MMR. Thus, all were excluded as non-congenital rubella infection or non-congenital rubella syndrome.

In par with regional measles rubella and congenital rubella syndrome strategic plans, Sri Lanka has set the elimination targets as below:

- Zero endogenous measles cases by 2020
- Zero endogenous rubella cases by 2020
- Zero congenital rubella syndrome cases /100,000 live births by 2018.

#### 5.4.6. Poliomyelitis

Since 1993 Sri Lanka has been free of Poliomyelitis. Surveillance of Acute Flaccid Paralysis (AFP) was carried out with the objective of identifying any potential poliomyelitis case which may present as AFP. A total of 65 non-polio AFP cases were notified to the Epidemiology Unit in 2016. The non-polio AFP rate was 1.2 per 100,000 population for those under 15 years. Polio eradication programme strategies were successfully implemented in the country to maintain polio free status in the country.

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***Since 1993 Sri Lanka has been free of Poliomyelitis***

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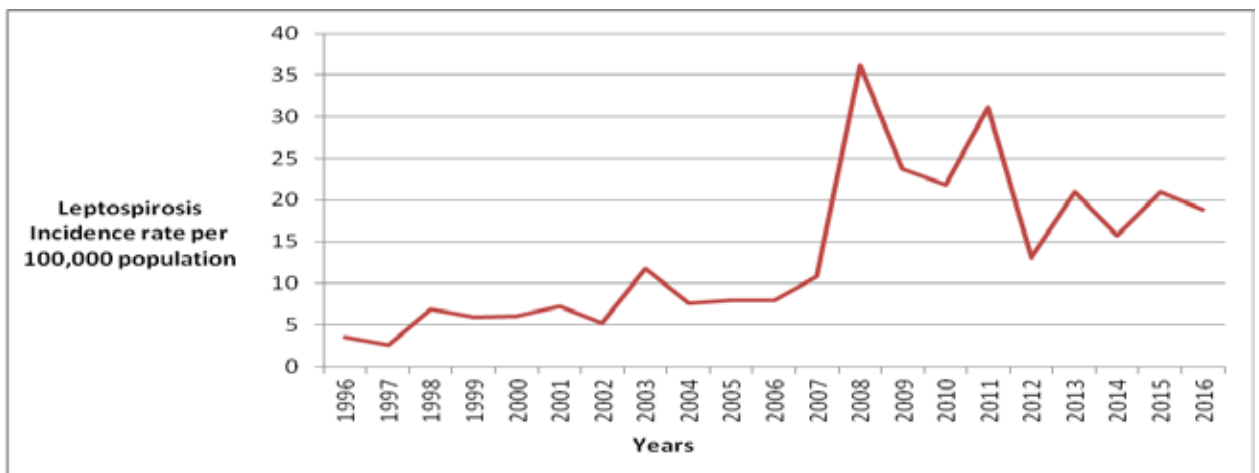
The indicator of timely stool collection rate was 81.5% in 2016. Polio virus type 2 withdrawal plan was underway as per Global Polio Eradication Initiative. Inactive Polio Vaccine (IPV) one dose was introduced in 2015, and subsequently changed on to two fractional Inactive Polio Vaccine (fIPV) doses (0.1ml intradermal). This change was done in response to the global shortage, and as a measure for continuation of the programme.

## 5.5. Leptospirosis

A total of 4018 cases of leptospirosis were notified to the Epidemiology Unit in 2016. Throughout the past years the case incidence rate has been fluctuating with slight downward trend. Reporting of leptospirosis cases has shown an annual seasonal pattern with peaks during the two monsoons (Figure 5.18 & 5.20).

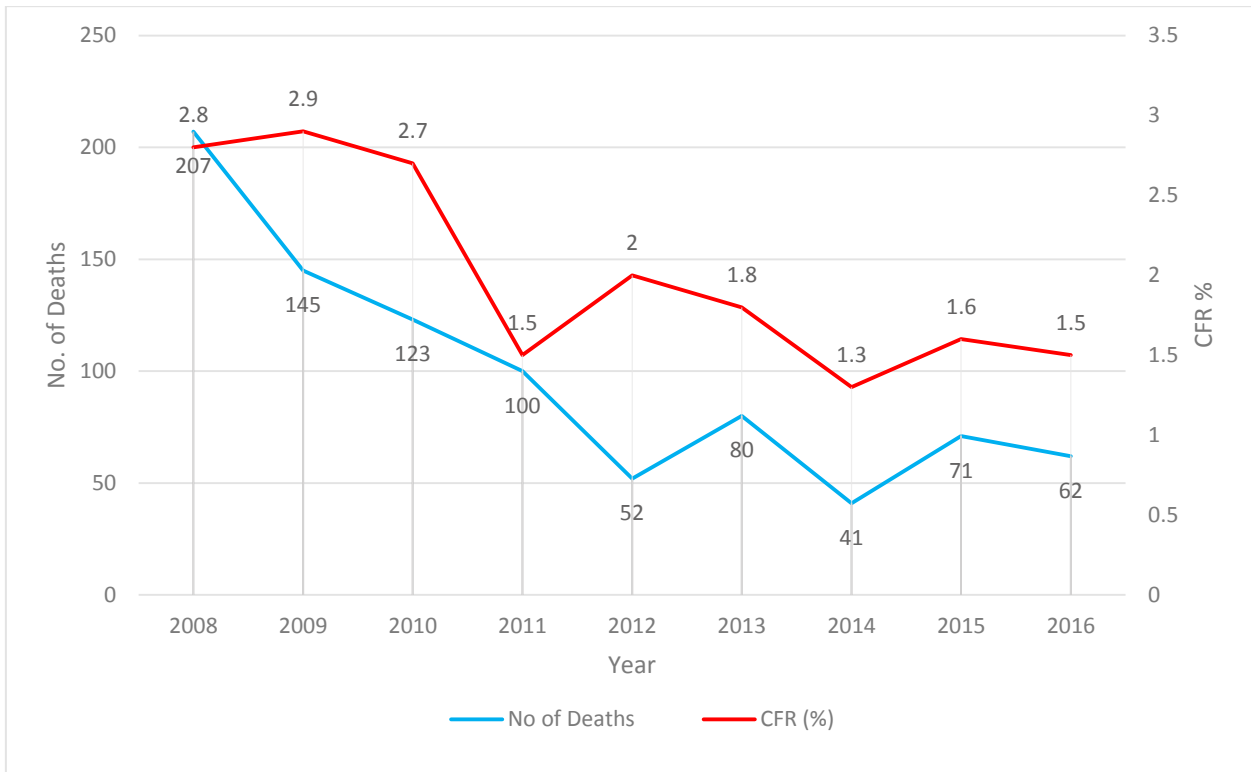
There were 62 deaths due to leptospirosis in 2016, indicating a Case Fatality Rate of 1.5 per 100 cases (Figure 5.19). Deaths due to leptospirosis have also been declining. The age distribution of patients shows that the majority of people with leptospirosis were between 25-49 years (50.2 %).

Leptospirosis is a zoonotic disease of great public health importance in Sri Lanka. Recent surveillance data received at the Epidemiology Unit indicate that paddy farming was the major source of exposure, and increased reporting was observed during the rainy seasons which coincide with the 'Yala' and 'Maha' paddy cultivation seasons. Therefore, to control and prevent Leptospirosis, activities were conducted at Medical Officer of Health (MOH), District and Central levels to increase community awareness, strengthen intersectoral coordination and provide chemoprophylaxis to the identified high-risk individuals.



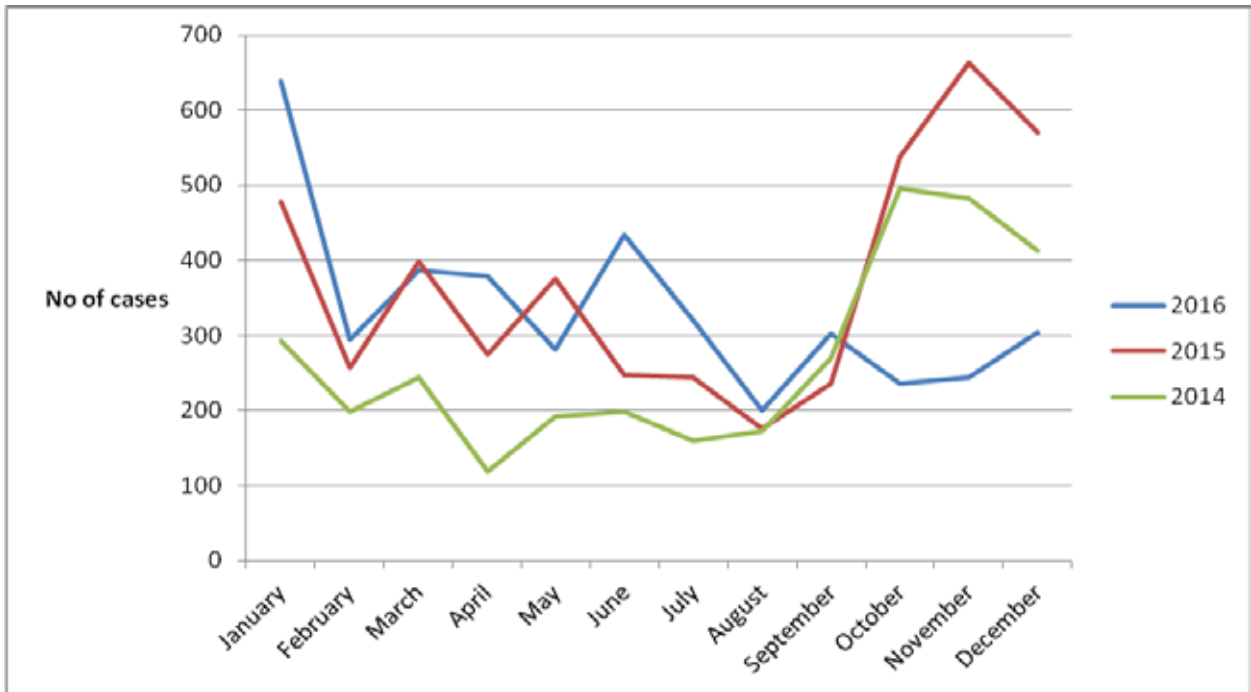
**Figure 5.18 : Leptospirosis incidence rate per 100,000 population**

Source: Epidemiology Unit



**Figure 5.19 : Leptospirosis deaths and CFR from 2008 – 2016**

Source: Epidemiology Unit



**Figure 5.20: Leptospirosis seasonality**

Source: Epidemiology Unit



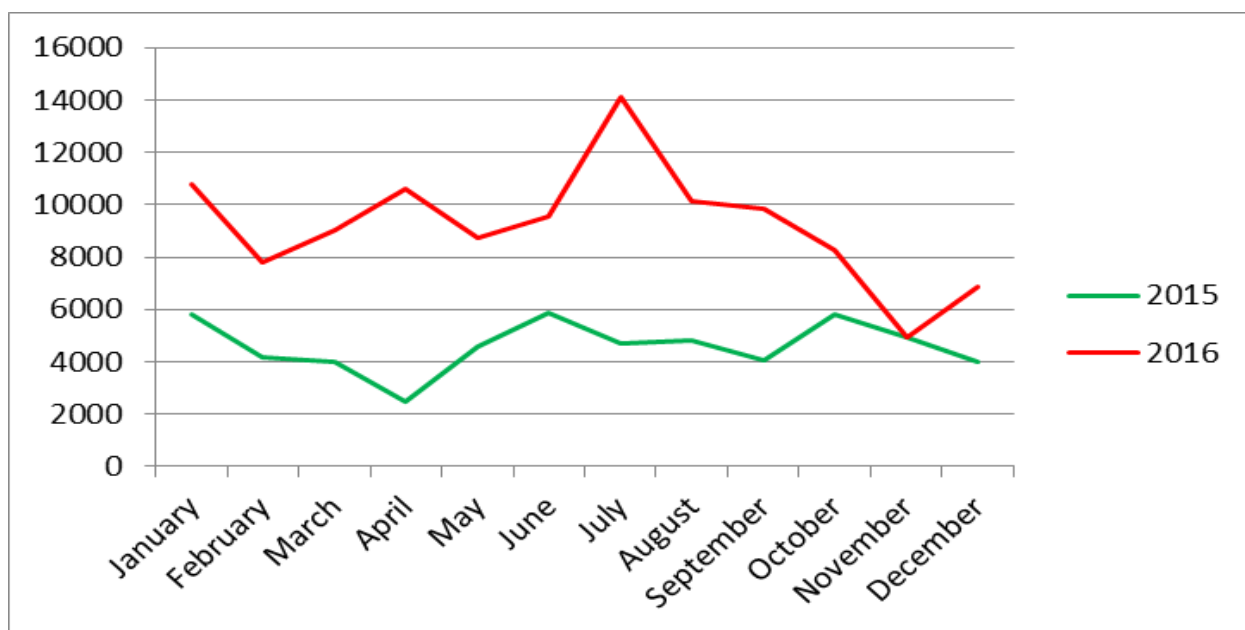
## 5.6. Influenza

- Influenza surveillance in humans had been established complementary to the influenza surveillance among animals by the Department of Animal Production and Health (DAPH) as a part of the pandemic preparedness activities initiated in the country the early warning system for a possible Avian/Pandemic Influenza outbreak in the country.
- The human influenza surveillance was conducted in selected sentinel hospitals by the Epidemiology Unit of the Ministry of Health , Nutrition & Indigenous Medicine. Human Influenza surveillance comprises of 2 components; Influenza like illness (ILI) surveillance and Severe Acute

Respiratory tract Infections (SARI) surveillance.

- ILI surveillance has been established in 19 sentinel sites and surveillance was carried out at the OPD. SARI surveillance has been established in four sentinel sites and carried out among in-ward patients.
- 110,642 ILI visits reported in 2016, which was 2.4% of the total OPD visits.
- The 4 sentinel sites reported 816 SARI visits, which was about 1% of total admissions.

Virological surveillance was done at the Medical Research Institute which is the national Influenza Centre (NIC) in Sri Lanka for human influenza surveillance. Data management was done through 'Flusys', an on-line data management system. Accurate and timely data is important for early recognition of an outbreak.



**Figure 5.21 : Distribution of ILI patients as reported by the sentinel sites by month in 2015 & 2016**

Source: Epidemiology Unit

## 5.7. Food Borne Diseases

The declining trend in reported cases of three food borne diseases, continued in 2016.

Dysentery, enteric fever, and viral hepatitis showed a reduction of 14%, 19% and 46% respectively, compared to 2015 (Figure 5.22).

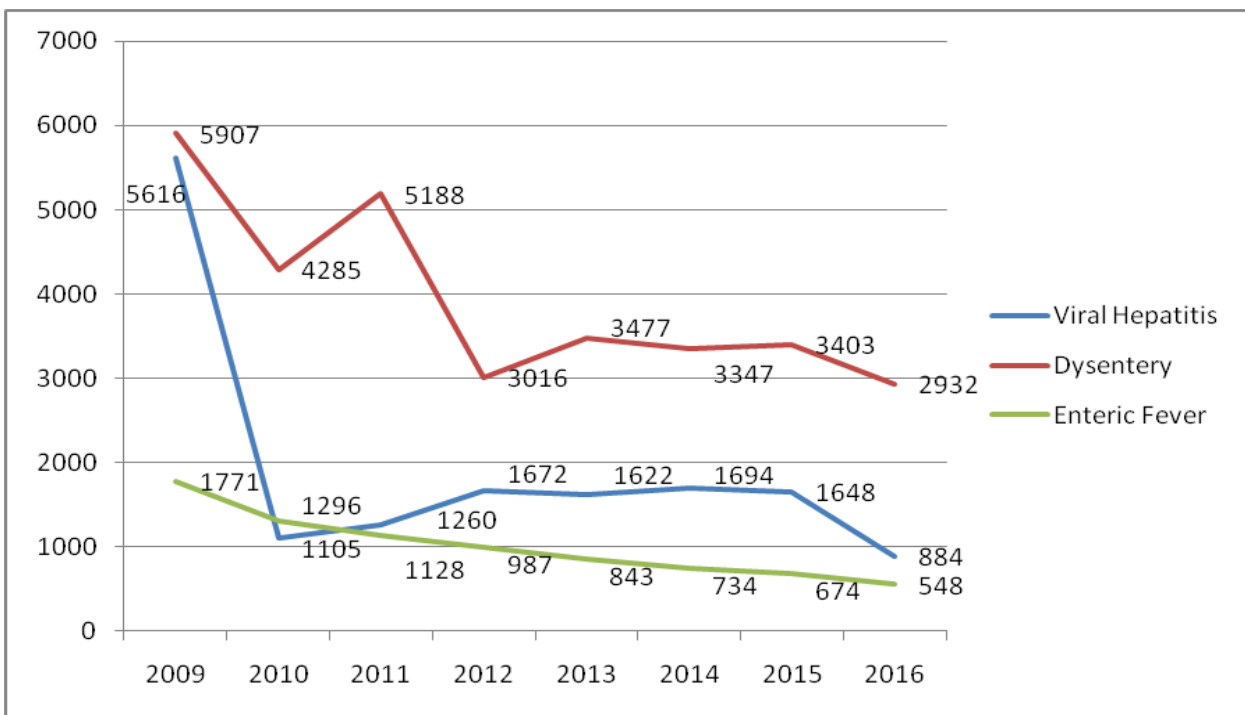
These improvements could be attributed to;

- Continuous monitoring of water sources and food establishments by public health staff
- Improvement of general living condition
- Provision of purified water
- Improved awareness about hygienic practices among general population

However, inter-district disparity was evident, as some districts have not benefitted from these declines. These districts are in Table 5.4

It was evident that community water supply schemes were the main source of drinking water in these districts and tested water samples from these sources shows bacteriological contamination.

Preserving catchment areas of water sources, purification of water sources, and strict law enforcement for food establishments could help to further reduce the food borne diseases in Sri -Lanka.



**Figure 5.22 : Reported Food Borne diseases to the Epidemiology Unit from 2009-2016**

Source: Epidemiology Unit

**Table 5-4 : Districts with high prevalence of food borne diseases**

<b>Enteric Fever</b>	<b>Food Poisoning</b>	<b>Dysentery</b>	<b>Hepatitis A</b>
Jaffna	Batticaloa	Ratnapura	Ratnapura
Vavunia	Hambanthota	Kurunegala	Monaragala
Nuwaraeliya	Jaffna	Batticaloa	Badulla
Kegalle	Kalmunei	Jaffna	Hambanthota
Colombo	Kegalle	Colombo	Trincomalee

Source: Epidemiology Unit

## 5.8. Malaria

At this juncture, it is imperative to continue to vigilant case surveillance for imported cases and vigilant vector surveillance. Currently, the biggest threat to the elimination efforts is the risk of resurgence due to imported malaria and the persistence of malaria vectors. Over the past six years, most of the imported malaria cases were reported from foreign travelers or Sri Lankan nationals returning from malaria-endemic countries. In 2016, with enhanced parasitological surveillance, 41 imported cases were reported.

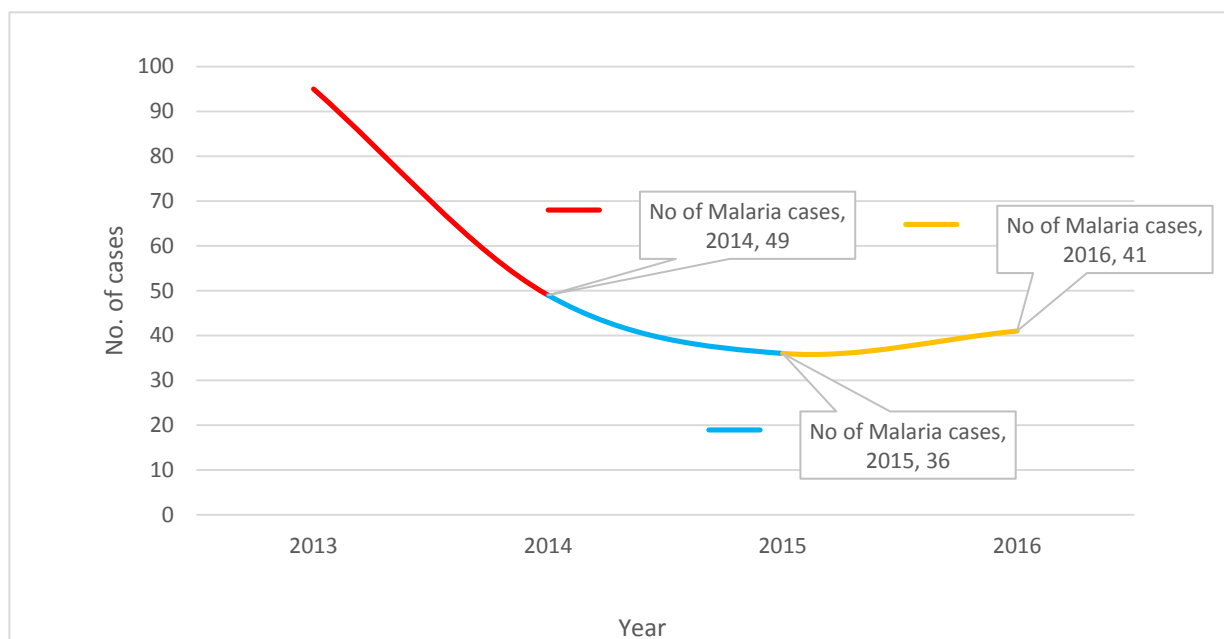
**Sri Lanka obtained WHO certification as a malaria free country on 5th September 2016**

**Risk of Re-introduction of malaria is continuing due both high vulnerability and receptivity**

**Table 5-5 : Number of malaria cases investigated and treated during 2016**

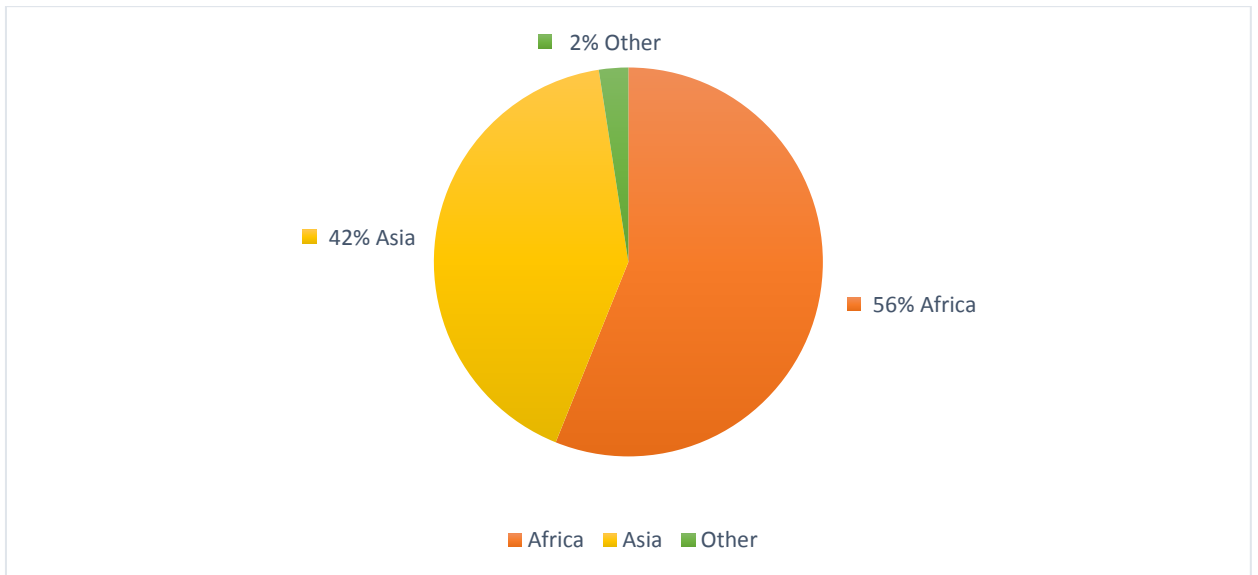
Case investigation	No. (%)
<b>Confirmed malaria cases received first-line antimalaria treatment according to national policy at;</b>	
Public sector health facilities	29 (70.73)
Private sector sites	12 (29.23)
<b>Confirmed cases fully investigated and classified (Imported/Indigenous)</b>	<b>41 (100.0)</b>

Source: Anti-Malaria Campaign



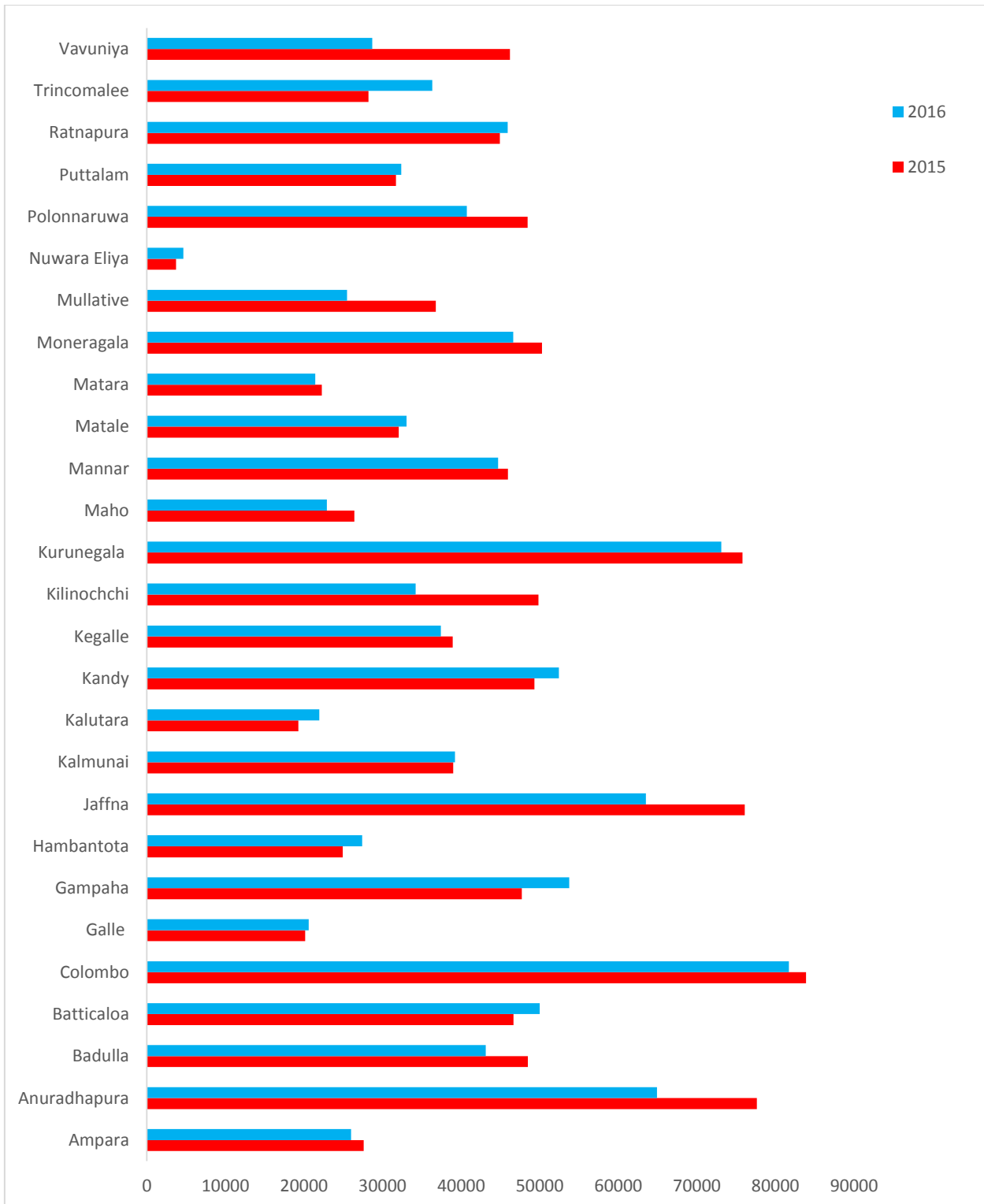
**Figure 5.23 : Trend of imported malaria cases during 2013 - 2016**

Source: Anti-Malaria Campaign



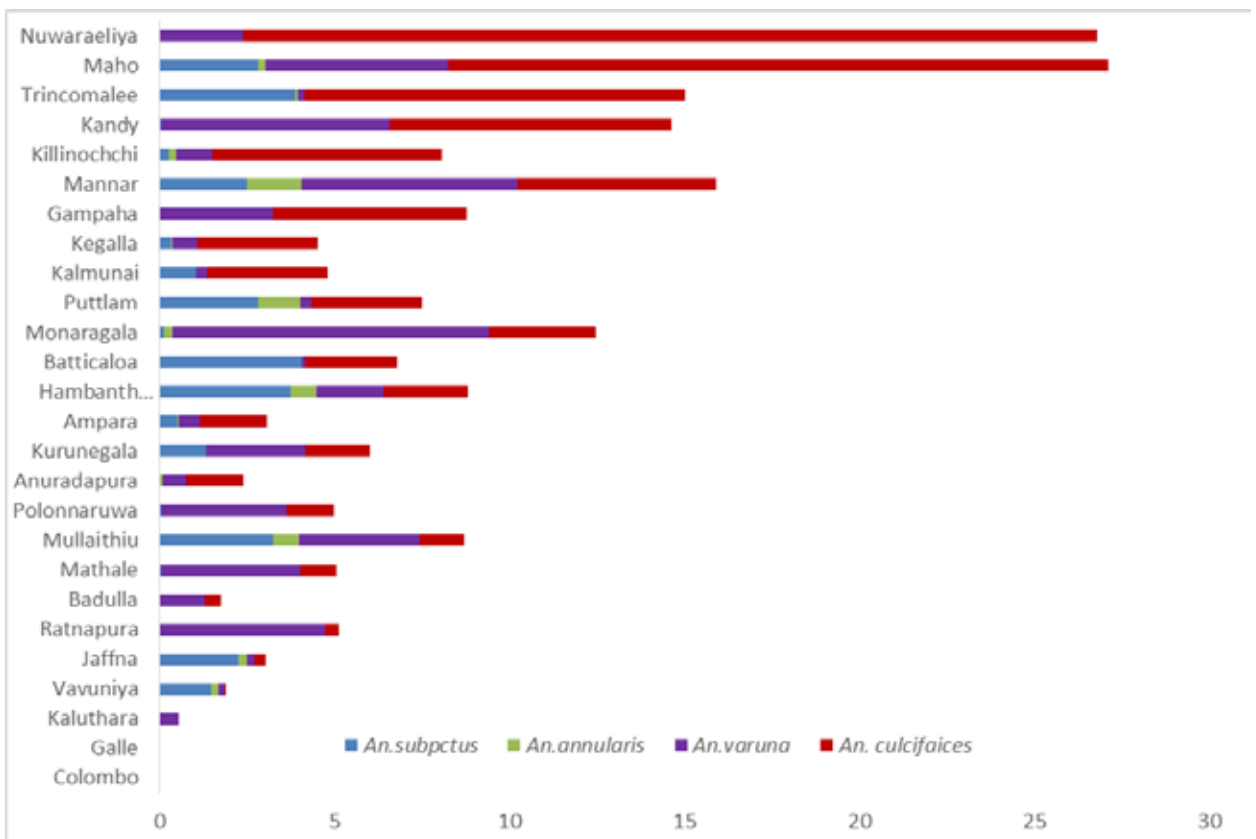
**Figure 5.24 : Imported malaria cases by region of origin in 2016**

*Source: Anti-Malaria Campaign*



**Figure 5.25 : Microscopic screening for malaria by Regional Malaria Clinics in the years 2015 and 2016**

Source: Anti-Malaria Campaign



**Figure 5.26 : Distribution of Malaria vectors by Regional Malaria Clinics in 2016**

Source: Anti-Malaria Campaign

### **Key messages**

- Sri Lanka obtained WHO certification as malaria free country on 5th September 2016 - a remarkable public health achievement in the history of Sri Lanka
- Risk of re-introduction of malaria is continuing due to Sri Lanka's high vulnerability from imported malaria cases and receptivity from the climate and other vectors
- Efforts to prevent re-introduction include:
  - vigilant malaria surveillance (case surveillance, parasitological and entomological surveillance) and Training & awareness programmes
  - Provision of preventive medicine and advice to travelers to malaria endemic countries free of charge

### **Recommendations**

- Vigilance in surveillance and preventive medicine must be maintained sustain the malaria-free status
- Resource allocation for the malaria prevention of re-introduction programme is important
- Multi-sectoral collaboration is required to keep Sri Lanka malaria-free

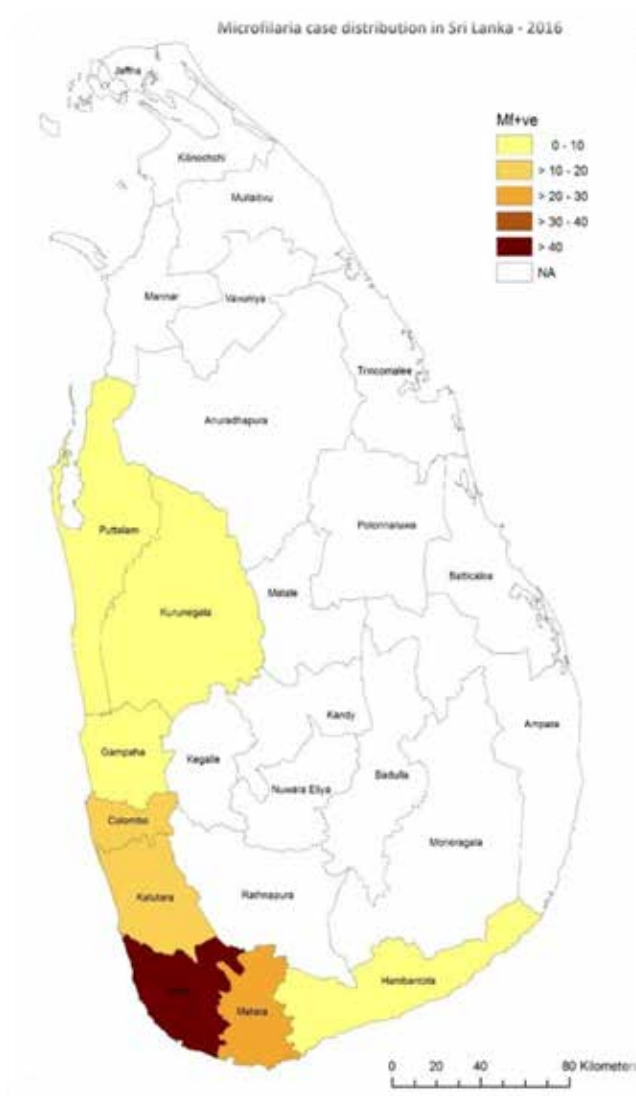
*Content Source: Anti Malaria Campaign*



## 5.9. Filariasis

Although Sri Lanka received WHO certification as Lymphatic Filariasis-free status in 2016<sup>3</sup>, Lymphatic Filariasis was still endemic in eight districts (Colombo, Kaluthara, Gampaha, Galle, Matara, Hambantota, Kurunegala & Puttalam)

and in three provinces (Western, Southern & North Western provinces) (Figure 5.27), primarily due to rapid and unplanned urbanization, increased population density and the mosquito-suitable climate.



**Sri Lanka received the declaration of elimination of Lymphatic Filariasis as a public health problem by World Health Organization (WHO) on 21st July 2016**

**Figure 5.27 : Filariasis endemic districts in Sri Lanka**

*Source: Anti-Filariasis Campaign*

<sup>3</sup> Elimination status was defined as microfilaria rate of <1%.

## 5.10. Leprosy

- Sri-Lanka achieved the elimination target in 1995
- Over the past decade, the new case detection rate has been stagnating around 8-10 per 100,000 population, or about 2,000 new cases per year
- High number of child cases, late presentation and high number of Multi bacillary type of leprosy are the key problems currently faced by the country
- Stigma and discrimination due to the disease was identified as a major problem in controlling the diseases

### **New case detection rate of Leprosy in the country**

Case detection rates have been relatively flat since 2003, at about 10 per 100,000 population. The number of new cases detected in 2016 was 1832, or 8.6/100,000 population.

The highest number of new leprosy cases were detected in Colombo district followed by Gampaha & Kaluthara districts.

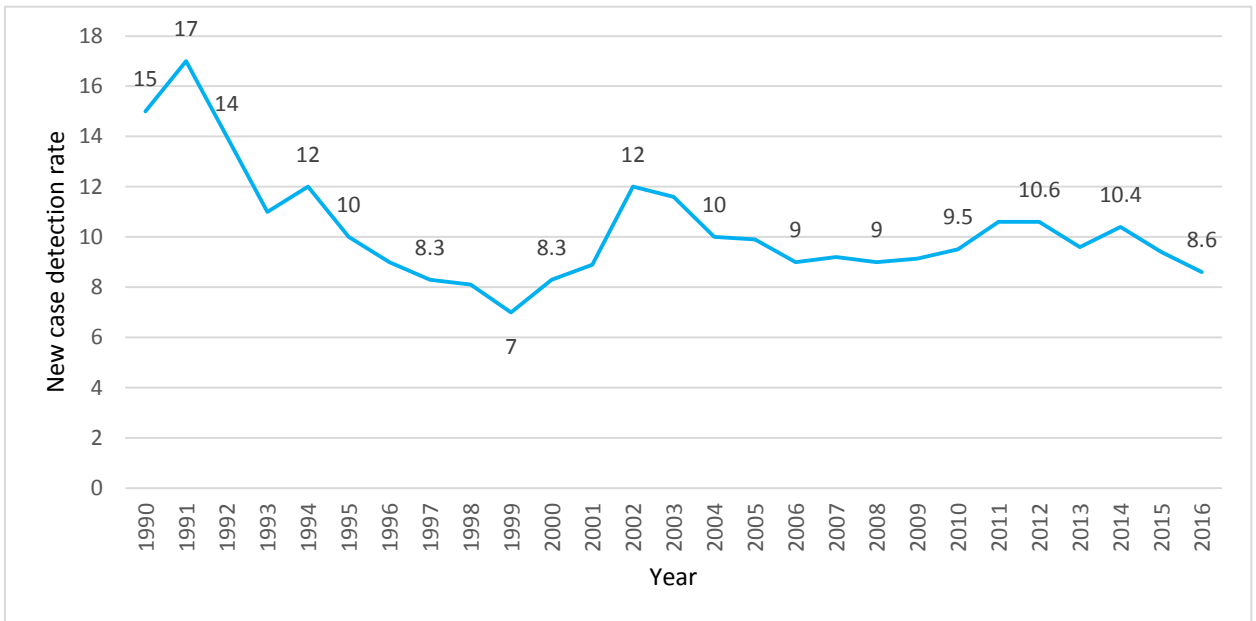
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***The highest number of new leprosy cases were detected in Colombo district while the highest new case detection rate was seen in Polonnaruwa district in 2016***

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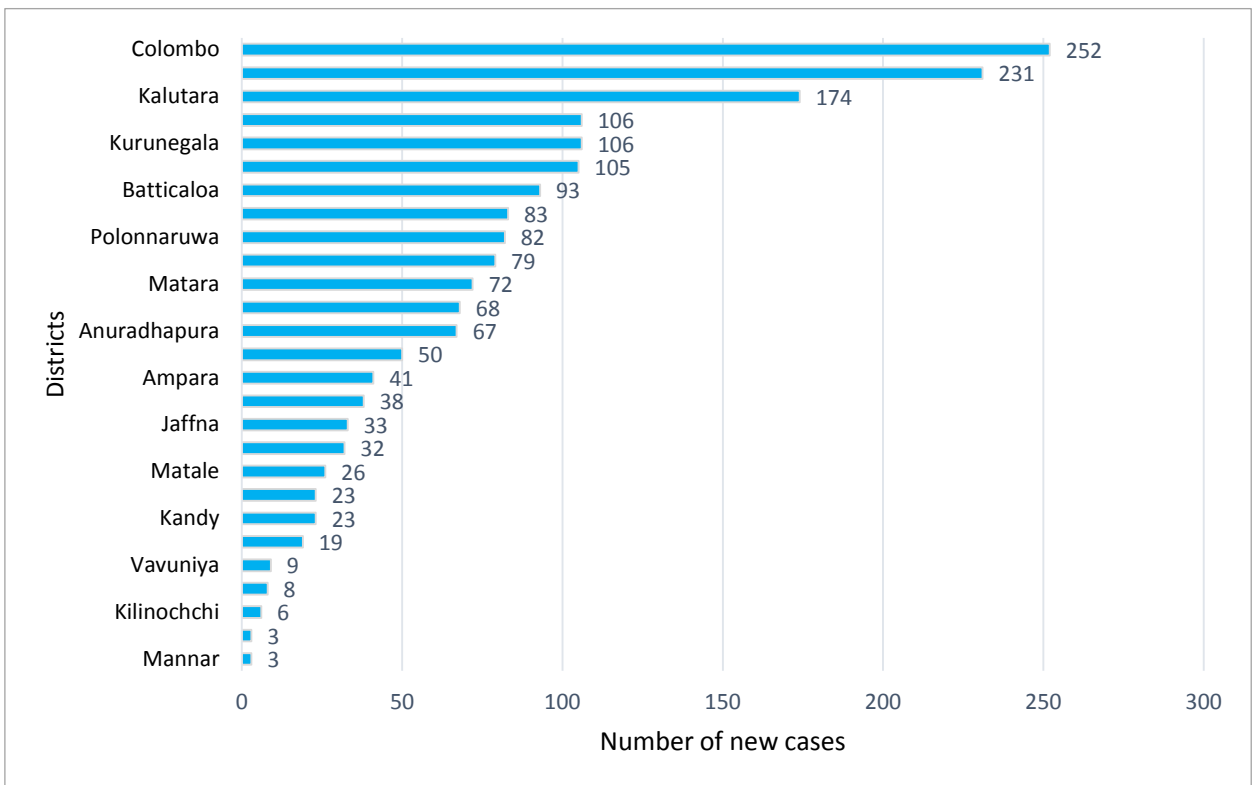
### **Leprosy new case detection rates in the districts**

The highest new case detection rate for 2016 was seen in Polonnaruwa district (19.29 per 100,000 population) followed by Batticaloa and Ampara district (16.91 & 15.33 per 100,000 population). Lowest new case detection rate of 1.07 per 100,000 population was reported from Nuwara Eliya district (Figure 5.30).



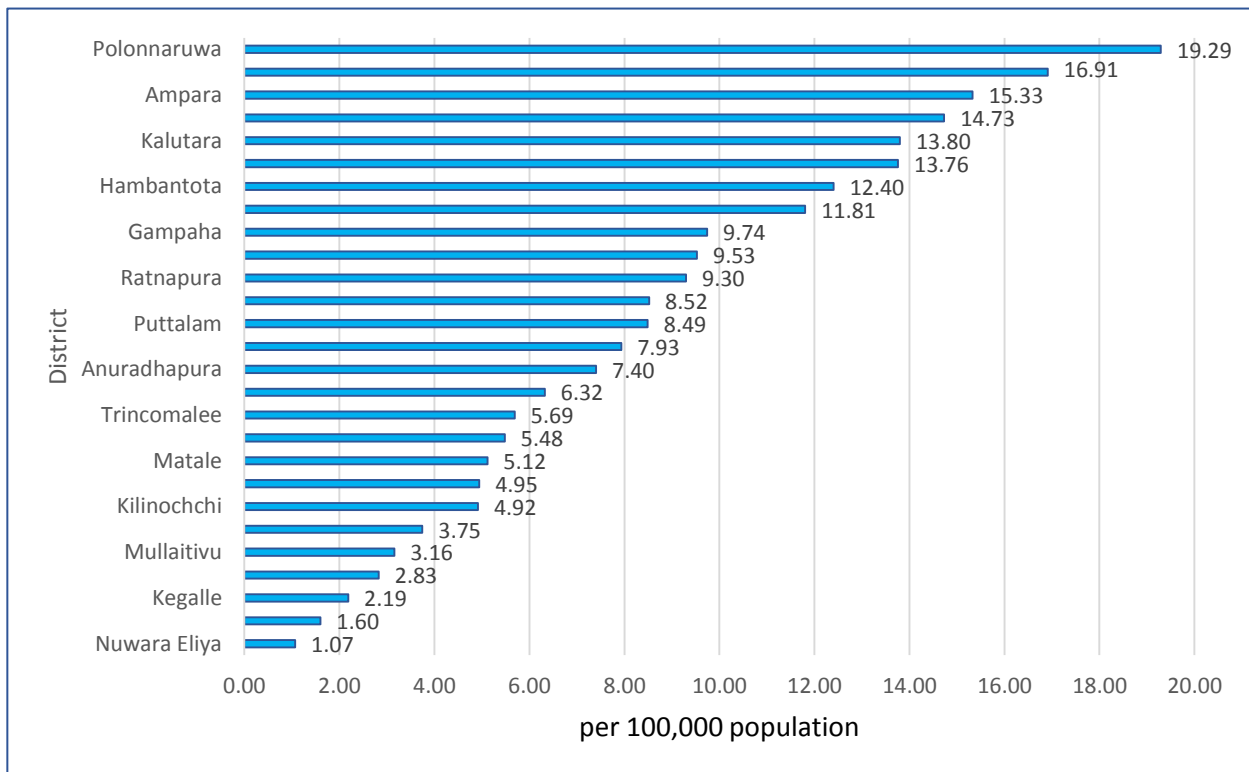
**Figure 5.28: New Case Detection Rates of Leprosy per 100,000 Population 1990 -2016**

Source: Anti-Leprosy Campaign



**Figure 5.29: Number of New Leprosy Cases Detected on District Basis 2016**

Source: Anti-Leprosy Campaign



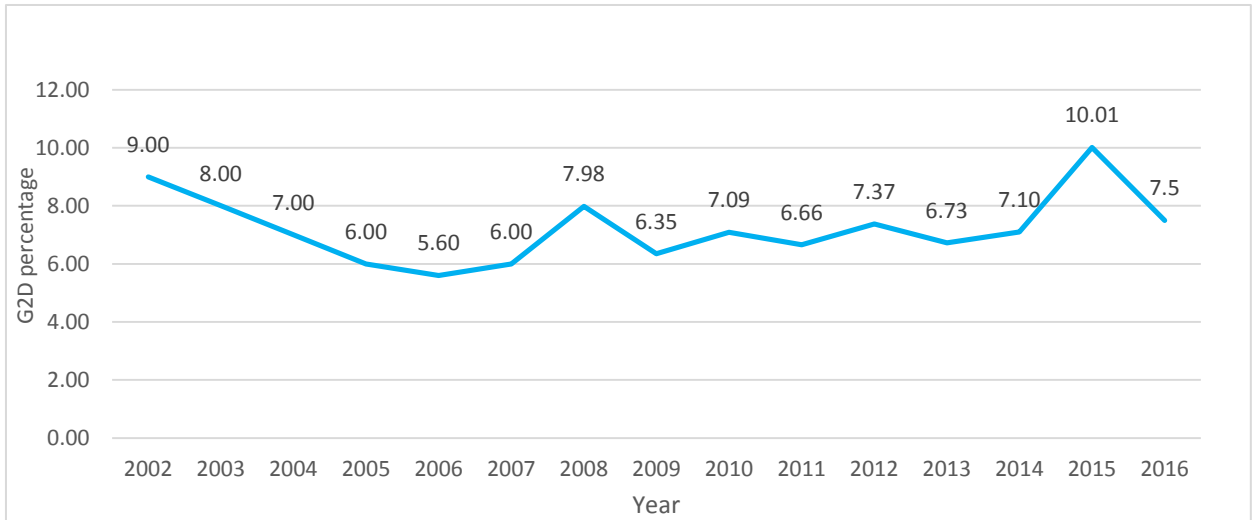
**Figure 5.30 : New Leprosy Case Detection Rate per 100,000 population by Districts in 2016**

Source: Anti-Leprosy Campaign

### Percentage of Grade – 2 deformity of Leprosy in the country

Percentage with grade-2 deformities at the time of diagnosis have been relatively flat since 2009, with an increase in 2015, perhaps due to the new “Patient File” which was designed to show the increase in deformities. In 2016, the percentage fell 7.5%, perhaps due to improved leprosy control activities, such as active case finding, leading to early case detection (see Figure 5.31).

Content Source: Anti Leprosy Campaign



**Figure 5.31 : Grade 2 deformity percentage at the time of diagnosis among leprosy cases from 2002-2016**

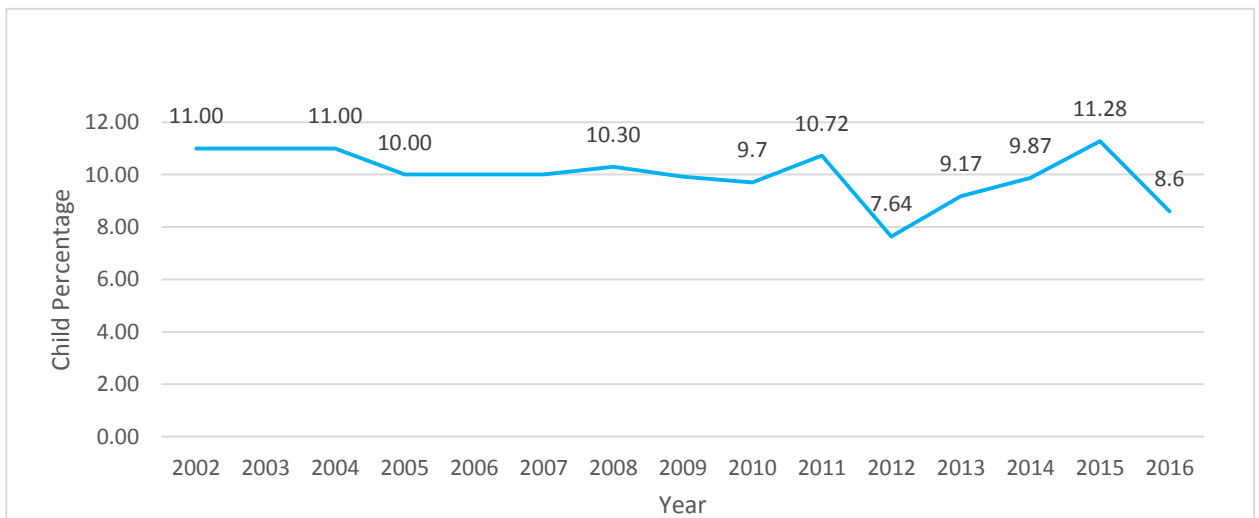
Source: Anti-Leprosy Campaign

#### Leprosy among Children in the country

Child case percentage among new leprosy cases has been fluctuating around 10% from 2002-2011. In 2012, it has dropped to 7.64% and after that it shows an increasing trend. In 2016, child percentage dropped to 8.6 % (Figure 5.32).

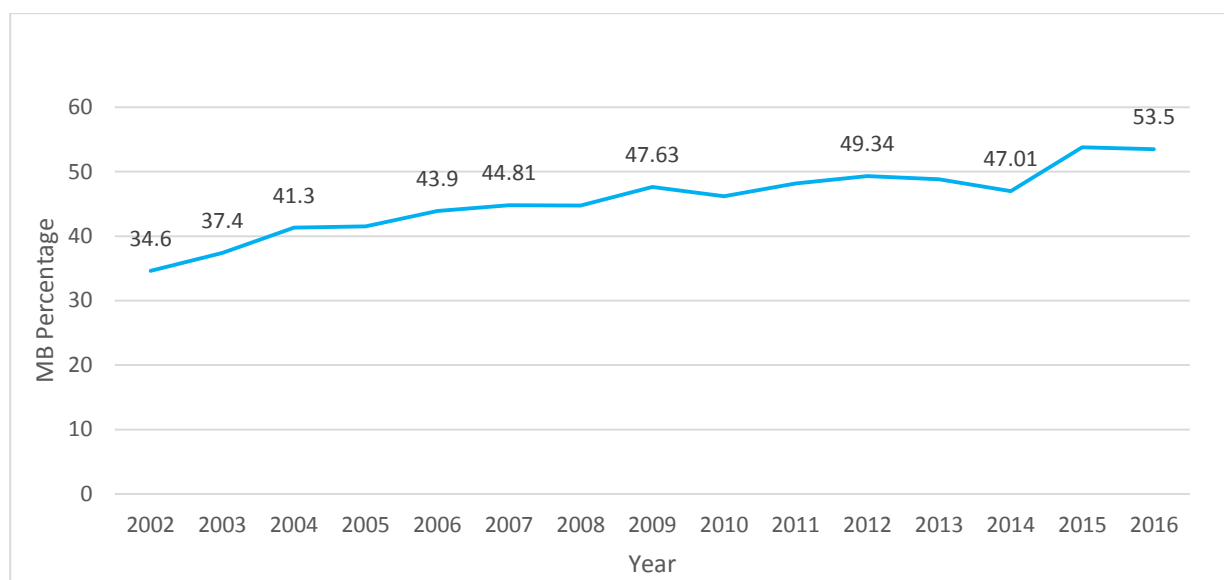
#### Multi-bacillary percentage

The percentage of leprosy cases diagnosed as multi-bacillary (MB) has gradually over the past 10 years, indicating that the disease was still being transmitted among the population.



**Figure 5.32: Child case percentage among new leprosy cases from 2002-2016**

Source: Anti-Leprosy Campaign



**Figure 5.33: Multi-Bacillary percentage at the time of diagnosis among leprosy cases from 2002 - 2016**

Source: Anti-Leprosy Campaign

### Epidemiological profile by province

The table below shows the provincial detection indicators of the country for the year 2016

**Table 5-6 : Provincial detection indicators of the country for the year 2016**

Province	Population <sup>1</sup>	Leprosy Cases		NCDR <sup>2</sup>	MB		Child		Grade 2 deformity	
		New cases	%		No.	%	No.	%	No.	%
Central	2690000	57	3.11	2.12	33	57.89	01	1.75	05	8.77
Eastern	1645000	207	11.29	12.58	129	62.32	21	10.14	14	6.76
Northern	1107000	54	2.94	4.88	37	68.52	05	9.26	09	16.67
North Central	1330000	149	8.13	11.2	89	59.73	13	8.72	11	7.38
North Western	2477000	174	9.49	7.02	98	56.32	11	6.32	12	6.9
Sabaragamuwa	2009000	125	6.82	6.22	74	59.2	08	6.40	13	10.4
Southern	2584000	256	13.97	9.91	126	49.22	22	8.59	14	5.47
Uva	1333000	70	3.82	5.25	39	55.71	07	10.00	07	10.0
Western	6028000	740	40.39	12.28	355	47.97	71	9.59	53	7.16

<sup>1</sup> Population source: Department of Census and Statistics

<sup>2</sup> NCDR – New Case Detection Rate

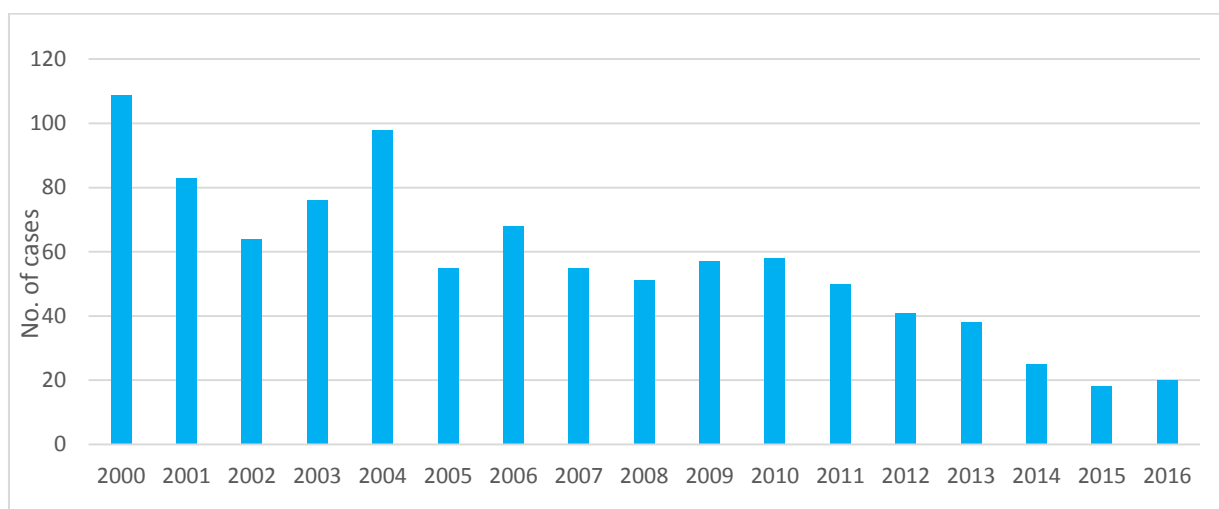
Source: Anti-Leprosy Campaign

### 5.11. Leishmaniasis

The number of notified cases of Leishmaniasis in 2016 was 1,256, of which 1,091 were clinically confirmed. Hambanthota had the highest number (390) reported, followed by Anuradhapura (277), Mathara (197), Polonnaruwa (137) and Kurunegala (111). The age group of 25-50 years had the largest percentage of notified cases (47.8%).

### 5.12. Rabies

Twenty-one lab confirmed cases of human rabies were reported in 2016. The districts reported higher numbers of cases were Kalutara (05), Kurunegala (04), Puttalam (03) and Jaffna (02). Districts of Anuradhapura, Batticaloa, Badulla, Mullathivu, Matale, Monaragala & Trincomalee reported one case each .



**Figure 5.34 : Human rabies cases reported to the Epidemiology Unit from 2000-2016**

Source: Epidemiology Unit

## 6. Non-communicable Diseases (NCD)

### 6.1. Major Non-Communicable Diseases

According to Indoor Morbidity and Mortality Return (IMMR) data for 2016, 48.83% of the total deaths in the government hospitals in Sri Lanka was due to major non communicable diseases such as cardiovascular disease, cancer, chronic respiratory diseases and diabetes mellitus.

According to the 2016 IMMR data, proportionate mortality for ischemic heart disease was 14.1%, neoplasms 12%, diseases of the respiratory system (excluding pneumonia, upper respiratory illnesses, influenza) was 8.3%, cerebrovascular disease accounted for 8.2% while 1.5% and 1.8% were due to hypertensive diseases and Diabetes Mellitus respectively.

#### Key messages

- Nearly 50% of the total government hospital deaths in Sri Lanka in 2016 were due to major non-communicable diseases<sup>1</sup>
- Over 50% of total deaths in Sri Lanka, reported through vital registration, were due to major chronic non-communicable disease<sup>2</sup>
- Ischemic heart disease has been the number one leading cause of hospital deaths for more than a decade.

<sup>1</sup> Source: Medical Statistics Unit, based on IMMR data

<sup>2</sup> Source: Registrar General Department, based on vital statistics 2013

**Table 6-1 : Number of deaths among all ages due to major NCDs in government hospitals in Sri Lanka - 2016**

Major NCD	ICD code	No. of deaths
Cardio vascular diseases	I00-I99	14,134
Cancer	C00-C97	5,016
Chronic respiratory diseases	J30-J98	3,529
Diabetes Mellitus	E10-E14	773

Source: Registrar General Department



**Table 6-2 : Number of deaths among all ages due to major NCDs in Sri Lanka - 2013**

Major NCD	ICD code	No. of deaths
Cardio vascular diseases	I00-I99	31,842
Cancer	C00-C97	12,895
Chronic respiratory diseases	J30-J98	9,149
Diabetes Mellitus	E10-E14	10,093

Source: Medical statistics unit, Ministry of Health

### Non-Communicable Diseases among women attending Well Women Clinics

The problems detected among the women screened at WWCs for different NCDs are given in the table below.

**Table 6-3 : Clinic attendance and morbidities detected at Well Woman Clinics 2012 – 2016**

Activity	2012	2013	2014	2015	2016
Number of 35-year old cohort attending clinics	62,833	73,359	74,871	94,089	111,798
Percentage of 35-year old cohort attending clinics (%)				42.7	52.8
35-year cohort coverage with pap smear screening (%)	28.9	33.9	34.6	41.8*	50.5
<b>First time attendees</b>					
Under 35 years (%)	8.0	6.0	6.1	9.3	3.23
35 years (%)	46.3	51.7	53.9	58.1	66.7
Above 35 years (%)	45.6	42.3	40.0	32.5	30.0
Diabetes Mellitus detected (%)	2.0	2.0	1.8	1.6	2.2
Hypertension detected (%)	3.7	4.1	3.6	3.4	3.8

Source: MCH Quarterly return - H 509 Family Health Bureau

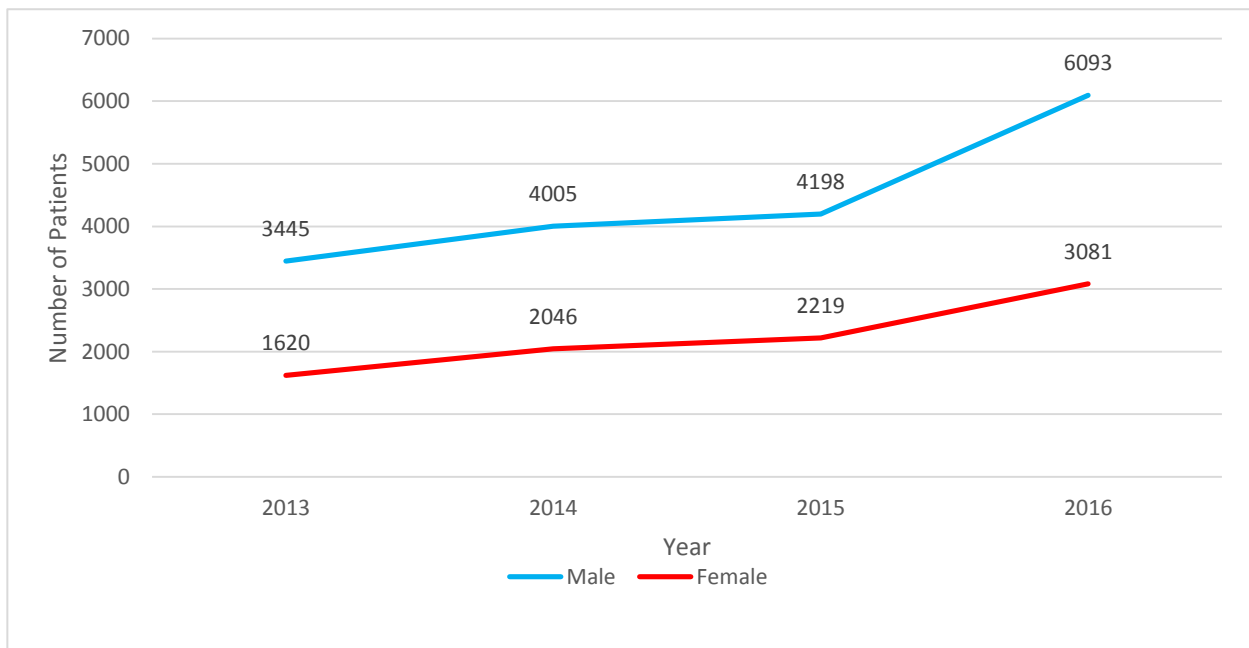
## 6.2. Chronic Kidney Disease

### Chronic Kidney Disease of Uncertain Aetiology CKDu

The Epidemiology Unit launched surveillance of Chronic Kidney Diseases in Sri Lanka in October 2013 as a sentinel surveillance covering areas known to report Chronic Kidney Disease of Uncertain Aetiology (CKDu). The primary objective of the surveillance was to assess the disease burden, socio-demographic factors and co-morbidities associated with CKDu.

Later on, the scope of the surveillance was broadened. The sentinel sites were expanded to collect nationwide representative data. The initial paper-based system was converted to a real time online data reporting system. In parallel to above changes, surveillance was renamed as the National Renal Registry.

The National Renal Registry (NRR) is expected to serve as the national database on renal diseases. It captures socio-demographic information and all clinical details. The primary data entering is done at sentinel site hospitals. It further facilitates continuation of follow up in curative care settings and also in field preventive care settings through Medical Officers of Health. (Source: Epidemiology Unit)



**Figure 6.1: No. of CKDu patients as reported to the National Renal Registry**

Source: National Renal Registry, Epidemiology Unit

## 6.3. Injuries

### Traumatic injuries

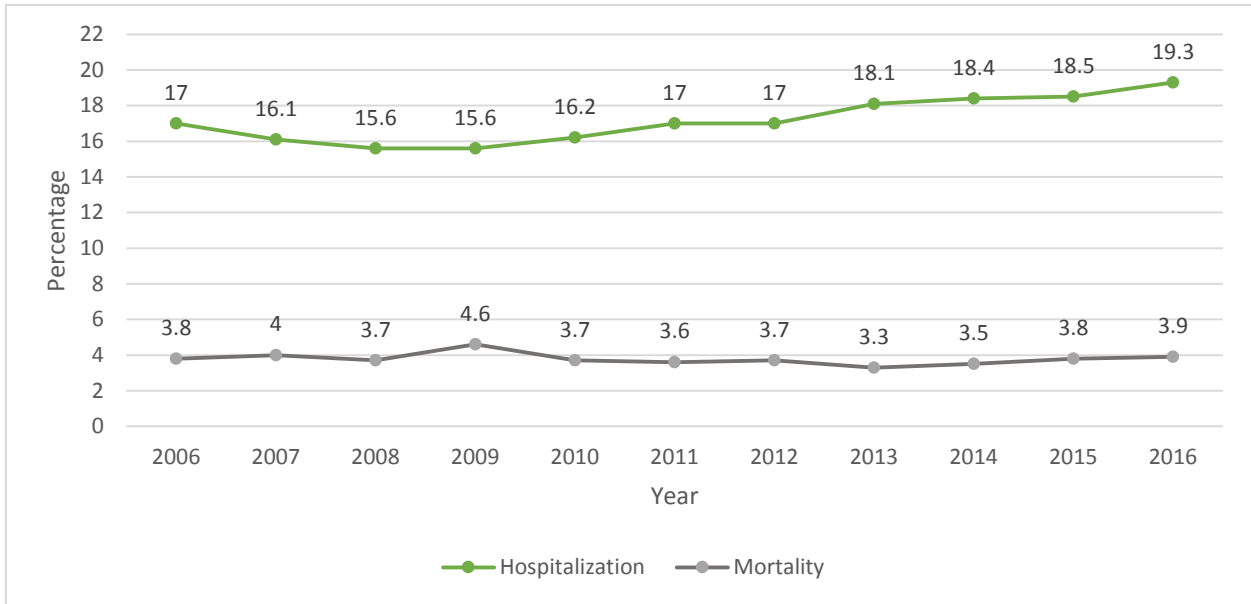
- Injuries were the number one cause of hospitalization over the last two decades
- More than 1 million people were hospitalized in 2016 due to injuries
- It was the 10<sup>th</sup> cause of hospital deaths in Sri Lanka in 2016
- Lives of 1675 victims admitted for inward care following traumatic injuries were lost in 2016
- National injury surveillance was started in 2016, and specific injury related data have been obtained since 2014 through this system
- National injury policy, which was pending cabinet approval, will address most of the aspects of injury prevention in Sri Lanka

Injuries were the number one cause of hospitalization in Sri Lanka for last 2 decades. In each year, more than 1 million people were hospitalized due to injuries. For last 10 years, traumatic injuries accounted for about 15 - 19 % of total admissions to government hospitals. However, over last 5 years, mortality due to traumatic injuries remained low accounting around 3.7% of all deaths, and it was the 10<sup>th</sup> cause of mortality among hospitalized patients. In 2016, 1675 lives were lost due to traumatic injuries (Total number of deaths excluding undiagnosed/uncoded occurred in hospitalized patients in 2016 was 42,961)

The true picture could be totally different from what is reported through IMMR since IMMR reports only details of the patients who had

inward care. As government hospitals usually admit about 25 – 30% from all victims attending to hospitals for inward care, the total number of victims received inward as well as outpatient care may be more than the reported number. Further, as a considerable number of victims attend to health care facilities delivered by other sectors (private sector, Ayurvedic etc) other than government hospitals and also as some victims who need medical attention seek home remedies without attending any health facility, the number of victims due to injuries may be even more than the reported numbers. Due to the scarcity of injury related information, Non-Communicable Disease (NCD) Unit has started obtaining specific information related to injuries from base and above hospitals (base hospitals, district general hospitals, provincial general hospitals, and teaching hospitals) since 2014. Although this does not provide all details, it provides burden of injuries by specific injury mechanism in the country.

To fulfil the national requirements, in 2016, National Injury Surveillance system was launched as a sentinel site surveillance. In the first step, it was implemented in base and above hospitals. In 2016, only a very few hospitals reported injuries through the system. It will be gradually introduced to all health care institutions in Sri Lanka, not only for government sector institutions, but also for ayurvedic and private sector institutions. To streamline and strengthen all activities related to injury prevention, an injury policy was prepared, and the draft of injury policy has been finalized by NCD unit and awaiting cabinet approval.



**Figure 6.2 : Trend of hospitalization and mortality due to traumatic injuries (2006 – 2016)<sup>4</sup>**

Source: Medical Statistics Unit

<sup>4</sup> Note:1. Hospitalisations due to Single spontaneous delivery (O80), False labour(O47) and those admitted and discharged before delivery, Persons encountering health services for examinations, investigation and for specific procedures of health care (Z00-Z13,Z40-Z54) and Undiagnosed / Uncoded hospitalizations are excluded when calculating Total Hospitalisations.

2. All deaths excluding undiagnosed / uncoded are considered when calculating the percentage.

## 6.4. Cancer

### **Public awareness and screening programmes**

National Cancer Control Programme (NCCP) carried out awareness programmes targeting possible change agents for risk factor prevention including teachers, religious based organizations and university students. The awareness programmes together with screening programmes were carried out targeting high risk groups (community groups prone to have higher prevalence of risk factors) including estate workers, office workers, prison inhabitants and regionally identified high risk communities.

### **Cancer Prevention & Control Activities at Provincial Level**

The Provincial Directors of Health Services and Regional Directors of Health Services were 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.

### **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.

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*The most prevalent cancer in females was breast cancer while the most prevalent cancers in males were lip, oral cavity and pharynx cancers*

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**Table 6-4 : Screening for common cancers conducted by National Cancer Control Programme - 2016**

		<b>Suwa Udana Clinics organized by the Ministry</b>	<b>Other Mobile Clinics attended through invitation</b>	<b>National Cancer Early Detection Centre</b>	<b>Total</b>
No. of clinics held		30	89	244	333
Total no. of clinic attendees		1077	2252	2879	6208
Breast Examination	No. examined	1077	2252	2562	5891
	No. of abnormalities detected	149	349	1086	1584
Vaginal Examination	No. examined	592	1148	810	2550
	No. of abnormalities detected	47	84	122	253
Pap Smears	No. of PAP smears taken	505	1138	780	2423
	No. of PAP smear reports received	291	1123	961 <sup>5</sup>	2375
	No. of abnormalities detected	65	275	210	550
	No. of reports with CIN stages	4	15	21	40
Oral Examination	No. examined	1077	2252	2879	6208
	No. of abnormalities detected	15	24	33	72
Thyroid Examination	No. examined	1077	2252	2575	5904
	No. of abnormalities detected	11	13	30	54
No of Mammographies done		-	-	243	243
No of colposcopy examinations done		-	-	57	57
No of referrals made		143	254	478	875

<sup>5</sup> Including pap smears taken in the previous year

**Table 6-5 : Clinic attendance and morbidities detected at Well Woman Clinics 2012 – 2016**

Activity	2012	2013	2014	2015	2016
Number of 35-year cohort attending clinics	62833	73359	74871	94089	111,798
Percentage of 35-year cohort attending clinics (%)				42.7	52.8
35-year cohort coverage with pap smear screening (%) -	28.9	33.9	34.6	41.8	50.5
<b>First time attendees</b>					
Under 35 years (%)	8.0	6.0	6.1	9.3	3.23
35 years (%)	46.3	51.7	53.9	58.1	66.7
Above 35 years (%)	45.6	42.3	40.0	32.5	30.0
Cervical smears reported as high and low-grade lesions (%)	0.2	0.3	0.2	0.3	0.4
Cervical smears reported as malignant (Carcinoma) (%)	0.02	0.04	0.03	0.02	0.03
Cervical smears reported HPV (%)	0.1	0.1	0.2	0.2	0.1
Breast abnormalities detected (%)	1.4	1.8	1.5	1.5	1.6

Source: MCH Quarterly return - H 509 Family Health Bureau

## 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 2010 was published in 2016.

In addition, since 2012, population-based cancer registry has been initiated for the Colombo District. These data are yet to be analysed.

Source: National Cancer Control Programme

- There may 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 2009 was 16,888 vs. the 20, 538 in Table 6.6 and for 2010 it was 16, 963 vs. 21,517 noted as Table 6-6”
- Provincial Cancer Treatment Center in TH Batticaloa commenced functioning in 2009.

**Table 6-6 : No. of newly registered cancer patients at Government Cancer Treatment Centres**

Cancer Treatment Centre	Year								
	2008	2009	2010	2011	2012	2013	2014	2015	2016
NCI - Maharagama	11,163	11,756	11,513	12,403	12,550	12,689	13,247	13,890	14,248
TH-Kandy	3,648	3,634	4,046	5,042	3,717	3,516	4,000	4,023	3,877
TH -Karapitiya	1,764	1,866	1,793	2,193	2,158	2,455	2,479	2,394	2,595
TH -Jaffna	412	479	659	1,055	1,048	1,061	1,032	1,100	1,099
TH - Anuradhapura	712	551	641	698	803	850	1,114	1,300	1,131
PGH - Badulla	753	794	858	1,430	2,152	2,203	1,527	2,285	2,225
TH – Batticaloa <sup>6</sup>	-	169	565	727	1,094	932	897	900	1,325
TH - Kurunegala	538	804	806	1,174	1,122	1,042	1,238	1,680	1,863
PGH – Rathnapura	319	485	636	735	808	767	807	902	1094
<b>Total</b>	<b>19,309</b>	<b>20,538</b>	<b>21,517</b>	<b>25,457</b>	<b>25,452</b>	<b>25,515</b>	<b>26,341</b>	<b>28,474</b>	<b>29,457</b>

Source: National Cancer Control Programme

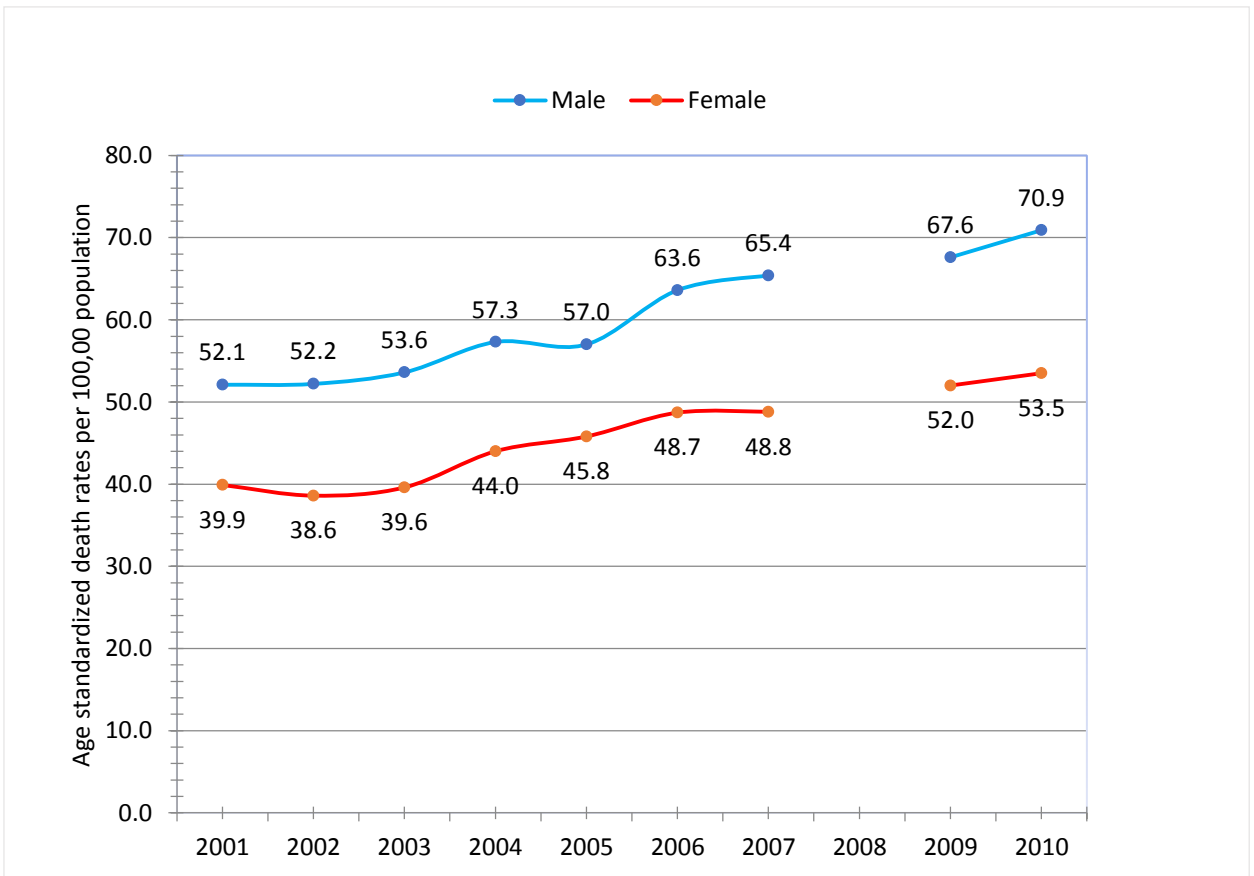
<sup>6</sup> Provincial Cancer Treatment Center in TH Batticaloa commenced functioning in 2009



### Trend in deaths due to neoplasms 1985 – 2010

Among males 6438 deaths due to cancer were reported during 2010 with an Age Standardized Death Rate of 70.9. For females 5398 deaths due to cancer were reported with an Age Standardized Death Rate of 53.5.

The **age-standardized mortality rate** is a weighted average of the **age-specific mortality rates** per 100,000 persons, where the weights are the proportions of persons in the corresponding **age** groups of the WHO standard population.



**Figure 6.3 : Age standardized death rates due cancer 2001 - 2010**

Source: National Cancer Control Programme

## Trends of types of cancers from 2001 to 2010

The top 10 cancers reported among females & males respectively from 2001-2010 are given below.

**Table 6-7 : Top ten cancers reported in females 2001 to 2010**

New cases detected – Female										
Cancer Site	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Breast	1548	1580	1580	1746	1859	2101	1914	2220	2293	2401
Cervix uteri	744	753	753	816	881	936	732	858	879	847
Ovary	466	539	539	627	596	671	529	637	698	680
Thyroid	337	451	451	555	592	683	656	815	816	832
Oesophagus	498	490	490	554	524	610	534	617	608	496
Lip, oral cavity & pharynx	369	364	364	414	377	390	398	477	520	534
Colon & rectum	245	258	258	310	353	372	405	508	517	516
Leukaemia	218	241	241	265	257	267	275	285	310	290
Lymphoma	223	144	144	230	243	257	257	288	252	275
Uterus	168	177	177	201	237	251	263	397	397	386
Total number of cases	<b>5901</b>	<b>6351</b>	<b>6445</b>	<b>7009</b>	<b>7314</b>	<b>7875</b>	<b>7279</b>	<b>8816</b>	<b>9030</b>	<b>8970</b>

Source: National Cancer Control Programme

**Table 6-8 : Top ten cancers reported in males 2001 to 2010**

Number of new cases detected – Male										
Cancer Site	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010
Lip, oral cavity & pharynx	1234	1137	1024	1201	1240	1427	1415	1630	1773	1888
Trachea, bronchus & lungs	516	519	600	633	666	691	723	814	875	806
Oesophagus	420	416	449	461	498	486	530	664	656	574
Colon & rectum	241	280	278	354	388	371	409	477	489	567
Lymphoma	231	285	301	298	360	369	363	434	408	419
Larynx	284	303	262	290	324	341	343	393	393	384
Leukaemia	274	300	321	350	313	329	332	344	378	354
Prostates	250	297	259	273	303	321	305	369	381	480
Unknown primary site	282	276	319	232	257	303	326	423	404	436
Bladder	131	153	163	147	171	196	164	138	149	269
Total number of cases	<b>5262</b>	<b>5283</b>	<b>5437</b>	<b>5624</b>	<b>6058</b>	<b>6205</b>	<b>6356</b>	<b>7695</b>	<b>7858</b>	<b>7993</b>

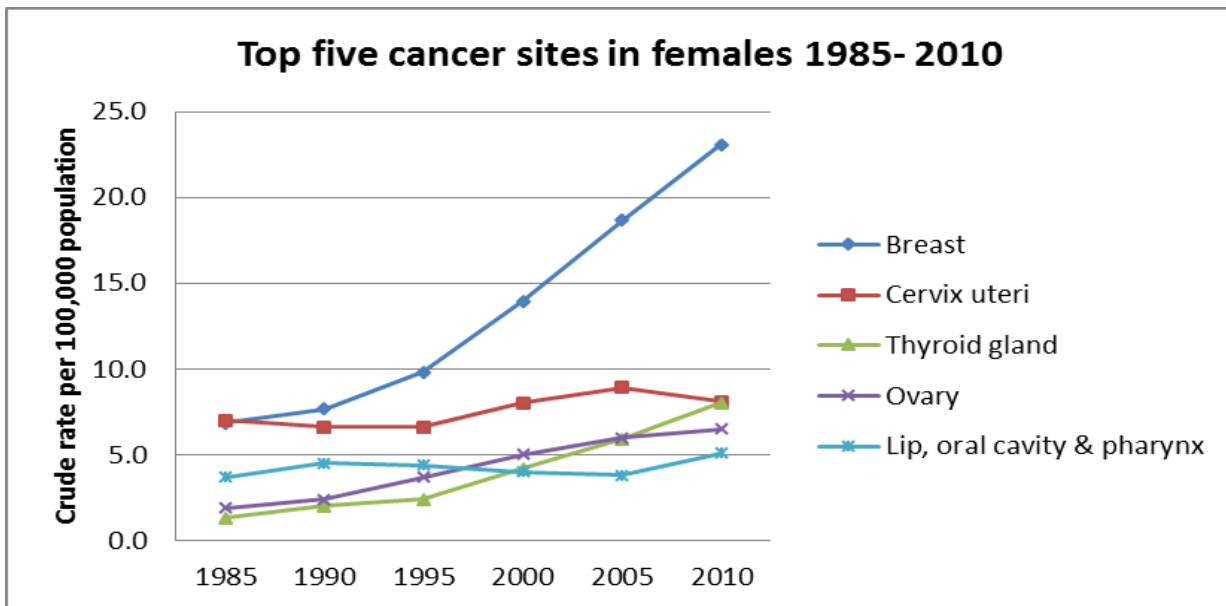
Source: National Cancer Control Programme

**Trends in cancer crude incidence rates  
1985- 2010**

cases detected per 100, 000 population per year

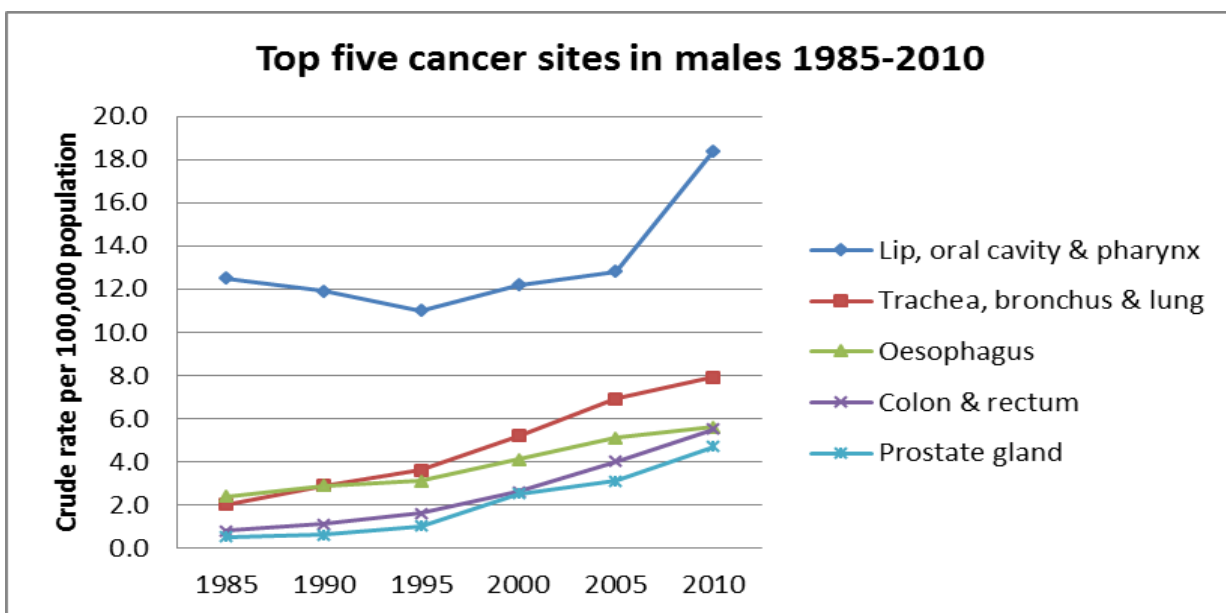
The trend of Crude Incidence Rate of cancers is given in the graphs below. Crude Incidence Rate is the number of new cancer

**Content Source:** National Cancer Control Programme



**Figure 6.4 :** Crude Cancer incidence rate for Top five cancer sites in females 1985 – 2010

Source: National Cancer Control Programme



**Figure 6.5:** Crude Cancer incidence rate for Top five cancer sites in males 1985-2010

Source: National Cancer Control Programme

**Table 6-9 : Distribution of cancer incidence by geographical area - 2010**

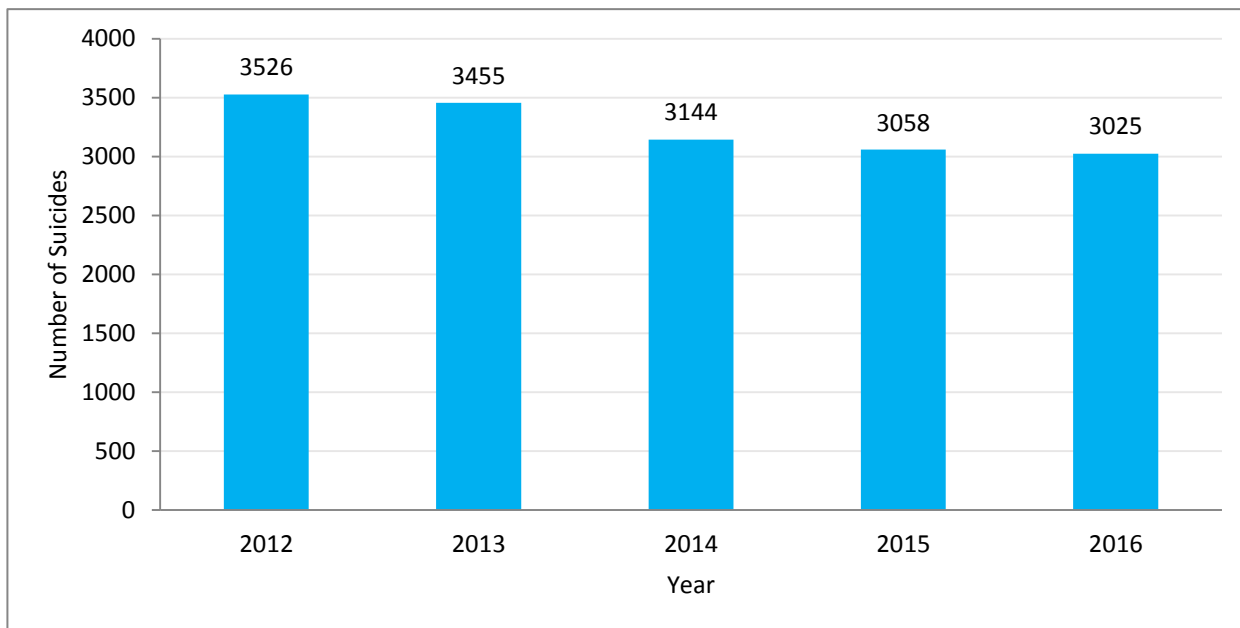
Province	District	Male		Female		Total	
		No	%	No	%	No	%
<b>Central</b>							
	Kandy	655	8.2	835	9.3	1490	8.8
	Matale	191	2.4	170	1.9	361	2.1
	Nuwara Eliya	192	2.4	219	2.4	411	2.4
<b>Eastern</b>							
	Trincomalee	50	0.6	101	1.1	151	0.9
	Bataloa	133	1.7	173	1.9	306	1.8
	Ampara	123	1.5	165	1.8	288	1.7
<b>Northern</b>							
	Vavuniya	32	0.4	58	0.6	90	0.5
	Mullativu	6	0.1	12	0.1	18	0.1
	Kilinochchi	16	0.2	26	0.3	42	0.2
	Mannar	11	0.1	28	0.3	39	0.2
	Jaffna	149	1.9	207	2.3	356	2.1
<b>North Central</b>							
	Anuradhapura	237	3.0	294	3.3	531	3.1
	Polonnaruwa	131	1.6	123	1.4	254	1.5
<b>North Western</b>							
	Kurunegala	562	7.0	530	5.9	1092	6.4
	Puttlam	187	2.3	214	2.4	401	2.4
<b>Sabaragamuwa</b>							
	Ratnapura	276	3.5	346	3.9	622	3.7
	Kegalle	325	4.1	351	3.9	676	4.0
<b>Southern</b>							
	Galle	515	6.4	592	6.6	1107	6.5
	Matara	317	4.0	379	4.2	696	4.1
	Hambantota	190	2.4	233	2.6	423	2.5
<b>Uva</b>							
	Moneragala	75	0.9	84	0.9	159	0.9
	Badulla	345	4.3	373	4.2	718	4.2
<b>Western</b>							
	Colombo	885	11.1	1192	13.3	2077	12.2
	Gampaha	784	9.8	916	10.2	1700	10.0
	Kalutara	375	4.7	548	6.1	923	5.4
<b>Total</b>		<b>7993</b>	<b>100.0</b>	<b>8970</b>	<b>100.0</b>	<b>16963</b>	<b>100.0</b>

Source: National Cancer Control Programme

## 6.5. Mental Health

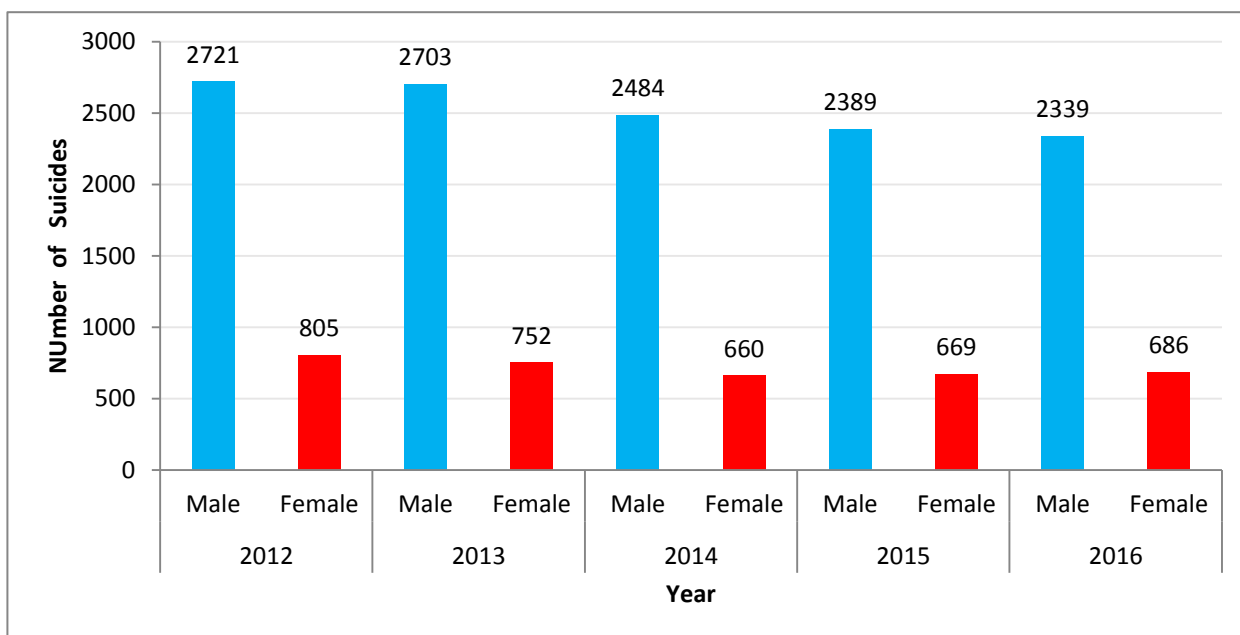
*Suicides remain a significant public health problem in Sri Lanka*

### 6.5.1. Suicides



**Figure 6.6 : Suicides have shown a gradual decrease over the past few years**

Source: Directorate of Mental Health



**Figure 6.7: Suicides among males has shown a gradual decrease over the past few years**

Source: Directorate of Mental Health

Sri Lanka had a crude suicide rate of 14.27 per 100,000 population in 2016, when the regional and global suicide rate were 12.9 and 10.7 per 100,000 respectively (WHO, 2017). This was a significant reduction from the 1995 crude suicide rate of 47 per 100,000 and can be attributed to the activities of the Presidential Task Force established in 1997, which focused mainly on the prevention of suicides due to pesticide ingestion.

- Suicides among females has shown a slight increase in 2016 when compared to 2015
- Nearly 20% of the suicides were due to marital disharmony, 12.65% of the suicides were due to the presence of chronic diseases and disabilities and 8% of the deaths were due to mental disorders in 2016. More than a third (35.3%) of the causes for suicides was not available.
- More than half of the suicides (52%) were due to hanging and 28.9% were due to the ingestion of insecticides and pesticides in 2016. There were no marked differences between the methods used for suicides in 2015 compared to methods used in 2016 (i.e. 49.5% by hanging and 30.0% due to ingestion of insecticides and pesticides in 2015)

*(Data source: Statistics unit- Sri Lanka Police)*

### **Actions taken**

- Stakeholder awareness was created including media on suicide prevention. Capacity building of health staff on life skill building of youth and adolescents, good parenting and counselling for teachers were carried out in high prevalent areas.
- Studies have shown that almost half of the males who committed suicide were addicted to alcohol (Abeyasingh R, 2008). Therefore, Ministry of Health is in the process of implementing actions proposed in the National Policy on Alcohol Control which was launched in 2016 mainly targeting the youth and adolescents and those who are addicted. Many programs were conducted to strengthen multi-stakeholder collaboration and to educate the general public with the aim of reducing alcohol use in the community.
- Additional support has been provided with increases in the availability of more professionals for inpatient and outpatient mental health services
- IEC campaign was designed to raise awareness on suicide prevention with the aim of promoting mental health awareness among the general public.

### Recommendations

Preparation of a strategic plan for the prevention of suicides in Sri Lanka. process has been started and several focus group discussions were conducted to garner input on suitable strategies for the prevention of suicides in Sri Lanka. The new strategy is mainly based on a life cycle approach and will focus on development of life skills for both children and adults, effective utilization of mental health services and responsible media coverage. An apex body will be formulated for the implementation and finalization of the strategy

### 6.5.2. Mental health issues

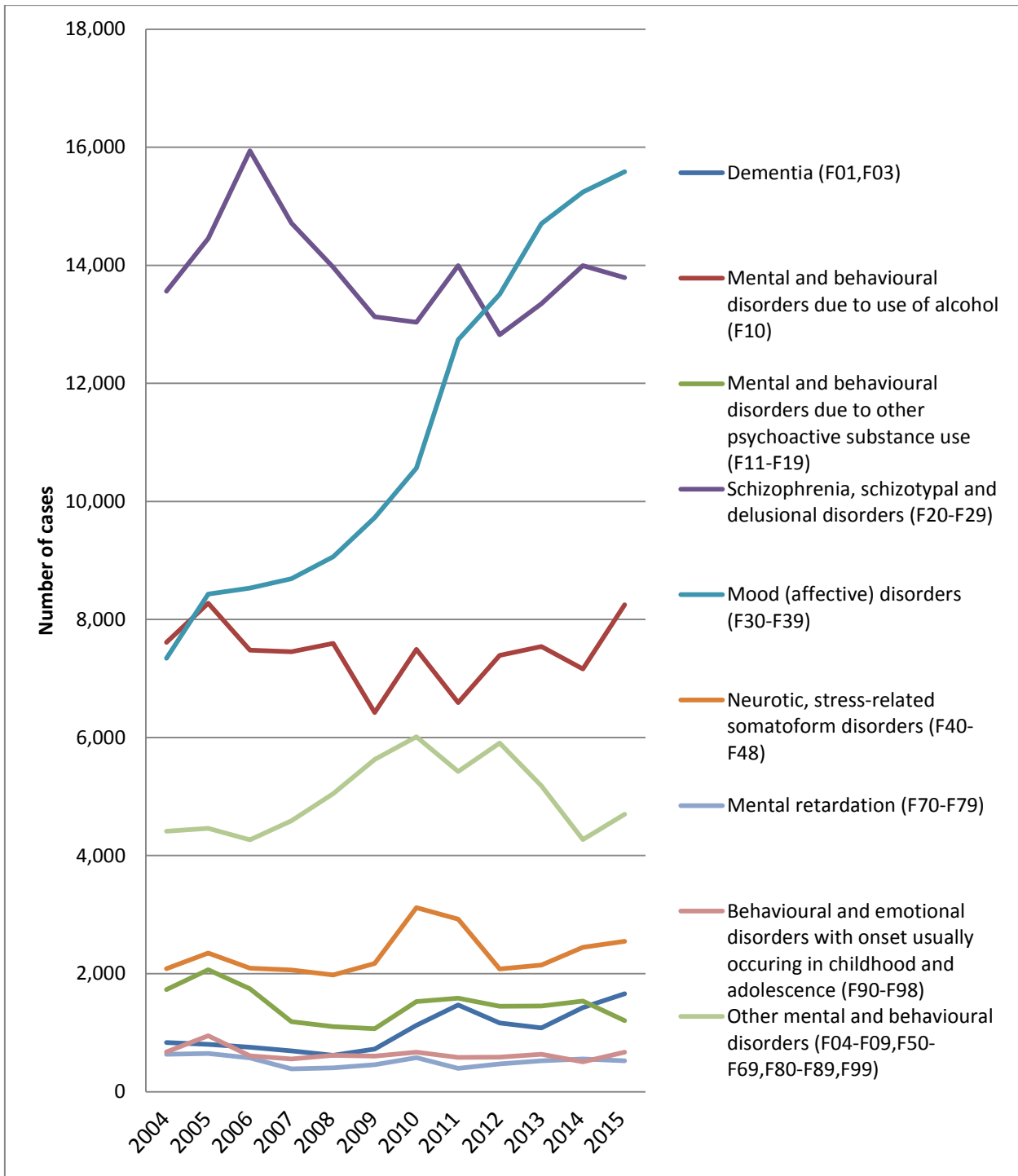
There is an overall increase in admission to state sector hospitals, due to mental & behavioural disorders during past years (IMMR, Medical Statistic Unit). This increase might be due to improvement of diagnostic facilities as well as increased reporting.

This rise could be actual increase of mental illnesses or due to ncreased awareness on mental disorders improving health seeking behavior among the community.

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*Mental disorders were in the rise in Sri Lanka*

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**Figure 6.8 : Admissions due to mood (affective) disorders have almost doubled from 2004-2015**

Source: Directorate of Mental Health



**Actions taken:**

1. Funds were mobilized from the national budget to strengthen acute psychiatric inpatient and outpatient care for mentally ill patients.
2. Human resources were strengthened with cadre increase and new recruitment for psychiatric units to provide multi-disciplinary care.
3. Out patients' clinics were increased to cover all MOH divisions in the country
4. Consumer and carer societies were strengthened to facilitate rehabilitation process.
5. Management Information system on Mental Health was revised to obtain more accurate and good quality data on timely manner.

**Recommendations**

1. Increase allocation of funds to provide acute psychiatric inward care in all districts
2. Increase allocation of cadre of medical officers to mental health.
3. Regularize allocation of para medical care for mental health care.

## 7. Oral Health

### 7.1. Oral Disease Trends

The fourth National Oral Health Survey by the Ministry of Health, in collaboration with World Health Organization, was completed in 2016. This survey indicates overall improvements in the prevalence and severity of dental caries and improvements in periodontal health despite prevailing a substantial problem among all age groups (Table 7-1, 7-2)

*Sri Lanka continues to experience improvements in prevalence and severity of dental caries and improvement in periodontal health*

**Table 7-1 : Prevalence and Severity of Dental Caries**

Age group	Prevalence & Severity	1993/94	1994/95	2002/03
6 years	Prevalence (%)	78.0	76.4	65.5 (5yrs)
	DMFT	4.4	4.1	3.6 (5yrs)
12 years	Prevalence (%)	67	53.1	40.0
	DMFT	1.9	1.4	0.9
35-44 years	Prevalence (%)	92	91.1	91.5
	DMFT	9.2	10.1	8.4

Source: National Oral Health Survey; Deputy Director General (Dental Services) Division

**Table 7-2 : Prevalence of Healthy gums in 12 years and 35-44 year olds**

Age group	1983/84 Prevalence (%)	1994/95 Prevalence (%)	2002/03 Prevalence (%)
12 years	12.0%	13.3%	27.2%
35-44 years	6.5%	2.1%	10.1%

Source: National Oral Health Survey; Deputy Director General (Dental Services) Division

### **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 and 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.

### **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.

**Content Source:** Division of Deputy Director General (Dental Services)

### **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 (7.3% & 35.8% respectively) on their last visit. Majority of adults (44.19%) aged 35-44 years visited hospital dental clinic and General Dental Practice (33.59%).

The most frequent type of treatment received was tooth extraction, among all index age groups, with the highest level of about 75% among the 65-74 age group.

# Risk Factors

## 8. Risk Factors

This chapter concentrates on factors that work together or individually to act on individual health as well as the health of communities.

Special attention is required to the contents of this chapter as there are many factors that determine the disease burden of the country.

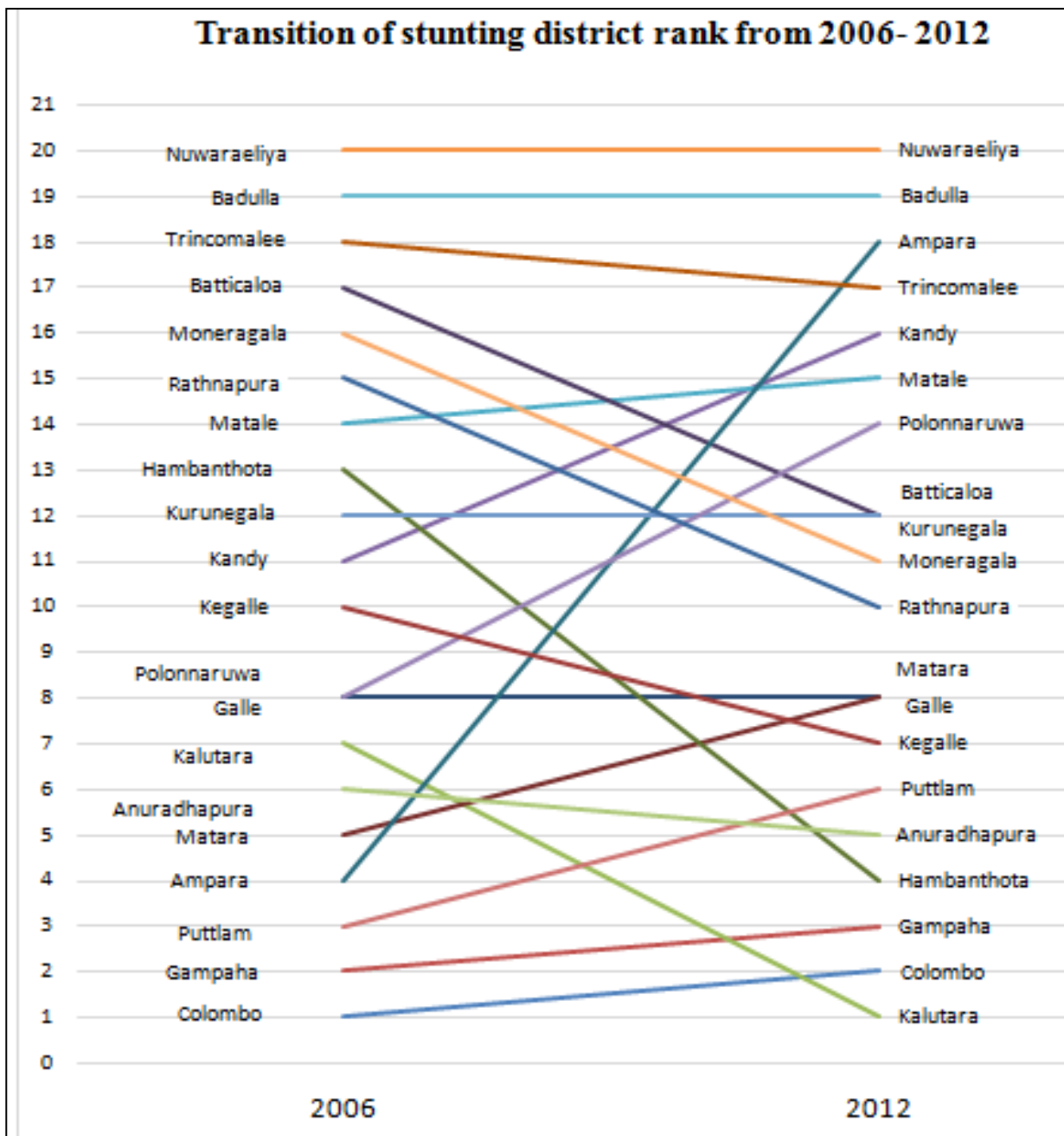
In addition to the risk factors discussed in this chapter it is vital to pay attention on effect of other risk factors such as Air Quality, Food Safety on determining the disease burden.

### 8.1. Food and Nutrition Related Risk Factors

In Sri Lanka indicators of under nutrition are currently stagnant while overweight and obesity is rising. Availability, accessibility and affordability of food directly affects dietary intake. Therefore, strengthening multi-sectoral partnership to upgrade food production, distribution and wastage minimization is essential to maintain sustainable food systems.

Further, strong monitoring and evaluation system at all levels is mandatory to streamline the nutrition interventions thereby to achieve the SDG targets in 2030.

- **Improving food security via strengthening multi-sectoral partnership is crucial in addressing National Nutrition problems**
- **Inter-district disparity is evident in progress of nutrition problems over the years; hence district specific measures are needed to overcome nutrition issues**



**Figure 8.1 : Transition of stunting among under five-year-old children: district rank from 2006-2012**

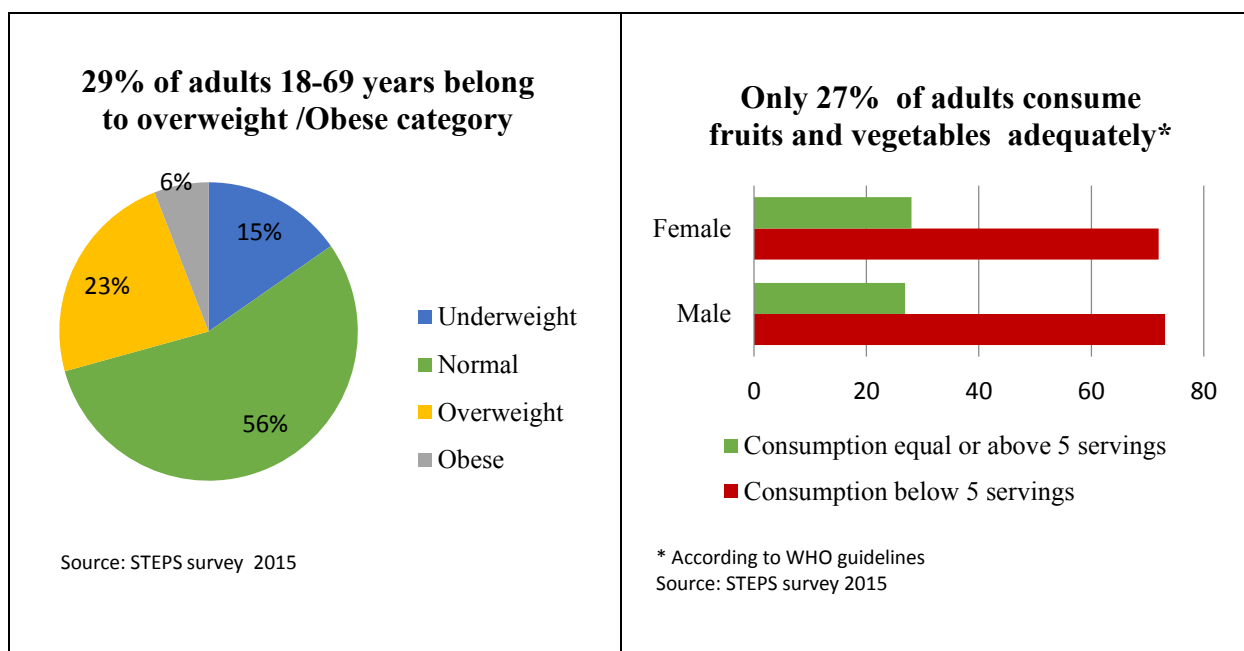
Source: Nutrition Coordination Division

## **Actions Taken**

1. Implementation of District Nutrition Action Plan – District level priority nutrition problems were identified in joint collaboration of National and district level nutrition programme managers. Targeted evidence based interventions (such as) to improve nutrition status were implemented.
2. Implementation of evidence based maternal and child nutrition interventions island wide as an integrated package through the maternal and child health programme
3. Implementation of multi sector action plan - village, district and provincial level committees with multi-sectoral representation were established and regular discussion on nutrition problems were conducted at each level. At village- level, families with nutrition problems were identified and remedial actions were taken to strengthen supportive mechanisms.

### **Recommendations**

- 1 Mechanism to ensure sustainability of targeted interventions is needed.
- 2 Special attention is needed to assess reach of targeted interventions to specific vulnerable groups.
- 3 Effective monitoring and evaluation system is needed for implementation of multi sector action plan.



**Figure 8.2 : Body Mass Index and unhealthy food habits**

Source: STEPS Survey 2015

**Table 8-1 : Overweight (BMI ≥25) and obesity (BMI≥30) among adult population (Age 18 – 69) of Sri Lanka**

	Percentage of persons with Overweight (BMI ≥25)		Percentage of persons with Obesity (BMI≥30)	
	2007	2015	2007	2015
Female	30.4	34.3	-	8.4
Male	19.6	24.6	-	3.5
Both sexes	25.0	29.3	-	5.9

Source: STEPS Survey 2015

**Consumption of fruits and vegetables is unsatisfactory among adults**



## Actions Taken

Introduction of Nutrition month themes “Shape your meal to shape your body”- food plate composition was defined and disseminated via national and regional level nutrition programme managers. Relevant IEC material was developed and distributed among target groups

### Recommendations:

1. A more strategic approach to disseminate the message in a more sustainable manner is needed.
2. The message has to be linked to behavior change approaches in work sites and household level
3. Need to strengthen supportive environments in worksites, such as implementing this composition of food plate and to reduce consumption of sugar in worksite canteens

*Content Source: Directorate of Nutrition, Family Health Bureau & Nutrition Coordination Division*

## 8.1.1. Maternal and Child Nutrition Related Risk Factors

### Anaemia in pregnancy

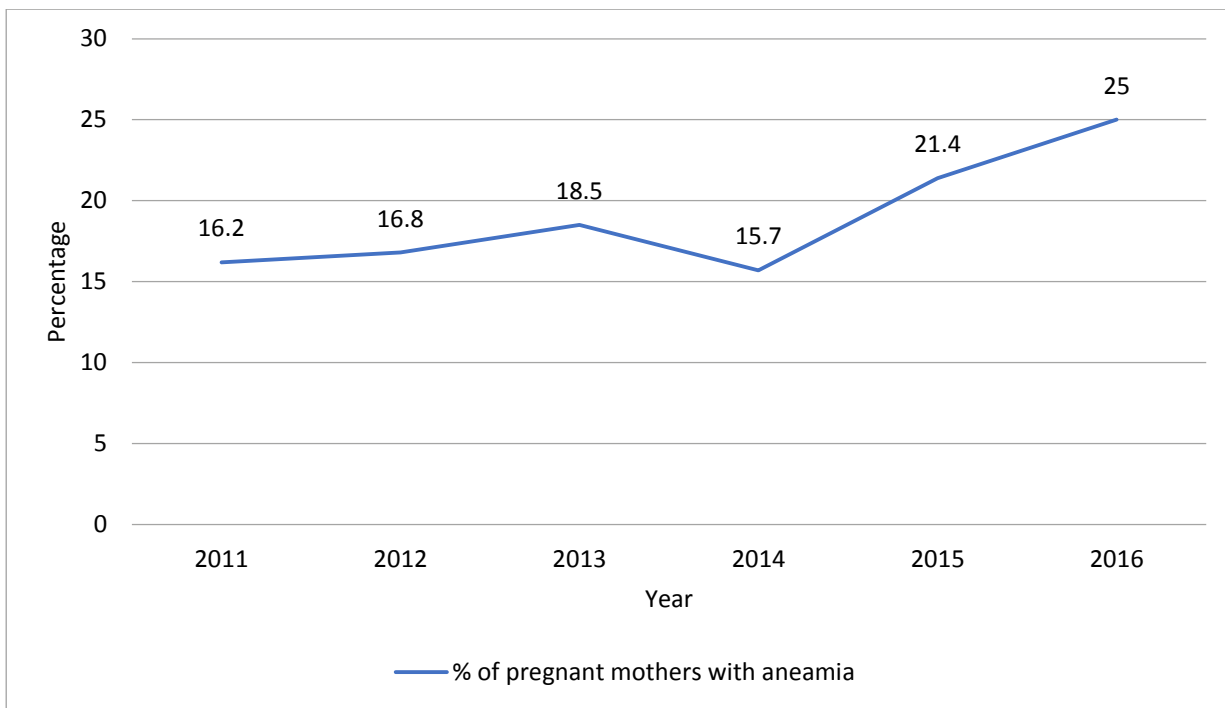
Maternal nutrition is an important associate of the birth weight of the new born which in turn affect the child’s nutrition. Pregnant women with nutritional deficiencies should be identified as early as possible to mitigate the effects on foetus.

Out of every four pregnant women one is found to be an anaemic (Hb< 11g/dl). This increase was evidence may be due to improved screening services in the field. According to the National Nutrition and Micronutrient Survey of Pregnant Women in , Sri Lanka (2015) conducted by Medical Research Institute , Ministry of Health, the prevalence of anaemia in Sri Lankan pregnant women was reported as 31.8% .

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***Out of every four pregnant women one is found to be an anaemic***

---



**Figure 8.3 : In 2016, 25% of pregnant women are found to be anaemics (Hb< 11g/dl)**

Source: Family Health Bureau

Categorisation of anaemia showed that majority (74% of anaemic women) were mildly anaemic, with another 26% being moderately anaemic. No cases of severe anaemia were found in survey population. National surveys conducted during past have shown gradual improvement of maternal anaemia over the time. However, in-depth causal analysis is essential to interpret this finding further.

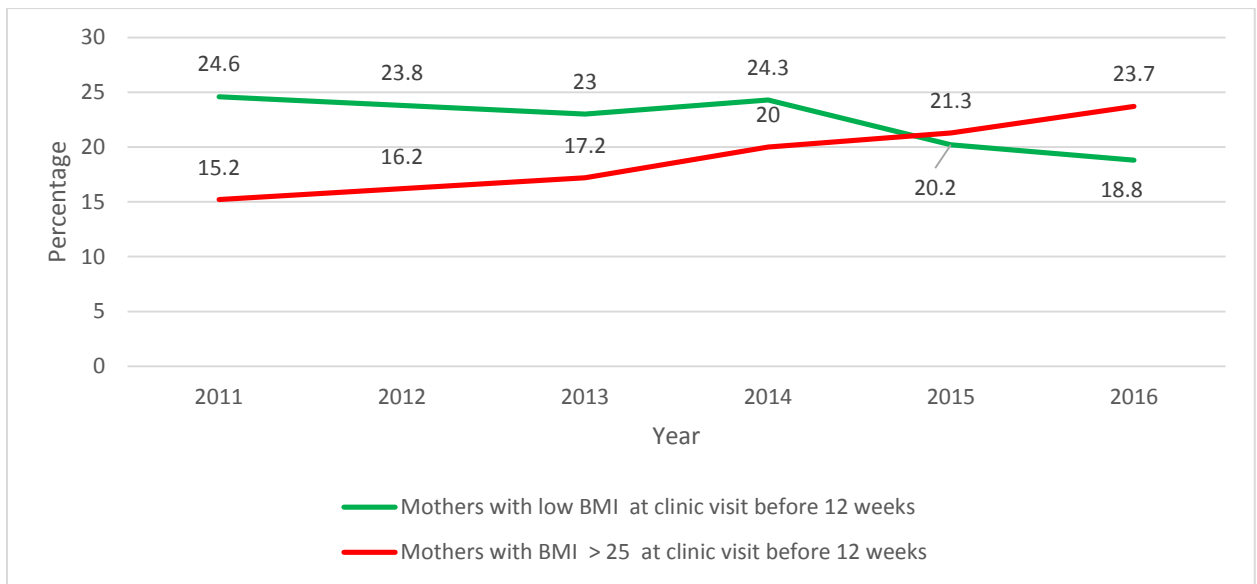
#### Recommendation

Multi sectoral, long-term programme with further causal analysis is required to combat the increasing prevalence of anaemia in pregnancy.

Improve compliance with iron folic acid supplementation implemented through the MCH programme

Inter-district variations have been observed in nutritional status, such as anaemia, BMI status among pregnant women. Therefore, it is essential to investigate the underlying factors and develop plans and programmes at sub national level to improve the maternal nutrition status in the country.

## BMI in Pregnancy



**Figure 8.4 : There is a significant increase in number of mothers with BMI more than 25 (before 12 weeks) visiting antenatal clinics over the last five years**

Source: Family Health Bureau

During the last three years there is a significant increase in number of mothers with BMI more than 25 (before 12 weeks) visiting antenatal clinics, while decrease in the number of mothers who are normal or underweight.

**Among pregnant mothers visiting antenatal clinics, during the last three years, there is a rise in mothers who are either overweight or obese**

District distribution of low weight birth rate is illustrated in Detailed Table 40 (Annexure 01).

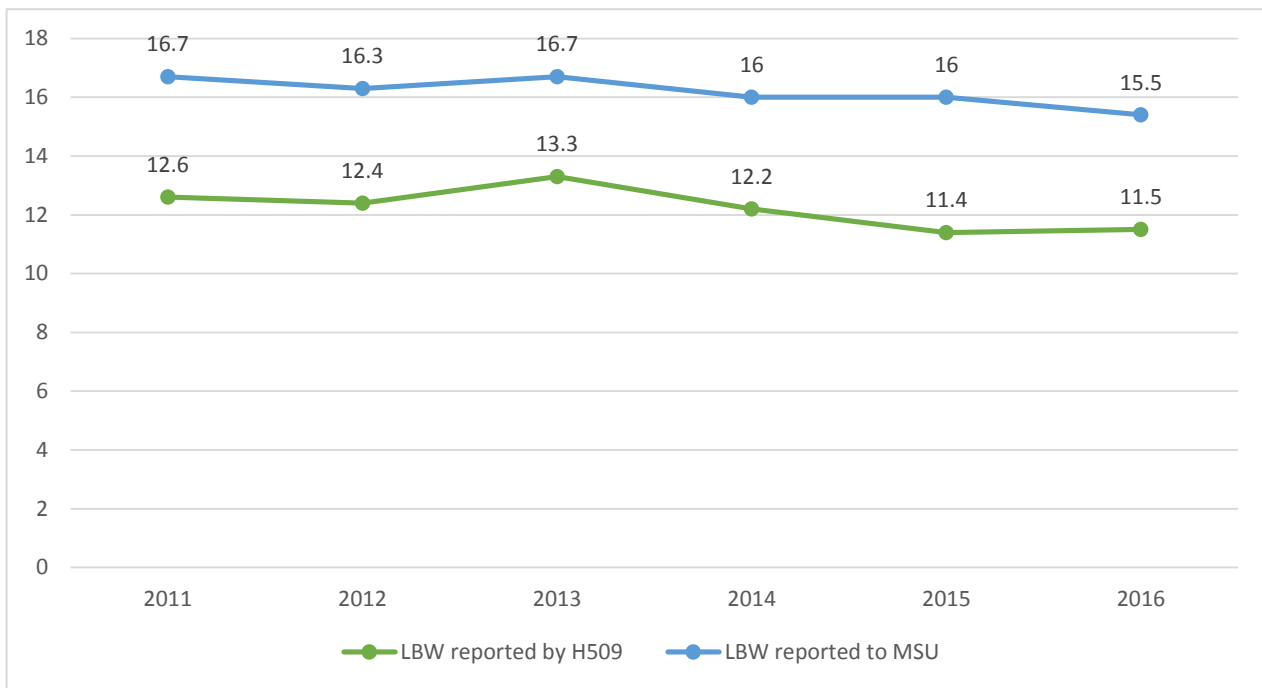
Nuwara Eliya district reports the highest low weight birth rate and it is 24.4 per 100 live births. Mannar has the lowest low weight birth rate of 10.1 followed by Kilinochchi and Hambantota districts respectively.

**Nuwara Eliya district reports the highest low weight birth rate and it is 24.4 per 100 live births**

### Low Birth Weight among new born

Low birthweight shows a slight reduction over the years.

According to MSU data, low weight birth rate in Sri Lanka is 15.5 per 100 live births in 2016.



**Figure 8.5 : Low birth weight shows a slight reduction over the years**

Source: Family Health Bureau

### 8.1.2. Risk Factors Related to Nutrition status of children under the age of five years

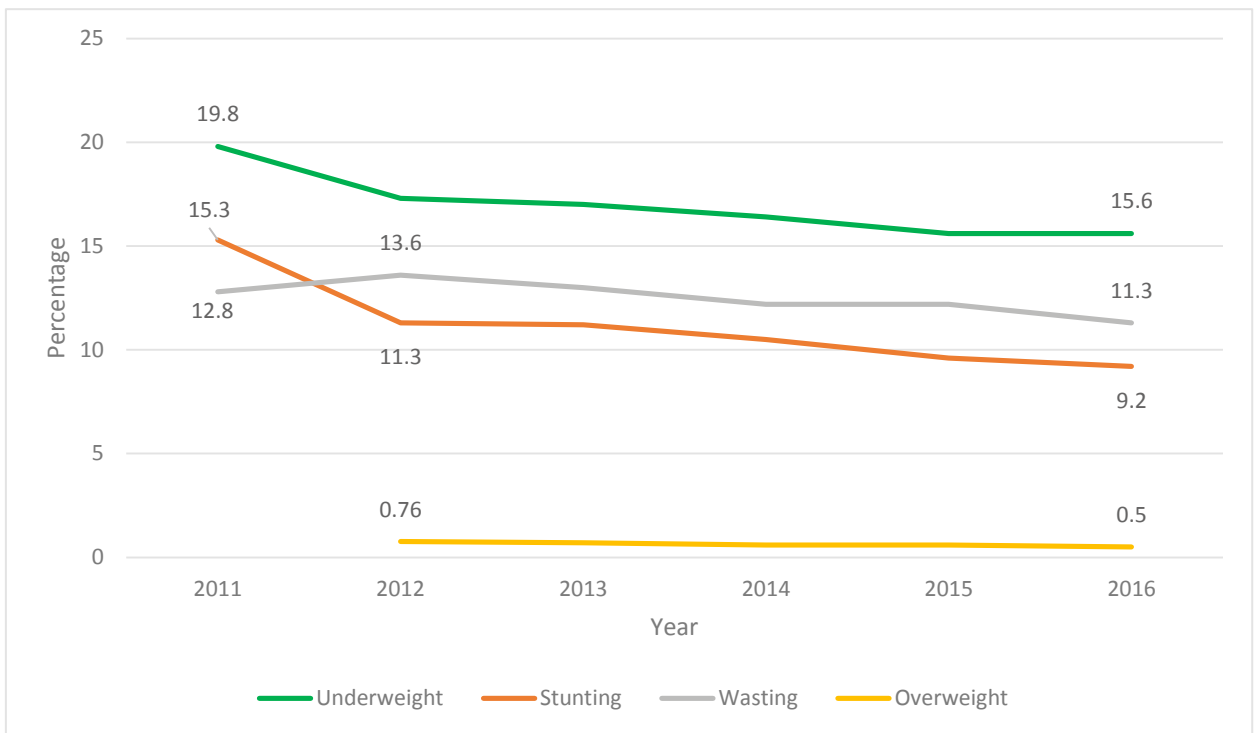
#### Infant and Child Nutrition

According to WHO population cut offs Sri Lanka is a low prevalent country with regard to chronic under nutrition among children under five years since prevalence of stunting is below 20%.

Yet stunting rates has been static over past years. Inability to bring about a declining trend over the recent past is a matter of concern. Decline in prevalence of underweight is similarly negligible. Over the years hardly any improvement is observed regarding prevalence of wasting (acute under nutrition).

Even with a high assessment coverage (94%) during nutrition month, the reported malnutrition rates are very much lower compared with DHS 2016, which reports rates for stunting 17.3%, underweight 20.5%, wasting 15.1% and overweight/obesity 2%.

Sri Lanka has achieved these relatively low figures through a lot of effort over the years by implementation of all relevant nutrition specific evidence-based interventions island wide by the Ministry of Health to address malnutrition. Growth monitoring with regular assessment of weight and length/height and promotion of breastfeeding and appropriate complementary feeding through infant and young child feeding counselling is the main strategy to address malnutrition in addition to micronutrient supplementation and other supportive interventions.



**Figure 8.6: Malnutrition among under five children from 2011 to 2016**

Source: Family Health Bureau

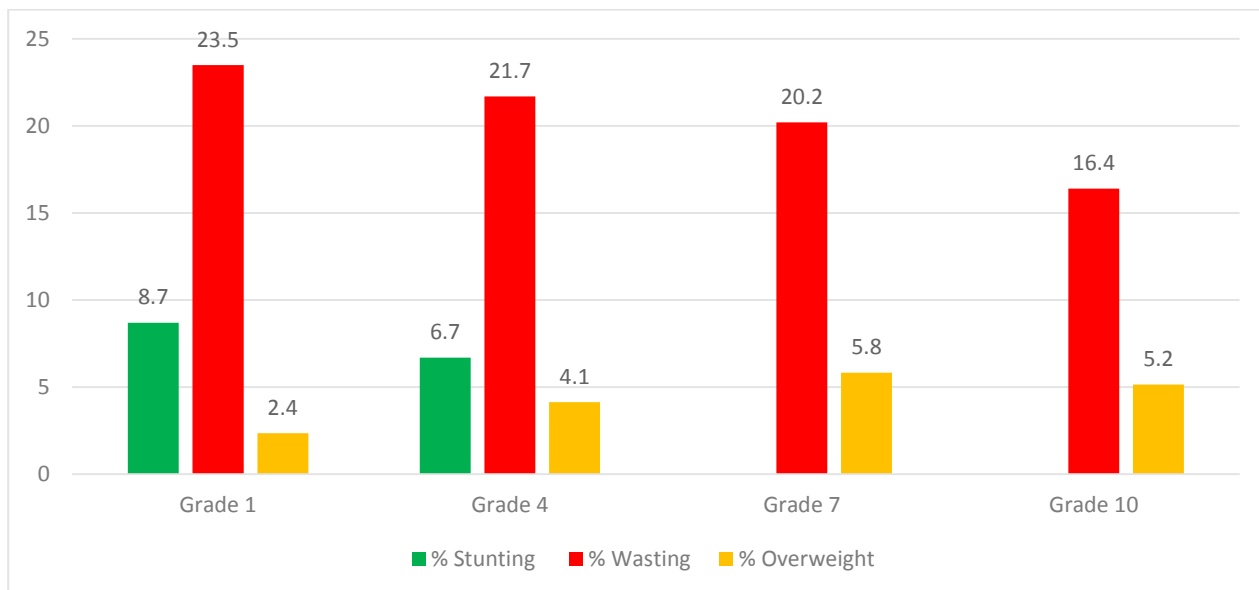
### Recommendations

- Extensive effort should be taken targeting improvement of quality and the coverage of these evidence-based nutrition specific interventions which should include increasing cadre, human resources, their capacities to provide nutrition interventions and providing required facilities for quality service provision from grass root level upwards.
- For nutrition-specific interventions implemented by the Ministry of Health to be successful, a supportive environment should also be created by the non – health sector. This inter-sector collaboration should encompass implementation of nutrition sensitive interventions such as ensuring food security, poverty alleviation and support for proper child care.

**Content Source:**  
Family Health Bureau

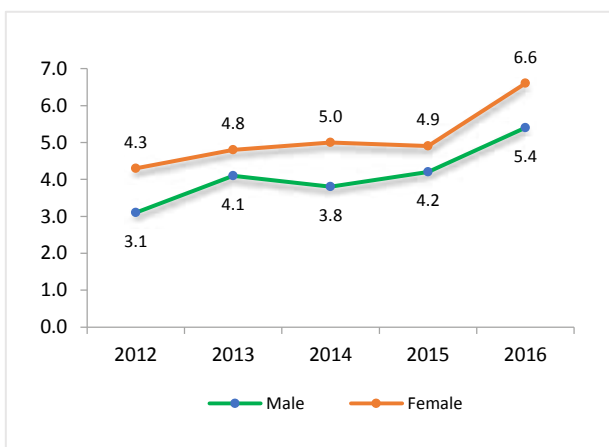
### 8.1.3. Malnutrition among School Children

During SMI students are assessed for their nutritional status. Stunting is assessed in grades 1 and 4 only. Body Mass Index (BMI) of all students in grade 10 is assessed and necessary nutritional interventions are done during the nutrition month each year.



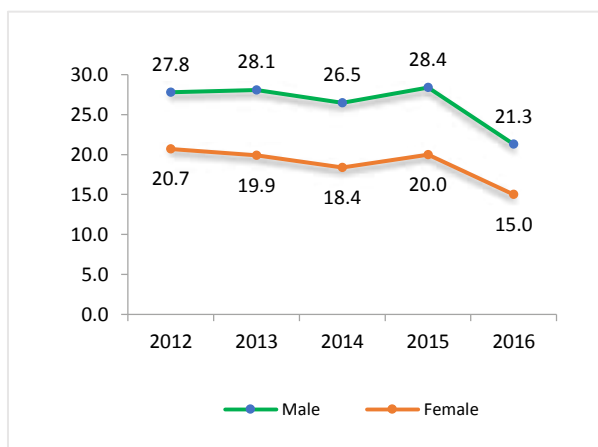
**Figure 8.7 : Percentages of school children in different Grades with stunting, wasting and overweight in 2016**

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



**Figure 8.8 : Percentages of Grade 10 children with overweight BMI 2012-2016**

Source: Nutrition Month Survey, Family Health Bureau



**Figure 8.9 : Percentages of Grade 10 children with low BMI 2012-2016**

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*In 2016, 8.7% and 6.7% of children in grades 1 and 4 were stunted respectively*

*Wasting was higher compared to stunting in the respective grades while the highest rate of wasting was reported among children in grade 1 (23.5%)*

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Prevalence of both overweight and obesity has increased among grade 10 students according to the Nutrition Month Survey 2016. Sri Lanka is experiencing the demographic and nutrition transition and is facing all the challenges of socio economic development and related changes in lifestyle and the food environment. Hence it is imperative that overweight/obesity prevention is targeted for all school children across the country.

Another unique problem encountered by the students in our country is the persistence of under nutrition in this same environment even though there is a slight reduction in the year 2016. (Figure 8.9)

## Action Taken

1. To address persistent under-nutrition which is mainly due to micronutrient deficiency (e.g. childhood wasting and iron deficiency anaemia), there is a school midday meal programme and weekly iron folate supplementation programme for school Children
2. To address obesity, the school health unit of the Ministry of Health obtained approval for the Cabinet paper on the prevention of obesity among School Children with the following suggestions:
  - Allocate compulsory half an hour for physical activity per day in schools
  - Ban sponsorship for school sports activities by food industry producing unhealthy food
  - Screen all advertisements of foods that specifically target children before telecasting
  - Establish physical activity promoting outdoor/ play areas in all townships and housing projects to promote physical activity of children which can include the family

## Recommendations

1. Overweight/obesity is caused by many factors and therefore all aspects of this problem should be addressed through successful prevention strategies.
2. The implementation of the cabinet paper should be made a priority among responsible authorities
3. Control selling of unhealthy food items, 100 meters from school boundary
4. Take policy decisions to limit the production of unhealthy food
5. Labelling and stating the nutritional value of the food items should be made compulsory
6. The upper sugar limit of the yellow colour code should at least be reduced to 6%, which at present is 11%
7. Prevent school children from appearing in media advertisements, which promote food items containing high levels sugar, salt and oil
8. Prohibit serving unhealthy food items in programmes in which school children are participating

*Content Source: Family Health Bureau*

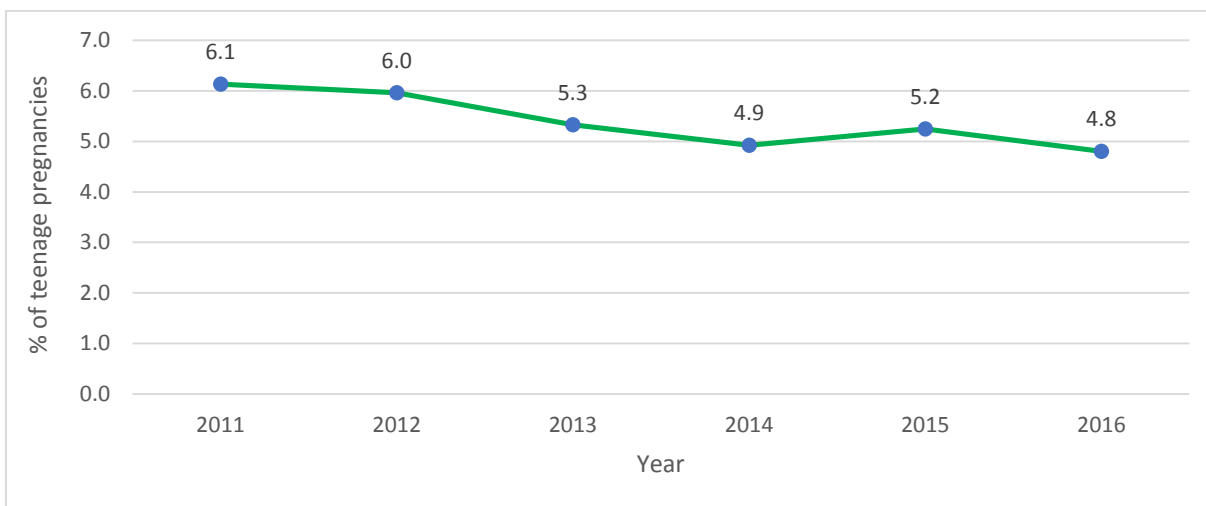


## 8.2. Adolescence Health Risk Factors

### Teenage Pregnancies

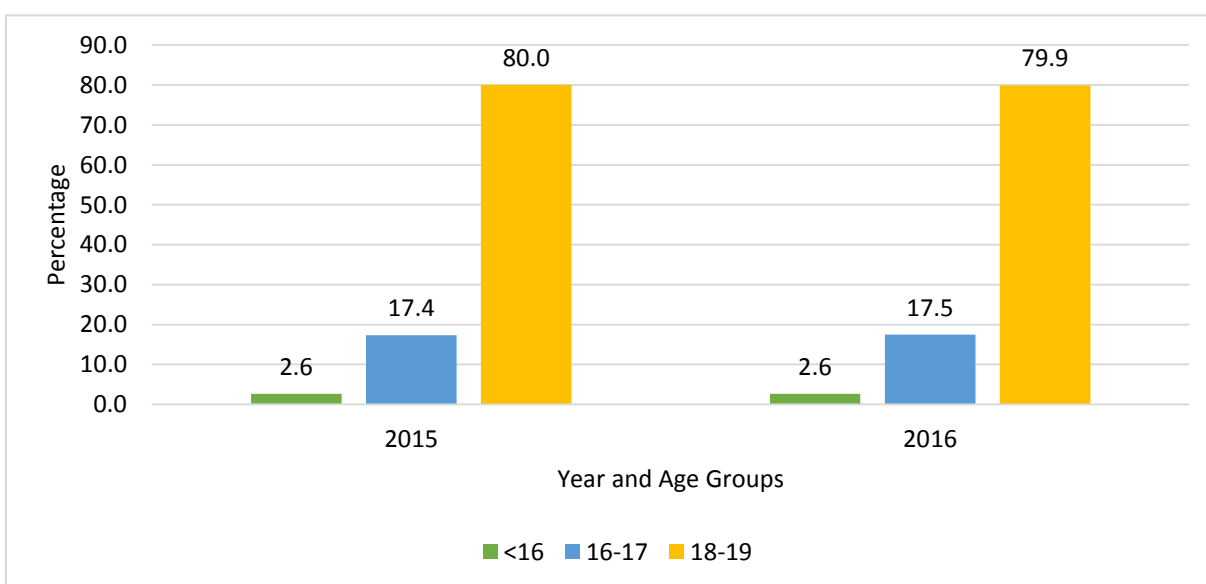
There is a reduction of percentage of Teenage pregnancies reported over last five years

Out of the teenage pregnancies that were reported in 2016 almost 80% of pregnancies were reported in the age group of 18 and 19.



**Figure 8.10 : Teenage pregnant mothers out of all registered pregnancies**

Source: Family Health Bureau



**Figure 8.11 : Percentage of teenage pregnancies among pregnant mothers by age group in 2016**

Source: Family Health Bureau

## Life Style Related Risk Factors among adolescents and youth

National Youth Health Survey 2012-2013 conducted in a nationally representative sample of 8820 of Sri Lankan youth of 15-24 years obtained a profile of Sri Lankan youth in terms of selected aspects of their health, personal, home and environmental factors affecting their health.

Following are some of the lifestyle related risk factors for Sri Lankan youth:

### 1. Physical inactivity:

Half of the males and three quarter of females had not done manual work in the preceding week. Approximately 44% of total youth were spending five or more days in the preceding week as “screen time” with a higher female preponderance. Male youth were prominently engaged in formal exercise (17%) compared to 4.5% of females.

### 2. Diet:

Over 50% boys had consumed carbonated /cola drinks during the preceding week versus 36% of females. One fifth consumed pre-cooked food like sausages while one fourth had taken food with high salt. Nearly 6% of youth were taking energy formulas. Only half of the youth, have heard about the BMI concept

### 3. Tobacco, alcohol and other substance use:

Ever and current smoking rates were 30.5% and 17.6% for males and 1.6% and 0.7% for females respectively. Significantly, more non-schooling males (23.9%) had smoked during the preceding week compared to schooling males (4.3%). Betel chewing during the preceding week was 6.3% with male and rural strata predominance. Significantly, more non-schooling males reported of alcohol ever use (43.4%) as well as current use (13.8%) compared to schooling males (17.0% and 2.6%).

## 4. Sexual behavior:

One third of the total sample and one fifth of the unmarried youth reported in engaging in some sexual activities during the preceding year with higher proportions among the urban and rural youth

## 8.3. Gender based violence

Gender-based Violence is the major negative consequence of gender inequality which results in great negative health impacts.

Gender Based Violence (GBV) is recognized as a major health issue with a wide range of consequences to the survivors creating a negative impact on children, and acting as an inhibiting factor towards the family wellbeing. Although this is a common problem, it is also considered a hidden problem as most of the women do not reveal about their sufferings due to reasons such as culture, fear of reprisal, and concern over children, shame and internalizing the violence. GBV is also an ever-increasing burden to the health care services. The social and economic burden to the country due to Domestic Violence/GBV is estimated to larger than that due to malignancies. Gender Based Violence during pregnancy is a common occurrence and leads to many negative pregnancy outcomes including miscarriages, still births and maternal deaths. Also, GBV in one generation can influence the behavior of the next generation by a process of learned behavior. When children are exposed to violence between their parents, boys learn violence as a mean of achieving control and eventually have a greater chance of being a perpetrator. On the other hand, girls learn to accept violence as an inevitable helplessness and have a higher chance of being victims in adult life.

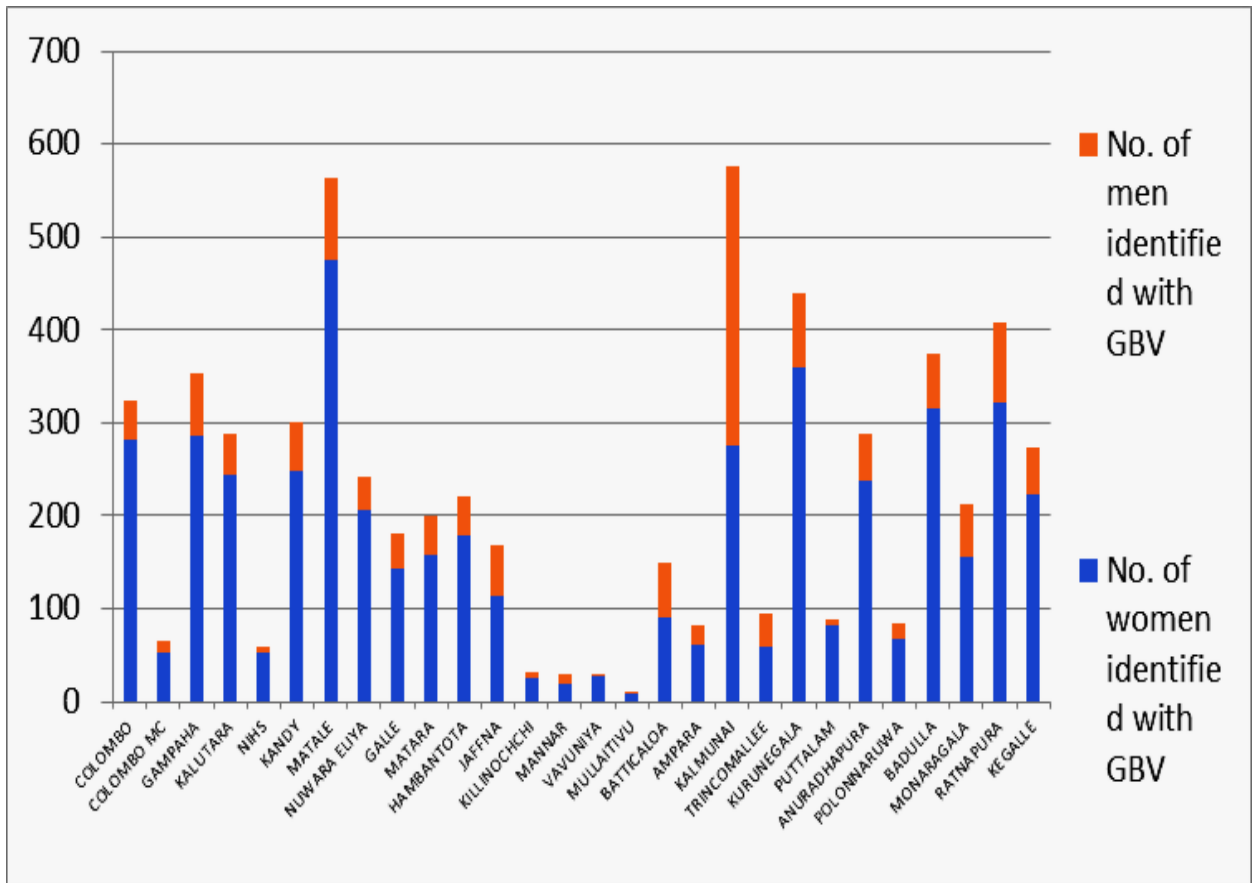


Figure 8.12 : Reported cases of gender-based violence by RDHS areas, CMC & NIHS

Source: Family Health Bureau

## 8.4. Risk factors for Non Communicable Diseases

### 8.4.1. Prevalence of behavioural and intermediate risk factors for NCD

The below table compares the prevalence of behavioral and intermediate risk factors among adults (age between 18 to 69 years) for Non communicable in 2015 as compared to year 2007.

**Table 8-2 : Prevalence of behavioural and intermediate risk factors for NCD in 2007 & 2015**

Risk factor	2007			2015		
	Male	Female	Both sexes	Male	Female	Both sexes
Smoking	22.8%	0.3%	11.5%	19.9%	0.0%	10.2%
Alcohol	26.0%	1.2%	13.5%	34.8%	0.5%	17.9%
physically inactive	31.9%	17.9%	25.0%	22.5%	38.4%	30.4%
Inadequate fruits and vegetables	81.4%	83.3%	82.4%	73.1%	72%	72%
overweight (BMI $\geq$ 25)	19.6%	30.4%	25%	24.6%	34.3%	29.3%
Obese (BMI $\geq$ 30)	3.6%	5.9%	4.7%	3.5%	8.4%	5.9%

Source: STEPs Survey

## 8.4.2. Prevalence of risk factors among the screened population at HLCs

Non-Communicable Disease has taken an initiative to establish Healthy Life Style Centres (HLCs) throughout the island to screen people who are not suffering from any NCD.

The target group to screen at Healthy Life Style centers is 40 – 65 years. Main objective of screening is to identify behavioural and intermediate risk factors and to intervene early to prevent an CVD event.

**Table 8-3 : Numbers and proportions of targeted population screened in Sri Lanka with behavioural or intermediate risk factors, 2013–2015**

Behavioural or intermediate risk factor	Number (%) of screened population with risk factor			
	2013 <sup>a</sup>	2014 <sup>b</sup>	2015 <sup>c</sup>	2016 <sup>d</sup>
Fasting blood glucose >126 mg/dL	37,980 (11.58)	48,853 (12.75)	41,372 (10.57)	33,845 (10.79)
Raised blood pressure (systolic ≥140 mmHg and/or diastolic ≥90 mmHg)	69,400 (21.16)	91,805 (23.96)	89,862 (22.97)	74,387 (23.71)
Overweight (BMI ≥25 kg/m <sup>2</sup> )	90,686 (27.65)	100,618 (26.26)	99,873 (25.53)	78,695 (25.09)
Obese (BMI ≥30 kg/m <sup>2</sup> )	29,255 (8.92)	29,043 (7.58)	32,300 (8.26)	24,955 (7.96)
Current tobacco smoker	18,170 (5.54)	25,557 (6.67)	26,826 (6.86)	21,356 (6.80)
Current drinker	40,604 (12.38)	28,775 (7.51)	29,836 (7.63)	25,339 (8.08)
Smokeless tobacco user	21,089 (6.43)	53,604 (13.99)	53,651 (13.71)	45,230 (14.42)
With 10-year CVD risk ≥30%	1,836 (0.56)	1,724 (0.45)	2,268 (0.58)	908 (0.29)

BMI: body mass index; CVD: cardiovascular disease.

a:88 554 men screened; 239 425 women screened; total population screened: 327 979.

b:110 469 men screened; 272 692 women screened; total population screened: 383 161.

c:108 399 men screened; 282 861 women screened; total population screened: 391 260 (weighted data).

d:85338 men screened; 228361 women screened; total population screened: 313699

Source: Directorate of NCD

**Table 8-4 : Prevalence of Risk Factors among the screened population (by District – 2016)**

RDHS Area	Target population	Total Screened	% of Smokers Detected	% of Tobacco Chewers Detected	% of Alcoholics	% of BMI 25 - 29.9	% of BMI > 30	% with Blood Glucose ≥126mg/dl	% with CVD >30
Ampara	67,115	8,522	9.13	21.83	10.92	32.32	15.95	10.84	0.20
Anuradhapura	225,732	20,304	9.67	20.60	11.50	24.10	7.54	12.30	0.91
Badulla	213,266	30,861	8.72	23.77	12.20	28.30	8.20	13.00	0.54
Batticaloa	146,650	14,736	6.39	12.00	6.00	28.00	11.00	10.00	0.11
Colombo	430,785	17,837	6.26	6.59	7.06	32.74	13.84	14.02	0.10
Galle	268,000	20,254	4.00	8.00	5.00	31.00	8.00	16.00	0.30
Gampaha	592,401	51,446	5.79	10.35	8.19	34.72	13.52	12.86	0.33
Hambantota	156,351	26,947	8.30	16.10	11.20	25.80	6.40	6.50	0.75
Jaffna	154,552	14,668	7.03	12.25	6.86	28.62	7.84	11.33	0.04
Kalutara	249,320	16,608	4.80	14.50	8.80	30.10	9.10	11.00	0.40
Kalmunai	110,887	19,245	6.90	13.20	4.40	31.90	10.70	17.20	0.20
Kandy	367,472	18,586	5.50	11.20	6.90	29.60	10.20	12.60	0.20
Kegalle	259,138	29,974	2.80	7.53	3.86	20.80	6.29	10.86	0.10
Kilinochchi	34,196	9,686	10.73	19.72	11.21	26.50	7.90	18.40	0.76
Kurunegala	402,479	51,326	3.60	11.60	4.60	28.00	6.80	11.80	0.20
Mannar	40,390	8,534	11.62	17.29	11.36	31.79	10.73	8.51	0.19
Matale	127,354	13,084	3.13	8.50	3.94	34.26	3.60	13.40	0.00
Matara	210,829	17,016	3.14	7.85	3.19	27.03	8.30	11.45	1.12
Moneragala	119,614	27,938	8.90	15.09	8.55	19.86	4.85	7.95	0.09
Mullitivu	32,767	6,742	13.90	21.80	13.80	25.20	7.84	7.50	0.38
Nuwara Eliya	208,148	17,343	14.21	31.29	23.10	38.25	18.49	18.73	0.80
Polonnaruwa	110,954	17,366	7.01	15.63	8.58	20.95	6.28	8.97	0.34
Puttlam	199,928	27,866	4.90	12.70	6.20	27.20	8.90	19.20	0.00
Rathnapura	274,516	32,548	5.47	24.02	9.49	24.36	11.33	10.63	0.16
Trincomalee	95,335	11,387	7.60	13.60	5.60	23.90	5.60	9.00	0.60
Vavunia	48,352	9,668	14.21	26.39	15.94	26.25	8.26	15.81	0.11
NIHS	80,627	7,758	4.98	6.28	8.21	32.12	11.52	11.47	0.05

BMI - Body Mass Index

CVD - Cardiovascular Diseases

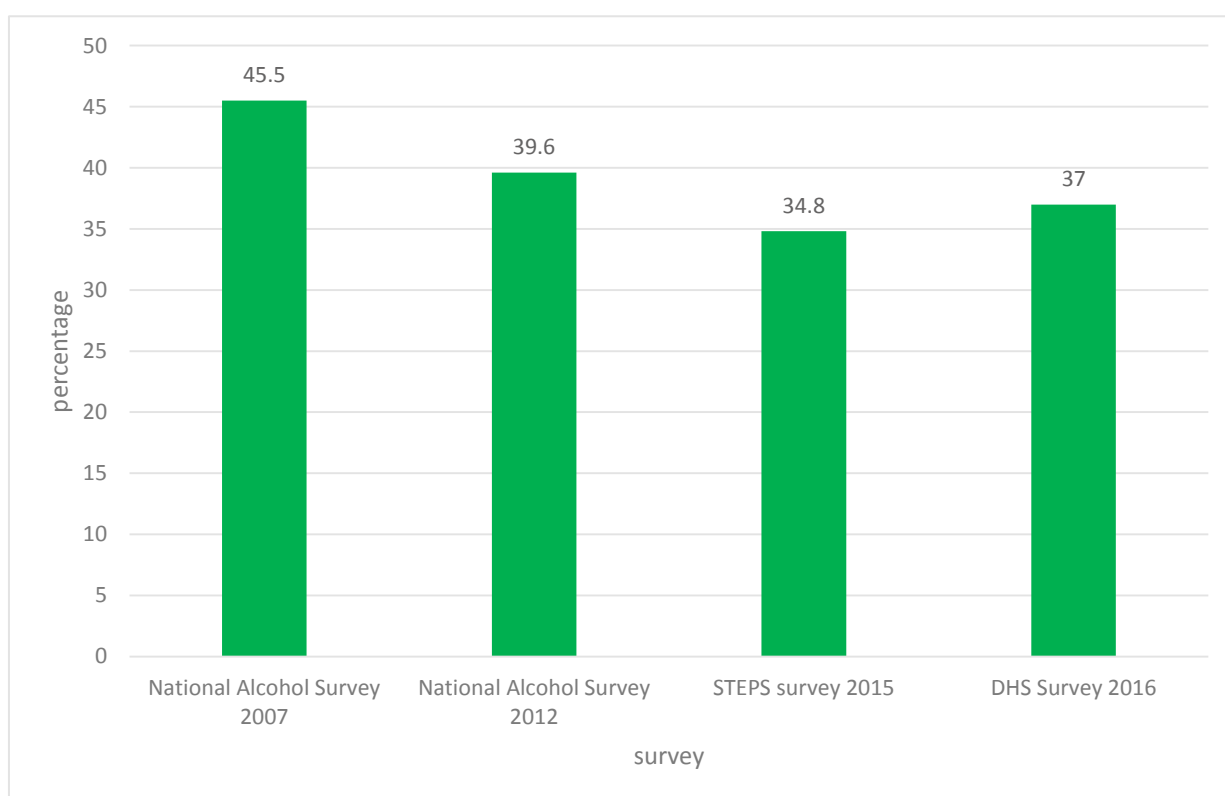
Source: Directorate of NCD

### 8.4.3. Alcohol Consumption

**Table 8-5 : Prevalence of alcohol consumption**

	Prevalence (%) in 2007	Prevalence (%) in 2015
<b>Female</b>	1.2%	0.5%
<b>Male</b>	26.0%	34.8%
<b>Both sexes</b>	13.5%	17.9%

Source: STEPs Survey



**Figure 8.13 : Trend in alcohol consumption among males**

Source: Directorate of Mental Health

**There is a decrease in the prevalence of alcohol use among males in 2015 (34.8%) when it compared with the last survey done in the year 2012. (39.6%). The latest DHS survey shows this figure as 37%**

## Actions taken

National Policy on Alcohol control was formulated by the Directorate of Mental Health and launched in 2016. The policy aims to eliminate all forms of promotion of alcohol products, to enforce pricing, trade and investment policies related to the different aspects of alcohol trade, to reduce availability and accessibility to alcohol and to strengthen supportive services and rehabilitation with assistance from the community.

National Alcohol Summit 2016 was held in collaboration with National Alcohol and Tobacco Authority (NATA) and the theme was "Towards an Alcohol Free Sri Lanka".

Training of health staff in several districts was carried out in alcohol prevention & control and clinical management of addicted patients. Establishment of an Alcohol Rehabilitation centre (ARC) at Rambukkana and renovation of Mawathagama ARC.

*Content Source: Directorate of Mental Health*

## Recommendations

Development of National strategic plan on Alcohol Prevention

Establishment of at least one Alcohol Rehabilitation Centre per district

Strengthen collaboration to implement multi-sector action plan on alcohol prevention and control



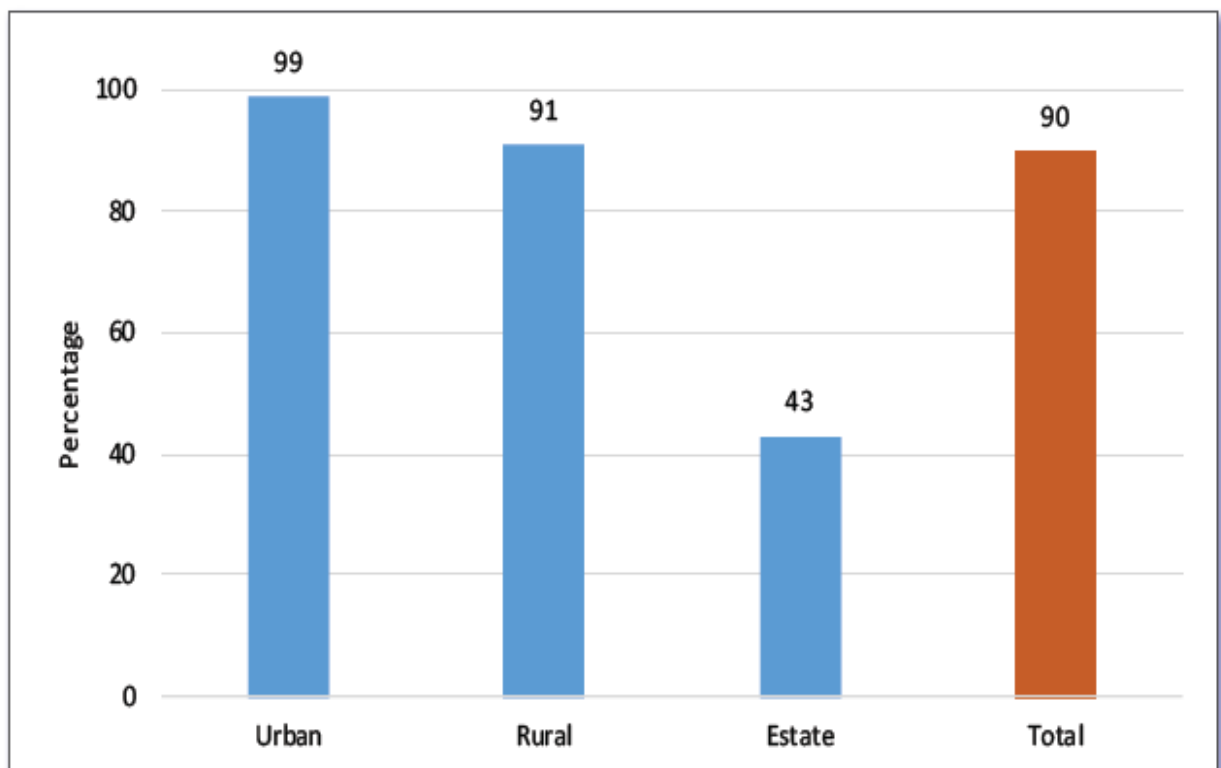
## 8.5. Physical Environment

### 8.5.1. Water

According to the Demographic and Health Survey – 2016, one in ten households still receive their drinking water from an unimproved source in the country and six out of ten households do so in the estate sector.

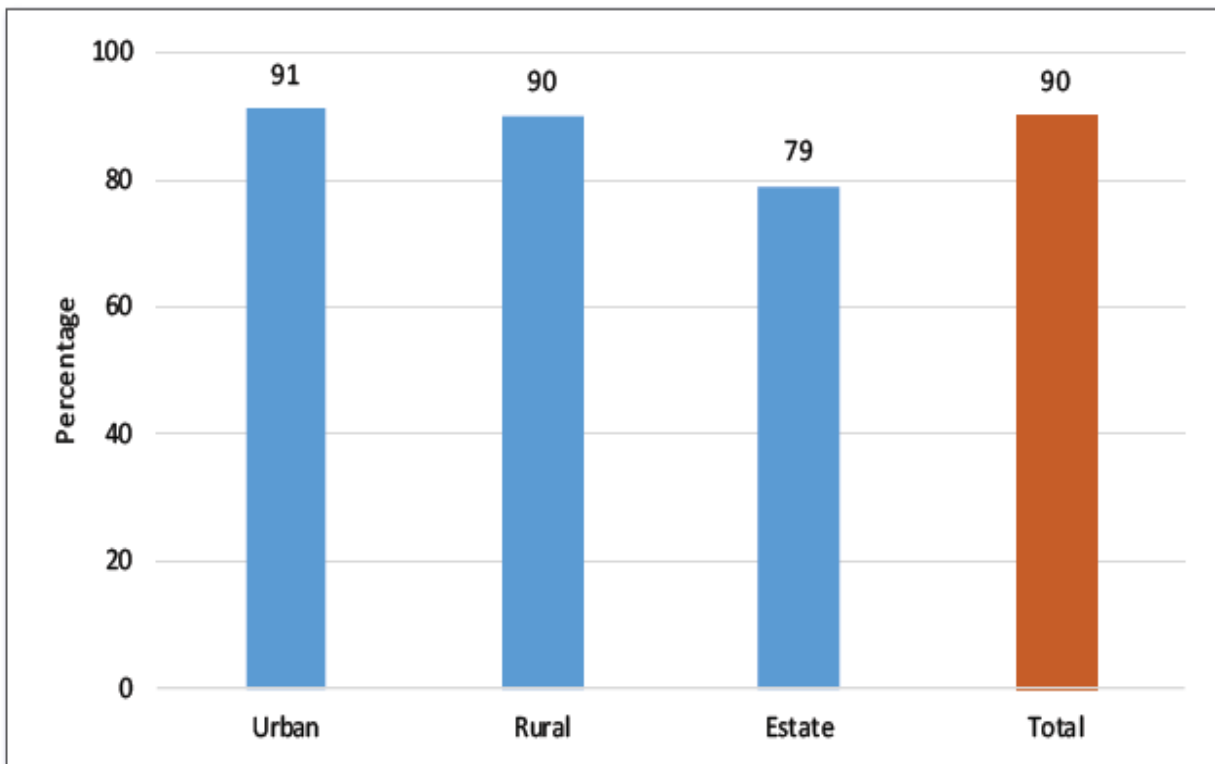
### 8.5.2. Sanitation

According to demographic and health survey, conducted in 2016, 91 percent of households have improved toilets and 7 percent have a shared improved toilet facility. The most common type of toilet is an unshared, pour/flush toilet (72 percent). Only 2 percent of households do not have access to any toilet facility, though this percentage is as high as 4 percent in the estate sector. (DHS report 2016, page no: 15)



**Figure 8.14 : Percentage of Households with improved source of drinking water by residence**

*Source: Demographic and Health Survey – 2016*



**Figure 8.15 : Percentage of Households with improved, not shared, sanitation facilities by sector**

*Source: Demographic and Health Survey – 2016*

# Service Coverage

## 9. Health Service Coverage

Ministry of Health is responsible for providing health services for all the citizens of the country. The goal is to provide a sufficient quality service to people in need of promotive, preventive, curative, rehabilitative or palliative healthcare that would achieve potential health gains.

Indicators of service coverage, which is defined as the proportion of people in need of a service that receive it, regardless of quality, are more commonly measured than effective coverage indicators which require the measurement of intervention effectiveness of the service provided. The assessment of the service coverage indicators is a critical dimension to tracking performance.

### 9.1. Reproductive, Maternal, Newborn, Child, Adolescent and Youth Health (RMNCAYHP) services coverage

#### 9.1.1. Pre-pregnancy care

Sri Lanka is one of the countries in the region to commission a pre-pregnancy Care Package which was initiated in 2012. The Care Package includes creating awareness, health promotion, screening and other appropriate interventions to reduce risk factors that might affect future pregnancies of the reproductive aged women. In 2016, out of all primi mothers registered by PHMs, 48.7% have attended at least one session of pre-conception care and 26.6% have attended both sessions.

#### 9.1.2. Antenatal Care coverage

The registration of pregnant mothers has been more than 90% over the years and in 2016 it was 99.1%. Out of them, over 78.5% registered for care before 8 weeks of amenorrhea and this number has been rising over the last few years from 72% to 78%. Protection for Rubella with immunization before pregnancy, protection for Tetanus, antenatal screening for Syphilis and testing for blood group at the time of delivery has achieved almost universal coverage.

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***In 2016, 99% of all pregnant mothers registered for antenatal care services***

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***In 2016, 49% of primi mothers attended at least one session of pre-conception care***

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**Table 9-1 : Pregnant mother registration and care received through National Programme has been improving over the past five years (2012- 2016)**

Indicator	2012	2013	2014	2015	2016
Pregnant mothers registered by PHMs out of estimated pregnancies	94.0	90.0	91.2	93.5	99.1
Pregnant Mothers registered before 8 weeks	75.2	75.4	76.2	77.1	78.5
Pregnant Mothers registered between 8-12 weeks	18.3	17.7	17.4	16.5	14.9
Pregnant mothers protected with Rubella at registration	96.8	97.0	98.2	97.6	96.6
Pregnant mothers tested for VDRL at the time of delivery	99.3	99.7	98.1	98.7	99.9
Pregnant mothers blood group tested at the time of delivery	100.0	99.9	97.8	99.0	99.9
Pregnant mothers protected for Tetanus out of reported deliveries	99.9	99.9	97.8	99.3	99.9

Source: Demographic and Health Survey – 2016

In 2016, 90.3% of registered pregnant women were visited at least once at home by the PHM, and 94.7% of them attended at least one field clinic visit.

**Table 9-2 : Antenatal Service coverage by Public Health Staff has been consistently over 90% for the past five years (2012-2016)**

Indicator	2012	2013	2014	2015	2016
Registered pregnant mothers visited at least once at home by PHM	90.2	91.3	90.2	88.5	90.3
Registered pregnant mothers attending at least one field clinic visit	95.2	94.8	95.5	94.6	94.7

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

### 9.1.3. Peri-Natal and Post Natal Care Coverage

Pregnancy outcome was reported for 94.5% of pregnancies registered with the PHM. Almost all reported deliveries in 2016 had taken place in institutions, and the percentage of home deliveries has decreased to a very minimum level (0.1%) over the years. The caesarean section rate has gradually increased to 36.3% in 2016. In-depth analysis is needed in the future to identify the underlying reasons. Due to obstetric transition, indirect maternal mortality causes and over-medicalisation have been recognized as emerging issues in maternal care.

During the important postpartum period, approximately 85% of mothers were visited at home by PHMs at least once during the first 10 days, and 66% during the first five postpartum days. On average, most mothers received two postpartum home visits.

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***Almost all reported deliveries had taken place in healthcare institutions while four out of ten reported deliveries were caesarean sections***

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**Table 9-3 : Pregnancy outcome and postpartum care for mothers registered during 2012 - 2016**

Indicator	2012	2013	2014	2015	2016
% of pregnancy outcome reported out of registered pregnancies	88.8	91.5	93.7	95.8	85.0
% of deliveries reported out of total live births registered	89.8	87.7	91.6	96.2	93.7
% of deliveries reported out of total estimated pregnancies	76.9	76.7	75.3	78.4	91.4*
% of institutional deliveries out of total reported deliveries	99.8	99.9	99.7	99.9	99.9
Number of home deliveries	312	336	525	280	222
% of Home deliveries out of total reported deliveries	0.1	0.1	0.09	0.09	0.07
Postpartum mothers receiving at least 1 visit by PHM during 1st 10 days out of estimated births	77.3	80.6	79.3	73.6	76.2
Postpartum mothers receiving 1 visit by PHM during 1st 5 days out of estimated births	-	-	-	67.2	66.1*
% Caesarean sections out of total institutional reported deliveries	28.7	31.8	32.1	33.8	36.3
Average number of home visits during first 10 postpartum days	1.7	2.0	1.7	1.7	1.7

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

\*Out of live births registered by RGD for the year.

### 9.1.4. Infant and Child care service coverage

#### Coverage of infant and child care services by field staff

The PHM should register infants for domiciliary and clinic care which includes immunization, growth assessment and development. In 2016, more than 95% of infants have been registered by PHMs, and out of registered infants, 53% have been visited by PHM at least once with an average of 7 visits per infant. All the infants

registered (100%) have been seen by a MOH in their clinics (Table 9-4).

The percentage of infants weighed was 88% and in 1-2-year age group it was 79%. Among 2-5-year group 80.5 % had been weighed. More attention should be paid to increase the weighing coverage of the 1-2 and 2-5-year age groups by field staff.

Approximately three fourth of children in each targeted age groups received their dose of Vitamin A. Efforts should be made to increase the coverage further in all age groups, Vitamin A supplementation is provided.

**Table 9-4 : Most of the indicators on infant and childcare provided by the field staff is improved over the last five years**

Indicator	2012	2013	2014	2015	2016
Infants registered by PHMM	88.2	91.7	90.6	89.3	95.3*
% Infants having at least 1 home visit after 42 days out of registered infants	69	63.9	58.0	53.7	53.4
Average number of home visits per infant	7.1	7.4	7.5	7.0	7.2
<b>Weighing</b>					
% of infants weighed	83.2	85.7	84.3	88.2	88.4
% of young children (1-2 years) weighed	76.1	79.3	77.1	80.2	79.2
% of 2 - 5 years children weighed	78.8	77.8	63.0	78.7	80.5
<b>Clinic attendance</b>					
% of infants making at least one clinic visit (of registered infants)	100	99.6	99.1	100	100
Average number of clinic attendance for an infant	5.3	5.2	5.3	4.5	4.7
<b>Vitamin A supplementation</b>					
% of estimated infants given Vitamin A at 6 months	76.4	68.9	68.8	71.6	80.5
% of estimated children given Vitamin A at 18 months	74.7	70.7	71.9	74.9	80.6
% of estimated children given Vitamin A at 3 years	78.8	71.4	73.1	74.5	90.5

Source: (MCH Quarterly Return - H 50) RHMIS, Family Health Bureau

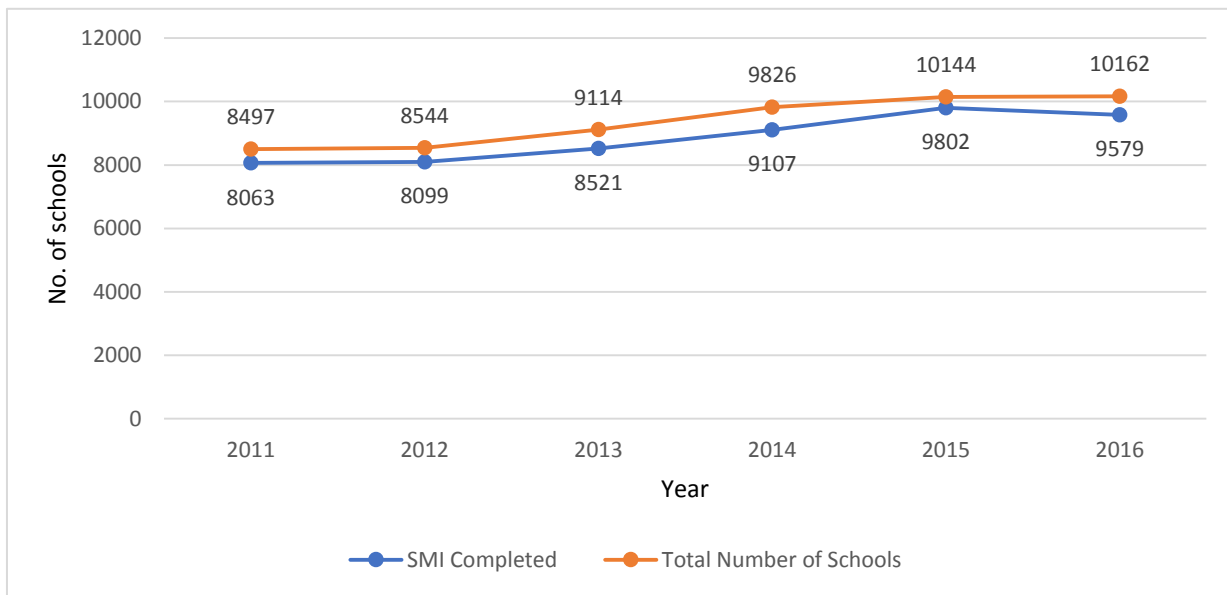
\*calculated out of first visits by PHM

### 9.1.5. Coverage of School Medical Inspections

School medical services include School Medical Inspection (SMI) of children and making relevant referrals. In small schools (with less than 200 students) all the children are examined once a year, while in the larger schools (with more than 200 students) all

students in grades 1, 4, 7 and 10 are examined annually.

There were 10,162 schools and 1,650,370 children to be examined out of the enrolled 4,143,330 children. The SMIs were conducted in 9,579 schools resulting in overall school coverage of 94.3%. The coverage of schools with less than 200 and more than 200 students were 98.8% and 94.5% respectively. (Figure 9.1). Follow up visits by the PHI for the students identified with correctable defects were closely monitored at the monthly MOH conferences.

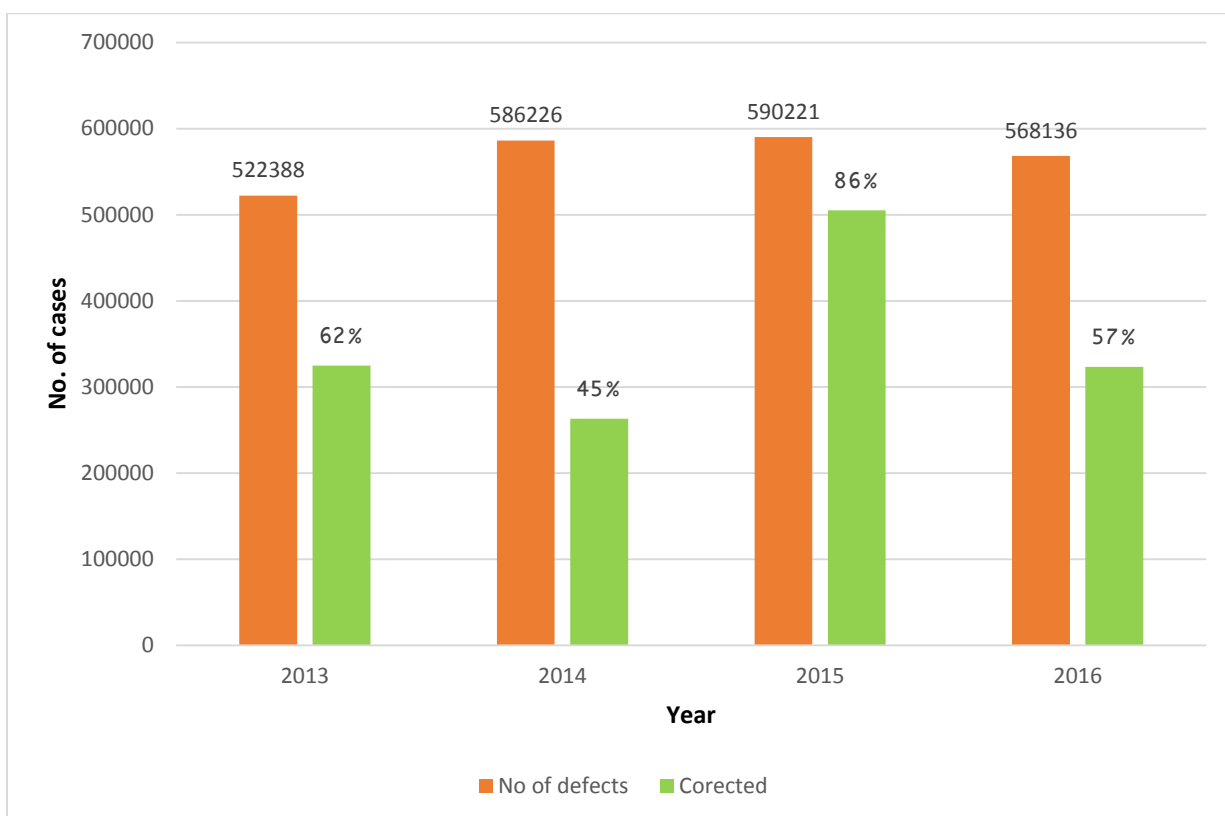


**Figure 9.1 : Total number of schools and number of schools where SMI were conducted increased over the last five years (2011 to 2016)**

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

**Overall school coverage was 94.3%**





**Figure 9.2 : Progress of the SMI follow up 2013 – 2016**

*Content Source: Family Health Bureau*

### 9.1.6. Immunization coverage

National Immunization Programme of Sri Lanka is one of the best performing public health programmes in the region and globally. Due to the high coverage of all EPI vaccines, delivered through the Expanded Programme on Immunization (EPI), there has been a low incidence of Vaccine Preventable Diseases (VPD).

(Please see Annexure II;

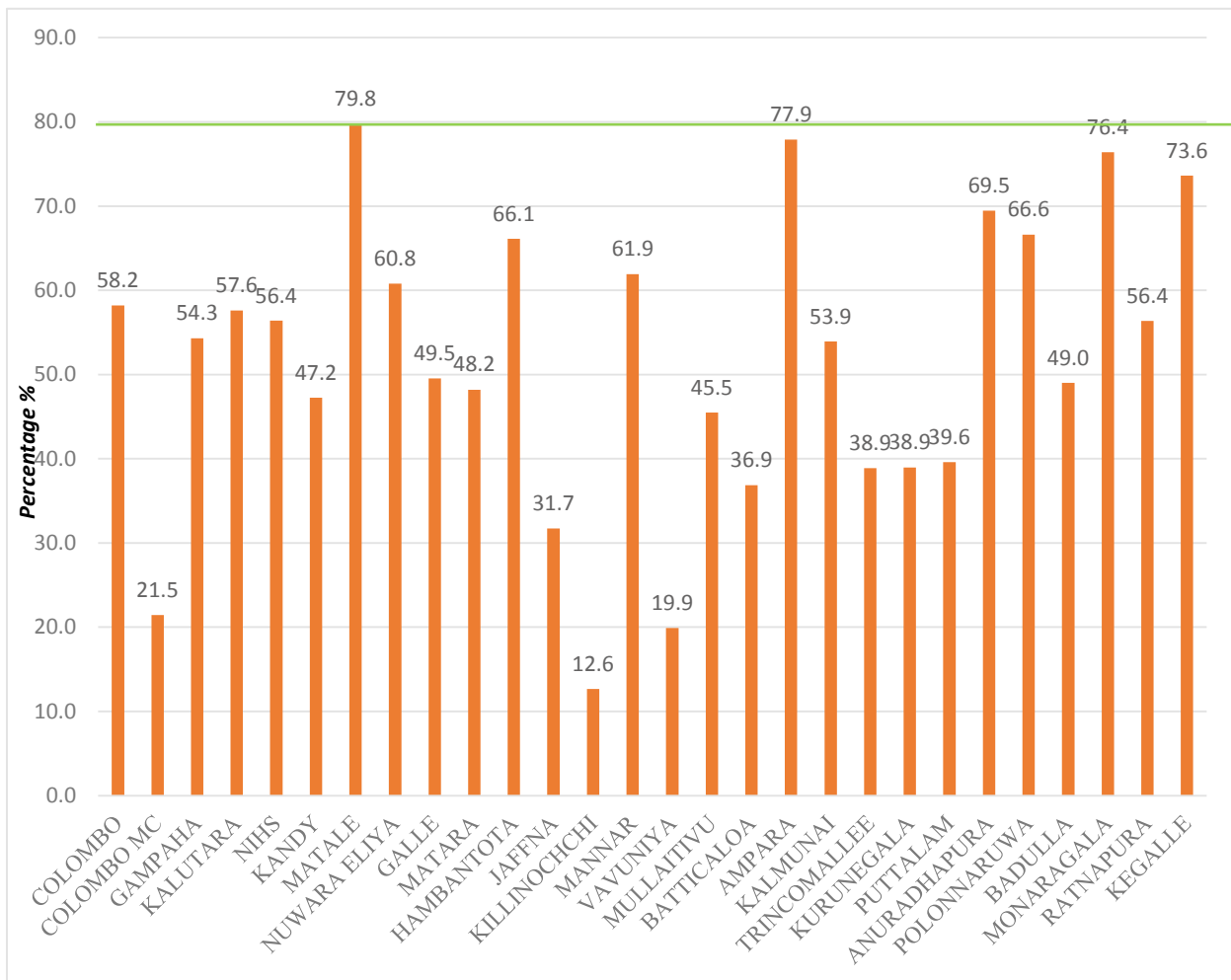
- Table 6: Incidence of Expanded Programme of Immunization (EPI) Target Disease 1955-2016;
- Table 7: Immunization Coverage by (RDHS) area, 2016; and
- Table 8: Number of Selected Adverse Events by Vaccination in 2016 (for further information)

*Content Source: Epidemiology Unit*

### 9.1.7. Well women service coverage

The target age group for Well Women Clinic services are women aged 35- 60 years (i.e. nearly a 25 percent of the population in Sri Lanka). The WWC services are implemented through a network of over 800 clinics in community as well as in hospital settings.

In order to reach women who have never been screened, in 2016 the MOH added Pap screening for women aged 45. This supplement the current policy of screening women aged 35, in place since 2007, However, the other women aged 35-60 years who voluntarily request screening are also provided services at WWCs. The coverage of attendance of 35- year age cohort of women to the WWCs in 2016 was 52.8% (n= 111,798).



**Figure 9.3 : Well Women service according to Health regions in Sri Lanka**

Source: Family Health Bureau

Content Source: Family Health Bureau

### 9.1.8. Reproductive Health

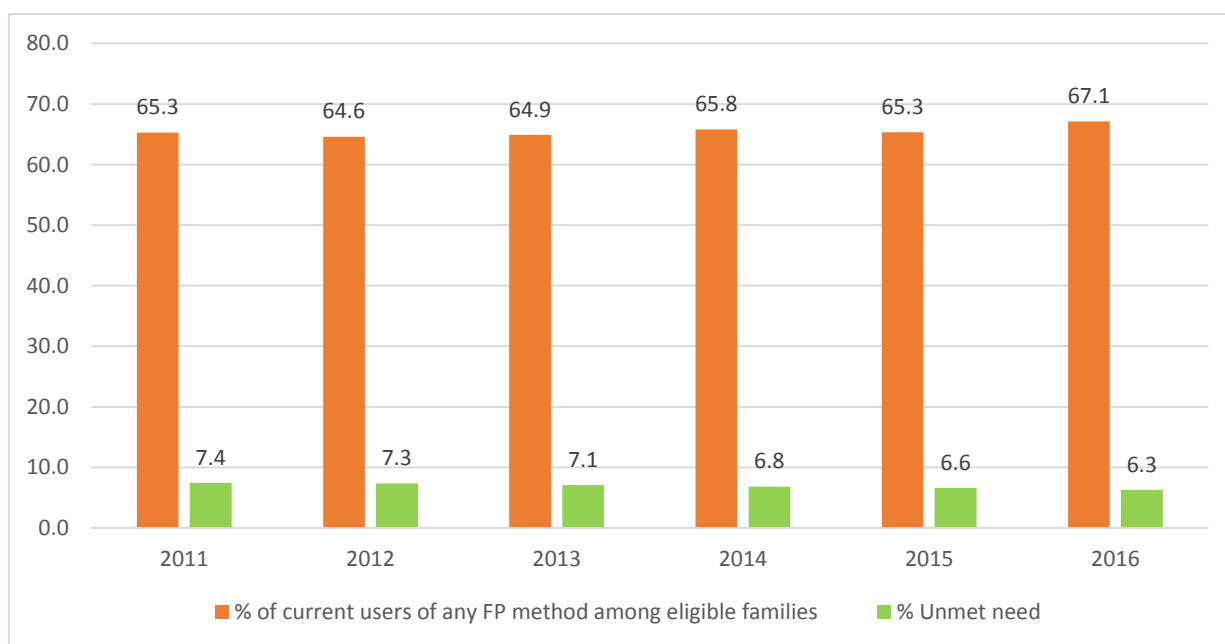
#### Contraceptive prevalence rate

Percentage of current users of any family Planning method among eligible families is the working definition for contraceptive prevalence rate. Contraceptive prevalence rate for 2016 is 67.1%. Of these most families were using modern family planning methods (prevalence 57.6%). However, according to the

Demographic and Health Survey 2016 the contraceptive prevalence rate for currently married women aged 15 – 49 is 65%.

A consistent decline in the unmet need for family planning is observed in the recent past (a 15% decline since 2011). However, the overall contraceptive prevalence seems to be fluctuating. In order to improve this situation, new strategies like targeting special groups and involvement of the private sector are being explored.

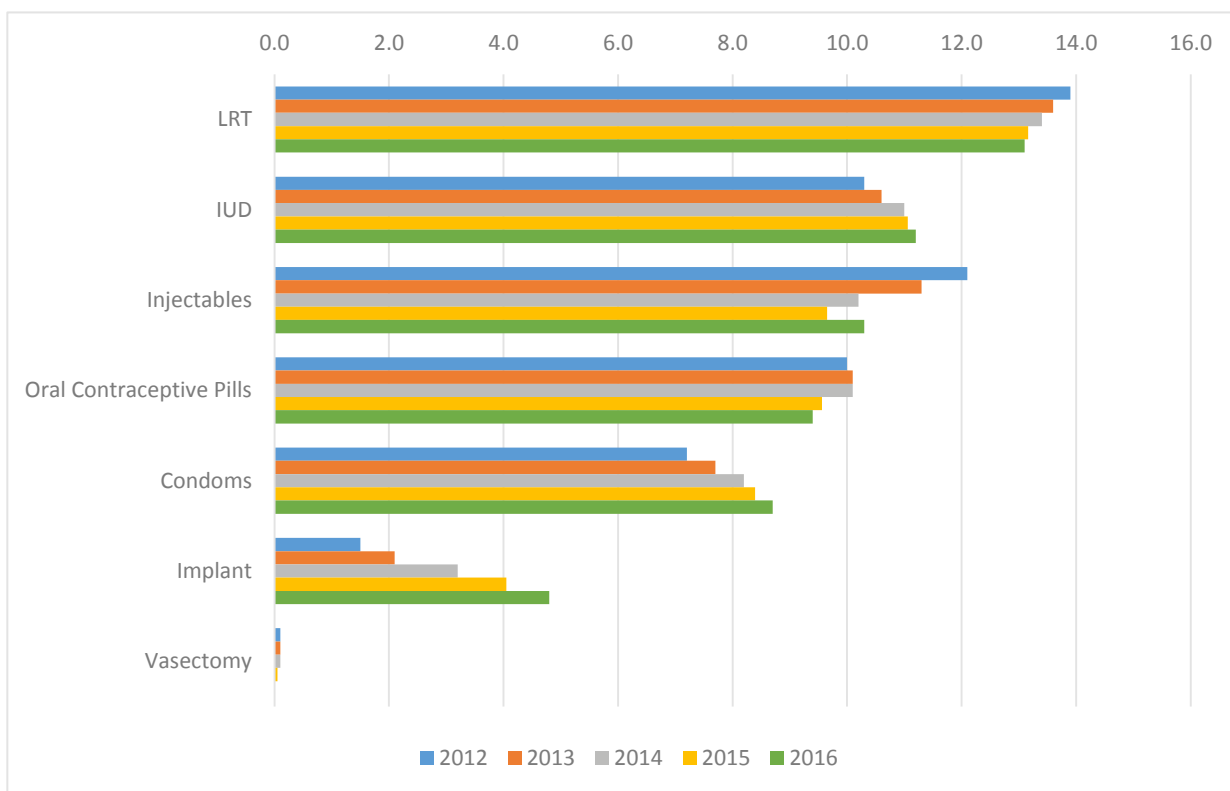
Contraceptive prevalence rate is the percentage of women who are currently using, or whose sexual partner is currently using, at least one method of contraception, regardless of the method used. It is usually reported for married or in-union women aged 15 to 49 (WHO).



**Figure 9.4: Consistent decline in the unmet need for family planning is observed in the last five years (2011-2016)**

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

Women with unmet need are those who are fecund and sexually active but are not using any method of contraception, and report not wanting any more children or wanting to delay the next child. The concept of unmet need points to the gap between women's reproductive intentions and their contraceptive behaviour (WHO).



**Figure 9.5: Modern family planning methods used by eligible families 2012-2016**

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

The prevalence of modern family planning methods shows a pattern similar to the overall contraceptive prevalence rate. The prevalence of modern methods indicates a

good method mix. However, the steady decline of the prevalence of permanent methods, especially the male method of permanent contraception, needs attention.

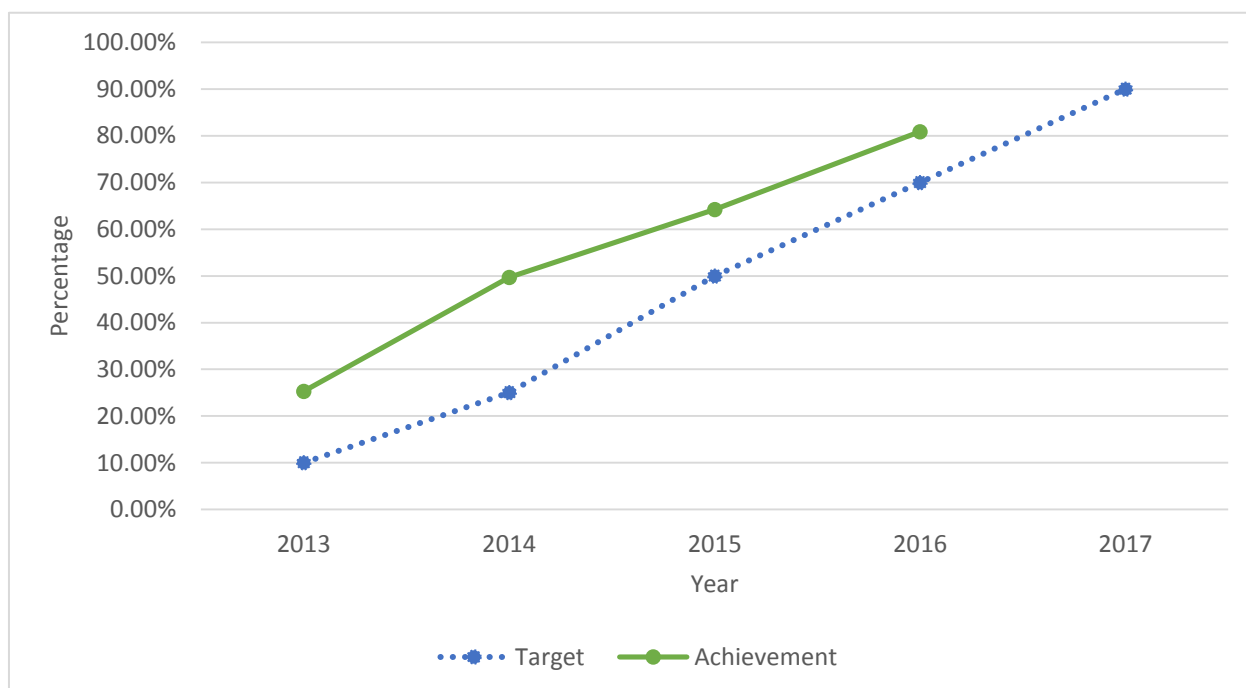
## 9.2. Non-Communicable diseases Service Coverage

### 9.2.1. NCD Screening at Healthy Lifestyle Centres

NCD screening is carried out by 880 Healthy Life Style Centres (HLC) established at primary care Settings. In 2016, HLC screened 23% of the above 40 years target group. However, it is noteworthy that male participation at HLCs was poor.

NCD screenings include blood pressure, BMI, Blood sugar and Cholesterol and screening for lifestyle risk factors such as tobacco smoking and alcohol consumption. For women, some HLCs are equipped to conduct breast and oral cavity examinations and PAP smear tests. The WHO/ISH risk prediction chart is used and if necessary, interventions are offered.

In 2016, there were 267 Medical Officer of Health areas with more than 2 HLCs.



**Figure 9.6 : Percentage of Medical Officer of Health areas with at least two healthy lifestyle centers (HLC)**

Source: Directorate of NCD

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***In 2016, there were 267 Medical  
Officer of Health areas (out of 342)  
with more than 2 HLCs***

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## 9.2.2. Diabetes

### Diabetes treatment coverage

According to the STEPS 2015 report, only 69% of adults with self-reported high blood sugar (65.7% for males and 73.1% for females) were estimated to be taking medicine. Among those previously diagnosed as having high blood sugar, 12.3% were on insulin (13.5% for males and 11.3 % for females).

## 9.2.3. Hypertension

### Hypertension treatment coverage

The STEPs 2015 report estimated that only 58% of adults with elevated blood pressure were on medication (62.3% for males and 55.1% for females).

# Health System

## 10. Organization of the Healthcare Delivery System

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

The Ministry of Health Nutrition and Indigenous Medicine at central level is responsible for maintaining the health services of the country, and 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 sectors. It is also responsible for directly managing several large specialized hospitals (National Hospital of Sri Lanka, Teaching Hospitals, Specialized Hospitals, Provincial General Hospitals and selected District General Hospitals), whilst the nine Provincial Ministries are responsible for effective implementation of the services in their respective provinces. The Military (Sri Lanka Army, Navy and Air force) and Sri Lanka Police have their own hospitals which are managed through their administrative structure.

There are nine provinces and 26 health districts called Regional Director of Health Services (RDHS) in the country. RDHS areas are similar to administrative districts except in Ampara where the district is subdivided into Ampara and Kalmunai RDHS areas.

The Ministry of Health is also responsible for training of some of the health human resources. Doctors are trained in the eight State universities and recognized medical

universities in other countries and they 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 and the National Institute of Health Sciences which are directly under its management. These institutes provide basic, post basic and in-service training to all categories of health staff engaged in curative and preventive services.

Technical units and campaigns under the Ministry of Health (such as Family Health Bureau, Epidemiology Unit, NCD Unit, anti-malaria campaign) provide technical guidance to RDHS in carrying out disease control programmes in the district level.

Another important function of Ministry of Health is the central procurement of drugs. Drugs provided through the government health services are provided free of charge to patients and drugs provided through government franchised pharmacy outlets (Osu Sala), make drugs available at reasonable cost.

The State Pharmaceutical Corporation is the procurement agency for drugs and medical supplies for the Ministry of Health. It follows national procurement guidelines and other stringent procedures for evaluation and selection of drugs and medical supplies for government health facilities.



The State Pharmaceutical Manufacturing Corporation is the Governments' sole manufacturer of drugs. Public private partnerships too are being considered to expand production capacities. Other registered private suppliers both local and international, follow the government procurement procedures to supply drugs and medical devices.

The Medical Supplies Division (MSD) is the main distribution agency. It is also responsible for forecasting the annual requirements. 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.

The National Health Policy also recognizes the role of civil society organizations and other non-governmental organizations. Their involvement is promoted to achieve health goals.

Health, being a partially devolved subject under the 13<sup>th</sup> amendment of the constitution, provincial councils and local governing bodies are entrusted with playing a decisive role in provision of health services.

Provincial administrations are entrusted with healthcare delivery of majority of preventive services and primary curative care services and a substantial proportion of secondary care.

Provincial health administration functions under the Provincial Health Minister. Chief Secretary and Health Secretary functions under the Ministers. Administration of health services of the province is under a Provincial Director appointed from the pool of senior grade medical administrators of the health service. Regional Director Health Services (RDHS)

responsible for organizing, managing and ensuring smooth delivery of services within the administrative district.

## 10.1. Achievements for 2016

- National Drug Regulatory Authority was established in 2015, and in 2016 it has introduced a pricing formulary to reduce the prices of 48 essential drugs.
- Sri Lanka was certified as malaria free by World Health Organization on 6<sup>th</sup> September 2016
- Japanese government donated medical equipment worth 610 million rupees to the Ministry of Health on 2<sup>nd</sup> March 2016.
- Seventy haemo-dialysis machines and nine vans were provided to health institutions in Central, Eastern, Northern, North Central and Southern provinces to strengthen the services provided for the patients with kidney disease
- Ministry of Health decided to provide Intraocular lenses free of charge for patients undergoing cataract surgeries and allocated 1200 million rupees to provide free lenses for 120,000 cataract surgeries from 2016.
- Ministry of Health started to provide free stents to patients with ischemic heart diseases and allocated 324 million rupees from 2016.
- In order to control the burden of NCDs, government has initiated steps to strengthen the laboratory services to

provide a wide range of essential diagnostic tests through the government health facilities.

- Government has launched an emergency pre-hospital medical care Ambulance service in partnership with the Government of India
- 69<sup>th</sup> session of the World Health Organization Regional Committee for South East Asia was held in Sri Lanka in 2016 with around 200- 250 official delegates
- The first comprehensive review of the National Family Planning Programme of Sri Lanka was conducted by an external consultant.

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

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

MSU is also responsible for providing 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. The unit also maintains a list of health institutions and updates it every year.

Since 1960, MSU has collected data using manual systems and published Annual Health Bulletins from 1980 to 2016 continuously.

In 2010, Medical Statistics Unit has taken an initiative to develop Electronic Indoor Morbidity and Mortality System (eIMMR). eIMMR is a web based system designed to facilitate collection, storage, analysis and dissemination of inpatient statistics which will improve efficacy, efficiency and accuracy of the manual 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 web based surveillance, (eIMMR) system resulted in improved accessibility, timeliness and therefore, the efficient usage of more centralized database at lesser cost with enhanced administrative potential. The system was piloted in Lady Ridgeway Children's Hospital, Castle Street Womens Hospital, De Soya 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). At the end of 2016, system is being used in about 73 percent of total hospitals in the country. It is also important to note that 81 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 2016 were satisfactorily achieved during the year. Scaling up of the system was expedited with the funds coming from the second Health Sector Development Project.

# 11. Curative Care Services

By end of 2016 there were 629 curative care hospitals in government health services. The distribution of these institutions according to the standard categorization is detailed in Annexure 01: Table 7.

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

With few exceptions the Divisional Hospitals and all the Primary Medical Care Units are served by non-specialist medical officers. There are 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.

## 11.1. Distribution of Beds and Bed Strength

The total bed strength in the government health institutions was 81,580 in 2016, and 3.8 beds per 1,000 population is available for patient care island wide.

The highest hospital bed strength was recorded in Colombo (14,162) followed by Kandy Regional Director of Health Services Area (7,139). Mullaitivu Regional Director of Health Services Area recorded the lowest bed strength (510) followed by Kilinochchi with a bed strength of 560.

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 5.9. The lowest rate was reported from Kalutara (2.4) followed by Gampaha and Puttalam (2.5).

All the districts in Northern, Eastern and North Central provinces have reported higher rates of beds per 1,000 population compared to the national figure, while lower rates are reported from all the districts in North Western and Sabaragamuwa provinces. (Annexure 01: Detailed Table 7)

Number of government health institutions and patient beds in Sri Lanka over the period from 2011 to 2016 are presented in the following table (Table 11-1).

It is noteworthy that any Sri Lankan can get the free curative health care services from any government hospital of Sri Lanka irrespective of his place of residence

**Table 11-1 : Number of Health Institutions and Hospital Beds, 2011 - 2016**

Item	2011	2012	2013	2014	2015	2016
Hospitals <sup>1</sup>	638	621	624	622	631	629
Hospital Beds <sup>1</sup>	73,939	76,087	78,243	80,105	80,581	81,580
Hospital Beds per 1,000 Population	3.5	3.8	3.8	3.9	3.8	3.8
Inpatient Beds per 1,000 Population	3.3	3.5	3.5	3.6	3.5	3.5
Central Dispensaries/Primary Medical Care Units	459	487	461	475	473	480
MOH Areas	327	337	334	338	341	342

<sup>1</sup> Includes Primary Medical Care Units and Maternity Homes

Source: Medical Statistics Unit

Distribution of hospital beds by type of institution is illustrated in the following table.

**Table 11-2: Availability of Hospital Beds by Type of Institution, 2016**

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	274 - 3,336	1,257	10
Provincial General Hospitals	3	1,318 - 1,979	1,597	2
District General Hospitals	19	211 - 1,178	627	10
Base Hospital Type A	24	144 - 790	369	13
Base Hospital Type B	47	24 - 378	166	27
Divisional Hospital Type A	50	39 - 228	108	26
Divisional Hospital Type B	135	9 - 116	68	70
Divisional Hospital Type C	298	2 - 68	29	151
Primary Medical Care Unit and Maternity Homes	12	9 - 20	13	7
Other Hospitals *	25	8 - 1,455	218	20

\* Teaching hospitals of cancer, Mental and Dental are categorized under "Other Hospitals" and Military, Police and Prison Hospitals are included under "Other Hospitals"

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

Source: Medical Statistics Unit

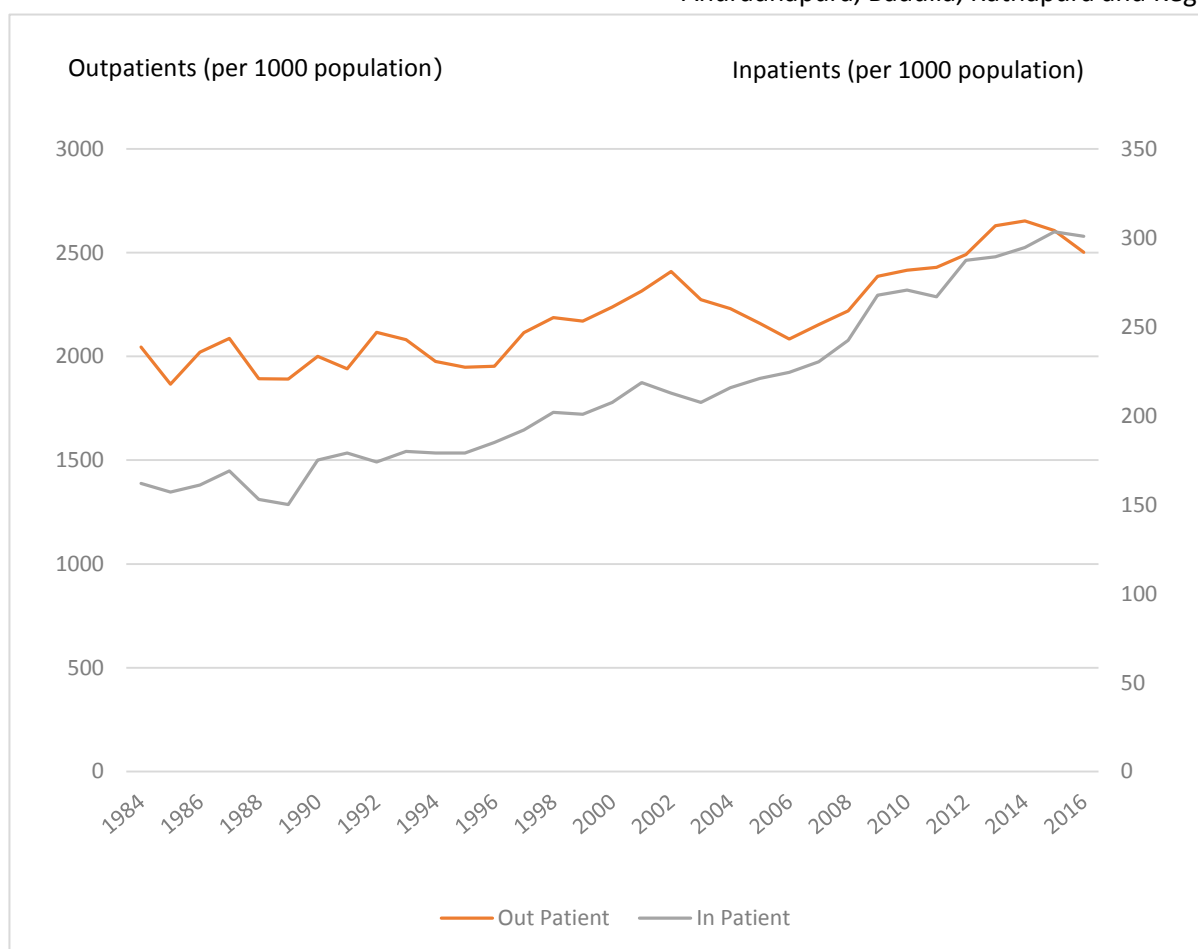
## 11.2. Service Utilization

### 11.2.1. Attendance to Out Patient Departments (OPD) of Hospitals

Outpatient attendance showed a slight decline in the last two years in the number of outpatients, as well as in the rate (given the limitation of the current hospital data collection system, only the number of OPD visits were

reported, rather than the actual number of patients).

There were 53,620,249 OPD visits in the year 2016, and the highest number is reported from Colombo district. Lowest number of OPD visits is reported from Mullaitivu district. The average number of OPD visits per RDHS area is 2,062,317, and there are 10 RDHS areas above this average, which are all districts in Western province, Kandy, Galle, Kurunegala, Anuradhapura, Badulla, Ratnapura and Kegalle.



**Figure 11.1 : Inpatient and Outpatient Attendance in Government Medical Institutions, 1984 – 2016**

Source: Medical Statistics unit

### **11.2.2. Attendance to Curative Care Health Clinics**

There were 27,317,886 clinic visits in 2016, which continues to show an increasing trend. (Annexure 01: Detailed table 36).

Teaching hospitals experienced more clinic visits (Detailed Table 34). As shown in Annexure 01: Table 36, the most visits were for medical clinics (44%), followed by Dental (12%) and Gynaecology & Obstetrics clinics (6%). It is noteworthy that, since most of the hospitals were conducting medical clinics only, patients who should have been attending clinics belonging to different sub-specialities, were also attending general medical clinics.

### **11.2.3. Maternal Services**

Table 11.3 illustrates the maternal services provided by different types of government health institutions. Total number of 2016 deliveries taken place in the government hospitals was 302,408.

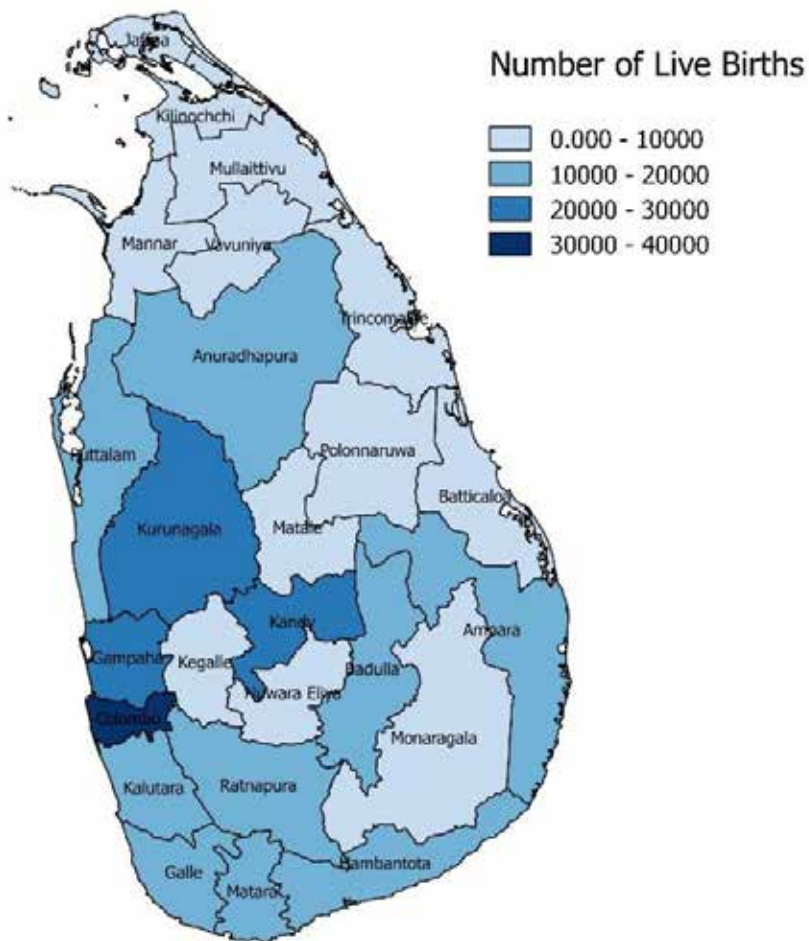
**Table 11-3 : Maternal Services by Type of Institution, 2016**

Type	Outcome of Delivery			Total Deliveries		Method of Delivery			
	Single Deliveries	Twin Deliveries	Other Deliveries	Number	%	Normal (Vaginal)	Forceps	Caesarean	
								Number	%
Teaching Hospitals	85,288	992	35	86,315	28.5	53,050	1,224	32,041	37.1
Provincial General Hospitals	27,096	295	9	27,400	9.1	16,450	146	10,804	39.4
District General Hospitals	81,757	827	9	82,593	27.3	51,567	669	30,357	36.8
Base Hospitals Type A	60,278	469	5	60,752	20.1	39,215	327	21,210	34.9
Base Hospitals Type B	37,269	256	7	37,532	12.4	25,475	333	11,724	31.2
Divisional Hospitals Type A	1,931	3	-	1,934	0.6	1,923	-	11	0.6
Divisional Hospitals Type B	3,672	23	-	3,695	1.2	3,694	-	1	0.0
Divisional Hospitals Type C	1,991	12	-	2,003	0.7	1,995	1	6	0.3
Primary Medical Care Units and Maternity Homes	184	-	-	184	0.1	185	-	-	-
Total	299,466	2,877	65	302,408	100.0	193,554	2,700	106,154	35.1

Source: Medical Statistics Unit

Out of total deliveries in government hospitals 65% occurred in Teaching, Provincial General Hospitals and District General Hospitals  
Caesarean rate is 35.1% out of total deliveries occurred in government hospitals

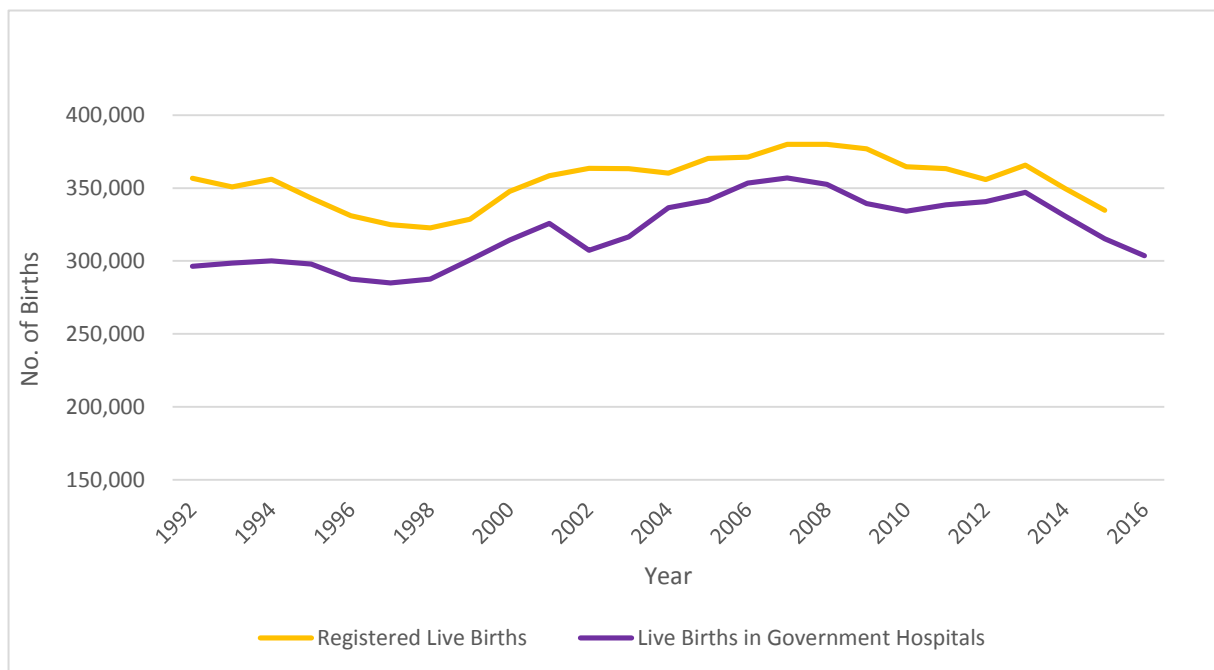




**Figure 11.2: Distribution of Hospital Live Births by place of occurrence in Sri Lanka, 2016**

*Source: Medical Statistics unit*

Hospitals in Colombo district has highest number of live births followed by Kurunegala, Gampaha and Kandy districts



**Figure 11.3 : Registered Births Vs Hospital Births, 1992-2016**

Source: Registrar General's Department and Medical Statistics Unit

Fig 11.3 shows the changing pattern of the registered live births and government hospital live births, by time. In 2016, 91.7% of live births occurred in the government health institutions.

#### 11.2.4. 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 underutilization of small institutions and overcrowding 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 newborns).

**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.

Average duration of stay is significantly high in the specialized hospitals such as Mental, Chest, Leprosy and Rehabilitation (Annexure 1: Detailed Table 38). It varies with the type of hospital and accordingly, average duration of stay is usually higher in Teaching Hospitals and

Provincial General Hospitals than other hospital categories, except the said specialized hospitals. In general, Average Duration of Stay in Teaching Hospitals varied around 3 to 4. 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.

Bed occupancy rates over the types of hospitals are slightly fluctuated and it is somewhat lower in Divisional Hospitals.

In 2016, in general bed occupancy rates of Teaching Hospitals were beyond 50% but less than 100%. In 2016, among Teaching Hospitals, Colombo South Teaching Hospital has recorded the highest bed occupancy rate which is 92.03% while Sri Jayawardanapura Hospital has the lowest bed occupancy rate, which is 53.85%.

All Provincial General Hospitals have reported bed occupancy rates more than 70% in 2016 while Bed occupancy rates of District General Hospitals varied around 20% and 95%.

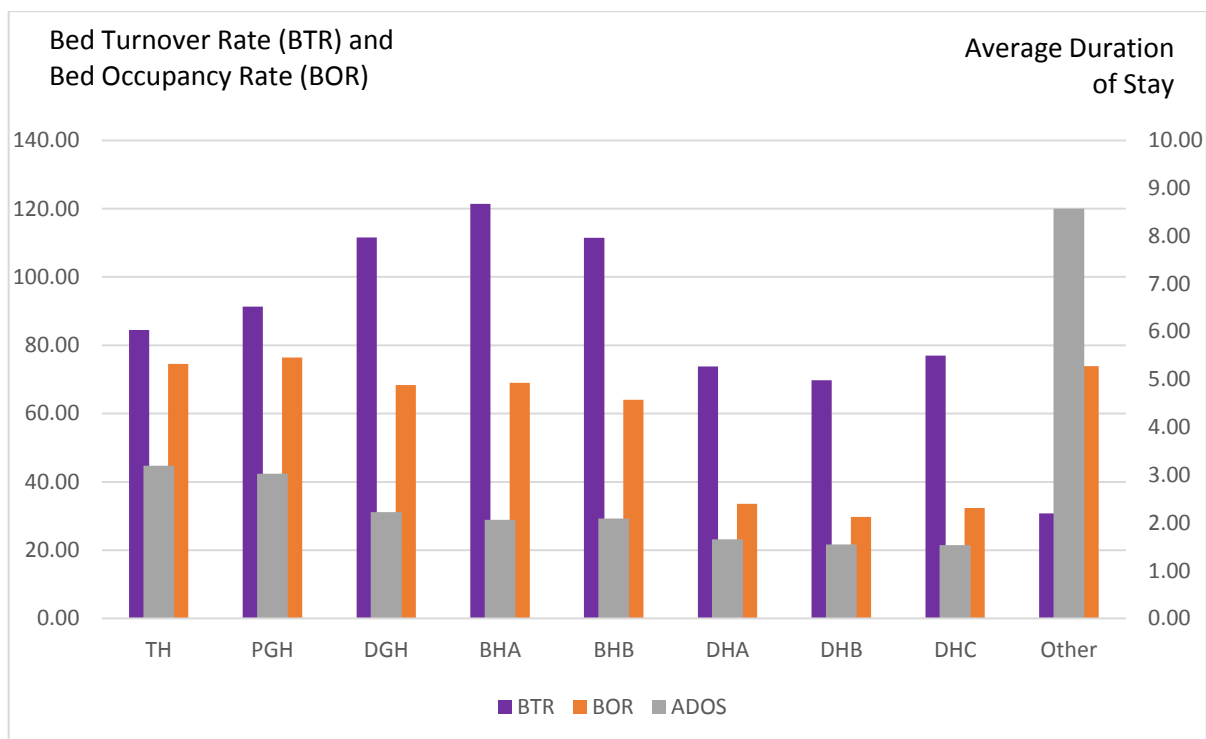
Bed occupancy rates of some Base Hospitals such as Thambuttegama, Mawanella, Dambulla, Pulmodai, Dickoya and Awissawlla are more than 100% which means these hospitals were

over crowded in 2016. The lower limit of the bed occupancy rate of Base Hospitals is 25% in 2016.

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

Colombo South Teaching Hospital also reports the highest bed turnover rate among Teaching Hospitals, which is 122.39. As in 2015, Jaffna is the other Teaching Hospital with a bed turnover rate over 100. Sri Jayawardanapura Teaching Hospital has the lowest bed turnover rate among the Teaching Hospitals. Most of the Provincial General Hospitals and District General Hospitals have higher bed turnover rates. Mental Rehabilitation Centers, Leprosy Hospitals and some Divisional Hospitals have the lowest bed turnover rates.

Fig 11.4 shows the bed turnover 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. Even though all the “other” hospitals are categorized under one category it cannot be reasonably compared among those hospitals by this categorization.



**Figure 11.4 : Utilization of Medical Institutions, 2016**

Source: Medical Statistics Unit

## 12. Public Health Services (Preventive Health Services)

Community health services are organized into health units and most of them share the boundaries of the Divisional Secretariat areas geographically. These are commonly known as Medical Officer of Health (MOH) areas. There are 342 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, Supervising Public Health Inspector, Supervising Public Health Midwife, Public Health Inspector and Public Health Midwife) is also responsible for a sub divided area and a respective population.

The overall responsibility for management of community health services lies with the Provincial Health Authorities.

The scope of public health is divided among two Deputy Director Generals at the line Ministry level.

### 12.1. Deputy Director General – Public Health Services I (DDG – PHS I)

Main responsibilities of the DDG PHS I include leading and managing public health system of the country related to communicable diseases. However, some responsibilities in Non-Communicable Diseases are also among the designated scope.

The main responsibilities are performed through the directorates of the concerned subject areas.

1. Epidemiology Unit
2. Directorate of Environment Health, Occupational Health & Food Safety
3. National STD, AIDS Control Programme (NSACP)
4. National Programme for Tuberculosis Control and Chest Diseases (NPTCCD)
5. Anti-Malaria Campaign (AMC)
6. Anti Filaria Campaign (AFC)
7. Anti Leprosy Campaign (ALC)
8. Public Health Veterinary Services (PHVS)
9. Quarantine Unit
10. Principal Public Health Inspector (PPHI)
11. National Dengue Control Unit (NDCU)
12. Chronic Kidney Disease Unit (CKDU)

#### 12.1.1. Epidemiology Unit

Epidemiology Unit in Ministry of Health is the focal point for the National Immunization Programme (NIP) and surveillance of communicable diseases in the country. In addition, surveillance of Chronic Kidney Disease (CKD) is also carried out by the Epidemiology Unit.

The Epidemiology Unit is a training centre for medical postgraduates and health staff on activities related to communicable disease control and the National Immunization Programme. The unit too functions as a WHO collaborative centre for training on

immunization activities in the South-East Asia Region.

### **Disease surveillance**

The disease surveillance carried out by the unit through the system of routine notification of notifiable diseases, special surveillance procedures for selected diseases such as vaccine preventable diseases (VPD), leptospirosis, human rabies and dengue fever. Moreover, the sentinel site surveillance is being carried out for influenza like illness and severe acute respiratory illness which are potential to be endemic. The Unit acts as the emergency response unit for disease control activities in disasters, emergencies and handles outbreak investigation and control.

### **National Immunization Programme**

With regard to the National Immunization Programme (NIP) the Epidemiology Unit is responsible for developing the Immunization Policy and strategies for new vaccine introduction, coordinating supply of vaccines, provision of logistics, injection safety items and close monitoring and regular evaluation of the NIP. National Immunization Programme of Sri Lanka is one of the best performing public health programmes in the region and globally as well and has an excellent record with extremely low incidence of VPD which are covered by the Expanded programme on Immunization (EPI) and high coverage of all EPI vaccines.

The Epidemiology Unit continuously ensures efficient cold chain maintenance at national, district and divisional levels. An electronic monitoring system is in place in addition to other monitoring devices for cold chain

maintenance thus ensuring vaccine quality of higher standard.

In 2016 the Web Based Immunization Information System (WEBIIS) fully replaced the paper-based system and transformed the paper based quarterly EPI return fully into the online system.

The National Immunization policy has been approved by the Cabinet of Ministries of the Democratic Socialist Republic of Sri Lanka on 16<sup>th</sup> October 2014. (Available at: [www.epid.gov.lk](http://www.epid.gov.lk))

## **12.1.2. Directorate of Environment Health, Occupational Health and Food safety**

The Directorate is technically responsible for all environmental health activities including hospital waste disposal and treatment, occupational health and food safety. These activities are carried out with the support of the other relevant ministries, provincial councils, local governments, other directorates of Ministry of Health, respective hospital administration and the public health teams in MOH offices.

### **Food Safety**

- Food Safety activities through the directorate of EOH & FS are aimed at ensuring the availability of safe and wholesome food to consumers.
- 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 Food Advisory Committee (FAC) established in terms of the Act advises the Hon. Minister of Health on policy matters relating to food safety.
- The following committees facilitate the functions and the activities of the FAC
  - 1 Regulation Formation Sub Committee
  - 2 Health claims Sub Committee
  - 3 Food Advisory Technical Sub Committee
  - 4 National Codex committee
- The directorate is responsible to carry out awareness programmes on food safety for health workers, consumers, food manufacturers and food handlers through the network of authorized officers for food safety in the country.
- Actions have been taken to strengthen the linkage with other line ministries, provincial authorities, international agencies and NGOs to bring about effective, sound management conducive for food safety and hygiene during the year of 2016.
- The following regulations were published in 2016:
  - 1 Food (colour coding for sugar levels) regulation
  - 2 Food (sweeteners) regulation
  - 3 Food (amendment of shelf life of import food items) regulation
- The directorate conduct food inspection in imports and exports, register bottle water manufacturing premises and issue permits for common salt.

#### **Enhance the Knowledge, Skills and Attitudes of Authorized Officers**

Six 5 days training programmes to update the food safety for PHI/SPHI was conducted with over 300 participants. It is planned to complete the training for the rest of the food safety authorized officers in 2017.

#### **Export inspection Activities**

Export certificates for food consignments are issued as follows in 2015 and 2016.

**Table 12-1 : Export Inspection Activities 2015 & 2016**

<b>Activities</b>	<b>2015</b>	<b>2016</b>
Number of health certificates issued	8222	9868
Number of food factories registered	–	76
Total number of factories registered as an export food factory at FCAU	672	748
Number of factories visited	63	35

*Source: Directorate of Environmental Health, Occupational Health & Food Safety*

## Registration of Bottled of Packaged Water Manufacturing Premises

**Table 12-2 : Registration of Packaged Water Manufacturing Premises**

Activities	2015	2016
Total number of Manufacturing Premises	120	133
Number of bottle drinking water premises newly registered	03	13
Number of mineral water premises newly registered	00	00
Number of bottle drinking water premises renewed registration	39	50
Number of mineral water premises renewed registration	00	02
Number of Manufacturing Premises visited by the unit	39	52

Source: Directorate of Environmental Health, Occupational Health & Food Safety

## Issue of permits for common salt

**Table 12-3 : Issue of Permits for Common Salt**

Activities	2015	2016
Number of new permits issued	14	20
Number of factories registered at FCAU	14	20
Number of factories visited	14	20
Number of factories newly registered	–	06

Source: Directorate of Environmental Health, Occupational Health & Food Safety

Despite a cadre of 30 Food and Drug Inspectors (FDI), only 15 are available to carry out food control activities at national level including the sea port, airport, Grey line 1, Grey line 2 and RCT (Rank container Terminal).

meets the standard and is safe for human consumption.

Despite the shortage of staff, the FDI's continue the Inspection of documents,

Inspection of foods and food sampling done according to the sampling plan by the staff at the entry points to ensure food imported



## Activities of Food Inspection

**Table 12-4 : Activities of Food Inspection at RCT, Gary Line 1 and 2**

Activities	2015	2016
Number of consignments inspected (FCL)	35096	36520
Number of consignments rejected	01	33
Number of consignments released to ware house	425	3551
Total number of samples sent to laboratories	8349	6809
Number samples sent to Atomic Energy Authority	6315	4783
Number samples sent to ITI	363	177
Number of samples sent to National Institute of Health Sciences	1091	1673
Total number of samples found unsatisfactory	04	76

Source: Directorate of Environmental Health, Occupational Health & Food Safety

**Table 12-5 : Activities of Food Inspection at Airport**

Activities	2016
No of consignments received	3595
No of consignments inspected	3595
No of consignments referred to FCAU	00
No of samples sent for analysis	42
No of satisfied analysed samples	42

Source: Directorate of Environmental Health, Occupational Health & Food Safety

**Table 12-6 : Activities of Food Inspection Unit at Seaport**

Activities	2015	2016
No of consignments registered	1415	1188
No of samples taken	60	19

Source: Directorate of Environmental Health, Occupational Health & Food Safety

## National codex committee

National Codex Committee of Sri Lanka actively participated in the International Food Standard Setting (Codex) meetings in 2016.

Special meeting was held on preparing the delegates prior to attend the CCSC in India. Comments on proposed draft standard for Black, White, Green pepper were submitted.

- SPS notifications were notified to the WTO from Sri Lanka in 2016.
- Number of notifications received from WTO - over 500
- Number distributed to relevant organization - 70

## Food Enforcement activities at District level

There are 41 Food and Drug Inspectors at district level and around 1800 Public Health Inspectors ensuring food enforcement activities throughout Sri Lanka. They are involved in taking food samples, prosecution and seize when necessary under food act and regulations and conducting awareness programmes to relevant parties. Performance of authorized officers attached to RDHS and Municipal councils can be summarized as following.

*\*Data of the returns from Gampaha and Anuradapura districts are not received for the year of 2016.*

Total number of samples taken	16,563
Total number of unsatisfactory samples	3,970
Total number of prosecuted under the food act	3,111
Total number of convicted	5,541
Total number of items seized—	28,124

Total number of health education programme conducted (For food handling establishment owners, field officers, consumer societies, and school and staff students)	13,844
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The directorate has identified that the food premises registration as mandated in the food act should be implemented early to ensure that all food manufacturing, food sales and storage facilities meets a basic standard and will work towards bringing this important regulation to enforcement early. There are also a few regulations which are being revised which need to be completed early.

Food safety requires the support of various stakeholders to work in partnership to ensure the entire process of the food chain from “**Farm to Plate**” is safe. For this Good Agriculture Practices (GAP) and Good Manufacturing Practices (GMP) should be ensured.

There is a network of 5 food laboratories which continued to support in ensuring that food samples for surveillance and contamination are tested. The Government Analyst, City analyst Colombo, food laboratory at the Medical Research Institute (MRI), Food laboratory at National Institute of Health Sciences (NIHS) Kalutara and Food laboratory at Anuradhapura. Microbiological samples are tested at Microbiology laboratories at MRI and NIHS. The provincial food laboratory at Kurunegala and City analyst Kandy are in the process of being identified as additional approved food laboratories. Despite the above network of laboratories, an external assessment with the support of the World Health Organization in 2016, has identified the areas which need further strengthening in the network of

laboratories. These recommendations will be discussed at the food advisory committee for further action in 2017.

### **12.1.3. National STD/AIDS Control Programme**

The National STD/AIDS Control Programme (NSACP) of the Ministry of Health is the focal point for the prevention and control of sexually transmitted infections (STI) including HIV. As a specialized public health programme under the Ministry of Health, NSACP is responsible for coordinating, planning, implementation, monitoring and evaluation of the national response to the control and prevention of STI including HIV.

At the end of 2016, NSACP has been providing both preventive and curative services through 31 full-time STD clinics and 23 branch clinics distributed throughout the island.

The expansion of antiretroviral treatment (ART) services to 21 centers is an important achievement made during 2016. In addition, the government of Sri Lanka took over funding the antiretroviral treatment programme using domestic resources from 2016.

#### **Laboratory services**

NSACP continued to introduce of new tests related to STI and HIV while improving the quality of the existing tests. All the peripheral laboratories are planned to be equipped with ELISA technique for HIV screening. This was addressed in 2016 with the distribution of 10 ELISA machines to the peripheral clinics.

In the reference laboratory of NSACP, new testing with real time PCR technology for Chlamydia, Gonorrhoea and HSV was introduced in year 2016. In addition, to facilitate HIV management at peripheral level, two CD4 machines were provided to Kandy and Galle STD clinics while two automated real time PCR machines for viral load testing were introduced to Galle and Anuradhapura.

#### **Multi-sectoral collaboration**

This programme area has its focus mainly on the activities conducted aiming the vulnerable groups which has been identified in the National HIV Strategic plan 2013-2017. It oversees, coordinates and provides technical support for advocacy, capacity building, awareness and internalization of STI and HIV prevention activities of the multi-sectoral institutions.

National STD/AIDS Control Programme developed the Policy on prison HIV prevention, treatment and care. During 2016, a total of 12,776 prison inmates underwent voluntary HIV testing and counseling in the prisons situated island-wide. Of them, six (6) were HIV positive. The sero-positive rate among the prison inmates in 2016 was 0.05%.

HIV prevention programmes in armed forces, police sector, youth sector, education sector, migrant Sector and tourism sector continued during 2016.

## **Global Fund supported activities in 2016**

The Global Fund to fight AIDS, Tuberculosis and Malaria (GFATM) has been working with the National STD/AIDS Control Programme (NSACP) closely for many years. The NSACP received a grant of US\$ 5,323,102 for the period of 2016-2018 under the New Funding Model proposal for the HIV component where the NSACP act as the Principal recipient-1 (PR1)

**Table 12-7 : Performance by planned interventions/major activities under GF grant in 2016**

Details of activities and their targets	Status of Progress
Rapid assessment of drug use patterns in order to inform risk reduction and harm reduction interventions conducted	Advancing
National coordination and collaboration strengthened with National Dangerous Drug Control Board.	Completed
Action plan for tailored harm reduction interventions and service package for PWUD/PWID developed	Not Started
Action plan for tailored interventions targeting PWUD/PWID rolled-out	Not Started
900 prison peer educators trained among prisoners to provide BCC (quarterly)	Completed
Routine quality assurance and quality control (QA/QC) of ARVs	Advancing
Routine Data Quality Assessment system (RDQA) rolled-out nationally	Completed
Preparation not done/not completed' Guidelines, checklists and tools for RDQA developed and included as annexes to the National Monitoring and Evaluation Plan	Completed
Rapid Situation Assessment of Transgender Persons in Sri Lanka conducted	Completed
National HIV Testing Policy developed	Completed
Prison HIV Policy developed	Completed
A sub-committee of the Steering Committee for Prison HIV/AIDS Prevention Program established	Completed
30 STI clinics receive 1 supervision visit/year	Advancing

Source: National STD/AIDS Control Programme

### 12.1.4. National Programme for Tuberculosis Control and Chest Diseases

The responsibility of control of TB in the country falls under the National Programme for Tuberculosis Control and Chest Diseases. The services are provided through the 26 District Chest Clinics, one sub chest clinic and branch clinics. Diagnostic culture facilities were available at National Reference Laboratory, Regional culture laboratories at Ratnapura and Kandy.

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.

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 2016, Rs. 319.5 million were allocated from the government (including the Second Health Sector Development Project) funds. 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.

### 12.1.5. Anti-Malaria Campaign

The Anti Malaria Campaign (AMC) of the Ministry of Health, Nutrition and Indigenous medicine, is responsible for the Malaria Elimination and Prevention of Re-introduction Programme. The activities of Anti Malaria Campaign is according to the National Malaria Strategic Plan for Elimination and Prevention of Re-introduction 2014–2018. Anti Malaria Campaign is having public health service network through regional malaria offices and linkages with curative health sector for the treatment services.

**Table 12-8 : Financial Allocation and Expenditure for Anti Malaria Campaign - 2016**

Source of fund	Allocation	Expenditure
<b>GoSL</b>	<ul style="list-style-type: none"> <li>SLR 130,716,826.74</li> <li>Funds from provincial ministries</li> </ul>	<ul style="list-style-type: none"> <li>110,938,551.37(84.87%)</li> <li>Provincial expenditures</li> </ul>
<b>GFATM</b>	<ul style="list-style-type: none"> <li>USD 3,201,500 (2016-2018)</li> </ul>	<ul style="list-style-type: none"> <li>USD 775,574 (24%)</li> </ul>
<b>WHO</b>	<ul style="list-style-type: none"> <li>SLR 810,761.24</li> <li>Direct funding for training persons</li> </ul>	<ul style="list-style-type: none"> <li>SLR 810,761.24</li> </ul>

Source: Anti Malaria Campaign

### 12.1.6. Anti-Filariasis Campaign

Anti Filariasis Campaign (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.

#### Major Activities Implemented in 2016

- Conducted routine and special night blood filming programmes in endemic areas
- Provided treatment for microfilaria (mf) positive and clinically suspected cases
- Managed lymphoedema patients and educated them and caregivers on morbidity management measures to prevent complications and disabilities
- Conducted vector surveillance and control activities in endemic areas
- Conducted awareness programmes for health staff and general public
- Conducted training programmes for medical, paramedical and post graduate students
- Progress of regional activities were reviews at monthly progress reviews with Regional Medical Officers (Filariasis), patients and annual progress reviews with the staff attached to Regional Anti Filariasis Units (RAFU) and corrective measures taken
- Conducted research activities to implement evidence-based strategic interventions
- Conducted mass drug administration programme in 11 Medical Officer of Health Areas in Galle District where there was evidence of ongoing transmission

### 12.1.7. 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 the activities are Quarantine and Prevention of Diseases ordinance of 1897, and International Health Regulations (IHR) - 2005.

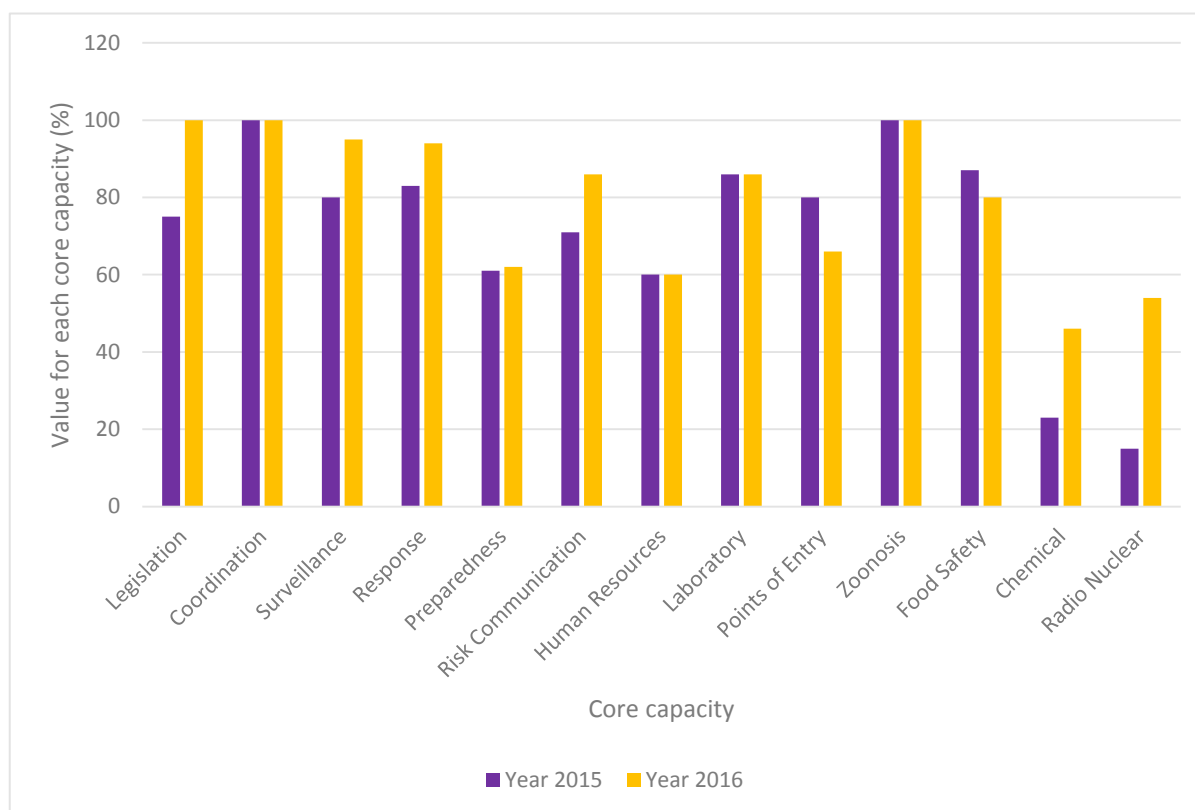
Sri Lanka is also legally bound to comply and obliged to implement the IHR -2005 with the other member states in accordance with the purpose and scope to protect, prevent and control of international spread of diseases as well public health risks, especially the PHEIC.

Quarantine unit and Epidemiology Unit of Ministry of Health had been designated as IHR Co-National focal points to be accessible at all times with WHO IHR focal points. Activities related to implementation of IHR- 2005 in Sri Lanka are being carried out by both units in collaboration with each other.

World Health Organization assesses thirteen core capacities through the Annual Questionnaire for monitoring the progress of implementation of IHR Core Capacities in State Parties. The Figure 12.1 shows the comparison of core capacities of IHR (2005) of Sri Lanka for the years 2015 and 2016. In 2016, more stakeholders in Sri Lanka were involved in filling this questionnaire. Hence, values of most of core capacities were higher in 2016.

## Highlights in 2016

- Strengthen the implementation of International Health Regulations (IHR)-2005 in Sri Lanka
- prevent and control of international spread of diseases and other public health risks specially the Public Health Emergency of International Concern (PHEIC)
- Implementation of inbound health assessment for vulnerable population and long stay (more than 6 months) visa applicants with the involvement of Quarantine unit of Ministry of Health and International Organization for Migration.
- Strengthening of public health offices at ports and airports and central quarantine unit with adequate human resources and logistics in order to achieve IHR core capacities
- Amendment of Quarantine and Disease prevention act of Sri Lanka of 1962 in order to strengthen implementation of IHR -2005



**Figure 12.1: Core capacities of IHR (2005) assessment in 2015 and 2016**

Source: Quarantine Unit



## Activities done in 2016

- National IHR Steering Committee was established to improve the coordination of IHR related activities under the chairmanship of Director General of Health Services.
- The Cabinet of Ministers have approved the amendments to quarantine and disease prevention act in 2016.
- Trained staff of port and airport health offices on personal protective equipment (PPE) and preparedness plans and provided personal protective equipment to staff of port and airport health offices.
- Conducted desktop drill to review public health contingency plan for BIA
- Introduced regular quarterly review system for quarantine unit
- Strengthened IHR core capacities at point of entries.

## Recommendations

- Strengthen Implementation of international Health Regulations (2005) in Sri Lanka considering the gaps identified in Joint External Evaluation (JEE) with the active multi sectoral participation.
- Prepare the five-year National Action Plan for Health Security to fulfil the gaps identified in JEE
- After the amendments, Quarantine and Disease Prevention act need to be passed in parliament.

### 12.1.8. Anti-Leprosy Campaign

In 1954, the vertical structure, Anti Leprosy Campaign (ALC) was started as the national programme for leprosy control activities including diagnosis management, rehabilitation and control activities.

Leprosy control activities implemented through the vertical organization ALC, were integrated into General Health Service in 2001.

#### Activities done in 2016

- Development of National Strategic Plan 2016-2020 - "Accelerating towards a Leprosy free Sri-Lanka"
- Launching of Anti-Leprosy Campaign Website in 2016
- Online web database for disease surveillance activities and mapping
- Continuation of Leprosy post exposure prophylaxis (LPEP) pilot study in

Puttalam & Kalutara districts as a prevention method

- Conducting House-to-house surveys, Community surveys and Ring surveys in all districts with special attention to high endemic districts
- Strengthening the disease surveillance by expansion of satellite clinics, mobile clinics and special skin clinics

## Recommendations

- Establishing a wide range of programmes for early case detection, active case surveillance and strengthen of passive case detection system
- Social marketing campaign to increase awareness, advocacy and behavioural change in the communities
- Programmes to address the stigma and discrimination
- Explore the possibility of Leprosy post exposure prophylaxis (LPEP)
- Special case investigation for child cases and disability cases
- Strengthening the online web-based reporting system
- Develops and launch an App based GIS system to identify hotspots
- Developing innovative IEC material to address stigma, discrimination, importance of self-referral, treatment compliance and prevention of disabilities

### 12.1.9. National Dengue Control Unit

National Dengue Control Unit is the focal point for the dengue control programme in the Ministry of Health in Sri Lanka. It was established in the year 2005 as a decision taken by the Ministry of Health following the major DF/DHF outbreak in 2004. Initially it functioned only as a Coordination Unit, but once dengue illness increasingly poses a socio-economic and public health burden, in 2011 it was upgraded to a directorate as National Dengue Control Unit (NDCU) with an annual budget allocation.

During 2016, curative health care personal were trained on clinical management of dengue patients based on National guidelines in collaboration with the Epidemiology Unit and Education, Training and Research unit of Ministry of Health. Case Management was further enhanced by providing equipment for 54 existing High Dependency Units of hospitals by NDCU, which includes high dependency beds, Infusion pumps, Micro haematocrit centrifuges etc. (Annexure II Table 11, 12 & 13)

#### Emergency Response

- Weekly reporting of data revealed that highest number was reported in 25<sup>th</sup> week (1915 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 initiated in WP as per the decision taken at the Presidential Task Force on Dengue Prevention (PTFD) meeting held on 9<sup>th</sup> 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 during 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.
- Seventeen successful mass scale premise inspection were conducted during 2016 in western province and outside. Activities are summarised in (Annexure II Table 14).
- Two National Mosquito Control Weeks were declared prior to the anticipated monsoonal seasons. Extensive media coverage focussing behavioural outcome for specific breeding places were disseminated to empower the community (Annexure II Table 09).

## 12.2. Deputy Director General – Public Health Services II (DDG PHS II)

Deputy Director General Public Health Services II is mainly assigned public health areas outside the scope Communicable Diseases. These work is performed through different directorates under the DDG PHS II.

Directorates under DDG (PHS) II

1. Maternal and Child Health (FHB)
2. Health Education and Publicity (HEB)
3. Directorate of Nutrition
4. Nutrition Coordination Unit
5. Directorate of Nursing (Public Health Services)
6. Directorate of Estate and Urban Health (EUH)
7. Directorate of Youth, Elderly and Disability (YED)

### 12.2.1. Maternal and Child Health (Family Health Bureau)

Family Health Bureau (FHB), is the central level institution in the Ministry of Health that is responsible for planning, implementing, monitoring, and evaluating the Reproductive, Maternal, New-born, Child Adolescent and Youth Health programme (RMNCAYH). FHB provides technical guidance for provincial health care system on its implementation. In addition, FHB advocates the Ministry of Health on matters related to policy, finance, infrastructure, human and other resource requirements relevant to RMNCAYH programme. Quality control, monitoring and evaluation of the RMNCAYH programme also come under the purview of FHB.

FHB has several units that covers the different components of the RMNCAYH programme.

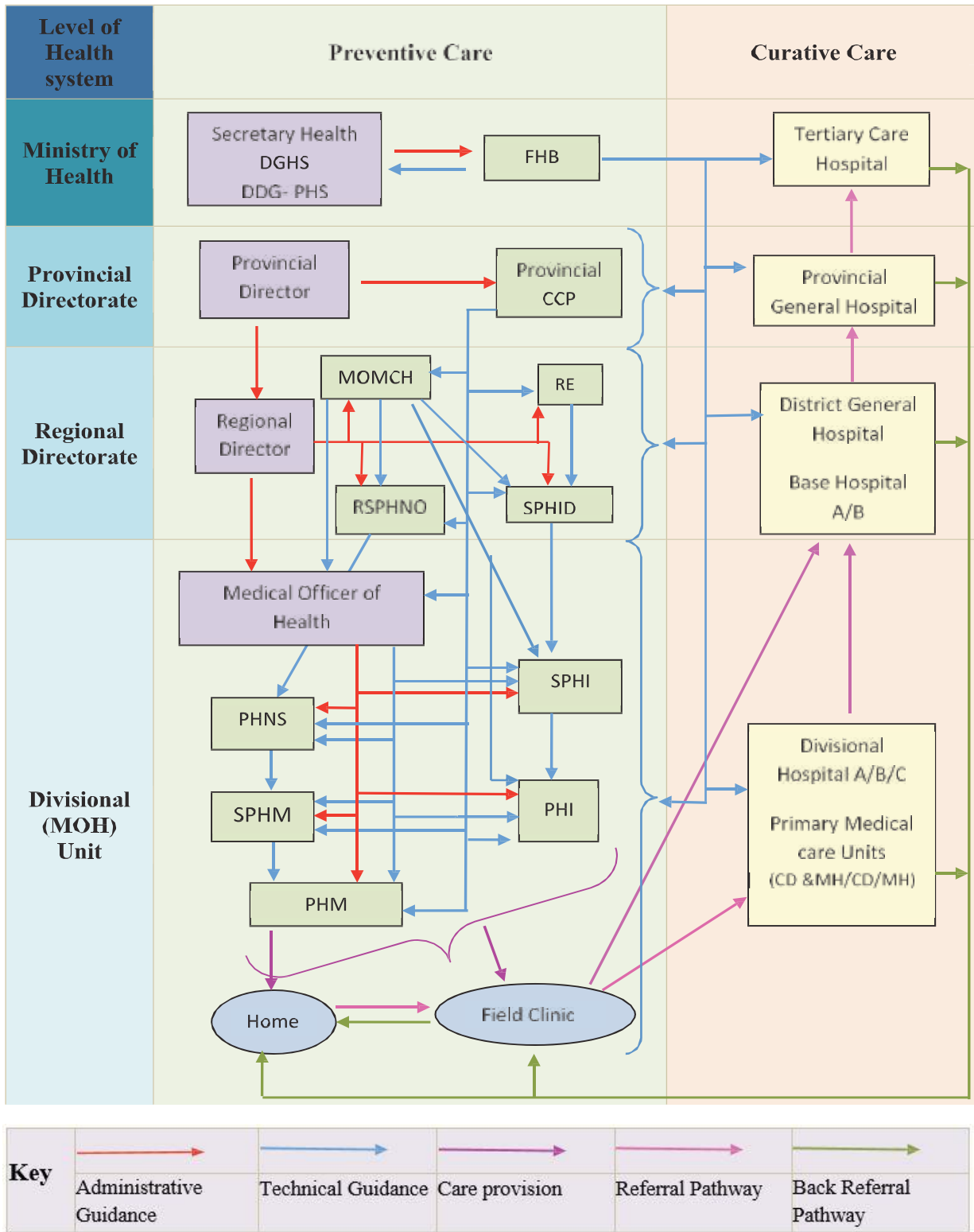
These include:

- Maternal Health
- Maternal and Child Morbidity and Mortality Surveillance
- Intrapartum and New-born care
- Child Health, Development and Special Needs
- Child Nutrition
- School Health
- Adolescent and Youth Health
- Gender and Women’s health
- Family Planning
- Planning, Monitoring and Evaluation
- Oral Health
- Research and Development

Each of these units is headed by a Consultant Community Physician (a public health specialist), who is the national programme manager for areas under the unit’s purview.

Each unit possesses a separate staff responsible for advocacy, policy and strategic analysis, programme development, technical guidance, evaluation and supervision related to the respective programme components. Figure 12.2 shows the administrative and technical guidance pathways that facilitate the organization and implementation of RMNCAYH programme activities through the national health system.

The red and blue lines in the diagram depict the administrative and technical supervision pathways relevant to different levels of health system that are involved with the RMNCAYH programme.



**Figure 12.2 : Organization of RMNCAHYH Programme at Different Levels of Health System**  
 Source: Family Health Bureau

The diagram also depicts the referral and back referral pathways available for people confronted by health conditions related to family health (child birth, childhood illness etc.) in pink lines. The administrative and technical guidance relevant to the RMNCAYH programme is integrated into the usual multi-tier organizational arrangement of the Ministry of Health. Tiers include, Ministry of Health headed by the Secretary of Health, nine Provincial Directors and twenty-six Regional Directors.

At Ministry of Health, policy-making and financial allocation related to RMNCAYH programme is the responsibility of Secretary to the Ministry. The overall administration including logistical supply comes under the purview of the Director General of Health Services (DGHS). FHB is the directorate which technically guides the RMNCAYH Programme. FHB provides policy and strategic advocacy to the Ministry of Health and Provincial and Regional directorates.

### 12.2.2. Health Education and Publicity (Health Education Bureau)

Health Education Bureau (HEB) has been identified as the center 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.

HEB conducts activities under main five strategic objectives,

- Developing policies, plans and technical guidelines pertaining to health promotion, advocacy and communication.
- Communication for public awareness and behavioural changes leading to health promotion.
- Development of health education, promotion, advocacy and communication materials
- Capacity building of health care personnel and others involved or interested in health promotion
- 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.

#### Major Achievements in 2016

##### **Strategic Objective Number1: 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 maintain and assure the standards of health promotion activities.

**Following are the major achievements for 2016:**

- Implementation of behavioral change communication (BCC) strategy guide on reproductive health (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
- Guidelines on Complementary feeding practices were developed, printed and distributed in all districts.
- Conducted Consultative meetings of the Sub-committee on Nutrition Communication and decisions taken regarding nutrition communication (Eg. IEC material development, social marketing etc.)
- Provision of technical guidance on oral health promotion at consultative meetings, research and surveys
- Finalized the oral health education package and Manual for Health Promotion Preschools for Sri Lankan Public

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

**Strategic Objective Number 2: Communication for public awareness and behavioral changes leading to health promotion**

HEM conducts continuous awareness programs such as Media seminars and media briefings for media personnel. The main objectives of these

are 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. Every year HEB conducts 15 - 20 media seminars on current health issues and national and international days on particular health related issues. Media Seminars on National Nutrition Month, National Breastfeeding Week, World Childrens' Day, National Oral Health Day and International Maxillo-facial Surgeons Day were conducted.

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 Docu-dramas on nutrition promotion of estate sectors.
- Conducted a Poster competition on the 'right to smoke free living' among school children
- National Art competition was carried out among school children on stroke prevention
- Conducted two exhibitions in Southern and Uva provinces.

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

Suwasariya" 24 X 7 round the clock contact centre for the public provides fast and accurate expert advice by doctors in all three languages. This service is well supported by a tri lingual web site "www.suwasariya.gov.lk" intended for general public, and contains articles about health promotion, prevention, common diseases and details about government health services.

### **Strategic Objective Number: 3: Development 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 2016 with regard to the above:

- Development and printing of a docket on neonatal and maternal care.
- Development of NCD prevention leaflets, pennants and stickers in Tamil and English language
- Preparation for publishing 'Sepatha' magazine in Sinhala medium
- Printing of supportive IEC materials for preschool programme on health promotion
- A poster on Thripasha was developed and distributed.
- Television spots to promote nutrition and iron consumption was developed.
- Developed and printed a Snake and Ladder chart for preschool children
- Developed a documentary for preschool children on health promotion
- Printing of 2 types of wall charts for Chronic Kidney Disease prevention

### **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 carried out during the year 2016:

- Training of SDTs, MOOH, PHMM, PHII, community groups, preschool teachers, parents as facilitators for health promotion preschool programme
- Life skill Programme was conducted for middle level health managers in selected areas.
- Conducted Training of Trainers (ToT) programs for teachers on school health promotion with regard to substance abuse
- Training of multi sectoral group for health promotion in Uva Province in relation to a study on Integrating Nutrition Promotion and Rural Development (INPARD) in Sri Lanka.
- Provision of 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 in Kalutara.
- Training of trainers programme on capacity building in Nutrition Counselling was conducted for Badulla,



Monaragala and Ampara districts. A total number of 21 trainers, 7 from each district comprising of the field health staff were trained during this 3-day residential workshop.

- Training on health promotion, oral health promotion for school dental therapists, Regional Dental Surgeons, Nursing Officers in health education units in National and District level.
- Capacity building programs on school health promotion, hospital health promotion, general health promotion were carried out in several districts in the island.
- ToT programme on communication skills of the nursing staff of Chest Hospital, Welisara.
- ToT programme on communication skills of the nursing staff of Central, North Western and Western provinces.
- MOH training programs on communication skills
- SLIDA training programs on Emotional Intelligence for work life success and building positive attitudes

#### **Strategic Objective Number 5: monitoring & evaluation of health promotion programs**

Following national, provincial, district and divisional (MOH) level reviews were conducted during 2016:

- District and provincial reviews of health promotion programs were carried out.
- Provincial review meetings to review the activities of Mothers' Support Groups were conducted in Uva, Sabaragamuwa and Western Provinces.
- A 2-day National Review programme was held and the presentations of MOH

areas who had the best Mothers' Support Groups were presented at this review meeting. District level best 3 Mothers' Support Groups were rewarded.

- National Annual Review of health promotion preschool programme
- Provincial and national Health Education and Health Promotion reviews were conducted by the Health Promotion Unit.
- Periodic (annual) evaluation and descriptive study on health information seeking behaviour of "Suwasariya" contact centre.

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 hospital, preschool, school, villages, work place etc., as health promotion settings is another successful program conducted by HEB which was appreciated by all parties. Another milestone is planning and linking together an e-learning system for public health workforce across the country. This program will facilitate to update the knowledge in emerging health information while utilizing it for public awareness.

### 12.2.3. Directorate of Nutrition (Nutrition Division)

The aim of the Nutrition Division is to provide effective, evidence-based nutrition services to all strata of Sri Lankan population. Nutrition Division is responsible for overall management of nutrition services across the country on behalf of Ministry of Health. This unit is responsible for nutrition related policy formulation, coordination, monitoring and evaluation. Nutrition Division formulates guidelines on nutrition related matters which are translated in to action at grass root level. In addition, this unit carries out in-service training 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.

#### Achievements in 2016

- 1) Landscape analysis of rice fortification with iron & folic acid completed
- 2) Review of implementation of National Nutrition Policy planned and in the process of selecting an external consultant
- 3) Adaptation of WHO nutrient profile and development of Sri Lankan nutrient profile is in the pipeline
- 4) Recommendations of Second International Conference on Nutrition was adapted
- 5) Public health guidelines targeting prevention of three major NCDs were formulated

- 6) Circular for healthy canteen in workplaces prepared
- 7) Infrastructure facilities provided for nutrition clinics in hospitals
- 8) Information Education & Communication (IEC) materials on food colour code & food plate for identifying healthy food was prepared and distributed along with other IEC material prepared by the division
- 9) In service, basic & post basic training programmes conducted for Medical Officers, Nursing Officers, and nursing sisters
- 10) Awareness of school community on nutrition and healthy life style.

#### Targets for 2017

- 1) To complete pilot study for rice fortification
- 2) To complete review of National Nutrition Policy
- 3) Sri Lankan nutrient profiling model developed
- 4) Review of responsibilities of Second International Conference on Nutrition
- 5) Public health guidelines targeting prevention of three major NCDs launched and distributed
- 6) To establish a mechanism for coordination between nutrition Division and hospital nutrition clinics
- 7) To develop & print picture message book on healthy diet & life style for school children
- 8) To raise awareness on healthy food, nutrition & life style among health staff, other institutions and general population

## 12.2.4. Nutrition Coordination Division (Nutrition Coordination Unit)

Nutrition Coordination Unit Coordinates nutrition programmes within the Ministry of Health, Nutrition and Indigenous medicine, liaising with other ministries, monitor and evaluate nutritional interventions to uplift the nutrition status of the nation. The unit functions under the Director (Nutrition Coordination Division), and the technical team is headed by a Consultant Community Physician.

### Achievements in 2016

- 1) National Nutrition Surveillance System (NNSS) - Regional review of the Surveillance system to identify strengths and weaknesses of existing system, to refine indicators and redesign the electronic nutrition surveillance system.
- 2) District Nutrition Surveillance System- Pilot study on the surveillance was performed in Nuwara Eliya.
- 3) District Nutrition Action Plan (DNAP) - Implementation of DNAP based on the identified nutrition priorities of each district
- 4) Partnership in Multi-Sector Action Plan- Health Ministry representation of the Multi Sector Action Plan of the National Nutrition Secretariat.
- 5) Nutrition Month Activity – Under the Theme Shape your meal to Shape Your Body, National advocacy and awareness program and regional level distribution of the programme to overcome malnutrition

- 6) Preschool teacher training programme on Nutrition- ToT programmes conducted in six districts in the country to enable preschool teachers to empower children as changing agents. for nutrition promotion
- 7) Assessment of Existing Thripasha Supplementation Programme and possible product diversification - Identification of existing gaps in logistics and possibility developing new Moderate Acute Malnutrition (MAM) product improve divisional level thripasha storage facilities

### Targets for 2017

- 1) To upgrade existing National Nutrition Surveillance system
- 2) To improve coverage and quality of district Nutrition surveillance system
- 3) To implement DNAP, supporting more sustainable interventions with high coverage for nutrition problems of vulnerable populations
- 4) To strengthen implementation of multi-sector action plan via improved multi - sectoral coordination at district level
- 5) To conduct advocacy and awareness program during nutrition month to promote nutrition
- 6) To conduct preschool TOT programmes in other districts and support preschool teacher training workshops in those districts
- 7) To conduct pilot study on development of MAM product.
- 8) Improve Thripasha storage facilities in selected district

### 12.2.5. Directorate of Youth, Elderly and Disability (YED)

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, implementing, monitoring and evaluating of activities related to programme areas

The rising pattern of non-communicable diseases among elderly population will contribute to increase the proportion of elderly living with disabilities. To overcome such situations the vision of the unit is to produce healthy, active and productive elderly population by improving physical, mental and social wellbeing of current elders and to produce more active and healthy elders in the future.

Main objective of the disability programme area, of the directorate is to improve health services for the disabled persons by improving quality health care on disability & rehabilitation improving multi-stakeholder network on disability health care and rehabilitation based on National Action Plan.

Improving knowledge attitudes and life skills among youth to reduce youth health problems and improve their wellbeing is the vision for the programme areas of youth.

Upgrading of infrastructure facilities to establish elderly and disability friendly health care services at health institutions, Advocacy programmes to promote active healthy ageing & prevention of disability including accessibility facilities for the persons with disability and promotion of life skills among youth were implemented and activities are ongoing successfully.

Activities are implemented according to the developed policies, guidelines and action plans by the directorate related to its programme areas & focusing results based frame work.

Non Communicable Disease	Elderly males (%)	Elderly Females (%)
Heart disease	52.8	52.1
High Blood pressure	55.3	58.2
Wheezing/ Asthma	29.8	29.1
Diabetes	43.8	48.6

Source: Demographic Health Survey - 2016 Sri Lanka

### **Priority key messages**

- Elderly population is increasing in the country. Non communicable diseases are more prevalent among elders. Promotion of Active Healthy ageing concept focusing more towards control of modifiable risk factors to prevent NCDs is implemented through life course approach.
- Active healthy elders are an asset to the society and they are a resource group to the youth.
- Promotion of accessibility facilities and promotion of availability, affordability & correct usage of recommended assistive devices enhance productivity of persons with disabilities. Disability rehabilitation is complex. Therefore multi-disciplinary team care and right based holistic approaches are to be considered for disability rehabilitation.

## 13. Medical Services

Medical Services are organized under two Deputy Director Generals.

### 13.1. Deputy Director General (Medical Services) I

Managing specialized human resources is a main function of the unit. Accordingly, management of Specialist Medical Officers, Postgraduate trainees, Intern Medical Officers and Medical Administrators is an important function of the unit. Furthermore, development of tertiary level medical facilities in major hospitals and other institutions including establishment of necessary infrastructure facilities, provision of medical equipment and provision of administrative support are other major functions of the division.

The unit consist of four directorates.

- 1) Tertiary Care Services (TCS)
- 2) Healthcare Quality and Safety (HQ&S)
- 3) Registered Medical Officers (RMO)
- 4) Nursing - Medical Services (Nursing-MS)

Following are some of the main duties performed by the Deputy Director General (Medical Services) I and its directorates:

- Tertiary Care Services-
    - Overseas Training, recruitment and deployment of all Medical Specialists in the government health services
    - Recruitment and deployment of medical administrators
  - Postgraduate training of the medical professionals (PG Trainees)
  - Arrangement for Internship training of medical graduates passed out from Sri Lankan and Foreign Universities
  - Management of issues in relation to Relief House Officers and Specialists
  - Management of all human resources related issues of Teaching Hospitals and Specialized Institutions
- \*\* These services will be 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 conduct a patient satisfaction survey at least annually. Another milestone achieved is that the surgical checklists were introduced to be filled for each surgery conducted in hospitals.
  - The Directorate of Registered Medical Officers
    - Supervision of in service training of Registered Medical Officers
  - All directorates also function towards achieving their visions and missions.

## Priorities under DDG (MS) I for 2017/18

- 1) Establishment of online National Deceased Donor organ allocation System
- 2) Capacity building of Medical Administrators (Scaling up medical administrative abilities for innovative management)
- 3) Establishment of Web based Management Information System for Tertiary Care Services
- 4) Establishment of Online tool for assessment of Healthcare Quality and Safety
- 5) Establishment of National ICU bed allocation System

### 13.1.1. Directorate of Healthcare Quality and Safety

#### Key Results Areas

- Launching of Guidelines and formats of Adverse Event/ Incident Reporting system to all healthcare institutions above base hospitals type B.
- Development of Clinical indicators in all four major specialties (05 for each) and Microbiology (03) - Total 23 indicators.
- Establishment of National Council on Accreditation Standards of Sri Lanka with collaboration of Australian Council for Accreditation Standards (ACHS). Development of accreditation standards which suits to Sri Lanka is in progress.
- Capacity building programmes (05 day) for healthcare staff on 5S-CQI-TQM implementation in Sri Lanka to develop of master trainers were conducted.

## Actions taken in 2016 in relation to the key Results Area

### A) Adverse event/incident reporting system

Adverse event/ incident reporting guidelines and formats under the circular No: 01-38/2016 was introduced to facilitate the improvement or development of reporting systems that produce information which can be used to improve service quality and patient safety.

Reporting can lead to learning and improved safety through,

- Generation of alerts regarding significant new hazards.
- Dissemination of lessons learnt

Analysis of many reports can reveal unrecognized trends and hazards requiring attention, insights into underlying system failures and generate recommendations for 'best practices' for all to follow.

Introductory programme on adverse event/incident reporting system was conducted for line ministry institutions and provincial ministry institutions (Base hospitals type B and above).

### B) National guidelines on clinical indicators for all four major specialties and Microbiology

National Guidelines on Clinical Indicators were finalized with the participation of relevant professional colleges and multi-disciplinary team of stake holders.

Indicators for performance and outcome measurement allow the quality of care and services to be measured. Accordingly, Clinical

indicators in all four major specialties and microbiology has been introduced to monitor the quality of care of healthcare institutions in Sri Lanka.

#### **Five clinical indicators were introduced under the specialty of Medicine**

- 1) Percentage of patients given a fibrinolytic in <30 minutes of arrival in ST Elevation Myocardial Infarction (STEMI) or undergoing primary Percutaneous Coronary Intervention (PCI) in <90 minutes of arrival to hospital.
- 2) Percentage of patients with diabetes who are attending to Medical clinics, having Fasting Blood Sugar (FBS) measured at least once in two months or HbA<sub>1c</sub> measured at least once in 6 months and controlled to target FBS < 126mg/dl and HbA<sub>1c</sub> < 7.
- 3) Percentage of patients with Blood Pressure (BP) controlled to target <140/90mmHg in the patients with cardiovascular risks.
- 4) Percentage of errors in administration of prescribed medication to the right patient at any stage of medication process (i.e., prescribing, transcribing, dispensing, administration and monitoring)
- 5) Percentage of patients with a physician diagnosis of asthma who receive out-patient/ETU/PCU nebulization.

#### **Five clinical indicators were introduced under the specialty of Surgery**

- 1) Rate of Postponement of Elective Surgery
- 2) Waiting time duration in indexed operations. Divided into cancer and non-cancer

- 3) Percentage of Surgical facilities using the 'Surgical Safety Checklist'
- 4) Rate of Surgical Site Sepsis
- 5) Average hospital-stay after an index operation (ex: Appendicitis, inguinal hernia, amputation for diabetic gangrene)

#### **Five clinical indicators were introduced under the specialty of Paediatrics**

- 1) Hypothermia on admission to Neonatal Unit when transferring from one institution to another (outside born baby) or from the maternity unit to the neonatal unit in the same hospital (in born baby)
- 2) Re-admission to the ward with wheezing who had bronchiolitis under one year of age
- 3) Readmission rate within 14 days following discharge from a Paediatric ward
- 4) Hypoglycemia on Admission to the Neonatal Unit when transferring from one institution to another (Outside born baby) or from the maternity unit to the neonatal unit in the same hospital (In born baby).
- 5) Case fatality rate in Dengue Hemorrhagic Fever

#### **Five clinical indicators were introduced under the specialty of Obstetrics & Gynaecology**

- 1) Labour Induction Rate
- 2) Episiotomy rate
- 3) Caesarian section rate
- 4) Proper use of Partogram
- 5) Average waiting time for routine major Gynaecological surgery

#### **Three clinical indicators were introduced under the specialty of Microbiology**



1. *Staphylococcus aureus* Bacteraemia Rate per 10,000 patient days
2. MRSA Bacteraemia Rate per 10,000 patient days
3. Hospital onset MRSA Bacteraemia Rate per 10,000 patient days

### **C) Establishment of Accreditation system in Sri Lanka**

Independent council on accreditation of healthcare organizations in Sri Lanka is established with the collaboration of Australian Council for Healthcare Standards (ACHS).

### **D) Conducted 04 Training of Master Trainers programmes covering line ministry and all the provinces and trained 143 master trainers on 5S-CQI-TQM.**

### **Recommendations**

1. Strengthen the data collection method and reporting system of adverse events/ incidents to the Directorate through quarterly performance review meetings.
2. Launching and establishment of national guidelines on clinical indicators in all four major specialties and Microbiology to all the line ministry institutions and provincial ministry institutions (Base hospitals type B and above) to gather data in quarterly performance review meetings.
3. Establishment of Accreditation System in Sri Lanka includes;
  - Development of Sri Lankan Healthcare Accreditation Standards (59 criteria under 12 main areas) based on Australian Healthcare Accreditation Standards.
  - Surveyor induction on Sri Lankan Healthcare Standards
  - Piloting and gap analysis in 06 hospitals
  - Island wide implementation of Sri Lankan Accreditation Standards.
4. Expand the master trainers programme on 5S-CQI-TQM implementation towards Regional Directorates of Health Services level in order to improve the quality and safety in provincial ministry institutions.
5. Commence training programmes on patient safety and clinical audit in order to convert healthcare organization into high reliable organizations (HROs).

## 13.2. Deputy Director General (Medical Services) II

Human Resource management of Grade Medical Officers and development of medical services of the government hospitals constitute the main functions of the unit which includes all the human resource management functions of Grade Medical Officers in government health service other than production, disciplinary actions and termination.

Other responsibilities include management of Prison Medical Services, organization of Hospital Directors Meeting, coordinating of mobile health services, facilitating progress review meetings, Provincial Directors' meetings and the implementation of Parliamentary Select Committee decisions. Additionally, the unit assists in monitoring and coordination of private health sector.

The DDG Medical Services II directly implements following projects:

- Accident and Emergency Development project of government hospitals
- Project to establish and develop Sports Medicine units in hospitals

Additionally, implementing of Human Resource Management Information System (HRMIS) for Grade Medical Officers and costing programme for curative care institutions are other projects.

The unit is organized under five directorates.

- 1) Medical Services
- 2) Primary Care Development
- 3) Private Health Sector Development
- 4) Medical Service Administration
- 5) Prison Medical Service

## 13.2.1. Directorate of medical Services/ Medical Services Branch

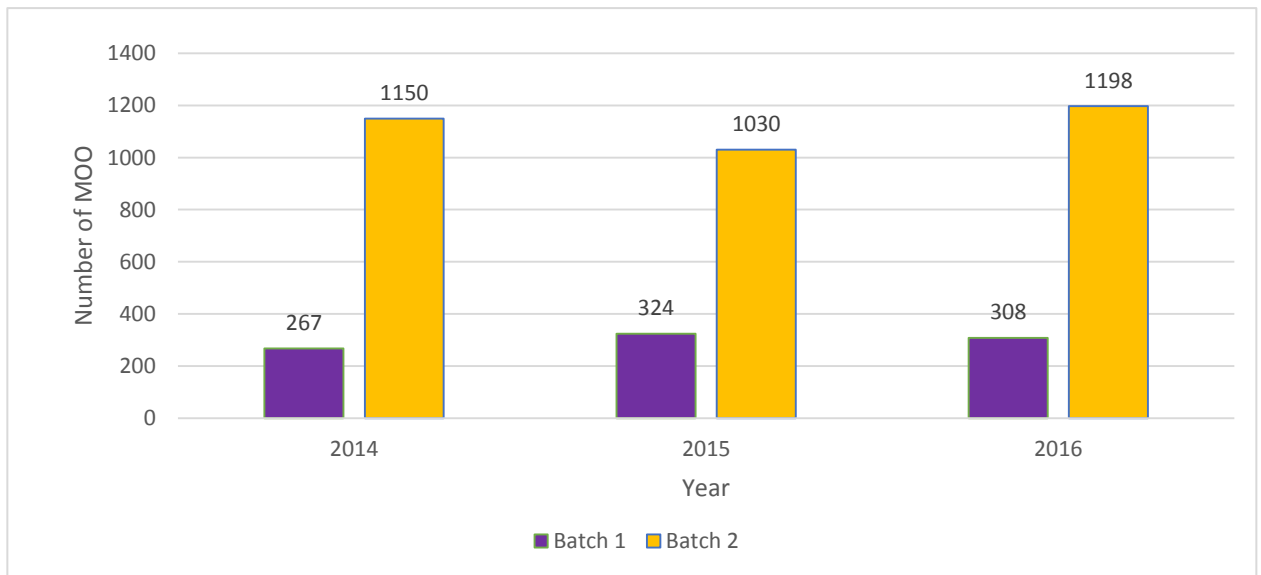
### Scope of work

- Recruitment and human resource management of post intern medical officers
- Organizing and coordination of the training programmes for grade medical officers
- Appointing the diploma holders, MSc holders and other post graduates following the release from the PGIM
- Facilitating the administrative affairs of the medical officers who are seconded to the security force
- Attending to all the necessary steps with regard of the annual transfers of the medical officers, and implementing the special transfer scheme for the North and East provinces
- Attending to grievances and special appeals of medical officers, and arrangements of temporary attachments, for the medical officers in view of their personal problems
- Selection and appointment of medical officers to the special post vacancies requested from certain hospitals/special units as per the service needs
- Attending to concerns regarding the improvements/developments of the accident and Emergency care services
- Management of the electronic Human Resource Management Information System (HRMIS) for 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

### Progress and Achievements in Year 2016

- 1) 1506 Medical officers who have completed their internship, were appointed to healthcare institutions in all provinces. This has led to re-opening of closed institutions and opening of new units in existing healthcare institutions (Figure 13.1).
- 2) Annual transfer orders have been implemented on 1st of January as per the Public Service Commission guidelines (Table 13-1).
- 3) Sports Medical Units were established for all the General Hospital, and medical officers in sports medicine covering all provinces were trained. Since 2014, around 920 medical officers were trained to assess medical fitness and issue medical fitness assessment certificate. These medical officers are spread throughout the country covering all the provinces.
- 4) Transfer orders of 437 medical officers of North & East and 469 special appeal transfer orders have been considered during 2016
- 5) Attachment of Medical officers following reverting back to Ministry of Health following completion of PGIM attachment (Table 13-3).
- 6) Establishment of well-equipped Accident and Emergency Care Units in the line ministry hospitals. (Table 13-3)



**Figure 13.1 : Post Intern Appointments 2014 to 2016**

Source: *Directorate of Medical Services*

**Table 13-1 : Implementation of Annual transfers**

Year	2014	2015	2016
No. of Medical officers Transferred	3311	2924	2930

Source: Directorate of Medical Services

**Table 13-2 : Attachment of Medical Officers after Post Graduate training**

Year	2015	2016
No. of Medical Officers	133	179

Source: Directorate of Medical Services

**Table 13-3 : Establishment of A&E units.**

Completing in 2016	Commencing in 2016	
04 Units	09 Units	
1.TH Jaffna	1.TH Kandy	6. PGH Badulla
2.DGH Kalutara	2.BH Gampola	7. BH Mullaeriyawa East
3.DGH Polonnaruwa	3.DGH Chilaw	8. DGH Ampara
4.BH Kalmunai North	4.TH Kegalle	9. BH Gampola
	5.DGH Trincolamlee	

Source: Directorate of Medical Services

Upgrading of 14 A&E units in Line Ministry institutions;

<ol style="list-style-type: none"><li>1. BH Kanthale</li><li>2. PGH Kurunagala</li><li>3. TH Karapitiya</li><li>4. Sirimavo Bandaranayake specialized children Hospital</li><li>5. Csth Kalubowila</li><li>6. CNTH Ragama</li><li>7. Lady Ridgway Hospital for Children</li></ol>	<ol style="list-style-type: none"><li>8. BH Akkeripathuthu</li><li>9. TH Batticaloa</li><li>10. AMH Kalmunai</li><li>11. PGH Rathnapura</li><li>12. DGH Hambanthota</li><li>13. DGH Monaragala</li><li>14. DGH Nuwara Eliya</li></ol>
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Source: Directorate of Medical Services

### **Capacity Building under A&E project**

Total of 40 Medical Officer attached to A&E units are trained in SONOGRAPHY conducted by foreign trainers. 114 Medical Administrators and Medical Officers were given foreign training opportunities.

Implementation of the Human Resource Information Management System (HRIMS) for the medical officers for transfers, appointments and grade promotions

## 13.2.2. Directorate of Primary Care Services

### Key Activities of Primary Care Services – 2016

1. Strengthening of Primary Care Services
2. WHO Biennium Funded Programme
3. Post Intern Programme
4. Medical Board Process

### 1. Strengthening of Primary Care Activities - 2016

#### Objectives

To optimize, comprehensive, affordable, and quality health care with easy access, to the rural population

#### Strategies

#### Increase the Utilization of Primary Care Hospitals

- Establish well equipped ETUs in selected Primary Care institutions according to their grade.
- Re arrange and renovation of clinics with specialized care services for the patients who seek treatment from primary care institutions.
- Provide wide range of laboratory investigation facilities in primary care hospitals, sharing resources within clusters.
- Improve the patients comfort in selected primary care institutions. Seating, maintain patients privacy during consultation, number display systems etc.
- Back referral of patients in convalescence after specialized care at secondary and tertiary care centers.

#### Improve the quality of service delivery

- Renovation of infra -structure of health care in selected institutions
- Training sessions on basic clinical care and management competencies for primary care staff.

#### Improve community involvement in decision making

- Improve community participation through strengthening of hospital development committees

#### Strengthening of management capacity and technical skills

- Establish a district level focal point (MO Primary Care services) to coordinate activities.

### 2. WHO Biennium (2016 -2017)

#### a. Observational study tour to visit best practices in primary health care settings in regional countries

- Primary Care policy study
- Family cantered care system (population basis, doctor allocation, unit composition, institutional responsibility, services, transport, communication, database, treatment policy and referral)
- Community services
- Guidelines
- Inter relationship with non-health services
- Shared care cluster system

**b. Monitoring & Evaluation of primary care activities and identify service gaps**

- Regional level evaluation and identify service gaps
- Preparation of proposals

**c. Capacity building of Primary Care curative Staff**

- Positive attitudes for better health care with compassion
- Administrative support for health care managers in primary care institutions

**3. Post Intern Programme – 2016**

**Objectives**

- I. To improve the quality of care at the primary level by capacity building of the post intern medical officers appointed to the primary care curative institutions
- II. To introduce clinical protocols and personal and health records for personalized and continuing care at the primary level
- III. To make an attitudinal change on essential primary care among newly appointed medical officers to the primary level

**4. Medical Board Process – 2016**

**Objectives**

- I. Appointing the government and private sector medical boards
- II. Approving the medical examination board reports
- III. Management of Data Base for the medical board applications and reports

**13.2.3. Medical Administration Branch**

Medical Administration branch under DDG (MS) II divided in to EC1 and EC 2 branch, following are the main areas of work:

**Scope of work:**

- Documentation related to Appointments and Re-Instatements
- Issuing formal appointment letters
- Confirmations in service
- Grade promotions of the Medical Officers and Consultants (Grade II, Grade I, Specialists Grade)
- Processing Leave (To handle Local No-Pay Leave, Foreign No-Pay Leave, Foreign Leave, Short-term Leave, Special Medical Leave, Extended Maternity Leave, Earned Leave, Accident Leave, Adoption Leave and Surrogated Pregnancy Leave)
- Process medical board decisions
- Processing disciplinary inquiries
- Issuing Vehicle Permits
- Managing language proficiency details (English, Sinhala/Tamil) and language allowance payments arrangements
- Releasing and re-attaching doctors to Permanent and Temporary stations
- Processing resignations and retirements of the doctors
- Serving Vacation of Posts for Medical Officers
- Delivering Summon Sheets for the doctors
- Office work on legal actions taken against doctors
- Processing bonds (bond charging and clearing)
- Examination results clarification

### 13.2.4. Prison Medical Services

Prison Medical Service is under the purview of Deputy Director General Medical Service II, The Director Medical Services currently in acting capacity for the Director Prison Medical Services. The Ministry of Health deals only with health care components and the administrative part is being handled by the Department of Prisons.

#### Health-ICRC-Prison Department Project:

A special Project launched in Mahara and Walikada Prisons. It's a tri party agreement with Ministry of Health, International Red cross and Department of Prisons. The project details enlisted below;

1. Expansion of OPD services in Prison health services including provision of infrastructure and essential equipment.
  - Dental chair and X ray facility reinstalled at Walikada prisons.
2. Establishment of standard screening package for newly admitting prison inmates.

3. Establishment of Information system, integrating OPD services, LAB services and prison health record system.
4. Capacity Building for Health staff at prison health services.
  - Foreign training of two medical officers in Norway accustoming health international health standards.

#### Other areas of responsibilities;

1. Monthly progress meetings are being conducted with partnership of Ministry of Health, Department of Prisons and Ministry of social & welfare.
2. Administrative support;
  - Appointment of MOO to all Prison Hospitals in the country.
  - Allocation of Dispensers and Radiographers.
3. Supply of Necessary medical supply including drugs through MSD.



### 13.2.5. National Intensive Care Surveillance (NICS)

National Intensive Care Surveillance is a critical care registry networking 76 adult Intensive Care Units (ICUs), 10 paediatric ICUs and 17 neonatal ICUs in government hospitals of Sri Lanka. It is a collaboration of national and international organizations led by the Ministry of Health and maintains a critical care registry and operates a 24/7 ICU bed availability service for adult, children and 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) IV. The system also makes it possible to assess 30-day post ICU outcomes and quality of life of critically ill patients.

NICS is also involved in training of doctors, nurses and physiotherapists in critical care

skills, research and IT. During the year 2016 in collaboration with the Deputy Director General (Education, Training & Research), it has conducted training sessions 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.

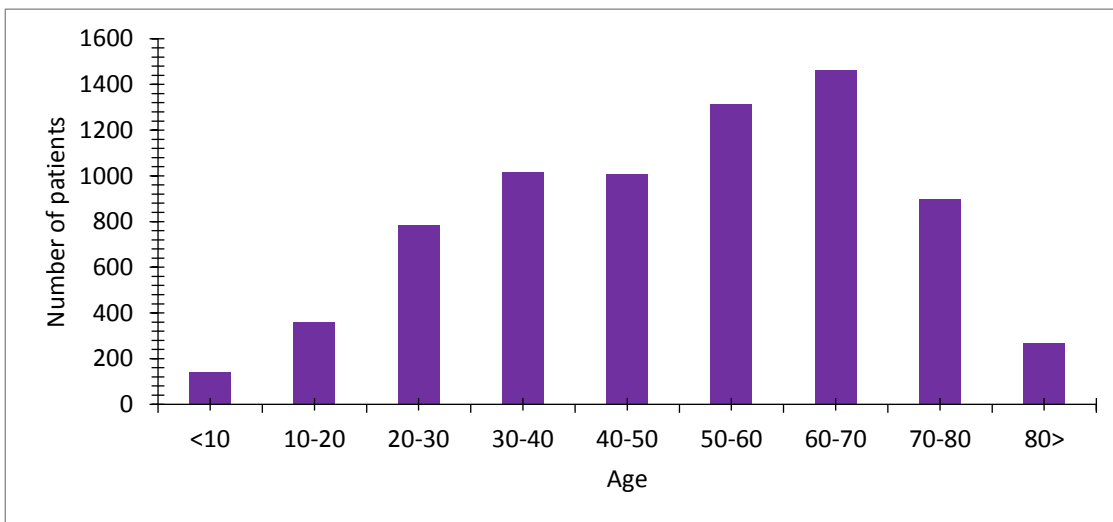
NICS collaborates with many organizations and individuals to conduct research. During 2016 it had actioned nearly 10 research projects NICS also supervise research students of postgraduate programmes and provide placement for interns from University of Colombo.

NICS is presently under the administration of Director, Medical Services of Deputy Director General (Medical Services) II. Further details of NICS and its activities are available at [www.reports.nicslk.com](http://www.reports.nicslk.com), [www.nicslk.com](http://www.nicslk.com) and [www.nics-training.com](http://www.nics-training.com) and can be contacted at [info@nicslk.com](mailto:info@nicslk.com) or 94(0)112679038

The detailed characteristic of each ICU is described in Annexeure 1, including details of paediatric ICU patients. The information presented is mostly from the data submitted by ICUs through the NICS app. In 2016.

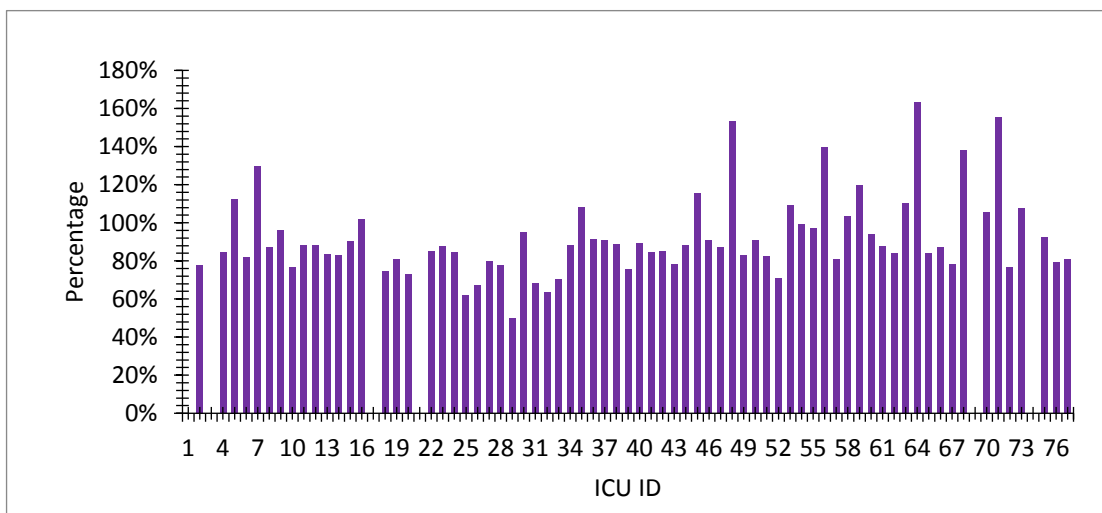
### Characteristics of adult ICUs

The age distribution of patients admitted to adult ICUs in 2016 is illustrated in Figure 13.2. The mean beds to patient ratio for each ICU for year 2016 is demonstrated in Figure 13.4. The Beds to patients ratio is derived by dividing the occupied beds by total number of beds in each day.



**Figure 13.2: Age distribution of patients admitted to adult ICUs in 2016**

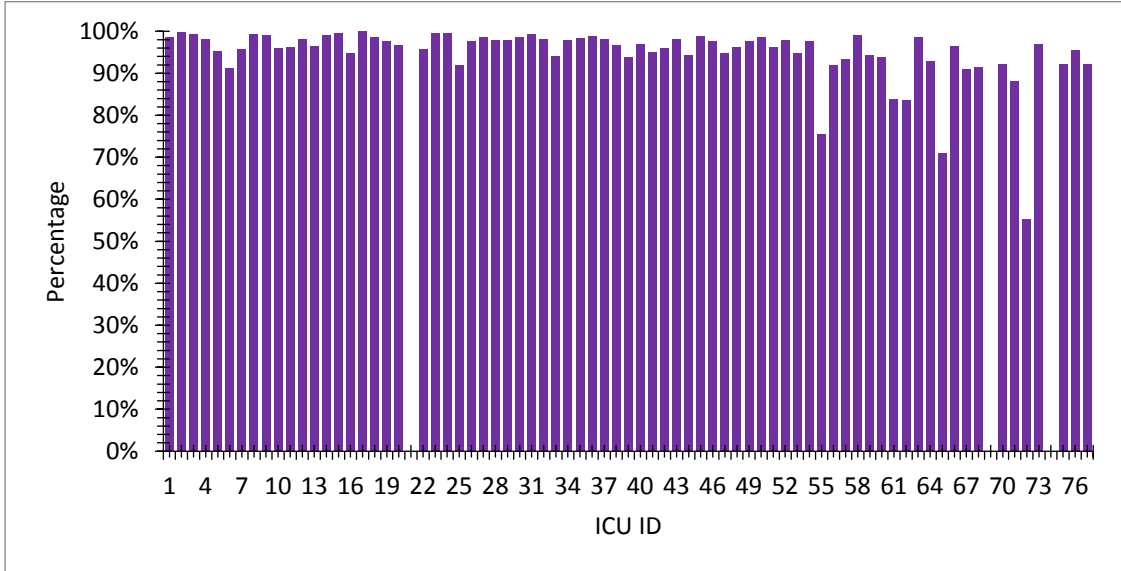
Source: NICS



**Figure 13.3: Patients per nurse ratio in adult ICUs in for 2016**

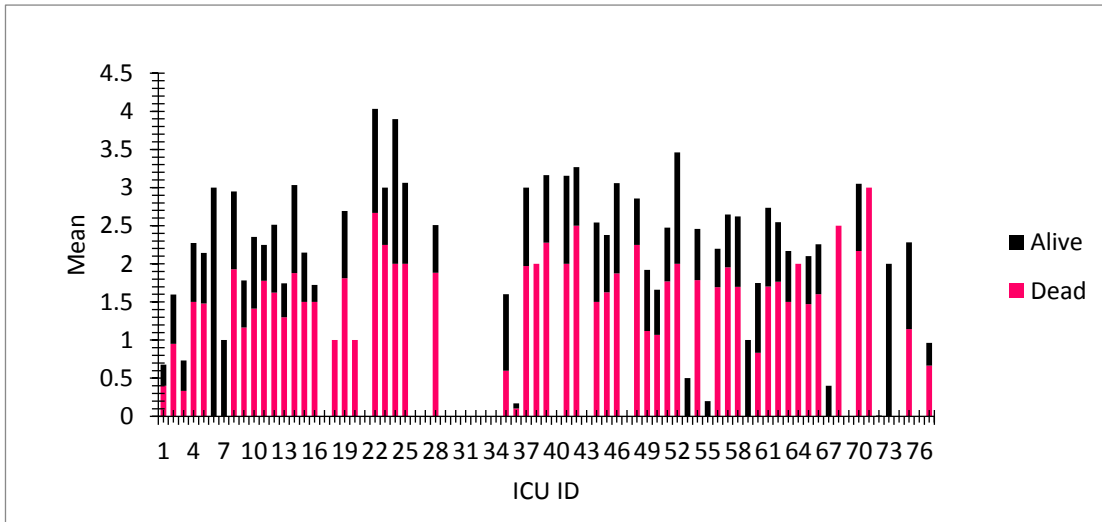
Source: NICS

The mean patients per nurse ratio for each adult ICU for year 2016 is shown in Figure 13.3 while Figure 13.5 shows the mean number of organ failures in admissions to adult ICUs for 2016 by ICU survival status



**Figure 13.4: Mean beds to patients ratio of adult ICUs for year 2016**

Source: NICS

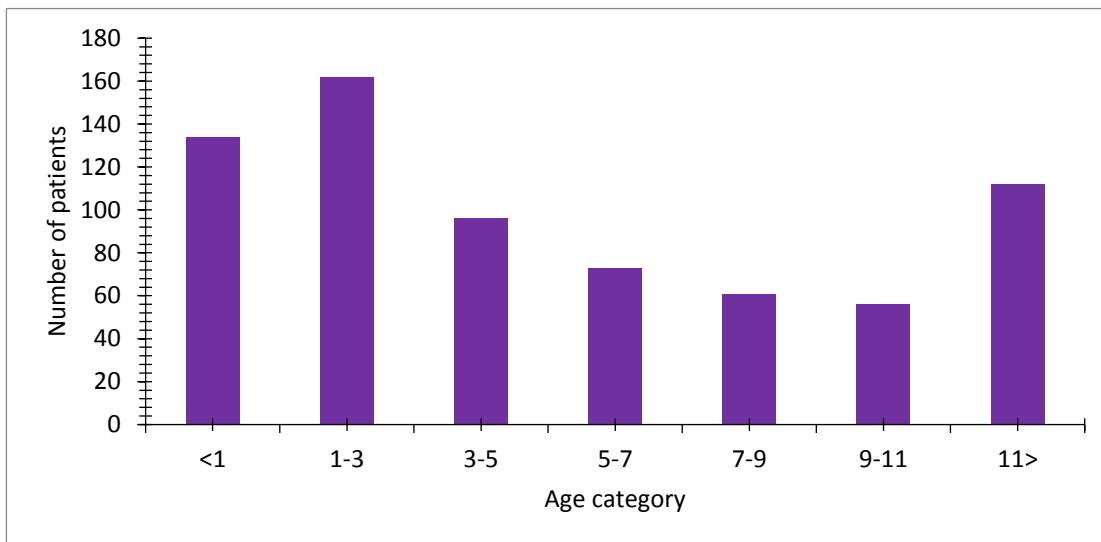


**Figure 13.5: Mean number of organ failures among admissions to adult ICUs for 2016 by ICU outcome**

Source: NICS

### Characteristics of Paediatric ICUs

The age distribution of patients admitted to Paediatric ICUs in 2016 is illustrated in Figure 13.6



**Figure 13.6: Age distribution of patients admitted to Paediatric ICUs in 2016**

Source: NICS

# 14. Education Training and Research - Deputy Director General Education Training & Research (DDG-ET&R)

The ET&R unit is the focal point in policy formulation, provision of technical guidance related to training and coordinating basic training programmes for all staff categories except basic degree programmes for Medical Officers and Dental Surgeons. The unit is also 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.

The unit also 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 is organized under three directorates.

1. Directorate of Education
2. Directorate of Training
3. Directorate of Research

Medical Research Institute (MRI) and National Institute of Health Sciences (NIHS) are under direct administrative and technical supervision of the DDG (ET&R).

## 14.1. Medical Research Institute

### Services

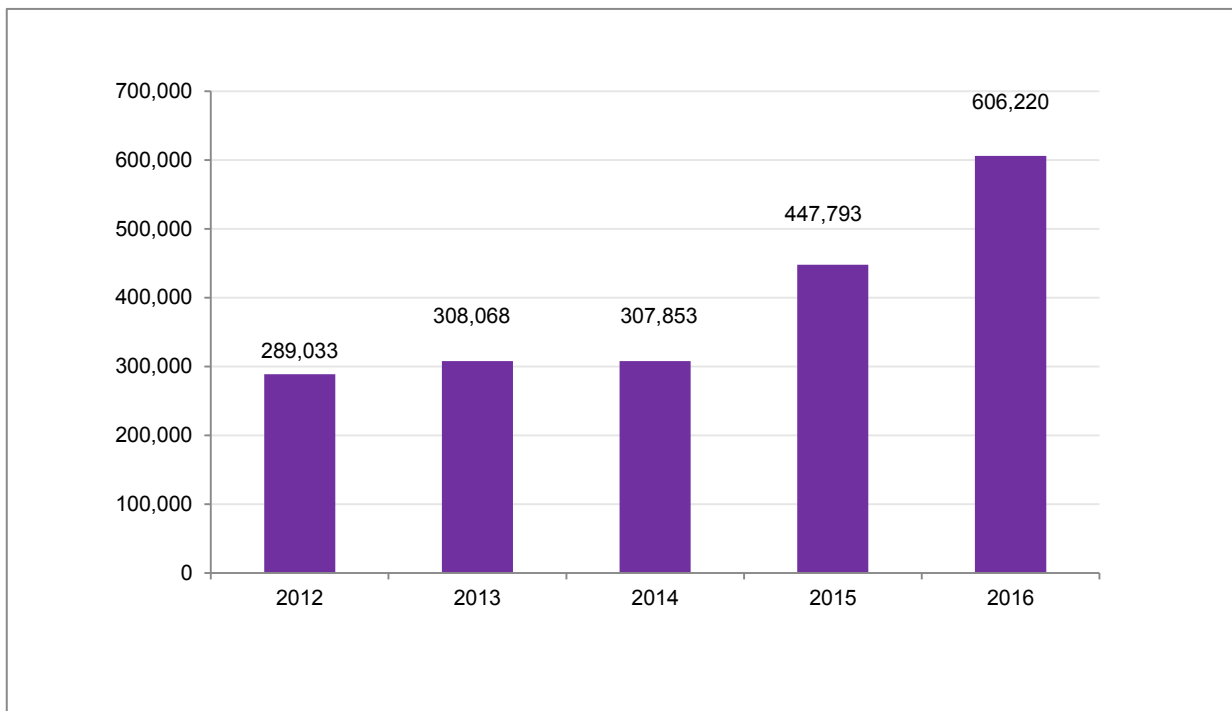
Medical Research Institute provides multiple services to the health care sector of the country. Functions as the Regional reference laboratory for Poliomyelitis while being the National reference laboratory for Japanese Encephalitis, Measles, Rubella, Rotavirus, Influenza, Leptospirosis, Toxoplasmosis, 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.

### General Achievements / Special Events in 2016 at MRI-

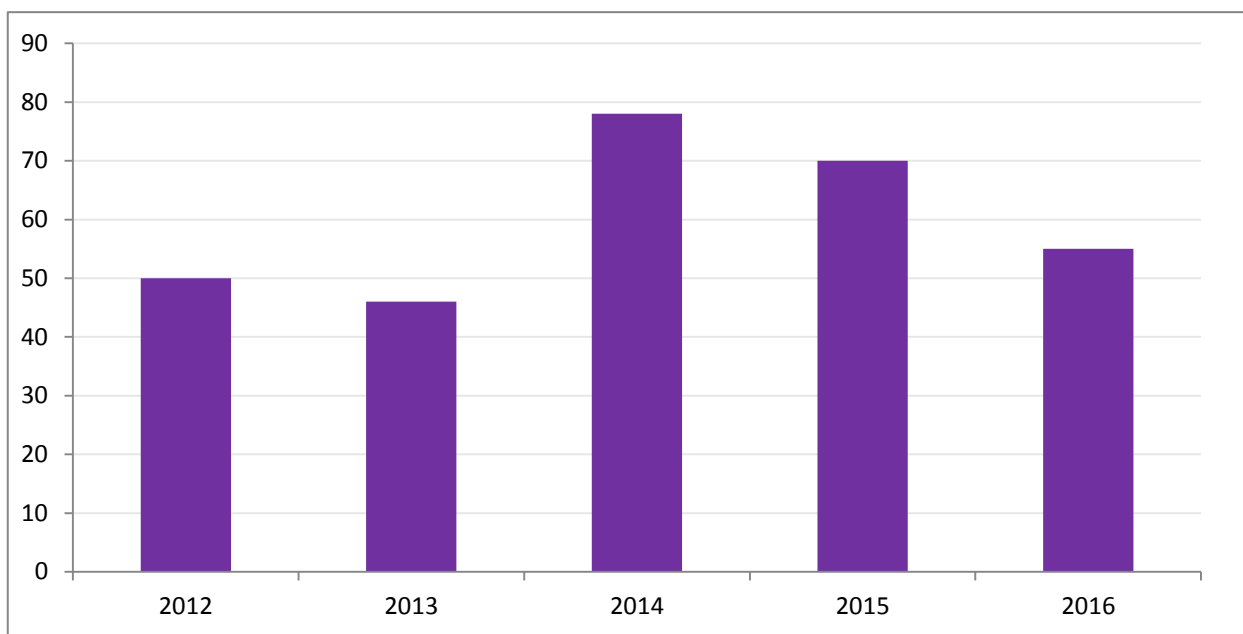
- Limitation of Sample load being sent to MRI by limiting samples for HbA<sub>1c</sub> & Lipid Profiles from NHSL and Base Hospital Panadura

- Establishment of a Laboratory Test Report issuing station which reduced delays in report issuing
- Establishment of sending reports back to original laboratory - Lab to Lab service
- Pilot project of Laboratory Information Management System (LIMS) initiated at Virology department
- Over 150 new Laboratory Tests initiated in 2016



**Figure 14.1: The total Number of Laboratory tests done at MRI over the last 5 years**

*Source: Medical Research Institute*



**Figure 14.2: Total number of Medical Research done at MRI over the last 5 years**

Source: Medical Research Institute

### **Bacteriology Department:**

#### **Significant Achievements in Clinical Bacteriology – 2016**

1. Opening of the newly established molecular biology unit at the Department of Bacteriology
2. Introducing automation in clinical bacteriology by automated Bacterial Identification and Antibiotic Susceptibility system
3. Newly introduced tests:
  - Leptospira detection by real-time PCR
  - Introducing automation – more than 14 new antibiotics for antibiotic susceptibility by MIC and more than 400 bacterial identification
  - Antibiotic resistant mechanisms by molecular detection

### **Department of Nutrition:**

Department of Nutrition has a major contribution to nutrition related research activities in the country. During the year 2016, the department had several achievements in both the aspects, field and the laboratory;

- Field staff of the department successfully completed four national surveys in collaboration with the UNICEF and WFP;

National nutrition, and micronutrient survey among pregnant and lactating mothers (N=7443) National Iodine survey and baseline nutrition survey among 6-12-year-old school children (N=7400).

- Data dissemination seminars for the surveys were conducted.
- In relation to these surveys, laboratory analysis on Hb, Serum Ferritin, CRP, Vitamin A and iodine content in urine, salt, and water was carried out.

- The laboratory participated in external quality assurance programme of CDC, Atlanta for urine iodine and Iodine Global Network India for salt Iodine analysis and received accreditation.
- In addition to this, more laboratory analysis on, sugar content in carbonated beverages, salt content in fast foods, sugar content in diary milk and food colorants in selected food items and beverages in Jaffna and Colombo districts were carried out. The analysis revealed results with significant importance which could be used for public awareness and for policy making.
- Capacity building of laboratory staff on micronutrient analysis of serum and food analysis was carried out by foreign experts under UNICEF funding.

### **Department of Vaccine Quality Control and Rabies:**

In addition to the routine rabies diagnostic, reference and quality control services, vaccine quality control activities, teaching, training and research, the Department of Rabies and Vaccine QC had the following achievements of note for the year 2016,

1. Department joined the Health Management Information System (HMIS) of the Ministry of Health to submit rabies diagnostic results of both human and animals to the relevant stakeholders - Public Health Veterinary Services (PHVS), Medical Officer of Health, Regional Epidemiologist, Rabies PHII in real time to facilitate implementation of immediate rabies control activities
2. Over 160 medical officers who are managing rabies Post Exposure Treatment (PET) covering the entire

country were successfully trained by organizing a one-day workshop at the MRI on 10<sup>th</sup> of June 2016.

3. Commemoration of World Rabies Day on 28th September 2016 in collaboration with Public Health Veterinary Services and Ministry of Health to raise awareness about rabies prevention and to highlight progress in defeating this horrifying disease with rabies walk followed by media conference
4. A seminar organized by Department of Animal Production & Health together with SLAAS on "Situation of human rabies in Sri Lanka with issues in diagnosis" to commemorate the World Rabies Day 2016 at ICEAP at Gannoruwa
5. Two research projects done in the department were accepted to be presented as oral presentations of Sri Lanka College of Microbiologists annual scientific sessions and one paper received the 2nd price for oral presentation
6. Several awareness programmes on Rabies Post Exposure Therapy were held for medical officers working in the island wide rabies post exposure clinics to promote their knowledge on rational management

### **Department of Histopathology:**

Department of Histopathology showed the following achievements in 2016:

- Continuation of External quality control program for Medical Laboratory Technologists and continuation of External quality control program for Consultant Histopathologists.



- In addition, conducted several workshops: Workshop for External Quality Assurance for Medical Laboratory Technologists and Workshop for External Quality Assurance for Consultants.
- Started special staining methods.

## 14.2. National Institute of Health Sciences (NIHS)

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 provides guidance to Ministry of Health on its policy on health manpower development.

### Training Activities:

The training faculty has conducted nine basic training programs, twenty three in-service training programmes, three Post Basic training programme & five Post Graduate training programmes in the year 2016. It has also conducted seven examinations for the Ministry of Health.

NIHS has also revised following training curricula to improve the trainer/examiner capacity which will help the training activities in the future:

- PHM Part II curriculum
- MOH curriculum
- MLT curriculum,
- SPHM curriculum
- Tutor Training (Educational Science) Diploma.

### **Food Chemistry Laboratory, NIHS**

NIHS food chemistry laboratory has continued routine work as testing of food and water for the regulatory compliance for the year 2016. Imported food samples and water samples from the bottling water plants were also tested for their quality parameters. This is one of the income generating activity from the laboratory. The annual income generated is Rs. 6,691,900.00.

Two advanced equipment namely HPLC and GC/MS were supplied to the laboratory during this period and installation of these equipment and training are underway. The laboratory renovation work was carried out during this period. The laboratory also participated in the Medicare Exhibition in March 2016 at Bandaranaike Memorial International Conference Hall (BMICH) to educate general public on local food quality.

Of the 6515 food samples analyzed for quality, under the food regulations, 20 percent of them were of unsatisfactory quality. Of the imported salt samples 4 percent were not complying with the existing regulation due to excess and deficiency of iodine content. Among the imported frozen fish samples 2 percent had unacceptable levels of formaldehyde ranging from 25 to 66 mg/kg.

# 15. Management, Development and Planning

## 15.1. Deputy Director General – Planning

Management Development and Planning Unit of the Ministry of Health is headed by the Deputy Director General Planning (DDG Planning). Activities related to planning and development are mainly coordinated and formulated by the unit. Development of long term, medium and annual plans for the government health care delivery system is a core function of the unit. It is also responsible for planning, finance allocation, monitoring and evaluation of health projects conducted by line ministry hospitals and programmes. Moreover, it is responsible for maintenance of health databases, organization development and performance monitoring and organizing international conferences. In addition, policy development activities and reforms are also undertaken by the unit.

The unit has following directorates and units functioning under Deputy Director General Planning.

- 1) Directorate of Planning
- 2) Directorate of International Health
- 3) Directorate of Organizational Development
- 4) Directorate of Health Information
- 5) Directorate of Finance planning

## 15.2. Directorate of Organizational Development

“Improving organizational effectiveness of the Ministry of Health is linked to service delivery, performance improvement, human resources for health and governance”

### 1. Strengthening the institutional mechanism to develop Job Descriptions;

Circular no: **HPS/ OD/ J/ 01/ 2016** issued to delegate job description development to individual units to facilitate adoption of the standard format.

### 2. Open Government Partnership (OGP) process: Making Governments open, accountable and responsive to citizens

Sri Lanka is a signatory of the Joint Declaration on Open Government for the implementation of the 2030 Agenda for Sustainable Development, signed during the OGP Global Summit held in Mexico in 2015. This process led by the Ministry of Foreign Affairs (MFA) recognized health as one thematic area for action during a National consultation with civil society organizations. Directorate of OD unit being focal point for the OGP, prioritized 3 main activity areas to be implemented over a period of 2 years.

- Enhance the knowledge among public about the drug pricing process
- Strengthen the process to prevent and reduce the risk of getting Chronic Kidney Disease of Unknown origin
- Strengthen the Ministry of Health processes to monitor health system performance through better public understanding

### 3. 'Shared Care Cluster model ' - Reforming the Primary Health Care (PHC) services

“Current need: reorient primary curative care to provide more patient centered care through a continuity of care model to address the present health challenges”

A model identified based on "A Family doctor for All" concept.

Key features of the reform;

- Demarcating the geographical area (catchment area) to health institutions to provide primary care services with the aim of improving accountability to services provided by the curative care institutions as in preventive health services
- Improving the referral and back referral system through introduction of PHR
- Strengthening the competencies of PHC medical officers

A consultative process involving all medical faculties to improve understanding on the need to strengthen undergraduate curriculum towards making medical graduates more competent to serve in primary care settings was carried out. Several other advocacy programs have been conducted and Honorable Minister of Health, declared the primary care reform during the 2016 budget debate. A clustering of Northern Province carried out during a consultative process involving the staff of the area.

Next Steps;

- Partnering with Asian Development Bank to undertake clustering of health institutions in 9 districts.
- Advocacy among senior health officials to institutionalize the reform process.

#### **4. Rational healthcare delivery policy- A Policy for equitable and efficient service delivery for the next two decades**

Demand driven developments are considered as per the prevailing policy on hospitals re-categorization. However, it has been identified that service delivery needs to be strengthened to provide services in an equitable and efficient manner.

- A policy has been drafted after examining the distribution of specialized facilities together with

clustering of institutions by identifying a minimum level of specialized facilities for each cluster and a rational distribution of other specialized facilities.

#### **Next Steps**

- The OD unit will engage in a stakeholder discussion to present the changes as a Rational Healthcare Delivery Policy for Sri Lanka. The proposal enables the identification of a road map for hospital development for the country probably for next two decades. In addition, it will also provide the baseline for the specialized cadre norm developments.

#### **5. Organization Structure- A reform towards improved health services**

It has been identified that the Organization Structure of the Ministry of Health needs to be updated and agreed upon to support the governance mechanisms within the Ministry of Health. The Directorate was able to develop a data base on all the possible job functions of the individual units and the draft organization structures of the individual units.

#### **Next Steps;**

- To organize a high level stakeholder meeting to further analyses the functions related to individual units.

#### **6. Results Framework Development – Accountable Health Service Delivery**

The OD unit initiated a capacity building program among public health programs on results framework development. The aim is to streamline the annual action plan development process which will be then aligned to agreed health system results.

- Few units namely, Non Communicable Diseases, Mental health, Environmental Health, Cancer Control Program has started development of such results frameworks.

### Next Steps;

- Improve the capacity of the programs to develop results framework
- Advocate programs to develop the results frameworks

### 7. Health Development Committee – Organization Governance

OD 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 (HDC) meetings. OD unit organized bi-monthly HDC meetings during the year 2016.

### 8. Migration Health- Advocacy for migrant health

The OD Unit is the focal point to implement the National Migration Health Policy in Sri Lanka. During 2016, the OD unit intensified its activities on advocacy to ensure migration health is included as an agenda item for discussion in local, regional and global health forums. Sri Lanka and Italy co-hosted a side event on migration health at the United Nations General Assembly in 2016. Migration health was included as an agenda item during the 69<sup>th</sup> WHO Regional Committee meeting in Colombo.

## 15.3. Directorate of Health Information

Directorate of Health Information of the Ministry of Health is the national focal point for health information system management. The mission of this unit is to ensure availability and accessibility of valid, accurate and timely health information and continuous improvement of its quality to foster evidence based decision making in health care provision.

### Major achievements of the Health Information unit during year 2016

1. National Health Information Policy  
Work related to formulation of the Health Information Policy and the Health Information Strategic Plan continued for 2014-2015. The Health Information Policy and the Health Information Strategic Plan was finalized by incorporating suggestions by key stakeholders and public.
2. Publishing National e-Health guideline and standards completed
3. Publishing of annually updated telephone directory  
Health information unit published an Annual Health Telephone Directory for Ministry of Health, Nutrition and Indigenous Medicine. Telephone Directory was published in all three languages complying with the language policy.
4. Improve 16 computer maintenance units  
Identifying the need of e-health initiatives to be implemented in all healthcare institutions, it was decided to establish computer maintenance units at all Teaching Hospitals. During the year, 16 health institution staff were provided training in hardware, electronic and network training

and all necessary equipment were provided for sixteen computer maintenance units.

5. Human resources data base  
The information unit is maintaining the human resources database and biannual human resource situation document is published. This document can be used in planning recruitment and placement of technical cadres. In addition, it is planned to develop an improved version of the software with the assistance from ICTA.
7. Improving the networking of hospitals  
In order to facilitate implementation of e-health initiatives, it was decided to implement network of all line ministry hospitals. As a beginning, Networking of TH Kandy, NHSL, Cancer Hospital Maharagama, North & South Colombo Teaching Hospital were commenced.

## 15.4. Finance planning Unit

### Major functions

1. Allocate funds to the line ministry institutions for conducting capital activities
2. Monitor the physical and financial progress of the capital activities according to the action plan
3. Conduct progress review meetings for preparation of quarterly progress report.
4. Preparation of performance and progress reports
5. Conduct and coordinate workshops/ training programmes to update the knowledge on health financial management under WHO funds
6. Assists to develop and continue costing mechanism for the health sector
7. Preparation of audit reports

### Major achievements of the Finance Planning unit during year 2016

1. Funds allocation for each line ministry institutions
2. 56% of the capital budget was utilized
3. Four progress review meetings were completed
4. Prepared the performance and progress report for 2015-2016
5. Three workshops were conducted on finance management

# 16. Services for Prevention and Control of Non-Communicable Diseases

## 16.1. Non- Communicable Disease Unit

Non- Communicable Disease Unit is the focal point in the Ministry of Health, Nutrition and Indigenous Medicine for prevention and control of both chronic and acute NCDs in the country.

### NCD policy and targets

Non Communicable disease prevention programme mainly focus on prevention of major 4 NCDs; i.e. cardiovascular diseases (Coronary heart diseases and cerebrovascular disease), Cancer, Chronic respiratory diseases and Diabetes Mellitus. Unhealthy diet, physical inactivity, smoking and consuming alcohol have been identified as 4 main behavioural risk factors for NCDs.

In view of reducing the burden due to NCDs, nine global and one regional target has been introduced by WHO to be achieved by 2025 by implementing cost effective interventions.

The mortality target included among the 10 targets mainly focus on reducing the premature deaths (30- 70 years) due to major chronic NCDs such as such as cardiovascular diseases, cancer, diabetes and chronic respiratory diseases. Disease burden due to 4 main NCDs in Sri Lanka is described below.

NCD policy consisting of 9 strategies was developed in 2010 in view of reducing the NCD burden. NCD voluntary targets needed to be achieved by 2025 are as follows.

1. A 25% relative reduction in premature mortality from cardiovascular disease, cancer, diabetes, or chronic respiratory diseases
2. A 10% relative reduction in the use of alcohol
3. A 10% relative reduction in prevalence of insufficient physical activity
4. A 30% relative reduction in mean population intake of salt/sodium
5. A 30% relative reduction in prevalence of current tobacco use in persons aged over 15 years
6. A 25% relative reduction in prevalence of raised blood pressure and or contain the prevalence of raised blood pressure
7. Halt the rise in obesity and diabetes
8. A 50% of eligible people receive drug therapy and counselling (including glycaemic control) to prevent heart attacks and strokes
9. An 80% availability of affordable basic technologies and essential medicines including generics, required to treat major noncommunicable diseases in both public and private facilities

A costed National Multisectoral Action Plan for the Prevention and Control of Non-Communicable Diseases (2016-2020) was developed and prioritized. This action plan has been formulated based on the following 4 strategic areas.

1. Advocacy, partnership and leadership
2. Health promotion and risk reduction
3. Strengthening health system for early detection and management of NCDs and their risk factors
4. Surveillance, monitoring, evaluation and research

### Screening for non-communicable diseases and risk factors

Ministry of Health has taken an initiative to establish Healthy Life Style Centres throughout the island to screen normal people. The target group to screen at Healthy Life Style centers is people who are between 40 – 65 years. Main objective of screening is to identify behavioral and intermediate risk factors and to intervene early to prevent occurrence of NCDs

- 885 HLCs have been established to screen healthy adults between 40- 65 years
- More than 70% of clients screened are females
- Lack of adequate staff at HLC have been recognized as a main challenge

**Table 16-1 : The number and services of Healthy Lifestyle Centres in Sri Lanka, 2011–2016**

	2011	2012	2013	2014	2015	2016
<b>Total number of HLCs</b>	126	420	672	760	814	826
<b>% of MOH areas in a district with two or more HLCs<sup>a</sup></b>	—	—	56.0 (187/334)	69.5 (235/338)	77.8 (263/338)	79.6 (269/338)
<b>Cumulative % of the target population (aged 40–65 years) screened<sup>b</sup></b>	2.5	3.8	12.7	19.9	23.1	25.5
<b>Ratio of men: women screened<sup>a</sup></b>	—	—	2.6:7.3	2.9:7.1	2.8:7.2	2.9:7.1

HLC: Healthy Lifestyle Centre; MOH: Medical Officer of Health.

<sup>a</sup> Data not available for 2011 and 2012.

<sup>b</sup> Target population is nearly 25% of the country population.

Source: Directorate of NCD

## 16.2. Directorate of Mental health

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.

## 16.3. National Cancer Control Programme (NCCP)

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.

The in-service training programmes are annually arranged by the NCCP for skills development of the healthcare staff in prevention and control of cancers. The programmes conducted in 2016 are,

1. Palliative care workshops for health care workers engaged in cancer care.
2. Programmes for health care staff attached to Healthy Lifestyle Centres for strengthening oral cancer control activities carried out through the clinics.
3. Training workshops for healthcare staff attached to Health Education Units on prevention and control of cancers.
4. Training programmes on palliative care for DCOs and DSSOs.
5. Training programmes for Medical Officers and Nursing Officers attached to Colposcopy units.



# 17. Laboratory Services

## 17.1. Deputy Director General Laboratory Services

Under the Purview of The Deputy Director General – Laboratory Services, the Directorate of laboratory Services is responsible for formulation and enactment of essential and relevant legislations and provision of financial, technical and managerial guidance for maintenance of state owned laboratories in compliance with nationally and internationally accepted standards.

Laboratory services mainly consist of;

### 1. Laboratories in curative care institutions

Laboratories in curative care institutions provide essential services to support medical management of patients via rapid and reliable analysis of clinical specimens. These laboratories comprise of Chemical Pathology, Haematology, Microbiology and Histopathology departments / sections.

### 2. Laboratories in preventive care institutions

Laboratories in preventive care institutions provide essential services including disease and outbreak detection, emergency response, environmental monitoring and disease surveillance. These laboratories mainly comprise of food laboratories and laboratories attached to special campaigns.

### 3. National Blood Transfusion Services (NBTS)

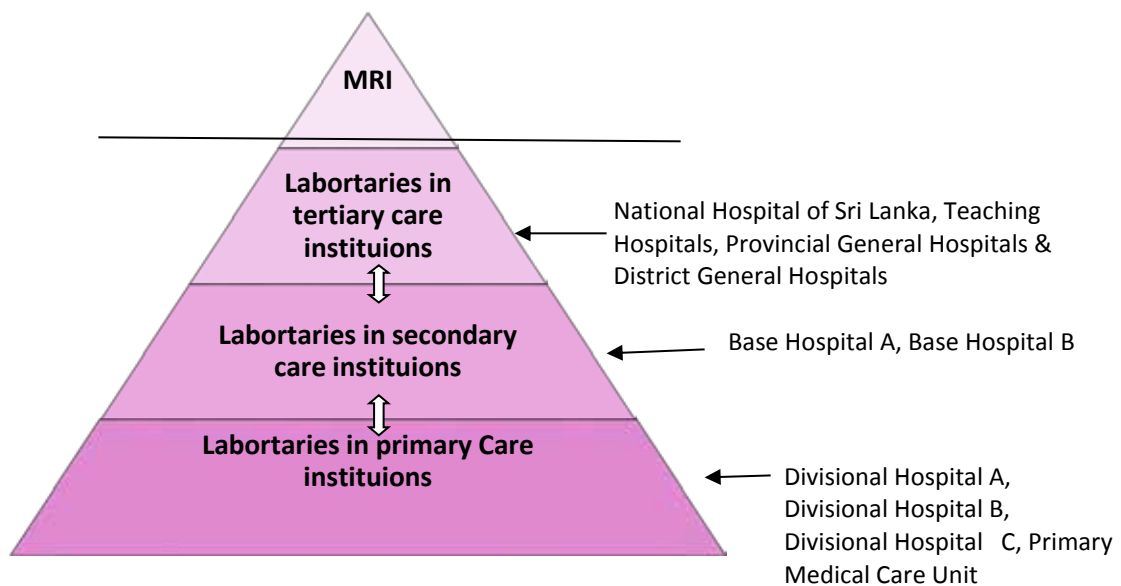
National Blood Transfusion Service is a specialized laboratory. It is the only free-standing blood collection facility in the country and was established in 1950s. NBTS is a decentralized unit which comes under Ministry of Health, Sri Lanka. NBTS is the sole supplier of blood and blood products to all state hospitals and some of the private hospitals which are registered under Ministry of Health for supply of blood and blood products. Having its headquarters at National Blood Centre (NBC), NBTS has 96 blood banks island wide. The categorization of blood banks is as follows,

1. National Blood Centre - the headquarters
2. Cluster Centres
3. Peripheral Blood Banks

## 17.2. National laboratory system

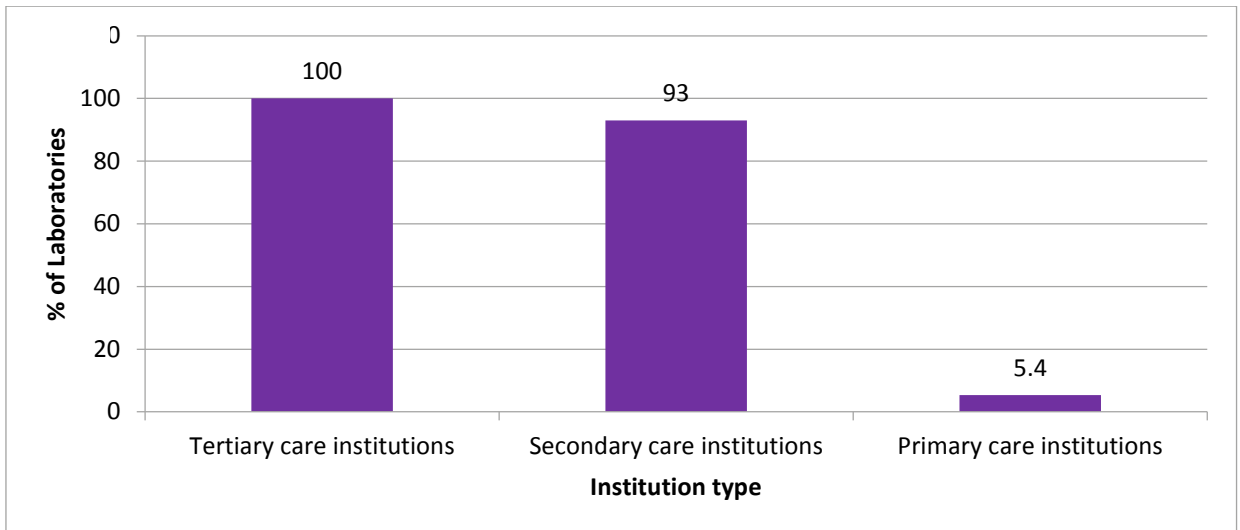
The National laboratory system consists of a tiered, country-wide hospital laboratory system which includes laboratories in Primary care institutions at the grass root level, Secondary care institutions, Tertiary care institutions and the Medical Research Institute (the national reference laboratory) at the apex.

All tertiary care institutions and 93% of secondary care institutions have functioning laboratories. Only 5.4% of primary care institutions have laboratories.



### Key message 1:

**There is a dearth of laboratories in primary care institutions**



**Figure 17.1 :Distribution of Laboratories in Primary, Secondary and Tertiary Care Institutions**  
 Source: Deputy Director General (Laboratory Services) division

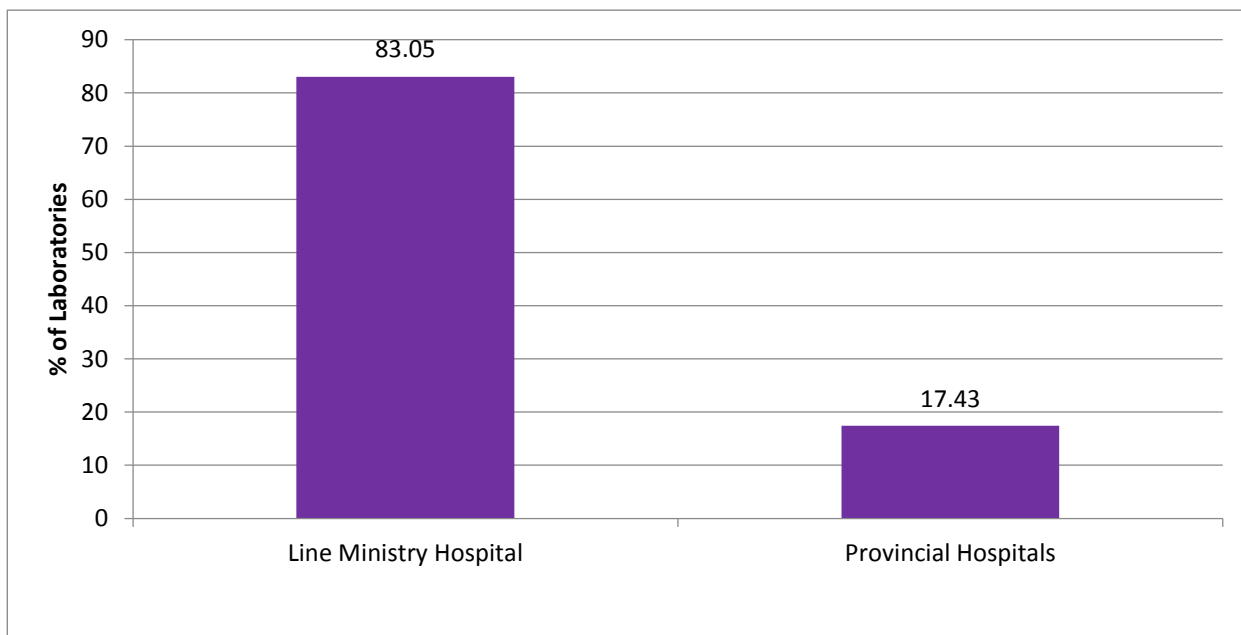
### Recommendation

- Strengthen and Establish laboratories in all primary care institutions
- Expansion of the cluster laboratory system

There are laboratories in 83% of health care institutions under the Line Ministry whilst only 17% of health care institutions under the purview of the Provincial Ministry have functioning laboratories.

#### Key message 2 :

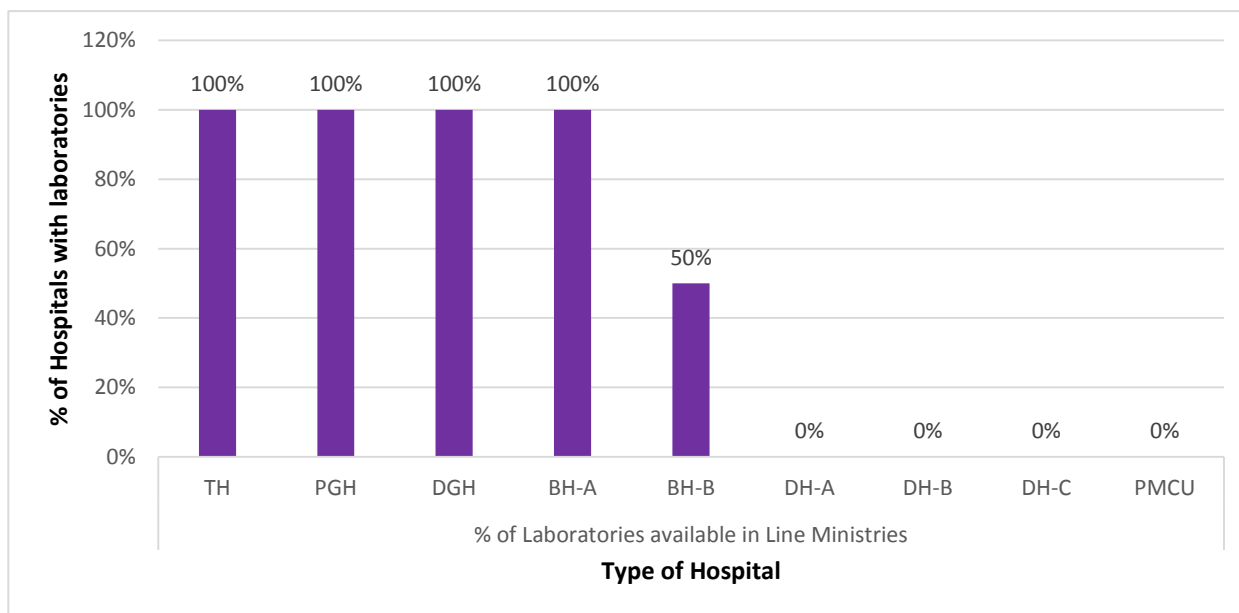
**Only 17% of curative care institutions under the purview of the Provincial Ministries have functioning laboratories, as 99% of primary care intuitions are managed by the Provincial Ministries**



**Figure 17.2 : Distribution of laboratories in health care institutions under the purview of the Line Ministry and the Provincial Ministry**

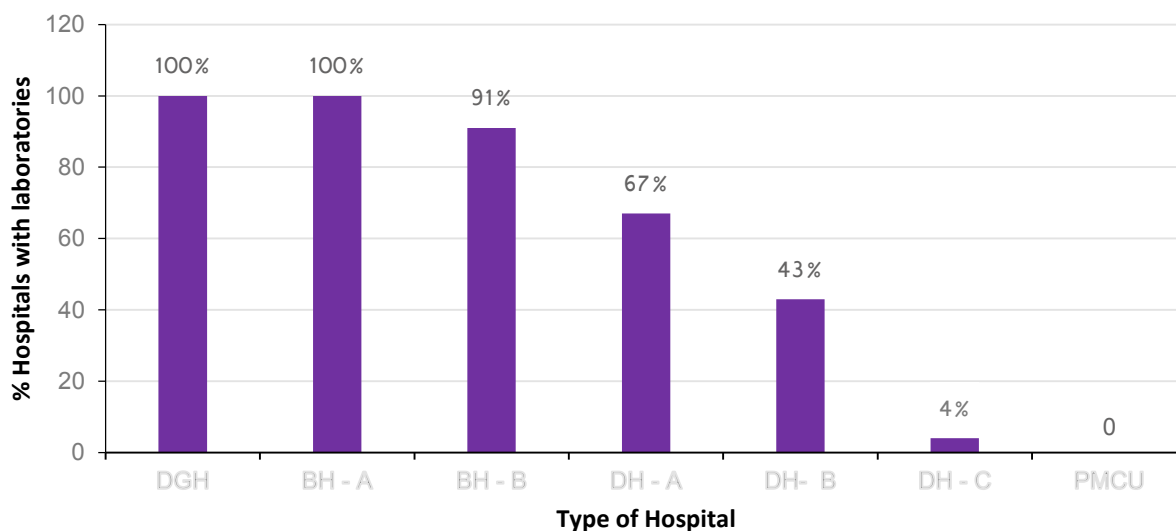
Source: Deputy Director General (Laboratory Services) division

Out of 26 districts in the country, Line Ministry health care institutions are situated in 21 districts. Other than prison hospitals where laboratories are not available, all other Line Ministry hospitals have functioning laboratories.



**Figure 17.3 : Type of Line Ministry Institution according to availability of Laboratory Facilities**

Source: Deputy Director General (Laboratory Services) division



**Figure 17.4 : Type of Provincial Ministry Institution according to availability of Laboratory Facilities**

Source: Deputy Director General (Laboratory Services) division

### Recommendations

- Establish and strengthen Provincial reference laboratories in all provinces.
- Strengthen the Provincial expansion programme

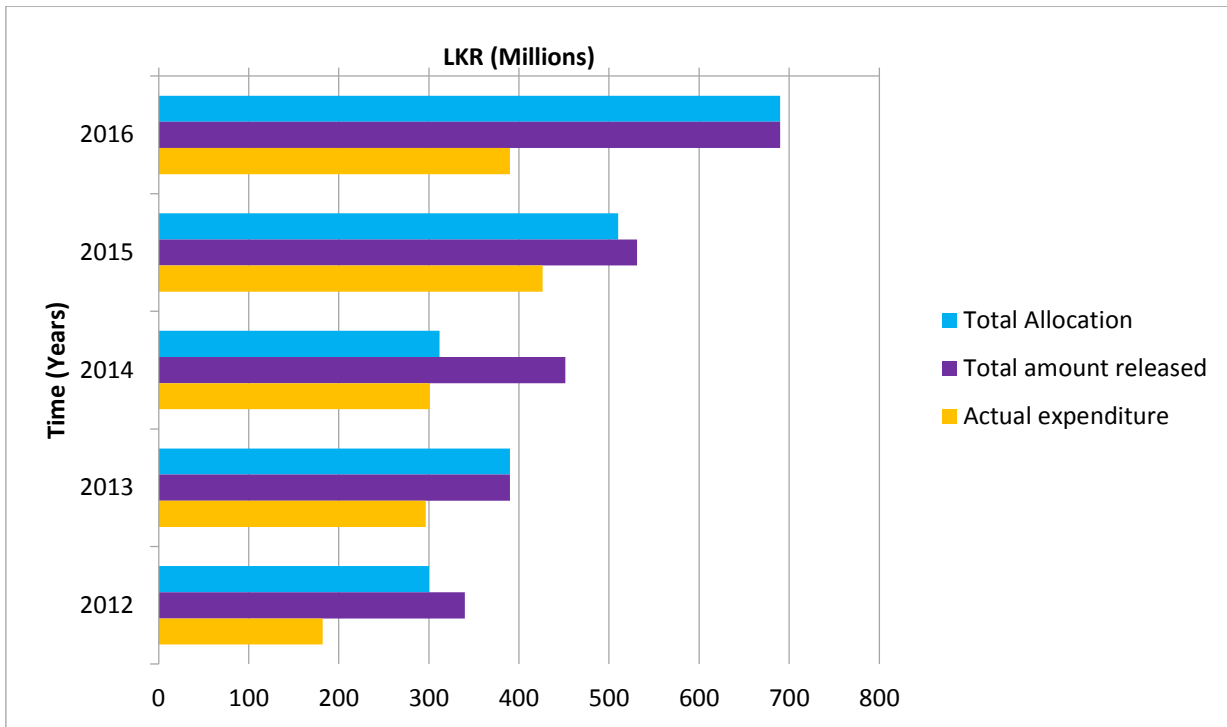
### Laboratory financing

#### **Purchasing of laboratory equipment for Line Ministry laboratories**

Total allocations for laboratory equipment for Line Ministry laboratories have increased from 300 million in 2012 to 690 million in 2016. While 100% of these allocations were released, the actual expenditure remains less than 400 million throughout the last five years.

#### **Key message 3 :**

**Increase allocation for purchasing laboratory equipment, but financial progress is stagnant due to inadequate cash flow**



**Figure 17.5 : Lab financing for purchasing of laboratory equipment for line ministry laboratories**  
 Source: Deputy Director General (Laboratory Services) division

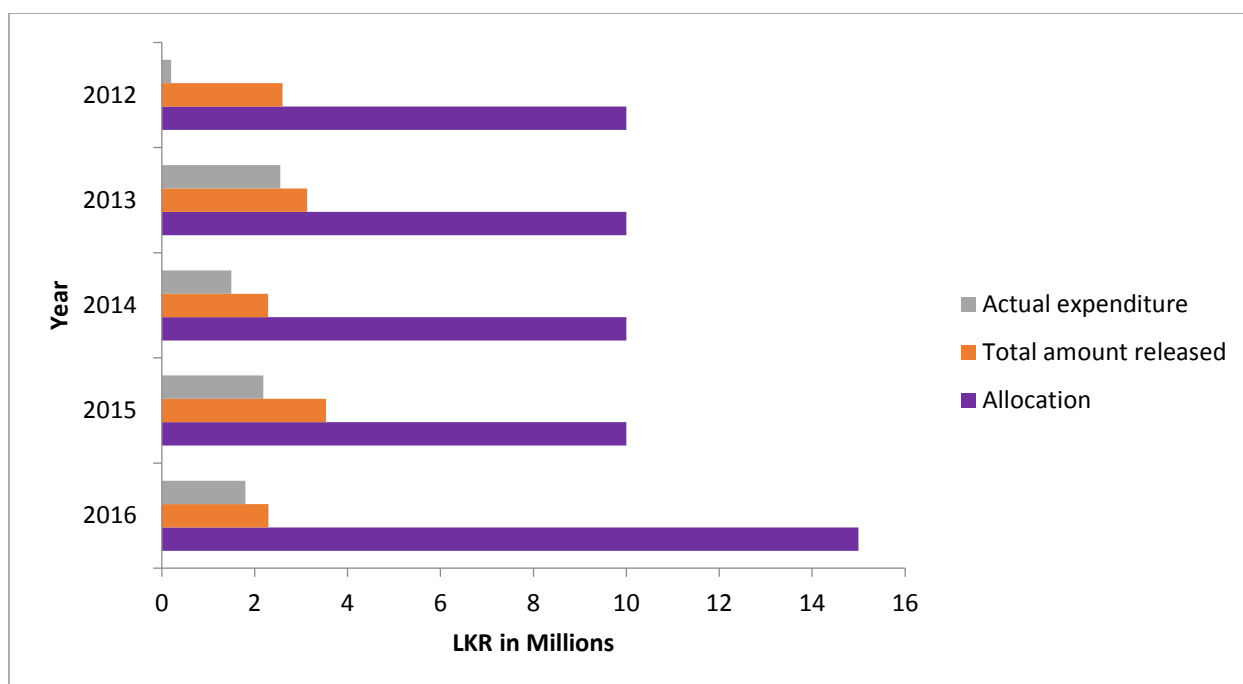
**Key message 4:  
 Underutilization of service agreement funds by the health care institutions**

**Maintenance of laboratory equipment of Line Ministry laboratories**

Following the purchase of laboratory equipment, there is a five year service

agreement for maintenance of equipment from the company after which the funds for maintenance is released through the DDG-LS. The actual expenditure for maintenance activities after 5 years of purchasing equipment is approximately 30% of the initial allocation.

## Lab financing for maintenance of laboratory equipment for Line Ministry laboratories



**Figure 17.6 : Lab financing for maintenance of equipment**

Source: Deputy Director General (Laboratory Services) division

### Recommendation

Make the Heads of institutions aware of the allocation for maintenance activities beyond 5 years of purchasing.

### Challenges

- 1) Poor collaboration and coordination between the national reference laboratory (MRI) and other laboratories at the Ministry level, as MRI is not under the purview of DDG-LS.
- 2) No strong collaboration between the curative sector laboratories and preventive sector laboratories at the Ministry level.
- 3) Balancing the capacity of new technology with current needs.
- 4) Preventive maintenance and repair of laboratory equipment.
- 5) Rapid staff turn-over and shortage of qualified/specialized staff.

- 6) Poor remuneration of staff.

### Achievements in 2016

- 1) Strengthening of mobile laboratory services.
  - a. Mobile laboratory services were established with the aim to improve accessibility and availability of necessary laboratory investigations to those living in far remote and difficult areas. In the year 2016, mobile laboratory services were offered to 111 centres all over the country and 47,773 tests were done through the service.
- 2) Strengthening of the Provincial laboratory expansion programme.

- a. The Provincial level hospitals laboratories are not directly supported by the directorate. However, to improve the overall quality of the services the Provincial laboratory expansion programme was instated in 2014, to provide funds to procure technologically advance laboratory equipment aiming to expand Haematology, Biochemistry, Pathology and Microbiology services in Provincial General Hospitals and both type A and type B Base Hospitals in the country.
- b. In the year 2016 direct purchases by laboratory sector included 145 million LKR to the Provincial hospitals and 270 million LKR was released to the PDHS of the 9 provinces to procure laboratory equipment, 30 million per province.
- 3) Initiation of the Laboratory inspection programme.
  - 4) Implementation of the decision to perform all laboratory investigations in the hospitals ensuring full utilization of available resources.
  - 5) Heads of all health care institutions were made aware of the allocation for maintenance activities beyond 5 years of purchasing.
  - 6) Awareness programmes were conducted on biosafety and biosecurity for laboratory staff.

#### **Priority actions for 2017**

- 1) Formulation of the National Laboratory Policy
- 2) Formulation of a National Laboratory Regulatory Act
- 3) Establish a National system for Accreditation of Health Laboratory
- 4) Geo mapping of island wide state laboratories
- 5) Develop a Laboratory Management Information System
- 6) Develop the National laboratory strategic plan
- 7) Update the Manual on Laboratory Services

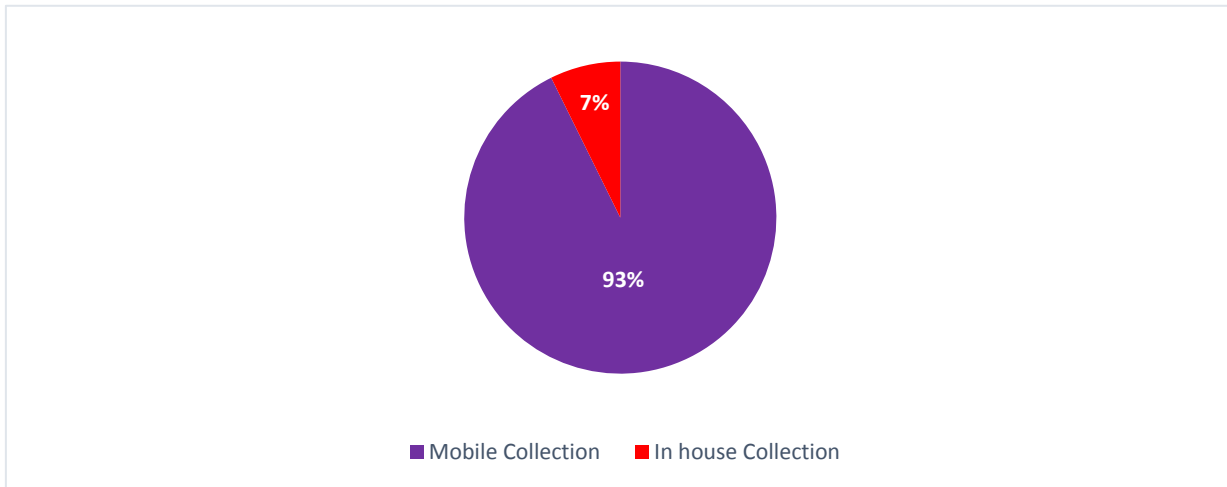


### 17.3. National Blood Transfusion Service (NBTS)

Directorate of NBTS assure supply of blood and blood products from voluntary non-remunerated blood donors to cater the demands of all government hospitals and majority of private sector hospitals through disseminated services in cluster blood banks island wide.

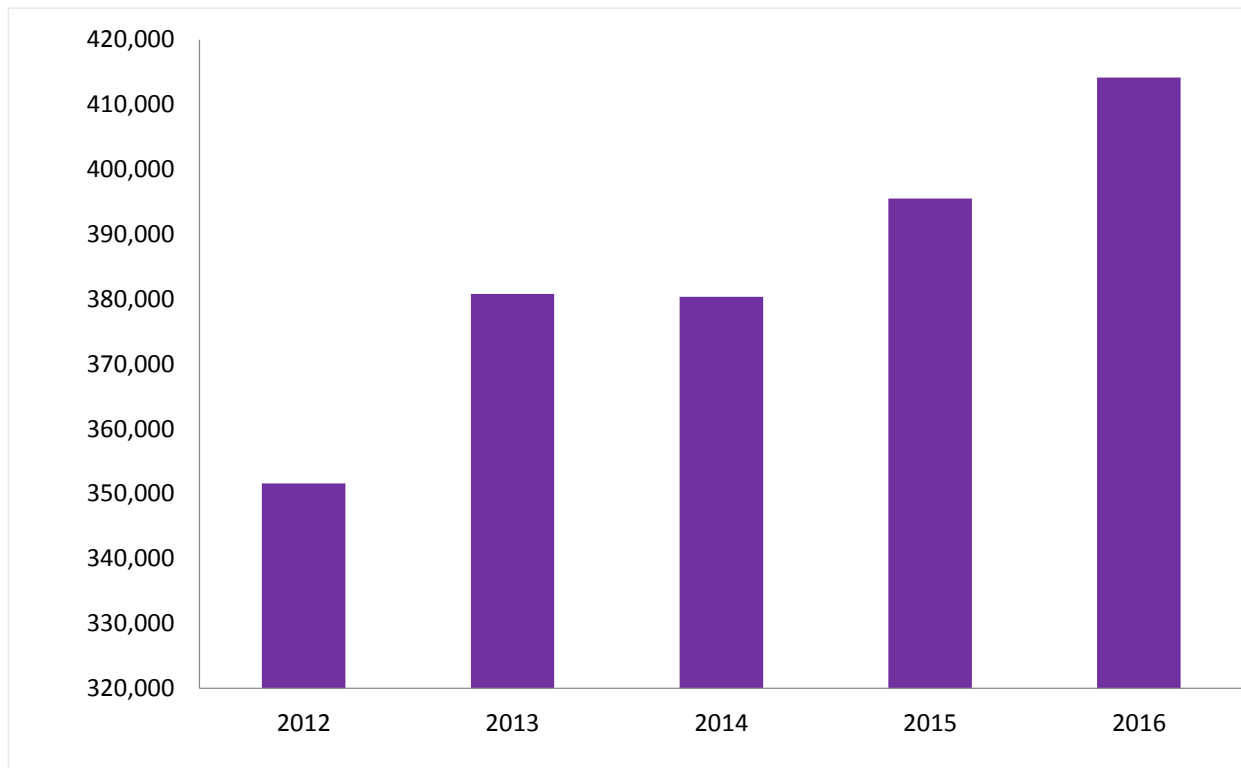
#### Main functions of the institution

- 1) Adequate and continuous supply of blood and blood products from regular voluntary non-remunerated blood donors.
- 2) Regular voluntary non-remunerated blood donor recruitment, retention & donor care.
- 3) New blood bank development to Base Hospitals (Kiribathgoda and Kattankudy)
- 4) Supply of new laboratory equipment to regional blood banks.
- 5) Introduction of new technologies to NBTS.
  - a. Immuno-Hematology Reference Lab
  - b. HLA Molecular Testing
  - c. Nucleic Acid Testing
  - d. Pathogen Inactivation of Platelets (PI)
  - e. Frozen Red Cell (FRC)
  - f. Stem Cell Facility – Processing and storage of stem cells for stem cell Transplantation programme at CIM.
  - g. Cord Blood Bank (under Processing)
- 6) Conducting Hospital Transfusion Committees (HTC).
- 7) Introduction of National Blood Transfusion Services Information System (NBTSIS) to all blood banks, island wide.
- 8) Conducting Teaching & Training programs by NBTS
  - a. Continuous Medical Education and on the job training to all staff categories of NBTS
  - b. Training of Undergraduates, Medical students, Nursing Officers, Students of Allied Health Sciences and Security Service personnel.
  - c. Post Graduate Training in Transfusion Medicine, Hematology and Oncology.
  - d. Training for foreign delegates, WHO fellowship holders and other international organizations.



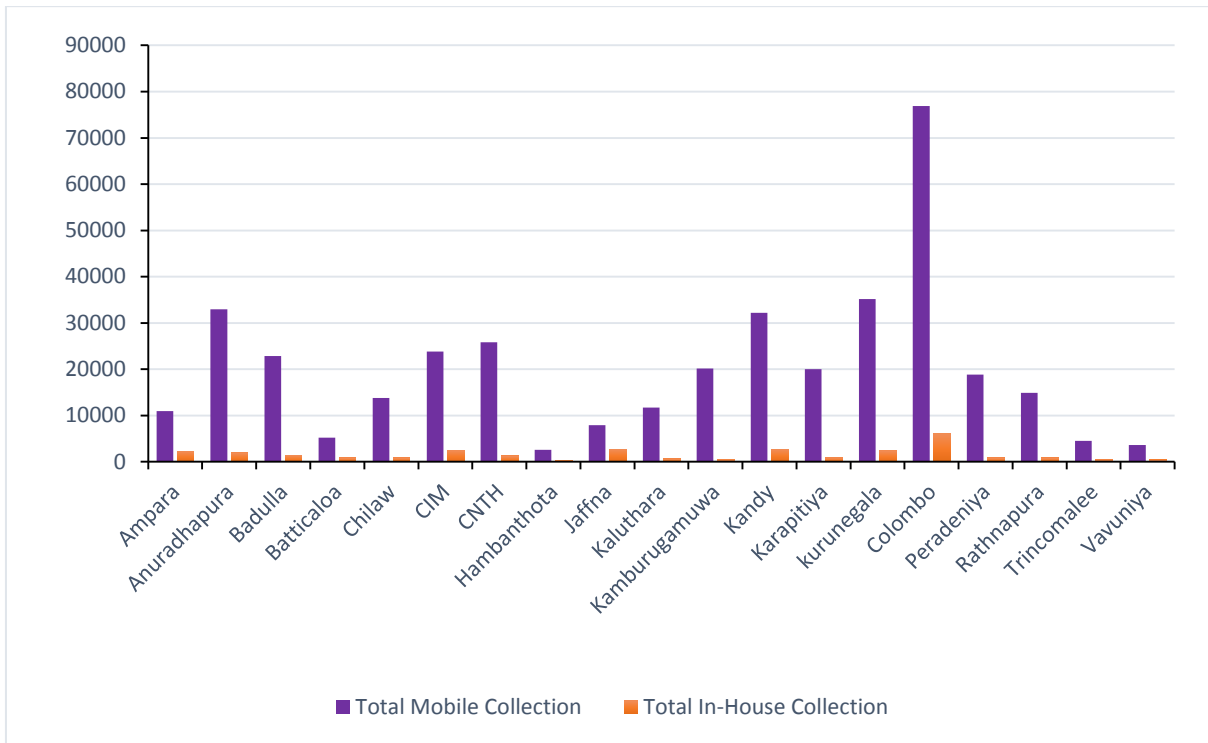
**Figure 17.7 : Distribution of total blood collection by mode of collection**

Source: National Blood Transfusion Service



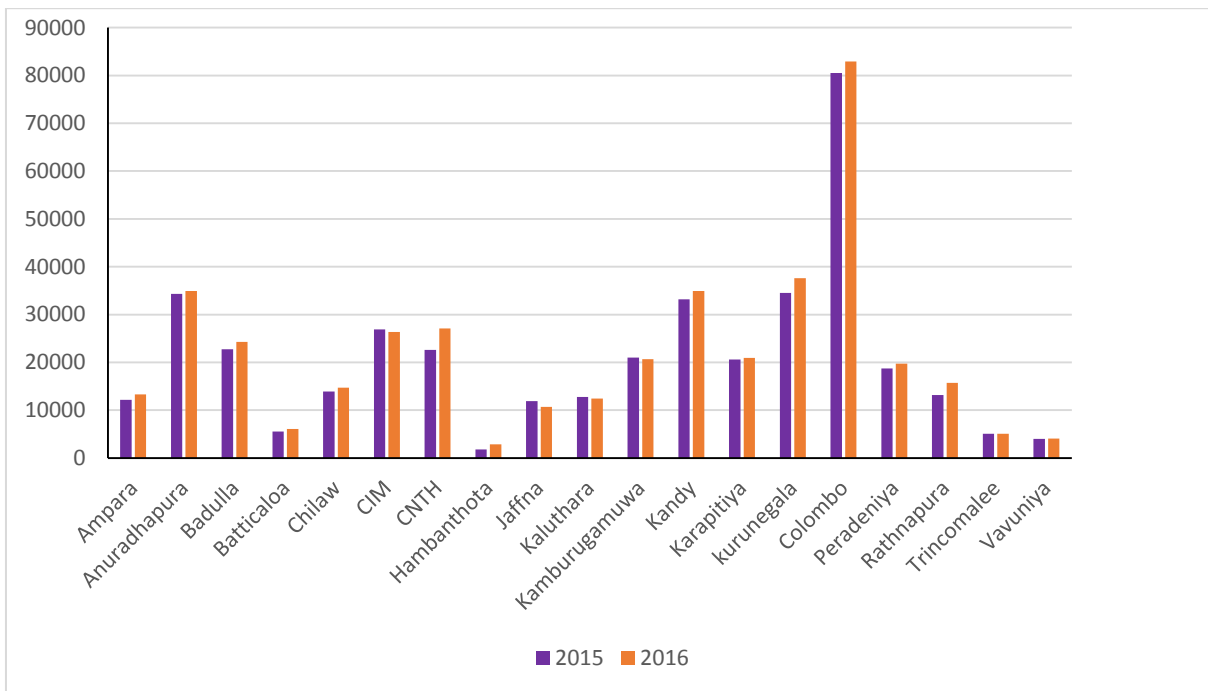
**Figure 17.8 : Yearly improvement of Voluntary blood collection**

Source: National Blood Transfusion Service



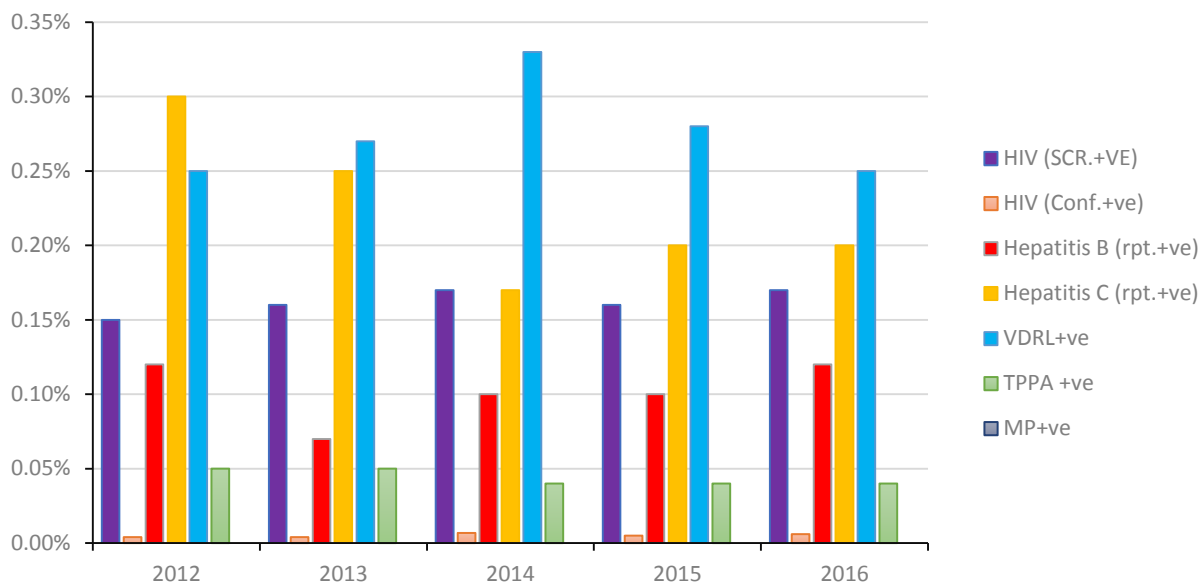
**Figure 17.9 : Total blood collection cluster wise**

Source: National Blood Transfusion Service



**Figure 17.10 : Comparison of cluster blood collection with previous year**

Source: National Blood Transfusion Service



**Figure 17.11 : Prevalence of Transfusion Transmitted Infection and comparison with previous years**

Source: National Blood Transfusion Service

### Statistics of HLA Laboratory

**Table 17-1 : Comparison of HLA Statistics**

Typing and cross matches	2014	2015	2016
Class 1	2293	2288	2015
Class 11	2297	2214	1777
Cross match	1365	1471	2490
B27	352	194	319
PRA <sup>7</sup> (Class I , Class II )	179	295	484
<b>Transplantation</b>			
Kidney (Patients ,Donor)	2455	2094	1589
Bone Marrow (Patients, Donors)	192	108	167
AP donor	11	32	171
Cadaveric Donors	7	15	11

Source: National Blood Transfusion Service

<sup>7</sup> PRA - Panel reactive antibodies

## The project of Nucleic Acid Testing (NAT) facility at National Blood Centre

### 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.

## Review Report of Nucleic Acid Testing (NAT) facility at National Blood Centre (NBC) – up to 31st December 2016

### 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 31<sup>st</sup> December 2016.

**Table17-2 : Nucleic Acid Tests done up to 31st December 2016**

Total tests performed	Tested samples
49,726	42,675

Source: National Blood Transfusion Service

### Stem Cell Transplantation

1. On the 24th of October 2016, the Stem Cell Transplantation was initiated.
2. There were 4 procedures, which was done for 2 patients diagnosed with Multiple Myeloma. All these 4 procedures were done at the Regional Blood Centre, Apeksha Hospital, Maharagama.
3. Processing of harvested Stem Cell product was done at NBC, and the Teaching & Training was done by Australian Delegates by the St. Vincet's Hospital, Sydney.
4. Initial 2 procedures were done under the supervision by the Foreign Delegates.
5. The 2<sup>nd</sup> patient's transplantation was done by the local team.

Outcome: - Both the Stem Cell Transplantations were done successfully in December 2016.

# 18. Dental Services

## 18.1. Deputy Director General – Dental Services

The oral health care delivery system of the Ministry of Health of Sri Lanka is managed by the Deputy Director General – Dental Services.

The services include both curative services and preventive services.

- 1 Curative Care Services – provided through the clinics located in Peripheral Units, District Hospitals, Base Hospitals, District General Hospitals and Teaching Hospitals. Specialized care is provided through National Dental Institute – Colombo, Dental Hospital (Teaching) Peradeniya and Institute of Oral Health Maharagama.
- 2 Preventive Care Services – provided through School Dental Clinics (SDC), Adolescent Dental Clinics (ADC) and Community Dental Clinics (CDC).

## 18.2 Dental care services

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 areas. 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 provided through Universities, tri forces, police and non-governmental organization to their employees and families.

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

- 1 Curative care services – provided through the clinics located in Divisional 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 2016, there were 488 SDC manned by 391 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 focusing on preventive care to specialized groups like pregnant mothers and children below 3 years of age.

During 2016, 101 new Dental Surgeons and 30 new School Dental Therapists were recruited and at present there are 1416 Dental Surgeons working in the public sector.

### Specialized services

The five main specialties in the oral health care services in Sri Lanka are Oral & Maxillo Facial (OMF) Surgery, Orthodontics, Community/ Public Health Dentistry, Restorative Dentistry and Oral Pathology. By the end of 2016, there were 68 Dental Consultants belonging to these specialized fields under the Ministry of Health.

OMF surgeons were attached to the Teaching Hospitals, District General Hospitals and Base Hospitals. Restorative and Orthodontic consultants were attached to Teaching Hospitals, Institute of Oral Health, Maharagama and District General Hospitals. Consultants in Community Dentistry were attached to National Dental Hospital (Teaching) Sri Lanka, Institute of Oral Health- Maharagama, Family Health Bureau, Cancer Control Programme, Health Education Bureau and Offices of Provincial Directors of Health Services. Consultants in Oral Pathology are attached to Teaching Hospital Karapitiya & National Dental Hospital (Teaching) Sri Lanka. The National Dental Hospital (Teaching) Sri Lanka, 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 18-1: Distribution of dental specialists by specialty**

Specialty	Number
Oral & Maxillo Facial Surgery	29
Orthodontics	23
Community Dentistry	07
Restorative Dentistry	07
Oral Pathology	02
<b>Total</b>	<b>68</b>

Source: Deputy Director General Dental Services Division

### 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 2016

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 in remote areas.

### Special Community Oral Health Care Programmes

There are five main ongoing special community oral health programmes conducting successfully Island wide.

1. Oral health care services to pregnant mothers.
2. Early childhood caries prevention Programme/Fluoride Varnish programme.
3. Save Molar programme for School Children.
4. Oral Potentially Malignant disorder (OPMD) and Oral Cancer Prevention and early detection programme.
5. Dental Fluorosis prevention & control programme.

Oral health care programme for pregnant mothers is geared to provide comprehensive oral health care for them 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 & requested to refer them for dental advice and treatment if they are 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 attack.

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 these persons who score more than 12 in the risk factor model, to a dental surgeon at the nearest hospital.

Dental Fluorosis is a defect of tooth enamel caused by excessive intake of Fluoride during tooth developing stage. This brings about discolouration and pitting of the enamel of the teeth.

Children as well as adolescents with Dental Fluorosis suffer significant embarrassment and anxiety over the appearance of teeth.

Ministry of health started dental fluorosis prevention and control programme in 2016 in Dental Fluorosis endemic areas which involves

1. Screening for Dental Fluorosis
2. Treatment of identified cases
3. Mapping of high fluoride water sources

### **Coordinating bodies of the oral health programs**

#### **Family Health Bureau**

Family Health Bureau is Responsible for provision of essential oral healthcare services through existing maternal and child healthcare

programme. Mainly the School Dental Programme and oral health Programme for pregnant mothers. Details and the achievements pertaining to these services are expedited under Family Health Bureau.

#### **Health Promotion Bureau**

Health Promotion Bureau (HPB) is the center of excellence for Health Promotion in the country. Oral Health Promotion Unit of the HPB has launched the National Oral Health Promotion Program (NOHPP) covering the following key areas.

- 1) Awareness and capacity building of health staff on Oral Health Promotion
- 2) Awareness of general public on novel knowledge and current Oral Health activities
- 3) Development of technical guidelines on Oral Health Promotion
- 4) Development of IEC material on Oral Health
- 5) Conducting research activities relevant to the field of Oral Health Promotion
- 6) Monitoring and evaluation of Oral Health Promotional activities at national level



## National Cancer Control Programme

National cancer control programme is the focal point for prevention and control of all types of cancers in the country. Prevention and control of oral cancer and Oral Potentially Malignant Disorders is under the preview of the National Cancer Control Programme. Targets for oral cancer to be achieved by the year 2020 are being set as

- To reduce the rate of increase of the crude oral cancer incidence rate by 25% by the year 2020 from the existing level of 0.73 during 2005 and 2009.
- To reduce oral cancer detected at stages III and IV by 12% by the year 2020 from the baseline level of 72% in 2007

## Research and Surveillance Division

Research and surveillance division of dental services which is headed by a Consultant in Community Dentistry, is located at the Institute of Oral Health, Maharagama.

### This division is

- 1) Responsible for promoting research pertaining to dentistry and maintain acceptable quantity, quality, and standards in dental research done within the country.
- 2) Responsible for conducting national level research pertaining to oral health in various sub-specialties in Dentistry such as Restorative dentistry, orthodontics, community dentistry, etc
- 3) Responsible for developing and maintaining a quality and accurate surveillance system for oral health in Sri Lanka

To fulfil the requirements derived by those responsibilities following main functions have been identified.

- 1) Maintaining a data base of dental research conducted in Sri Lanka (or relevant to Sri Lanka.)
- 2) Analyse the research published annually and make recommendations to the DDG (DS) on the significant research findings.
- 3) Conducting national level research pertaining to oral health (including National Oral Health Survey and other research which are important for national level planning.)
- 4) Encourage research in field of dentistry by providing necessary information, technical support for the researchers and assist in exploring research potentials.
- 5) Liaise with other organizations in promoting oral health research.
- 6) Maintain timely and accurate information pertaining to the dental service.
- 7) Carry out and coordinate collaborative research.

## Training Division

The training division of the dental service established in 2011 and is located at the Institute of Oral Health Maharagama and headed by a consultant in Community Dentistry. The unit provides training for the following categories of staff.

- 1) Entry level recruitment/ Orientation training
- 2) Newly appointed dental surgeons and other oral healthcare personnel assigned to the oral health service of Sri Lanka are given orientation training.

- 3) In-service technical competency development training
- 4) Develop and conduct training based on the needs with the collaboration of the other relevant organizations.
- 5) Refresher training and soft skill development
- 6) This type of training programmes are designed to prepare employees to perform the activities required to oversee productivity and quality of care.
- 7) Training programmes on oral health for the stakeholders of other sectors related to oral health care provision.

### **Activities carried out in the year 2016**

Four one-day hands on workshops on surgical orthodontic techniques for all the dental laboratory technicians

Hands on Workshops on Infection control for dental healthcare staff in Gampaha District

Hands on Workshop on clinical preventive dentistry procedures for all dental surgeons at ADC and CDC

### **Main Stake Holders Involved in Oral Healthcare**

- Ministry of Education
- Departments of Oral Health in Sri Lanka Police, Sri Lanka Army, Sri Lanka Navy and Sri Lanka Air Force
- National Authority on Tobacco and Alcohol
- Faculty of Dental Sciences, University of Peradeniya

## Human resource

### Dental Surgeons and specialists

**Table 18-2 : Number of dental surgeons and dental specialists in place**

	Total Cadre as at 31 <sup>st</sup> December 2015	Number in place as at 31 <sup>st</sup> December 2015	Vacancies as at 31 <sup>st</sup> December 2015	appointments as at 31 <sup>st</sup> December 2016	filled Percentage of vacancies During the year 2016
<b>Grade Dental Surgeons</b>	1516	1416	100	100	100%
<b>Dental Specialists</b>	99	63	36	5	13%

Source: Deputy Director General Dental Services Division

### Auxiliary services

**Table 18-3 : No. of auxiliary services personnel in place**

	Total Cadre as at 31 <sup>st</sup> December 2015	Number in place as at 31 <sup>st</sup> December 2015	Vacancies as at 31 <sup>st</sup> December 2015	appointments as at 31 <sup>st</sup> December 2016	filled Percentage of vacancies During the year 2016
<b>School Dental Therapists</b>	524	361	163	30	18%
<b>Dental Technicians</b>	60	37	23	0	0%

Source: Deputy Director General Dental Services Division

# 19. Medical Supplies

## 19.1 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 for the Government sector healthcare institutions island-wide. In addition, MSD is the sole supplier of dangerous drugs (narcotics) to all hospitals in the country including the private sector. In this context, the main functions of MSD are estimating, indenting, procuring, storing, monitoring, distributing and accounting of medical supplies. The national requirements 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 from the private sector.

Medical supplies are stored until they are being distributed among government healthcare institutions in a network of stores comprising of a central medical stores in Colombo (MSD) and 26 Regional stores at the district level (RMSD). The central medical stores consist of 18 Bulk warehouses at the main building, 3 bulk warehouses at Angoda, 5 bulk warehouses at Wellawatha, one warehouse at Digana and one warehouse at Welisara.

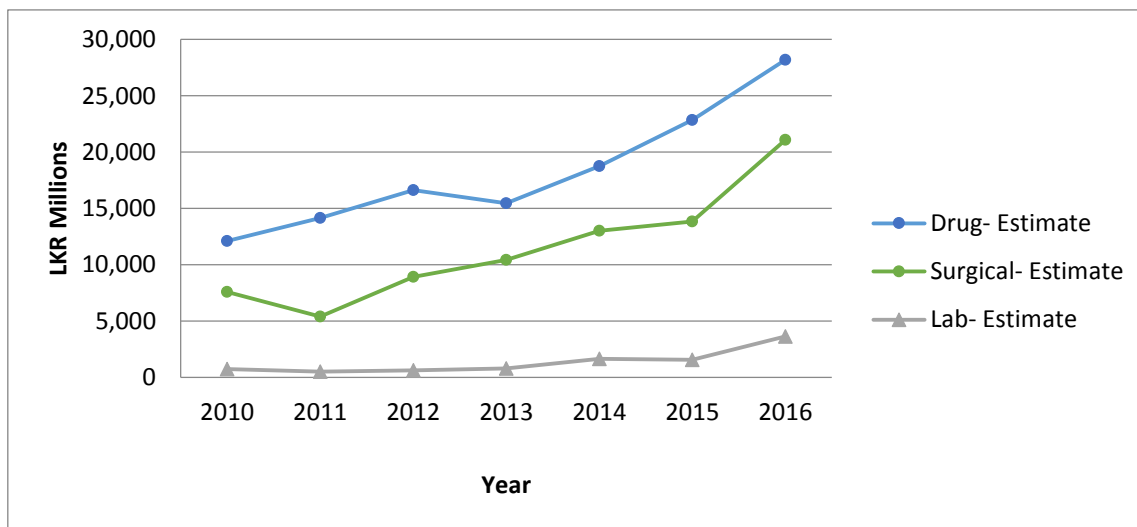
These Medical items are distributed directly to line ministry institutions by the MSD and to institutions under the provincial administration through Regional Medical Supplies Division (RMSD) based on their annual estimates and on their requests. In addition, donations received from donor agencies such as WHO/UNICEF etc, are cleared by the wharf branch of MSD and stored and distributed.

## Achievements /Special events in 2016

- 1) Medical Supplies Management Information System (MSMIS) has been established and it has become fully functioning from the year 2015. Verification and estimation through MSMIS started in 2016.
- 2) Conducted monitoring and coordinating programmes for 22 districts to improve medical supplies management process from the year 2015 and up to 2016.
- 3) Weekly supply position review meetings have been held regularly with the participation of the representatives of all stakeholders including NMRA State Pharmaceutical Corporation and Ministry of Health, to minimize out of stock situation in the year 2016.
- 4) Awareness and updating workshops done for relevant staff in all institutions.
- 5) A plan of action is being implemented to dispose quality failed medical supplies accumulated in institutions at Kalutara, Matara, Galle, Hambantota, Colombo, Gampaha, Kandy, Kegalle, Batticaloa, Trincomalee, Jaffna, Polonnaruwa, Kurunegala, Badulla, and Rathnapura districts have been completed and it is to be extended to other districts in 2017.
- 6) Construction works on the roof top of MSD main building has been almost completed.
- 7) Development and modification of the cold store facilities with digital temperature control and monitoring system has been completed, which will ensure continuous 24 hour surveillance

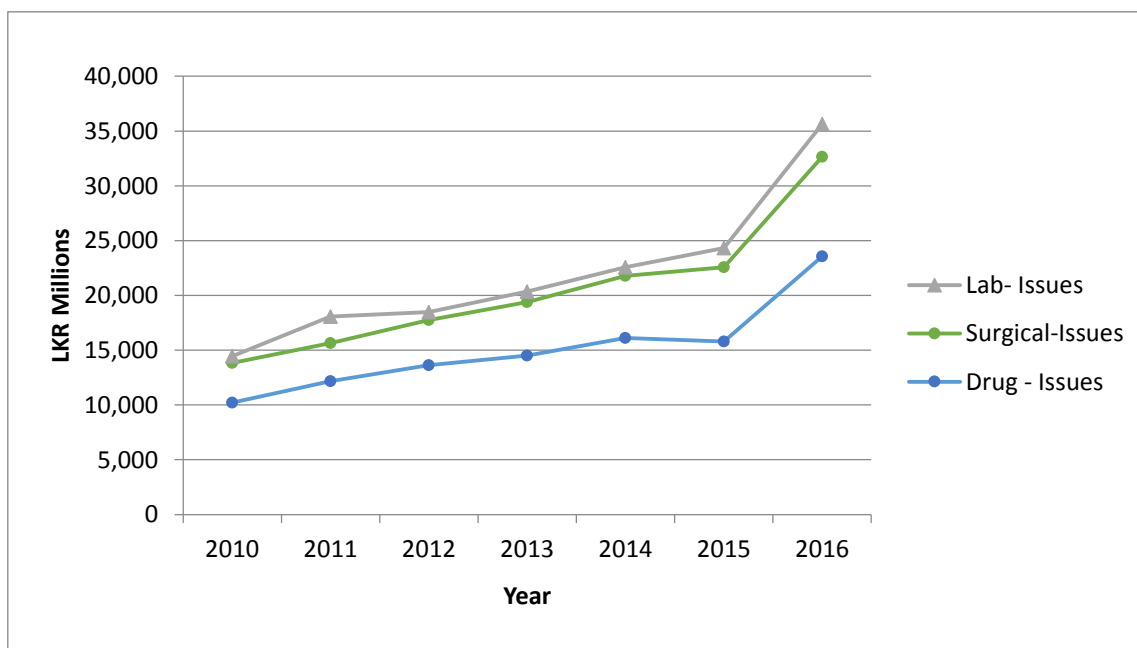
- and monitoring of cold chain maintenance of drugs and vaccines in a more reliable & safe manner.
- 8) Workshops have been organized in the institutions, in all districts to introduce Drug and Therapeutic Committees (DTC). With this effort now there are 80 institutions with functioning regular DTC meetings which are sending their reports regularly.
  - 9) Tender is awarded to construct a new pre-fabricated 40,000 square feet store facility for MSD at the Welisara Hospital premises.
  - 10) Work is completed on Air conditioning the main pharmaceutical stores complex of MSD.
  - 11) Action plan has been implemented to improve infrastructure facilities at MSD sub stores and other relevant institutions.
  - 12) Human resources capacity building plan has been initiated with local and foreign in service trainings
  - 13) Expansion of MSMIS to Peripheral institutions has been initiated.
  - 14) Foreign fellowship programme has been completed for Stock Control Officers & Medical Supplies Assistants to visit and observe new development of Medical Supplies Management in a Regional Country as well as a diploma programme locally at SLIDA.
  - 15) Conducted workshop for Divisional Pharmacist, Officers in Charge of RMSD, and Other staff attached to RMSD.
  - 16) In-Service training for Public Management Assistants/Health Management Assistants and Development Officers has been initiated.
  - 17) Effective direct communication and coordination system has been established with appointing coordinators for each and every district and provinces out of Stock Control Officers and Assistant Directors and also through mobile communication network.
  - 18) Facility and performance data base for stores has been designed and will be implemented soon.
  - 19) Teleconferencing and distance learning facilities have been developed at MSD and will be implemented soon with assistance of institutions.

### Last 5 year Performance Trend.



**Figure 19.1 : Medical Supplies Estimated**

Source: Medical Supplies Division



**Figure 19.2 : Medical Supplies Issued**

Source: Medical Supplies Division

## Special Development Activities Planned for the year 2017

### Improve storages capacity and Facilities

- 1) Completion of pre-fabricated 40,000 square feet store facility for MSD at the Welisara Hospital premises in 2017 and planning for 2<sup>nd</sup> phase of store complex as a replacement of Wellawaththa warehouse.
- 2) Destruction of quality failed items in rest of the districts where the destruction have not been completed.
- 3) Strengthening the Medical Supplies Chain by expanding MS MIS system up to the hospitals maintaining under the RDHS.
- 4) Construction of receiving bay at old store warehouse premises at Welisara.
- 5) Construction of Day Care centre at MSD premises
- 6) Expansion of infrastructure for office area and refurbishment of existing office area at MSD.
- 7) Establishment of hoist at central MSD & establishment of New Ramp
- 8) Establishment of Distance learning & Tele conferencing centre at MSD.
- 9) Facility and performance database for monitoring of stores.

### Capacity Building Programmes

- 1) Distance Learning Programme for Para medical staff.
- 2) Training programmers for drivers and minor staff.
- 3) Visit to observe supply chain management & management of organization in a regional country for Medical Supplies Assistants (MSA) and Stock Control Officers.
- 4) In service programmes for Public Management Assistants/ Health Management Assistants and Developments.

## 20. Biomedical Engineering, Logistics and Administrative Services

### 20.1 Deputy Director General Biomedical Engineering

Biomedical Engineer	– 14 nos
Foreman	– 42 nos
Technician	– 43 nos

The Division of Biomedical Services of the Ministry of Health is functioning under Deputy Director General Biomedical Engineering. The unit is entrusted with procuring, installing, commissioning and maintaining medical equipment in Line Ministry Hospitals. This division also provides to the Provincial Health authorities based on their requirements and needs. Activities of the unit are also performed through decentralized units established in many provinces and hospital-based units.

### 20.2 Biomedical Engineering Services

Biomedical Engineering Services (BES) is responsible for;

- 1) Procurement of Medical Equipment
- 2) Repairs & Maintenance of Medical equipment
- 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 is located in Colombo has workshop facilities, warehouse facilities for equipment 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 following staff is attending on management of medical equipment.

#### Major Achievements in 2016 Strengthening BES

BES able to extend regional Biomedical Engineering Units in Anuradhapura, Badulla, Kandy, Jaffna and Batticaloa with newly recruited Biomedical Engineers.

#### Training Programs for BES staff and End users

Number of training programs arranged for the Technical staff of the Division as well as end users with the help of local and foreign experts.

#### Training for Engineering undergraduates

The Biomedical Engineering Services has been providing facilities for industrial training to Engineering undergraduate and technical trainees from University of Peradeniya, Sir John Kothalawala Defence University, Vocational training institutes and Armed forces. (See Annexure II for Major Procurements in 2016)



## 21. Indigenous Medicine Sector

### Ministerial Priorities

- 1) Strengthening the legal frame work for the indigenous medical system.
- 2) Strengthening and improving the Ayurvedic researches.
- 3) Using Information Technology for Ayurvedic medical system.
- 4) Development of Human resources for updating and improvement of Ayurveda health conservation.
- 5) Improving the production of Ayurvedic medicine and cultivation of herbal plants and setting up new herbal gardens.
- 6) Maintaining the Ayurveda in accordance with the commercialization.
- 7) Increase the use of Homeopathy medical system.

### Institutions under the Ministry of Indigenous Medicine

- 1) Department of Ayurveda
  - National Institute of Traditional Medicine
  - Bandaranaike Memorial Ayurvedic Research Institute
  - Ayurvedic Medical Council
  - Teaching Hospitals
  - Research Hospitals
  - Herbal Gardens
- 2) Sri Lanka Ayurvedic Drugs Corporation
- 3) Homeopathic medical Council
- 4) Community Health Promotion service
- 5) Homeopathic hospital

In addition to the provision of Indigenous medical care services through the island wide network of Ayurvedic hospitals and dispensaries, the creative research activities are carried out by the Ayurvedic research institute. The seven medicinal plants gardens (of the total area of 303 acres) are established to promote island wide Ayurvedic drugs manufacture.

**Table 21-1 : Government Ayurvedic and Homeopathic Medical Institutions in Sri Lanka- 2016**

Type of Institution	No of Institutions	Location
Ayurvedic Teaching hospitals	05	Borella, Yakkala, Kaithady, Trincomalee, Manchanthuduwa
Ayurvedic Research hospitals	03	Nawinna, Hambanthota, Ampara
Ayurvedic hospitals under Provincial councils	95	Throughout the country
Ayurvedic Central Dispensaries under Provincial councils	230	Throughout the country
Free Ayurvedic Dispensaries	374	Throughout the country
Medicinal plants gardens	07	Girathurukotte, Pallekelle, Halthumulla, Pinnathuva, Pattipola, Kanneliya, Nawinna
Homeopathic hospital	01	Walisara
Homeopathic clinics	07	Palamunai, Parakaduwa, Kurunagala, Tholangamuwa, Matale, Dehiwala, Moneragala

Source: Statistics division, Indigenous Medicine sector

The service provision of Indigenous Medical preventive and curative care is carried out by the island wide network of 707 Ayurvedic hospitals and dispensaries which come under

the purview/guidance of the Indigenous Medicine sector of The Ministry of Health, Nutrition and Indigenous Medicine.

**Table 21-2 : Resources in the Ayurvedic Hospitals and Dispensaries - 2016**

Type of hospital/ dispensary	No. of Institutions	No of beds	Medical officers	Pharmacists	Nurses	Attendants
Ayurvedic Teaching hospitals	05	493	141	16	64	95
Ayurvedic Research hospitals	03	231	126	03	31	19
Ayurvedic hospitals under Provincial councils	95	3423	619	28	136	363
Ayurvedic Central Dispensaries under Provincial councils	230	-	282	-	-	29
Free Ayurvedic Dispensaries	374	-	226	-	-	-
Homeopathic hospital	01	20	03	-	-	02
<b>Total</b>	<b>708</b>	<b>4167</b>	<b>1397</b>	<b>47</b>	<b>231</b>	<b>508</b>

Source: Statistics division, Indigenous Medicine sector

In Ayurvedic hospitals and dispensaries the Indigenous medical out-patient (OPD) care is carried out on daily basis and in addition to that, in hospitals the in-patient (ward patient) care also provided.

**Table 21-3 : Daily Attendance of Patients at Out-patient and In-patient Departments in Hospitals and Dispensaries - 2016**

Type of hospital/ dispensary	No of days hospital open *	Total no of patients	Total no of patients (OPD)	Total no of patients (IPD)	Average no of patients per day (OPD)	Average no of patients per day (IPD)
Ayurvedic Teaching hospitals	306	350,472	346,242	4,230	1,132	14
Ayurvedic Research hospitals	292	98,618	96,618	2,000	331	07
Ayurvedic hospitals under Provincial councils	302	2,334,387	2,298,026	36,361	7,609	121
Ayurvedic Central Dispensaries under Provincial councils	272	1,369,827	1,369,827	-	5,036	-
Homeopathic hospital	244	28,933	28,821	112	118	-
Homeopathic clinics	244	77,474	77,474	-	318	-
<b>Total</b>	<b>1,660</b>	<b>4,259,711</b>	<b>4,217,008</b>	<b>42,703</b>	<b>14,544</b>	<b>142</b>

Source: Statistics division, Indigenous Medicine sector

\*Sundays and public holidays excluded

The necessary medicines are mainly manufactured locally to cater the demand while some additional medicines are imported. Around 100 types of medicines are imported with duty free concession.

**Table 21-4 : The Value of the Medicines Imported under Tax Concession**

<b>Year</b>	<b>Amount (kg)</b>	<b>Value of the imported medicines (Rs)</b>
2013	1,495,721.5	583,476,174.00
2014	2,075,280.2	829,630,447.50
2015	2,220,408.4	891,811,144.50
2016	2,580,473.3	890,085,922.50

Source: Statistics division, Indigenous Medicine sector

## 22. Financial Services

Financial services under the ministry is performed under the responsibility of Chief Accountant under whom two Deputy Director Generals are serving.

### 22.1 Health Sector Finances

#### Overview

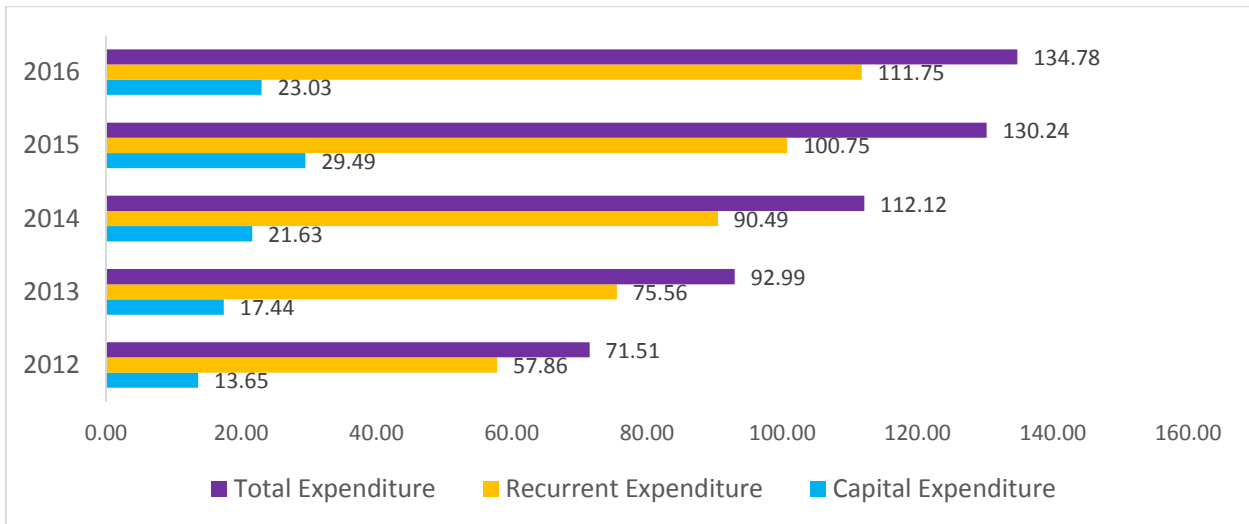
Government of Sri Lanka provides funding for the health system mainly from two avenues. First through Line Ministry of Health which obtains funds from the treasury and secondly through the provincial health systems which obtains funds from the Finance Commission (FC). Additional to the main health system Ayurveda Health Department, armed forces and police run separate medical service delivery systems using government funds which are not discussed in this report. Funding provided for line ministry is used to meet the capital and recurrent expenditure of hospitals under the line ministry, vertical programmes and campaigns, training facilities and other health institutions under the purview of line ministry.

Line ministry funding is also used to procure drugs and consumables used in the service delivery for all health institutions coming under line ministry as well as provincial health system. Provincial administration funds are used to operate health facilities under the provincial administration. These institutions mainly provide primary and secondary level medical care for the community. service delivery component of the preventive health services is also financed through the provincial system. In the ground level, provision of health services simultaneous use provincial and central funds. Furthermore, absence of a referral system or patient registration system makes tracing of fund flow difficult.

#### Line Ministry Expenditure

Line Ministry expenditure (capital and recurrent) for 2016 was LKR 134.78 billion which is an increase of about LKR 4.6 billion from the previous year. (refer figure 22.1 and Annexure 1)

Line ministry expenditure has shown a steady increase over the last five years. Only exception being capital expenditure for the current year is less than that of 2015.

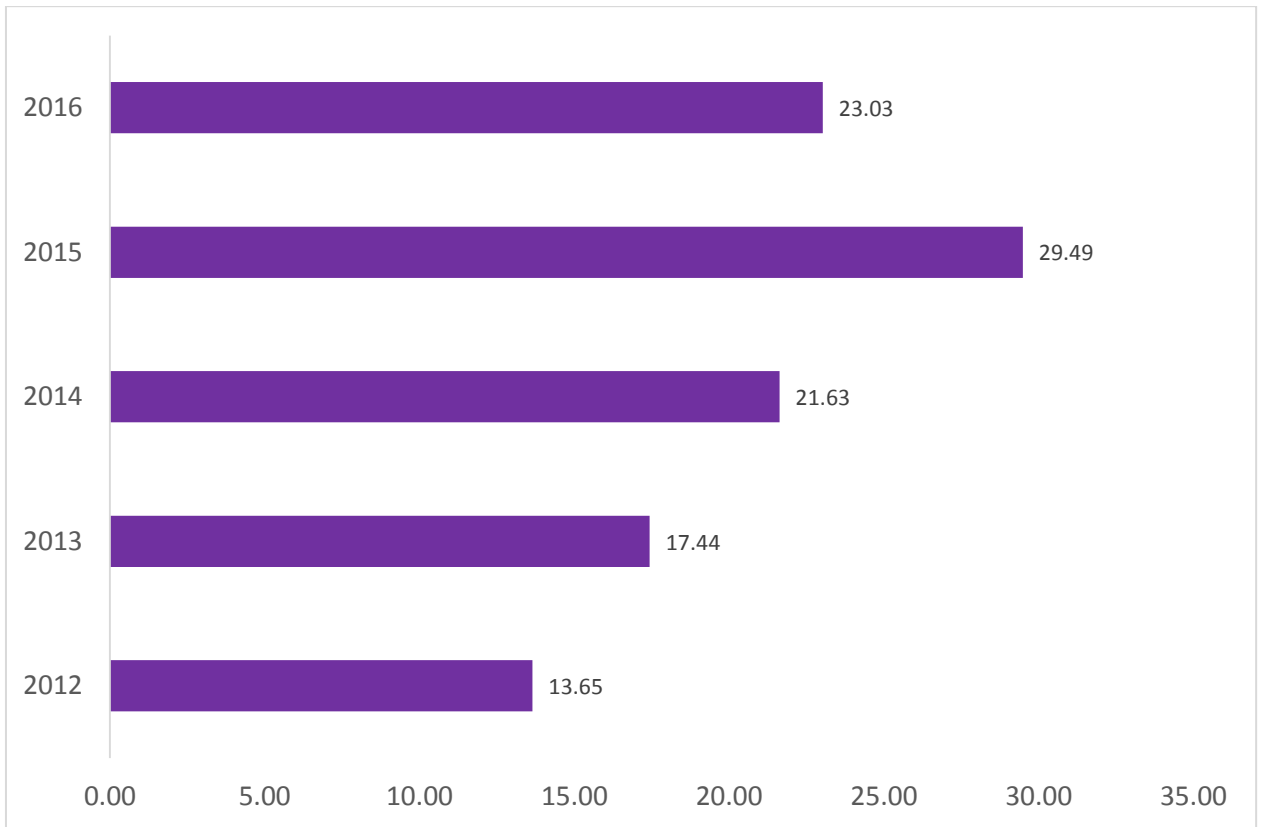


**Figure 22.1 : Line Ministry expenditure from 2012 to 2016 (in LKR billions)**

### Line Ministry Capital Expenditure

Line Ministry capital expenditure is used for development activities as well as for operational activities. The ministry had spent LKR 23.027 billion as capital expenditure for the year. Spending on development activities accounted for LKR 17.46 billion while operational activities utilized LKR 5.56 billion during the year. (refer figure 22.2)

Even though a steady increase is observed during the last five years, 2016 expenditure represents a drop of LKR 6.46 billion (21.9%) from last year expenditure of LKR 29.49 billion.



**Figure 22.2 : Line Ministry Capital expenditure from 2012 to 2016 (in LKR billions)**

### Line Ministry Recurrent Expenditure

Recurrent expenditure of the Line Ministry has shown a steady increase over the past five years and in 2016, LKR 111.75 billion was spent. (refer figure 22.3)

The main contributor was the Medicinal Drugs purchased for the entire country accounting for LKR 38.03 billion. Drug cost have steadily increased over the past five years with only a small dip in 2015. Upcoming policy changes and increasing demand factors are expected to further escalate drug cost in upcoming years.

Salaries and wages also continue to increase steadily as observed in last five years. Increased recruitment and salary increase granted to public employees spread across next five years starting from 2016 would significantly escalate salaries and wages component of recurrent expenditure over the next few years.

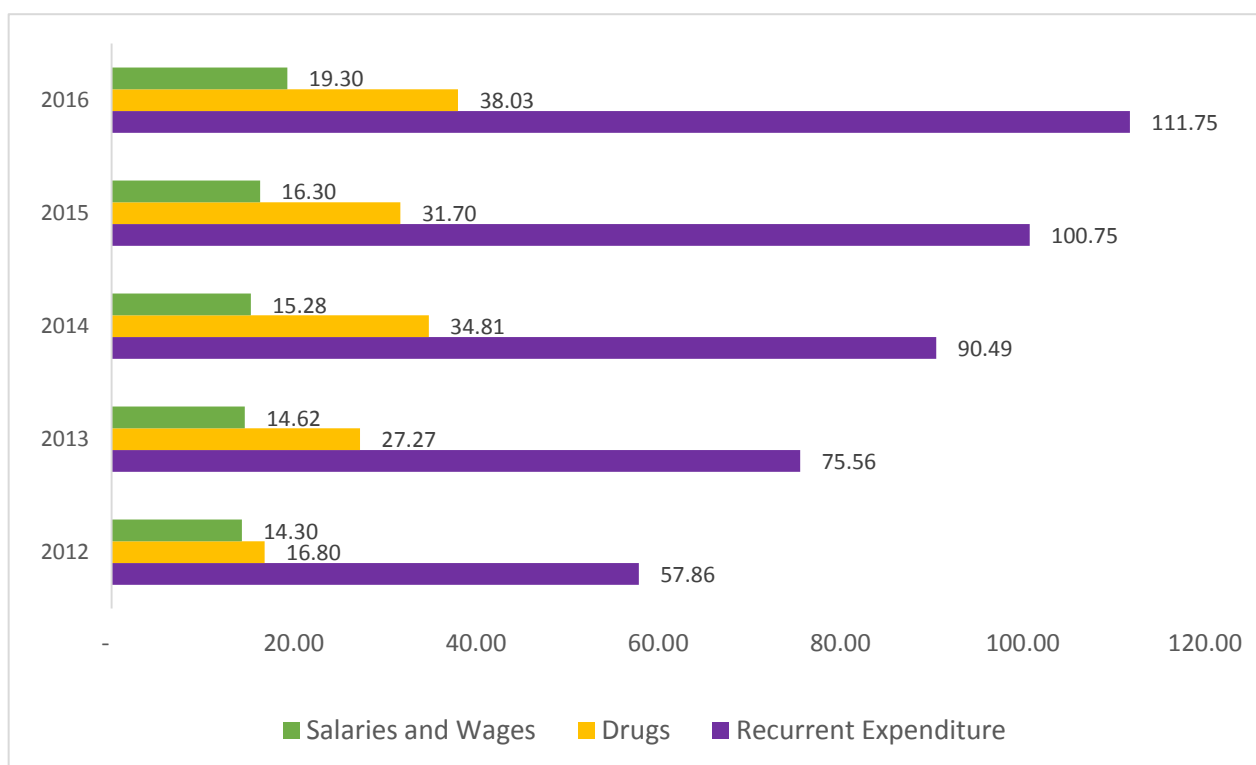


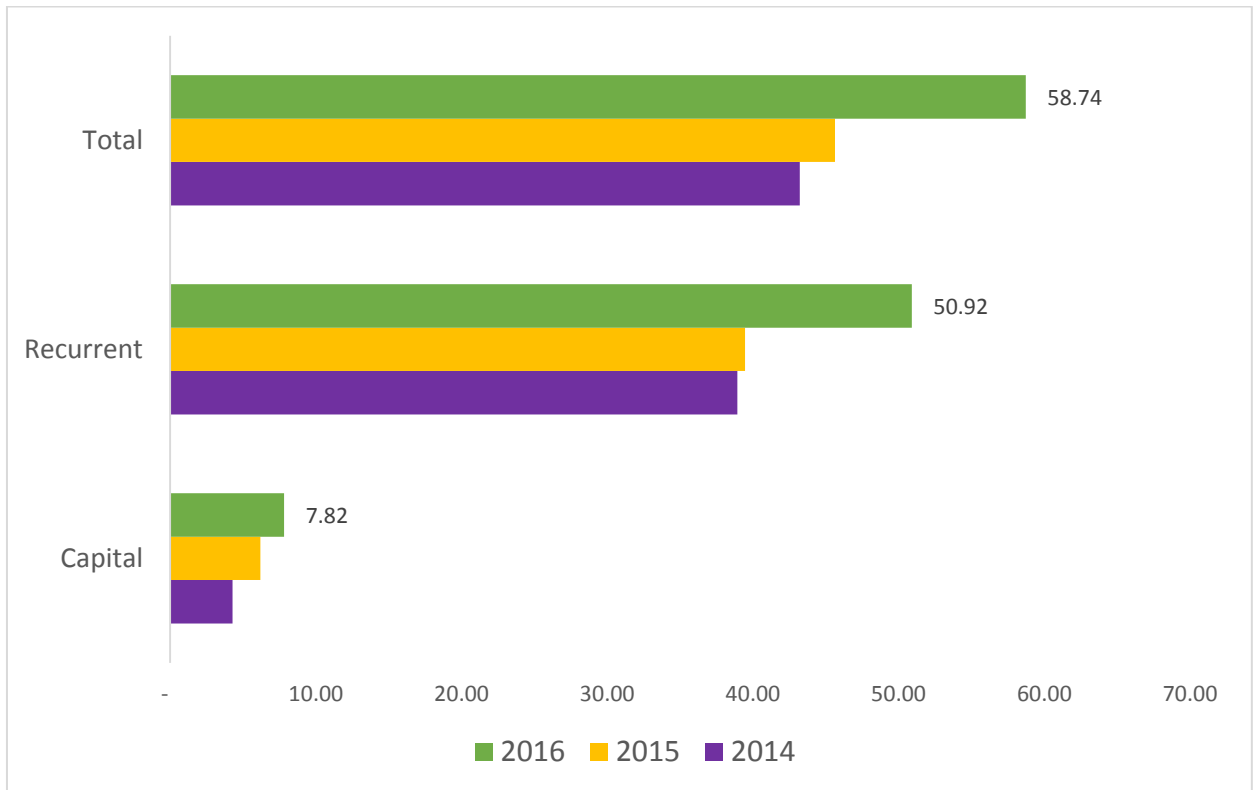
Figure 22.3 : Line Ministry Recurrent Expenditure from 2012 to 2016 (in LKR billions)



## Provincial expenditure on health

Provincial councils have different fund sources to meet their health expenditure. Main source of funds is through the finance commission. Capital expenditure of the provinces was boosted by the Second Health Sector Development Project (SHSDP) and few other sources.

For the current year provinces had spent LKR 58.74 billion for health and out of which LKR 50.92 billion was recurrent expenditure accounting to about 86.7% of the expenditure. Capital expenditure was LKR 7.82 billion for the same period accounting to about 13.3%.



**Figure 22.4 : Provincial Expenditure on Health (in LKR billion)**

### Capital Expenditure of Provinces

Provincial Health Systems have many sources for capital expenditure. For the current year, all provinces have spent LKR 7.8 billion. A steady increase is reflected over the last three years.

Provincial capital expenditure over last three years show that Uva, Southern and North Central had spent consistently low investments. It is also important to note that the concerned provinces have very few line ministry institutions thus capital infusion is low to the population of the province.

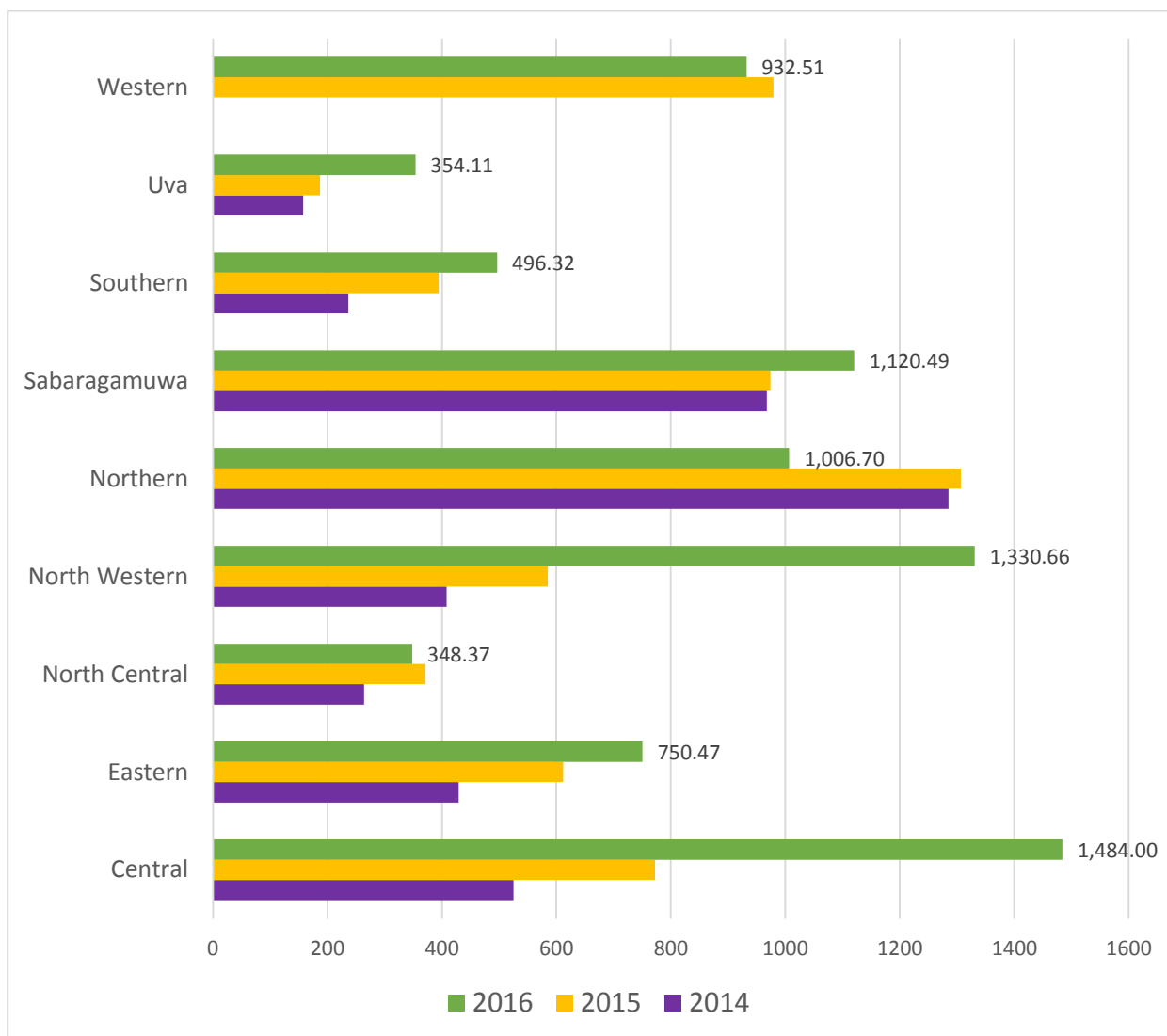


Figure 22.5 : Capital Expenditure by the provinces from 2014 to 2016 [in LKR million]

## Recurrent Expenditure of Provinces

Recurrent expenditure for the current year made on health institutions by the provinces was LKR 50.92 billion. Similar to other expenditure, recurrent expenditure of provinces also had increased steadily over the past five years. It is important to note that drug cost is not reflected in the provincial expenditure.

Provincial level disaggregation of the expenditure shows that Western Province is the province with largest spending accounting to LKR 10.61 billion equivalent of 20.8% of the total recurrent expenditure of the provinces. North Central Province had the minimum Recurrent Expenditure of LKR 3.24 billion equivalent of 6.4% of total recurrent expenditure of the provinces.

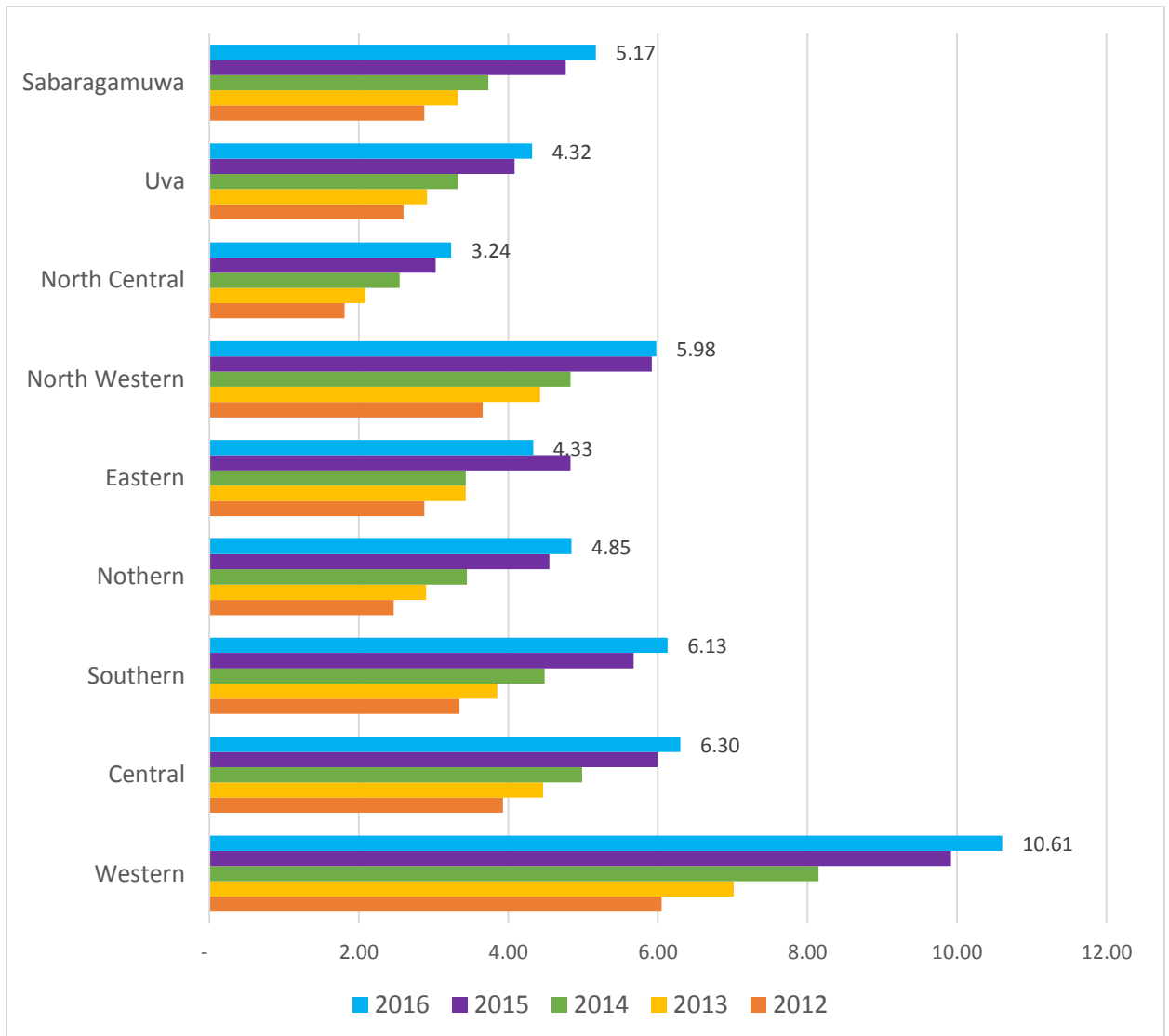


Figure 22.6 : Recurrent Expenditure by the provinces from 2012 to 2016 [in LKR billion]

## 23. Human Resources for Health

### 23.1. Human Resource Unit establishment

The Human Resource Unit (HRU) was established in 2016 with cabinet approval with the main aim of properly coordinating the human resource activities of the Ministry of Health. The Ministry looks over more than 115000 healthcare workers employed in various parts of the country needing careful planning and coordination of related activities. Hence the decision to establish the HRU could be considered a vital step in HR management. The Unit is headed by a specialist and to be strengthened with staff and other resources in coming years.

One of the key initial steps undertaken by the HRU is detailed in the next section.

#### 23.1.1. Clinical specialist cadre projection

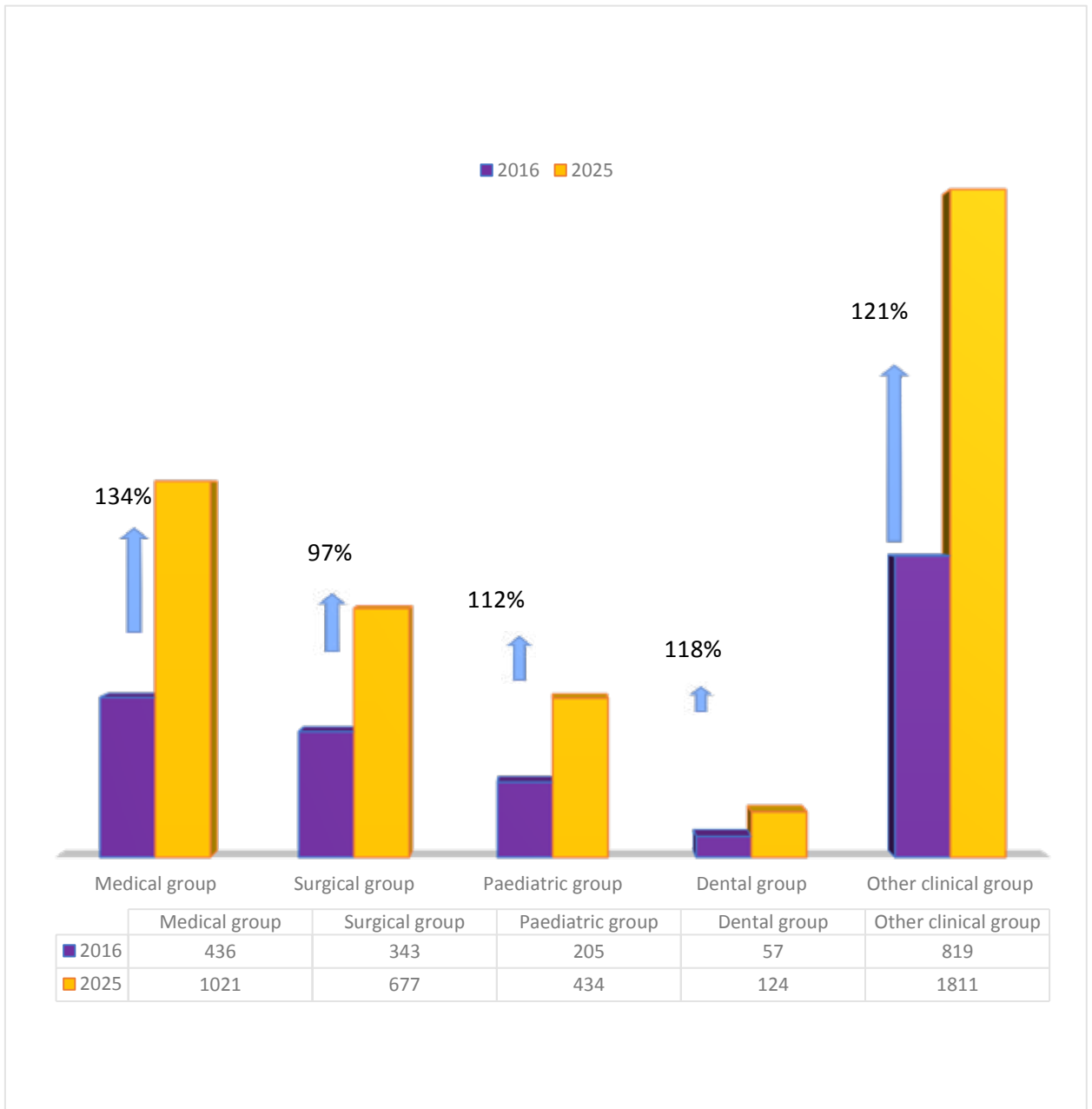
Sri Lanka provides free medical education at Undergraduate and postgraduate levels and estimated to spend nearly Rs10 million to produce a medical specialist at the tax payers' expense. Furthermore, due to the very long duration of specialist training, the training outcomes and other decisions taken regarding the training will takes long time to materialize. Hence it is important to optimize the Health human resource utilization in general and that of Medical specialists in particular in the Sri Lankan context, given the amount of resources injected for it.

Therefore, the HR unit commenced the task of planning health human resources by identifying

and locating the right number of doctors with the appropriate specialties for the right place at the right time. In 2016 the HR unit conducted a study to project the clinical specialists' cadre for 2016-2025 lead by the unit head Dr. Dileep De Silva.

Outlined below are main outputs and recommendations derived from the study. The figure 23.1: shows the overall projection for the selected clinical categories. At end of December 2015 there were 1860 clinician consultants/medical specialists, working in the Ministry hospitals/institutions and provincial hospitals. The average age of a clinician medical consultant was 46.8 years. This gives a country ratio of 1 medical specialist to 11,183 population with severe maldistribution between districts.

The study shows that the country will have 4067 consultants (clinician medical specialists excluding consultants in Community Medicine and Administration) by 2025 giving a country ratio of 1 medical specialist to 5,114 population and with a much improved distribution compared to 2015.



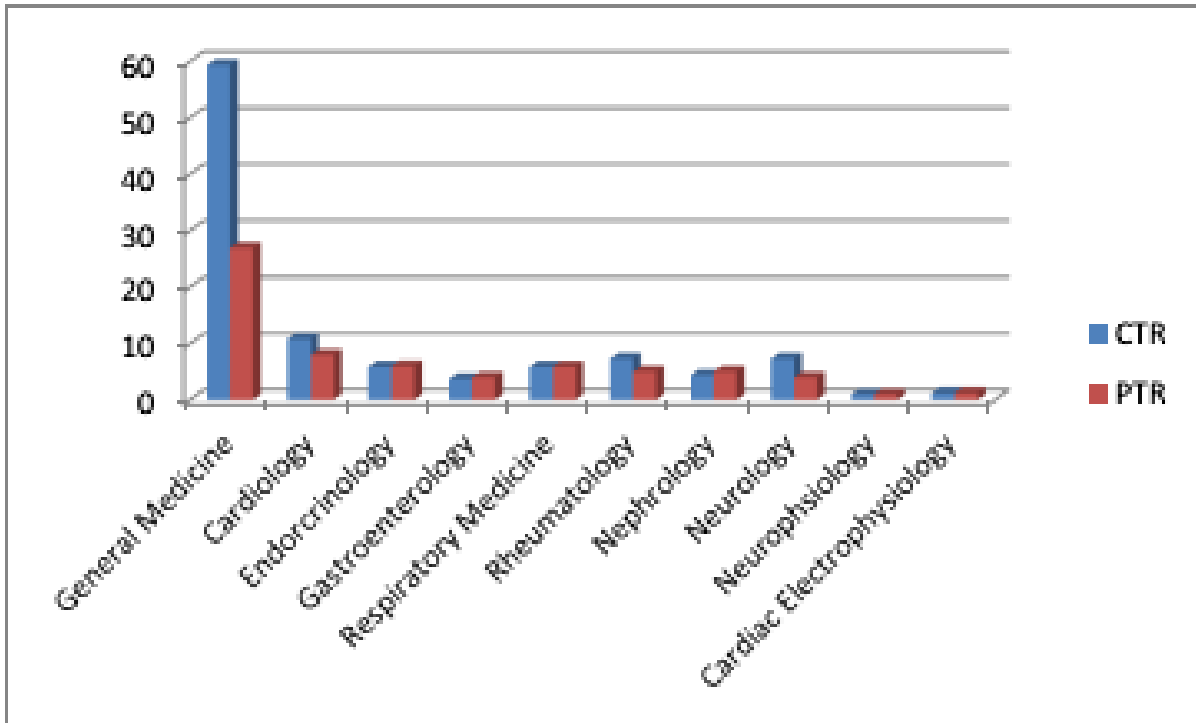
**Figure 23.1 : Clinical specialists cadre projection for 2016-25**

Source: Human Resource Unit, Ministry of Health, Nutrition & Indigenous Medicine

### Medical group of consultants

The number of trainees enrolled for pre MD programme should be reduced to 68 per year while ensuring that the correct number is

selected for different specialities on completion of MD(Part II) examination. Even if reduced to 68, the number of specialists in Medicine Specialties will grow by 134 % during 2016 to 2025 period.



**Figure 23.2 : Current training and proposed training rates for medical specialists**

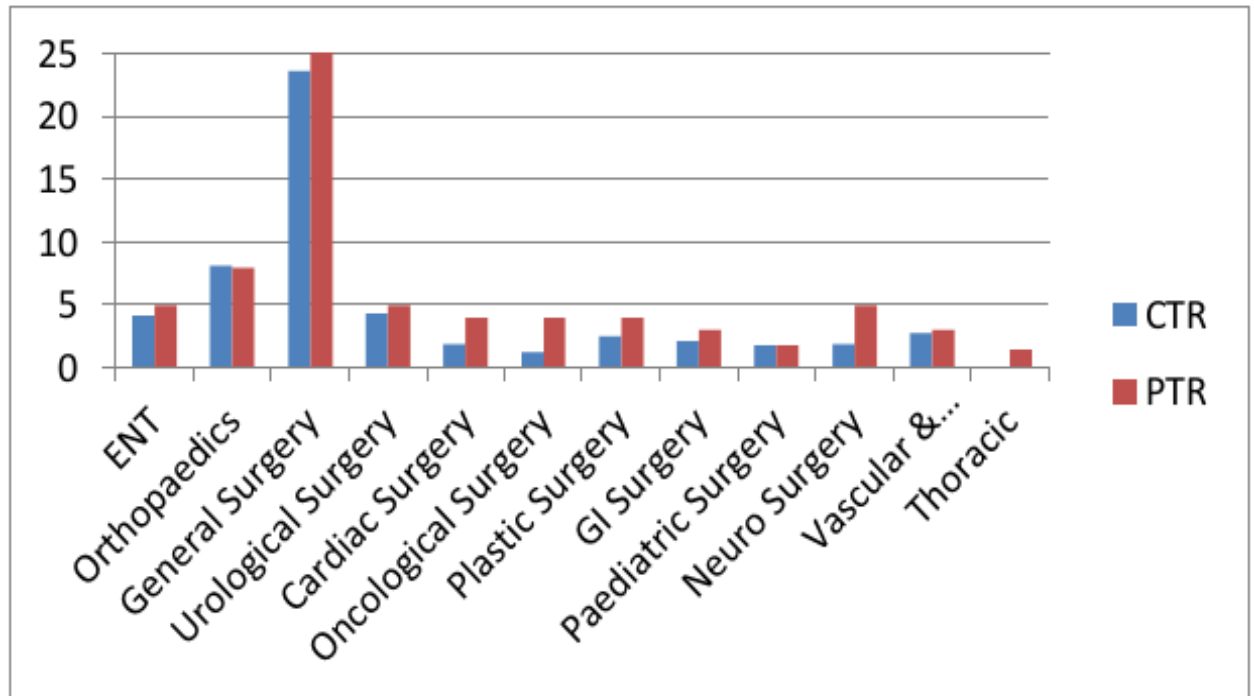
CTR- Current training rate PTR-Proposed training rate

Source: Human Resource Unit, Ministry of Health, Nutrition & Indigenous Medicine

### Surgical group of consultants

The number of trainees enrolled for pre MD programmes should be increased to 71 per year while ensuring that the correct number is

selected for different specialities on completion of MD (Part II) examination. If increased up to 71, the number of specialists in surgical specialities will grow by 97 % during 2016 to 2025 period.



**Figure 23.3 : Current training and proposed training rates for surgical specialists**

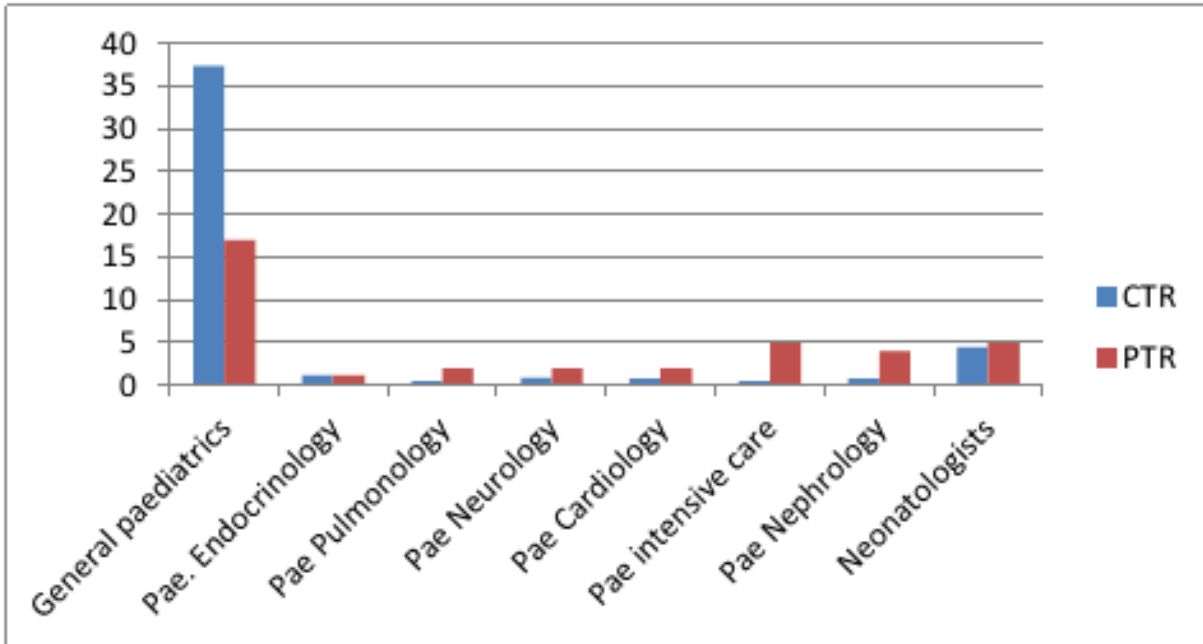
CTR- Current training rate PTR-Proposed training rate

Source: Human Resource Unit, Ministry of Health, Nutrition & Indigenous Medicine

### Paediatric clinical group of consultants

The number of trainees enrolled for pre MD programme should be reduced to 39 per year while ensuring that the correct number is

selected for different Sub-specialities on completion of MD (Part II) examination. Even if reduced to 39, the number of specialists in Paediatric specialities will grow by 112% during 2016 to 2025 period.



**Figure 23.4 : Current training and proposed training rates for paediatrics specialists**

CTR- Current training rate PTR-Proposed training rate

Source: Human Resource Unit, Ministry of Health, Nutrition & Indigenous Medicine

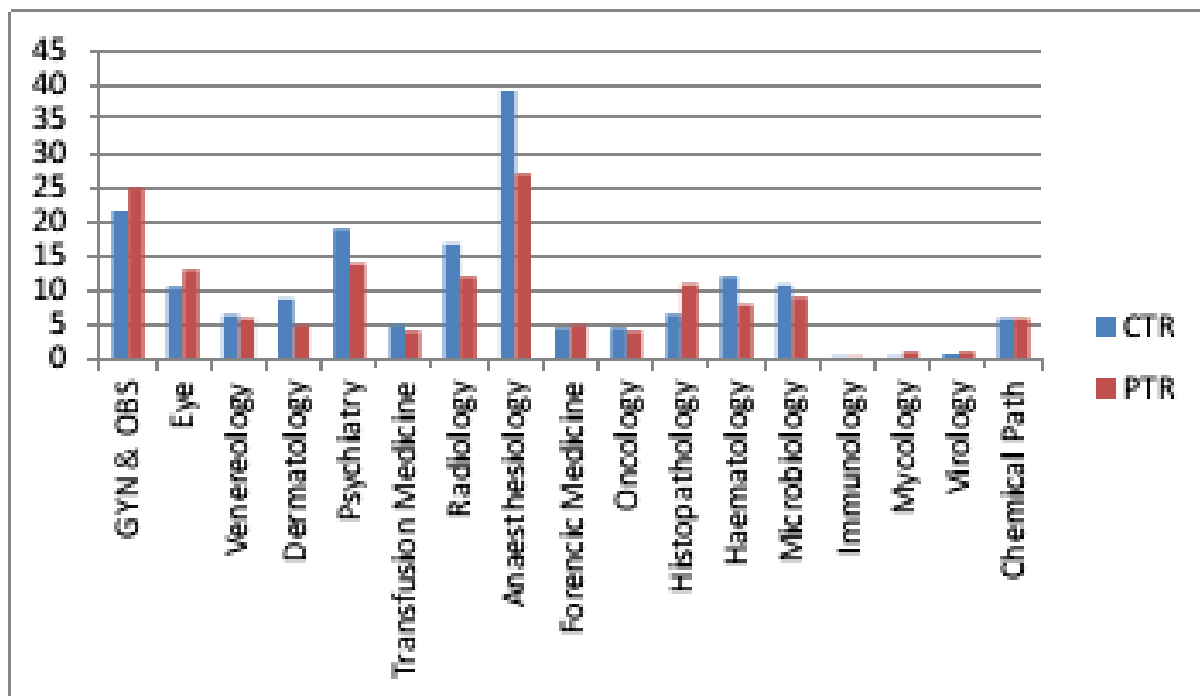


### Other clinical groups of consultants

The number of trainees to be trained should be increased or decreased as per the projections.

i.e. Obstetrics & Gynecology, Mycology, Ophthalmology, Forensic medicine,

Histopathology and Virology specialities should increase their intake while all other specialities to reduce the number of intake by 2025.



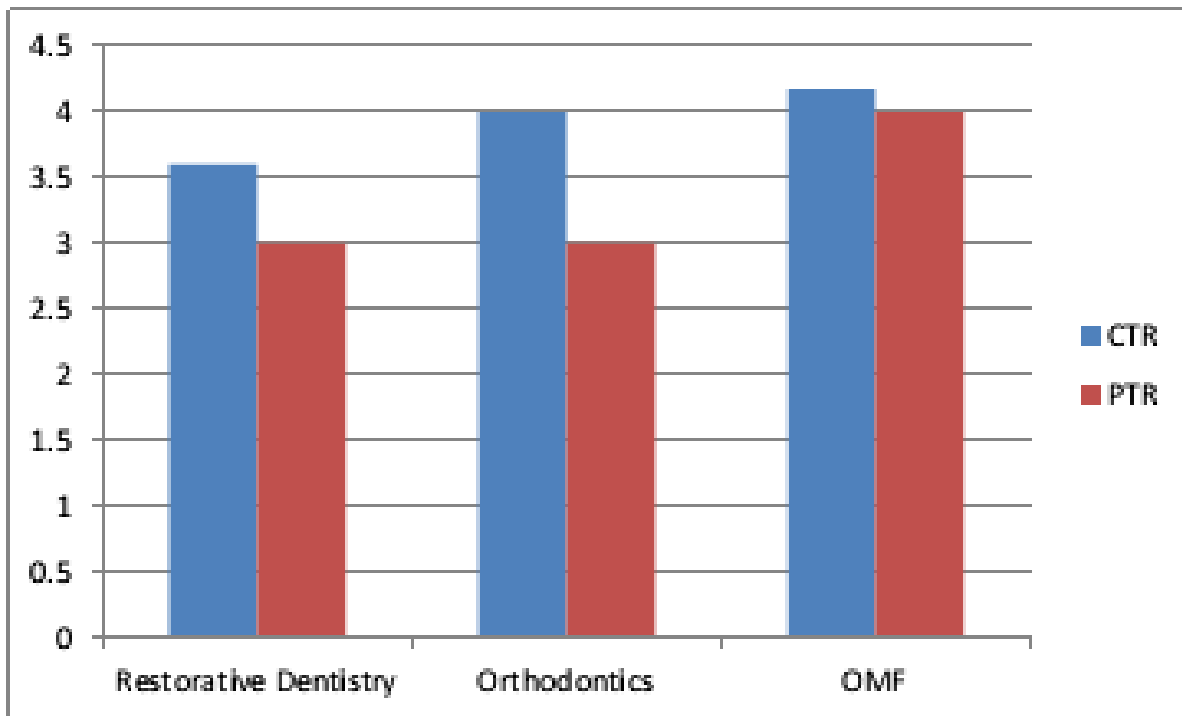
**Figure 23.5 : Current training and proposed training rates for other specialists**

CTR- Current training rate PTR-Proposed training rate

Source: Human Resource Unit, Ministry of Health, Nutrition & Indigenous Medicine

## Dental specialists

The number of dental specialists should be reduced for all the three sub-specialities i.e. restorative dentistry -3, Orthodontics – 3 and OMF – 4 respectively. Even with this reduction, there will be 118% increase from 2016 to 2025.



**Figure 23.6 : Current training and proposed training rates for dental specialists**

CTR- Current training rate PTR-Proposed training rate

Source: Human Resource Unit, Ministry of Health, Nutrition & Indigenous Medicine

The number of clinical specialist will increase by 119% between 2016 and 2025. However special attention is needed in the specialties of Neuro-Surgery and Cardiothoracic Surgery.

Intake to these two specialties has to be increased by a substantial rate, with immediate effect.

Also it is important to do a comprehensive cadre planning for other categories of specialists in coming years.

## 23.2 Training for health workforce

Education, Training and Research Unit of the Ministry of Health which functions under purview of Deputy Director General (ET&R) and has three directorates i.e. Directorate of Training, Nursing (Education) and Research. 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. The unit also coordinates with international training institutions to conduct training programmes for the benefit of health workforce.

### 23.2.1 Postgraduate Institute of Medicine

The 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, PG 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 years towards the development of specialist doctors needed by the country.

- 1) 1 PGIM conducted 136 examinations including selection/Certificates/PG Diploma/ MSc/ MD examinations in addition to the in-course assessments.
- 2) Action was taken to prepare the prospectus for the following new training programmes in order to implement during the year 2017.

- MD and Board Certification in Geriatric Medicine
- MD and Board Certification in Sports and Exercise Medicine
- MD and Board Certification in Clinical Nutrition
- Board certification as a Specialist in Old Age Psychiatry
- Board certification in Addictions Psychiatry

Following Curricula/Prospectuses of existing programmes were revised during 2016:

- Master in Medical Toxicology and Postgraduate Diploma in Medical Toxicology
- MD and Board Certification in Medical Parasitology
- Postgraduate Certificate in Medical Education
- MD and Board Certification in Otorhinolaryngology
- MD and Board Certification in Histopathology
- Postgraduate Diploma in Sports Medicine
- MD and Board Certification in Orthopaedic Surgery
- MD and Board Certification in Obstetrics & Gynaecology
- Board Certification in Neuroradiology
- Board Certification in Interventional Radiology
- MD and Board Certification in Chemical Pathology
- MD in Forensic Medicine & Board Certification in Forensic Medicine with special interest in Clinical Forensic Medicine, Forensic Toxicology, Forensic Paediatric and Perinatal Pathology, Forensic Histopathology, Forensic Anthropology
- MD and Board Certification in Orthodontics
- Graduate output during the year 2016

3) PG Certificate - 75

- 4) PG Diplomas - 282
- 5) MSc - 97
- 6) MD - 342
- 7) Board Certification- 194

- New entrants for year 2016
  - PG Certificate - 12
  - In-service - 54
  - PG Diplomas - 389
  - MSc - 129
  - MD - 613
- Workshops for trainers/ Examiners - 08
- Workshops for trainees - 02
- Research/Theses/ Dissertations done by PG trainees in year 2016 - 496

# Annexure I

**Table 1. Administrative Divisions and Local Government Bodies, 2016**

Administrative Areas (Province/District)	Divisional Secretary Divisions	Grama Niladari Divisions	Local Government Bodies		
			Municipal Councils	Urban Councils	Pradeshiya Sabhas
<b>Western Province</b>					
Colombo	13	557	5	5	3
Gampaha	13	1,177	2	5	12
Kalutara	14	762	-	4	12
<b>Central Province</b>					
Kandy	20	1,187	1	4	17
Matale	11	545	2	-	11
Nuwara Eliya	5	491	1	2	5
<b>Southern Province</b>					
Galle	19	895	1	2	17
Matara	16	650	1	1	15
Hambantota	12	576	1	1	10
<b>Northern Province</b>					
Jaffna	15	435	1	3	13
Kilinochchi	4	95	-	-	3
Mannar	5	153	-	1	4
Vavuniya	4	102	-	1	4
Mullaitivu	6	136	-	-	4
<b>Eastern Province</b>					
Batticaloa	14	346	1	2	9
Ampara	20	503	2	1	17
Trincomalee	11	230	-	2	11
<b>North-Western Province</b>					
Kurunegala	30	1,610	1	1	19
Puttalam	16	548	-	2	10
<b>North Central Province</b>					
Anuradhapura	22	694	1	-	18
Polonnaruwa	7	295	-	-	7
<b>Uva Province</b>					
Badulla	15	567	2	1	15
Monaragala	11	319	-	-	10
<b>Sabaragamuwa Province</b>					
Ratnapura	17	575	1	2	14
Kegalle	11	573	-	1	11
<b>Sri Lanka</b>	<b>331</b>	<b>14,021</b>	<b>23</b>	<b>41</b>	<b>271</b>

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 <sup>1</sup>	Percentage Land Area	2016*			Average Annual Growth Rate % 1981 - 2012 <sup>3</sup>
			Population (‘000) <sup>2</sup>	Percentage Distribution of Population	Population Density (Persons per sq. km)	
<b>Sri Lanka</b>	<b>62,705</b>	<b>100.00</b>	<b>21,203</b>	<b>100.0</b>	<b>338</b>	<b>1.0</b>
<b>Western Province</b>	<b>3,593</b>	<b>5.73</b>	<b>6,028</b>	<b>28.4</b>	<b>1,678</b>	
Colombo	676	1.08	2,395	11.3	3,543	1.0
Gampaha	1,341	2.14	2,372	11.2	1,769	1.7
Kalutara	1,576	2.51	1,261	5.9	800	1.2
<b>Central Province</b>	<b>5,575</b>	<b>8.89</b>	<b>2,690</b>	<b>12.7</b>	<b>483</b>	
Kandy	1,917	3.06	1,434	6.8	748	0.9
Matale	1,952	3.11	508	2.4	260	1.0
Nuwara Eliya	1,706	2.72	748	3.5	439	0.6
<b>Southern Province</b>	<b>5,383</b>	<b>8.58</b>	<b>2,584</b>	<b>12.2</b>	<b>480</b>	
Galle	1,617	2.58	1,102	5.2	682	0.9
Matara	1,270	2.03	845	4.0	665	0.7
Hambantota	2,496	3.98	637	3.0	255	1.1
<b>Northern Province</b>	<b>8,290</b>	<b>13.22</b>	<b>1,107</b>	<b>5.2</b>	<b>134</b>	
Jaffna	929	1.48	602	2.8	648	-0.7
Kilinochchi	1,205	1.92	122	0.6	101	0.7
Mannar	1,880	3.00	106	0.5	56	-0.2
Vavuniya	1,861	2.97	182	0.9	98	2.0
Mullaitivu	2,415	3.85	95	0.4	39	0.7
<b>Eastern Province</b>	<b>9,361</b>	<b>14.93</b>	<b>1,645</b>	<b>7.8</b>	<b>176</b>	
Batticaloa	2,610	4.16	550	2.6	211	1.5
Ampara	4,222	6.73	691	3.3	164	1.7
Trincomalee	2,529	4.03	404	1.9	160	1.3
<b>North-Western Province</b>	<b>7,506</b>	<b>11.97</b>	<b>2,477</b>	<b>11.7</b>	<b>330</b>	
Kurunegala	4,624	7.37	1,676	7.9	363	0.9
Puttalam	2,882	4.60	801	3.8	278	1.4
<b>North Central Province</b>	<b>9,741</b>	<b>15.53</b>	<b>1,330</b>	<b>6.3</b>	<b>137</b>	
Anuradhapura	6,664	10.63	905	4.3	136	1.3
Polonnaruwa	3,077	4.91	425	2.0	138	1.5
<b>Uva Province</b>	<b>8,335</b>	<b>13.29</b>	<b>1,333</b>	<b>6.3</b>	<b>160</b>	
Badulla	2,827	4.51	854	4.0	302	0.9
Monaragala	5,508	8.78	479	2.3	87	1.6
<b>Sabaragamuwa Province</b>	<b>4,921</b>	<b>7.85</b>	<b>2,009</b>	<b>9.5</b>	<b>408</b>	
Ratnapura	3,236	5.16	1,140	5.4	352	1.3
Kegalle	1,685	2.69	869	4.1	516	0.7

\* Provisional

Source : <sup>1</sup> Survey General's Department<sup>2</sup> Registrar General's Department<sup>3</sup> Census of Population & Housing, 2012

**Table 3. Population by Five Year Age Groups and Sex, 1981, 2001, 2012 and 2016**

Age Group	1981 <sup>1</sup>		2001 <sup>1</sup>		2012 <sup>1</sup>		2016* <sup>2</sup>					
	Population	%	Population	%	population ('000)	%	Total		Male		Female	
							Population ('000)	%	Population ('000)	%	Population ('000)	%
All ages	14,846,750	100.0	16,929,689	100.0	20,359	100.0	21,203	100.0	10,265	100.0	10,938	100.0
0 - 4	1,854,738	12.5	1,439,761	8.5	1,744	8.6	1,818	8.6	917	8.9	901	8.2
5 - 9	1,682,527	11.3	1,483,591	8.8	1,748	8.6	1,821	8.6	919	9.0	902	8.2
10 - 14	1,689,333	11.4	1,525,674	9.0	1,640	8.1	1,709	8.1	864	8.4	845	7.7
15 - 19	1,603,187	10.8	1,646,827	9.7	1,644	8.1	1,713	8.1	854	8.3	859	7.9
20 - 24	1,526,463	10.2	1,591,126	9.4	1,533	7.5	1,596	7.5	773	7.5	823	7.5
25 - 29	1,274,857	8.6	1,340,562	7.9	1,553	7.6	1,617	7.6	774	7.5	843	7.7
30 - 34	1,125,426	7.6	1,290,121	7.6	1,639	8.1	1,707	8.1	830	8.1	877	8.0
35 - 39	839,073	5.7	1,258,112	7.4	1,409	6.9	1,467	6.9	714	7.0	753	6.9
40 - 44	698,203	4.7	1,170,941	6.9	1,359	6.7	1,415	6.7	689	6.7	726	6.6
45 - 49	609,289	4.1	1,030,560	6.1	1,286	6.3	1,339	6.3	644	6.3	695	6.4
50 - 54	539,524	3.6	917,139	5.4	1,219	6.0	1,270	6.0	605	5.9	665	6.1
55 - 59	422,322	2.8	671,403	4.0	1,064	5.2	1,108	5.2	521	5.1	587	5.4
60 & above	981,808	6.6	1,563,872	9.2	2,521	12.4	2,623	12.4	1,161	11.3	1,462	13.4

\* Provisional

Note : Year 2001 population excludes the districts Jaffna, Mannar, Vavunia, Mullaitivu, Kilinochchi, Batticaloa & Trincomalee.

Source : <sup>1</sup> Census of Population and Housing

<sup>2</sup> 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 2014*	Neo-Natal Mortality Rate	
	2015*	2016*	2015*	2016*			2013*	2014*
	Per 1,000 Population				Per 1,000 Live Births			
Colombo	14.4	14.0	7.0	7.1	12.5	13.5	8.0	7.7
Gampaha	13.1	12.8	6.2	6.2	11.3	5.4	4.6	4.6
Kalutara	14.2	13.3	6.8	6.5	12.0	6.6	4.0	3.9
Kandy	17.5	16.4	7.0	6.8	58.3	12.1	9.2	9.0
Matale	17.4	16.9	6.4	6.1	19.7	7.1	6.2	5.9
Nuwara Eliya	16.5	17.0	6.3	6.1	26.3	5.4	5.9	3.6
Galle	16.4	15.9	7.6	7.1	10.2	7.0	4.6	4.3
Matara	14.2	13.9	6.6	6.3	23.6	4.2	3.4	3.3
Hambantota	19.7	19.3	5.6	5.3	28.4	4.5	2.3	2.0
Jaffna	13.6	14.1	6.9	7.3	30.4	13.3	11.3	11.4
Kilinochchi	16.9	19.5	3.1	3.6	-	8.0	4.8	6.0
Mannar	18.1	18.5	3.8	3.9	57.5	3.7	1.7	0.7
Vavuniya	17.6	16.1	4.7	4.2	24.1	8.1	2.9	4.5
Mullaitivu	12.2	10.5	3.8	3.8	-	2.0	9.6	1.0
Batticaloa	17.3	16.9	4.9	5.6	76.2	12.4	9.2	9.4
Ampara	20.5	20.5	4.7	4.6	14.2	2.5	1.1	1.0
Trincomalee	20.5	20.2	4.4	4.4	-	2.4	0.9	0.8
Kurunegala	15.4	15.2	6.7	6.3	31.8	11.0	10.2	10.1
Puttalam	18.4	17.6	5.5	5.5	32.5	4.4	2.4	2.4
Anuradhapura	17.3	17.1	5.8	5.1	53.9	7.6	4.8	4.9
Polonnaruwa	16.9	16.8	5.2	5.1	53.2	7.0	6.0	5.6
Badulla	16.2	16.8	6.1	6.2	35.8	7.0	5.5	4.9
Monaragala	18.4	17.5	4.8	4.9	27.8	4.1	1.6	1.5
Ratnapura	16.7	15.9	6.1	6.1	19.7	4.2	3.2	3.2
Kegalle	14.9	14.4	6.9	6.8	19.5	4.2	4.6	3.4
Sri Lanka	16.0	15.6	6.3	6.2	26.8	8.0	5.8	5.6

\* Provisional

Source : Registrar General's Department

Note : CBR and CDR are based on usual residence data.

All other indicators are based on place of occurrence 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										Bottled water	Other
		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		
<b>Sri Lanka</b>	5,264,282	1,652,972	772,819	211,556	1,110,050	363,043	482,937	177,432	18,931	239,952	4,022	9,984	39,349
<b>Western Province</b>													
Colombo	572,475	123,735	11,188	1,951	360,380	29,938	12,728	2,065	38	1,560	112	828	1,413
Gampaha	604,009	317,581	43,463	13,128	126,947	26,607	18,388	35,527	481	274	131	605	3,669
Kalutara	305,737	138,335	41,714	13,508	63,237	9,212	20,378	7,272	90	4,933	90	43	1,292
<b>Central Province</b>													
Kandy	348,019	49,629	38,580	10,117	132,091	28,270	39,395	6,762	688	24,032	221	61	3,609
Matale	129,710	26,731	22,822	5,253	24,559	8,876	22,399	7,500	62	6,605	28	63	644
Nuwara-Eliya	181,182	9,149	10,157	6,899	19,002	22,837	38,262	1,169	66	60,177	103	17	1,518
<b>Southern Province</b>													
Galle	273,140	117,064	40,126	19,214	56,542	14,807	7,028	3,171	135	5,984	10	41	1,347
Matarra	206,790	65,292	25,843	12,457	46,985	17,580	19,013	1,562	14	13,140	48	25	918
Hambantota	156,476	18,709	11,881	3,618	38,450	42,035	24,791	3,666	501	3,264	57	108	1,668
<b>Northern Province</b>													
Jaffna	140,323	54,642	44,554	1,255	2,407	2,963	-	15,607	3,142	13	3	53	1,433
Killinochchi	28,369	9,033	9,652	7,029	32	87	-	1,481	835	12	1	3	161
Mannar	23,975	5,700	6,644	661	1,192	3,834	-	1,666	2,785	32	2	42	115
Vavuniya	41,908	19,540	8,517	1,623	880	1,171	275	7,256	134	8	38	912	32
Mullaitivu	24,896	8,153	8,242	6,462	60	100	-	1,088	210	48	-	4	388
<b>Eastern Province</b>													
Batticaloa	134,966	77,504	29,831	2,965	4,110	4,762	796	12,184	210	994	135	78	595
Ampara	165,166	44,011	33,011	7,436	35,590	24,812	10,148	2,375	168	755	83	39	1,131
Trincomalee	96,951	26,911	22,617	3,175	15,596	15,106	1,001	1,408	4,425	1,090	12	81	1,359
<b>North Western Province</b>													
Kurunegala	443,349	230,275	111,409	25,653	15,640	6,355	34,950	9,312	142	2,389	343	444	1,781
Puttalam	202,796	57,030	34,591	3,661	17,626	13,074	19,864	34,696	3,961	491	715	3,445	8,097
<b>North Central Province</b>													
Anuradhapura	231,356	50,933	64,063	7,811	33,806	17,571	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	18,437	3,273	28	1,620	174	480	338
<b>Uva Province</b>													
Badulla	214,900	29,028	27,523	12,707	28,328	15,963	45,155	2,198	106	44,812	205	40	1,022
Monaragala	120,137	25,872	20,186	7,076	15,009	13,785	20,424	5,483	69	6,892	79	21	990
<b>Sabaragamuwa Province</b>													
Ratnapura	285,893	49,680	37,636	14,384	28,830	24,976	75,632	4,235	399	34,825	111	34	2,283
Kegalle	220,749	68,467	43,135	15,886	30,653	9,768	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
<b>Sri Lanka</b>	5,264,282	4,565,611	574,303	36,088	88,280
<b>Western Province</b>					
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
<b>Central Province</b>					
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
<b>Southern Province</b>					
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
<b>Northern Province</b>					
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
<b>Eastern Province</b>					
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
<b>North Western Province</b>					
Kurunegala	443,349	391,708	46,208	869	4,564
Puttalam	202,796	172,310	22,973	988	6,525
<b>North Central Province</b>					
Anuradhapura	231,356	193,611	32,347	189	5,209
Polonnaruwa	111,010	94,835	13,906	135	2,134
<b>Uva Province</b>					
Badulla	214,900	183,329	28,963	402	2,206
Monaragala	120,137	104,608	13,027	186	2,316
<b>Sabaragamuwa Province</b>					
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 2016**

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 <sup>1</sup>		Primary Care Unit and Maternity Home		Other Hospitals <sup>2</sup>		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	8,060	-	-	-	-	3	1,290	1	277	1	107	6	428	2	62	4	49	8	3,889	32	14,162	5.9	28	16
Gampaha	1	1,522	-	2	1,403	-	1	616	2	260	4	614	1	80	7	213	-	-	5	1,180	23	5,888	2.5	45	16
Kalutara	-	-	-	1	893	-	3	1,024	2	216	2	207	7	522	6	181	-	-	-	-	21	3,043	2.4	10	14
Kandy	3	3,809	-	1	480	-	-	-	2	488	-	-	14	1,025	33	1,072	-	-	6	265	59	7,139	5.0	28	23
Matale	-	-	-	1	815	-	1	316	-	-	-	-	4	287	14	347	-	-	-	20	1,765	3.5	15	13	
Nuwara Eliya	-	-	-	1	425	-	1	144	1	168	2	252	8	562	14	386	-	-	-	27	1,937	2.6	21	13	
Galle	2	2,286	-	-	-	-	2	870	1	126	2	222	7	515	9	335	2	22	1	9	26	4,385	4.0	24	20
Matara	-	-	-	1	1,178	-	-	-	2	424	2	211	6	488	5	143	-	-	-	15	2,444	2.9	21	17	
Hambantota	-	-	-	1	665	-	1	294	2	342	-	-	9	650	8	276	-	-	1	45	22	2,272	3.6	13	12
Jaffna	1	1,277	-	-	-	-	2	662	2	296	-	-	4	341	19	457	-	-	-	28	3,033	5.0	16	12	
Kilinochchi	-	-	-	1	270	-	-	-	1	51	-	-	1	94	6	145	-	-	-	9	560	4.6	3	4	
Mullaitivu	-	-	-	1	211	-	-	-	2	89	2	129	2	38	4	43	-	-	-	11	510	5.4	3	5	
Vavuniya	-	-	-	1	650	-	-	-	1	93	-	-	1	34	6	67	-	-	-	9	844	4.6	5	4	
Mannar	-	-	-	1	325	-	-	-	-	-	-	-	4	309	6	141	-	-	-	11	776	7.3	8	5	
Batticaloa	1	958	-	-	-	-	2	376	2	258	2	193	3	157	13	396	-	-	-	23	2,378	4.3	13	14	
Ampara	-	-	-	1	691	-	-	-	2	293	-	-	1	70	6	203	-	-	-	10	1,257	4.7 <sup>a</sup>	15	7	
Kalmunai	-	-	-	-	-	-	3	992	2	295	-	-	5	392	7	281	4	56	-	21	2,016	-	8	13	
Trincomalee	-	-	-	1	619	-	1	247	3	296	-	-	-	-	11	376	1	17	-	17	1,555	3.8	16	11	
Kurunegala	-	-	1	1,979	-	-	1	790	3	763	9	1,050	11	770	20	528	1	9	-	46	5,889	3.5	54	29	
Puttalam	-	-	-	1	578	-	1	358	1	349	2	258	4	203	9	242	-	-	-	18	1,988	2.5	30	12	
Anuradhapura	1	2,157	-	-	-	-	-	-	3	378	4	457	10	620	21	667	-	-	1	15	40	4,294	4.7	21	19
Polonnaruwa	-	-	-	1	960	-	-	-	2	232	1	104	4	228	4	129	-	-	-	12	1,653	3.9	10	7	
Badulla	-	-	1	1,493	-	-	2	883	1	145	2	233	8	534	33	598	-	-	-	47	3,886	4.6	16	16	
Monaragala	-	-	-	1	461	-	-	-	3	459	1	102	5	375	8	242	-	-	-	18	1,639	3.4	10	11	
Ratnapura	-	-	1	1,318	1	465	-	-	3	694	8	714	7	344	18	345	-	-	1	8	39	3,888	3.4	26	18
Kegalle	-	-	-	1	821	-	-	-	3	806	6	553	3	104	9	62	-	-	2	33	24	2,379	2.7	21	11
Sri Lanka	16	20,109	3	4,790	19	11,911	24	8,862	47	7,798	50	5,406	135	9,170	298	7,937	12	153	25	5,444	629	81,580	3.8	480	342

<sup>a</sup> Includes Kamunai data

<sup>1</sup> Divisional Hospitals (DHCs) which have no indoor facilities are also included in some districts (Gampaha - 1, Jaffna - 1, Kilinochchi - 1, Mullaitivu - 3, Batticaloa - 1, Batticaloa - 8, Kegalle - 6)

<sup>2</sup> Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"

Source : Medical Statistics Unit

**Table 7a. Distribution of Inpatient Beds<sup>1</sup> by Regional Director of Health Services Division, December 2016**

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 <sup>2</sup>	Total Inpatient Beds	Inpatient Beds per 1,000 Population
Colombo	7,679			1,223	266	101	374	53	49	3,680	13,425	5.6
Gampaha	1,454		1,362	526	242	568	65	184		1,152	5,553	2.3
Kalutara			874	969	197	174	442	160		245	2,816	2.2
Kandy	3,633		447		466		897	909			6,597	4.6
Matale			785	292			262	302			1,641	3.2
Nuwara Eliya			425	130	142	228	509	331			1,765	2.4
Galle	2,180			798	108	207	433	287	10	8	4,031	3.7
Matara			1,130		386	177	428	112			2,233	2.6
Hambantota			635	266	342		523	252		45	2,063	3.2
Jaffna	1,250			621	270		315	374			2,830	4.7
Kilinochchi			248		41		83	115			487	4.0
Mullaitivu			194		81	110	30	42			457	4.8
Vavuniya			606		87		22	45			760	4.2
Mannar			316				260	81			657	6.2
Batticaloa	998			361	240	168	147	353			2,267	4.1
Ampara			632		259		61	173			1,125	4.2 <sup>3</sup>
Kalmunai				881	281		341	231	43		1,777	
Trincomalee			476	230	269		673	336	10		1,321	3.3
Kurunegala		1,797		634	715	946	167	466	8		5,239	3.1
Puttalam			526	332	334	234	167	210			1,803	2.3
Anuradhapura	1,915				351	392	544	552		15	3,759	4.2
Polonnaruwa			913		195	93	205	108			1,514	3.6
Sadulla		1,449		743	135	198	475	503			3,503	4.1
Monaragala			449		417	100	332	210			1,508	3.1
Ratnapura		1,255	433		601	629	311	277		8	3,514	3.1
Kegalle			766		741	482	90	56		33	2,168	2.5
<b>Sri Lanka</b>	<b>19,109</b>	<b>4,501</b>	<b>11,217</b>	<b>8,006</b>	<b>7,166</b>	<b>4,807</b>	<b>7,989</b>	<b>6,722</b>	<b>120</b>	<b>5,186</b>	<b>74,823</b>	<b>3.5</b>

Source : Medical Statistics Unit

<sup>1</sup> Excludes Examination beds, labour room beds, OPD beds, etc.  
<sup>2</sup> Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"  
<sup>3</sup> Includes Kalmunai data

**Table 8. Beds by Speciality and Regional Director of Health Services Division, December 2016**

RDHS Division	Mixed Medical & Surgical <sup>1</sup>	Medical	Surgical	Paediatrics/Children <sup>2</sup>	Obstetric/Gynaecology	Tuberculosis	Cancer	Leprosy	Psychiatry	Neurology/Neuro Surgery	Genito Urinary	Cardiology	ENT	Eye	Skin	Orthopaedic/Accident	Thoracic Surgery	Plastic Surgery/Burns Unit	Rheumatology/Rehabilitation	Dental	Others <sup>3</sup>	Total	
Colombo	1,525	2,070	1,739	1,922	1,711	3	26	741	1,559	327	110	195	113	516	55	561	199	53	256	71	666	14,162	
Gampaha	296	1,329	1,004	761	862	384		39	243	14	44	21	54	208		73				21	279	5,888	
Kalutara	429	727	473	527	528			42	42					26	14	52					225	3,043	
Kandy	469	1,679	771	1,132	1,154	14	95	150	199	185	41	78	65	193	37	188	62		34	107	486	7,139	
Matale	38	656	217	239	335	40		34	34				15	61	18	28			15		69	1,765	
Nuwara Eliya	335	460	206	288	432			46	46				12	31					19		108	1,937	
Galle	311	1,111	581	635	747		191	91	91	62	20	14	41	105	38	61	85		32	21	239	4,385	
Matara	119	617	364	393	527	52		40	40	18		18	23	44	27	35			32	2	156	2,444	
Hambantota	120	770	298	333	418			57	57				23	31	21	39				21	141	2,272	
Jaffna	115	818	561	392	529	21	108	91	91	11		24		81	21	4			9		248	3,033	
Kilinochchi	3	203	67	111	145																31	560	
Mulativu	22	137	117	82	90																62	510	
Vavuniya	8	204	141	115	200	10		13	13				28	56	33						36	844	
Mannar	54	231	65	92	199			19	19					20	13						83	776	
Batticaloa	198	608	354	421	373	15	72	48	48	10		5	34	38	14	53					135	2,378	
Ampara	84	390	170	198	234	8		31	31					33	26				24		59	1,257	
Kaimuni	343	272	288	408	392			30	30					35					9		234	2,016	
Trincomalee	35	420	212	250	330	13		25	25					45	10						215	1,555	
Kurunegala	893	1,401	596	752	985	17	99	63	63	65	29	16	49	108	58	116			36	48	565	5,889	
Puttalam	148	519	291	299	488									48	7	39				1	131	1,988	
Anuradhapura	644	1,046	411	558	783	32	72	176	176	51	28	38		30	23	70			12		320	4,294	
Poonnaruwa	292	293	49	402	276	5		23	23					49	8	55					126	1,653	
Badulla	397	1,000	541	508	639		116	73	73	65		30	44	71	23	96			12	29	242	3,886	
Monaragala	429	228	225	284	335									40							98	1,639	
Ratnapura	456	969	508	546	744	4	74	37	37	25	25	20	22	73	26	103				21	196	3,888	
Kegalle	263	603	348	366	474			20	20				33	42							21	209	2,379
Sri Lanka	8,026	18,766	10,597	12,014	13,930	66	712	1,623	39	2,960	833	324	507	533	1,984	400	1,655	346	53	490	363	5,359	81,580

Source - Medical Statistics Unit

Includes:

<sup>1</sup> Beds in medical and surgical intensive care units, wards for prelists, armed service personnel and medical and surgical paying wards

<sup>2</sup> Beds in premature baby units

<sup>3</sup> Mixed wards with beds for obstetrics, psychiatry, skin, ENT, eye, dental, neurology, surgery, tuberculosis and haematology



**Table 9. Key Health Personnel, 1991 - 2016**

Year	Medical Officers <sup>1</sup>		Dental Surgeons <sup>2</sup>		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	0.5	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	0.5	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	1.5	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	1.5	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	1.5	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	1,475 <sup>3</sup>	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	1,398 <sup>3</sup>	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	1,436 <sup>3</sup>	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	1,510 <sup>3</sup>	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
2016	18,968	89.5	1,433	6.8	883	4.2	42,556	200.7	277	1.3	1,692	8.0	6,247	29.5	2,365	11.2

\* Provisional

Rate per 100,000 population

<sup>1</sup> All medical officers in curative, administrative and preventive services including specialists and interns

<sup>2</sup> Includes Regional and Consultant Dental Surgeons

<sup>3</sup> 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.

Source : Medical Statistics Unit

**Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2016**

RDHS Division	Medical Officers										Regional Dental Surgeons					Hospital Dental Surgeons	School Dental Surgeons	P.G.I.M. Trainees**	Dental Surgeons <sup>3</sup>							
	Administrative Grade (Senior and Deputy) Medical Officers	Administrative Grade (Senior and Deputy) Non 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 (Filariasis)	Medical Officers (Leprosy)	Medical Officers (Venereal Diseases)	Medical Officers (Tuberculosis)	Epidemiologists	Medical Officers (Maternal and Child Health)	Judicial Medical Officers (Blood Bank)	Intern Medical Officers					P.G.I.M. Trainees**	Other Medical Officers	Medical Officers <sup>1</sup>	Total Medical Officers <sup>2</sup>			
Colombo	81	79	578	2,904	70	4	5	3	10	18	38	6	27	10	67	202	253	239	3,856	4,515	4	30	196	14	52	296
Gampaha	12	3	164	1,229	61	2	-	1	10	12	-	1	6	43	131	356	14	1,867	2,043	1	6	69	10	-	86	
Kalutara	7	-	77	572	48	-	-	-	-	2	3	1	1	1	30	43	12	29	742	826	2	3	54	9	1	69
Kandy	10	-	187	1,218	35	-	-	-	-	9	1	1	3	2	1	121	142	82	1,615	1,812	4	4	164	5	13	190
Matale	3	-	39	216	19	1	1	-	-	3	7	-	-	4	7	44	3	34	339	381	1	1	18	1	-	21
Nuwara Eliya	4	-	37	220	18	-	-	-	-	-	3	-	-	1	3	-	-	14	259	300	1	-	32	1	-	34
Galle	9	1	146	630	38	2	-	1	-	2	4	-	6	2	16	15	5	22	743	898	2	3	48	5	-	58
Matara	5	1	49	410	31	-	-	1	1	4	6	1	2	3	7	58	1	11	536	590	-	2	33	2	-	37
Hambantota	3	-	48	269	17	-	-	-	-	1	2	1	1	6	12	60	-	4	373	424	1	1	29	1	-	32
Jaffna	8	-	68	359	16	-	-	-	-	2	2	-	-	5	14	63	49	3	513	589	2	2	36	1	-	41
Kilinochchi	1	-	17	78	5	-	1	-	-	-	-	-	-	-	-	-	-	6	90	108	1	-	10	2	-	13
Mannar	3	-	14	69	6	-	1	-	-	1	2	1	1	1	2	-	-	3	87	104	1	-	6	-	-	7
Vavuniya	3	1	30	144	5	-	1	-	-	1	2	-	2	1	-	31	-	9	196	229	1	12	4	1	-	18
Mullaitivu	-	-	1	54	7	-	1	-	-	-	1	1	1	-	-	-	-	3	68	69	-	-	7	-	-	7
Batticaloa	7	-	53	276	14	-	1	-	1	-	1	2	1	-	7	51	2	16	372	432	1	-	26	3	-	30
Ampara	1	-	39	247	13	-	1	-	-	2	2	-	1	2	8	29	-	5	310	350	2	1	23	-	-	26
Trincomalee	5	-	35	205	12	-	2	-	-	1	1	-	-	1	5	25	-	8	260	300	-	-	26	-	1	27
Kalmunai	5	-	29	278	14	-	1	-	-	-	2	-	1	3	9	21	-	11	340	374	1	1	24	1	-	27
Kurunegala	8	2	92	738	56	-	2	1	-	4	11	1	2	11	19	71	7	40	963	1,063	-	6	70	9	9	94
Puttalam	3	-	50	335	25	-	-	1	-	2	-	1	1	5	6	33	-	17	426	479	3	-	42	2	-	47
Anuradhapura	7	1	69	438	29	-	-	-	-	-	2	-	2	2	2	-	-	14	489	565	1	2	34	6	-	43
Polonnaruwa	3	-	50	245	11	-	1	-	-	-	1	1	1	1	2	30	-	49	342	395	-	1	29	3	-	33
Badulla	6	-	67	406	20	-	1	-	-	4	-	1	2	3	11	50	-	42	540	613	-	3	50	8	1	62
Monaragala	2	-	33	193	15	-	1	-	-	1	1	1	-	3	5	56	1	5	282	317	-	1	20	2	-	23
Ratnapura	6	-	80	457	29	-	1	-	-	2	8	1	3	2	17	45	14	7	586	672	1	3	58	6	-	68
Kegalle	5	-	50	354	20	-	1	-	-	1	1	1	11	5	8	52	-	11	465	520	1	3	37	3	-	44
Sri Lanka	207	88	2,102	12,544	634	9	22	8	22	72	101	22	70	80	301	1,231	845	698	16,659	18,568	31	85	1,145	95	77	1,433

\*\* Include PGIM trainees drawing their salaries from the institutions concerned

<sup>1</sup> Total Medical Officers, exclude: Administrative and Specialists

<sup>2</sup> Total Medical Officers

<sup>3</sup> Total Dental Surgeons

Continued...

Source : Medical Statistics Unit



**Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2016**

RDHS Division	Registered/Assistant Medical Officers	Matrons	Ward Sisters	Principals/Sister Tutors	Nursing Officers	Supervising Public Health Nursing Sisters/Public	Pupil Nurses	Total Nurses	MRO	MRA	SSO	PP/PPA/DO/DA	Pharmacists	Medical Laboratory Technologists	Radiographers	Physiotherapists	Speech Therapists	Occupational Therapists	School Dental Therapists	Dental Technicians	Entomologists	Entomological Officers/Assistants
Colombo	133	58	212	51	7,921	29	1,453	9,724	10	6	-	560	393	498	212	157	24	44	32	28	6	28
Gampaha	78	22	79	13	2,363	30	534	3,041	3	4	1	94	116	108	34	54	7	18	35	1	1	6
Kalutara	45	12	55	25	1,385	40	614	2,131	1	5	-	75	54	79	14	13	1	3	30	1	2	6
Kandy	135	15	88	35	3,358	16	807	4,319	2	21	18	190	137	130	76	49	8	8	20	4	1	9
Matale	34	5	10	-	582	10	-	607	1	4	7	42	30	23	7	5	1	1	8	-	-	4
Nuwara Eliya	14	3	5	-	412	4	-	424	-	1	2	26	21	19	8	6	1	-	10	-	1	1
Galle	57	3	45	14	2,078	17	656	2,814	2	5	-	163	80	74	34	27	4	6	26	2	1	7
Matara	40	4	39	6	1,146	9	196	1,400	-	2	-	153	53	45	14	12	3	5	21	1	-	1
Hambantota	10	1	27	7	944	15	448	1,442	-	-	-	71	39	33	13	7	1	2	15	-	-	8
Jaffna	15	11	27	20	637	3	132	830	1	-	-	97	48	34	15	16	1	2	8	-	2	2
Kilinochchi	1	3	-	-	90	-	-	93	-	-	-	14	5	4	2	2	-	-	-	-	-	2
Mannar	4	3	2	-	113	1	4	123	-	-	-	23	6	6	2	2	-	-	2	-	-	2
Vavuniya	1	6	4	6	184	2	138	340	-	-	-	26	3	15	5	4	1	-	4	-	-	-
Mullaitivu	-	3	-	-	90	1	-	94	-	-	-	14	3	4	2	3	-	-	1	-	-	2
Batticaloa	13	11	31	4	624	11	210	891	-	1	-	43	33	31	11	11	-	3	4	-	1	3
Ampara	4	3	3	18	504	1	932	1,461	-	-	-	37	29	30	9	8	1	2	3	-	1	3
Trincomalee	11	3	18	-	419	1	-	441	1	-	-	22	29	22	7	8	1	1	2	-	1	6
Kalmunai	14	2	13	-	639	7	-	661	-	3	-	63	35	36	12	8	2	-	5	-	-	6
Kurunegala	92	15	78	40	2,191	22	556	2,902	4	18	-	253	90	83	27	22	3	3	39	2	-	8
Puttalam	21	3	31	-	607	3	-	644	-	3	-	64	41	36	9	7	1	1	12	2	1	4
Anuradhapura	29	10	57	13	1,331	9	550	1,970	1	2	-	23	53	52	20	19	2	3	15	3	1	6
Polonnaruwa	11	3	13	-	597	5	-	618	-	2	1	22	42	26	11	11	1	2	11	-	1	3
Badulla	35	10	49	6	1,185	12	654	1,916	4	2	-	106	62	57	19	19	3	3	16	1	-	3
Monaragala	9	4	6	-	507	10	-	527	-	7	-	71	27	26	8	6	1	-	11	-	1	4
Ratnapura	35	10	43	11	1,315	11	603	1,993	2	-	2	120	64	50	22	13	2	3	19	1	-	7
Kegalle	42	5	29	-	1,108	8	-	1,150	1	5	-	153	53	45	14	11	1	1	15	1	-	10
Sri Lanka	883	228	965	269	32,330	277	8,487	42,556	33	91	31	2,525	1,546	1,566	607	500	70	111	364	47	21	141

Continued...

Source : Medical Statistics Unit

**Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2016**

RDHS Division	Ophthalmic Technicians	Food and Drug Inspectors	Supervising Public Health Inspectors	Public Health Inspectors	Supervising Public Health Midwives	Public Health Midwives	Hospital Midwives	ECG Recordists	ECG Recordists	Microscopists	Dispensers	Public Health Field Officers	Public Health Field Assistants	Nutritionists	Foremen	Photograph Technicians	Audiology Technicians	Orthopedic Technicians	Cinema Technicians	Attendants	Administrative Officers	Management Assistants	Drivers	SKS (Junior)	SKS (Ordinary)	Any Other	Total
Colombo	55	13	11	255	11	430	215	102	27	33	129	12	-	14	46	1	11	7	3	1,708	37	940	545	3,290	2,351	4,571	31,562
Gampaha	18	1	8	115	16	457	151	23	7	28	92	14	-	1	-	-	2	1	1	485	8	146	63	961	454	842	9,627
Kalutara	9	2	8	105	22	469	139	16	2	14	51	18	-	-	-	-	1	-	1	489	7	154	88	468	229	597	6,244
Kandy	18	2	9	86	10	440	202	29	10	14	97	13	-	4	-	-	5	-	-	690	9	263	190	1,519	1,309	627	12,675
Matale	5	1	2	44	10	163	66	6	-	11	48	8	-	-	-	-	-	-	-	147	2	64	52	309	74	140	2,328
Nuwara Eliya	4	1	2	42	7	322	57	4	2	2	49	2	-	-	-	-	-	-	-	196	2	64	79	432	219	132	2,486
Galle	12	2	9	93	11	310	145	9	6	12	79	10	-	1	-	-	3	-	2	407	7	205	109	1,142	397	641	7,871
Matara	6	2	13	65	17	271	110	8	2	14	63	15	2	1	-	-	2	-	1	304	3	132	78	547	292	331	4,657
Hambantota	5	-	8	55	21	208	101	7	2	4	54	15	-	1	-	-	2	-	-	271	3	84	59	343	131	488	3,959
Jaffna	3	1	12	60	13	175	38	4	2	2	52	14	1	1	-	-	2	-	-	534	8	75	76	650	241	451	4,116
Kilinochchi	1	-	6	12	4	57	12	1	1	1	13	5	1	-	-	-	-	-	-	106	-	33	33	282	43	97	952
Mannar	1	1	3	20	5	59	28	-	-	1	13	4	-	-	-	-	-	-	1	107	1	28	33	253	93	142	1,074
Vavuniye	2	-	3	15	4	88	3	1	4	1	13	-	-	-	-	-	-	-	1	131	2	42	41	303	90	169	1,560
Mullaitivu	-	-	5	17	2	43	18	-	-	-	12	5	-	-	-	-	-	-	-	119	-	28	26	32	112	230	848
Batticaloa	2	2	16	56	11	189	96	9	2	2	34	32	-	-	-	-	2	-	2	143	4	59	38	407	50	629	3,292
Ampara	3	2	7	29	8	138	30	9	1	4	24	14	-	-	-	-	-	1	-	179	2	70	59	397	141	274	3,356
Trincomalee	2	3	9	37	13	154	55	4	2	7	27	29	5	-	-	-	-	-	1	223	1	56	32	268	33	469	2,309
Kaimunai	4	2	12	49	12	151	126	8	1	11	29	40	1	1	-	-	-	-	-	149	2	93	68	586	167	300	3,058
Kurunegala	4	2	20	113	23	454	178	16	5	37	129	23	3	1	-	-	1	1	1	748	6	172	133	1,352	511	412	9,050
Puttalam	7	2	10	50	11	189	58	7	2	10	76	15	1	-	-	-	-	-	-	177	2	59	58	170	160	211	2,647
Anuradhapura	5	2	13	83	19	232	118	13	3	27	87	17	1	1	-	-	1	-	1	518	6	140	122	447	149	972	5,785
Polonnaruwa	4	1	3	36	8	123	48	8	2	8	27	6	-	-	-	-	1	-	-	190	3	35	58	585	111	105	2,552
Badulla	8	2	12	58	7	295	118	11	3	9	79	8	-	1	-	-	1	1	-	356	7	149	123	637	376	767	5,949
Monaragala	2	1	6	36	9	193	61	6	-	6	42	5	7	-	-	-	1	-	-	201	2	67	77	297	315	149	2,521
Ratnapura	11	2	18	89	18	369	94	10	3	21	75	11	-	1	-	-	2	-	-	433	3	161	111	712	682	759	6,638
Kegalle	7	1	11	72	13	268	98	4	-	9	70	10	3	-	-	-	1	-	-	242	5	129	77	748	369	276	4,479
Sri Lanka	198	48	236	1,692	305	6,247	2,365	315	89	288	1,464	345	25	28	46	1	38	11	15	9,253	132	3,448	2,428	17,137	9,079	14,781	141,595

Source : Medical Statistics Unit



**Table 11. Distribution of Specialists in Curative Care Services<sup>1</sup> by Regional Director of Health Services Division, December 2016**

R DHS Division	General Physicians	General Surgeons	Gynaecologists & Gynecologists	Cardiologists	Chest Physicians	Thoracic Surgeons	Neurologists	Neuro Surgeons	Dermatologists	Rheumatologists	Psychiatrists	Pediatricians	Paediatric Surgeons	ENT Surgeons	Eye Surgeons	Orthopaedic Surgeons	Plastic Surgeons	Genito Urinary Surgeons	Anaesthesiologists	Histo-Pathologists/Chemical Pathologists	Hematologists	Bacteriologists/Microbiologists	Biochemists	Oncologists/Radiotherapists	Oncology Surgeons	Radiologists	Venerologists	Judicial Medical Officers	Public Health/Community Health Physicians	Endocrinologists	Gastroenterologists	Nephrologists	Specialist Dental Surgeons	Specialist Dental Surgeons-Restorative	Others	Total
Colombo	47	40	30	18	2	10	11	7	13	6	16	35	5	8	18	11	8	8	52	22	15	19	2	14	4	35	6	7	47	6	4	7	6	3	65	615
Gampaha	22	11	9	4	5	4	1	5	4	4	4	14	1	5	5	4	1	1	8	7	4	3	1	1	1	5	1	3	1	2	1	1	3	2	28	170
Kelutara	10	6	6	1	1	1	1	1	3	1	3	8	2	2	3	2	1	1	5	3	2	1	1	1	1	4	2	1	1	1	1	1	1	2	1	71
Kandy	17	9	11	7	3	3	5	2	5	2	6	17	4	5	8	4	1	2	16	7	3	3	5	5	2	10	1	1	3	3	2	3	2	1	13	185
Maralle	5	4	4	1	1	1	1	1	2	2	2	3	1	1	2	1	1	1	2	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	36	
Nuwara Eliya	5	4	5	1	1	1	1	1	1	1	2	4	1	1	2	1	1	1	2	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1	37	
Galle	16	8	8	4	1	1	3	1	4	1	5	10	3	2	5	2	1	2	11	5	4	1	4	2	7	1	3	1	1	2	4	1	1	1	18	145
Matara	5	4	5	1	1	1	1	1	3	1	2	5	1	1	2	1	1	1	3	2	1	2	1	1	1	4	1	1	1	1	1	1	1	2	50	
Hambantota	7	5	3	1	1	1	1	1	2	1	2	6	1	1	1	1	1	1	3	2	2	1	1	1	3	1	1	1	1	1	1	1	1	1	46	
Jaffna	8	5	3	3	1	1	2	1	2	1	1	4	1	2	3	2	1	1	4	3	1	1	2	2	1	3	3	1	1	2	6	1	1	66		
Kilinochchi	2	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	14	
Vavuniya	4	2	2	1	1	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1	24	
Mannar	1	3	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	1	1	1	1	1	14	
Mullaitivu	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	
Batticaloa	6	6	3	2	1	1	1	1	1	1	1	5	1	1	1	2	1	1	3	2	1	1	1	2	1	3	1	1	1	1	1	1	1	2	53	
Ampara	6	4	3	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	38	
Kalmunai	8	5	4	1	1	1	1	1	1	1	1	4	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	27	
Trincomelee	6	5	5	1	1	1	1	1	2	1	1	4	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	39	
Kurunegala	14	6	9	2	1	1	1	2	3	1	4	8	3	2	2	1	1	1	5	4	3	1	2	1	5	1	1	1	1	1	1	1	1	2	92	
Puttalam	8	5	6	1	1	1	1	1	3	1	2	5	2	2	2	1	1	1	3	2	1	1	1	1	3	1	1	1	1	1	1	2	1	1	52	
Anuradhapura	10	4	4	2	1	1	1	1	2	1	2	4	1	1	2	2	1	1	4	3	2	4	1	1	6	1	1	1	1	1	1	2	1	1	8	77
Polonnaruwa	7	3	3	2	1	1	1	1	2	1	2	3	1	1	1	1	1	1	3	1	1	1	1	1	3	1	1	1	1	1	1	1	1	1	4	44
Badulla	8	6	6	1	1	1	1	1	2	1	2	6	2	2	1	2	1	1	4	2	1	1	2	1	4	1	1	1	1	1	1	1	1	1	1	63
Moneragala	6	3	3	1	1	1	1	1	1	1	1	5	1	1	1	1	1	1	3	1	1	1	1	1	2	1	1	1	1	1	1	1	1	1	33	
Ratnapura	11	5	7	3	1	1	1	1	4	1	4	7	1	2	2	2	1	1	4	4	1	1	1	2	1	5	1	1	1	1	1	1	1	1	1	79
Kegalle	8	4	6	1	1	1	1	1	4	1	2	5	2	2	1	1	1	1	3	3	2	1	1	1	1	3	1	1	1	1	1	1	1	1	1	51
<b>Total</b>	<b>247</b>	<b>160</b>	<b>148</b>	<b>59</b>	<b>25</b>	<b>20</b>	<b>32</b>	<b>15</b>	<b>69</b>	<b>25</b>	<b>67</b>	<b>172</b>	<b>20</b>	<b>46</b>	<b>65</b>	<b>45</b>	<b>14</b>	<b>21</b>	<b>146</b>	<b>81</b>	<b>52</b>	<b>39</b>	<b>3</b>	<b>38</b>	<b>13</b>	<b>118</b>	<b>19</b>	<b>31</b>	<b>55</b>	<b>20</b>	<b>20</b>	<b>20</b>	<b>26</b>	<b>18</b>	<b>150</b>	<b>2,321</b>

Source : Medical Statistics Unit

<sup>1</sup> Excludes: Specialists working under University Grants Commission

<sup>2</sup> Includes: Virologists, Immunologists, Parasitologists, Nephrologists & Neonatologists

**Table 12. National Expenditure, Health Expenditure and GNP, 2011 - 2016**

Description	2011	2012	2013	2014	2015	2016*
National Expenditure (Rs. Million)	1,961,053	2,192,234	2,411,606	2,601,723	3,203,280	3,106,443
Government Health Expenditure (Not Included Private Health Sector) (Rs. Million)	82,179	89,291	120,346	155,008	181,122	192,535
Health Expenditure (Not Included Private Health Sector) as a Percent of National Expenditure	4.19	4.07	4.99	5.96	5.65	6.20
Mid Year Population ('000 Persons)	20,892	20,425	20,585	20,771	20,966	21,203
Per Capita Health Expenditure (Not Included Private Health Sector) (Rs.)	3,934	4,372	5,846	7,463	8,639	9,081
GNP/GNI (Rs. Billion)	7,147	8,578	9,366	10,125	10,670	11,506
Health Expenditure as a Percent of GNP	1.15	1.04	1.28	1.53	1.70	1.67

\* Provisional

Source : Central Bank of Sri Lanka - Annual Report 2016, Department of National Budget - Budget Estimate 2018, Ministry of Finance and Planning, Sri Lanka - Annual Report 2016, Department of state Accounts, General Treasury - Financial Statements for the year ended 31<sup>st</sup> December 2016

**Table 13. Summary of Health Expenditure and Source of Fund, 2011 - 2016**

Rs. Million						
Description	2011	2012	2013	2014	2015	2016*
<b>Government Health Expenditure (Not Included Private Health Sector)</b>						
Recurrent Expenditure	69,801	74,184	100,968	130,360	149,790	164,397
Capital Expenditure	12,378	15,107	19,378	24,648	31,332	28,138
	82,179	89,291	120,346	155,008	181,122	192,535
<b>Source of Fund</b>						
Consolidated Fund	79,433	81,781	111,988	136,123	168,904	184,754
Foreign Aid	2,745	7,510	8,358	18,885	12,218	7,781
	82,178	89,291	120,346	155,008	181,122	192,535

\* Provisional

Source : Central Bank of Sri Lanka - Annual Report 2016, Department of National Budget - Budget Estimate 2018, Ministry of Finance and Planning, Sri Lanka - Annual Report 2016, Department of state Accounts, General Treasury - Financial Statements for the year ended 31<sup>st</sup> December 2016

**Table 14. Summary of Health Expenditure by Programme, 2016**

(Rs. Million)

Programme	Health Expenditure 2016			
	Ministry of Health	Department of Ayurveda	Provincial Health	Total
<b>Recurrent Expenditure</b>				
<b>01. Operational Activities</b>	<b>99,432</b>	<b>105</b>		
1. Minister's Office	84			
2. Ministry Administration and Establishment Services	3,416			
3. Medical Supply Division	38,435			
5. Hospital Operation	57,497			
<b>02. Development Activities</b>	<b>12,320</b>	<b>1,134</b>		
11. Human Resources Development	9,787			
14. Health Promotion and Disease Prevention	908			
16. National Nutrition Programme	1,351			
17. Medical Research	274			
<b>Total Recurrent Expenditure</b>	<b>111,752</b>	<b>1,239</b>	<b>51,406</b>	<b>164,397</b>
<b>Capital Expenditure</b>				
<b>01. Operational Activities</b>	<b>5,563</b>	<b>6</b>		
1. Minister's Office	12			
2. Ministry Administration and Establishment Services	911			
3. Medical Supply Division	37			
5. Hospital Operation	4,603			
<b>02. Development Activities</b>	<b>17,465</b>	<b>607</b>		
11. Human Resources Development	174			
13. Hospital Development Project	14,467			
14. Health Promotion and Disease Prevention	154			
15. Control of Communicable and Non Communicable Diseases	2,207			
16. National Nutrition Programme	199			
17. Medical Research	124			
19. Promotion of Indigenous Medicine	140			
<b>Total Capital Expenditure</b>	<b>23,028</b>	<b>613</b>	<b>4,497</b>	<b>28,138</b>
<b>Total Health Expenditure (Recurrent + Capital)</b>				
<b>01. Operational Activities</b>	<b>104,995</b>	<b>111</b>	-	-
1. Minister's Office	96			
2. Ministry Administration and Establishment Services	4,327			
3. Medical Supply Division	38,472			
5. Hospital Operation	62,100			
<b>02. Development Activities</b>	<b>29,785</b>	<b>1,741</b>		
11. Human Resources Development	9,961			
13. Hospital Development Project	14,467			
14. Health Promotion and Disease Prevention	1,062			
15. Control of Communicable and Non Communicable Diseases	2,207			
16. National Nutrition Programme	1,550			
17. Medical Research	398			
19. Promotion of Indigenous Medicine	140			
<b>Grand Total (Recurrent + Capital)</b>	<b>134,780</b>	<b>1,852</b>	<b>55,903</b>	<b>192,535</b>

Source: Central Bank of Sri Lanka - Annual Report 2016, Department of National Budget - Budget Estimate 2018  
Ministry of Finance and Planning, Sri Lanka - Annual Report 2016,  
Department of State Accounts, General Treasury - Financial Statements for the year ended 31<sup>st</sup> December 2016



**Table 15. Indoor Morbidity and Mortality Statistics by Broad Disease Groups, 2016**

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)	131,324	47.4	52.6	9.1	22.3	17.1	24.6	16.9	10.0	0.0	81	
2 Tuberculosis (A15-A18)	8,950	70.0	30.0	0.2	0.7	2.3	38.3	45.4	12.9	0.1	283	
3 Other bacterial diseases (A20-A49)	22,083	66.3	33.7	13.6	8.7	9.2	35.6	23.7	9.2	0.1	5,001	
4 Infections with sexual mode of transmission (A50-A64)	695	50.8	49.2	1.0	1.6	4.7	59.7	24.7	7.2	1.0	-	
5 Viral diseases (A80-B34)	262,450	55.5	44.5	4.4	12.8	18.8	44.5	14.7	4.8	0.0	152	
6 Malaria (B50-B54)	56	60.7	39.3	-	7.1	16.1	46.4	21.4	8.9	-	-	
7 Helminthiasis (B76,B77,B79,B80)	109	69.7	30.3	0.9	13.8	20.2	36.7	26.6	1.8	-	-	
8 Other infectious and parasitic diseases	11,453	50.0	50.0	3.9	10.8	15.0	44.1	20.1	6.0	0.1	6	
9 Neoplasms (C00-D48)	135,794	44.5	55.5	0.3	3.5	5.8	27.0	49.5	13.9	0.0	5,148	
10 Iron deficiency anaemias (D50)	7,822	35.4	64.6	0.8	2.9	4.8	33.9	32.8	24.6	0.1	15	
11 Haem. con. and other diseases of blood and ... (D51-D89)	33,568	47.7	52.3	1.7	8.3	22.5	30.5	21.7	15.3	0.0	63	
12 Diabetes mellitus (E10-E14)	87,916	45.7	54.3	0.0	0.1	1.0	25.9	55.7	17.1	0.1	773	
13 Malnutrition and vitamin deficiencies (E40-E46,E50-E56)	1,102	48.7	51.3	3.5	30.0	8.9	19.2	22.6	14.2	1.5	7	
14 Oth. endo, nutr and metabo... (E00-E07,E15-E34,E58-E89)	32,605	35.1	64.9	1.5	2.1	4.9	37.5	37.5	16.3	0.0	150	
15 Mental and behavioural disorders (F00-F99)	51,794	59.1	40.9	0.0	0.4	3.6	62.1	27.4	5.7	0.8	-	
16 Diseases of the nervous system (G00-G98)	68,793	50.3	49.7	2.6	4.8	11.5	42.1	27.4	11.2	0.3	595	
17 Diseases of the eye and adnexa (H00-H59)	176,462	49.3	50.7	0.7	2.2	6.2	22.1	44.5	24.3	0.0	1	
18 Dis of the ear... (H60-H61,H65-H74,H80-H83,H90-H95)	46,990	47.0	53.0	3.5	11.3	17.4	35.3	23.6	8.9	0.0	-	
19 Rheum. fever and rheum. heart dis. (I00-I02,I05-I09)	3,013	45.7	54.3	-	0.7	22.7	39.9	28.2	7.9	0.5	40	
20 Hypertensive diseases (I10-I15)	98,437	41.1	58.9	0.0	0.0	0.2	20.3	48.6	30.3	0.3	649	
21 Ischaemic heart disease (I20-I25)	114,609	56.1	43.9	0.0	0.0	0.2	18.4	53.7	27.6	0.1	6,041	
22 Other heart diseases (I26-I51)	38,918	52.3	47.7	0.3	0.2	1.4	20.9	45.6	31.5	0.1	3,717	
23 Cerebrovascular disease (I60-I69)	47,809	60.2	39.8	0.0	0.1	0.3	11.5	47.1	40.8	0.2	3,533	
24 Other diseases of the circulatory system (I70-I84)	45,277	59.3	40.7	0.1	0.8	2.1	38.0	45.0	14.0	0.0	154	
25 Influenza (J10-J11)	1,498	52.0	48.0	3.2	8.0	11.5	37.3	26.6	13.2	0.1	7	
26 Pneumonia (J12-J18)	22,116	54.0	46.0	10.2	17.8	11.6	18.2	25.8	16.3	0.0	2,738	
27 Other dis. of the upper respir. tract (J00-J06,J30-J39)	112,144	51.0	49.0	9.7	22.4	20.3	26.5	14.7	6.3	0.0	48	
28 Diseases of the resp. system exclu... (J20-J22, J40-J98)	397,115	53.6	46.4	6.9	12.9	14.0	20.2	27.6	18.4	0.1	3,564	
29 Diseases of teeth and supporting structure (K00-K014)	18,061	54.4	45.6	0.8	10.7	20.3	39.2	22.1	6.9	0.0	-	
30 Diseases of the gastrointestinal tract (K20-K92)	311,099	53.6	46.4	0.8	2.8	9.9	44.2	30.7	11.6	0.1	2,363	
31 Diseases of skin and subcutaneous tissue (L00-L08,L10-L98)	237,783	56.2	43.8	1.7	6.0	9.5	35.0	33.8	13.9	0.0	100	
32 Disorders of the musculoskeletal system (M00-M99)	177,877	53.1	46.9	0.1	1.1	7.3	45.7	33.7	12.1	0.1	61	
33 Diseases of the urinary system (N00-N39)	250,081	56.9	43.1	1.4	3.2	5.8	43.1	32.7	13.7	0.0	2,694	
34 Diseases of breast (N60-N64)	13,005	10.2	89.8	0.8	0.7	4.2	68.5	21.1	4.7	-	-	
35 Diseases of the male genital organs (N40-N50)	20,995	100.0	-	0.8	7.3	13.5	29.6	30.8	18.0	0.1	3	
36 Disor. of female genito-urinary sys. (N70-N98, N99.2, N99.3)	86,417	-	100.0	0.1	0.2	2.2	70.6	22.7	4.1	0.0	13	
37 Abortions (O00-O08)	48,024	-	100.0	-	-	0.4	99.4	-	-	0.2	1	
38 False labour (O47)	13,762	-	100.0	-	-	0.6	99.2	-	-	0.2	-	
39 Other obstetric conditions and those admitted...	243,236	-	100.0	-	-	0.4	99.3	-	-	0.2	35	
40 Single spontaneous delivery (O80)	185,788	-	100.0	-	-	0.4	99.6	-	-	0.1	-	
41 Slow fetal growth, fetal malnutrition and... (P05-P07)	6,463	49.0	51.0	100.0	-	-	-	-	-	-	520	
42 Other conditions originating in the perinatal period (P00-P04, P08-P96)	38,449	50.1	49.9	100.0	-	-	-	-	-	-	500	
43 Congenital malformations deformations... (Q00-Q99)	11,666	58.6	41.4	34.9	30.2	16.2	12.9	4.7	0.9	0.2	511	
44 Signs, symptoms and abnormal clinical findings (R00-R99)	605,290	48.8	51.2	2.6	6.7	11.6	39.6	27.2	12.4	0.0	667	
45 Traumatic injuries (S00-T19, W54)	1,015,426	66.8	33.2	0.6	6.6	16.5	50.2	19.9	6.2	0.1	1,675	
46 Burns and corrosion (T20-T32)	15,407	56.3	43.7	2.5	22.0	16.3	40.7	14.3	4.2	0.0	197	
47 Toxic effects of pesticides (T60.0,T60.1-T60.9)	12,629	59.8	40.2	0.4	4.4	9.6	70.5	12.8	2.2	0.1	348	
48 Snake bites (T63.0)	34,494	60.9	39.1	0.3	2.6	12.6	53.0	26.5	4.9	0.0	55	
49 Tox. effe. of ot. sub. oth tha... (T36-T59,T61-T62,T63.1-T65)	65,902	48.6	51.4	0.8	8.0	15.0	59.3	13.6	3.2	0.1	287	
50 Effects of unspecified external causes... (T33-T35,T66-T79)	59,655	51.8	48.2	1.6	8.1	19.9	41.9	21.3	7.1	0.1	103	
51 Complications of surgical and medical care... (T80-T88)	13,555	51.5	48.5	4.1	7.3	11.0	42.8	26.2	8.5	0.1	32	
52 Sequelae of injuries, poisoning and of other... (T90-T98)	2,866	61.1	38.9	0.8	3.8	10.9	37.8	32.5	14.0	0.2	30	
53 Persons encountering health services... (Z00-Z13,Z40-Z54)	648,911	54.1	45.9	2.7	4.7	9.2	38.7	30.9	13.7	0.1	-	
54 Sterilizations (Z30.2)	6,797	5.1	94.9	-	0.0	0.0	96.3	2.6	0.0	1.1	-	
55 Undiagnosed/Un-coded	393,233	51.8	48.2	3.2	5.0	9.4	44.7	27.4	10.3	0.1	5,059	
<b>Total</b>	<b>6,497,773</b>	<b>49.9</b>	<b>50.1</b>	<b>2.9</b>	<b>5.9</b>	<b>10.3</b>	<b>43.6</b>	<b>26.1</b>	<b>11.2</b>	<b>0.1</b>	<b>48,020</b>	

\* Total = (Number of Live Discharges + Deaths)

Source: Medical Statistics Unit

**Table 16. Trends in Hospital Morbidity and Mortality by Broad Disease Groups, 2008 - 2016**

Disease Group by International Classification of Diseases (10th Revision)	Morbidity (Cases per 100,000 population)										Mortality (Cases per 100,000 population)									
	2008	2009 <sup>1</sup>	2010 <sup>2</sup>	2011 <sup>2</sup>	2012	2013	2014	2015	2016	2008	2009 <sup>1</sup>	2010 <sup>2</sup>	2011 <sup>2</sup>	2012	2013	2014	2015	2016		
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	2,061.6	13.7	15.5	17.2	18.4	16.6	18.4	21.5	22.8	26.0		
2. Neoplasms (C00-D48)	359.2	368.8	403.2	418.8	470.9	477.8	540.0	604.6	640.4	17.2	18.5	21.5	22.2	22.2	24.0	22.9	24.3			
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	195.2	0.4	0.5	0.6	0.6	0.5	0.5	0.5	0.4			
4. Endocrine, nutritional and metabolic diseases (E00-E90)	394.8	455.3	465.1	455.1	518.3	535.9	524.9	526.9	573.6	3.3	4.0	4.0	4.1	4.0	3.7	3.8	3.9	4.4		
5. Mental and behavioural disorders (F00-F99)	199.8	195.1	213.7	219.0	223.2	227.6	226.9	233.4	244.3	-	-	-	0.0	-	-	-	0.0	-		
6. Diseases of the nervous system (G00-G99)	290.0	306.4	313.8	319.3	329.3	323.9	320.1	323.9	324.4	2.6	3.2	3.0	2.6	2.9	2.9	2.9	2.8	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	832.3	-	-	-	0.0	-	-	-	0.0	0.0		
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	221.6	-	-	-	0.0	-	-	-	0.0	-		
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	1,641.6	59.0	60.6	63.1	61.9	65.4	66.6	69.6	68.6	66.7		
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	2,513.2	25.0	21.9	24.1	23.1	25.1	28.1	30.1	35.3	30.0		
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	1,552.4	12.4	12.3	12.0	10.1	10.4	11.2	11.6	11.1	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	1,121.5	-	-	-	0.2	0.1	0.2	0.3	0.4	0.5		
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	838.9	0.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3		
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	1,747.4	9.1	10.7	11.1	11.6	12.1	12.4	13.1	13.0	12.8		
15. Pregnancy, childbirth and the puerperium <sup>1,4</sup> (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	5,167.6	1.5	1.1	1.0	0.9	0.9	1.0	0.6	0.6	0.6		
16. Certain conditions originating in the perinatal period <sup>1,5</sup> (P00-P96)	-	-	-	-	5,188.4	11,448.5	12,729.4	13,138.4	13,565.6	-	-	-	-	-	222.2	389.2	360.3	372.1	308.1	
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	55.0	3.0	2.9	3.1	2.6	2.6	2.7	2.9	3.2	2.4		
18. Laboratory findings not elsewhere classified (R00-R99)	1,827.6	2,180.1	2,143.7	2,030.8	2,300.1	2,430.2	2,549.7	2,708.0	2,854.7	8.3	10.5	9.7	7.7	8.6	9.4	6.6	4.8	3.1		
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	5,753.6	14.8	17.2	15.2	15.2	13.9	12.5	12.4	12.7	12.9		

Source: Medical Statistics Unit

<sup>1</sup> Rate Per 100,000 females of the reproductive age group

<sup>2</sup> Per 100,000 live births / infant population

<sup>3</sup> Not calculated for the year 2006 - 2010 since infant population was not available

Excludes:

<sup>4</sup> Single spontaneous delivery, false labour and those admitted and discharged before delivery

<sup>5</sup> Kilinochchi and Mullaitivu districts

<sup>6</sup> Mullaitivu district



**Table 17. Trends in Hospitalization and Hospital Deaths of Selected Diseases, 2009 - 2016**

Disease and ICD Code	Number of Hospitalizations per 100,000 Population										Number of Deaths per 100,000 Population					
	2009 <sup>2</sup>	2010 <sup>3</sup>	2011 <sup>3</sup>	2012	2013	2014	2015	2016	2009 <sup>2</sup>	2010 <sup>1</sup>	2011 <sup>3</sup>	2012	2013	2014	2015	2016
Intestinal infectious diseases (A00-A09)	791.6	732.4	684.3	634.4	607.5	619.8	625.9	619.4	0.5	0.4	0.3	0.2	0.3	0.3	0.3	0.4
Tuberculosis (A15-A19)	38.3	48.7	45.1	39.0	40.6	41.5	40.8	42.2	1.4	2.2	1.6	1.5	1.6	1.6	1.5	1.3
Diphtheria (A36)	-	-	-	-	-	-	0.0	0.0	-	-	-	-	-	-	-	-
Whooping cough (A37)	-	-	0.3	0.5	0.2	0.3	0.5	0.3	-	-	-	-	-	-	0.0	-
Septicaemia (A40, A41)	27.1	28.2	17.7	33.6	38.1	44.2	47.0	56.1	10.2	11.5	11.3	12.6	14.4	17.5	18.7	22.6
Rabies (A82)	0.2	0.3	0.7	0.2	0.2	0.3	0.7	0.7	0.1	0.2	0.1	0.1	0.1	0.0	0.0	0.0
Measles (B05)	0.8	0.7	0.5	0.4	23.2	16.5	15.5	2.2	-	-	-	-	-	-	0.0	-
Viral hepatitis (B15-B19)	45.3	14.5	12.4	15.9	16.1	15.2	12.9	7.6	-	-	0.1	-	-	-	0.0	0.0
Malaria (B50-B54)	5.2	2.9	0.7	0.6	0.5	0.4	0.2	0.3	-	-	-	-	-	-	-	-
Helminthiasis (B76, B77, B79, B80)	2.4	1.1	1.0	1.2	1.3	0.6	0.5	0.5	-	-	-	-	-	-	-	-
Diabetes mellitus (E10-E14)	343.9	357.2	345.9	388.1	411.4	391.8	381.8	414.6	3.5	3.3	3.6	3.3	3.1	3.2	3.3	3.6
Nutritional deficiencies (E40-E46, E50-E56)	9.1	6.5	7.2	7.6	7.9	4.6	6.7	5.2	0.2	0.1	0.1	-	-	-	0.1	0.0
Anaemias (D50-D64)	87.8	96.6	98.7	105.6	111.9	121.7	137.3	156.9	0.4	0.4	0.4	0.3	0.4	0.4	0.4	0.3
Hypertensive disease (I10-I15)	478.5	476.9	470.2	486.4	489.3	477.7	463.6	464.3	2.6	3.4	2.9	2.6	2.8	3.1	3.4	3.1
Ischaemic heart disease (I20-I25)	450.4	478.2	455.4	494.9	506.1	524.3	532.1	540.5	23.7	24.8	25.3	27.6	29.1	30.6	29.7	28.5
Asthma (J45-J46)	973.8	948.2	893.6	928.0	910.8	916.3	911.0	787.3	3.3	3.7	2.9	3.1	3.0	2.9	3.2	2.5
Diseases of the liver (K70-K76)	84.3	85.1	68.4	77.5	82.2	83.2	76.3	77.2	10.1	9.8	7.8	8.3	8.7	9.1	8.7	8.9
Abortions <sup>1</sup> (O00-O08)	878.0	836.1	859.3	959.3	922.4	893.4	870.4	861.3	0.1	-	0.1	-	0.1	0.2	0.1	0.0

<sup>1</sup> Rate per 100,000 females of the reproductive age group

Excludes:

<sup>2</sup> Kilinochchi and Mullaitivu districts

<sup>3</sup> Mullaitivu district

Source : Medical Statistics Unit



**Table 18. Leading Causes of Hospitalization, 2016**

Rank Order	ICD Code (10 <sup>th</sup> Revision)	Causes of Hospitalization	Number of Cases	Proportionate Morbidity	Cases per 100,000 Population
1	S00 - T19, W54	Traumatic injuries	1,015,426	19.3	4,789.1
2	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	605,290	11.5	2,854.7
3	J20 - J22, J40 - J98	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	397,115	7.6	1,872.9
4	K20 - K92	Diseases of the gastrointestinal tract	311,099	5.9	1,467.2
5	A80 - B34	Viral diseases	262,450	5.0	1,237.8
6	N00 - N39	Diseases of the urinary system	250,081	4.8	1,179.5
7	O10 - O46, O48 - O75, O81 - O99, Z35	Direct and indirect obstetric causes	240,158	4.6	1,132.7
8	L00 - L99	Diseases of the skin and subcutaneous tissue	237,783	4.5	1,121.5
9	M00 - M99	Diseases of the musculoskeletal system and connective tissue	177,877	3.4	838.9
10	H00 - H59	Diseases of the eye and adnexa	176,462	3.4	832.3
11	C00-D48	Neoplasms	135,794	2.6	640.4
12	A00 - A09	Intestinal infectious diseases	131,324	2.5	619.4
	A00 - T98, Z35, Z00 - Z13, Z30.2, Z40 - Z54, W54	All causes <sup>1</sup>	5,253,001	100.0	24,774.8

<sup>1</sup> Analysed all discharges (Live Discharges+Deaths) excluding ;

Source : Medical Statistics Unit

Single spontaneous delivery, False labour and those admitted and discharged before delivery,

Persons encountering health services for examination, investigation and for specific procedures of health care,

Undiagnosed/uncoded

**Table 19. Leading Causes of Hospital Deaths, 2016**

Rank Order	ICD Code (10 <sup>th</sup> Revision)	Causes of Death	Number of Deaths	Proportionate Mortality	Deaths Per 100,000 Population
1	I20 - I25	Ischaemic heart disease	6,041	14.1	28.5
2	C00 - D48	Neoplasms <sup>1</sup>	5,148	12.0	24.3
3	A20 - A49	Zoonotic and other bacterial diseases	5,001	11.6	23.6
4	I26-I51	Pulmonary heart disease and diseases of the pulmonary circulation	3,717	8.7	17.5
5	J20 - J22, J40 - J98	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	3,564	8.3	16.8
6	I60 - I69	Cerebrovascular disease	3,533	8.2	16.7
7	J12 - J18	Pneumonia	2,738	6.4	12.9
8	N00-N39	Diseases of the urinary system	2,694	6.3	12.7
9	K20 - K92	Diseases of the gastro-intestinal tract	2,363	5.5	11.1
10	S00 - T19, W54	Traumatic injuries	1,675	3.9	7.9
11	E10 - E14	Diabetes mellitus	773	1.8	3.6
12	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	667	1.6	3.1
13	I10 - I15	Hypertensive disease	649	1.5	3.1
14	G00 - G98	Disease of the nervous system	595	1.4	2.8
15	P05 - P07	Slow fetal growth, fetal malnutrition	520	1.2	2.5
	A00-T98, Z00-Z13, Z35, Z40-Z54, W54	All causes <sup>2</sup>	42,961	100.0	202.6

<sup>1</sup> Includes deaths reported (not classified by type of neoplasm) from Cancer Institute, Maharagama

Source : Medical Statistics Unit

<sup>2</sup> Analysed all deaths excluding undiagnosed/uncoded

**Table 20. Leading Causes of Hospitalization, 2007 - 2016** <sup>1</sup>

Disease and ICD (10 <sup>th</sup> Revision) Code	2016		2015		2014		2013		2012		2011 <sup>2</sup>		2010 <sup>2</sup>		2009 <sup>3</sup>		2008		2007	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Traumatic injuries (S00-T19, W54)	1	19.3	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
Symptoms, signs and abnormal clinical and laboratory findings (R00-R99)	2	11.5	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
Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia and influenza (J20-J22, J40-J98)	3	7.6	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
Diseases of the gastro-intestinal tract (K20-K92)	4	5.9	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
Viral diseases (A80-B34)	5	5.0	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
Diseases of the urinary system (N00-N39)	6	4.8	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
Direct and indirect obstetric causes (O10-O46, O48-O75, O81-O99, Z35)	7	4.6	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
Diseases of the skin and subcutaneous tissue (L00-L99)	8	4.5	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
Diseases of the musculoskeletal system and connective tissue (M00-M99)	9	3.4	9	3.3	9	3.3	9	3.3	9	3.4	9	3.4	9	3.2	10	3.1	9	3.2	10	3.3
Diseases of the eye and adnexa (H00-H59)	10	3.4	10	3.2	10	3.2	10	3.0	10	3.0	11	3.0	11	2.9	11	2.9				
Neoplasms (C00-D48)	11	2.6	12	2.5	13	2.3	15	2.0	15	2.0	15	2.0								
Intestinal infectious diseases (A00-A09)	12	2.5	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

Excludes:

<sup>1</sup> Single spontaneous delivery, False labour and those admitted and discharged before delivery, Persons encountering health services for examination, investigation and for specific procedures of health care, Undiagnosed/uncoded

<sup>2</sup> Mullaitivu District

<sup>3</sup> Kilinochchi and Mullaitivu Districts

Source : Medical Statistics Unit

**Table 21. Leading Causes of Hospital Deaths, 2009 - 2016**

Disease and ICD (10 <sup>th</sup> Revision) Code	2016		2015		2014		2013		2012		2011 <sup>2</sup>		2010 <sup>2</sup>		2009 <sup>3</sup>	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Ischaemic heart disease (I20 - I25)	1	14.1	1	14.2	1	14.8	1	14.7	1	14.4	1	13.4	1	12.8	1	12.8
Neoplasms <sup>1</sup> (C00 - D48)	2	12.0	2	11.0	2	11.7	2	11.2	2	11.6	2	11.8	2	11.1	3	9.5
Zoonotic and other bacterial diseases (A20 - A49)	3	11.6	3	9.7	3	9.1	6	7.9	6	7.1	6	6.7	6	6.6	7	6.3
Pulmonary heart disease and diseases of the pulmonary circulation (I26 - I51)	4	8.7	5	8.3	4	8.6	4	8.4	3	9.0	4	8.7	3	8.7	2	10.0
Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza (J20 - J22, J40 - J98)	5	8.3	4	9.2	6	8.0	5	7.9	5	7.2	5	6.9	5	7.0	5	6.7
Cerebrovascular disease (I60 - I69)	6	8.2	6	8.2	5	8.4	3	8.6	4	8.7	3	8.7	4	8.7	4	8.4
Pneumonia (J12 - J18)	7	6.4	7	7.5	7	6.6	8	6.1	8	5.7	9	5.2	9	5.2	10	4.9
Diseases of the urinary system (N00 - N39)	8	6.3	8	6.2	8	6.3	7	6.2	7	6.3	7	5.7	8	5.7	8	5.7
Diseases of the gastro-intestinal tract (K20 - K92)	9	5.5	9		9	5.7	9	5.7	9	5.4	8	5.4	7	6.2	6	6.6
Traumatic injuries (S00 - T19, W54)	10	3.9	10	3.8	10	3.5	11	3.3	11	3.7	11	3.6	11	3.7	11	4.6
Diabetes mellitus (E10 - E14)	11	1.8	13	1.6	13	1.6	13	1.6	14	1.7	14	1.9				
Symptoms, signs and abnormal clinical and laboratory findings (R00 - R99)	12	1.6	11	2.3	11	3.2	10	4.8	10	4.5	10	4.1	10	5.0	9	5.7
Hypertensive disease (I10-I15)	13	1.5	12	1.6	14	1.5	16	1.4	18	1.3	15	1.5				

<sup>1</sup> Includes deaths reported from the Cancer Hospital (not analysed by site and type of neoplasm)

<sup>2</sup> Excludes Mullaitivu District

<sup>3</sup> Excludes Kilinochchi and Mullaitivu Districts

Source : Medical Statistics Unit



**Table 22. Leading Causes of Hospitalization by District, 2016<sup>1</sup>**

Disease and ICD (10 <sup>th</sup> Revision)	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullaitivu	Batcavia	Ampara <sup>2</sup>	Trincomalee	Kurunegala	Puttalam	Auradhapura	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	1
Symptoms, signs and abnormal clinical and laboratory findings (R00-R99)	2	3	2	2	2	2	2	2	2	2	2	2	1	2	3	2	2	3	2	2	2	2	2	2	2	2	2
Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia and influenza (J20-J22, J40-J98)	3	7	3	3	3	3	3	3	3	3	3	3	3	4	2	4	3	2	3	3	3	3	3	3	3	3	3
Diseases of the gastro-intestinal tract (K20-K92)	4	6	4	4	4	6	4	6	5	4	9	5	5	9	4	3	4	4	4	5	4	4	4	5	4	4	4
Viral diseases (A80-B34)	5	4	5	6	5	8	11	4	8	7	10	12	13	7	9	7	5	8	5	8	8	8	6	7	5	5	
Diseases of the urinary system (N00-N39)	6	5	8	8	6	9	12	7	9	6	7	6	4	3	5	5	8	5	6	9	5	6	5	4	8	7	
Direct and indirect obstetric causes (O10-O46, O48-O75, O81-O99, Z35)	7	8	9	7	7	5	5	9	4	9	5	7	6	5	8	8	7	6	7	4	6	7	9	6	7	10	
Diseases of the skin and subcutaneous tissue (L00-L99)	8	10	6	5	10	7	6	5	7	5	4	8	9	6	6	9	9	7	8	6	7	5	8	9	6	6	
Diseases of the musculoskeletal system and connective tissue (M00-M99)	9	12	10	9	9	10	9	10	10	10	8	4	7	8	7	6	6	9	9	12	9	10	7	8	10	8	
Diseases of the eye and adnexa (H00-H59)	10	9	7	11	8	4	10	11	6	13	6	9	34	19	17	19	11	10	12	7	15	9	10	13	9	15	
Neoplasms (C00-D48)	11	2	22	27	11	29	27	8	32	33	11	29	21	26	38	20	37	25	21	31	10	30	13	28	12	28	
Intestinal infectious diseases (A00-A09)	12	16	11	10	12	11	7	12	11	8	16	16	14	14	11	13	10	16	10	11	16	11	14	10	11	9	

<sup>1</sup> Excludes:

Single spontaneous delivery, False labour and those admitted and discharged before delivery.

Persons encountering health services for examination, investigation and for specific procedures of health care, Undiagnosed/uncoded

<sup>2</sup> Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

**Table 23. Leading Causes of Hospital Deaths by District, 2016**

Disease and ICD (10 <sup>th</sup> Revision) Code	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullaitivu	Batticaloa	Ampara <sup>2</sup>	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Ratnapura	Kegalle
Ischaemic heart disease (I20 - I25)	1	2	1	1	2	1	1	1	1	1	3	6	5	1	2	2	2	1	1	2	2	4	2	1	2	2
Neoplasms <sup>1</sup> (C00 - D48)	2	1	8	9	1	8	7	2	9	9	4	8	8	5	2	7	8	7	2	12	4	6	3	6	4	8
Zoonotic and other bacterial diseases (A20 - A49)	3	3	4	2	4	3	5	2	2	3	2	7	14	4	4	5	2	2	5	3	3	2	1	2	1	1
Pulmonary heart disease and diseases of the pulmonary circulation (I26 - I51)	4	5	3	4	5	2	2	9	5	2	5	1	1	2	1	1	3	4	6	1	9	5	7	5	6	
Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza (J20 - J22, J40 - J98)	5	4	6	5	6	6	4	6	6	3	1	5	2	2	15	5	6	8	3	7	7	7	4	3	7	5
Cerebrovascular disease (I60 - I69)	6	6	5	3	3	3	3	4	4	6	7	4	3	5	10	8	5	5	4	5	6	3	10	4	6	4
Pneumonia (J12 - J18)	7	9	9	7	8	5	6	5	3	8	9	3	5	5	5	21	4	6	9	6	5	7	5	8	3	3
Diseases of the urinary system (N00 - N39)	8	8	7	8	7	7	7	10	7	5	6	2	14	11	15	3	7	3	8	9	1	1	6	7	9	10
Diseases of the gastro-intestinal tract (K20 - K92)	9	7	2	6	9	10	12	8	10	11	8	10	9	13	5	11	11	11	7	4	10	9	11	13	8	7
Traumatic injuries (S00 - T19, W54)	10	11	10	10	10	8	14	7	8	12	10	11	-	10	5	10	9	9	10	8	8	10	8	12	10	8
Diabetes mellitus (E10 - E14)	11	10	11	17	11	14	15	14	19	9	12	17	5	17	5	-	20	13	12	15	17	21	12	28	17	16
Symptoms, signs and abnormal clinical and laboratory findings (R00 - R99)	12	14	18	11	18	12	10	15	13	7	11	15	14	5	9	4	12	15	15	13	15	13	15	15	12	11
Hypertensive disease (I10-I15)	13	15	14	19	12	11	11	13	11	13	16	25	9	17	10	17	15	15	13	11	18	18	9	19	13	14

Includes :

<sup>1</sup> Deaths reported from Cancer Hospital (not analysed by site and type of neoplasm)

<sup>2</sup> Kalmunai RDHS Division

Source : Medical Statistics Unit

**Table 24. Cases and Deaths of Poisoning and Case Fatality Rate<sup>1</sup> by Regional Director of Health Services Division, 2016**

District	Poisoning by Drugs, Medicaments and Biological Substances		Toxic Effects of Pesticides				Toxic Effects of Other Substances Mainly Non Medicinal		Total		Case Fatality Rate		
	Cases	Deaths	Organophosphate and Carbamate Insecticides		Other Pesticides		Cases	Deaths	Cases	Deaths			
			Cases	Deaths	Cases	Deaths						Cases	Deaths
Colombo	2,196	3	215	13	202	7	2,111	23	4,724	46	197.2	1.9	0.97
Gampaha	2,077	2	229	10	134	3	1,978	10	4,418	25	186.3	1.1	0.57
Kalutara	1,542	4	62	1	175	6	1,829	12	3,608	23	286.1	1.8	0.64
Kandy	1,911	3	355	26	188	4	2,950	10	5,404	43	376.8	3.0	0.80
Matale	657	2	488	9	91	2	1,471	8	2,707	21	532.9	4.1	0.78
Nuwera Eliya	505	2	551	16	116	3	1,726	8	2,898	29	387.4	3.9	1.00
Galle	1,019	5	68	2	126	9	1,357	17	2,570	33	233.2	3.0	1.28
Matara	755	1	80	4	107	20	1,387	16	2,329	41	275.6	4.9	1.76
Hambantota	1,044	7	564	3	315	4	739	4	2,652	18	417.9	2.8	0.68
Jaffna	545	-	394	11	44	-	3,131	7	4,114	18	683.4	3.0	0.44
Kilinochchi	197	-	6	-	66	-	1,307	4	1,576	4	1,291.8	3.3	0.25
Mullaitivu	203	-	135	2	4	-	339	-	681	2	716.8	2.1	0.29
Vavuniya	214	2	4	-	2	-	1,525	8	1,745	10	958.8	5.5	0.57
Mannar	80	-	6	-	2	-	789	5	877	5	827.4	4.7	0.57
Batticaloa	1,135	1	453	1	138	1	1,840	2	3,556	5	648.4	0.9	0.14
Ampara <sup>2</sup>	805	3	334	1	264	4	1,570	5	2,973	13	430.2	1.9	0.44
Trincomalee	725	1	260	3	213	-	1,096	3	2,294	7	567.8	1.7	0.31
Kurunegala	2,053	3	1,116	37	244	2	2,472	17	5,885	59	351.1	3.5	1.00
Puttalam	854	1	661	25	147	4	1,919	10	3,581	40	447.1	5.0	1.12
Anuradhapura	1,473	1	792	33	662	5	3,332	8	6,259	47	691.6	5.2	0.75
Polonnaruwa	709	2	418	13	166	1	1,158	2	2,451	18	576.7	4.2	0.73
Badulla	717	1	565	21	55	1	2,620	16	3,957	39	463.3	4.6	0.99
Moneragala	565	1	380	13	245	2	1,076	8	2,256	24	473.1	5.0	1.06
Ratnapura	1,177	3	486	12	58	2	1,422	30	3,143	47	275.7	4.1	1.50
Kegalle	649	1	172	11	71	1	951	5	1,843	18	212.1	2.1	0.98
<b>Total</b>	<b>23,807</b>	<b>49</b>	<b>8,794</b>	<b>267</b>	<b>3,835</b>	<b>81</b>	<b>42,095</b>	<b>238</b>	<b>78,531</b>	<b>635</b>	<b>370.4</b>	<b>3.0</b>	<b>0.81</b>

Source : Medical Statistics Unit

<sup>1</sup> Deaths per 100 cases

<sup>2</sup> Includes Kalmunai RDHS Division



**Table 25. Distribution of Patients with Mental Disorders by Regional Director of Health Services Division , 2016**

RDHS Division	Dementia	Mental and Behavioral Disorders		Schizophrenia, Schizotypal and Delusional Disorders	Mood Disorders	Neurotic, Stress-Related Somatic 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	416	1,014	581	4,539	3,599	479	318	117	906	11,969
Gampaha	124	1,372	450	1,346	1,534	259	7	23	378	5,493
Kalutara	51	528	20	573	465	107	11	16	352	2,123
Kandy	90	926	47	461	2,296	278	14	121	307	4,540
Matale	8	313	6	252	521	59	13	21	38	1,231
Nuwera Eliya	35	226	9	199	282	62	5	26	108	952
Galle	102	405	11	1,131	938	52	4	13	154	2,810
Matara	24	305	9	200	439	130	4	7	204	1,322
Hambantota	16	80	26	143	53	34	-	1	357	710
Jaffna	35	213	31	958	329	147	35	21	143	1,912
Kilinochchi	31	196	105	278	240	22	9	13	50	944
Mullaitivu	-	13	1	47	90	8	-	1	48	208
Vavuniya	8	28	4	202	240	101	1	8	66	658
Mannar	1	27	8	79	69	61	1	7	62	315
Batticaloa	8	466	29	112	116	127	3	17	105	983
Ampara	14	50	5	215	278	33	-	1	42	638
Kalmunai	2	22	3	342	61	58	4	11	23	526
Trincomalee	5	51	17	113	177	213	29	25	94	724
Kurunegala	52	711	53	494	1,689	77	12	77	251	3,416
Puttalam	2	252	12	155	126	34	-	6	90	677
Anuradhapura	48	221	60	690	987	207	56	25	692	2,986
Polonnaruwa	15	163	47	188	309	31	-	2	199	954
Badulla	702	153	118	758	401	51	5	97	122	2,407
Moneragala	19	66	13	120	251	97	2	16	135	719
Ratnapura	34	345	25	610	268	62	7	21	139	1,511
Kegalle	18	278	42	194	370	86	7	16	55	1,066
<b>Total</b>	<b>1,860</b>	<b>8,424</b>	<b>1,732</b>	<b>14,399</b>	<b>16,128</b>	<b>2,875</b>	<b>547</b>	<b>709</b>	<b>5,120</b>	<b>51,794</b>

Source : Medical Statistics Unit

**Table 26. Case Fatality Rate<sup>1</sup> for Selected Diseases, 2012 - 2016**

Disease and ICD Code	2012			2013			2014			2015			2016		
	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate	Cases	Deaths	Case Fatality Rate
Typhoid and para typhoid (A01)	2,349	5	0.2	1,961	3	0.2	1,753	5	0.3	1,298	-	-	1,109	-	-
Tetanus (A34, A35)	91	5	5.5	170	4	2.4	99	3	3.0	87	5	5.7	74	3	4.1
Shigellosis (A03)	2,833	1	0.0	2,000	2	0.1	2,097	1	0.0	1,737	-	-	1,236	4	0.3
Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05 - P07)	7,182	696	9.7	7,534	632	8.4	7,434	571	7.7	7,455	586	7.9	6,463	520	8.0
Measles (B05)	80	-	-	4,755	-	-	3,436	1	0.0	3,240	1	0.0	457	-	-
Whooping cough (A37)	95	-	-	50	-	-	68	-	-	105	1	1.0	70	-	-
Viral hepatitis (B15 - B19)	3,228	9	0.3	3,288	9	0.3	3,164	7	0.2	2,706	6	0.2	1,617	6	0.4
Malaria (B50 - B54)	124	-	-	106	-	-	75	-	-	48	-	-	56	-	-
Tetanus neonatorum (A33)	-	-	-	13	-	-	-	-	-	-	-	-	2	-	-
Diseases of the liver (K70 - K76)	15,760	1,681	10.7	16,836	1,790	10.6	17,283	1,882	10.9	16,005	1,819	11.4	16,361	1,882	11.5
Septicaemia (A40, A41)	6,829	2,569	37.6	7,814	2,945	37.7	9,171	3,634	39.6	9,845	3,930	39.9	11,889	4,782	40.2
Snake bites (T63.0)	41,538	76	0.2	40,468	95	0.2	37,309	94	0.3	36,631	78	0.2	34,494	55	0.2
Hypertensive diseases (I10 - I15)	98,869	524	0.5	100,224	578	0.6	99,224	649	0.7	97,207	713	0.7	98,437	649	0.7
Ischaemic heart disease (I20 - I25)	100,611	5,619	5.6	103,656	5,975	5.8	108,905	6,345	5.8	111,564	6,221	5.6	114,609	6,041	5.3
Pneumonia (J12 - J18)	23,679	2,233	9.4	24,290	2,489	10.2	23,062	2,802	12.1	26,451	3,288	12.4	22,116	2,738	12.4
Asthma (J45 - J46)	188,654	623	0.3	186,565	610	0.3	190,333	612	0.3	191,004	667	0.3	166,935	529	0.3
Bacterial meningitis (G00, G03)	3,311	120	3.6	3,683	100	2.7	3,813	95	2.5	3,167	104	3.3	3,791	106	2.8

<sup>1</sup> Deaths per 100 cases

Source : Medical Statistics Unit



**Table 27. Inpatients Treated and Hospital Deaths by Type of Institution and RDHS Division, 2016**

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 In-door 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	590,461	8,172	-	-	-	-	166,206	1,090	25,239	200	9,451	17	39,032	80	7,330	12	118,604	1,928	956,323	11,499	399	1.2
Gampaha	137,841	1,975	-	-	182,347	1,647	74,325	553	33,825	165	41,687	90	10,371	13	30,779	35	31,868	158	543,643	4,636	229	0.9
Kalutara	-	-	-	-	94,739	736	138,388	1,093	12,297	5	14,332	20	41,324	52	13,964	17	-	-	315,044	1,923	250	0.6
Kandy	302,193	3,437	-	-	42,066	334	-	-	54,074	367	-	-	62,115	163	57,811	47	4,193	8	522,392	4,356	364	0.8
Matale	-	-	-	-	78,426	628	57,556	405	-	-	-	-	18,678	45	20,851	38	-	-	175,511	1,116	345	0.6
Ruwera Eliya	-	-	-	-	56,122	515	21,497	127	20,092	84	4,216	21	27,124	65	19,938	32	-	-	148,989	844	199	0.6
Galle	192,894	2,450	-	-	-	-	84,454	499	11,071	68	11,700	6	34,488	50	25,834	17	-	-	360,381	3,090	327	0.9
Matara	-	-	-	-	115,722	1,260	-	-	37,446	156	13,466	15	34,649	66	9,217	10	-	-	210,500	1,507	249	0.7
Hambantota	-	-	-	-	60,515	312	39,636	274	34,977	52	-	-	48,851	70	20,610	7	-	-	204,689	715	321	0.3
Jaffna	127,162	1,405	-	-	-	-	45,063	210	13,707	36	-	-	18,264	19	9,892	4	-	-	214,088	1,674	356	0.8
Kilinochchi	-	-	-	-	41,537	122	-	-	3,343	4	-	-	3,949	-	8,279	4	-	-	57,208	130	469	0.2
Mullaitivu	-	-	-	-	16,768	67	-	-	6,350	6	9,253	3	1,946	-	1,306	4	-	-	35,623	80	375	0.2
Varuniya	-	-	-	-	58,738	345	-	-	4,974	29	-	-	2,045	3	4,031	4	-	-	69,728	381	383	0.5
Mannar	-	-	-	-	22,176	75	-	-	-	-	-	-	6,124	7	2,964	1	-	-	31,264	83	295	0.3
Batticaloa	75,799	204	-	-	-	-	34,586	63	21,231	18	9,235	4	10,154	4	21,883	2	-	-	172,888	295	314	0.2
Ampara <sup>1</sup>	-	-	-	-	57,275	431	87,662	373	51,123	132	-	-	23,386	21	26,023	14	-	-	245,419	971	355	0.4
Trincomalee	-	-	-	-	44,398	498	20,096	64	43,234	109	-	-	-	-	27,569	26	-	-	135,297	697	335	0.5
Kurunegala	-	-	143,343	2,187	-	-	57,362	261	78,590	424	77,387	158	47,288	90	32,282	16	-	-	436,252	3,136	260	0.7
Puttalam	-	-	-	-	51,450	463	48,535	359	41,652	358	14,625	22	9,625	12	13,429	13	-	-	179,316	1,227	224	0.7
Anuradhapura	146,554	1,957	-	-	-	-	-	-	50,186	150	35,179	68	44,289	66	43,796	47	441	-	320,445	2,288	354	0.7
Polonnaruwa	-	-	-	-	99,308	931	-	-	24,771	111	9,091	20	18,918	18	9,500	10	-	-	161,588	1,090	380	0.7
Badulla	-	-	106,135	1,043	-	-	79,903	699	19,094	171	18,088	45	29,769	28	38,501	42	-	-	291,490	2,028	341	0.7
Moneragala	-	-	-	-	60,065	472	-	-	39,682	169	6,993	5	22,649	42	28,106	20	-	-	137,495	708	329	0.4
Ratnapura	-	-	117,076	1,183	58,552	531	-	-	78,327	449	46,027	126	20,454	21	21,768	25	-	-	342,204	2,335	300	0.7
Kegalle	-	-	-	-	75,214	792	-	-	77,697	345	43,449	64	7,839	2	5,461	8	336	-	209,996	1,211	242	0.6
Total	1,572,904	19,600	366,554	4,413	1,216,168	10,159	955,269	6,070	782,892	3,608	364,179	684	583,331	937	501,124	455	155,442	2,094	6,497,773	48,020	306	0.7

<sup>1</sup> Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

**Table 28. Hospitalizations, Hospital Deaths and Case Fatality Rates of selected Non-Communicable Diseases, 2015 - 2016**

Disease	ICD Code	2015						2016					
		Live Discharges		Deaths		Case Fatality Rate *	Live Discharges		Deaths		Case Fatality Rate *		
		Male	Female	Male	Female		Male	Female	Male	Female			
Diabetes mellitus	(E10-E14)	36,889	42,450	347	355	0.88	39,846	47,297	387	386	0.88		
Essential hypertension	(I10)	35,895	51,848	245	298	0.62	36,660	53,148	240	259	0.55		
Other hypertensive diseases	(I11-I15)	4,402	4,349	90	80	1.91	3,574	4,406	84	66	1.85		
Ischaemic heart diseases	(I20-I25)	58,544	46,799	3,624	2,597	5.58	60,904	47,664	3,392	2,649	5.27		
Cerebrovascular diseases	(I60-I69)	24,619	15,927	2,074	1,510	8.12	26,670	17,606	2,076	1,457	7.39		
Chronic obstructive pulmonary diseases	(J40-J44)	31,928	8,503	1,141	231	3.28	29,074	7,365	793	170	2.57		
Asthma	(J45-J46)	94,382	95,955	339	328	0.35	82,583	83,823	266	263	0.32		
Alcoholic liver diseases	(K70)	3,681	304	334	33	8.43	2,902	307	272	20	8.34		
Other diseases of liver	(K71-K76)	7,361	2,840	1,066	386	12.46	7,979	3,291	1,122	468	12.36		
Neoplasms	(C00-D48)	53,101	68,865	2,657	2,141	3.78	58,130	72,516	2,878	2,270	3.79		
Renal failure	(N17-N19)	18,163	9,449	1,279	622	6.44	24,315	12,455	1,198	605	4.67		

\* 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, 2016**

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	63,119	2,131	3.27	10,622	226	2.08	8,286	80	0.96	18,268	1,243	6.37	5,928	578	8.88
Gampaha	4,298	252	5.54	7,408	98	1.36	7,085	36	0.51	9,348	593	5.97	5,105	351	6.43
Kalutara	1,946	75	3.71	3,025	14	0.46	3,749	7	0.19	6,308	347	5.21	3,409	222	6.11
Kandy	11,867	614	4.92	7,490	112	1.47	7,940	74	0.92	8,069	418	4.93	4,687	391	7.70
Matale	827	52	5.92	2,176	18	0.82	2,854	36	1.24	2,652	189	6.65	1,058	110	9.42
Nuwera Eliya	792	34	4.12	2,960	10	0.34	3,658	13	0.35	3,012	113	3.62	1,423	91	6.01
Galle	12,955	380	2.85	3,015	43	1.41	3,128	45	1.42	6,070	396	6.12	2,670	286	9.68
Mataru	771	62	7.44	2,277	4	0.18	2,173	30	1.36	4,366	260	5.62	1,615	137	7.82
Hambantota	396	42	9.59	2,975	42	1.39	3,709	24	0.64	3,282	96	2.84	941	49	4.95
Jaffna	5,129	159	3.01	2,618	31	1.17	2,156	17	0.78	3,092	191	5.82	968	89	8.42
Kilinochchi	271	9	3.21	541	1	0.18	546	1	0.18	533	13	2.38	213	9	4.05
Mullaitivu	67	7	9.46	428	5	1.15	397	1	0.25	451	7	1.53	91	2	2.15
Vavuniya	377	17	4.31	707	4	0.56	1,010	-	-	747	21	2.73	468	32	6.40
Mannar	260	3	1.14	775	4	0.51	477	1	0.21	854	4	0.47	180	5	2.70
Batticaloa	1,113	13	1.15	2,224	-	-	2,419	-	-	2,197	36	1.61	607	9	1.46
Ampara	218	33	13.15	1,355	1	0.07	1,278	1	0.08	1,500	70	4.46	424	38	8.23
Kalmunai	201	7	3.37	3,172	4	0.13	1,081	5	0.46	2,963	132	4.26	767	28	3.52
Trincomalee	706	35	4.72	2,558	12	0.47	1,692	1	0.06	1,962	116	5.58	438	44	9.13
Kurunegala	3,408	349	9.29	5,662	42	0.74	7,964	37	0.46	8,880	538	5.71	3,166	284	8.23
Puttalam	721	30	3.99	2,054	27	1.30	2,603	4	0.15	2,756	131	4.54	974	79	7.50
Anuradhapura	5,933	254	4.11	5,582	14	0.25	5,898	7	0.12	5,116	289	5.35	1,964	157	7.40
Polonnaruwa	622	75	10.76	1,620	3	0.18	1,699	3	0.18	1,983	100	4.80	908	106	10.45
Badulla	6,161	223	3.49	5,189	35	0.67	6,282	52	0.82	3,148	236	6.97	1,258	80	5.98
Moneragala	791	50	5.95	3,298	1	0.03	3,425	3	0.09	2,264	83	3.54	796	65	7.55
Ratnapura	6,725	175	2.54	4,681	15	0.32	3,595	13	0.36	5,241	250	4.55	2,717	171	5.92
Kegalle	972	67	6.45	3,031	7	0.23	4,684	8	0.17	3,506	169	4.60	1,501	120	7.40
Sri Lanka	130,646	5,148	3.79	87,143	773	0.88	89,808	499	0.55	108,568	6,041	5.27	44,276	3,533	7.39

\* Deaths per 100 cases

Contd...

Source : Medical Statistics Unit



**Table 29. Hospitalizations, Hospital Deaths and Case Fatality Rates of Selected Non Communicable Diseases by RDHS Division, 2016**

RDHS Area	Bronchitis, emphysema and other chronic obstructive pulmonary disease (J40-J44)				Asthma (I45-I46)			Alcoholic liver disease (K70)			Other diseases of liver (K71-K76)				Renal failure (N17-N19)		
	Live Discharges	Deaths	Case Fatality Rate *	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	3,502	115	3.18	0.78	4,21	86	16.96	1,878	316	14.40	4,404	175	3.82				
Gampaha	2,243	91	3.90	0.11	430	20	12.24	2,013	358	15.10	550	95	14.73				
Kalutara	1,901	27	1.40	0.32	278	28	7.95	454	59	11.50	1,319	55	4.00				
Kandy	5,384	133	2.41	0.55	97	4	3.96	1,187	116	8.90	2,389	158	6.20				
Matale	1,885	51	2.63	0.16	76	6	7.32	158	27	14.59	376	20	5.05				
Nuwera Eliya	2,524	44	1.71	0.44	70	-	-	108	13	10.74	207	22	9.61				
Galle	2,143	43	2.19	0.41	118	4	3.28	729	80	9.89	425	57	11.83				
Matara	652	15	2.25	0.26	38	5	11.63	338	41	10.82	883	57	6.06				
Hambantota	709	15	2.21	0.26	82	3	3.53	194	22	10.19	142	31	17.92				
Jaffna	980	24	2.39	0.15	35	3	7.89	721	58	7.45	332	42	11.23				
Kilinochchi	508	8	1.55	0.08	6	-	-	111	2	1.77	3,825	4	0.10				
Mullaitivu	139	-	-	-	8	-	-	57	5	8.06	504	1	0.20				
Vavuniya	366	4	1.08	0.32	5	4	-	54	6	10.00	594	42	6.60				
Mannar	96	-	-	0.14	7	1	-	80	-	-	576	1	0.17				
Batticaloa	734	-	-	0.04	27	2	3.57	106	1	0.93	1,502	21	1.38				
Ampara	1,141	13	1.13	0.25	16	4	5.88	69	11	13.75	674	45	6.26				
Kalmunai	735	13	1.74	0.04	12	2	-	62	8	11.43	605	11	1.79				
Trincomalee	968	18	1.83	0.08	32	3	8.57	128	11	7.91	2,994	53	1.74				
Kurunegala	1,324	55	3.99	0.37	671	22	3.17	583	142	19.59	1,531	153	9.62				
Puttalam	371	3	0.80	0.40	255	16	7.94	295	51	14.74	154	25	13.97				
Anuradhapura	1,050	37	3.40	0.38	32	11	25.58	396	61	13.35	6,502	295	4.34				
Polonnaruwa	695	33	4.53	0.18	23	2	8.00	168	44	20.75	689	155	18.36				
Badulla	2,457	108	4.21	0.38	151	9	5.63	262	23	8.07	2,142	153	6.67				
Moneragala	960	36	3.61	0.24	3	1	25.00	157	7	4.27	2,854	38	1.31				
Ratnapura	887	29	3.17	0.29	138	8	5.48	686	82	10.68	412	61	12.90				
Kegalle	2,085	42	1.97	0.52	178	17	8.72	276	46	14.29	185	23	11.06				
Sri Lanka	36,439	963	2.57	0.32	3,209	252	8.34	11,270	1,590	12.36	96,770	1,803	4.67				

\* Deaths per 100 cases

Source : Medical Statistics Unit

**Table 30. Outpatient Attendance by District and Type of Institution, 2016**

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	Attendance per 1,000 Population
Colombo	2,238,917			685,438	202,679	147,305	671,868	182,701		737,593		569,897	5,436,403	2,269.9
Gampaha	540,060		605,292	219,809	277,082	571,695	77,334	395,243		251,763	4,303	700,803	3,643,389	1,536.0
Kalutara			322,927	532,493	167,061	157,273	512,864	344,131			25,805	209,573	2,272,127	1,801.8
Kandy	1,014,663		300,679	379,514			933,496	1,120,607		237,152	101,772	396,366	4,484,249	3,127.1
Matale			331,612	182,560			239,766	360,580				240,871	1,355,389	2,668.1
Nuwara Eliya			214,929	109,375	152,033	92,235	274,300	365,752				262,524	1,471,148	1,966.8
Galle	514,286			335,610	91,064	144,513	434,243	391,426	79,227	10,347	74,859	515,517	2,591,082	2,351.3
Makara			332,981		215,347	150,395	364,606	238,792			14,615	607,009	1,933,745	2,288.5
Hambantota			251,260	118,773	270,863		663,465	353,463				210,829	1,868,653	2,933.5
Jaffna	307,218			271,132	160,391		272,541	543,104				248,337	1,802,723	2,994.6
Kilinochchi			229,287		43,492		21,160	169,889				10,872	474,700	3,891.0
Mullaitivu			88,436		71,551	117,303	36,623	67,784				11,559	393,256	4,139.5
Vavuniya			295,839		69,016		20,796	121,311			18,101	60,967	586,030	3,219.9
Mannar			158,963				109,469	148,070				45,300	461,802	4,356.6
Batticaloa	209,420			305,930	263,709	97,761	108,951	414,958			7,184	210,170	1,618,083	2,942.0
Ampara			171,788	529,988	467,149		355,358	432,820	93,983		1,528	325,801	2,378,415	3,442.0
Trincomelee			127,155	103,915	276,157			271,758	20,509			306,000	1,105,494	2,736.4
Kurunegala		576,437		216,767	440,223	773,853	729,323	724,278	11,272			726,876	4,199,029	2,505.4
Puttalam			240,948	161,990	149,647	202,350	168,723	307,615			2,547	471,089	1,704,909	2,128.5
Anuradhapura	268,023				355,422	485,695	589,347	790,549		13,312	41,515	355,964	2,899,827	3,204.2
Polonnaruwa			375,102		223,189	101,989	269,763	215,786				148,185	1,334,014	3,138.9
Badulla		291,937		395,150	200,237	251,758	453,357	823,186			33,743	338,120	2,787,488	3,264.0
Monaragala			174,772		398,240	101,108	424,272	442,388			8,946	117,856	1,667,582	3,481.4
Ratnapura		323,449		546,536	623,302		330,563	541,348		11,923	49,785	425,910	3,046,647	2,672.5
Kegalle			394,526		481,654	498,981	106,760	200,963		28,633	32,820	359,728	2,104,065	2,421.2
Total	5,092,587	1,191,823	4,810,322	4,168,930	5,902,246	4,527,516	8,166,948	9,968,502	204,991	1,290,733	417,523	7,876,123	53,630,249	2,528.9

Note : OPD Attendance for Provincial General Hospital, Kurunegala has been estimated since data is not available.

Source : Medical Statistics Unit

**Table 31. Outpatient Attendance by RDHS Division, 2016**

RDHS Division	Quarter				Total Visits
	First	Second	Third	Fourth	
Colombo	1,352,185	1,343,166	1,375,916	1,365,136	5,436,403
Gampaha	899,415	892,595	923,736	927,643	3,643,389
Kalutara	573,940	561,396	563,636	573,155	2,272,127
Kandy	1,085,105	1,140,963	1,137,224	1,120,957	4,484,249
Matale	332,287	341,543	335,717	345,842	1,355,389
Nuwara Eliya	348,119	363,505	368,252	391,272	1,471,148
Galle	635,900	660,546	643,142	651,494	2,591,082
Matara	460,777	500,067	485,399	487,502	1,933,745
Hambantota	459,902	488,179	445,587	475,005	1,868,653
Jaffna	479,072	427,230	433,563	462,858	1,802,723
Kilinochchi	120,840	115,329	116,237	122,294	474,700
Mannar	121,294	103,416	112,486	124,606	461,802
Vavuniya	154,765	139,697	141,145	150,423	586,030
Mullaitivu	104,296	97,239	95,006	96,715	393,256
Batticaloa	420,174	413,239	372,725	411,945	1,618,083
Ampara	223,620	214,382	197,817	206,952	842,771
Kalmunai	372,287	376,309	369,499	417,549	1,535,644
Trincomalee	288,162	276,151	261,908	279,273	1,105,494
Kurunegala	992,190	1,069,189	1,042,604	1,095,046	4,199,029
Puttalam	419,198	432,978	419,229	433,504	1,704,909
Anuradhapura	700,996	711,000	706,094	781,737	2,899,827
Polonnaruwa	332,738	323,269	327,434	350,573	1,334,014
Badulla	683,145	699,791	695,038	709,514	2,787,488
Monaragala	405,021	427,502	403,772	431,267	1,667,562
Ratnapura	733,750	749,433	753,491	809,973	3,046,647
Kegalle	505,066	546,936	525,828	526,235	2,104,065
Grand Total	13,204,244	13,415,050	13,252,465	13,748,490	53,620,249

Source : Medical Statistics Unit

**Table 32. Outpatient Department (OPD) Visits by Type of Hospital, 2016**

Hospital Type	Quarter				Total Visit
	First	Second	Third	Fourth	
Teaching Hospitals	1,307,414	1,256,598	1,276,977	1,251,598	5,092,587
Provincial General Hospitals	298,495	294,449	302,768	296,111	1,191,823
District General Hospitals	1,211,618	1,186,627	1,193,442	1,218,635	4,810,322
Base Hospitals - Type A	1,040,896	1,045,309	1,038,547	1,044,178	4,168,930
Base Hospitals - Type B	1,444,666	1,458,573	1,467,157	1,531,850	5,902,246
Divisional Hospitals - Type A	1,085,541	1,154,378	1,109,450	1,178,147	4,527,516
Divisional Hospitals - Type B	1,990,351	2,062,059	1,994,070	2,122,468	8,168,948
Divisional Hospitals - Type C	2,439,165	2,520,666	2,432,068	2,576,603	9,968,502
Primary Medical Care Units with Maternity Homes	49,962	53,755	49,802	51,472	204,991
Other Institutions with Indoor Facility <sup>1</sup>	313,280	318,300	330,601	328,557	1,290,738
Other Institutions without Indoor Facility	107,105	99,032	105,018	106,368	417,523
Primary Medical Care Units	1,915,751	1,965,304	1,952,565	2,042,503	7,876,123
Total Visits	13,204,244	13,415,050	13,252,465	13,748,490	53,620,249

<sup>1</sup> Includes; Mental, Chest, Leprosy, Police, Prison, Fever, Cancer, Dental and Rehabilitation hospitals

Source : Medical Statistics Unit



**Table 33. Clinic Visits by Quarter, by RDHS Division, 2016**

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	214,000	1,146,169	216,645	1,130,323	237,489	1,178,277	226,430	1,186,221	894,564	4,640,990
Gampaha	143,441	592,765	133,218	596,529	149,920	603,306	139,744	606,294	566,323	2,398,894
Kalutara	74,220	284,646	76,747	278,152	69,975	296,204	73,659	294,925	294,601	1,153,927
Kandy	141,367	673,001	129,609	660,381	142,545	712,011	141,674	705,091	555,195	2,750,484
Matale	30,125	176,714	30,087	170,640	32,626	173,821	35,780	176,498	128,618	697,673
Nuwara Eliya	30,558	171,469	29,989	166,170	35,788	169,555	36,697	171,802	133,032	678,996
Galle	76,389	292,934	78,882	282,570	83,559	304,328	75,841	302,388	314,671	1,182,220
Matara	64,523	206,906	61,530	200,842	65,504	207,209	62,794	214,220	254,351	829,177
Hambantota	41,707	151,828	32,248	151,071	35,112	157,663	33,401	131,472	142,468	592,034
Jaffna	55,468	301,912	55,130	301,976	53,507	306,330	54,005	312,922	218,110	1,223,140
Killinochchi	12,372	41,559	12,764	46,034	14,172	46,612	14,281	48,718	53,589	182,923
Mullaitivu	5,990	27,913	8,162	28,255	9,376	30,429	9,870	26,990	33,398	113,587
Vavuniya	21,113	101,622	20,656	92,672	20,516	94,737	20,447	97,523	82,732	386,554
Mannar	13,411	47,078	13,116	46,965	11,752	46,490	12,617	47,176	50,896	187,709
Batticaloa	31,282	151,467	31,710	151,727	34,081	152,136	37,984	159,804	135,057	615,134
Ampara	41,153	103,151	31,684	101,836	33,562	109,892	31,790	106,451	138,189	421,330
Kalmunai	31,510	135,540	35,239	139,305	31,544	135,925	35,773	141,494	134,066	552,264
Trincomalee	24,461	106,633	23,384	105,108	25,073	106,447	24,950	109,012	97,868	427,200
Kurunegala	83,973	379,839	69,072	371,056	76,842	391,024	73,740	388,757	303,627	1,530,676
Puttalam	56,656	192,660	54,390	194,374	60,712	204,066	56,052	199,584	227,810	790,684
Anuradhapura	51,557	284,316	53,693	285,718	53,912	291,702	50,738	288,294	209,900	1,150,030
Polonnaruwa	31,498	147,030	30,310	145,162	32,147	152,787	35,308	142,899	129,263	587,878
Badulla	68,560	335,360	65,068	332,310	74,121	350,370	77,252	352,225	285,001	1,370,265
Monaragala	32,215	124,534	24,118	123,067	29,445	127,887	39,417	134,932	125,195	510,420
Ratnapura	85,994	327,913	88,174	319,660	86,254	342,503	79,331	338,245	339,753	1,328,321
Kegalle	46,459	250,299	42,817	243,583	48,603	261,412	48,352	260,082	186,231	1,015,376
<b>Total</b>	<b>1,510,002</b>	<b>6,755,258</b>	<b>1,448,442</b>	<b>6,665,486</b>	<b>1,548,137</b>	<b>6,953,123</b>	<b>1,527,927</b>	<b>6,944,019</b>	<b>6,034,508</b>	<b>27,317,886</b>

Source: Medical Statistics Unit

**Table 34. Clinic Visits by Quarter, by Type of Hospital, 2016**

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	354,971	1,770,110	350,746	1,748,114	368,331	1,802,782	359,277	1,796,386	1,433,325	7,117,392
Provincial General Hospitals	48,104	271,861	47,521	258,694	48,471	276,742	55,313	280,443	199,409	1,087,740
District General Hospitals	291,806	1,051,309	277,842	1,023,754	285,028	1,060,291	287,947	1,044,616	1,142,623	4,179,970
Base Hospitals Type A	171,900	713,240	174,497	721,281	187,683	766,610	180,162	753,487	714,242	2,954,618
Base Hospitals Type B	145,091	658,564	143,201	646,189	161,015	675,024	156,249	677,864	605,556	2,657,641
Divisional Hospitals Type A	82,642	375,027	78,498	361,510	89,263	390,679	75,553	396,374	325,956	1,523,590
Divisional Hospitals Type B	127,171	597,894	105,310	589,913	114,784	626,022	125,776	635,580	473,041	2,449,409
Divisional Hospitals Type C	123,804	609,311	113,151	610,802	130,203	619,510	123,770	617,751	490,928	2,457,374
Primary Medical Care Units and Maternity Homes	1,575	6,283	1,356	5,526	1,531	6,381	1,387	6,080	5,849	24,270
Other Hospitals and Clinics <sup>1</sup>	75,772	280,141	77,490	280,564	73,427	289,203	76,016	296,277	302,705	1,146,185
Primary Medical Care Units	87,166	421,518	78,830	419,139	88,401	439,879	86,477	439,161	340,874	1,719,697
Grand Total	1,510,002	6,755,258	1,448,442	6,665,486	1,548,137	6,953,123	1,527,927	6,944,019	6,034,508	27,317,886

<sup>1</sup> 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, 2016**

Type of Clinic	RDHS Division and Rank Order	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Kilinochchi	Mullativu	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	1	
Dental		2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2	
Gynaecology and Obstetrics		3	6	4	4	3	3	3	4	5	3	4	4	3	5	6	8	3	4	2	3	3	3	3	4	4	3	3	3	
Eye		4	3	3	3	5	8	7	3	3	4	5	5	5	3	5	7	6	5	3	12	4	11	8	6	6	5	7	7	
Diabetic		5	7	6	15	3	4	4	10	13	11	2	3	4	4	2	2	5	2	7	5	6	15	11	3	3	11	5	5	
Surgical		6	5	7	6	7	6	6	5	7	7	6	7	8	10	8	4	4	7	6	9	7	4	5	5	7	6	8	8	
Psychiatric		7	8	5	5	8	5	9	7	4	6	7	8	6	7	7	9	7	6	13	7	5	9	6	8	5	4	6	6	
Skin		8	9	10	7	10	9	8	8	6	8	9	6	6	6	14	6	10	11	5	11	8	6	9	7	9	7	4	4	
Cardiology		9	4	13	12	6	14		11	8	14	8	13				5	15	14	11	6	7	7	7	14	13	12	12	12	
Paediatric		10	13	9	11	9	7	5	6	11	5	11	9	7	8	12	10	8	9	9	8	10	5	10	10	8	8	9	9	9
Baby		11	14	8	8	11	10	10	13	9	10	12	15	12	14	4	17	9	12	8	4	9	8	15	9	12	10	10	10	10
E.N.T.		12	11	11	9	14	12	13	14	15	9	13	10		9	11	11	11	11	8	10	13	11	10	16	12	10	9	11	11
Orthopaedic		13	12	15	13	13	11	12	12	16	12	10	11	11	11	13	14	14			12	14	12	12	4		13	14	13	13
Cancer		14	10	19	18	12	17	16	9	18	16	14	14			15	13	18		15	10	16	13	19	11	14	15	17	17	17
Other		15	15	12	10	16	13	11	18	10	18	17	12	9	16	10	12	17	10	14	14	15	13	17	13	13	11	17	14	14
Nerve		16	17	16	14	15			15	12		18		15	15			16	16					12	19		12	19	12	12
V.D.		17	19	14	16	19	15	14	20	14	19			10	13	9	15	12	13		17	14	14	18	17		19	16	16	16
Genito Urinary		18	20	17		17			16		17	15					16	20			16	15	16	17	16		16	16	16	16
Thoracic		19	16	18	17	20	16	15	17	17	13	19			17	16		13			16	15		14	18	15		15	15	15
Neuro Surgical		20	18			18			19		15	16			12		18	19	15		16	15	18		15	16	20	18	18	18
Rectum		21	21			21																	19						18	18

Source : Medical Statistics Unit

**Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2016**

Type of Clinic	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Killinochchi	Mullaitivu
Medical	12,081,931	1,684,487	1,062,581	515,220	1,099,608	392,549	392,101	441,584	366,058	313,458	462,861	69,383	51,991
Dental	3,180,347	380,298	240,896	175,327	310,473	75,963	57,789	186,811	136,053	71,868	118,257	25,913	15,977
Gynaecology and Obstetrics	1,720,538	269,227	182,331	76,546	155,513	38,887	51,214	80,064	34,684	39,277	77,800	17,716	13,010
Eye	1,527,818	364,395	214,754	84,408	134,077	22,875	19,980	87,483	52,514	35,756	70,562	9,339	8,633
Diabetic	1,390,434	254,523	100,064	4,047	166,647	32,436	30,467	28,568	12,544	8,394	135,283	19,695	9,292
Surgical	1,230,339	290,600	99,709	48,889	119,410	25,410	28,970	76,636	28,330	21,905	62,590	8,053	2,603
Psychiatric	1,077,541	194,525	108,225	65,904	100,571	26,576	14,999	40,713	41,590	25,082	59,704	6,442	4,157
Skin	877,731	158,672	67,287	35,586	81,690	20,130	16,636	36,310	29,985	15,327	43,793	8,859	-
Cardiology	792,072	312,858	24,708	14,675	123,675	2,631	-	26,183	25,412	3,282	52,726	1,347	-
Paediatric	719,986	70,877	72,655	19,104	82,732	22,988	29,828	52,071	15,775	26,469	34,607	6,009	2,947
Baby	631,053	58,332	90,295	33,623	72,300	13,614	12,043	13,845	19,783	9,662	27,539	419	99
E.N.T.	514,429	131,012	51,560	30,241	52,757	7,192	4,611	12,285	11,696	10,898	18,210	5,242	-
Orthopaedic	396,851	109,890	14,193	10,186	54,814	9,289	5,643	16,672	9,162	5,058	41,318	2,047	462
Cancer	349,730	154,402	1,954	246	58,125	136	376	35,213	255	413	6,194	821	-
Other	276,474	54,093	32,862	29,487	31,164	5,601	10,493	8,197	15,821	66	3,340	1,638	2,387
Nerve	161,422	35,412	10,034	6,295	46,276	-	-	10,660	13,816	-	41	-	-
V.D.	114,723	25,096	14,316	2,659	5,643	1,163	2,824	3,412	12,030	22	-	-	2,029
Genito Urinary	93,802	21,726	8,353	-	23,924	-	-	10,355	-	148	4,507	-	-
Thoracic	88,341	38,625	2,117	1,484	4,840	233	1,022	10,315	3,669	3,601	16	-	-
Neuro Surgical	85,426	31,840	-	-	22,511	-	-	4,843	-	1,348	3,792	-	-
Rectum	6,898	100	-	-	3,734	-	-	-	-	-	-	-	-

Continued..

Source: Medical Statistics Unit

**Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2016**

Type of Clinic	Vavuniya	Mannar	Batticaloa	Ampara	Kalmunai	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Ratnapura	Kegalle
Medical	163,154	78,101	253,271	202,364	241,766	211,543	803,949	329,053	622,000	277,559	619,443	233,915	638,035	555,897
Dental	34,222	18,741	68,358	61,731	69,395	29,142	185,859	119,876	124,448	69,921	192,977	86,075	194,990	128,987
Gynaecology and Obstetrics	26,403	9,848	16,847	24,976	35,562	34,521	116,079	65,574	79,034	31,969	82,996	31,585	73,585	55,290
Eye	32,399	11,962	21,196	19,295	29,604	29,398	13,675	54,162	22,422	17,766	61,187	17,085	60,466	32,425
Diabetic	30,483	22,312	73,937	19,804	82,299	14,051	70,894	39,195	11,003	14,518	92,991	50,132	25,280	41,575
Surgical	10,308	5,466	49,879	21,257	20,139	22,504	28,742	28,165	42,302	21,659	76,988	16,997	47,830	24,998
Psychiatric	14,354	8,537	16,501	10,576	24,526	6,161	57,653	39,822	25,164	21,472	37,003	19,226	67,299	40,759
Skin	17,936	1,350	26,270	9,539	8,086	28,709	24,038	28,052	35,095	16,956	58,427	12,434	44,403	52,161
Cardiology	-	-	34,294	3,339	210	7,308	70,148	-	29,062	19,347	12,797	-	17,762	10,308
Paediatric	14,175	2,719	13,795	10,538	11,250	12,618	29,819	27,047	39,246	16,454	29,418	15,191	39,478	22,176
Baby	3,454	14,276	1,712	10,080	6,912	13,200	81,792	27,550	27,744	8,593	31,139	7,034	27,075	18,937
E.N.T.	12,393	3,071	9,329	7,650	13,732	9,026	8,811	14,972	23,093	8,399	19,086	8,526	30,158	10,479
Orthopaedic	9,719	1,536	4,432	4,830	-	6,342	7,899	13,474	19,817	24,436	-	2,874	13,815	8,943
Cancer	-	634	7,566	579	-	545	26,044	38	19,091	690	23,709	667	11,677	355
Other	819	3,968	8,688	714	8,086	2,132	4,522	1,843	4,560	11,212	16,080	8,153	2,851	7,697
Nerve	2,027	-	-	1,192	38	-	-	-	-	13,278	212	-	22,141	-
V.D.	6,150	5,055	4,314	6,624	486	-	143	1,601	13,471	988	2,918	-	2,099	1,680
Genito Urinary	-	-	3,153	260	-	-	-	-	7,724	1,557	5,177	-	6,918	-
Thoracic	5	133	-	5,681	-	-	609	260	-	11,104	1,998	267	-	2,362
Neuro Surgical	8,553	-	1,592	301	173	-	-	-	3,870	-	5,719	259	278	347
Rectum	-	-	-	-	-	-	-	-	884	-	-	-	2,180	-

Source: Medical Statistics Unit



**Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2016**

RDHS Division	Teaching Hospitals			Provincial General Hospitals			District General Hospitals			Base Hospitals Type A			Base Hospitals Type B		
	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate
Colombo	3.32	71.56	78.04							2.09	79.04	137.15	2.63	66.99	92.31
Gampaha	3.16	85.27	97.88				1.90	70.39	134.31	2.03	71.53	127.63	1.78	61.11	124.72
Kalutara							2.29	70.34	111.69	1.89	76.94	148.19	1.75	45.50	94.71
Kandy	3.10	75.64	88.46				2.30	60.98	96.15				2.17	70.62	118.44
Matale							2.28	63.08	100.72	1.82	102.25	203.58			
Nuwara Eliya							2.49	89.90	130.86	2.11	100.53	172.94	1.79	74.45	151.39
Galle	3.23	80.96	90.76							2.06	63.50	111.74	1.94	47.32	88.81
Matara							2.26	67.82	109.20				2.23	57.05	93.05
Hambantota							2.47	69.09	101.46	2.24	99.51	161.07	1.79	46.73	94.73
Jaffna	2.78	80.76	105.59							2.52	50.99	73.53	2.22	32.23	52.79
Kilinochchi							2.06	92.73	163.52				1.49	35.79	87.25
Mullaitivu							1.93	41.56	78.06				1.51	26.62	64.37
Mannar							1.18	21.71	67.00						
Vavuniya							2.31	64.51	101.52				2.40	35.27	53.54
Batticaloa	3.88	84.67	78.73							1.47	36.85	91.26	1.41	34.43	88.87
Ampara							2.41	61.74	92.99				1.82	57.41	114.46
Trincomalee							1.55	58.85	137.96	1.64	40.13	88.80	1.63	66.55	148.27
Kalmunai										2.32	60.48	94.74	2.42	56.10	83.89
Kurunegala				2.92	82.28	102.20				2.02	52.34	94.39	2.45	73.93	109.21
Puttalam							2.30	60.69	95.43	2.14	88.53	150.54	2.11	77.28	133.31
Anuradhapura	2.85	59.62	75.76										1.94	74.94	140.08
Polonnaruwa							2.43	75.36	112.79				1.89	60.03	115.74
Badulla				3.60	71.82	72.10				2.22	72.41	118.60	1.89	76.43	147.02
Monaragala							2.20	84.98	140.17				2.24	60.64	98.34
Ratnapura				2.71	73.43	98.29	2.24	87.17	141.08				2.06	72.71	127.92
Kegalle							2.34	65.51	101.59				2.38	81.55	124.61
Grand Total	3.19	74.50	84.51	3.03	76.44	91.30	2.22	68.34	111.61	2.06	68.98	121.43	2.09	64.09	111.46

Continued...

Source : Medical Statistics Unit

**Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2016**

RDHS Division	Divisional Hospitals Type A			Divisional Hospitals Type B			Divisional Hospitals Type C			Other Hospitals			Hospitals with Indoor Facility		
	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate	Average Duration of Stay	Bed Occupancy Rate	Bed Turn Over Rate
Colombo	1.43	32.66	82.75	1.38	38.57	101.53	1.36	53.51	143.11	8.48	78.29	32.94	3.61	72.60	72.79
Gampaha	2.30	46.97	74.06	1.19	53.26	162.55	1.33	63.66	174.06	8.83	65.65	26.68	2.64	69.97	96.18
Kalutara	1.60	32.92	75.09	1.34	32.05	86.85	1.64	39.77	88.18				1.91	60.47	115.21
Kandy				1.72	32.72	69.14	1.59	34.09	78.32	7.14	43.29	21.68	2.63	61.50	84.97
Matale				1.42	28.08	72.20	1.97	36.76	67.95				2.00	59.21	107.61
Nuwara Eliya	1.73	18.68	39.26	1.76	31.62	65.23	1.40	30.24	78.40				2.00	51.95	94.20
Galle	1.67	26.11	57.04	1.79	35.78	72.59	1.42	34.41	88.03	3.33	60.18	63.67	2.61	65.27	90.55
Matara	1.89	38.10	73.29	1.59	34.05	78.04	1.27	27.49	78.83				2.08	54.82	95.77
Hambantota				1.44	31.82	80.64	1.25	25.87	75.57				1.97	53.52	98.72
Jaffna				1.39	23.68	62.19	1.79	15.20	30.98				2.52	55.51	79.88
Kilinochchi				1.82	20.51	41.00	1.48	30.45	75.08				1.92	60.66	114.53
Mullaitivu	1.48	29.84	73.20	1.32	32.22	88.55	1.10	19.60	64.59				1.67	33.87	73.84
Mannar				1.13	5.72	18.40	1.17	5.01	15.63				1.17	11.77	36.64
Vavuniya				1.00	16.98	61.97	1.02	22.44	80.60				2.20	56.22	92.68
Batticaloa	1.23	20.63	61.24	1.54	25.88	61.18	1.54	25.88	61.18				2.62	55.54	76.85
Ampara				1.36	20.66	55.40	1.41	24.92	64.20				2.09	52.62	91.37
Trincomalee							1.56	29.85	69.55				1.62	46.17	104.01
Kalmunai				2.12	33.61	57.52	1.84	32.61	64.43				2.26	51.07	82.03
Kurunegala	1.38	28.79	75.85	1.50	26.93	65.23	1.43	27.76	70.88				2.24	55.21	89.46
Puttalam	1.87	31.45	61.18	1.36	18.12	48.40	1.36	18.12	48.40				2.08	56.67	99.17
Anuradhapura	1.82	42.09	84.08	1.72	35.60	75.52	1.70	32.91	70.61	6.27	30.61	17.65	2.28	51.17	81.37
Polonnaruwa	1.15	24.10	76.08	1.37	31.95	84.81	1.80	47.01	94.89				2.11	61.14	105.13
Badulla	1.52	36.59	87.57	1.55	25.58	60.12	1.52	34.51	82.65				2.49	58.20	84.60
Monaragala	1.67	32.48	70.69	1.46	27.33	67.93	1.15	50.22	159.01				1.89	56.85	109.14
Ratnapura	1.67	32.32	70.59	1.36	24.63	65.96	1.33	27.46	75.47				2.18	59.22	98.74
Kegalle	1.57	39.21	90.79	1.38	40.40	107.00	1.56	40.46	94.10	47.37	126.33	8.53	2.21	64.18	105.34
Sri Lanka	1.66	33.62	73.80	1.55	29.69	69.80	1.53	32.39	77.00	8.57	73.89	30.79	2.48	60.48	88.54

Source : Medical Statistics Unit

**Table 38. Average Duration of Stay (Days) in Selected Types of Hospitals per Quarter, 2004 - 2016**

Type of Hospital	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016
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	3.7
Teaching Hospitals			3.6	3.6	3.5	3.4	3.3	3.2	3.1	3.2	3.3	3.2	3.1
Provincial Hospitals <sup>1,2</sup>	3.9	4.2	3.1	3.3	3.2	3.1	2.6						
Base Hospitals <sup>3</sup>	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						
Peripheral Units	2.2	2.0	1.9	2.0	1.9	1.9	1.6						
Rural Hospitals <sup>4</sup>	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	3.0
District General Hospitals								2.5	2.4	2.3	2.4	2.3	2.2
Base Hospitals Type A								2.3	2.0	2.1	2.1	2.1	2.0
Base Hospitals Type B								2.2	2.1	2.3	2.1	2.1	2.1
Divisional Hospitals Type A								1.8	1.7	1.8	1.9	1.7	1.7
Divisional Hospitals Type B								1.9	1.7	1.7	1.6	1.6	1.5
Divisional Hospitals Type C								1.8	1.6	1.8	1.7	1.6	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	2.8
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	3.3
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	4.3
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	51.4
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	15.5
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	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	81.9
Rehabilitation Hospitals			24.5	30.0	26.1	26.9	26.5	33.0	24.0	29.3	30.0	30.0	18.9

<sup>1</sup> Includes Teaching Hospitals upto 2005  
For the year 2009

Source : Medical Statistics Unit

<sup>2</sup> Includes Provincial General Hospitals and General Hospitals

<sup>3</sup> Includes District Base Hospitals

<sup>4</sup> Includes Estate Hospitals

**Table 39. Registered Births and Hospital Births, 1980 - 2016**

Year	Registered Live Births <sup>1</sup>	Live Births in Government Hospitals <sup>2</sup>	% of Live Births in Government Hospitals
1980	418,373	316,394	75.6
1985	389,599	292,970	75.2
1990 <sup>a</sup>	294,120	241,390	82.1
1991 <sup>a</sup>	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 <sup>b</sup>	330,963	287,514	86.9
1997 <sup>b</sup>	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
2016	331,073*	303,593	91.7

\* Provisional Source : <sup>1</sup> Registrar General's Department

Excludes: <sup>2</sup> Medical Statistics Unit

<sup>a</sup> Northern and Eastern Provinces

<sup>b</sup> Kilinochchi and Mullaitivu Districts

**Table 40. Live Births, Maternal Deaths, Still Births and Low Birth Weight Babies in Government Hospitals by Districts 2016**

District	Live Births	Maternal Deaths		Still Births		Low Births <sup>4</sup>	
		No.	Rate <sup>1</sup>	No.	Rate <sup>2</sup>	No.	Rate <sup>3</sup>
Colombo	36,285	12	33.1	263	7.2	5,371	14.8
Gampaha	20,606	8	38.8	139	6.7	3,104	15.1
Kalutara	14,270	1	7.0	79	5.5	1,935	13.6
Kandy	24,826	12	48.3	168	6.7	4,207	16.9
Matale	9,013	-	-	62	6.8	1,489	16.5
NuwaraEliya	9,234	3	32.5	106	11.3	2,250	24.4
Galle	17,446	1	5.7	108	6.2	2,334	13.4
Matara	10,428	-	-	72	6.9	1,500	14.4
Hambantota	10,453	-	-	41	3.9	1,157	11.1
Jaffna	7,209	-	-	67	9.2	904	12.5
Killinochchi	2,178	1	45.9	12	5.5	233	10.7
Mullaitivu	841	-	-	3	3.6	102	12.1
Vavuniya	3,404	-	-	14	4.1	458	13.5
Mannar	1,687	-	-	8	4.7	170	10.1
Batticaloa	7,984	-	-	49	6.1	1,222	15.3
Ampara <sup>5</sup>	13,217	1	7.6	46	3.5	1,919	14.5
Trincomalee	7,844	-	-	22	2.8	1,100	14.0
Kurunegala	22,119	10	45.2	67	3.0	3,356	15.2
Puttalam	13,100	-	-	74	5.6	2,047	15.6
Anuradhapura	15,121	1	6.6	106	7.0	2,256	14.9
Polonnaruwa	7,015	2	28.5	31	4.4	1,179	16.8
Badulla	15,885	8	50.4	109	6.8	3,125	19.7
Monaragala	6,659	-	-	29	4.3	1,111	16.7
Ratnapura	17,731	1	5.6	101	5.7	2,958	16.7
Kegalle	9,038	-	-	47	5.2	1,431	15.8
Sri Lanka	303,593	61	20.1	1,823	6.0	46,918	15.5

<sup>1</sup> Per 100,000 live births

Source : Medical Statistics Unit

<sup>2</sup> Per 1,000 total births

<sup>3</sup> Per 100 live births

<sup>4</sup> Birth weight less than 2500 grams

<sup>5</sup> Includes Kalmunai RDHS division

**Table 41. Performance of Dental Surgeons by RDHS Division, 2016**

RDHS Division	Emergency Care					Routine Care												Attendance							
	Extractions	Oro-facial Pain Relief	Dento Alveolar Trauma	Soft Tissue Injuries	Post Op Infections/Bleeding	TF	Amalgam	GIC	Composite	RCT (Dressings)	RCT (Completions)	Pulp Therapy (Deciduous)	Scaling	Fluoride Applications	Fissure Sealants	OPMD	Minor Oral Surgery	HE Sessions	Referrals	Others	Total Attendance	Pregnant Mothers	Under 3 Years	Adolescents (13-19 Years)	Inward Patients
Colombo	61,314	39,001	1,045	363	1,241	54,910	21,341	61,562	11,440	6,176	1,569	2,551	25,264	1,201	181	254	1,033	4,323	22,108	36,351	338,462	13,946	2,411	28,461	5,294
Gampaha	72,199	25,827	683	425	1,008	37,063	17,185	27,590	4,141	2,170	1,346	1,311	9,238	418	147	306	1,432	4,160	8,708	28,289	213,223	13,481	2,220	16,865	3,864
Kalutara	45,970	21,017	389	341	878	30,008	10,572	22,612	2,710	630	273	666	5,036	571	1,368	183	1,104	1,251	3,674	18,665	141,969	15,149	1,524	14,385	755
Kandy	42,766	21,695	456	317	1,091	21,862	11,557	22,462	4,906	1,342	948	5,070	8,227	1,000	1,012	117	1,167	2,070	3,298	12,085	137,444	9,298	1,292	15,753	692
Matale	29,659	8,455	752	553	842	16,962	6,949	8,892	2,163	1,151	649	2,048	4,824	367	399	251	1,111	3,967	4,227	8,106	80,008	8,323	1,821	8,573	593
Nuwara Eliya	28,691	13,954	532	117	319	13,206	2,940	14,540	1,857	625	669	970	4,226	326	195	115	414	1,397	3,966	4,387	80,244	6,516	1,692	9,255	375
Galle	58,861	16,913	309	474	1,359	32,465	12,840	17,282	3,456	1,288	795	746	5,286	805	1,122	48	816	5,958	3,444	13,150	135,954	17,701	2,389	13,481	2,125
Matara	37,380	13,288	203	310	519	25,686	12,415	24,496	4,157	2,179	1,477	725	8,362	470	1,217	157	1,193	4,366	5,044	12,529	117,080	9,600	2,186	19,432	565
Hambantota	18,590	16,176	122	151	239	9,539	3,113	7,601	748	158	149	123	1,788	65	143	125	638	441	1,221	11,186	67,296	7,567	604	4,745	395
Jaffna	35,079	26,050	437	147	500	12,168	2,523	7,804	4,322	1,708	1,044	256	5,583	128	56	71	340	4,101	1,845	15,828	108,617	8,253	398	7,037	627
Mannar	8,728	6,484	30	39	48	1,449	292	2,198	589	265	127	114	950	4	-	25	187	634	134	4,815	31,122	1,210	82	1,190	176
Vavuniya	5,572	5,185	114	37	401	1,348	127	3,343	226	162	74	121	712	32	-	11	104	5,528	1,863	7,549	30,904	1,813	407	4,032	53
Mullaitivu	2,051	863	16	75	29	517	214	524	209	25	9	138	433	1	21	11	8	226	85	172	5,615	308	14	291	51
Batticaloa	38,511	10,019	379	381	459	5,534	911	5,385	1,442	351	268	289	2,338	186	130	126	381	3,162	1,365	9,387	79,111	7,795	1,269	9,662	848
Ampara	43,952	26,104	362	452	566	11,843	2,819	14,924	4,192	776	464	1,852	5,957	330	696	151	752	4,943	2,734	19,205	119,003	8,777	2,345	14,191	853
Trincomalee	23,701	14,234	351	433	391	2,672	994	4,039	1,317	151	74	57	3,226	12	224	14	483	13,011	1,057	4,274	50,140	5,485	590	6,970	427
Kurunegala	76,501	40,147	333	436	1,123	43,312	19,047	33,982	7,579	2,629	1,548	2,565	13,922	1,589	560	227	2,211	12,271	8,992	37,159	289,015	27,197	8,125	21,579	1,176
Puttalam	17,394	8,690	235	177	220	4,805	1,551	6,097	1,461	422	101	55	1,779	1	5	10	500	1,324	1,176	7,054	47,033	3,471	439	4,069	510
Anuradhapura	11,974	6,489	100	62	98	5,158	527	5,857	548	706	313	648	1,436	306	86	66	300	1,711	694	5,844	32,842	3,407	581	3,678	301
Polonnaruwa	17,549	6,677	304	187	177	8,159	262	11,571	1,281	892	646	938	3,580	514	150	44	412	669	1,035	8,375	60,305	6,355	4,036	4,146	222
Badulla	66,256	34,936	965	728	791	35,731	19,452	37,167	6,882	2,673	1,882	4,039	13,335	678	537	245	1,884	3,661	6,035	27,118	234,630	19,121	4,489	27,461	3,157
Monaragala	25,729	19,941	835	429	463	20,236	7,347	22,744	3,574	1,215	850	2,163	9,752	304	297	305	1,506	486	3,153	13,029	124,922	10,981	1,088	8,328	1,649
Ratnapura	36,111	19,711	292	236	544	31,218	8,641	30,288	2,860	1,838	1,095	1,300	6,488	465	712	264	1,279	3,638	3,234	16,602	130,477	14,158	1,979	10,161	1,044
Kegalle	31,887	17,050	247	217	406	16,781	2,324	26,133	2,606	1,677	1,206	900	3,707	236	136	96	896	1,198	3,444	16,768	122,488	10,064	2,796	8,787	832
Total	886,425	418,516	9,491	7,087	13,712	442,632	165,983	419,123	74,666	31,209	17,576	29,715	145,449	10,009	9,394	3,234	20,151	84,496	92,536	337,897	2,777,904	229,976	44,777	262,532	26,584

Note : Based on the consolidated statistics submitted by the Regional Dental Surgeons and Monthly Dental Returns

Source : Medical Statistics Unit

# Annexure II



**Table 01: Distribution of Notified Cases of Selected Notifiable Diseases by RDHS Division-2016**

RDHS Division	Dengue	Dysentery	Encephalitis	Enteric Fever	Food poisoning	Human Rabies	Leptospirosis	Typhus Fever	Viral Hepatitis
Colombo	16767	183	13	68	70	0	292	10	49
Gampaha	7173	164	18	32	98	0	338	20	54
Kalutara	3502	131	10	36	41	5	440	11	33
Kandy	4063	162	18	24	40	0	118	103	50
Matale	1148	65	1	19	5	1	92	20	26
Nuwara-Eliya	421	115	3	60	36	0	70	97	39
Galle	3086	148	8	9	13	0	377	121	10
Hambantota	900	95	2	7	61	0	106	67	106
Matara	1384	117	17	8	41	0	209	61	41
Jaffna	2468	413	13	91	128	2	24	689	10
Kilinochchi	86	56	2	36	76	0	17	26	2
Mannar	232	48	4	24	12	0	11	43	0
Vavuniya	268	18	5	103	46	0	19	12	7
Mullativu	182	31	6	20	41	1	29	6	2
Batticaloa	612	345	5	55	103	1	56	6	14
Ampara	260	52	3	1	21	0	26	0	12
Trincomalee	503	59	2	13	29	1	41	28	46
Kuruneagala	2556	347	13	5	22	4	173	51	36
Puttalam	1046	110	6	8	3	3	53	62	3
Anuradhapura	731	146	4	12	61	1	278	30	41
Polonnaruwa	479	53	4	12	15	0	91	4	5
Badulla	1185	167	15	14	32	1	135	118	131
Monaragala	475	142	1	5	11	1	175	128	151
Rathnapura	3130	374	36	32	25	0	638	43	219
Kegalle	1513	89	22	34	65	0	188	43	34
Kalmunai	980	122	7	5	65	0	22	0	7
<b>Sri Lanka</b>	<b>55150</b>	<b>3752</b>	<b>238</b>	<b>733</b>	<b>1160</b>	<b>21</b>	<b>4018</b>	<b>1799</b>	<b>1128</b>

Source: H399 Notified; Epidemiology unit

**Table 02: Age distribution of clinically confirmed selected notifiable diseases -2016**

AGE	Dysentery	Encephalitis	Enteric Fever	Human Rabies	Leptospirosis	*Measles	Tetanus	Viral Hepatitis	Whooping Cough	Dengue	*Rubella	Chickenpox	Mumps	Meningitis
Under 1	437	9	3	0	2	17	0	2	25	355	17	75	19	430
1-4	1010	21	64	0	7	2	0	17	6	3095	2	271	31	197
5-14	729	40	139	4	82	1	0	108	9	11055	1	657	51	198
15-24	156	17	79	3	386	22	0	235	1	13801	22	1034	54	41
25-49	203	27	126	6	1326	32	2	410	0	20375	32	1850	117	88
50-59	77	8	45	3	488	1	0	39	1	4567	1	226	13	13
60 and above	106	41	41	5	347	0	0	22	0	1901	0	130	1	26
<b>Total</b>	<b>2718</b>	<b>163</b>	<b>497</b>	<b>21</b>	<b>2638</b>	<b>75</b>	<b>2</b>	<b>833</b>	<b>42</b>	<b>55150</b>	<b>75</b>	<b>4243</b>	<b>286</b>	<b>993</b>

Source: H 411a Clinically confirmed cases; Epidemiology unit

\*Lab confirmed cases

**Table 03: Distribution of notified cases of selected notifiable diseases by Month, 2016**

Months	Dysentery	Encephalitis	Enteric Fever	Human rabies	Leptospirosis	* Measles	Tetanus	Viral Hepatitis	Whooping cough	* Dengue	*Rubella	Chickenpox	Mumps	Meningitis
January	303	36	104	1	638	73		142	13	669	73	482	38	131
February	192	16	61	6	294	38	1	88	5	443	38	481	43	115
March	180	18	63	0	386	57	1	120	4	269	57	479	31	120
April	267	12	42	2	379	39	1	77	5	283	39	472	44	114
May	298	15	39	0	281	14	2	76	5	242	14	400	36	104
June	421	27	69		434	21	1	61	0	473	21	362	29	94
July	496	30	96	1	320	23	1	77	7	107	23	404	31	125
August	265	22	73	2	200	16	1	97	10	487	16	441	28	103
September	379	14	58	5	303	11	0	142	7	362	11	473	26	130
October	264	13	41	2	236	14	1	100	5	218	14	406	35	98
November	284	14	29	5	243	19	1	82	6	225	19	363	31	124
December	403	21	58	3	304	16	1	66	3	767	16	429	35	230
<b>Total</b>	<b>375</b>	<b>238</b>	<b>733</b>	<b>27</b>	<b>401</b>	<b>341</b>	<b>11</b>	<b>112</b>	<b>70</b>	<b>551</b>	<b>341</b>	<b>519</b>	<b>407</b>	<b>148</b>

Source: H399 Notified; Epidemiology unit

\* All notified cases were not confirmed measles or rubella

**Table 04: Cases Incidence, Deaths and Case Fatality Rate (CFR) of Dengue Fever(DF)/Dengue Haemorrhagic Fever(DHF), Leptospirosis and Encephalitis 1996-2016**

Year	DF/DHF			Leptospirosis			Encephalitis					
	Cases		Deaths	CFR (%)	Cases		Deaths	CFR (%)	Cases			
	No	Incidence Rate*			No	Incidence Rate*			No	Incidence Rate*		
1996	1294	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	1280	6.9	ND	-	93	0.5	3	3.2
1999	628	3.4	14	2.2	1106	5.9	ND	-	90	0.5	3	3.3
2000	5213	28.2	37	0.7	1144	6	ND	-	123	0.6	2	1.6
2001	5999	31.9	54	0.9	1402	7.3	ND	-	59	0.3	9	15.3
2002	8931	47.5	64	0.7	991	5.2	ND	-	68	0.4	15	22.1
2003	4805	25.6	32	0.7	2235	11.8	ND	-	165	0.9	20	12.1
2004	15463	82.3	87	0.6	1447	7.6	ND	-	112	0.6	9	8
2005	5994	31.9	28	0.5	1552	7.9	ND	-	60	0.3	6	10
2006	11980	59.1	46	0.4	1582	8	ND	-	130	0.7	1	0.8
2007	7332	36.2	28	0.4	2198	10.8	ND	-	203	1	6	3
2008	6607	32.6	27	0.4	7423	36.2	207	2.8	261	1.3	6	2.3
2009	35095	172.7	346	1	4980	23.8	145	2.9	223	1.1	4	1.8
2010	34188	168.2	246	0.7	4554	21.8	123	2.7	217	1	3	1.4
2011	28473	140.4	186	0.7	6694	31.2	100	1.5	166	0.8	3	1.8
2012	44461	219.2	181	0.4	2663	13.1	52	2.0	210	1	12	5.7
2013	32063	162.0	89	0.3	4308	21	80	1.8	357	1.7	31	8.7
2014	41495	232.0	97	0.2	3235	15.7	41	1.3	191	0.93	17	8.9
2015	29777	142.0	56	0.19	4455	21	71	1.6	203	1	17	8.3
2016	55150	263.0	97	0.17	4018	18.9	62	1.5	238	1.1	14	5.8

\* Incidence Rate (per 100,000 population)

CFR: Case Fatality Rate/ ND= No data

Population for year 2016=21,203,000 (Source= Registrar General's Department, Sri Lanka) Source: Notified cases from H399; Epidemiology unit

**Table 05: Cases and Deaths of Dengue Fever/Dengue Haemorrhagic Fever and Leptospirosis by Age Group, 2016**

Age Group	*Dengue				Leptospirosis			
	Cases		Deaths		Cases		Deaths	
	No	%	No	%	No	%	No	%
<b>Under 1</b>	355	0.64%	2	2%	2	0.07	-	
<b>1 - 4</b>	3095	5.61%	1	1%	7	0.26	-	
<b>5 - 14</b>	11055	20.05%	10	10%	82	3.1	-	
<b>15 - 24</b>	13801	25.02%	13	13%	386	14.6	4	6.5%
<b>25 - 49</b>	20375	36.95%	42	43%	1326	50.2	28	45.2%
<b>50 - 59</b>	4567	8.28%	18	19%	488	18.5	14	22.5%
<b>60 and above</b>	1901	3.45%	11	11%	347	13.1	16	25.8%
<b>Total</b>	55150	100.00%	97	100%	2638	<b>100.0</b>	<b>62</b>	<b>100%</b>

Source: H399; Epidemiology Unit

Population for year 2016=21,203,000 (Source= Registrar General's Department, Sri Lanka)

**Table 6: Incidence of Extended Programme of Immunization (EPI) Target Diseases, 1955-2016**

Year	Diphtheria		Measles		Poliomyelitis		Tetanus		Tetanus Neonatarum		Tuberculosis		Whooping Cough	
	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cases	Rate
1955	1179	13.5	3499	40.1	155	1.8	873	10	ND	-	ND	-	1941	22.2
1960	1042	10.5	3060	30.9	303	3.1	1435	14.5	ND	-	10519	106.3	1786	18
1965	1232	11.0	2037	18.2	494	4.4	1812	16.2	ND	-	6927	62	2109	18.9
1970	986	7.9	4086	32.6	405	3.2	1441	11.5	847	230.2	5762	46	1651	13.2
1975	310	1.3	5000	37.0	396	2.9	1186	8.8	812	216	7324	54.3	1341	9.9
1980	37	0.3	5032	34.1	262	1.8	892	6.0	351	83.9	6212	42.2	542	3.7
1985	10	0.1	9398	59.3	40	0.3	405	2.6	76	19.5	5889	37.2	536	3.4
1986	3.0	0.01	6235	38.7	34	0.2	453	2.8	49	13.6	6596	40.9	161	1.0
1987	0	0	3508	21.4	149	0.9	258	1.6	37	10.3	6411	39.2	31	0.2
1988	0	0	2650	16.0	25	0.2	273	1.6	39	12.8	6092	36.7	25	0.2
1989	0	0	780	4.6	16	0.1	295	1.8	19	5.3	6429	38.2	61	0.4
1990	0	0	4004	27.6	9.0	0.1	183	1.1	5	4.7	6666	39.2	271	1.9
1991	1	0.005	1896	12.8	1.0	0.005	188	1.3	10	4.7	6174	35.7	25	0.2
1992	0	0	701	4.0	12	0.1	231	1.3	14	2.6	6802	39.0	6	0.03
1993	1	0.005	558	3.2	15	0.1	196	1.1	11	3.7	6885	39.0	18	0.1
1994	0	0	390	2.2	0	0	156	1.1	11	2.0	6121	34.3	34	0.3
1995	0	0	465	2.6	0	0	167	1.0	2	3.0	5869	31.5	171	1.0
1996	1	0.005	158	0.9	0	0	97	0.7	6	4.8	5366	29.3	33	0.2
1997	0	0	66	0.4	0	0	23	0.5	4	3.5	6547	35.6	205	1.8
1998	0	0	23	0.1	0	0	24	0.1	4	4.5	6925	36.9	94	0.5
1999	0	0	2341	12.5	0	0	23	0.1	3	4.0	7157	37.6	61	0.3
2000	0	0	4096	21.2	0	0	38	0.2	1	0.3	8129	42.9	88	0.5
2001	0	0	309	1.7	0	0	75	0.4	3	0.9	8418	45	52	0.3
2002	0	0	139	0.7	0	0	34	0.2	2	0.6	8884	46.9	16	0.1
2003	0	0	65	0.4	0	0	30	0.2	2	0.6	9312	48.4	118	0.6
2004	0	0	35	0.4	0	0	32	0.2	1	0.6	8639	48.4	51	0.2
2005	0	0	24	0.4	0	0	25	0.1	1	0.6	9448	48.4	80	0.4
2006	0	0	21	0.1	0	0	38	0.2	2	0.01	10016	48.1	48	0.2
2007	0	0	37	1.2	0	0	16	0.1	0	0	9817	47.9	21	0.1
2008	0	0	2	0.01	0	0	22	0.1	1	0.005	8181	39.5	16	0.1
2009	0	0	129	0.1	0	0	26	0.1	0	0	10306	49.8	48	0.2
2010	0	0	49	0.2	0	0	15	0.1	0	0	10235	48.9	15	0.1
2011	0	0	129	0.6	0	0	26	0.1	0	0	9454	44.1	55	0.3
2012	0	0	51	0.3	0	0	8	0.03	0	0	8720	43	61	0.3
2013	0	0	2725	13.3	0	0	19	0.1	0	0	5488	26.8	67	0.3
2014	0	0	3100	15.0	0	0	14	0.1	0	0	6710	32.5	81	0.4
2015	0	0	2432	12.0	0	0	16	0.08	0	0	7402	35.3	107	0.5
2016	0	0	341	1.0	0	0	11	0.05	0	0	7486	35.3	70	0.3

Source: H399 Notified; Epidemiology Unit

Population for year 2016=21,203,000 (Source=Registrar General's Department, Sri Lanka)

**Table 7: Immunization Coverage by (RDHS) area, 2016**

Province	RDHS	BCG	PVV1	PVV3	OPV3	IPV1	MMR1	MMR2
Western Province	Colombo	96	99	97	97	97	96	97
	Gampaha	98	94	96	96	96	97	95
	Kalutara	99	95	97	97	97	99	99
Central	Kandy	96	102	96	96	96	104	106
	Matale	102	99	97	97	98	98	99
	Nuwara Eliya	99	92	94	94	94	105	103
Southern	Galle	96	98	98	98	98	99	97
	Hambantota	100	101	97	97	97	99	100
	Matara	96	102	99	99	100	103	102
Nothern	Jaffna	102	92	91	91	91	93	102
	Kilinochchi	103	99	97	97	99	96	97
	Mannar	103	97	98	98	98	101	104
	Vavuniya	93	96	95	95	95	96	105
	Mullaithivu	80	98	98	98	99	92	123
Eastern	Batticaola	101	95	93	93	93	95	99
	Ampara	100	92	91	91	91	92	91
	Kalmunai	100	102	97	97	98	99	95
	Trincomalee	95	96	96	96	95	97	91
Noth Western	Kurunegala	101	99	98	98	99	99	102
	Puttalam	94	95	96	96	95	97	99
North Central	Anuradhapura	98	96	97	97	97	99	101
	Polonnaruwa	104	100	95	95	94	101	98
Uva	Badulla	98	104	103	103	102	105	103
	Moneragala	89	102	105	105	105	107	105
Sabaragamuwa	Ratnapura	96	97	97	97	97	98	98
	Kegalle	98	96	96	96	96	98	99

\*Estimated population considered is the population predictions for the year based on 2012 census data.

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, OPV= Oral Polio Vaccine, IPV= Inactive Polio Vaccine

Source: Epidemiology Unit

**Table 8: Number of Selected Adverse Events by Vaccination in 2016**

	BCG	OPV	PVV*	DPT	MMR	LJE	DT	TT	aTd	Total ** number of AEFI reported
<b>Total Number of AEFI Reported</b>	32	77	5161	3655	921	405	305	82	95	<b>10733</b>
<b>AEFI reporting rate/100,000 doses administered</b>	10.0	4.6	535.3	1106.6	131.3	121.6	87.7	15.3	29.8	
<b>No of High Fever (&gt;39°C) cases reported</b>	2	32	2048	1454	146	103	57	2	12	<b>3856</b>
<b>Rate of reporting High Fever /100,000 doses administered</b>	0.6	1.9	212.4	440.2	20.8	30.9	16.4	0.4	3.8	
<b>No of Allergic reactions reported</b>	5	16	485	508	519	204	97	34	20	<b>1888</b>
<b>Rate of Reporting allergic reactions /100,000 doses administered</b>	1.6	1.0	50.3	153.8	74.0	61.2	27.9	6.3	6.3	
<b>No of Severe local reactions reported</b>		1	170	193	28	8	12	4	4	<b>420</b>
<b>Rate of severe local reactions /100,000 doses administered</b>		0.1	17.6	58.4	4.0	2.4	3.5	0.7	1.3	
<b>No of Seizure (Febrile/Afebrile) reported</b>		3	108	227	16	20	3			<b>372</b>
<b>Rate of seizures /100,000 doses administered</b>		0.2	11.2	68.7	2.3	6.0	0.9			
<b>No of Nodules reported</b>	5	9	1249	456	20	5	25	3	8	<b>1780</b>
<b>Rate of nodules /100,000 doses administered</b>	1.6	0.5	129.6	138.1	2.9	1.5	7.2	0.6	2.5	
<b>No of Injection site abscess reported</b>	10	3	388	75	9	1	9	1	1	<b>497</b>
<b>Rate of injection site abscess/100,000 doses administered</b>	3.1	0.2	40.2	22.7	1.3	0.3	2.6	0.2	0.3	
<b>No of Hypotonic Hypotensive Episodes reported</b>			6	1						<b>7</b>
<b>Rate of Hypotonic Hypotensive episodes /100,000 doses administered</b>			0.6	0.3						

*\*PVV- Pentavalent vaccine    \*\*Total given only for nine vaccines listed in the table*

Table 9: Sentinel Site Surveillance of Influenza like illness (ILI) and Severe Acute Respiratory Illness (SARI), 2016

Month/2016	Human Surveillance											
	ILI Surveillance					SARI Surveillance						
	Total OPD Visits (1)	Total ILI visits Reported (2)	Proportion of ILI Out of Total OPD visits (3) (2)/(1) *100	Total ILI samples tested (4)	Total Positive (5)	Influenza yield from ILI Samples (6) (5)/(4) *100	Total Admissions (7)	Total SARI visits Reported (8)	Proportion of SARI / Total Admissions (9) (8)/(7) *100	Total SARI samples tested (10)	Total Positive (11)	Influenza yield from SARI Samples (12) (11)/(10) *100
January	442605	10791	2.44%	38	3	7.89%	1926	43	2.23%	11	1	9.09%
February	397147	7792	1.96%	39	3	7.69%	3904	61	1.56%	30	1	3.33%
March	410405	9050	2.21%	47	1	2.13%	4030	60	1.49%	24	1	4.17%
April	470326	10589	2.25%	35	0	0.00%	4908	61	1.24%	13	4	30.77%
May	401941	8713	2.17%	40	4	10.0%	4345	33	0.76%	10	2	20.00%
June	308804	9524	3.08%	46	7	15.22%	7576	81	1.07%	35	12	34.29%
July	408313	14134	3.46%	36	5	13.89%	12731	126	0.99%	13	6	46.15%
August	333031	10142	3.05%	40	1	2.50%	7718	74	0.96%	21	6	28.57%
September	385765	9840	2.55%	70	7	10.0%	9253	82	0.89%	30	10	33.33%
October	319820	8286	2.59%	43	1	2.33%	7660	55	0.72%	23	3	13.04%
November	291906	4934	1.69%	61	1	1.64%	7557	43	0.57%	21	5	23.81%
December	391457	6847	1.75%	57	8	14.04%	11041	97	0.88%	48	15	31.25%
<b>Total</b>	<b>4561520</b>	<b>110642</b>	<b>2.43%</b>	<b>552</b>	<b>41</b>	<b>7.43%</b>	<b>82649</b>	<b>816</b>	<b>0.99%</b>	<b>279</b>	<b>66</b>	<b>23.66%</b>

Source: Epidemiology Unit



**Table 10: Reported Cases and Case Fatality Ratios (CFR)**

Source: NDCU

Year	Dengue Cases Reported	Dengue Deaths	Case Fatality Rate
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
2016	54,945	98	0.18

**Table 11: High Dependency Units of Health Institutions provided with equipment in 2016**

Type of Hospital	No. of HDUs facilitated in 2016
Teaching Hospitals (with NHSL)	08
Provincial General Hospitals	03
District General Hospitals	12
'A' Grade Base Hospitals	14
'B' Grade Base Hospitals	17
<b>Total</b>	<b>54</b>

Source: NDCU

**Table 12: Distribution of High dependency unit equipment: Hospital type wise**

Type of Hospital	HDU Beds	Infusion Pumps	Multipara Monitors	Micro haematocrit Centrifuges	Weighing Scales - Adult	Weighing Scales - Paediatrics	Weighing Scales - Infant	Blood Pressure apparatus
Teaching Hospitals (with NHSL)	35	40	49	13	32	11	8	15
Provincial General	5	10	10	4	12	-	-	-
District General Hospitals	29	29	29	16	28	2	-	9
'A' Grade Base Hospitals	54	31	31	22	36	2	-	18
'B' Grade Base Hospitals	25	21	27	30	31	5	1	17
<b>Total</b>	<b>148</b>	<b>131</b>	<b>146</b>	<b>85</b>	<b>139</b>	<b>20</b>	<b>9</b>	<b>59</b>

Source: NDCU

**Table 13: Distribution of High dependency unit equipment: Province wise**

Province	HDU Beds	Infusion Pumps	Multipara Monitors	Microhaematocrit Centrifuges	Weighing Scales -Adult	Weighing Scales - Paediatrics	Weighing Scales - Infant	Blood Pressure apparatus
Western	68	53	56	23	54	4	4	17
Southern	23	14	14	9	18	6		17
Central	10	20	28	11	12	6	4	11
Northern	8	5	5	1	6	1	-	10
Eastern	2	9	9	9	12	1	-	-
North Western	14	12	14	11	13	1	1	-
North Central	-	2	2	3	4	-	-	4
Uva	8	8	10	14	4	-	-	-
Sabaragamuwa	15	8	8	4	16	1	-	-
<b>Total</b>	<b>148</b>	<b>131</b>	<b>146</b>	<b>85</b>	<b>139</b>	<b>20</b>	<b>9</b>	<b>59</b>

Source: NDCU

**Table 14: Summary of emergency Dengue control programs in 2014**

<b>Program</b>	<b>Dates</b>	<b>No. of premises visited</b>	<b>No. of premises with larvae</b>	<b>%</b>	<b>Notice</b>	<b>Legal Actions to be taken</b>
Phase I	07th-09th Jan	72,454	1,234	1.70	3,163	573
Phase II	28th-30th Jan	59,515	746	1.25	2,120	303
Phase III	11th-13th Feb	68,922	911	1.32	2,958	477
Phase IV	11th-12th March	45,511	719	1.58	1,755	259
Phase V	04th May	12,932	222	1.72	495	147
Phase VI	02nd-04th June	12,994	227	1.75	520	97
Phase VII	16th-18th June	12,170	178	1.46	362	125
Phase VIII	30th June & 1-2nd July	55,420	875	1.58	2,565	429
Phase IX	13th-15th July	65,095	1,160	1.78	2,883	613
Phase X	29 <sup>th</sup> -30th July & 1st Aug	69,994	1,403	2.00	3,238	859
Phase XI	11th-13th Aug	72,173	661	0.92	2,389	338
Phase XII	26th,27th & 29th Aug	65,088	634	0.97	2,385	283
Phase XIII	27th & 28th Oct	29,515	489	1.66	1,337	273
Phase XIV	10th & 11th Nov	11,495	492	4.28	843	292
Phase XV	02nd & 03rd Dec	34,510	818	2.37	1,360	323
Phase XVI	07th -09th Dec	60,497	639	1.06	1,889	402
Phase XVII	27-28 Dec	49,189	722	1.47	1,934	403
<b>Sub Total</b>	<b>WP Special Programs</b>	<b>797,474</b>	<b>12,130</b>	<b>1.52</b>	<b>32,196</b>	<b>6,196</b>

<b>Program</b>	<b>Dates</b>	<b>No. of premises visited</b>	<b>No. of premises with larvae</b>	<b>%</b>	<b>Notice</b>	<b>Legal Actions to be taken</b>
Phase I	Galle,Matara, Hambantota, Kandy,Jaffna,Vavuniya, Mannar, Batticaloa, Kalmuane,Puttlum, Kegalle	99,611	2,997	3.01	3,642	621
Phase III	Jaffna,Vavuniya,Batticaloa, Kalmuane,Puttlum, Kurunegala,Kegalle	36,366	830	2.28	1,653	187
Phase IV	Kurunegala, Matara , Kalmunai	5,771	89	1.54	306	15
Phase VII	Kandy,Galle,Puttlam, Rathnapura, Kurunegala	27,662	1,225	4.43	1,354	247
Phase VIII	Kandy,Matale	11,364	338	2.97	408	177
Phase IX	Kandy,Matale,Galle, Matara , Kurunegala	31,536	1,276	4.05	1,408	879
Phase XVI	Galle,Rathnapura,Badulla, Kalmunai	17,231	501	2.91	993	214
Phase XVII	Galle, Kalmunai	7,062	140	1.98	1,037	87
<b>Sub Total</b>	<b>Other Provinces</b>	<b>236,603</b>	<b>7,396</b>	<b>3.13</b>	<b>10,801</b>	<b>2,427</b>
<b>NMCW1 - 2016</b>	29th March to 4th April	631,416	11,621	1.84	25,627	2,104
<b>NMCW2 - 2016</b>	27 Sept. to 03rd Oct	632,510	9,140	1.45	28,968	2,213
<b>Total</b>		<b>2,298,003</b>	<b>40,287</b>	<b>1.75</b>	<b>97,592</b>	<b>12,940</b>

National mosquito control week

Table 15: Distribution of TB cases by district

District	New Cases				Relapse			Treatment After Failure			Lost to Follow up			Other Previously Treated			Previous Treatment History unknown			Grand Total
	PTB Bacteriologically Confirmed (Positive)	PTB Clinically Diagnosis (Negative)	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	PTB	EPTB	Total	
Colombo	1024	366	587	1977	89	9	98	19	1	20	47	0	47	7	4	11	2	1	3	2156
Gampaha	545	230	252	1027	16	2	18	17	0	17	12	0	12	4	4	8	1	0	1	1083
Kalutara	294	79	172	545	13	3	16	4	0	4	5	0	5	0	0	0	0	0	0	570
Kandy	196	145	191	532	12	7	19	10	0	10	3	0	3	2	0	2	0	0	0	566
Matale	72	27	57	156	1	1	2	2	1	3	0	0	0	0	0	0	0	0	0	161
Nuwara Eliya	93	78	84	255	7	1	8	4	2	6	2	0	2	0	0	0	0	0	0	271
Galle	208	75	113	396	11	5	16	3	0	3	3	0	3	1	0	1	0	0	0	419
Matara	106	34	85	225	10	0	10	4	0	4	1	0	1	0	0	0	0	0	0	240
Hambantota	36	30	47	113	5	2	7	1	0	1	0	0	0	0	0	0	0	0	0	121
Jaffna	102	89	85	276	8	2	10	2	0	2	3	0	3	0	0	0	0	0	0	291
Vavuniya	43	7	14	64	4	0	4	3	0	3	0	1	1	0	0	0	0	0	0	72
Batticaloa	83	15	37	135	4	1	5	0	0	0	0	1	1	0	0	0	0	0	0	141
Ampara	34	35	20	89	6	0	6	0	0	0	0	0	0	0	0	0	0	0	0	95
Kalmunai	74	72	26	172	12	0	12	2	0	2	1	0	1	0	0	0	0	0	0	187
Trincomalee	51	55	37	143	6	1	7	0	0	0	3	0	3	0	0	0	0	0	0	153
Kurunegala	201	63	140	404	16	1	17	3	0	3	4	0	4	0	1	1	0	0	0	429
Puttalam	94	28	66	188	5	1	6	2	0	2	3	0	3	0	0	0	0	0	0	199
Anuradhapura	147	24	67	238	8	2	10	4	0	4	0	0	0	0	0	0	0	0	0	252
Polonnaruwa	67	15	29	111	10	1	11	0	0	0	0	0	0	0	0	0	0	0	0	122
Badulla	98	46	74	218	6	0	6	8	0	8	1	1	2	0	0	0	0	0	0	234
Monaragala	47	17	35	99	5	0	5	1	0	1	0	0	0	0	0	0	0	0	0	105
Ratnapura	230	80	181	491	9	3	12	6	0	6	1	0	1	0	0	0	0	0	0	510
Kegalle	191	82	101	374	9	4	13	4	0	4	3	1	4	0	0	0	0	0	0	395
Menar	24	7	7	38	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	38
Mullaitivu	14	7	11	32	2	1	3	0	0	0	0	0	0	0	0	0	0	0	0	35
Kilinochchi	19	8	7	34	6	1	7	0	0	0	0	0	0	0	0	0	0	0	0	41
<b>Total</b>	<b>4093</b>	<b>1714</b>	<b>2625</b>	<b>8332</b>	<b>280</b>	<b>48</b>	<b>328</b>	<b>99</b>	<b>4</b>	<b>103</b>	<b>92</b>	<b>4</b>	<b>96</b>	<b>14</b>	<b>9</b>	<b>23</b>	<b>3</b>	<b>1</b>	<b>4</b>	<b>8886</b>

\* Data from Quarterly Reports of Case Finding from districts.

Source: NPTCCD

**Table 16: Distribution of treatment outcome of all forms of TB by districts in 2015**

District	Total Number Registered		Cured		Treatment Completed		Treatment Success		Died			Failure		Lost to Follow up		Not Evaluated		Total			
	No	Rate	No	Rate	No	Rate	No	Rate	Confirmed as not due to TB		All Other Deaths		All Deaths		No	Rate	No		Rate		
									No	Rate	No	Rate	No	Rate						No	Rate
Colombo	2264	37.6	851	37.6	971	42.9	1822	80.5	61	2.7	96	4.2	157	6.9	22	1.0	168	7.4	95	4.2	2264
Gampaha	1065	41.1	438	41.1	453	42.5	891	83.7	24	2.3	35	3.3	59	5.5	29	2.7	54	5.1	32	3.0	1065
Kalutara	633	48.8	309	48.8	244	38.5	553	87.4	16	2.5	22	3.5	38	6.0	4	0.6	24	3.8	14	2.2	633
Kandy	693	26.8	186	26.8	398	57.4	584	84.3	10	1.4	33	4.8	43	6.2	6	0.9	26	3.8	34	4.9	693
Matale	189	37.0	70	37.0	94	49.7	164	86.8	2	1.1	14	7.4	16	8.5	1	0.5	1	0.5	7	3.7	189
Nuwara E liya	321	31.2	100	31.2	157	48.9	257	80.1	5	1.6	11	3.4	16	5.0	5	1.6	16	5.0	27	8.4	321
Galle	471	46.7	220	46.7	189	40.1	409	86.8	11	2.3	15	3.2	26	5.5	1	0.2	17	3.6	18	3.8	471
Matara	220	42.3	93	42.3	98	44.5	191	86.8	5	2.3	14	6.4	19	8.6	3	1.4	1	0.5	6	2.7	220
Hambantota	144	32.6	47	32.6	79	54.9	126	87.5	3	2.1	2	1.4	5	3.5	2	1.4	5	3.5	6	4.2	144
Jaffna	273	37.7	103	37.7	135	49.5	238	87.2	4	1.5	21	7.7	25	9.2	4	1.5	1	0.4	5	1.8	273
Vavuniya	98	33.7	33	33.7	50	51.0	83	84.7	3	3.1	5	5.1	8	8.2	0	0.0	1	1.0	6	6.1	98
Batticaloa	152	37.5	57	37.5	56	36.8	113	74.3	7	4.6	10	6.6	17	11.2	0	0.0	3	2.0	19	12.5	152
Ampara	90	30.0	27	30.0	51	56.7	78	86.7	0	0.0	11	12.2	11	12.2	0	0.0	0	0.0	1	1.1	90
Kaimunai	240	27.5	66	27.5	128	53.3	194	80.8	6	2.5	14	5.8	20	8.3	0	0.0	14	5.8	12	5.0	240
Trincomalee	146	34.2	50	34.2	76	52.1	126	86.3	3	2.1	4	2.7	7	4.8	1	0.7	5	3.4	7	4.8	146
Kurunegala	497	40.8	203	40.8	221	44.5	424	85.3	1	0.2	41	8.2	42	8.5	6	1.2	13	2.6	12	2.4	497
Puttalam	187	36.9	69	36.9	87	46.5	156	83.4	4	2.1	10	5.3	14	7.5	1	0.5	9	4.8	7	3.7	187
Anuradhapura	250	55.2	138	55.2	98	39.2	236	94.4	0	0.0	7	2.8	7	2.8	4	1.6	1	0.4	2	0.8	250
Polonnaruwa	142	49.3	70	49.3	54	38.0	124	87.3	7	4.9	7	4.9	14	9.9	2	1.4	0	0.0	2	1.4	142
Badulla	262	40.1	105	40.1	124	47.3	229	87.4	7	2.7	3	1.1	10	3.8	4	1.5	3	1.1	16	6.1	262
Monaragala	107	50.5	54	50.5	39	36.4	93	86.9	9	8.4	2	1.9	11	10.3	2	1.9	0	0.0	1	0.9	107
Ratnapura	593	38.4	228	38.4	267	45.0	495	83.5	0	0.0	42	7.1	42	7.1	2	0.3	35	5.9	19	3.2	593
Kegalle	412	44.7	184	44.7	172	41.7	356	86.4	13	3.2	17	4.1	30	7.3	6	1.5	4	1.0	16	3.9	412
Mannar	31	41.9	13	41.9	14	45.2	27	87.1	0	0.0	3	9.7	3	9.7	0	0.0	1	3.2	0	0.0	31
Mullaitivu	41	17.1	7	17.1	26	63.4	33	80.5	1	2.4	6	14.6	7	17.1	0	0.0	0	0.0	1	2.4	41
Kilinochchi	54	27.8	15	27.8	35	64.8	50	92.6	1	1.9	0	0.0	1	1.9	0	0.0	0	0.0	3	5.6	54
<b>Total</b>	<b>9575</b>	<b>39.0</b>	<b>3736</b>	<b>39.0</b>	<b>4316</b>	<b>45.1</b>	<b>8052</b>	<b>84.1</b>	<b>203</b>	<b>2.1</b>	<b>445</b>	<b>4.6</b>	<b>648</b>	<b>6.8</b>	<b>105</b>	<b>1.1</b>	<b>402</b>	<b>4.2</b>	<b>368</b>	<b>3.8</b>	<b>9575</b>

Source: Quarterly reports of District Chest Clinics

Source: NPTCCD

**Table 17: Functioning miturupiyasa centres**

1) Army Hospital- Narahenpita	24) Kegalle- Teching Hospital
2) Ashraff Memorial Hospital- Kalmunai	25) Kethumathie Maternity Hospital
3) Avissawella- Base Hospital	26) Kilinochchi- Base Hospital
4) Akkareipattu- Base Hospital	27) Kiribathgoda- Base Hospital
5) Badulla- Provincial General Hospital	28) Mahamodara- Teaching Hospital
6) Balangoda- Base Hospital	29) Marawila- Base Hospital
7) Bandarawela- Divisional Hospital	30) Matara- General Hospital
8) Batticaloa- Teaching hospital	31) Meerigama- Base Hospital
9) Castle Street Hospital for Women	32) Nawalapiiya- District General Hospital
10) De. Soysa Hospital for Women	33) Nuwara Eliya- General Hospital
11) Dickoya- District General Hospital	34) Peradeniya- Teaching Hospital
12) Diyathalawa- Base Hospital	35) Pimbura- Base Hospital
13) Elpitiya- Base Hospital	36) Ragama- Teaching Hospital
14) Embilipitiya- Base Hospital	37) Rathnapura- Provincial General Hospital
15) Family Health Bureau	38) Rikillagaskada- Base Hospital
16) Base Hospital- Gampola	39) Thalangama- Divisional Hospital
17) Hambanthota- General Hospital	40) Thambuththegama- Base Hospital
18) Horana- Base Hospital	41) Tissamaharama- Base Hospital
19) Jayawardanepura- General Hospital	42) Trincomalee- General Hospital
20) Kalmunai (North)- Base Hospital	43) Valachchenai- Base Hospital
21) Kalubowila- Teaching Hospital	44) Vavuniya- District General Hospital
22) Kaluthara- General Hospital	45) Welimada- Base Hospital
23) Kandy- Teaching Hospital	

**Table 18: Details of number of people attended in 2016**

Year	Number of functioning Mithuru Piyasa centres	Total number of new survivors seeking care over the year	Total number of subsequent consultation held with the survivors	Total number of consultation held with the family members of survivors	Total number of consultation held with the perpetrators	Total number of consultations
2011	06	447	230	232	101	1010
2012	08	870	355	432	249	1906
2013	16	1722	726	827	471	3746
2014	20	2949	1360	1309	717	6335
2015	31	4670	2683	2135	1261	10749
2016	45	7577	4131	3077	2243	17028

**Table 19: Details of local trainings facilitated by DDG (MS)II division**

	2014		2015		2016	
	Repeat batch	Proper batch	Repeat batch	Proper batch	Repeat batch	Proper batch
Pre-intern Training in A&E scenarios	355	1100	332	1215	320	1194
AIIMS Training of MO in A&E units	Total of 40 Medical Officer attached to A&E units are trained in SONOGRAPHY conducted by foreign trainers.					

Source: DDG (MS)II division



**Table 20: Details of foreign trainings facilitated by DDG (MS)II division**

<b>Foreign Training</b>		
<b>Training Program</b>	<b>Country</b>	<b>Year (2016)</b>
A&E Emergency Training of Medical Officers	TONTOK SENG Hospital Singapore	42
Leadership, Development Training of Medical Administrators	Management Institute of Malaysia	32
Bio Medical Informatics	INDIA	20
Sports Medicine	Malaysia Institute	20

Source: DDG (MS)II division

**Table 21: Major Procurements of Biomedical Engineering Division in 2016**

Index	Equipment Name	Qty	Awarded Cost (Rs.Mn)
1	Laparoscopy M/C	3	Rs.36 Mn
2	ICU Ventilator	10	Rs.30 Mn
6	Eye Microscope	8	Rs.85 Mn
7	ENT Microscope	4	Rs.40 Mn
9	Laparoscopy M/C	3	Rs.36 Mn
10	Eye Laser	5	Rs.44 Mn
11	Patient warmer	75	Rs.18 Mn
12	OT Table	28	Rs.74 Mn
13	OT Table (Orthopedic)	9	Rs.67 Mn
14	Ventilator (Trans)	24	Rs.25 Mn
15	Ventilator (ICU)	45	Rs.63 Mn
16	Intra-Aortic Balloon pump	3	Rs.38 Mn
17	Autoclave Table Top	145	Rs.42 Mn
18	Central Monitoring Sys (A'pura)	1	Rs.18 Mn
19	Central Monitoring Sys (Kara'pitiya)	1	Rs.18 Mn
20	C-PAP	33	Rs.27 Mn
21	Exercise ECG	6	Rs.14 Mn
22	Eye Operating Microscope	2	Rs.16 Mn
23	ENT Operating Microscope	2	Rs.20 Mn
24	Neuro Navigator	1	Rs.103 Mn
25	Operating Microscope (Neurosurgery)	1	Rs.33 Mn
26	Operating Microscope (Plastic Surgery)	1	Rs.42 Mn
27	USS (Radiology)	8	Rs.31 Mn
28	Ventilator (Transport)	17	Rs.17 Mn
29	X-ray (mobile)	20	Rs.49 Mn
30	X-ray (Fluoroscopy)	3	Rs.134 Mn
31	USS (portable)	15	Rs.21Mn
32	Multi monitor	150	Rs.17 Mn
33	Echocardiography	4	Rs.38 Mn
34	Skull Base Navigator	1	Rs.27 Mn
35	Echocardiography	1	Rs.21 Mn
36	Neurosurgical operating Microscope (Teach)	1	Rs.93 Mn
37	Lithotripter	1	Rs.62 Mn
38	Heart Lung M/C	1	Rs.35 Mn
<b>Total Amount</b>			<b>Rs.1,450 Mn</b>

*Source: Biomedical Engineering Division*



