

Age - sex pyramid : Sri Lanka 2041



2017

ANNUAL HEALTH BULLETIN

MINISTRY OF HEALTH AND INDIGENOUS MEDICAL SERVICES

ANNUAL HEALTH BULLETIN 2017



**Ministry of Health and Indigenous Medical Services
Sri Lanka**

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ISBN 978-955-702-193-5

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Preface

This Annual Health Bulletin of 2017 is the 32nd of the series of Annual Health Bulletins, published by the Ministry of Health and Indigenous Medical Services of Sri Lanka, which is being published since 1980. It provides comprehensive information of government health sector in Sri Lanka. It is expected that the information needs of policy makers, health planners, researchers and others interested in the field of health development as well as information for monitoring and evaluation purposes are met by this publication.

As the Annual Health Bulletin (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. Therefore the AHB was restructured from the year 2016 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. In addition to that, AHB contains data of four major areas; morbidity, mortality, resource availability and provision of services.

The officials who have given their generous support by providing data of their institutions, programs and surveys are greatly appreciated and it is expected their continuous support in the future as well.

Dr. S. H. Munasinghe
Secretary
Ministry of Health and Indigenous Medical Services

Message from the Director General of Health Services

Annual Health Bulletin (AHB) is one of the main and an important publication of the Ministry of Health and Indigenous Medical Services, published annually since 1980. Annual Health Bulletin provides comprehensive information on the state health sector in Sri Lanka to meet the information needs of policymakers, health planners, researchers and other interested stakeholders.

Last year, based on stakeholder inputs the Ministry of Health and Indigenous Medical Services restructured the Annual Health Bulletin to provide more strategic information to support policy formulation and programme decision-making. The initiative was widely welcomed and accepted by the stakeholders. Hence it was decided to publish the Annual Health Bulletin – 2017 also as the 2nd in the restructured series of bulletins with additional enhancements.

AHB - 2017 presents an overview of the country's health status, the risk factors, details of service coverage and information on the health system which facilitated the provision of health services. It is expected that the information and data in the AHB will be used by the policy makers, health planners, health administrators and the development partners as the main reference for strategic decision-making.

Medical Statistics Unit of the Ministry of Health is responsible for collecting and compiling the health data and presenting in the Annual Health Bulletin in a meaningful way. I highly appreciate the valuable service and dedication rendered by the staff of Medical Statistics Unit. Meanwhile I thank all the Directors and other health staff, who gave their support by sharing the data, information and the write-ups for this publication without which it would not have a success. An editorial board was appointed to reorganize the write-ups received by various institutions and Dr. Anil Samaranayake (Director - Information) who has facilitated and led the editorial board is also highly appreciated. Members of the editorial board of the Annual Health Bulletin are admired for extending their valuable service. I hope that readers will provide their feedback to make this valuable publication more useful.

Dr. Anil Jasinghe
Director General of Health Services

Table of Contents

Table of Contents	VII
List of Figures	XI
List of Tables	XIV
List of Abbreviations	XVIII
Key Health Indicators	XXIV

Health Status

1. Country Profile	1
1.1. Background	1
1.2. Population size and growth	2
1.3. Introduction to Sri Lankan Health Sector	9
1.4. Trends in Life Expectancy	9
1.5. Trends in fertility Rate	10
1.6. Health Related Sustainable Development Goals (SDG)	11
2. Morbidity and Mortality	13
2.1. Hospital Morbidity and Mortality	14
2.2. Hospital Morbidity	14
2.3. Hospital Mortality	19
2.3.1. Leading Causes of Hospital Deaths	20
2.3.2. Case Fatality Rate	22
2.4. Registration of Deaths	22
3. Reproductive, Maternal, New-born, Child Adolescent and Youth Health	23
3.1. Maternal and Child Health	23
3.1.1. Maternal Mortality Ratio	23
3.1.2. Maternal Deaths	24
3.1.3. Perinatal Mortality	27
3.1.4. Neonatal Mortality Rate	27
3.1.5. Infant Mortality Rate	29
3.1.6. Under Five Mortality Rate	30
4. Infectious Diseases/ Communicable Diseases	32
4.1. Dengue Fever (DF) / Dengue Haemorrhagic Fever (DHF)	32
4.2. Tuberculosis	37
4.3. HIV/ AIDS and Sexually Transmitted Infections (STIs)	40
4.4. Vaccine preventable disease	47

4.4.1. Encephalitis	47
4.4.2. Mumps	47
4.4.3. Measles	47
4.4.4. Rubella	47
4.4.5. Congenital Rubella Syndrome (CRS)	47
4.4.6. Poliomyelitis	48
4.5. Leptospirosis	48
4.6. Influenza	49
4.7. Food Borne Diseases	50
4.8. Malaria	51
4.9. Filariasis	52
4.10. Leprosy	54
4.11. Leishmaniasis	57
4.12. Rabies	57
5. Non-Communicable Diseases (NCD)	58
5.1. Major Non-Communicable Diseases	58
5.2. Acute NCDs	60
5.3. Chronic Kidney Disease	62
5.4. Cancer	63
5.5. Mental Health	72
5.5.1. Suicides	72
5.5.2. Mental Disorders	73
6. Oral Health	75
6.1. Oral Health Services	75

Risk Factors

7. Risk Factors	
7.1. Food and Nutrition related risk factors	80
7.1.1. Maternal Nutrition related risk factors	83
7.1.2. Risk Factors Related to Nutrition status of children	85
7.2. Adolescence Health Risk Factors	89
7.2.1. Teenage Pregnancies	89
7.3. Gender-based Violence	90
7.4. Risk factors for Non Communicable Diseases	92
7.4.1. Prevalence of behavioural and intermediate risk factors for NCD	92
7.4.2. Prevalence of risk factors among the screened population	95
7.5. Physical Environment	96
7.5.1. Safe Drinking Water	96
7.5.2. Sanitation	97

Health Service Coverage

8. Health Service Coverage	
8.1. Service coverage indicators	100
8.2. Reproductive, Maternal, Newborn, Child, Adolescent and Youth Health (RMNCAYHP) services coverage	102
8.2.1. Reproductive Health	102
8.2.2. Pre-pregnancy care	104
8.2.3. Antenatal Care coverage	105
8.2.4. Perinatal and Postnatal Care Coverage	106
8.2.5. Infant and Childcare service coverage	107
8.2.6. Coverage of School Medical Inspections	108
8.3. Immunization coverage	109
8.4. HIV service coverage	110
8.4.1. People living with HIV who know their status	110
8.5. Screening and preventive care	110
8.5.1. Well women service coverage	110
8.6. Non-Communicable diseases Service Coverage	112
8.6.1. NCD Screening at Healthy Lifestyle Centres	112
8.6.2. Diabetes	113
8.6.3. Hypertension	113
8.6.4. Service availability and readiness assessment	113

Health System

9. Organization of the Healthcare Delivery System	116
9.1. Organization of Public Sector Healthcare Services	117
9.2. Medical Supplies Division (MSD)	119
9.2.1. Supply of vaccines	119
9.3. Biomedical Engineering Services	120
9.4. Medical Research Institute (MRI)	120
9.5. Board Managed Hospitals	120
9.5.1. Sri Jayewardenepura General Hospital	120
9.5.2. Wijaya Kumarathunga Hospital	121
9.6. Medical Statistics Unit (MSU)	121
10. Curative Care Services	122
10.1. Distribution of Beds and Bed Strength	122
10.2. Service Utilization	123
10.2.1. Attendance to Out Patient Departments (OPD) of Hospitals	123
10.2.2. Attendance to Curative Care Health Clinics	124

10.2.3. Maternal Services	124
10.2.4. Utilization of Medical Institutions	127
10.3. Human Resources management	129
10.4. Recruitment of health staff	129
10.5. Training and education of the health human resource	129
10.5.1. Basic training of health staff: Medical and Dental officers	129
10.5.2. Basic training of health staff: Other categories	132
10.5.3. Capacity Development of Service Providers of the Department of Health	134
10.6. Directorate of Private Health Sector Development, together with Private Health Services Regulatory Council	135
10.6.1. Last 5 year performance Trend	137
10.7. Data Collection on Private Sector of Western Medicine and State Sector of Indigenous Medicine	139
10.7.1. Private Sector of Western Medicine	139
10.7.2. State Sector of Indigenous Medicine	143
11. Laboratory Services	
11.1. Deputy Director General Laboratory Services	149
11.2. National laboratory system	150
11.3. National Blood Transfusion Service	158
11.4. Screening of donated blood for Transfusion Transmitted Infections (TTI Tests)	161
12. Indigenous Medicine Sector	
12.1. Ministerial Priorities	168

Annexure I - Detail Tables of Statistics by Medical Statistics Unit

Annexure II - Detail Tables of Statistics by Other Institutes

List of Figures

Figure 1.1 : Population Size and Annual Growth Rate, 1911 - 2017	2
Figure 1.2 : Crude Birth and Death Rates, 1955 - 2017	3
Figure 1.3 : Population by Broad Age Groups, 1981 and 2017	3
Figure 1.4 : Population Trends for Sri Lanka by Age and Sex, 1981, 2012 and 2041	5
Figure 1.5 : Population Density by District, 2017	8
Figure 1.6 : Life Expectancy at Birth by Sex, 1920 - 2013	10
Figure 2.1 : Percentage of Hospital Live Discharges and Deaths by Gender, 2017	17
Figure 2.2 : Distribution of Live Discharges and Deaths due to Traumatic Injuries by Gender, 2017	17
Figure 2.3 : Leading causes of hospitalization	18
Figure 2.4 : Leading Causes of Hospitalization, 2017	19
Figure 2.5 : Top three leading causes of hospital deaths	20
Figure 2.6 : Leading Causes of Hospital Deaths, 2017	20
Figure 2.7 : Leading Causes of Hospital Deaths for Children Aged between 0 - 4 Years, 2017	21
Figure 2.8 : Trends in Case Fatality Rates of Selected Diseases, 2013 - 2017	22
Figure 3.1 : Trends in Maternal and Infant Mortality Rates, 1940 - 2014	23
Figure 3.2 : Trends in National Maternal Deaths and MMR 2001 - 2017	24
Figure 3.3 : Maternal deaths by categories	25
Figure 3.4 : Leading causes of maternal deaths in 2017	25
Figure 3.5 : MMRs and maternal deaths by district	26
Figure 3.6 : Still Birth Rate 2007 to 2017	27
Figure 3.7 : Early neonatal mortality rate (ENMR) 2011 - 2017	28
Figure 3.8 : Still Birth Rate 2007 to 2017	28
Figure 3.9 : Comparison of trends in National IMRs determined from RHMIS and Registrar General's Department	29
Figure 3.10 : Percentage distribution of cause of infant deaths 2017	29
Figure 3.11 : Under Five Mortality Rate per 1000 live births 2013 - 2017	31
Figure 3.12 : Percentage distribution of cause of 1-5-year-old child deaths 2017	31
Figure 4.1 : Annual Trend in Dengue Cases and CFR from 1989 to 2017	33
Figure 4.2 : Weekly Reporting of Cases Indicating Seasonality from 2013 - 2017	33
Figure 4.3 : Dengue incidence according to the districts of the country in 2017	34
Figure 4.4 : Distribution of vector breeding sites identified in 2017	37
Figure 4.5 : Gap between the estimated TB cases (new & relapse) and notified cases 2010 - 2017	37
Figure 4.6 : Percentage of presumptive TB cases referred for sputum microscopy of total OPD attendance 2010 - 2017	38
Figure 4.7 : Contact screening of TB patients-2017	39
Figure 4.8 : Treatment outcome of all forms of TB-2010 - 2016	39
Figure 4.9 : Summary of the status of PLHIV as of end 2017	40
Figure 4.10 : Cumulative PLHIV by province of residence, 1987 - 2017	40
Figure 4.11 : Trends in reported and estimated new PLHIV, 2010 - 2017	41
Figure 4.12 : Trends in annually reported HIV diagnoses, 2010 - 2017	41

Figure 4.13 : 90-90-90 treatment targets as at end 2017	42
Figure 4.14 : Distribution of Antiretroviral Treatment facilities in Sri Lanka	43
Figure 4.15 : STI rates per 100,000 adult population (15+ years), 2013 - 2017	44
Figure 4.16 : Trends in ANC HIV tests performed, and the number of HIV seropositive women delivered from 2012 - 2017	45
Figure 4.17 : Trends in the number of VDRL tests performed and number of women tested positive for syphilis among antenatal women	46
Figure 4.18 : Leptospirosis incidence rate per 100,000 population 1996 - 2017	48
Figure 4.19 : Leptospirosis deaths and CFR from 2008 - 2017	49
Figure 4.20 : Distribution of reported Influenza Like Illness (ILI) patients from sentinel sites in 2017	50
Figure 4.21 : Distribution of reported number of Severe Acute Respiratory Infection (SARI) patients by sentinel sites in 2017	50
Figure 4.22 : Trends in main food and water borne diseases in Sri Lanka 2009 - 2017	51
Figure 4.23 : Imported malaria cases by country of origin in 2017	52
Figure 4.24 : Microfilaria Rates in Sri Lanka, 1981 - 2017	53
Figure 4.25 : Microfilaria rates in endemic districts in 2017	54
Figure 4.26 : New case detection rates of leprosy per 100 000 population from 1991 - 2017	55
Figure 4.27 : New cases and NCDR according to districts in 2017	55
Figure 4.28 : Child case percentage among new leprosy cases from 2003 - 2017	56
Figure 4.29 : MB percentage at the time of diagnosis among leprosy cases from 2003 - 2017	56
Figure 5.1 : Trend of Mortality due to chronic NCDs in state sector hospitals from 2012 - 2017	59
Figure 5.2 : Trend of state sector hospitalization due to chronic NCDs from 2013 - 2017	59
Figure 5.3 : Comparison of mortality and hospitalization rates due to all forms of injuries and due to traumatic injuries from year 2013 to 2017	61
Figure 5.4 : No. of CKDu patients as reported to the National Renal Registry	63
Figure 5.5 : Number of new patient registrations at cancer treatment centers 2008 - 2017	63
Figure 5.6 : Overall Cancer Age Standardized Rate from 1985 - 2010	64
Figure 5.7 : Age Standardized Rate of Breast Cancer from 1985 to 2011	65
Figure 5.8 : Comparison of Staging Information for Breast Cancer Between Year 2010 and 2011	66
Figure 5.9 : Age Standardized Rates of Cancer of Lip, Oral Cavity and Pharynx from 2006 to 2011	66
Figure 5.10 : Incidence of Cancer of Lip, Oral Cavity and Pharynx from 2005 to 2011	67
Figure 5.11 : Age Standardized Rate of Colo-Rectal Cancer from 1985 to 2010	68
Figure 5.12 : Age Standardized Rate of Colon Cancer from 2006 to 2011	68
Figure 5.13 : Age Standardized Rate of Thyroid Cancer from 1985 - 2011	69
Figure 5.14 : Distribution of Thyroid Cancer Incidence Cases in 2011	69
Figure 5.15 : Age Standardized Rate of Cervical Cancer from 1985 - 2010	70
Figure 5.16 : Age Standardized Rate of Cervical Cancer from 2006 to 2011	70
Figure 5.17 : Age Standardized Cancer Specific Death Rates from 2001 - 2013	71
Figure 5.18 : Number of Suicides in Sri Lanka over the past five years	72
Figure 5.19 : Number of suicides by sex	72
Figure 5.20 : Trends in mental disorders based on hospital admissions from 2004 - 2016	74

Figure 7.1 : Trends in Nutritional Status of children under 5 years of age	81
Figure 7.2 : Anemia in pregnancy over the past five years	83
Figure 7.3 : BMI in pregnancy from 2011 - 2017	84
Figure 7.4 : Low birth weight among new born	85
Figure 7.5 : Malnutrition among under five children from 2011 to 2017	86
Figure 7.6 : Frequency distribution of school children in different grades with stunting, wasting and overweight in 2017	87
Figure 7.7 : Percentages of Grade 10 children with overweight and Obese BMI 2007 - 2015	88
Figure 7.8 : Percentages of Grade 10 children with low BMI 2011 - 2017	88
Figure 7.9 : Teenage pregnant mothers out of all registered pregnancies	89
Figure 7.10 : Age group wise percentages of teenage pregnancies among pregnant mothers in 2016 & 2017	90
Figure 7.11 : Prevalence of domestic violence by district	91
Figure 7.12 : Trend in alcohol consumption among Sri Lankan males	93
Figure 7.13 : Prevalence of current smoking among males	94
Figure 7.14 : Access to safe water coverage	96
Figure 7.15 : Percentage of Households with improved, not shared, sanitation facilities by Urban, Rural, Estate sector	97
Figure 8.1 : Contraceptive Prevalence Rate and the Unmet Need for family 2013 - 2017	103
Figure 8.2 : Modern family planning methods used by eligible families 2013 - 2017	104
Figure 8.3 : Total number of schools and number of schools where SMI were conducted increased over the last five years 2013 to 2017	108
Figure 8.4 : Progress of the SMI follow up 2013 - 2017	108
Figure 8.5 : Immunization coverage	109
Figure 8.6 : Percentage coverage of women in 35 years cohort attending WWCs from 2013 to 2017	111
Figure 8.7 : Well women clinic service coverage by health districts	111
Figure 8.8 : Percentage of Medical Officer of Health areas with at least two healthy lifestyle centers (HLC)	112
Figure 10.1 : Inpatient and Outpatient Attendance in Government Medical Institutions, 1984 - 2017	124
Figure 10.2 : Distribution of Hospital Live Births by place of occurrence in Sri Lanka, 2017	126
Figure 10.3 : Registered Births Vs Hospital Live Births, 1992 - 2017	127
Figure 10.4 : Utilization of Medical Institutions, 2017	128
Figure 10.5 : Annual post internship appointments from 2015 - 2017	130
Figure 10.6 : No of courses conducted by PGIM from 1980 - 2017	131
Figure 10.7 : Total qualified trainees by PGIM upto 2017	131
Figure 10.8 : No of board certifications from 1988 - 2017	132
Figure 10.9 : Profile of basic training programmes (except nursing) carried out in 2017	133
Figure 10.10 : Recruitment of student nurses in 2015 - 2017 and the actual/projected numbering of nursing officers passing out from 2015 - 2019.	133
Figure 10.11 : Numbers and categories of staff in-service received with funds from the ET&R unit during the year 2017	134

Figure 10.12 : Status of the Registration of Private Medical Institute by Category	138
Figure 10.13 : Distribution of Private Hospitals in Sri Lanka, 2017	139
Figure 10.14 : Percentage of Types of Beds in Private Sector Hospitals	141
Figure 10.15 : Percentages of Availability of Investigations in Private Sector Hospitals	142
Figure 10.16 : Number of Hospitals Perform Haematology, Biochemistry, Microbiology and Pathology Tests in Private Sector	143
Figure 10.17 : Distribution of State Indigenous Medicine Hospitals in Sri Lanka, 2017	143
Figure 10.18 : Percentage Distribution of Consultants in State Indigenous Medicine Sector	145
Figure 10.19 : Percentage Distribution of Medical Officers in State Indigenous Medicine Sector	145
Figure 10.20 : Percentage Distribution of Nursing Staff in State Indigenous Medicine Sector	146
Figure 10.21 : Distribution of Paramedical Staff in State Indigenous Medicine Sector	146
Figure 10.22 : Distribution of Attendants in State Indigenous Medicine Sector	147
Figure 10.23 : Percentages of Availability of Facilities at State Indigenous Medicine Sector	147
Figure 11.1 : Distribution of Laboratories in Primary, Secondary and Tertiary Care Institutions	151
Figure 11.2 : Distribution of laboratories in health care institutions under the purview of the Line Ministry and the Provincial Ministry	151
Figure 11.3 : Type of Line Ministry Institution according to availability of Laboratory Facilities	152
Figure 11.4 : Type of Provincial Ministry Institution according to availability of Laboratory Facilities	152
Figure 11.5 : Lab financing for purchasing of laboratory equipment for line ministry laboratories	153
Figure 11.6 : Lab financing for maintenance of equipment	154
Figure 11.7 : Comparison of Annual Blood Collections	159
Figure 11.8 : Distribution of total blood collection by mode of collection	160
Figure 11.9: Gender distribution of blood donors	160
Figure 11.10 : Component preparation and comparison with previous years, 2011 - 2017	160
Figure 11.11 : Percentage TTI reactive donations in comparison to previous years	162
Figure 11.12 : Comparison of HLA Statistics, 2013 - 2017	163
Figure 11.13 : Immuno-haematology Testings performed, 2013 - 2017	164

List of Tables

Table 1-1 : Percentage Distribution of Population by Broad Age Groups, Aging Index and Dependency Ratio	4
Table 1-2 : Age Specific Sex Ratio 1981, 2001 and 2017	7
Table 1-3 : Age-Specific Fertility Rates (per 1,000 women) and Total Fertility Rates, 1987 - 2016	11
Table 3-1 : Perinatal Deaths (PND) in 2017 (Provisional Data)	27
Table 3-2 : Under Five Mortality Rate per 1,000 Registered Live Births	30
Table 4-1 : STI diagnoses reported from STD clinics during 2017	44
Table 4-2 : Districts with high prevalence of food borne diseases	51
Table 4-3 : Number of malaria cases investigated and treated during 2017	52

Table 4-4 : Detection rates by province - 2017	57
Table 5-1 : Number of deaths occurred among all ages due to major NCDs in government hospitals in Sri Lanka 2017	58
Table 5-2 : Leading cancer sites by crude rate in 2011	65
Table 6-1 : Distribution of Dental consultants by Specialty at the end of 2017	76
Table 6-2 : Prevalence and Severity of Dental caries	76
Table 6-3 : Prevalence of Healthy gums in 12 years and 35-44 year olds	76
Table 7-1 : Nutritional status of women	81
Table 7-2 : Survivors of Gender Based Violence identified at field level (National data)	91
Table 7-3 : Service provision for GBV survivors through “Mithuru Piyasa “ centres- 2011 - 2017	92
Table 7-4 : Prevalence of behavioral and intermediate risk factors for NCD in 2007 & 2015	93
Table 7-5 : Prevalence of alcohol consumption among Sri Lankans	93
Table 7-6 : Prevalence of behavioural and intermediate risk factors among the screened population from 2013 - 2017	95
Table 8-1 : Contraceptive methods new acceptors by method from 2013 - 2017	103
Table 8-2 : Pregnant mother registration and provision of care through the National Programme 2013 - 2017	105
Table 8-3 : Antenatal Service coverage by Public Health Staff for the past five years 2012 - 2016	105
Table 8-4 : Pregnancy outcome and postpartum care for mothers registered during 2013 - 2017	106
Table 8-5 : Infant and childcare provided by the field staff he last five years	107
Table 8-6 : The number and services of Healthy Lifestyle Centres in Sri Lanka, 2011 - 2017	113
Table 9-1 : Types of Hospitals, Numbers and the Bed Strength (as at 31.12.2017)	118
Table 10-1 : Number of Health Institutions and Hospital Beds, 2012 - 2017	122
Table 10-2 : Availability of Hospital Beds by Type of Institution, 2017	123
Table 10-3 : Maternal Services by Type of Institution, 2017	125
Table 10-4 : Categories of post basic training programmes carried out in 2017 with numbers of Nursing Officers trained	134
Table 10-5 : Registration of Private Medical Institute by Category	137
Table 10-6 : Distribution of Total Patient Beds in Private Sector Hospitals in Sri Lanka	140
Table 10-7 : Distribution of Health Staff in Private Health Sector by District	142
Table 10-8 : Distribution of Total Patient Beds in State Indigenous Medicine Sector Hospitals in Sri Lanka	144
Table 10-9 : Number of Hospitals with X-Ray, Medical Laboratory and ECG	148
Table 10-10 : Number of Hospitals with ETU and Ambulance Service Facilities in State Indigenous Medicine Sector	148
Table 10-11 : Number of Hospitals by Type of Tests Performing in the Medical Laboratory in State Indigenous Medicine Sector	148
Table 11-1 : Annual Blood Collection	159
Table 11-2 : Component preparation and comparison with previous years	160
Table 11-3 : Prevalence of TTI and Comparison with Previous years	161
Table 11-4 : Comparision of HLA Statistics, 2013 - 2017	162

Table 11-5 : Immuno-haematology Testings performed, 2013 - 2017	163
Table 11-6 : Statistics of reagent preparation, 2012 - 2017	164
Table 11-7 : Blood Bank Staff trained in 2017	165
Table 11-8 : Non - Blood Bank Staff trained in 2017	165
Table 11-9 : CME and Workshops conducted for year 2017	166
Table 11-10 : Total NAT tests performed and details of test results	167
Table 12-1 : Island Wide Ayurvedic and Homeopathy Medical Organizations: 2017	168
Table 12-2 : Information of Received Statistics of Ayurvedic Hospitals and Ayurvedic Dispensaries - 2017	169
Table 12-3 : Physical Background of Ayurvedic Hospitals and Ayurvedic Dispensaries - 2017	169
Table 12-4 : Average indoor and outdoor daily arrival of patients by type of hospital /dispensary 2017	170
Table 12-5 : The values and amount of Imported Ayurvedic Pharmaceuticals by year	170

Annexure I

Table 1. Administrative Divisions and Local Government Bodies, 2017	172
Table 2. Population, Land Area and Density by Province and District	173
Table 3. Population by Five Year Age Group and Sex, 1981, 2001, 2012 and 2017	174
Table 4. Vital Statistics by District	175
Table 5. Number of Households in Occupied Housing Units by Main Source of Drinking Water and District, 2012	176
Table 6. Households in Occupied Housing Units by Type of Toilet Facility and District, 2012	177
Table 7. Distribution of Government Medical Institutions and Beds by Regional Director of Health Services Division, December 2017	178
Table 7a. Distribution of Inpatient Beds ¹ by Regional Director of Health Services Division, December 2017	179
Table 8. Beds by Speciality and Regional Director of Health Services Division, December 2017	180
Table 9. Key Health Personnel, 1991 - 2017	181
Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2017	182-184
Table 11. Distribution of Specialists in Curative Care Services ¹ by Regional Director of Health Services Division, December 2017	185
Table 12. National Expenditure, Health Expenditure and GNP, 2012 - 2017	186
Table 13. Summary of Health Expenditure and Source of Fund, 2012 - 2017	186
Table 14. Summary of Health Expenditure by Programme, 2017	187
Table 15. Indoor Morbidity and Mortality Statistics by Broad Disease Groups, 2017	188
Table 16. Trends in Hospital Morbidity and Mortality by Broad Disease Groups, 2009 - 2017	189
Table 17. Trends in Hospitalization and Hospital Deaths of Selected Diseases, 2010 - 2017	190
Table 18. Leading Causes of Hospitalization, 2017	191
Table 19. Leading Causes of Hospital Deaths, 2017	191
Table 20. Leading Causes of Hospitalization, 2008 - 2017	192

Table 21. Leading Causes of Hospital Deaths, 2010 - 2017	193
Table 22. Leading Causes of Hospitalization by District, 2017 ¹	194
Table 23. Leading Causes of Hospital Deaths by District, 2017	195
Table 24. Cases and Deaths of Poisoning and Case Fatality Rate ¹ by Regional Director of Health Services Division, 2017	196
Table 25. Distribution of Patients with Mental Disorders by Regional Director of Health Services Division, 2017	197
Table 26. Case Fatality Rate 1 for Selected Diseases, 2013 - 2017	198
Table 27. Inpatients Treated and Hospital Deaths by Type of Institution and RDHS Division, 2017	199
Table 28. Hospitalizations, Hospital Deaths and Case Fatality Rates of selected Non-Communicable Diseases, 2016 - 2017	200
Table 29. Hospitalizations, Hospital Deaths and Case Fatality Rates of Selected Non Communicable Diseases by RDHS Division, 2017	201-202
Table 30. Out Patient Attendance by District and Type of Institution, 2017	203
Table 31. Out Patient Attendance by RDHS Division, 2017	204
Table 32. Out Patient Department (OPD) Visits by Type of Hospital, 2017	204
Table 33. Clinic Visits by Quarter, by RDHS Division, 2017	205
Table 34. Clinic Visits by Quarter, by Type of Hospital, 2017	206
Table 35. Rank Order of Clinic Visits in RDHS Division, 2017	207
Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2017	208-209
Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2017	210
Table 38. Average Duration of Stay (Days) in Selected Types of Hospitals per Quarter, 2005 - 2017	211
Table 39. Registered Births and Hospital Births, 1980 - 2017	211
Table 40. Live Births, Maternal Deaths, Still Births and Low Birth Weight Babies in Government Hospitals by District, 2017	212
Table 41. Performance of Dental Surgeons by RDHS Division, 2017	213

Annexure II

Table 1. Incidence of Expanded Programme of Immunization (EPI) Target Disease 1955 - 2017	215
Table 2. Immunization Coverage by (RDHS) area, 2017	216
Table 3. Number of Selected Adverse Events by Vaccination in 2017	217
Table 4. Sentinel Site Surveillance Of Influenza Like Illness (ILI) and Sever Acute Respiratory Illness (SARI) , 2017	218
Table 5. Summary on occurring domestic violence by background characteristics	219
Table 6. District wise prevalence of behavioural and intermediate risk factors among the screened population – 2017	220
Table 7. Household drinking water	221

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 newborn 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

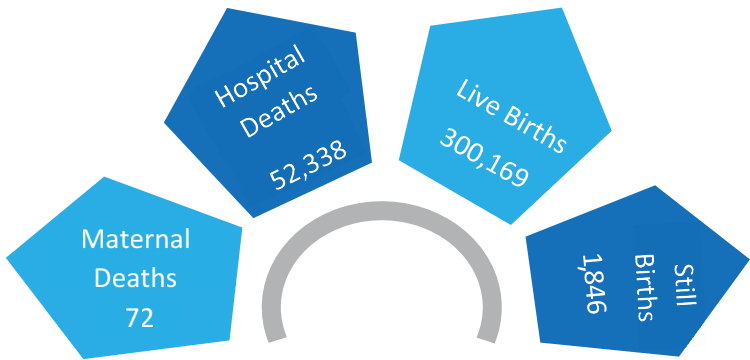
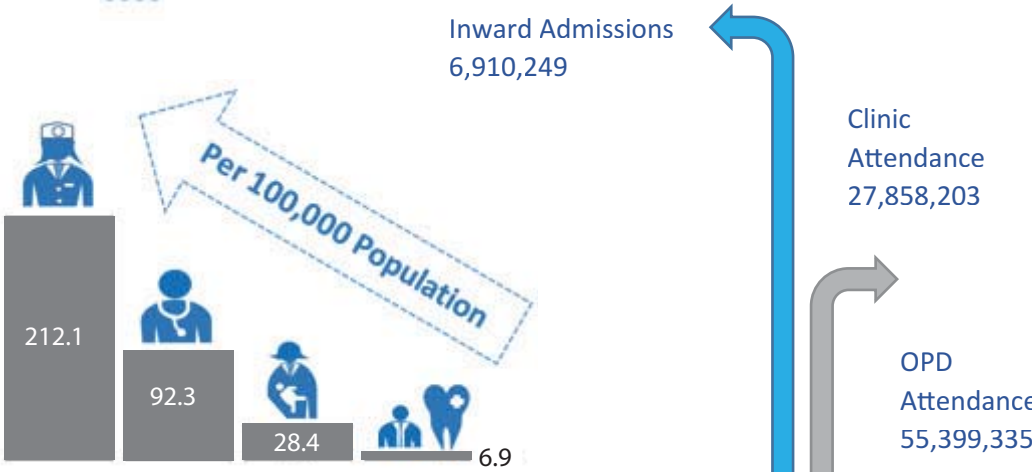
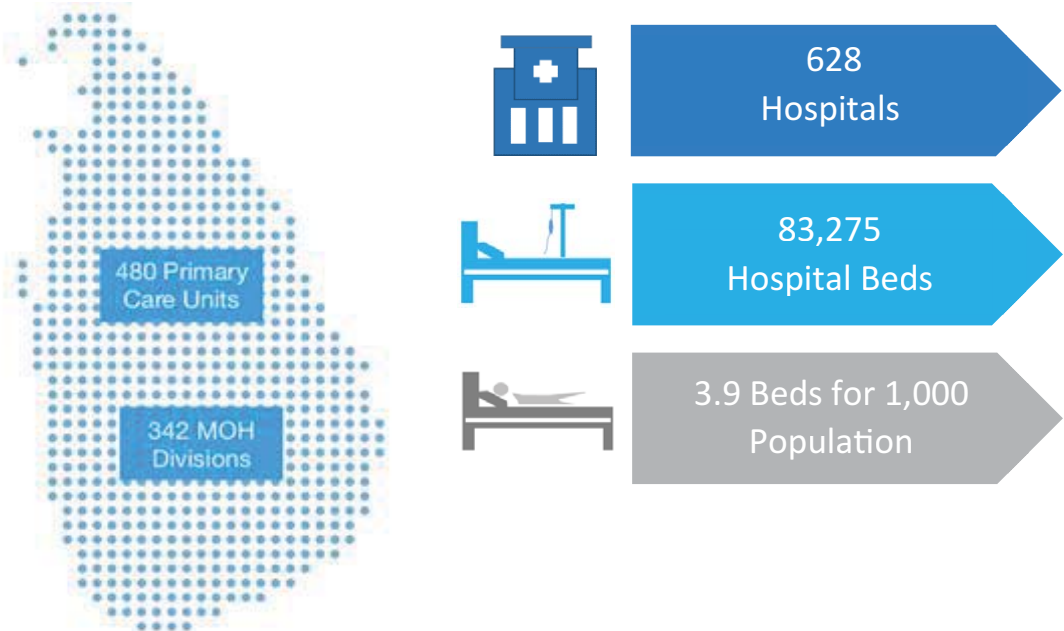
Indicator	Year	Data	Source		
Demographic Indicators					
Total population (in thousands)	2017*	21,444	Registrar General's Department		
Land area (sq. km)	1988	62,705	Survey General's Department		
Population density (persons per sq. km)	2017*	342	Registrar General's Department		
Crude birth rate (per 1,000 population)	2017*	15.2			
Crude death rate (per 1,000 population)	2017*	6.5			
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			
Socio-economic Indicators					
GNI per capita at current prices (Rs.)	2017	609,281	Department of Census & Statistics		
Human development index	2017	0.770	UNDP, Human Development Indices and Indicators: 2018 Statistical Update		
Unemployment rate	Total	2017	4.2	Department of Census & Statistics	
	Female				6.5
	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	2017	17.2	Ministry of Education	
	Private Schools				20.8
	Pirivenas				9.3
Singulate mean age at marriage (years)	Female	2012	23.4	Census of Population & Housing, 2012	

Indicator	Year	Data	Source
Health and Nutrition Indicators			
Life expectancy at birth (years)			
	Female	2011-2013	78.6
	Male		72.0
Neonatal mortality rate (per 1,000 live births)	2014	5.3	Registrar General's Department
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 %	2017	15.9	Medical Statistics Unit
Percentage of under-five children			
Underweight (weight-for-age)	2016	20.5	Demographic and Health Survey, 2016
Wasting (Acute undernutrition or weight-for-height)		15.1	
Stunting (Chronic malnutrition or height-for-age)		17.3	
Primary Health Care Coverage Indicators			
Percentage of pregnant women attended by skilled personnel	2016	99.5	Demographic and Health Survey, 2016
Percentage of live births occurred in government hospitals	2017	92.06	Medical Statistics Unit
Current contraceptive usage of currently married women age 15-49 years (%)	2016	53.6	Demographic and Health Survey, 2016
		11.0	
Population with access to safe water (%)	2012	81.1	Census Population & Housing, 2012

Indicator	Year	Data	Source
Health Resources			
Government health expenditure as a percent of GNP	2017	1.59	Central Bank of Sri Lanka - Annual Report 2017, Department of National Budget - Budget Estimate 2019, Ministry of Finance and Planning, Sri Lanka - Annual Report 2017, Department of State Accounts, General Treasury - Financial Statements for the year ended 31st December 2017
Government health expenditure as a percent of total government expenditure	2017	5.94	
Per capita health expenditure (Rs.)	2017	9,615	
Medical Officers per 100,000 population	2017	92.3	Medical Statistics Unit
Population per Medical Officer	2017	1083	
Dental Surgeons per 100,000 population	2017	6.9	
Nurses per 100,000 population	2017	212.1	
Supervising Public Health Midwives/Public Health Midwives per 100,000 population	2017	28.4	
Number of hospitals	2017	628	
Number of hospital beds	2017	83,275	
Hospital beds per 1,000 population	2017	3.9	
Number of Medical Officer of Health (MOH) Divisions	2017	347	

* Provisional

Health Services in Government Hospitals-2017



Health Status

1. Country Profile

1.1. Background

Sri Lanka, officially known as the Democratic Socialist Republic of Sri Lanka is an island in South Asia, situated off the Southern Coast of India in the northern Indian Ocean. It is 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 a total area of 65,610 square kilometers including 2,905 square kilometers 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 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 wind patterns, rainfall, temperature, humidity, and other climatic features.

The climatic condition of the country is also affected by its proximity to the equator, 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 rainfall of approximately 2,000 mm, 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. The 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 its independence in 1948, the country has adopted a free health policy and provides free health care for all Sri Lankans. This has helped Sri Lanka to reach a higher Human Development Index than all other countries in the South Asian region.

1.2. Population size and growth

The fourteenth national Census of Population and Housing which covered the entire island was conducted by the Department of Census and Statistics on 20th March 2012. This was conducted after a lapse of 31 years since the preceding census in 1981. Data was collected from persons according to their place of usual residence. According to the final results of the census, the enumerated population was 20,359,439. The first Census of Population in Sri Lanka held in the year 1871 enumerated a population of 2.4 million. Evidently, the SriLankan population has grown more than eight times since the year 1871.

The estimated mid-year population of Sri Lanka for the year 2017 is 21.444 million (Annexure 1: Detailed Table 2).

As shown in Figure 1.1, according to Registrar General's Department, the annual population growth rate was 1.14 percent during the year

2017, which added around 246,000 persons during the year 2017 to the total population, due to natural increase.

The first significant decline in Crude Birth Rate (CBR) began in the 1950s. The fertility decline gathered momentum in the 1960s and continued through to the year 2000. The trend has been relatively flat since then (Figure 1.2). CBR was 15.2 per 1000 persons in 2017 (provisional).

A rapid decline in mortality was observed during the post-World War II period in Sri Lanka. A gradual decrease can be observed up to 1980s.

During the last few decades, the Crude Death Rate (CDR) was somewhat steady with small fluctuations. The CDR in 2017 was 6.5 deaths per 1000 population (Provisional).

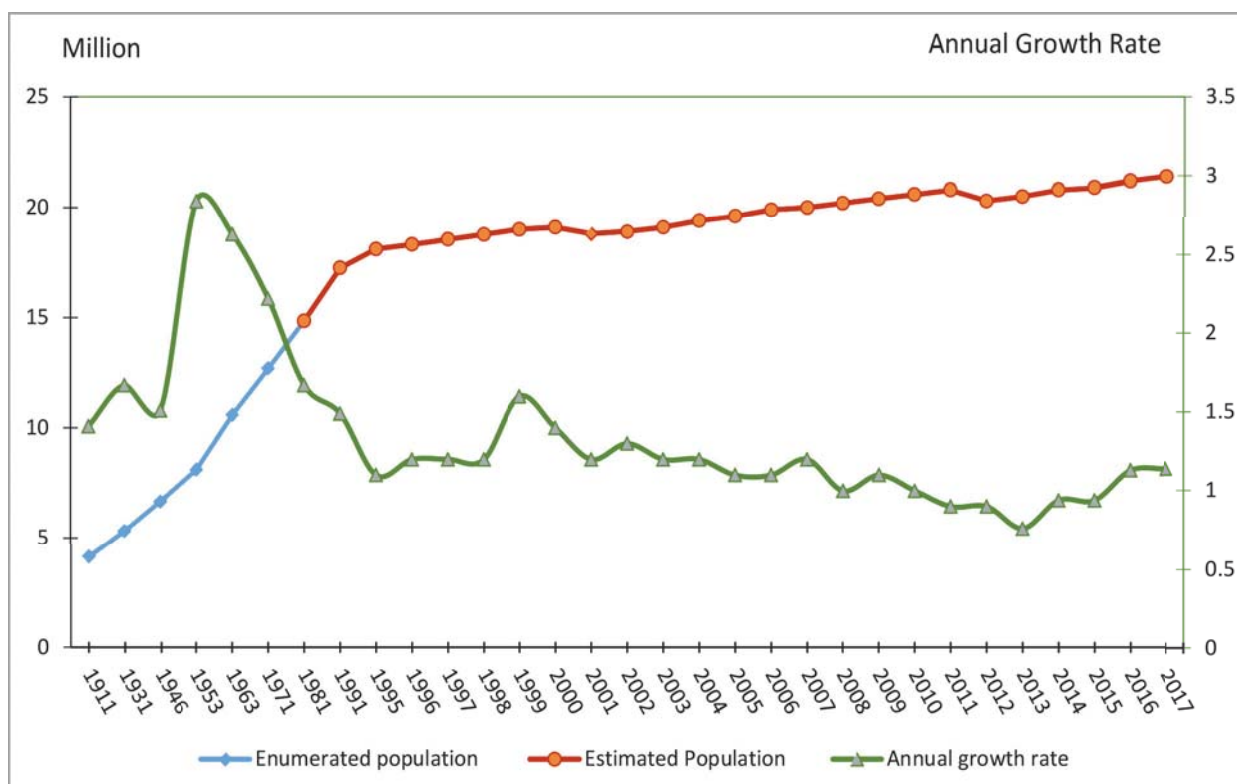


Figure 1.1: Population Size and Annual Growth Rate, 1911 – 2017

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

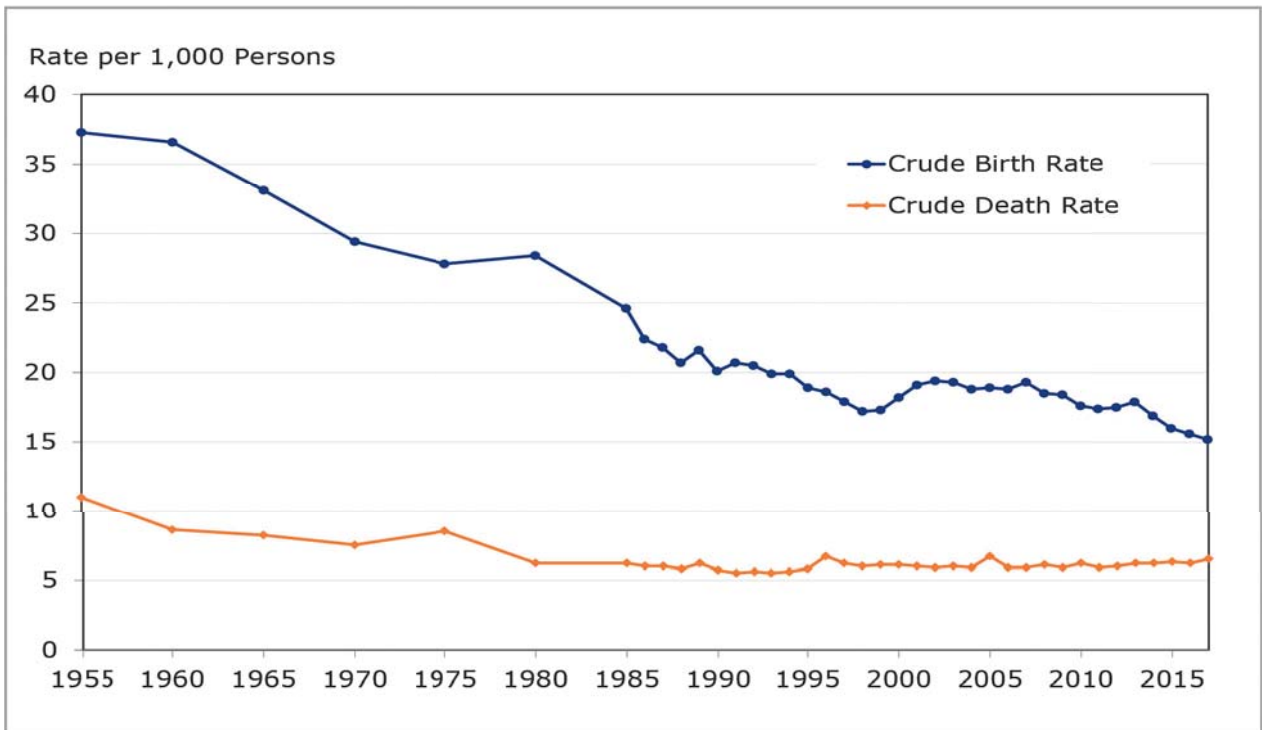


Figure 1.2: Crude Birth and Death Rates, 1955 – 2017

Source: Registrar General’s Department

As a consequence of declining overall mortality and infant mortality rates, life expectancy has continuously risen. However, the low fertility

rates and high life expectancy has resulted in a decline of the children and an increase in the number of the elderly population.

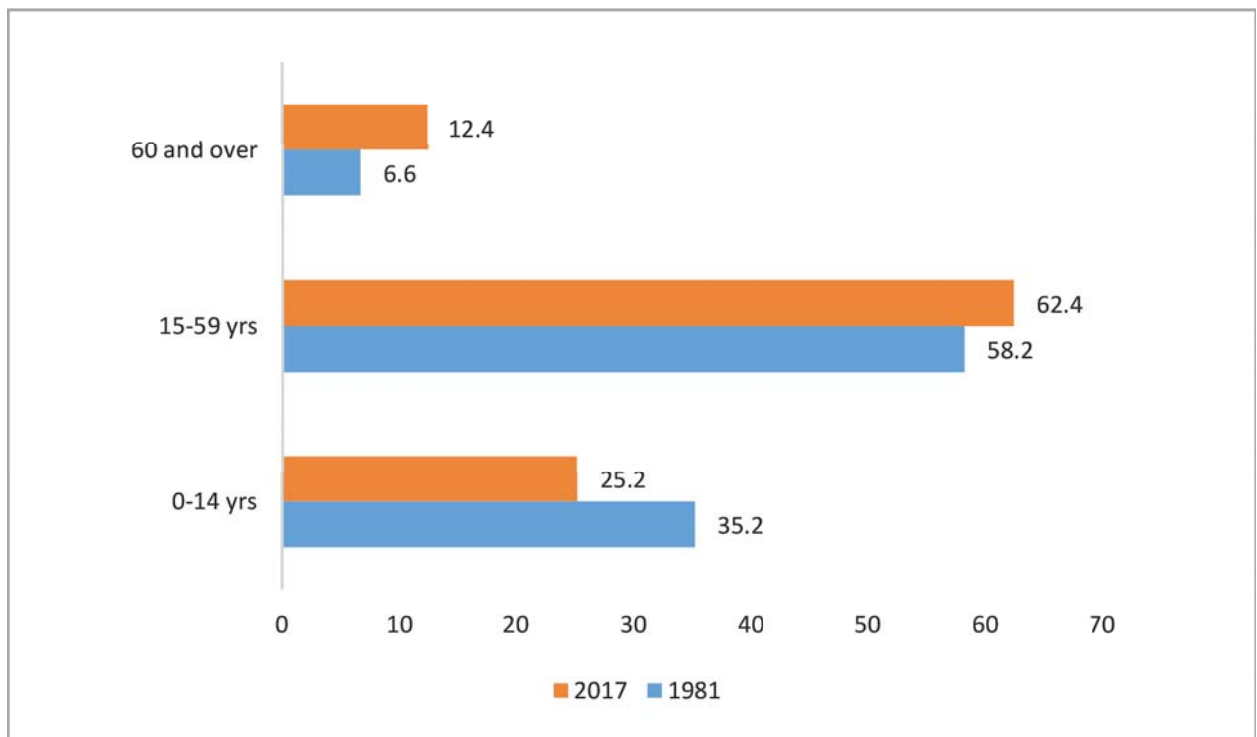


Figure 1.3: Population by Broad Age Groups, 1981 and 2017

Source: Department of Census and Statistics and Registrar General’s Department

According to Figure 1.3, the percentage of child population (<15 years) in the year 2017 shows a significant decline compared to the year 1981 and at the same time, the working-age population, as well as the elderly population, show an increase. So, the population of Sri Lanka was gradually shifting older. (When estimating population for the year 2017, it was assumed that age structure of the year 2017 remained as same as the age structure of the last Census of Population & Housing which was held in the year 2012).

According to the report of the Census of Population & Housing, 2012, the median age of the 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.

Percentage of elderly population has doubled during the period from 1981 to 2017

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

year	0 - 14 years	15 - 59 years	60 years and over	Aging Index	Dependency Ratio
	(A)	(B)	(C)	(C/A)*100	(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 ¹	26.3	64.5	9.2	35.0	55.0
2012 ²	25.2	62.4	12.4	49.2	60.3
2017 ³	25.2	62.4	12.4	49.2	60.3

¹ Excludes Northern Province, Batticaloa, and Trincomalee districts in Eastern province

² Census of Population and Housing – 2012

³ Estimated midyear population – Registrar General's Department

Aging Index, which is defined as the ratio between the population of 60 years and over to the population between 0 to 14 year old in a given year, has increased from 18.8 percent in 1981 to 49.2 percent in 2017. The shift of the median age of the population and the increasing trend of the aging index, also bear evidence to the aging of the Sri Lankan Population.

It is noticeable that the dependency ratio, which is an approximation of the average number of dependents that each person of working age must support, has decreased from 71.8 in 1981 to 60.3 in 2017, due to relative decline in the proportion of children.

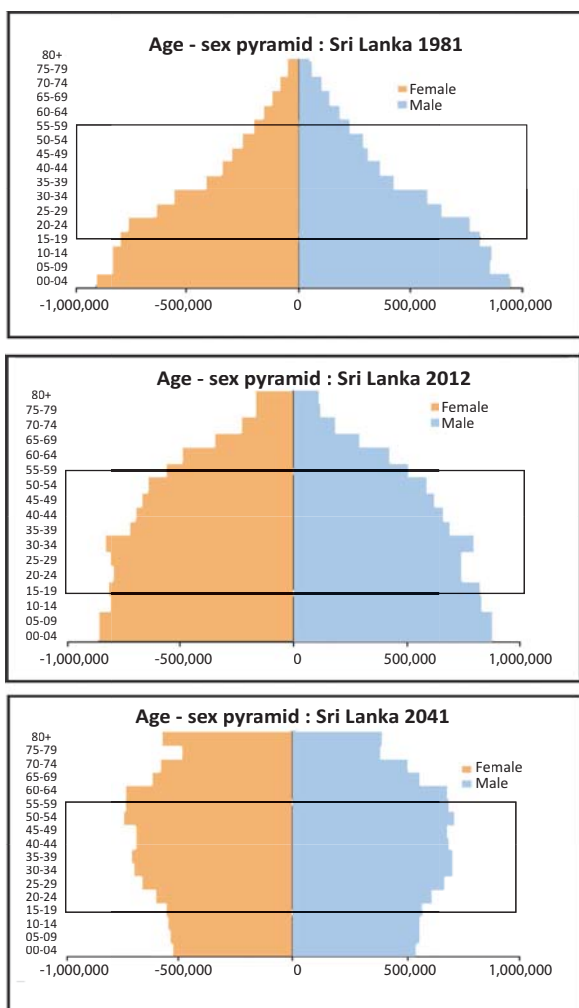


Figure 1.4: Population Trends for Sri Lanka by Age and Sex, 1981, 2012 and 2041

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

It is important to note that the 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 dependent 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.

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 child population

Demographic Transition

Demographic transition is a transition from an 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.

The demographic window is defined by the 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 percent. Sri Lanka currently is in the “window of opportunity” or in other words has the “demographic dividend” or “demographic bonus” to achieve rapid economic growth with a larger working-age population compared to the population in the nonworking-age (dependents).

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

Trends in Age-Specific Sex Ratio

Sex ratio is the indicator that describes the sex composition of the population.

Sex ratio is defined as the number of males per 100 females, and it is 93.9 in Sri Lanka for the year 2017. It indicates an excess of females over males, i.e. population is female-biased. There is a decreasing trend in the sex ratios from 1981 to 2017.

The age-specific sex ratios in 2017 are declining gradually with increasing age with fluctuations in some age groups.

Sex ratio under 4 years was 101.6 for the year 2017 which reflects that there are more males among children less than 4 years of

age. According to the Registrar General's Department, the sex ratio at birth was 103.6 males per 100 females (provisional) for the year 2017.

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 2017

Age Group in Years	Sex Ratio (No. of males per 100 females) in Year		
	1981 ¹	2001 ^{1,2}	2017 ³
All Ages	103.9	97.9	93.9
Under 1	104.1	104.5	101.6
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	94.0
25 - 29	99.8	93.8	91.8
30 - 34	102.0	95.4	94.5
35 - 39	100.6	95.2	95.0
40 - 44	106.0	96.6	95.0
45 - 49	102.0	97.1	92.6
50 - 54	111.1	95.9	91.1
55 - 59	110.2	92.8	88.9
60 - 64	116.2	92.7	86.5
65 - 69	111.0	88.0	81.0
70 - 74	115.7	85.0	78.9
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 mid-year population – RGO

Sex ratio was 93.9 in Sri Lanka for the year 2017. i.e. an excess of females over males. Up to age 14, sex ratio is over 100, and afterwards all age groups have a female biased population. In other words, younger age groups have more males while the older age groups have more females.

Population Density

Population density is defined as the 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 2017 was 342 persons per square kilometer which shows an increase of 49 percent from 230 persons per square kilometer in 1981.

Population densities among districts show marked regional variations. Colombo district shows the highest density of 3,578 persons per square kilometer in 2017. The next highest density of 1,783 was recorded from the adjoining Gampaha district.

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

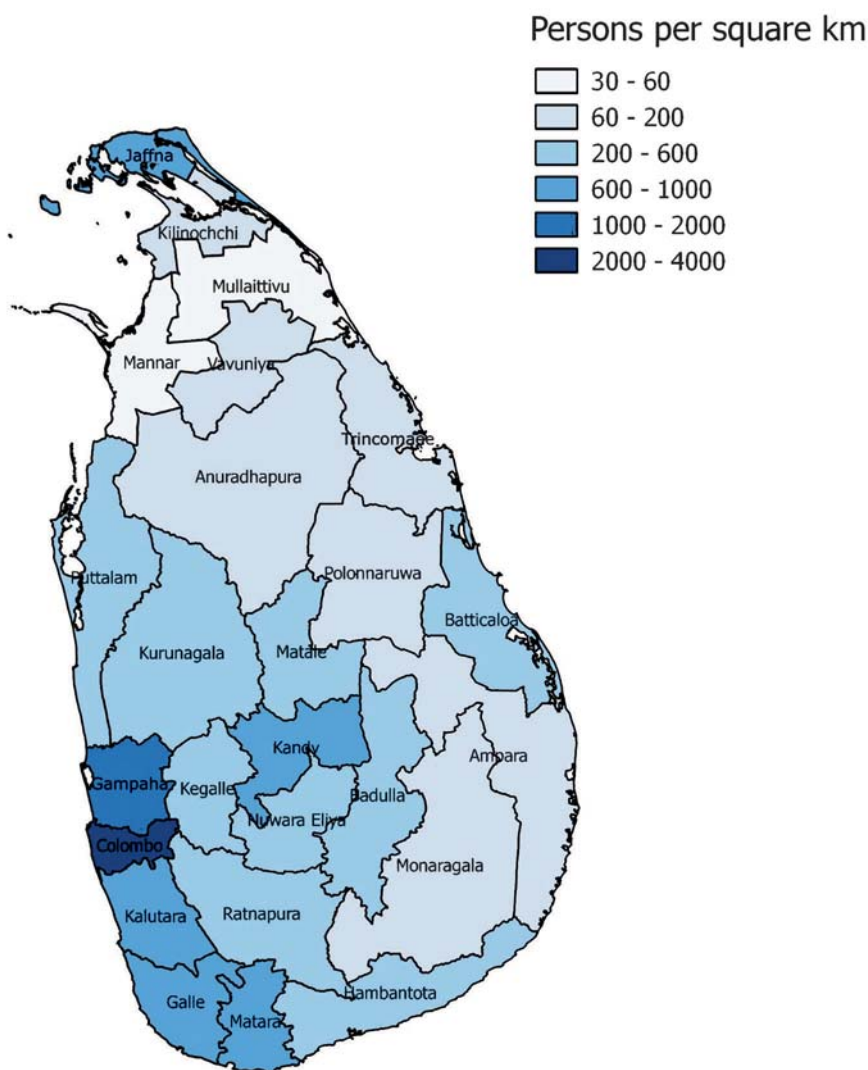


Figure 1.5: Population Density by District, 2017

Source: Registrar General's Department

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, Western or Allopathic medicine is the mainstream health system catering to the needs of the majority of the population.

Allopathic medicine is provided through both the public and the private sector, but the share of care is different for inpatients and outpatients. The public sector provides the bulk of inpatient care, providing a safety net to citizens.

Nearly seven million hospitalizations occurred in 2017. A total of fifty-five million outpatient visits occurred in 2017 in the 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 free health facilities.

The public health sector is organized into 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 the public sector is decentralized. Most of the primary care institutions and some specialized allopathic hospitals are managed by the provincial health authorities. Ministry of Health, Nutrition and Indigenous Medicine of the central government is also responsible for 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

The life expectancy of both males and females has increased over 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.

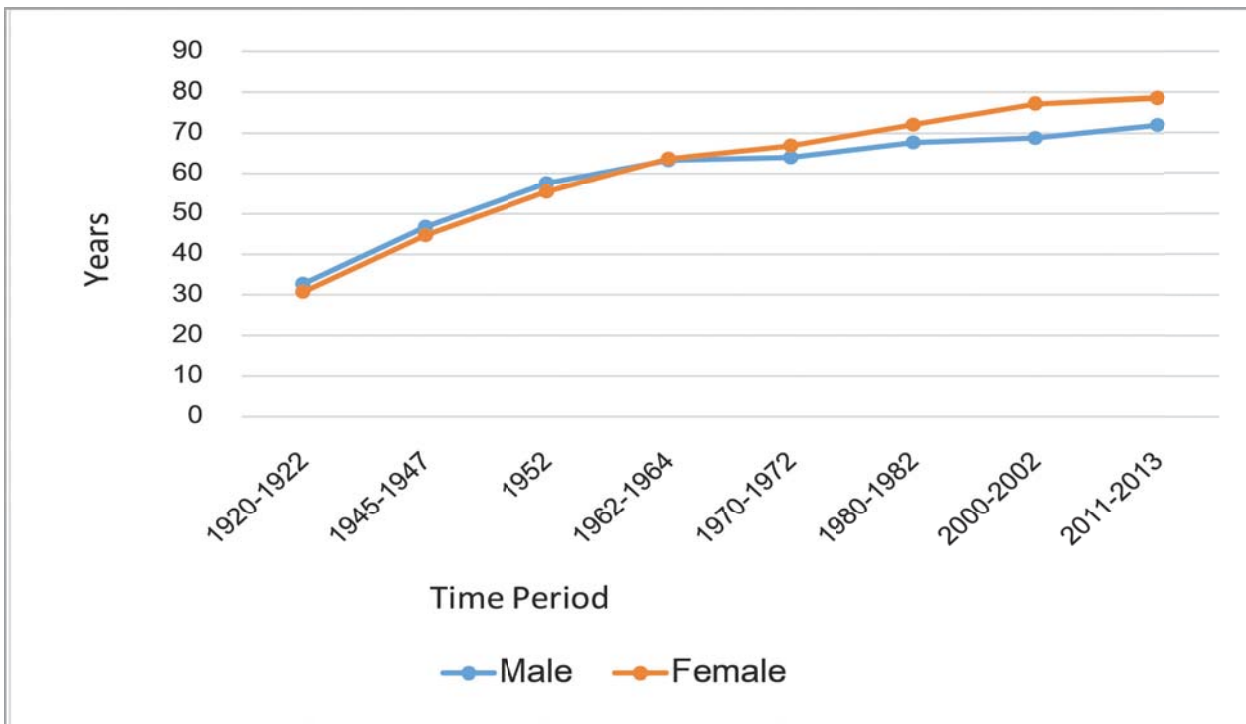


Figure 1.6: Life Expectancy at Birth by Sex, 1920 – 2013

Source: Department of Census and Statistics

1.5. Trends in fertility Rate

Table 1.3 reveals that the Total Fertility Rate (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.

Total Fertility Rate 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 : 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

1.6. Health Related Sustainable Development Goals (SDG)

In 2015, United Nations member states adopted the 2030 agenda for Sustainable Development and its 17 Sustainable Development Goals.

The SDG 3 addresses health and aims to “ensure healthy lives and promote wellbeing for all at all ages”. There are 13 targets to be achieved in SDG 3. 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

The report on the 2016 Core Health Indicators (CHI) data call was compiled in May 2016 through a local consultation in preparation for adopting SDGs for Sri Lanka. This report examines the available data sources, existing data and issues related to adoption of globally recommended indicators in the Sri Lankan context.

A two-day workshop was held with relevant stakeholders to finalize the set of indicators to be adopted directly or with modifications. Forty-four indicators were selected; 35 indicators on SDG 3 and nine other SDG indicators related to health.

A common set of seven stratifiers, namely age, sex, sector, educational level, marital status, wealth and subnational level were identified for equity analysis for Sri Lanka.

A high level steering committee was established to provide support, guidance and oversee the monitoring of SDG 3 Core Health Indicators (CHI) in Sri Lanka and three meetings were held in 2017. Three technical working groups were

established; namely, data for SDG (sharing the SDG framework with non-health stakeholders with the view of establishing a mechanism to obtain data), monitoring & dissemination of SDGs and policy and legal framework.

The SDG technical working group on monitoring and dissemination of SDGs initiated data collection for setting of baseline values for the 44 CHIs based on the agreed equity stratifiers.

The Ministry of Health in collaboration with the WHO Country Office for Sri Lanka organized the 'Health Equity Analysis Tool- Plus (HEAT +)' workshop for policymakers and technical staff of different units of the Ministry of Health and other ministries involved in SDG monitoring at national and subnational levels on 12th and 13th of December 2017. A team of technical experts from WHO - SEAR conducted the training. Health SDG profile for Sri Lanka for the year 2017 was also developed and published by the WHO South East Asia Regional Office based on local data supplied by the Ministry of Health and the WHO Country Office for Sri Lanka.

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 a 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 is 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. However, the mortality data provided by IMMR is only based on government hospitals, and more than 70% of the total number of deaths in the country occur in the field. Therefore, mortality information is also collected by the vital registration system which was established in 1867.

The main mortality indicators computed are age-sex specific mortality rates and the 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.

In 2017, MSU conducted a data collection procedure on private health institutions that have indoor facilities. Therefore data from the private sector hospitals are to be routinely collected annually. Further, steps to initiate the data collection in government Ayurveda institutions have been taken.

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-10th version). Since 2012, MSU has introduced a web-based system called Electronic Indoor Morbidity and Mortality Return (eIMMR) to collect morbidity and mortality data.

Hospitals that have computer and internet facilities can send their data through eIMMR. Accurate, detailed and timely data collected through eIMMR from around five hundred hospitals are processed and published in this report.

There are other information systems maintained by special campaigns and programmes of the Ministry of Health, Nutrition & Indigenous Medicine which routinely collect data on control of diseases such as TB, Cancer, and Leprosy, etc.

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 where the eIMMR is available, the final diagnoses of patients are directly into the eIMMR system and the system generates the IMMR report. This is one of the duties performed by the Medical Recording Officer (MRO) in the hospital record room or the hospital statistics unit. However, since there is 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 Medical Officers, sometimes compile inpatient statistics in the hospitals, as an additional duty.

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.

In 2017, 5.3% of the live discharges and 10.5% of the deaths are reported as undiagnosed or un-coded.

Trends in Hospital Morbidity and Mortality

Annexure 01: Detailed Table 16, gives trends in hospital morbidity and mortality by broad disease groups for the period 2009 - 2017.

As shown in the said table rates of , morbidity due to Diseases of the ear and mastoid process (H60-H95) has been continuously increasing from 2009. Diseases of the blood & blood-forming organs & certain disorders involving the immune mechanism (D50-D89), Neoplasms (C00-D48) and Diseases of the digestive system (K00-K93) have been continuously increasing from 2009 except for this year. Mental and behavioral disorders (F00-F99), 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 Neoplasms (C00-D48), Diseases of the blood & blood-forming organs & certain disorders involving the immune mechanism (D50-D89), Endocrine, nutritional and metabolic diseases (E00-E90), Diseases of the nervous system (G00-G99), Diseases of the eye and adnexa (H00-H59), Diseases of the circulatory system (I00-I99), Diseases of the digestive system (K00-K93), Diseases of the skin and subcutaneous tissue (L00-L99), Diseases of

the musculoskeletal system and connective tissue (M00-M99), Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99) have experienced a slight decrease from 2016.

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.

Four the year 2017, 6,857,911 live discharges and 52,338 deaths have been recorded in government hospitals. As shown in the below figure (figure 2.1), 50% out of the live discharges and 58% out of the deaths are males. As shown in Figure 2.2 gender difference is high in live discharges as well as in deaths due to traumatic injuries. When concerning total live discharges due to traumatic injuries 66% are male, and out of total deaths due to traumatic injuries, 76% are male.

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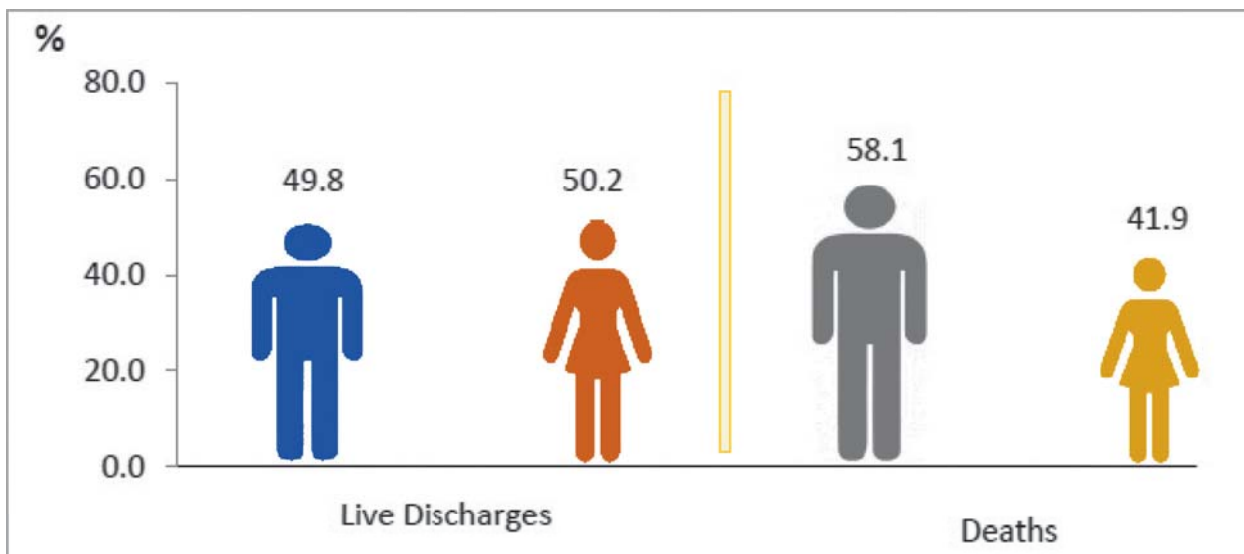


Figure 2.1: Percentage of Hospital Live Discharges and Deaths by Gender, 2017

Source: Medical Statistics Unit, Ministry of Health

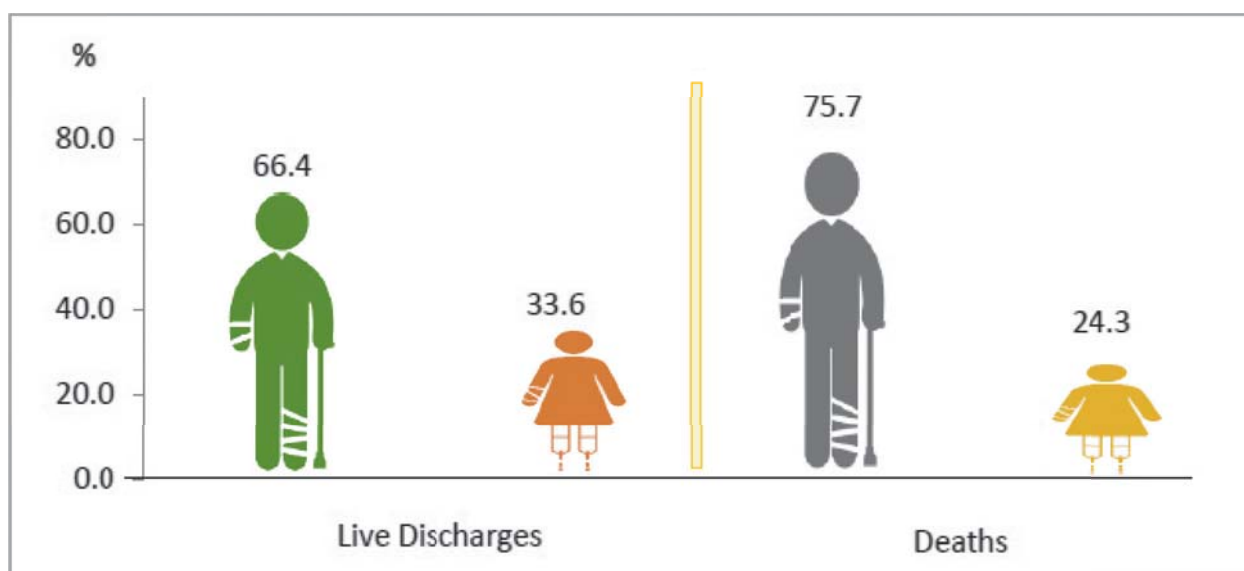


Figure 2.2: Distribution of Live Discharges and Deaths due to Traumatic Injuries by Gender, 2017

Source: Medical Statistics Unit, Ministry of Health

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

- Ischemic heart diseases (494.9 in 2012 and 546.8 in 2017 per 100,000 population)
- Septicemia (33.6 in 2012 and 60.7 in 2017 per 100,000 population)
- Rabies (0.2 in 2012 and 0.8 in 2017 per 100,000 population)

Leading Causes of Hospitalization

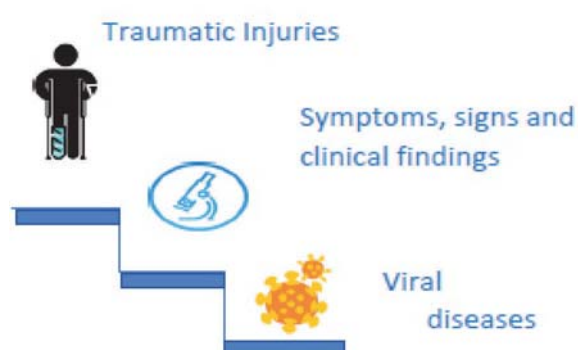


Figure 2.3: Leading causes of hospitalization

Category of Traumatic injuries (S00 - T19, W54) was the top leading cause of hospitalization as usual (figures 2.3 & 2.4). Viral diseases had become the third leading cause in 2017 where it was ranked as the fifth leading cause in 2016. The rank of Neoplasms was unchanged with the last year and remained as the 11th leading cause. (Annexure 01: Detailed Table 18 gives the leading causes of hospitalization of the country in 2017 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 2008-2017).

Category of Symptoms, signs and abnormal clinical and laboratory findings (R00-P99) was the second leading cause of hospitalizations from 2009 to 2017. Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia, and influenza

became the third leading cause since 2009 up to 2016 and it was ranked as fourth in 2017. Hospitalizations due to diseases of the gastro-intestinal tract was the fourth leading cause for the year 2014 and it was ranked as the fifth leading cause in 2017.

In 2017, viral diseases (A80-B34) was the third leading cause of hospitalizations in the country. However, it was the second leading cause for Colombo, Gampaha and Kegalle districts according to statistics given in the Annexure 01: Detailed Table 22.

Group of Diseases of the urinary system (N00-N39) was becoming an important cause of hospitalization and it was ranked as sixth in 2017. 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.

Traumatic injuries (S00-T19, W54) were the major cause for hospitalization with 1,044,392 cases reported in 2017. Fortunately, the percentage of deaths due to traumatic injuries was only 0.17%.

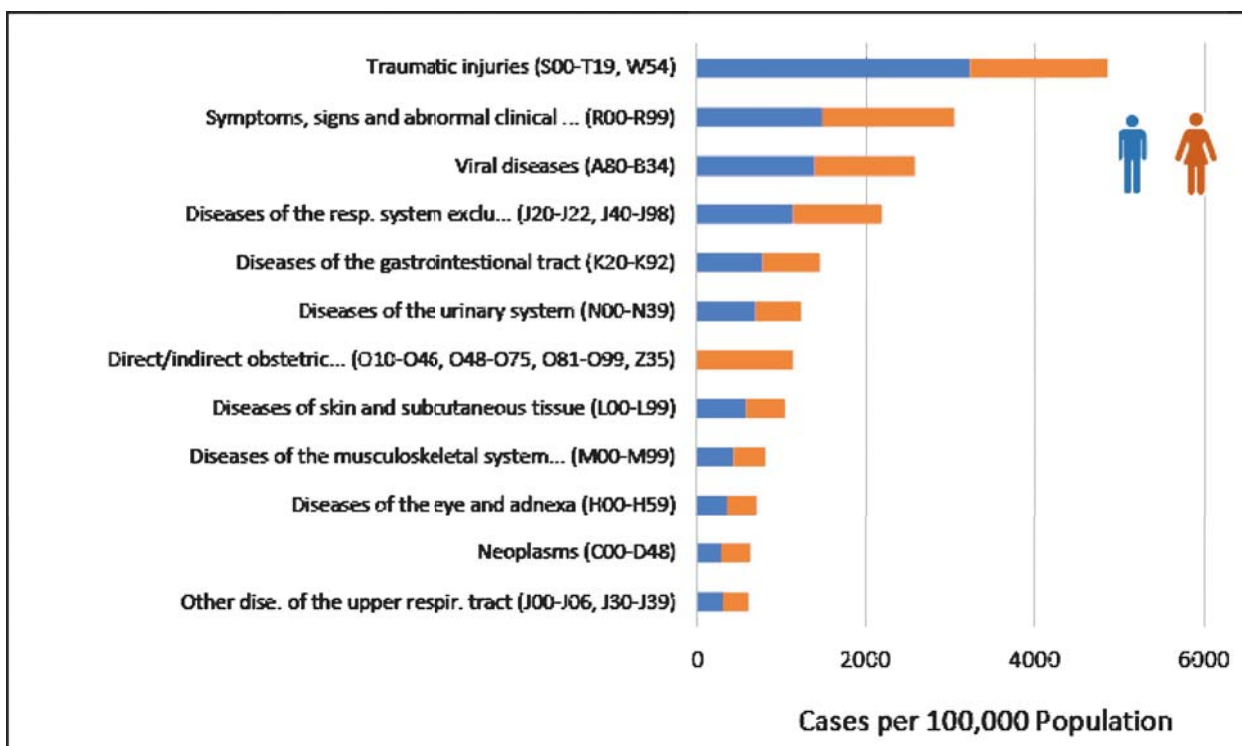


Figure 2.4: Leading Causes of Hospitalization, 2017

Source: Medical Statistics Unit, Ministry of Health

2.3. Hospital Mortality

Mortality Rates due to Certain infectious and parasitic diseases, Diseases of the blood & blood-forming organs & certain disorders involving the immune mechanism, Diseases of the nervous system, Diseases of the circulatory system, Diseases of the respiratory system, Diseases of the genitourinary system, Pregnancy, childbirth and the puerperium, Certain conditions originating in the perinatal period, Congenital malformations, deformations and chromosomal abnormalities, Injury, poisoning and certain other consequences of external causes were increased in 2017 in comparison with 2016. (Annexure 01: Detailed Table 16)

It is 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 2.6. According to the figure, there was a considerable gender difference in the number of deaths per 100,000 population. Male deaths were relatively higher than corresponding female deaths for most of the major leading causes of deaths.

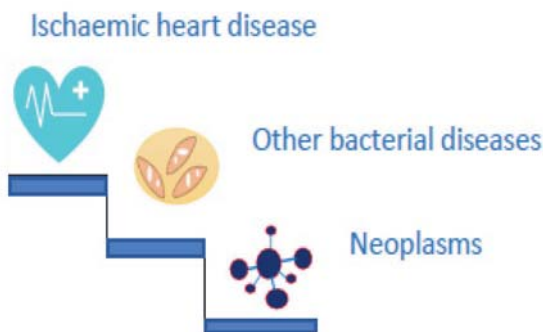


Figure 2.5: Top three leading causes of hospital deaths

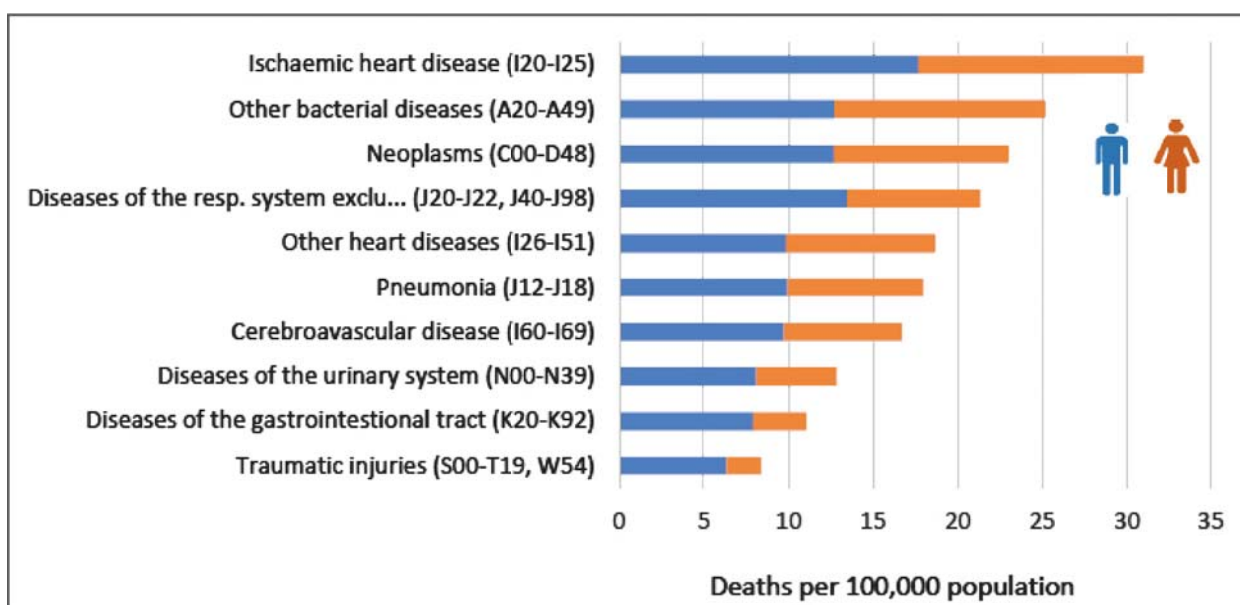


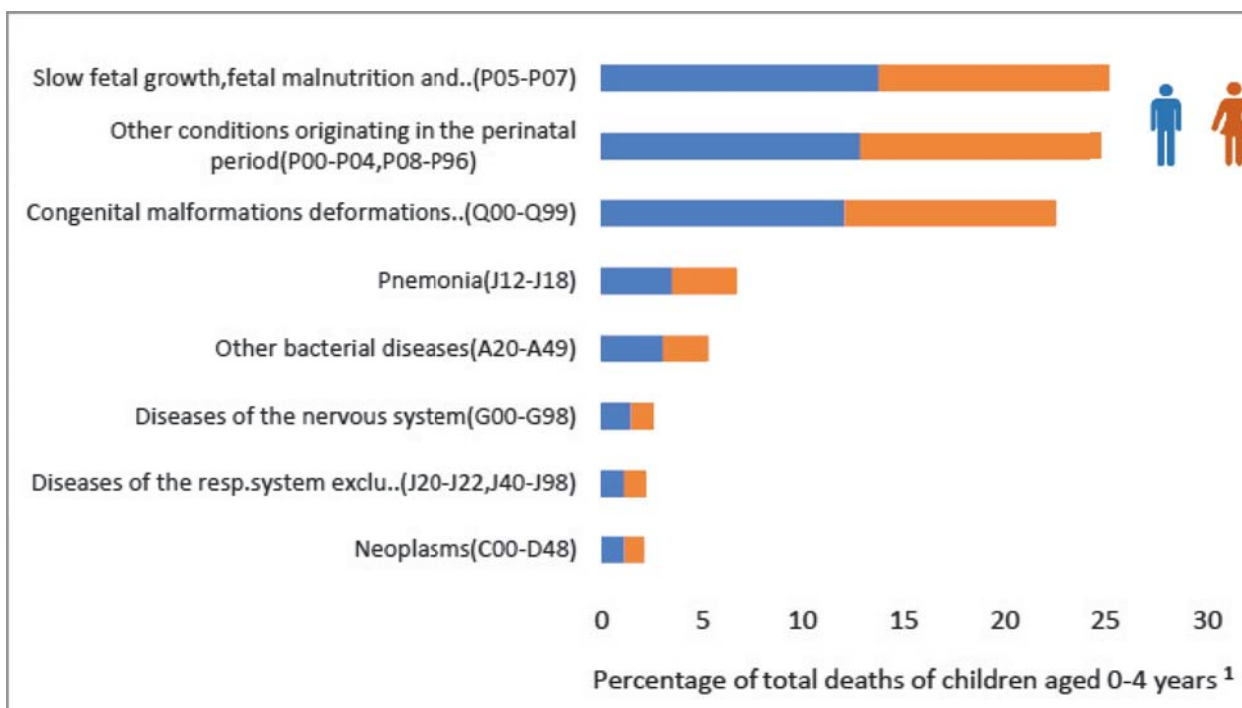
Figure 2.6 : Leading Causes of Hospital Deaths, 2017

Source: Medical Statistics Unit, Ministry of Health

Ischaemic heart disease was the main leading cause of death in Sri Lanka. Category of Zoonotic and other bacterial diseases was ranked as the sixth leading cause of death from 2010 to 2013 and the third leading cause of death from 2014 to 2016. It was the second leading cause of death in 2017. Group of Neoplasms was ranked as the third leading cause of death in 2017. Higher number of deaths associated with neoplasms were observed in Colombo, Gampaha, Kandy, Galle, Jaffna, Kurunegala, Anuradhapura, Badulla and Rathnapura districts was a result of cancer patients being transferred to the

Teaching Hospitals in Maharagama (Colombo district), Gampaha, Kandy, Karapitiya, Jaffna, Anuradhapura and Provincial General Hospitals in Kurunegala, Badulla and Rathnapura where advance facilities for the treatments of neoplasms are available.

Cerebrovascular disease which was the third leading cause in 2013, ranked as fifth in the year 2014 and fell in position to be the sixth leading cause of death in 2015 and 2016. It was ranked as the seventh leading cause of death in 2017.



¹ Analysed all deaths excluding undiagnosed/uncoded

Figure 2.7 : Leading Causes of Hospital Deaths for Children Aged between 0-4 Years, 2017

Source: Medical Statistics Unit, Ministry of Health

Leading causes of death for children in the age group of 0 to 4 years are presented in the Figure 2.7.

As shown in Figure 2.7, category of slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05-P07) is the main leading cause of death of 0-4 year old children and Other conditions

originating in the perinatal period (P00-P04, P08-P96) is the second leading cause of death of that group. Nearly 22% of total deaths of that group are due to congenital malformations deformations and chromosomal abnormalities (Q00-Q99).

The major leading cause of death for children (0-4 years) is slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05-P07).

2.3.2. Case Fatality Rate

According to 2017 hospital statistics, septicemia case fatality rate has been reported as the highest rate which was 40 deaths per 100 cases and it is a slight reduction from 2016. (Annexure 01: Detailed Table 26). Case fatality rate of pneumonia is continuously increasing from 2013. It is remaining as the second highest case fatality rate from 2014 up to 2017 among the selected diseases.

Other than that case fatality rates of liver diseases, ischemic heart diseases and asthma have also increased in 2017 compared to 2016. Graphical representation of the trends in case fatality rates of some selected diseases are given in Figure 2.8.

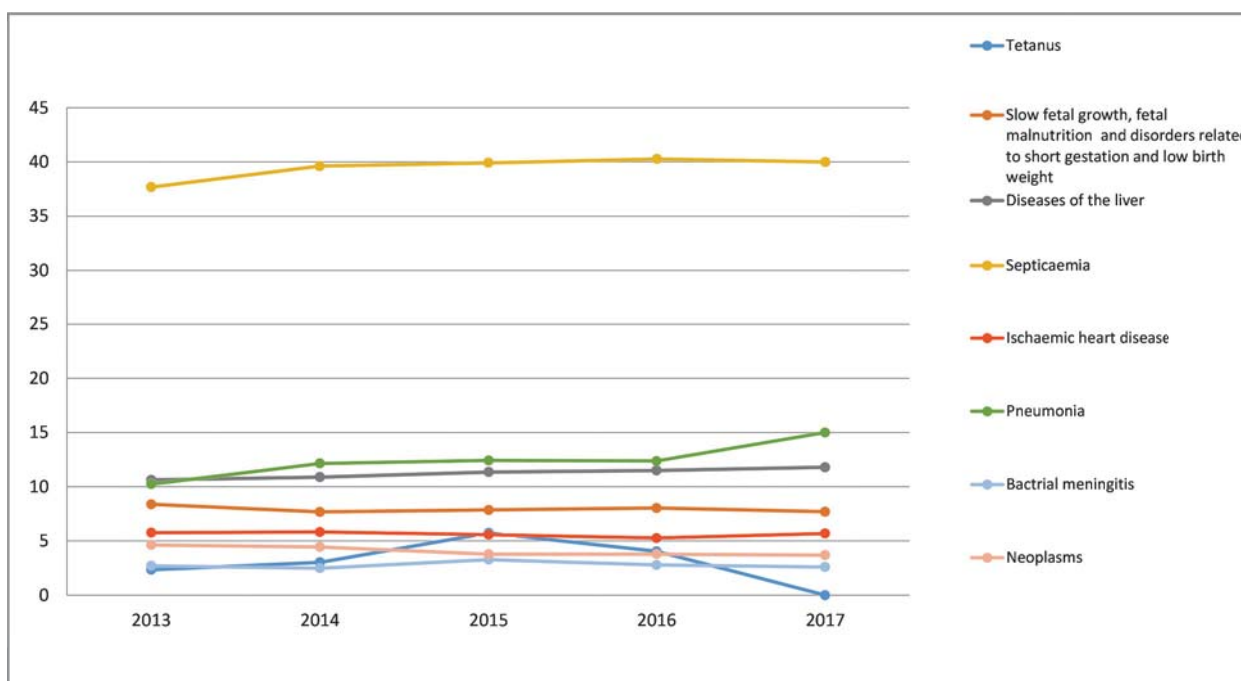


Figure 2.8: Trends in Case Fatality Rates of Selected Diseases, 2013 – 2017

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 deaths among the urban deaths, which are predominantly medically confirmed or at least medically examined.

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

3.1. Maternal and Child Health

3.1.1. Maternal Mortality Ratio

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.

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

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

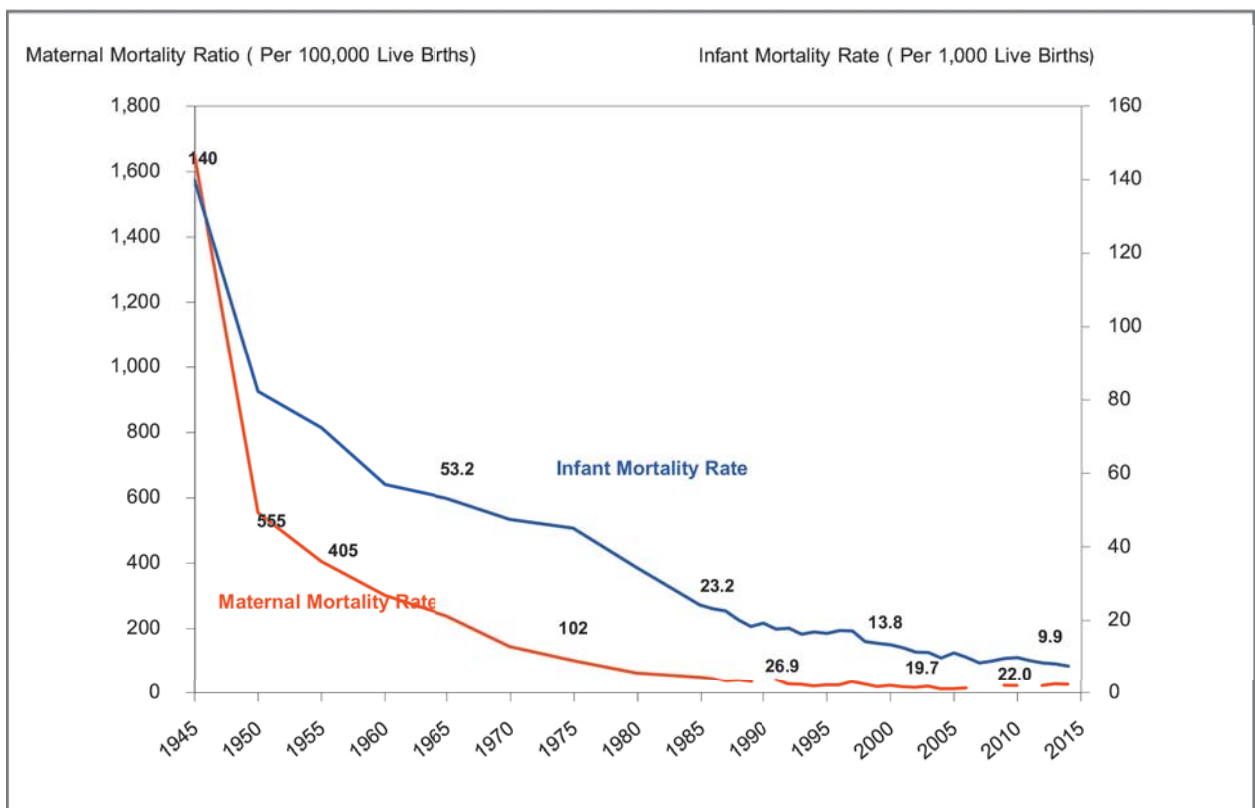


Figure 3.1: Trends in Maternal and Infant Mortality Rates, 1945 – 2015

Source: Registrar General's Department

3.1.2. Maternal Deaths

The Family Health Bureau collects maternal mortality data through the Maternal Death Surveillance and Response (MDSR) system. In the year 2017, out of the 215 probable maternal deaths reported to the National Maternal Death Surveillance and Response (MDSR) system, 127 deaths were identified as maternal deaths

giving a National maternal Mortality Ratio of 39.3 per 100,000 live births. The denominator, live births, reported by the Registrar General's Department for the year 2017 was 326,052. (Figure 3.2)

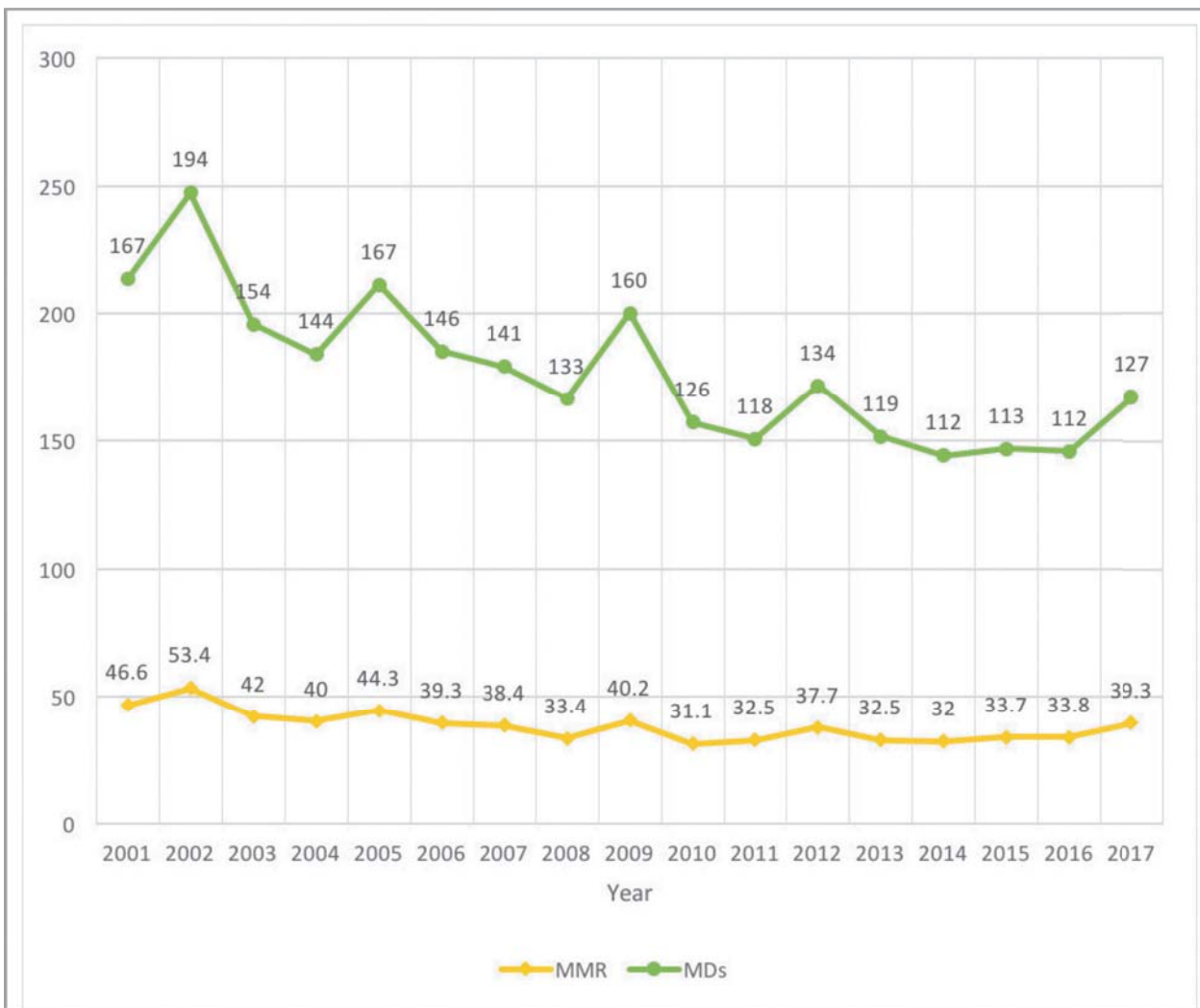


Figure 3.2: Trends in National Maternal Deaths and MMR (2001-2017)

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

On analysis of the 127 deaths, 45 (35%) were due to direct causes whereas 82 (65%) were due to indirect causes.

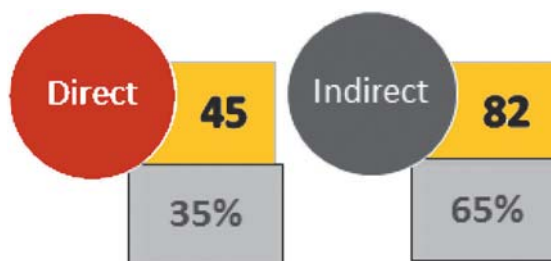


Figure 3.3: Maternal deaths by categories

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.

According to the figure, dengue haemorrhagic fever and heart disease complicating pregnancy accounted for the highest number of maternal deaths.

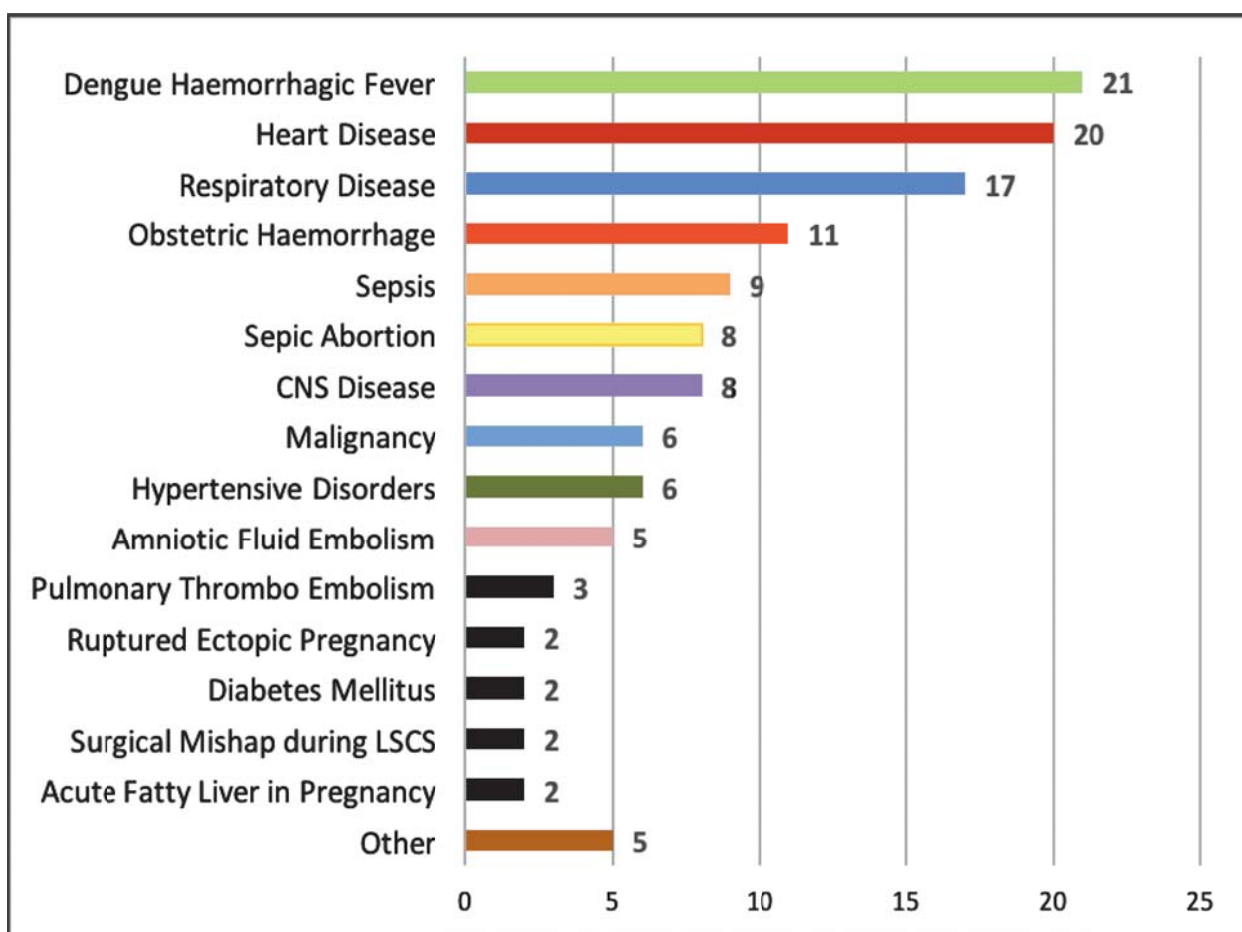


Figure 3.4: Leading causes of maternal deaths in 2017

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

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 3.5 demonstrates the number of maternal deaths and MMRs from each district.

Highest maternal mortality ratio was reported from Trincomalee and Mulathivu districts.

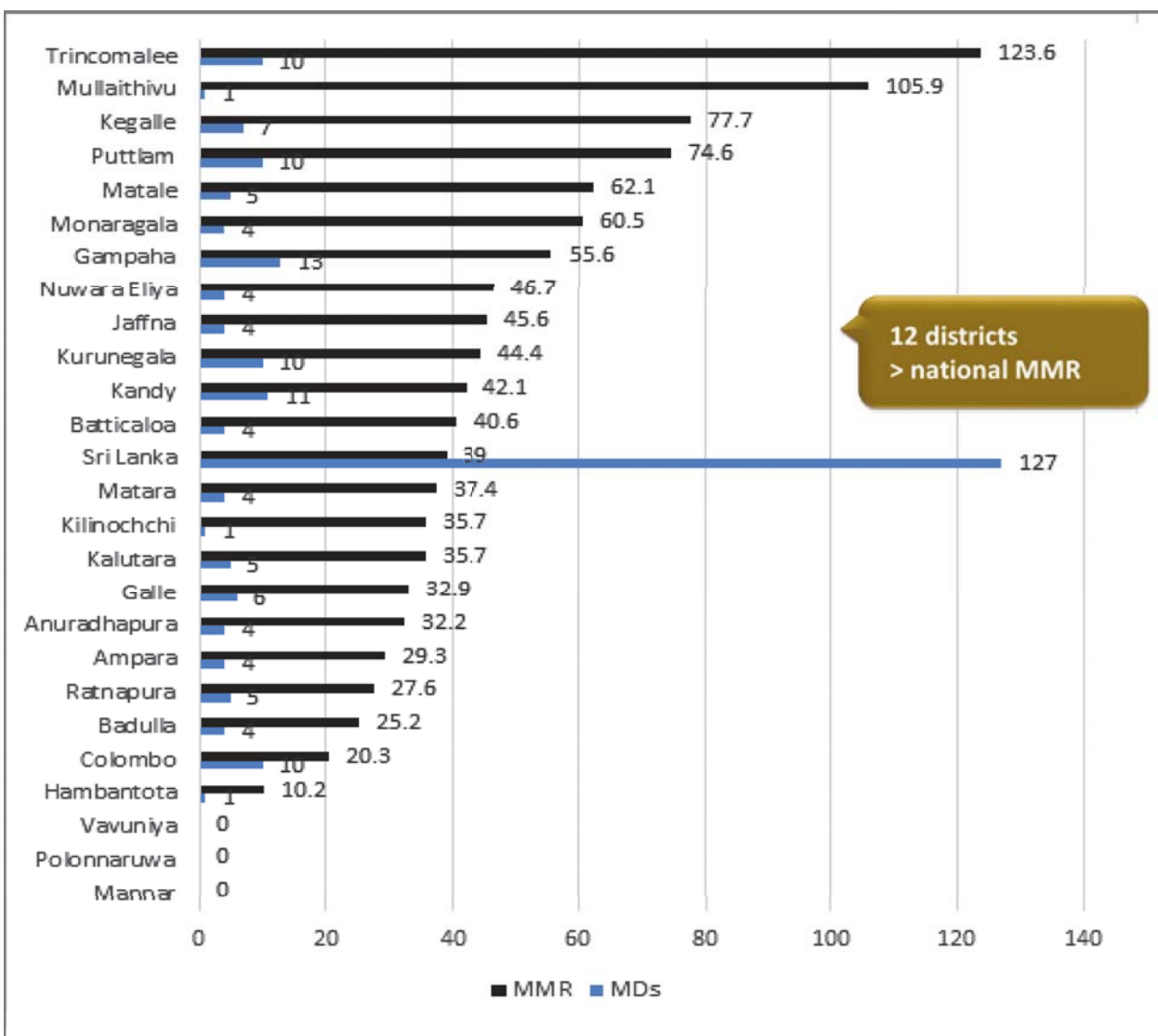


Figure 3.5: MMRs and maternal deaths by district

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

3.1.3 Perinatal Mortality

The Perinatal Mortality Surveillance & Response system has been implemented in the curative sector by the Family Health Bureau.

During the year 2017, a total of 1917 perinatal deaths were reported to Family Health Bureau

from the specialized hospitals. The provisional national Perinatal Mortality Rate was 5.8 per 1000 births. (Total births = 327969). Table 3.1 displays the distribution of fetal and early neonatal deaths.

Table 3-1 : Perinatal Deaths (PND) in 2017 (Provisional Data)

Category of PND	No.	Percentage (%)
Early Neonatal Deaths	838	43.7
Fetal deaths	1,079	56.3
Total Perinatal Deaths	1,917	100.0

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

3.1.4 Neonatal Mortality Rate

Neonatal Mortality rates of Sri Lanka have gradually reduced over the years. Three indicators that are important in reporting neonatal mortalities are the Still Birth Rate (SBR), Early Neonatal Mortality Rate (ENMR) and Neonatal Mortality Rate (NMR).

According to RHMIS, Still Birth Rates have been declining over the years. Target is to achieve a still birth rate of 4.5 /1000 births by 2020, 3.5 by 2025 and 2.2 by 2030.

From 2016, still birth registration has been streamlined through civil registration system by the introduction of a stillbirth certificate which must be completed before disposal of the body. Differentiation of still births by fresh and macerated and reporting percentages of each category by health facilities are needed in order to assess the quality of ANC care provided by the health facility. In order to reduce the still birth rate from 6.3/1000 births to 3.5/1000 births in 2025, still birth rate of 4.5/1000 births by 2020 must be achieved. (Figure 3.6)

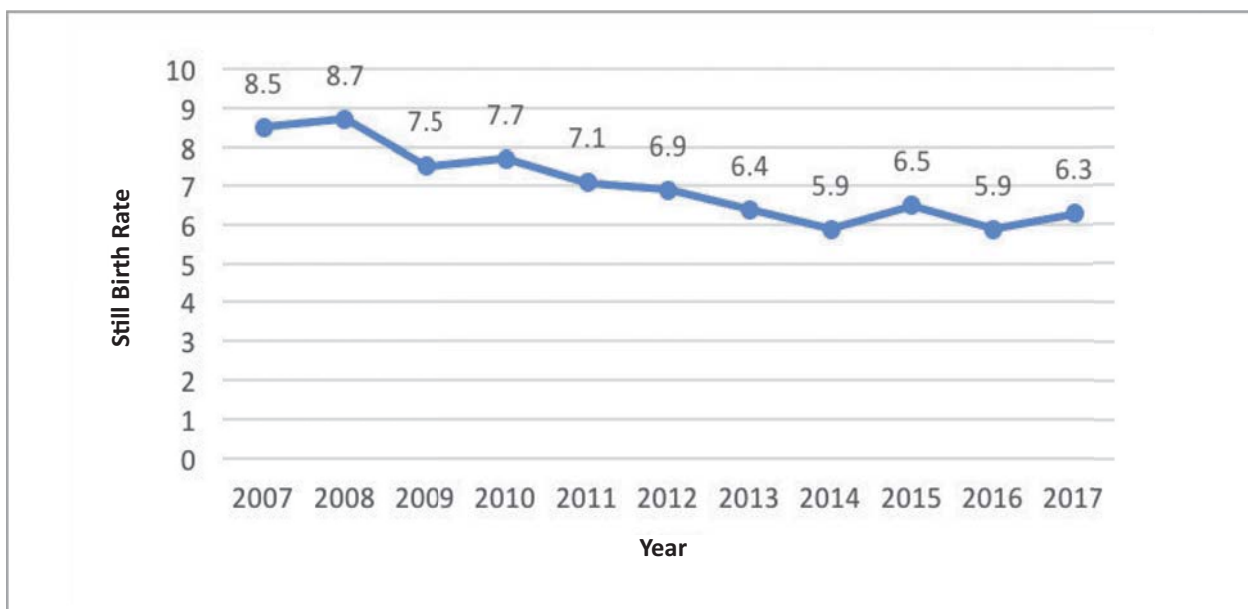


Figure 3.6: Still Birth Rate 2007 to 2017

Source: RHMIS 2017

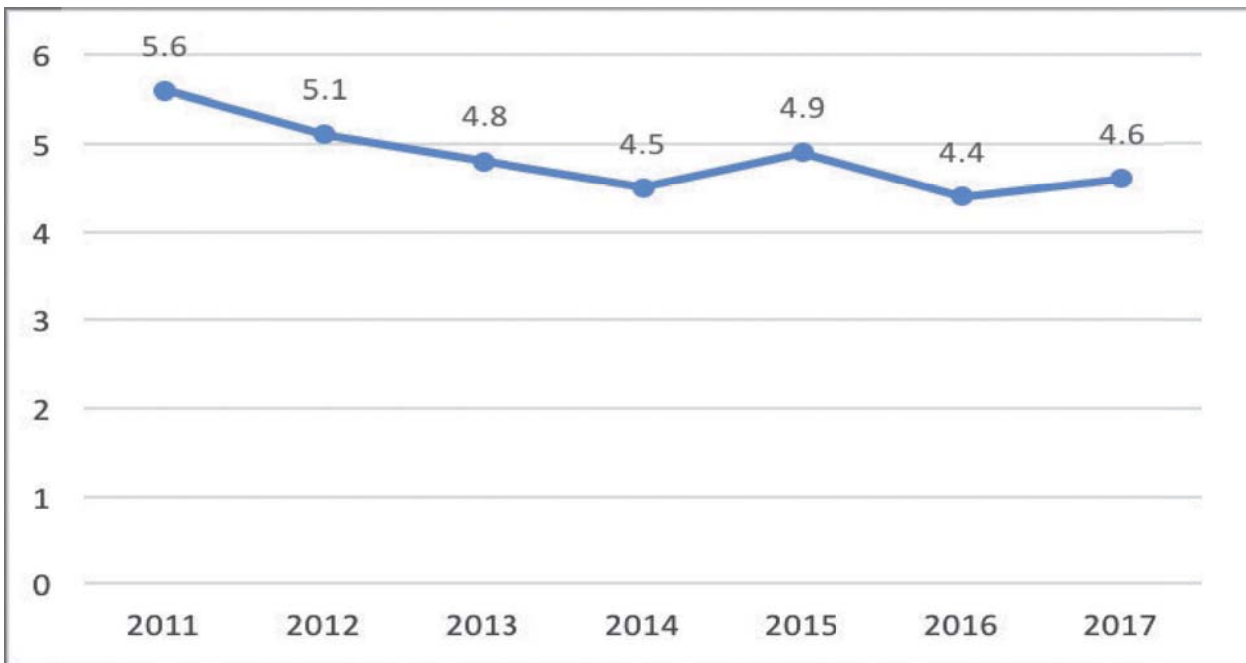


Figure 3.7: Early neonatal mortality rate (ENMR) 2011-2017

Source: RHMIS 2017

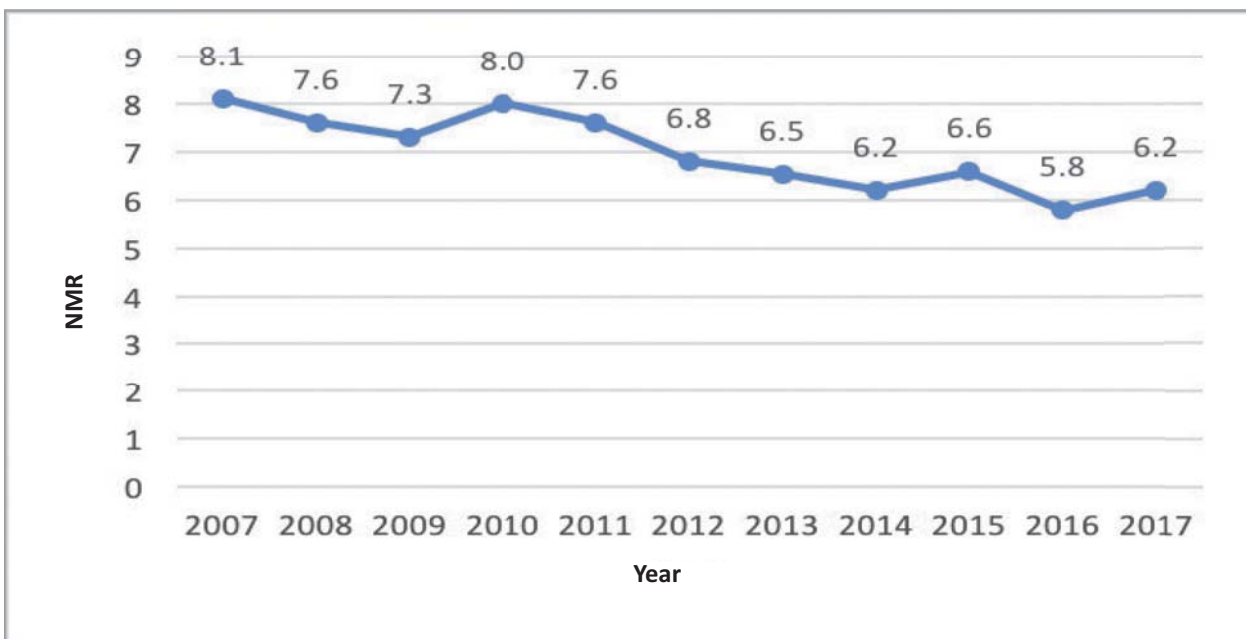


Figure 3.8: Still Birth Rate 2007 to 2017

Source: RHMIS 2017

Early Neonatal Mortality Rate is compared globally as an important indicator in Every New Born Action Plan (ENAP). ENMR for 2017 reported by RHMIS is 4.6 per 1000 live births

In order to achieve the target goal of Every New-born 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. To achieve the target Neonatal Mortality Rate and Still Birth Rate set for 2030, priority packages of interventions have been identified to strengthen care during labour and child birth, essential new-born care, care of the sick and small new-born and care beyond new-born survival. Services should be further strengthened and need continuous monitoring of the planned activities to achieve the targets in 2025.

3.1.5. Infant Mortality Rate

Family Health Bureau implemented a national infant mortality surveillance & response system in the year 2016 and country-wide individual infant mortality data are collected from Medical Officers of Health and all hospitals. The data are being processed for comprehensive analysis.

1,000 live births from routine RHMIS. Last available IMR from Registrar Generals Department is for 2015 (provisional) and it was 8.5 per 1,000 live births. Out of total infant deaths, 1902 (71%) were due to neonatal deaths. Out of neonatal deaths, 1,420 (74.7%) were early neonatal deaths.

In 2017, 2,665 infant deaths have been reported with an Infant Mortality Rate (IMR) of 8.7 for

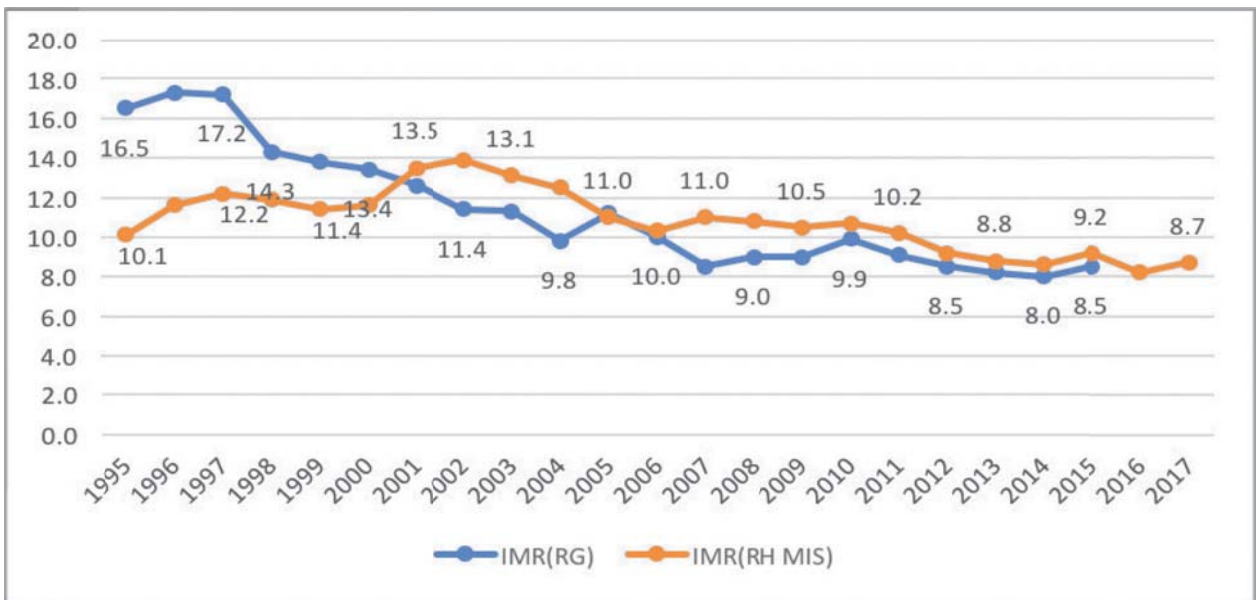


Figure 3.9: Comparison of trends in National IMRs determined from RHMIS and Registrar General's Department

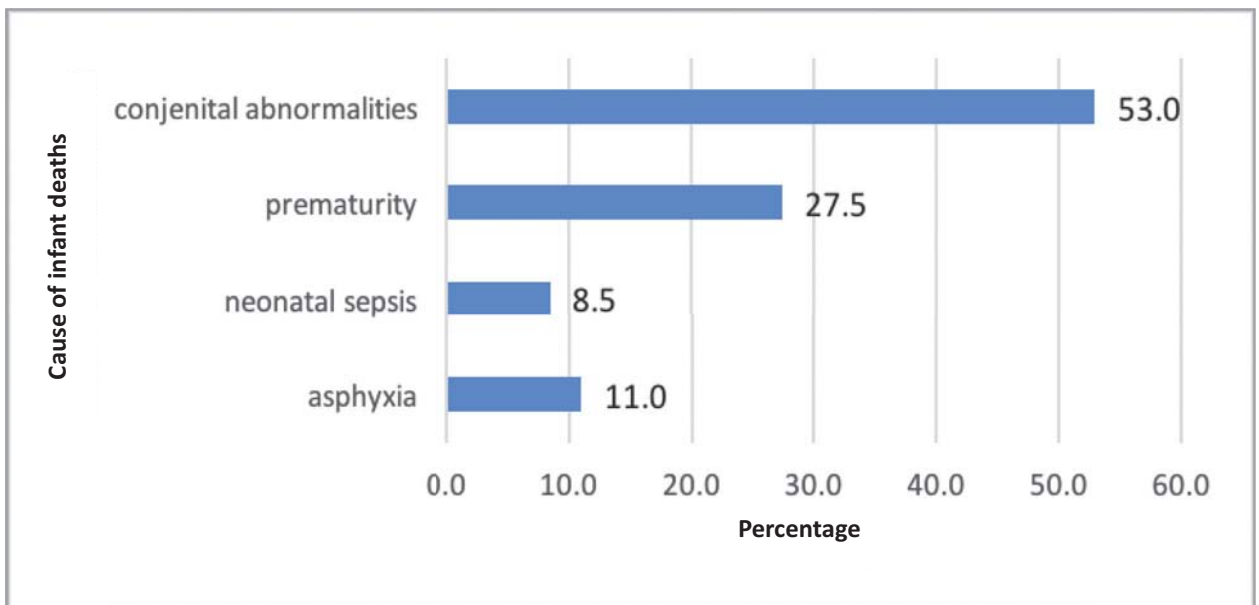


Figure 3.10: Percentage distribution of cause of infant deaths 2017

Source: RHMIS 2017

Out of infant deaths, 53% were due to non-preventable congenital abnormalities, while nearly 47% were due to preventable causes: prematurity, asphyxia, and neonatal sepsis.

3.1.6 Under Five Mortality Rate

Latest information on under-five mortality published by the Registrar General's Department is given in Table 3.2. Except in the year 2005, under-five mortality has shown a 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 was 11 per 1000 live births.

According to the Demographic and Health Survey - 2016, Child Mortality Rate was 1 death per 1,000 children surviving to 12 months of age.

Table 3-2 : 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's Department

Out of infant deaths, 47% were due to preventable causes

The Child Mortality Rate (CMR) is the number of deaths of children between the first and fifth birthday, per 1,000 children

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

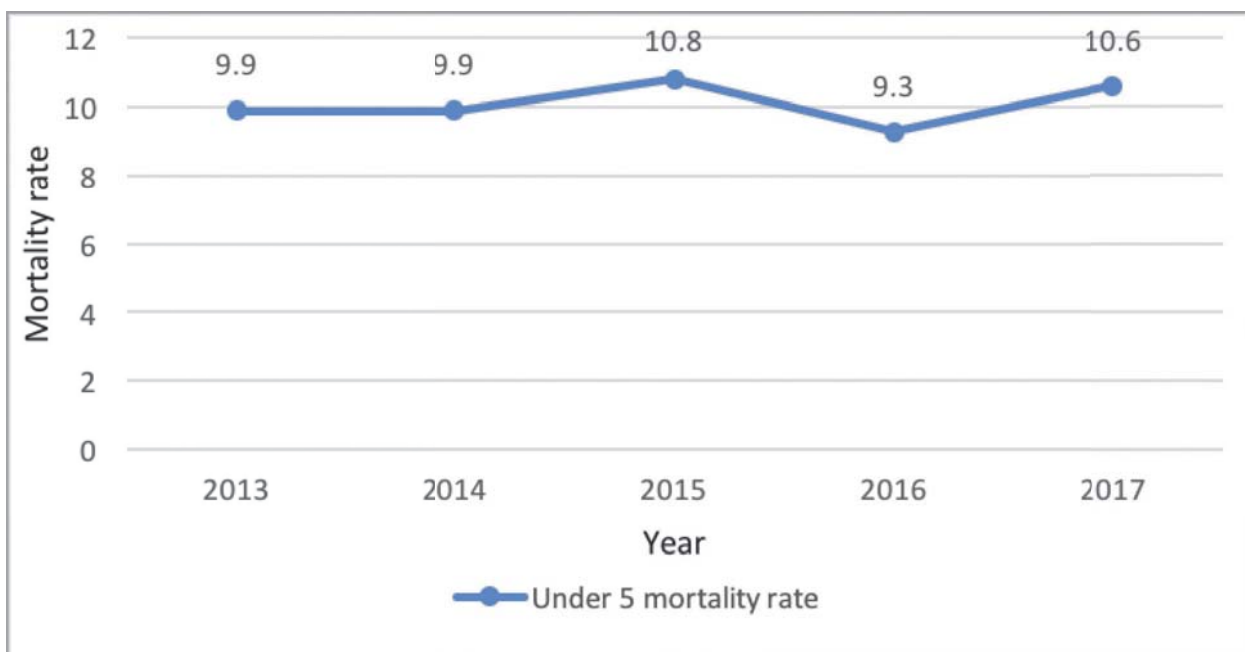


Figure 3.11: Under Five Mortality Rate per 1000 live births 2013 - 2017

Source: RHMIS 2017, Family Health Bureau

Figure 3.12 describes the causes of 1-5-year-old child deaths. It shows that accidents and congenital abnormalities are responsible for 58% of the 1-5-year-old deaths.

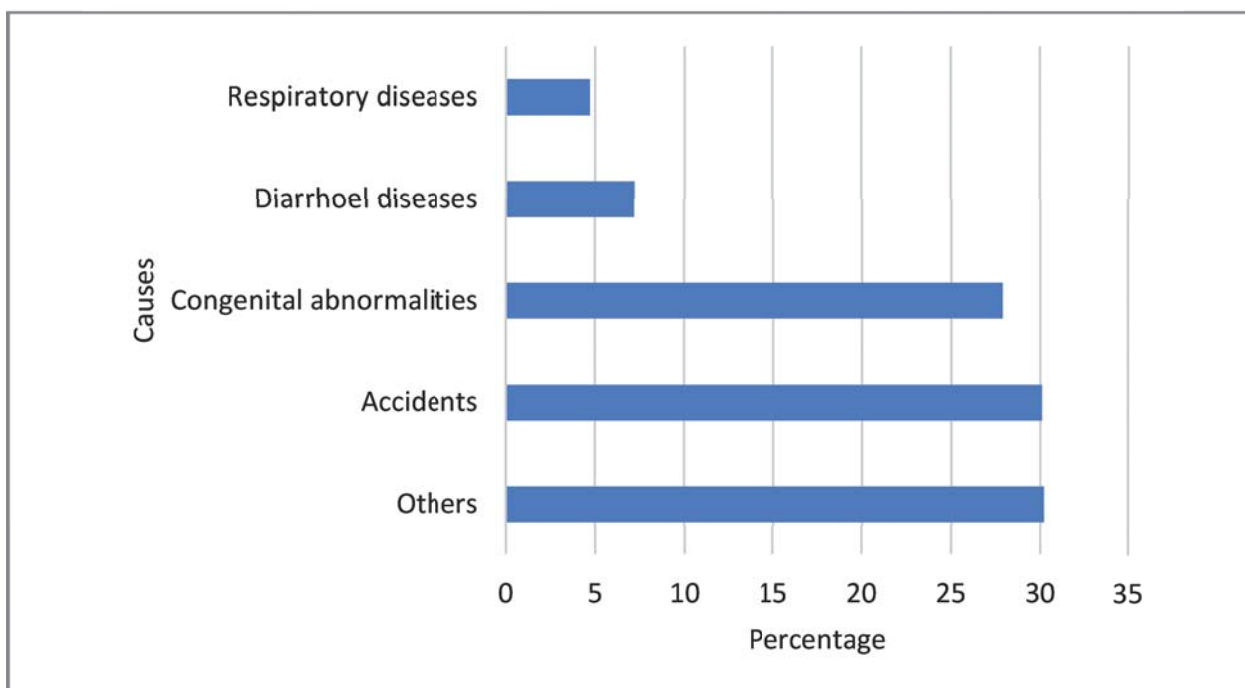


Figure 3.12: Percentage distribution of cause of 1-5-year-old child deaths 2017

Source: RHMIS 2017, Family Health Bureau

4. Infectious Diseases/ Communicable Diseases

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

Dengue has been recorded for more than a half-century in our country and has been mostly confined to urban and peri-urban areas. It is now hyper endemic with geographical spread to almost all districts. Dengue accounts for the highest mortality and morbidity among all a vector-borne diseases in Sri Lanka.

The annual incidence is increasing significantly, with seasonal variations in parallel to the monsoonal rain patterns, and intermittent outbreaks occurring despite prevention and control activities. In 2017, Sri Lanka faced the most severe outbreak to date with a massive case load and fatalities along with a huge social and economic burden.

There was a total of 186,101 cases reported in the entire island at an incidence of 866 per 100,000 population whereas it was only 55,150 cases at an incidence rate of 263 in 2016. The majority affected were males (55.3%). However, this was less than the percentage of male patients reported in 2016 (61.0%). Patients of 20 – 24 years were affected more than the other age groups (12.5%). There were 440 dengue related fatalities reported in 2017 at a case fatality ratio (CFR) of 0.24 whereas it was 97 deaths at CFR 0.17 in 2016.

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. CFR is conventionally expressed as a percentage and was 0.24% in 2017.

At the end of 2017, a total of 186,101 cases were reported, with 440 deaths at a Case Fatality Rate (CFR) of 0.24%

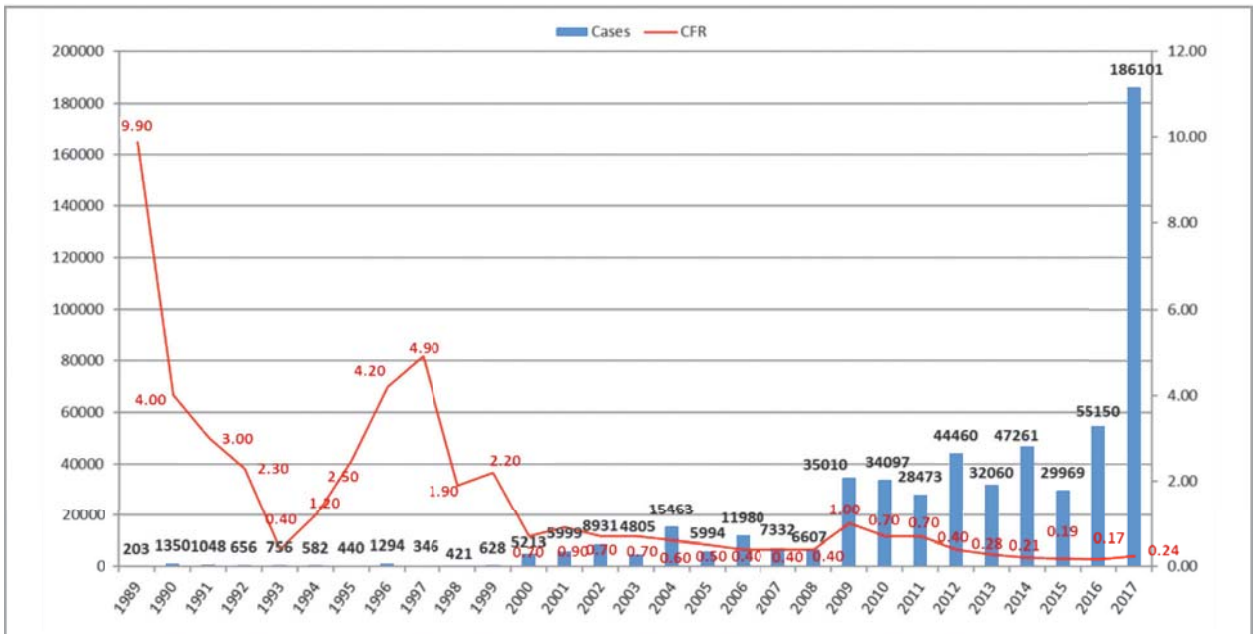


Figure 4.1: Annual Trend in Dengue Cases and CFR from 1989 to 2017

Source: Epidemiology Unit

The Western province contributed to the highest percentage of cases (41.8%) followed by the Sabaragamuwa province (11.2%) with an overall incidence of 1,263.9 and 1,027.66 per 100,000 population respectively.

Weekly reporting of dengue cases usually shows the seasonal pattern related to the monsoon periods. In 2017, weekly case

reporting was very high, compared to the previous years. From early February 2017, being a relatively dry period, to the middle of the year, peak of the south-west monsoon period in May-July, the weekly reported Dengue cases showed an unusually high incidence (Fig 4.2).

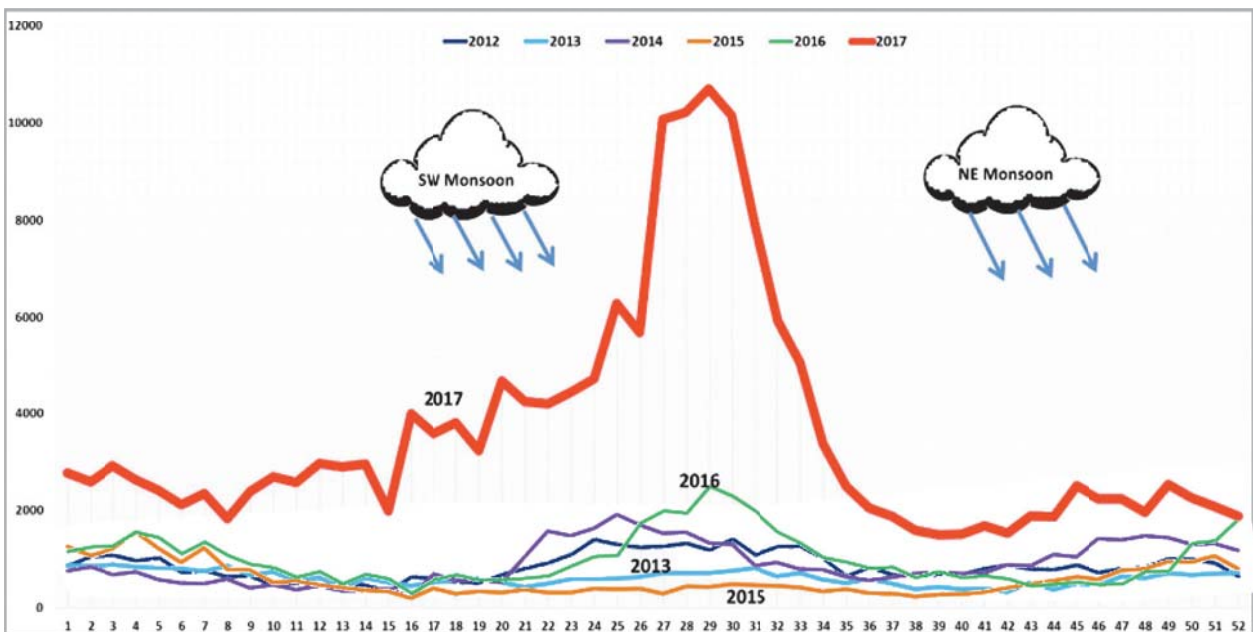


Figure 4.2: Weekly Reporting of Cases Indicating Seasonality from 2013 – 2017

Source: Epidemiology Unit

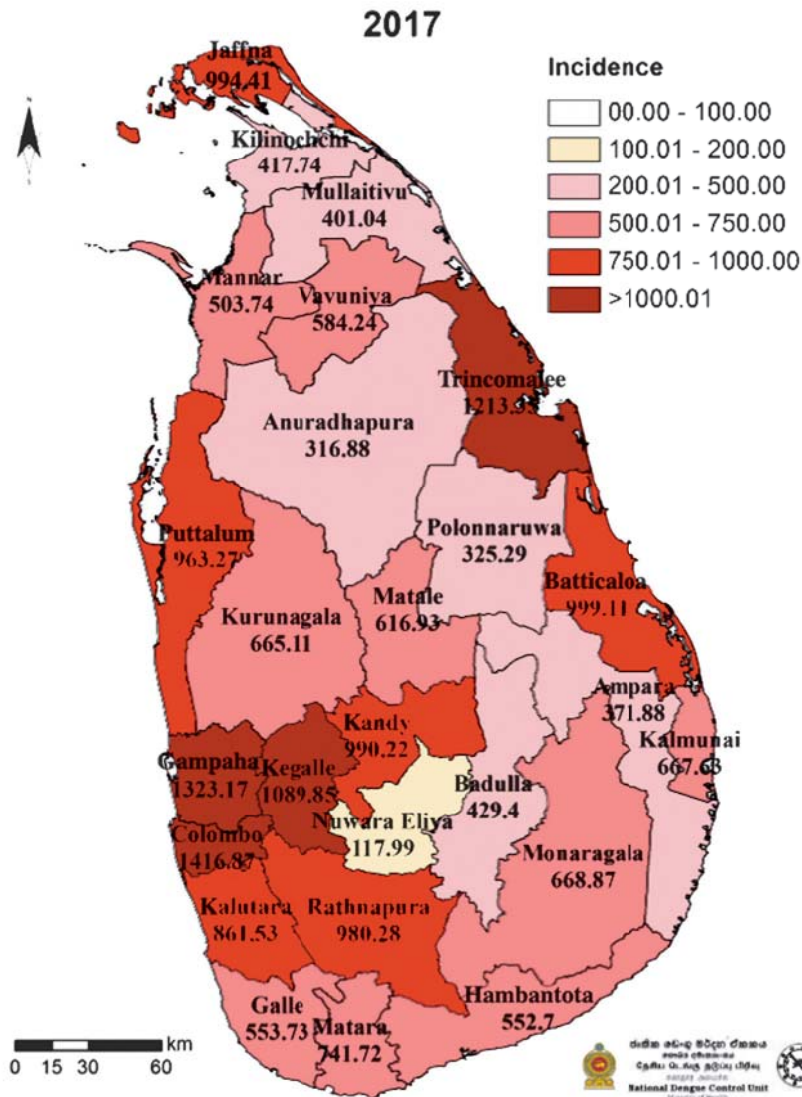


Figure 4.3: Dengue incidence according to the districts of the country in 2017

source: National Dengue Control Unit

The National Dengue Control Unit (NDCU) is the focal point for Dengue control activities in Sri Lanka. The overall objective of the NDCU is to achieve a case incidence below 100/100,000 population and to reduce and maintain the case fatality rate below 0.1% by the year 2023.

Entomological Surveillance

Entomological surveillance is carried out under the supervision of the NDCU by the field public health staff at regional level. Vector surveillance is important to forecast the impending outbreaks and initiate early measures to prevent the occurrence of outbreaks and

to limit the transmission. Vector indices are calculated (Breteau index, premise index and container index) for the assessment of the risk and impact of control activities.

In 2017, a total of 259,516 premises were inspected during entomological surveys, and 24,562 premises (9.46%) were positive for Aedes larvae. The types of breeding sites detected are illustrated in Figure 4.4.

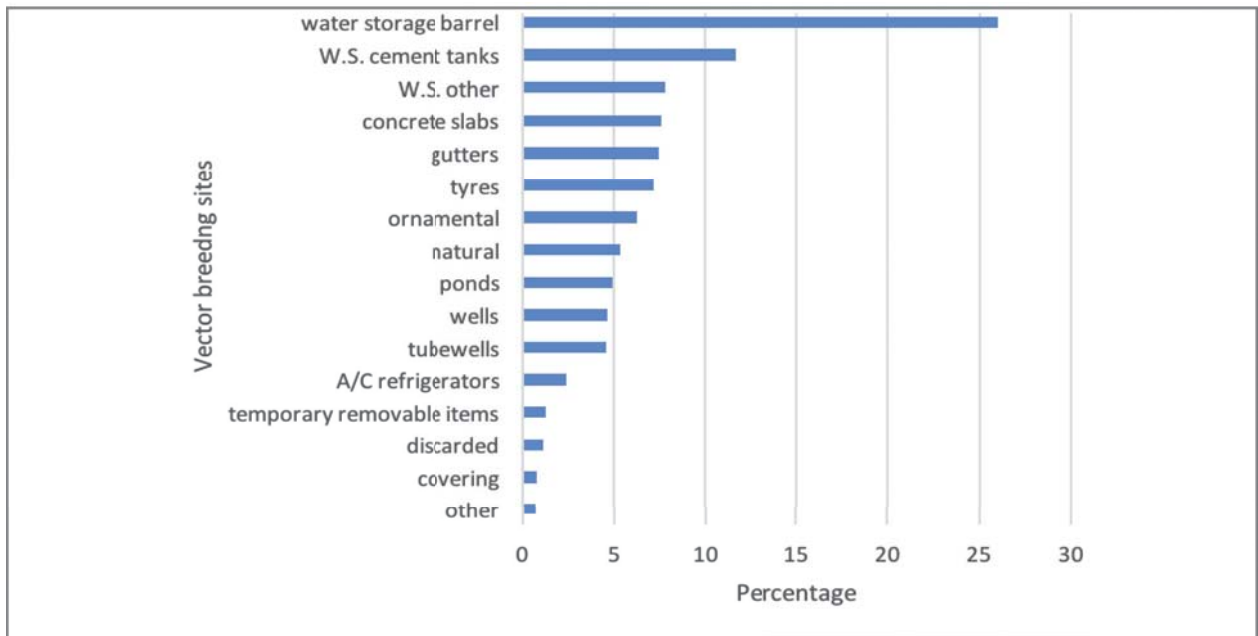


Figure 4.4: Distribution of vector breeding sites identified in 2017

Source: National Dengue Control Unit

Integrated Vector Management (IVM)

IVM is a rational decision-making process for the optimal use of resources for vector control. The effective approaches to dengue vector management and control are as follows:

- Environment management methods – source reduction and personal protection
- Chemical methods – application of adulticides and larvicides.
- Biological and biochemical methods – e.g. application of Bti, larvivorous fish, Insect growth regulators
- Intersectoral collaboration and health education
- Law enforcement

Vector Control

Vector control interventions including source reduction (elimination of breeding places), and biological and chemical vector control were carried out by the health authorities with all relevant stakeholders in accordance with the guidelines. Vector control activities were carried out on a high-risk approach based on epidemiological and entomological parameters. Provision of training and technical guidance to district and divisional level vector management

staff is integral to dengue control. Further, provision of necessary equipment, chemicals, and other resources is required to facilitate optimal control of dengue vectors.

Outbreak Response: Emergency Dengue Control Programme

- Weekly reporting of data revealed that the highest number of cases was reported in the 25th week (1,915 cases) of which more than 60% were reported from the Western Province in 2017. In order to curtail this outbreak situation promptly, an emergency dengue control programme was conducted in Western Province as per a decision taken by the NDCU in collaboration with the Presidential Task Force on Dengue Prevention (PTF).
- A series of mass scale premises inspection programmes were continued targeting houses, schools, institutions, public and religious places and bare lands etc. A Civil-Military Cooperation (CIMIC) activity, involving approximately 50,000 personnel from Tri-forces, Civil Defence Force, Police and Health services, was conducted over the year

- This emergency dengue control programme was targeted mainly at the GN divisions in selected high-risk Medical Officer of Health (MOH) areas based on epidemiological data from 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 inspections were conducted during 2017 in WP and other provinces.

Novel strategies

A novel research project called 'The Wolbachia project' funded by the Government of Australia was initiated in 2017 to assess the effectiveness of the Wolbachia containing *Aedes aegypti* as a control strategy for dengue in Sri Lanka. The Wolbachia bacterium inhibits the growth of the dengue virus in the *Aedes aegypti* mosquito once introduced into the mosquito and prevents transmission of the virus to people.

- Case fatality could be kept at a low rate, by capacity building of health staff in the curative sector along with the strengthening of health institutions for patient management. Early diagnosis, timely admission and identification of high-risk individuals are recommended.
- The increasing trend is mainly associated with urbanization and physical infrastructure development. Vector indices show that the majority of vector mosquito breeding occurs in discarded receptacles. Continuous public awareness on keeping own premises/ construction sites/school/workplaces etc. free from dengue mosquito breeding sites by implementing feasible and sustainable waste management policies are highly recommended, especially before monsoonal rains in high transmission risk areas.
- Vector management by the public preventive health authorities need to be augmented whilst engaging other relevant ministries in timely interventions according to recommended guidelines.
- Advocate for cleaning of public places and drainage systems by the relevant local government agencies.
- Strengthen coordination committee meetings with relevant ministry officials regarding district, divisional and village committees

Content source: Epidemiology Unit and National Dengue Control Unit

4.2. Tuberculosis

Tuberculosis (TB) continues as a public health problem in the country and the estimated incidence in 2017, was 65 per 100,000 population. Around 9000 cases are reported every year and the ratio for new pulmonary to new EPTB was 2.6 in 2017. There were 25 newly diagnosed Multi-Drug Resistant TB (MDR) patients in the country in 2017 and the number of TB/HIV Co-infected people HIV cases detected among the TB patients screened at DCCS was 29.

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 26 District Chest Clinics, one sub chest clinic, and branch clinics. Diagnostic culture facilities were available

at National Reference Laboratory and intermediate TB laboratories at Ratnapura, Kandy, Jaffna, and Galle.

The observed inadequacies in TB control activities were; fewer referrals from primary health care settings for sputum investigations, inadequate investigation of contacts and the maldistribution of trained manpower.

The treatment success rate for the cohort of patients registered for treatment in 2016 was 84.6%. The high death rate (7%) mainly contributed to the observed rate. The main reasons for the deaths were late presentations and presence of comorbid factors.

In 2017, there was a gap around 4,000 cases between the number notified and number estimated

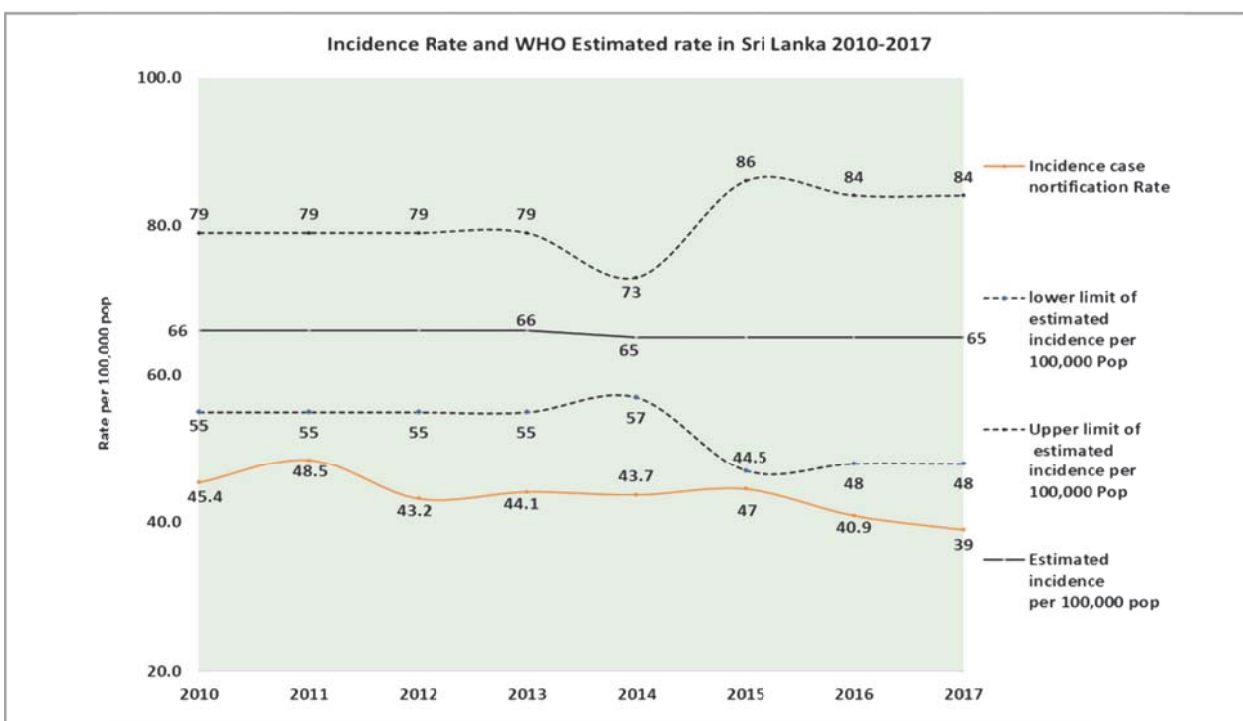


Figure 4.5: Gap between the estimated TB cases (new & relapse) and notified cases 2010-2017

Source: National Programme for Tuberculosis Control & Chest Diseases

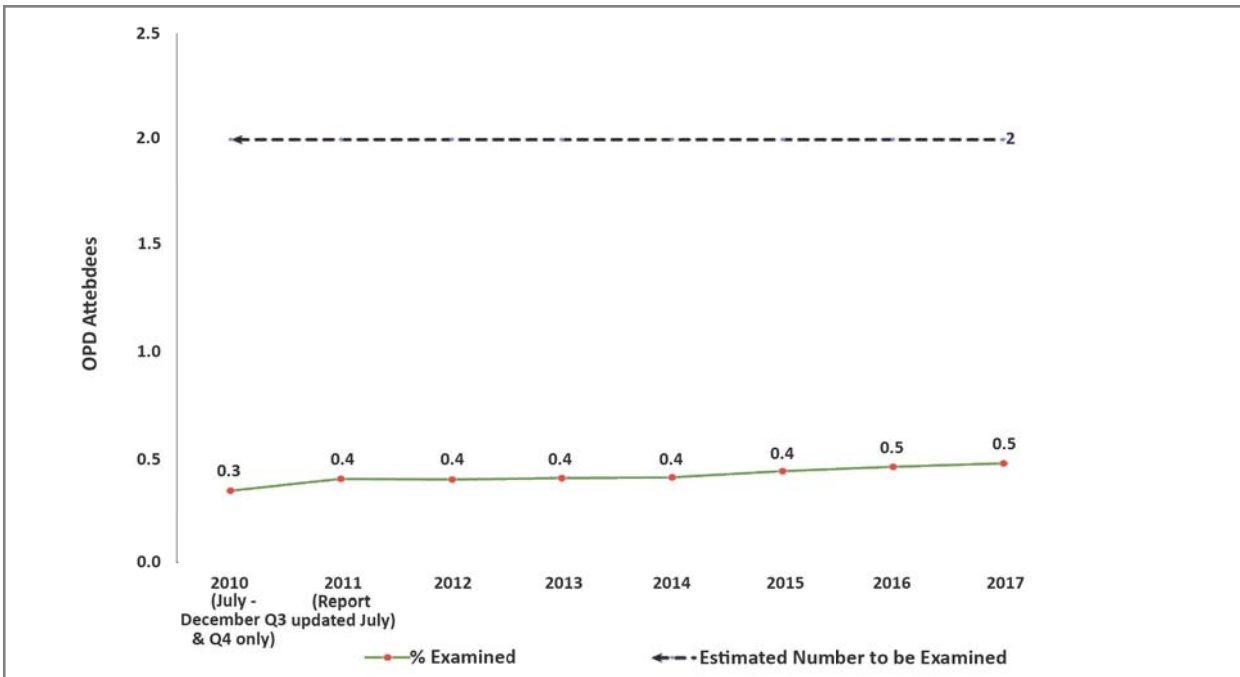


Figure 4.6: Percentage of presumptive TB cases referred for sputum microscopy of total OPD attendees 2010-2017

Source: National Programme for Tuberculosis Control & Chest Diseases

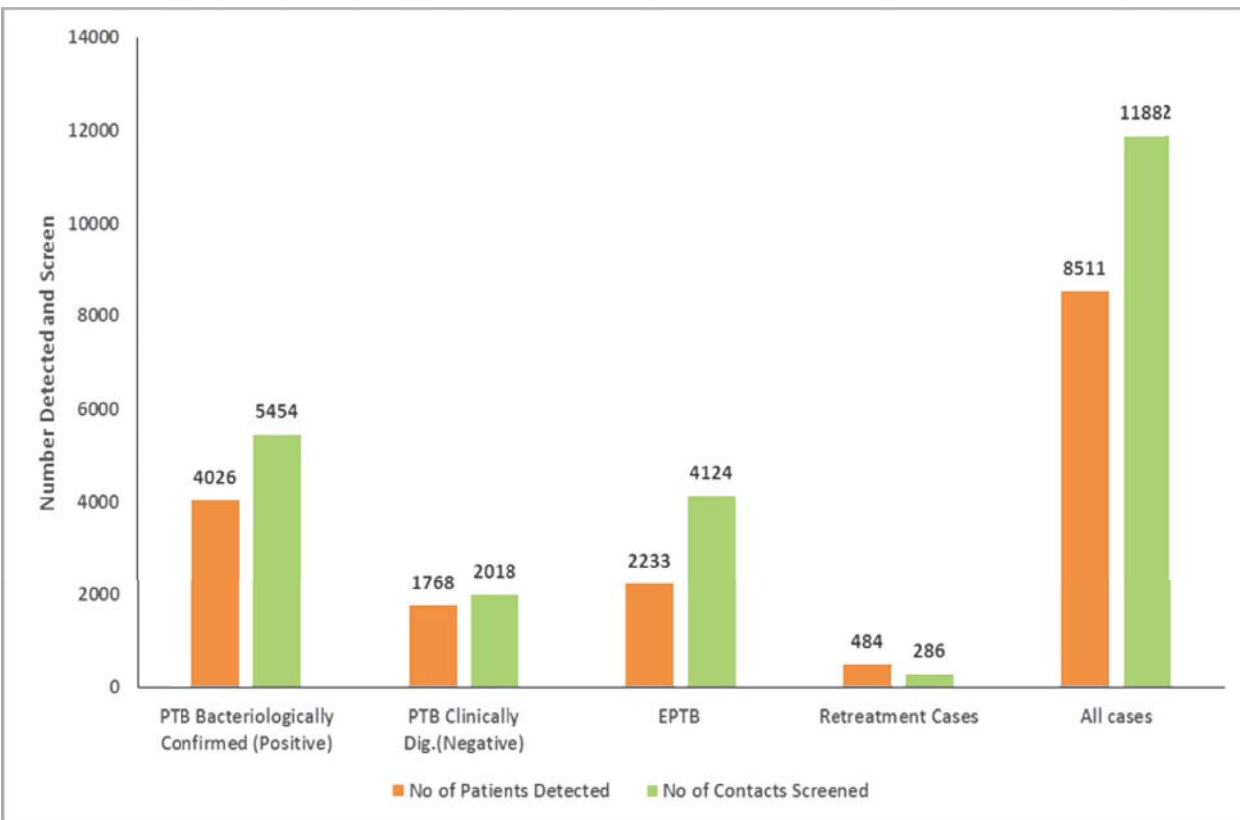


Figure 4.7: Contact screening of TB patients-2017

Source: National Programme for Tuberculosis Control & Chest Diseases

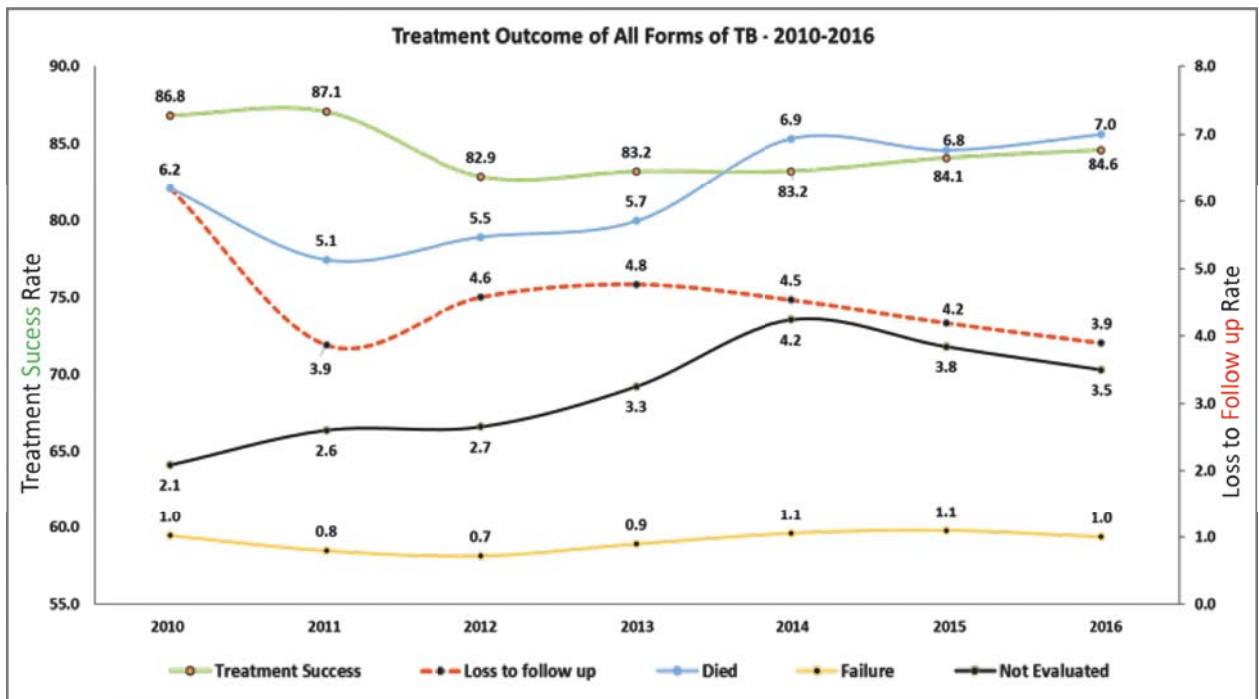


Figure 4.8: Treatment outcome of all forms of TB-2010-2016
(Cured + Treatment completed = Treatment Success)

Source: National Programme for Tuberculosis Control & Chest Diseases

- Research supports that out of the total adult OPD attendance 2% of the patients will have symptoms suggestive of TB (Presumptive TB). Therefore, at least 2% of the OPD patients should be identified as presumptive TB cases and referred for sputum examination.
- In order to improve case detection, a sensitive algorithm will be introduced to detect cases using CXR and Gene Xpert, in addition to microscopic investigations.
- Active screening should to be strengthened among the contacts of TB patients. At least 3 contacts per patient should be screened.

Content Source: National Programme for Tuberculosis Control and Chest Diseases

4.3. HIV/ AIDS and Sexually Transmitted Infections (STIs)

The estimated number of people living with HIV (PLHIV) as of end 2017 was 3500 (3,000-4,200). Total PLHIV diagnosed and reported to be alive were 2,391. This figure was calculated by subtracting the total number of reported AIDS deaths (451) from the cumulative number of people reported with HIV (2,842) up to the end of 2017.

However, it should be noted that these are cumulative figures since 1987 and there can be deaths that are not reported as deaths due to AIDS. From 1,355 PLHIV linked with HIV treatment and care services, 1299 have been commenced on antiretroviral treatment (ART).

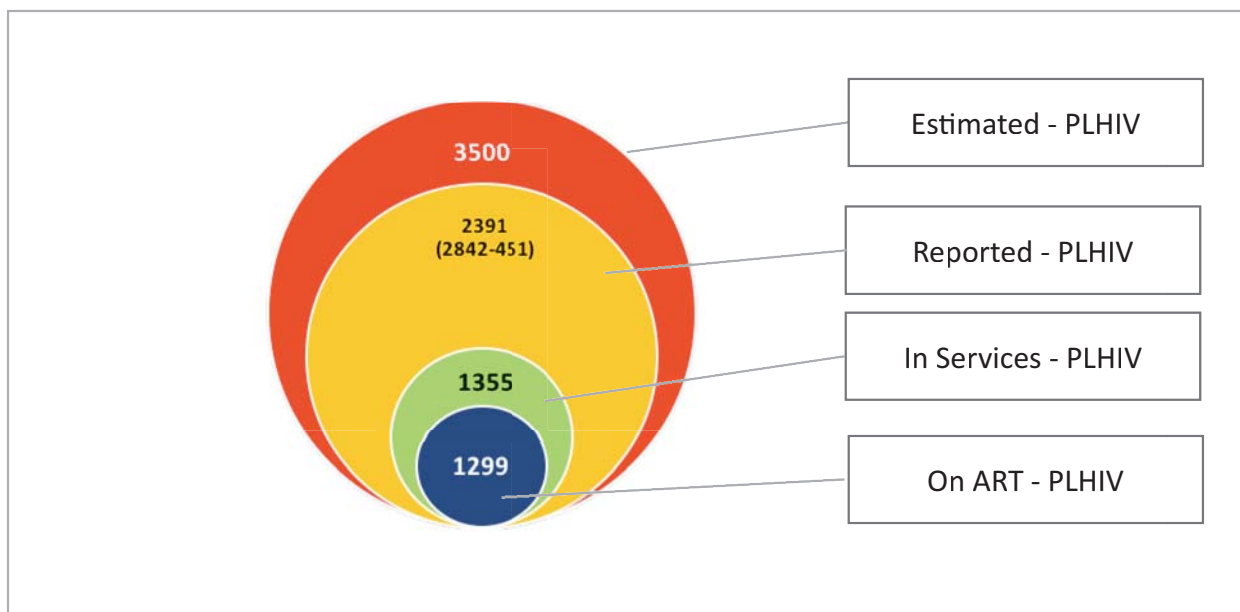


Figure 4.9: Summary of the status of PLHIV as of end 2017
 Source: National STD & AIDS Control Programme

Figure 4.10 indicates the geographical distribution of PLHIV by the province of residence from 1987-2017.

Majority of cases have been reported from the Western province (55%) whilst all other provinces reported less than 10% of cases each.

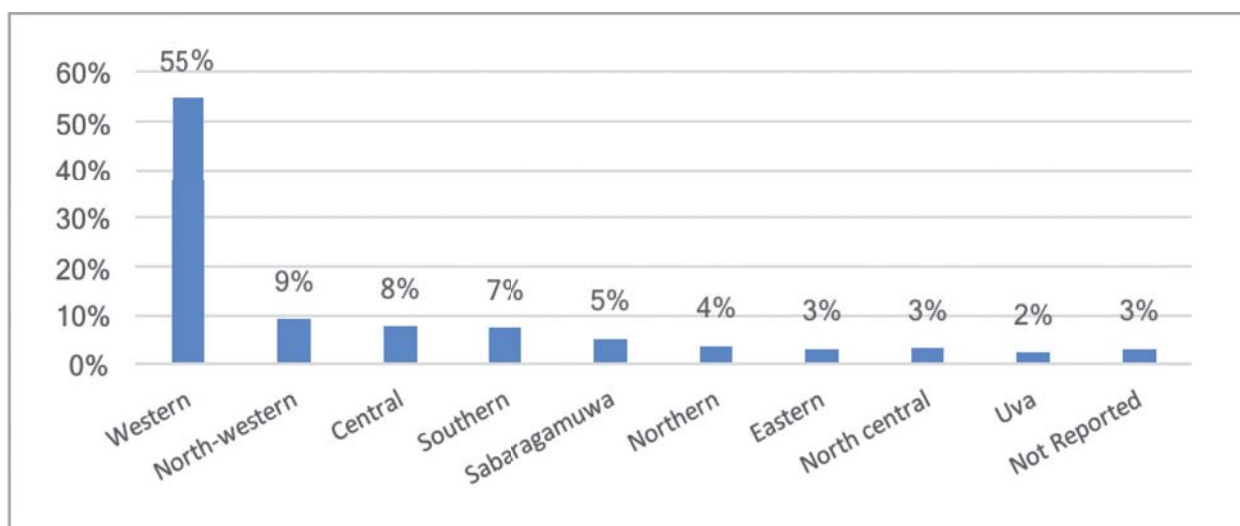


Figure 4.10: Cumulative PLHIV by province of residence, 1987-2017 (N= 2842)
 Source: National STD & AIDS Control Programme

Figure 4.11 shows the trends in newly diagnosed PLHIV and estimated new PLHIV for the period of 2010-2017. An exponential increase in the newly diagnosed PLHIV is observed whilst the estimated number of new

PLHIV (incident HIV cases) shows a declining trend over the period.

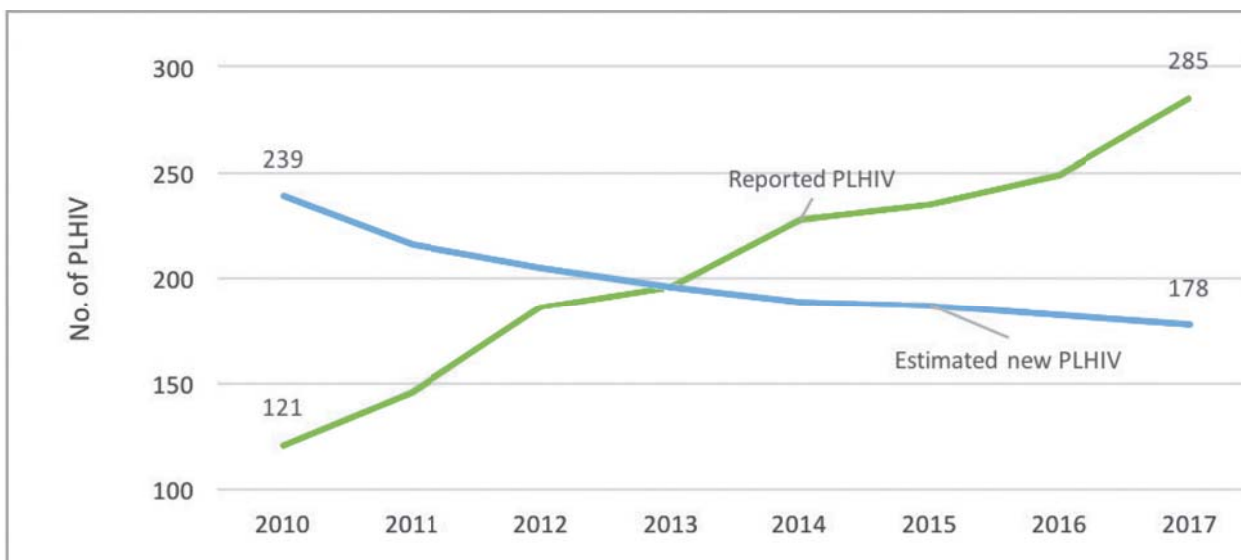


Figure 4.11: Trends in reported and estimated new PLHIV, 2010-2017

Source: National STD & AIDS Control Programme

Figure 4.12 shows the annual trends in reported HIV diagnoses. The number of reported cases of HIV among women has stabilized over the last five years whilst HIV among men has increased. The number of reported cases amongst

gay/bisexual men showed an exponentially increasing trend. There were more HIV cases among this category than that of heterosexual/other men in 2017.

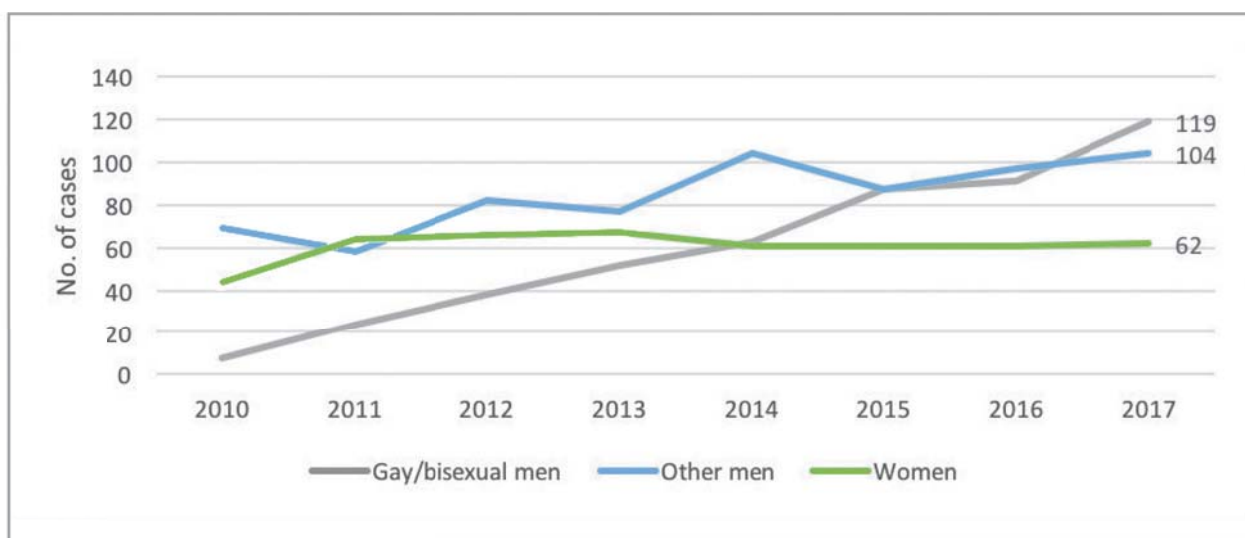


Figure 4.12: Trends in annually reported HIV diagnoses, 2010-2017

Source: National STD & AIDS Control Programme

The National STD/AIDS Control Programme (NSACP) of the Ministry of Health, is the main government organization responsible for the prevention and control of sexually transmitted infections (STI) including HIV in Sri Lanka. There are 33 full-time peripheral STD clinics and 23 branch STD clinics situated across the country which provide comprehensive services related to the control and prevention of sexually transmitted infections including HIV.

The NSACP is a special disease control programme operating directly under the Deputy Director General (Public Health Services 1) of the Ministry of Health with the mission of “contributing to a healthier nation through sexual health promotion, emphasizing prevention, control and provision of quality services for sexually transmitted infections including HIV” empowered by the vision of “quality sexual health services for a healthier nation”.

Ending AIDS epidemic by 2025

Sri Lanka has taken a proactive stance to end the AIDS epidemic five years earlier compared to the global goal of ending the AIDS epidemic by 2030. According to the Joint United Nations Programme on HIV/AIDS (UNAIDS), 90-90-90 treatment targets must be met to reach the goal of “ending AIDS epidemic”.

The 90-90-90 treatment targets are;

- I. 90% of all PLHIV know their HIV status
- II. 90% of all PLHIV diagnosed receive ART
- III. 90% of all people on ART have viral suppression.

Figure 4.13 shows the level of achievement of 90-90-90 treatment targets as at end 2017.

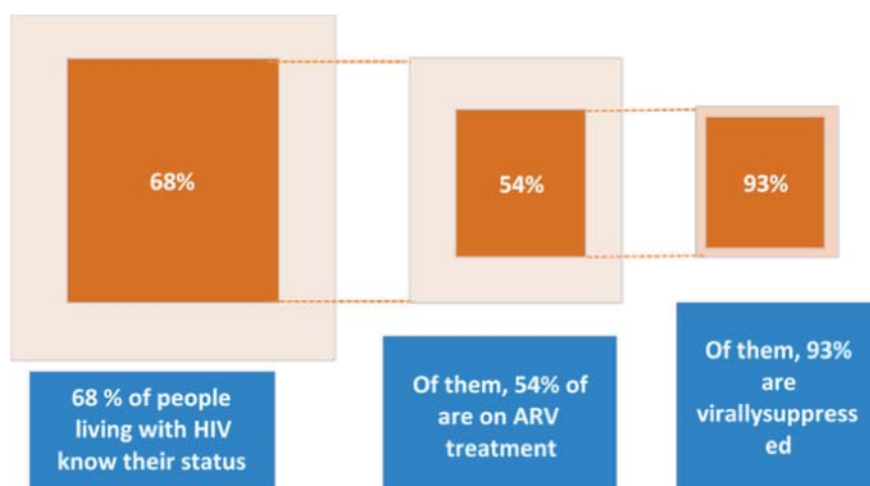


Figure 4.13: 90-90-90 treatment targets as at end 2017
Source: National STD & AIDS Control Programme

HIV treatment and care services

Since 2016, NSACP has adopted the “treat all” policy of treating all diagnosed PLHIV irrespective of their CD4 level and the ART programme is funded by the government of Sri Lanka. Currently the ART coverage is 37% out of estimated number of PLHIV. HIV care services have been further scaled up to cover all provinces with specialist services. By the end of 2017, out of 33 district STD clinics, 21 clinics provided specialist services through a consultant Venereologist.

The improved geographical access to services, including in the Northern and Eastern provinces, have helped in strengthening HIV care services including ART services.

In addition, Infectious Diseases Hospital, Angoda provides ART services. The Venereologist acts as the focal point for clinical management of people living with HIV (PLHIV) and takes responsibility for the overall management of PLHIV for lifetime. However, a multi-disciplinary approach is adopted where a technical expert committee comprising of Physicians, Surgeons, Ophthalmologists, Microbiologists, Virologists, and Obstetricians contribute to the provision of comprehensive care services for PLHIV.



Figure 4.14: Distribution of Antiretroviral Treatment facilities in Sri Lanka
Source: National STD & AIDS Control Programme

Sexually transmitted infections (STIs)

The National STD/AIDS Control Programme (NSACP) continued to prioritize STI prevention and care during 2017. Achieving the best possible control of STIs is one of the key areas in controlling the HIV epidemic in Sri Lanka.

The main STIs reported for 2017 were genital herpes, non-gonococcal infections and genital warts similar to previous years. Table 4.1 outlines the number of STIs reported by sex of the patient. Genital herpes, non-gonococcal infections, and trichomoniasis were reported more from females, whereas all other STIs were higher in males.

Table 4-1 : STI diagnoses reported from STD clinics during 2017

Diagnosis	Male		Female		Total	
	No.	%	No.	%	No.	%
Genital herpes	1,149	28%	1,744	35%	2,893	32%
Non-gono.infections	669	16%	1,792	36%	2,461	27%
Genital warts	1221	30%	932	19%	2,153	24%
Syphilis*	510	12%	258	5%	768	8%
Gonorrhoea	190	5%	47	1%	237	3%
Trichomoniasis	11	0%	67	1%	78	1%
Other STIs	347	8%	159	3%	506	6%
Total STIs	4,097	100%	4,999	100%	9,096	100%

Source: National STD & AIDS Control Programme

Figure 4.15 shows the STI rates per 100,000 adult population (15+ years). The trends in the rates of genital herpes and trichomoniasis have been relatively static during the last 5 years. The incidence rates of genital warts and non-gonococcal infection have slightly increased over the same period.

A decline in incidence is observed for syphilis and gonorrhoea from 2013 to 2017. These data should be interpreted with caution as these rates represent cases seen only in the public sector STD clinics.

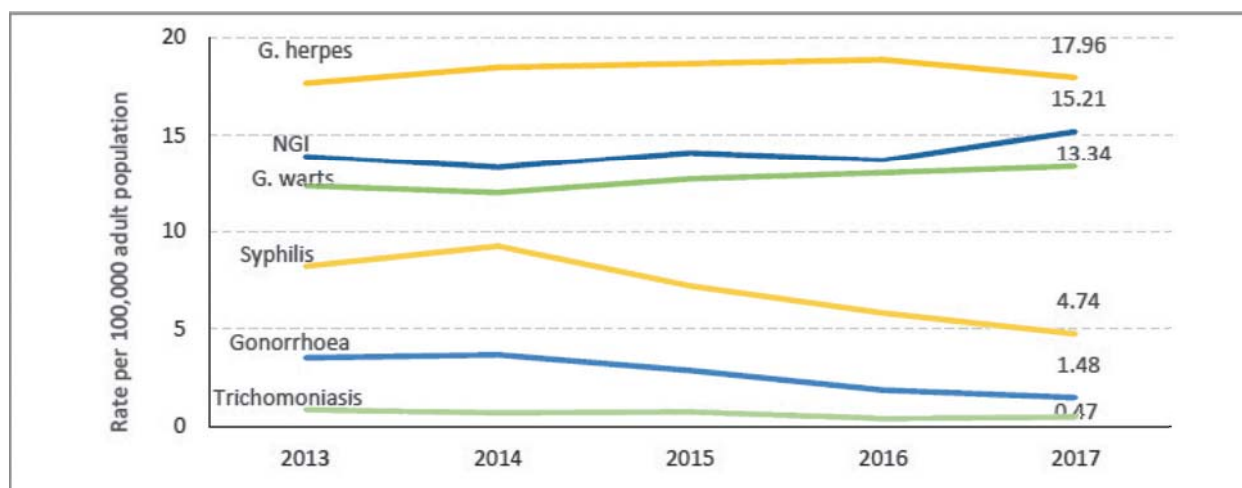


Figure 4.15: STI rates per 100,000 adult population (15+ years), 2013-2017

Source: National STD & AIDS Control Programme

Elimination of Mother to Child Transmission (EMTCT) of HIV and Syphilis

The program on the elimination of mother to child transmission (EMTCT) of syphilis and HIV was further strengthened in 2017. In the initial stages of the EMTCT programme more emphasis was placed on increasing the coverage of HIV testing among pregnant women. By the end of 2016, country wide coverage was achieved. EMTCT services were provided through partnership of STD and MCH services. In 2017, the validation process was introduced to MCH and STD staff.

The focus for the year 2017 was to work towards the submission of the request for validation of EMTCT programme. Validation process was formally launched on 27.6.2017.

The National Steering Committee members were identified, and the Advisory Committee was appointed under the chairmanship of Hon. Minister of Health, Nutrition and Indigenous Medicine, Dr Rajitha Senaratne on 28.8.2017. The main task of the advisory committee was to guide, support and facilitate the validation process.

Four working groups were established for four main domains, namely, treatment and care services, laboratory, data management and human rights. District monitoring teams were formed under the leadership of the regional authorities. Provincial reviews were held under the chairmanship of PDHS of each province.

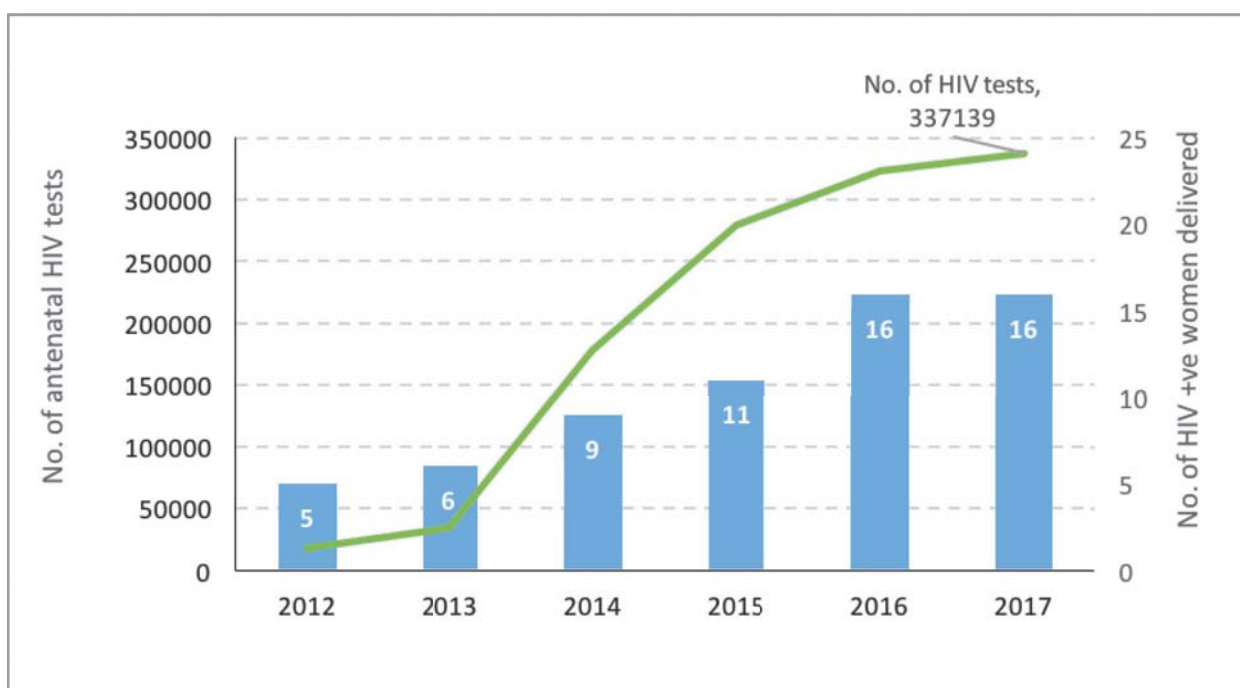


Figure 4.16: Trends in ANC HIV tests performed, and the number of HIV seropositive women delivered from 2012-2017

Source: National STD & AIDS Control Programme

Sixteen HIV positive women delivered during 2017. All babies born to mothers who received EMTCT services for HIV, reported negative results.

The number of pregnant mothers identified with syphilis reduced almost by half in 2017 compared to 2016.

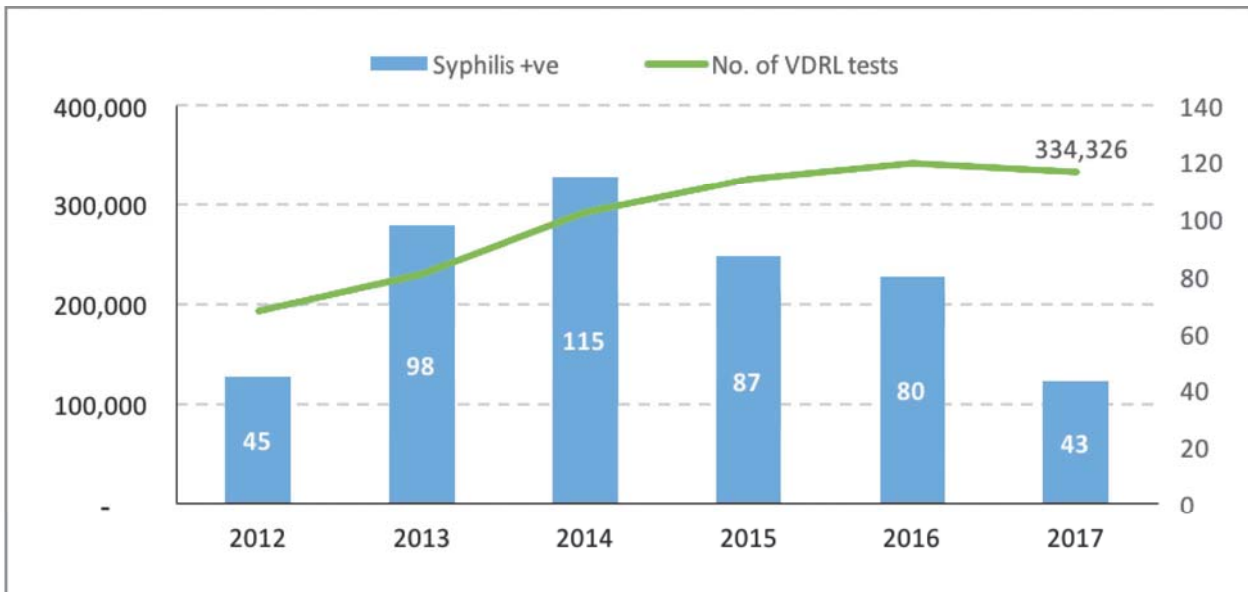


Figure 4.17: Trends in the number of VDRL tests performed and number of women tested positive for syphilis among antenatal women

Source: National STD & AIDS Control Programme

Laboratory services of the National STD/ AIDS Control Programme

The laboratory services of the NSACP are provided by the National Reference Laboratory (NRL) of NSACP and by 27 laboratories of the peripheral STD clinics. These laboratories are organized as a network and the NRL acts as the focal point. The NRL provides technical guidance to these laboratories in diagnostic and monitoring services for sexually transmitted infections and HIV. The NRL worked towards quality improvement and scaling up of the laboratory system towards accreditation in 2017 with the technical assistance of CDC/ CMIA India supported by PEPFAR.

Multisectoral collaboration for HIV/AIDS response

The NSACP works in partnership with public, private, civil society organizations, and development partners and provides technical support for advocacy, capacity building, awareness and internalization of STI and HIV prevention activities for these institutions. It has its focus mainly on the activities conducted aiming the vulnerable groups which have been

identified in the National HIV Strategic Plan. Multi-sectoral sub-committee meeting is conducted with the participation of stakeholders from relevant sectors. The prisons are a main focus and HIV blood testing in prisons and the development of a policy on HIV prevention in prisons, treatment and care were carried out in 2017. Engaging with other sectors such as the armed forces and police, youth, education, migrant sectors and child probation department have proven to be effective in responding to the HIV epidemic.

4.4. Vaccine preventable disease

4.4.1. Encephalitis

During the year 2017, 274 suspected cases of Encephalitis cases were notified. Out of the total suspected cases, 152 were clinically confirmed. The districts which notified the highest number of cases were Ratnapura (86) followed by, Jaffna (26), Gampaha (16), Galle (14) and Badulla (14). The number of deaths due to encephalitis was 18.

4.4.2. Mumps

A total of 302 cases of Mumps were reported in 2017 and 207 (68.5 %) were clinically confirmed. The districts reporting the highest number of cases were Kurunegala (23), Anuradhapura (22), Kegalle (21), Colombo(18) and Gampaha (18). The age category reporting the highest number of cases was 25- 49 years (29.8 %).

4.4.3. Measles

Measles elimination programme is ongoing targeting to achieve zero endogenous cases by 2020. Total of 245 fever and maculopapular rash cases were notified as suspected cases and 90% were investigated in the national proficiency laboratory for measles and rubella at Medical Research Institute. Only one case was positive for measles with genotype identification of H1 with a contact travel history to China among a private health sector vaccinated, 8 year old child. The child was considered as possible non-sero convertor, susceptible to measles, contracted the disease from China. Measles incidence was 0.05 per million population. All other cases were excluded as non-measles cases and discarded rate was 1.02 per 100,000 population.

4.4.4. Rubella

Rubella elimination targets are set at zero endogenous cases by 2020 and maintained achieved elimination status during 2017. In order to identify rubella cases, all “fever and maculopapular rash” cases were investigated together with measles. After thorough investigations of all the notified (245) suspected cases, a single case was confirmed. Rubella elimination targets achieved were maintained for the year 2017.

4.4.5. Congenital Rubella Syndrome (CRS)

Congenital Rubella Syndrome is a notifiable condition and followed up with field level investigations and laboratory confirmation if suspected or compatible with surveillance case definition.

In addition to routine notifications, active surveillance was also continued in monitoring cases through institutional and field level zero reporting system. Further, all congenital abnormalities suspected of a cause due to congenital infections, were screened for TORCH, in which rubella screening also was included. In the year 2017, there were 910 such cases tested for rubella below 9 months, among those who have not received MMR vaccination, to identify rubella IgM positive cases. Those cases were traced back in the community for back referrals to Paediatricians in excluding them as non-CRS or non-Congenital Rubella Infection. There are no confirmed CRS cases after 2014 and maintained required elimination target of zero CRS cases for 100,000 live births.

4.4.6. Poliomyelitis

Poliomyelitis eradication programme is ongoing and the country is maintaining at polio free status. The last poliomyelitis case in Sri Lanka is in 1993 and thereafter that Acute Flaccid Paralysis (AFP) surveillance is ongoing under 15-year-old children with satisfactory surveillance indicators without any polio positive cases.

Total of 70 AFP cases were reported from hospitals based on the routine and active case detection. National Indigenous Ayurvedic hospital was also included into the routine surveillance system during 2017 to ensure that no under-reporting of polio cases admitted to Ayurvedic hospitals. Laboratory testing for polio was done for 87% of AFP cases in Regional Reference Laboratory for poliomyelitis at the Medical Research Institute.

Since 1993 Sri Lanka has been free of Poliomyelitis

4.5. Leptospirosis

A total of 3601 cases of leptospirosis were notified to the Epidemiology Unit in 2017. The behavior of leptospirosis incidence rate per 100,000 population for last two decades is shown in the figure 4.18. As can be seen in the graph 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 rainy seasons (two Monsoon seasons) in the country.

Figure 4.19 shows that the trends of both deaths and case fatality rates related to leptospirosis for past nine years. According to that figure there were 52 deaths due to leptospirosis in 2017 indicating a Case Fatality Rate of 1.4 per 100 cases. Deaths due to leptospirosis also had declined during the past years. Meanwhile, the age wise distribution of patients indicate that the majority of patients belonged to the age group of 25-49 years (53.8 %).

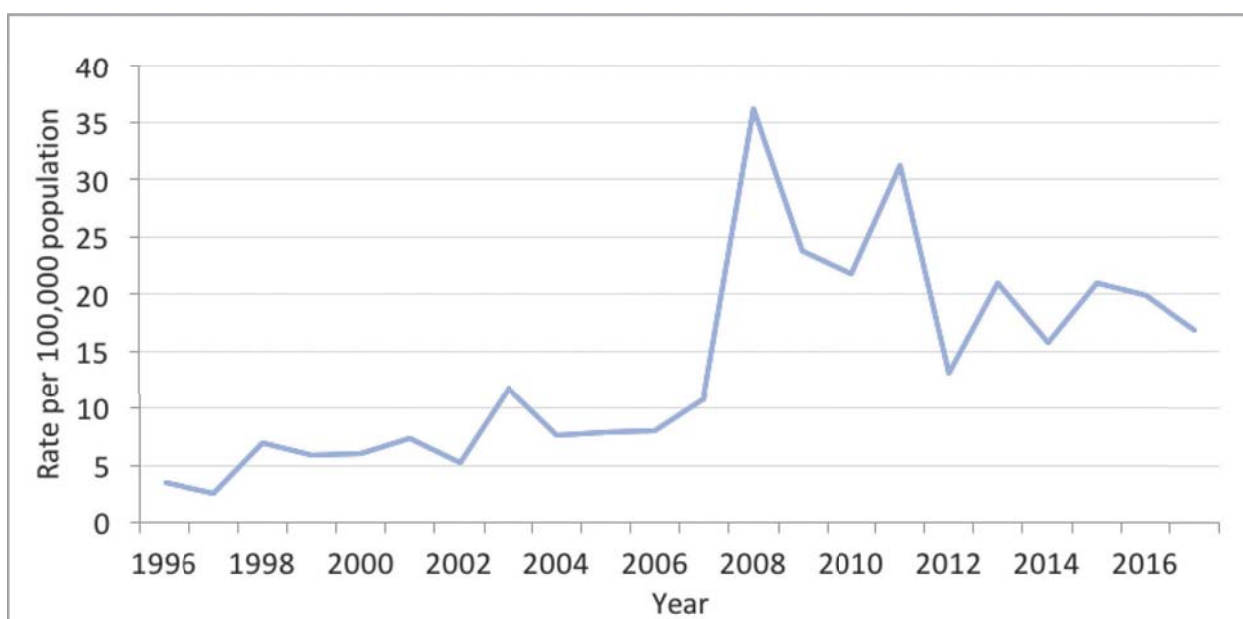


Figure 4.18: Leptospirosis incidence rate per 100,000 population 1996-2017

Source: Epidemiology Unit

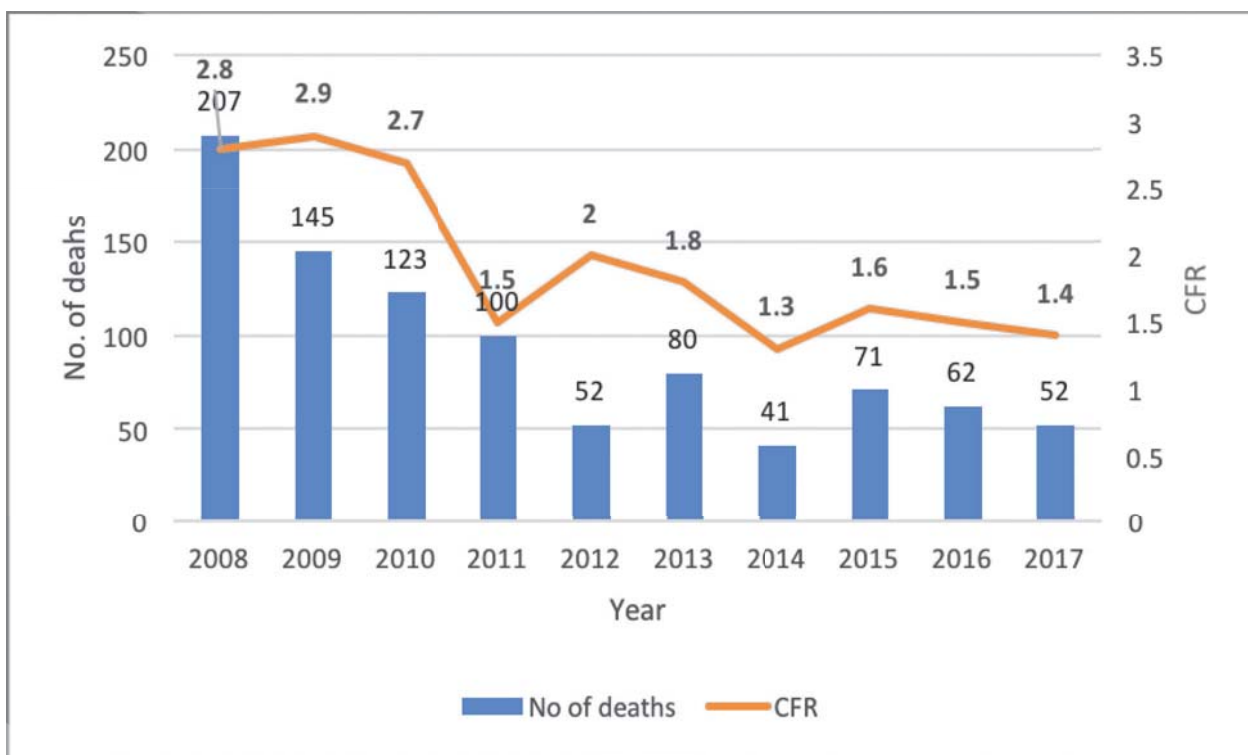


Figure 4.19: Leptospirosis deaths and CFR from 2008 – 2017

Source: Epidemiology Unit

4.6. 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 for Avian/Pandemic Influenza. Both these activities are supervised by the National Technical Committee for Avian/Pandemic Influenza Preparedness.

Human and animal influenza surveillance activities are expected to act as the early warning surveillance system for a possible Avian/Pandemic Influenza outbreak in the country.

The human Influenza surveillance is conducted in selected sentinel hospitals by the Epidemiology Unit of the Ministry of Health. 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 is carried out at the OPD. SARI surveillance has been established in 04 sentinel sites and carried out among inward patients. 88,411 visits were reported among patients with ILI in 2017 which was 1.96% of the total OPD visits.

Virological surveillance is done at the Medical Research Institute which is the National Influenza Centre (NIC) in Sri Lanka for human influenza surveillance.

Data management is done through 'Flusys', an online data management system. Accurate and timely data is important for early recognition of an outbreak.

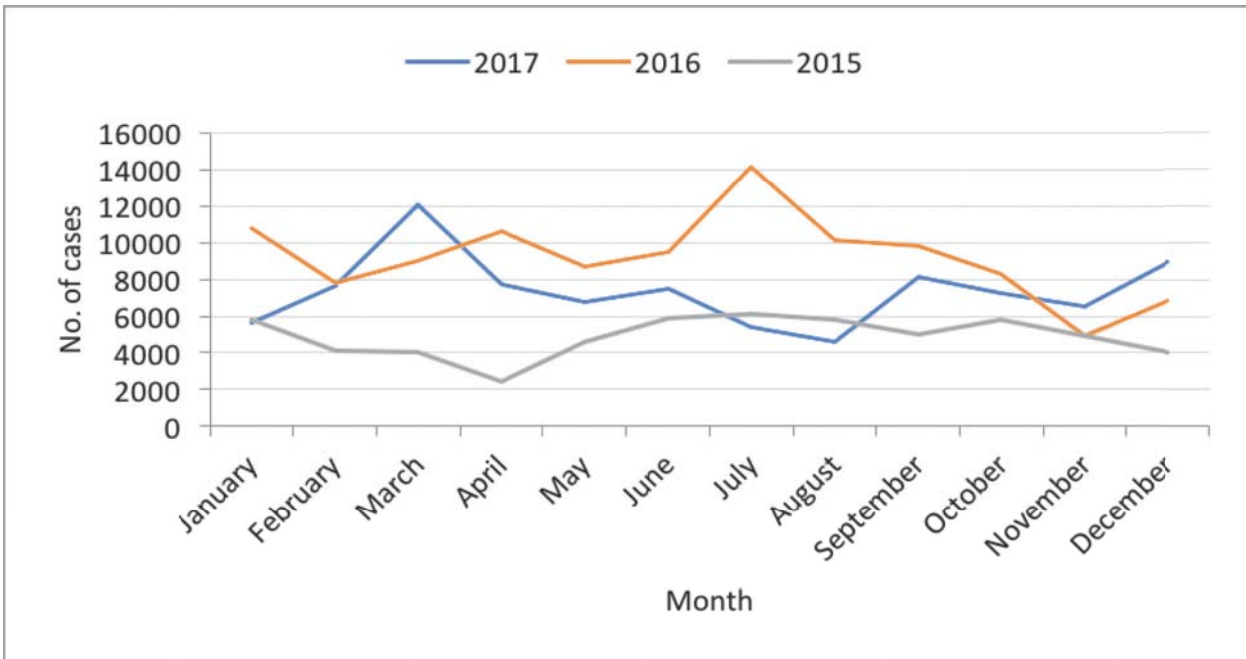


Figure 4.20: Distribution of reported Influenza Like Illness (ILI) patients from sentinel sites in 2017
 Source: Epidemiology Unit

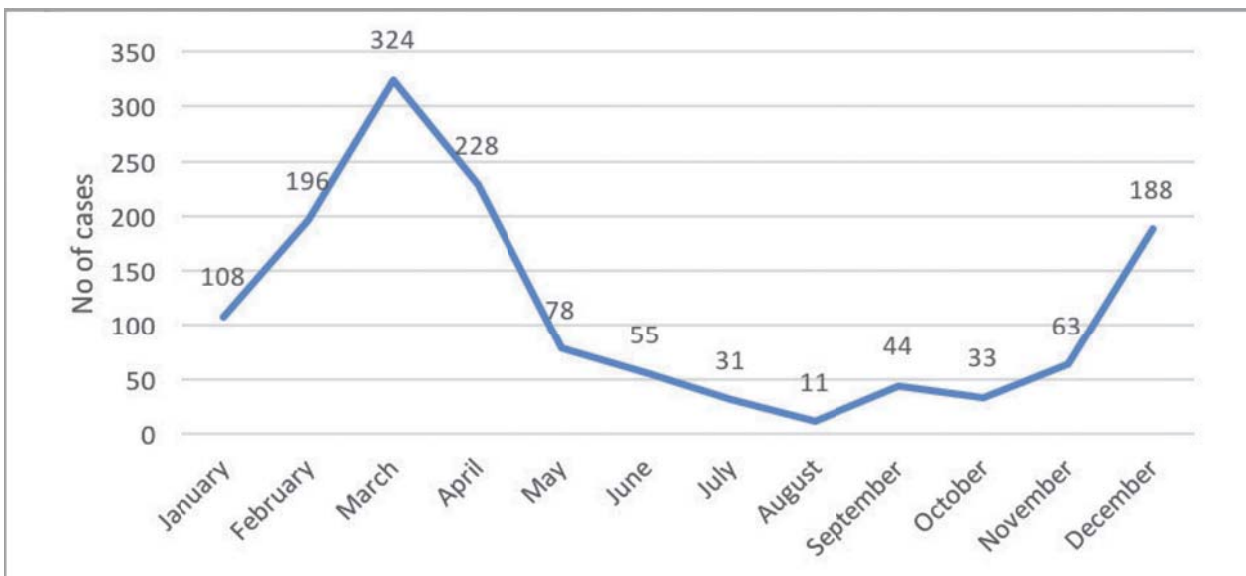


Figure 4.21: Distribution of reported number of Severe Acute Respiratory Infection (SARI) patients by sentinel sites in 2017
 Source: Epidemiology Unit

4.7. Food Borne Diseases

The three food borne diseases viral hepatitis, dysentery and enteric fever (typhoid) notified to the Epidemiology Unit, depicts a downward trend in the past few years. The same pattern continued in 2017.

Dysentery, enteric fever, and viral hepatitis showed a reduction of 40%, 38 %, and 63% respectively compared to 2016. However, inter district disparity is evident due to same high prevalence in some districts over the past few years. These districts are;

Table 4-2 : Districts with high prevalence of food borne diseases

Enteric Fever	Food Poisoning	Dysentery	Hepatitis A
Vavunia	Kurunegala	Jaffna	Ratnapura
Jaffna	Hambanthota	Batticaloa	Badulla
Galle	Jaffna	Rathnapura	Trincomalee
Colombo	Kalmunai	Badulla	Matara
Nuwaraeliya	Kegalle	Kurunegala	Monaragala

Source: Epidemiology Unit

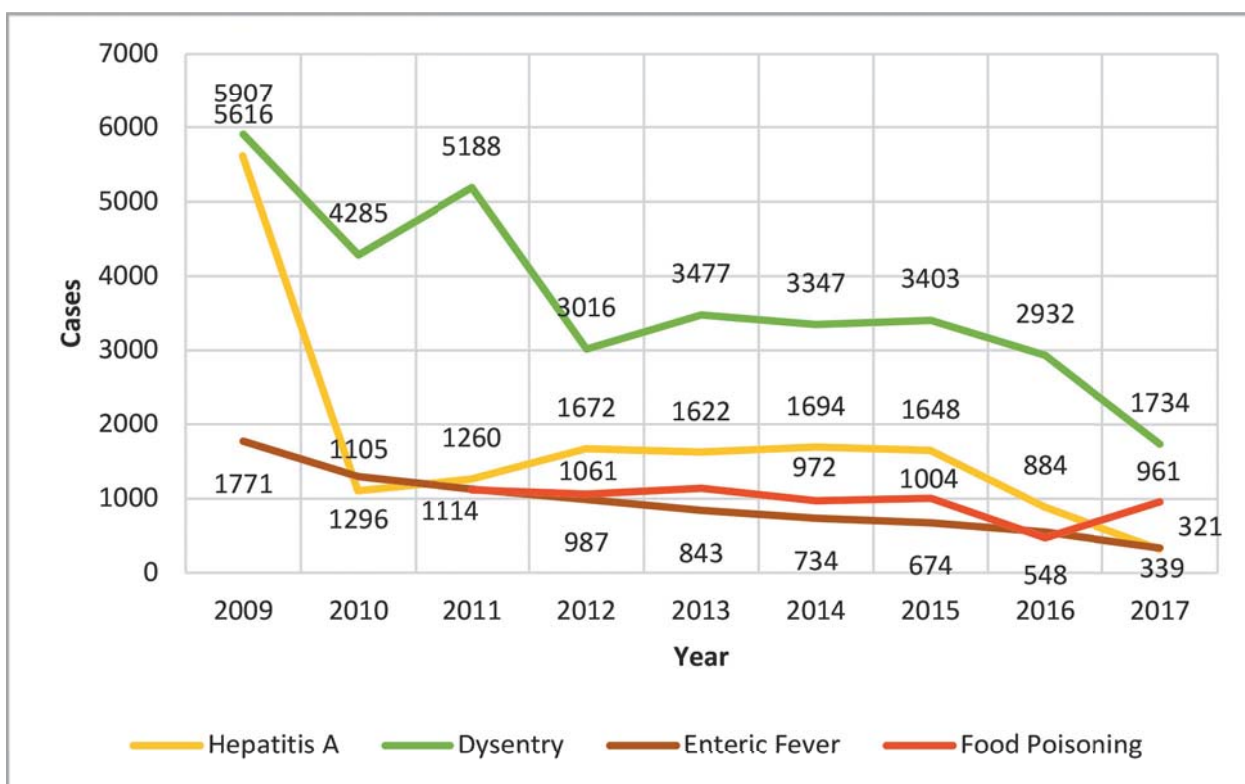


Figure 4.22: Trends in main food and water borne diseases in Sri Lanka 2009-2017

Source: Epidemiology Unit

4.8. Malaria

The Anti-Malaria Campaign (AMC) is carrying out vigilant malaria surveillance (case surveillance for imported cases, parasitological and entomological surveillance), training & awareness programmes to keep Sri Lanka malaria free. Rapid Response Teams are responsible for implementing immediate investigations when a suspected malaria case is reported. Routine entomological and parasitological surveys are done by the parasitological and entomological teams.

In 2017, a total of 1,089,290 slides were screened for malaria. It is mandatory to notify all the suspected malaria cases to the Anti-Malaria Campaign. AMC confirms the diagnosis by laboratory investigations (microscopy/Rapid Diagnostic Test/PCR). Medicine for treatment of malaria is provided by the AMC. Each confirmed case of malaria is reviewed by an independent expert case review committee of the Technical Support Group with regard to case management and classification. Currently, the biggest threat to the elimination efforts is the risk of resurgence due to imported malaria and the continuing receptivity in several

parts of the country due to the persistence of malaria vectors. Over the past six years, most of the imported malaria cases were being reported from foreign travelers or Sri Lankan nationals returning from malaria endemic countries. In 2017, with enhanced parasitological surveillance, 57 imported cases were reported. In addition, *Anopheles stephensi*, an urban vector, which is the main vector in South India for Malaria, was identified initially in Mannar district in December 2016, and later in Vavuniya, Mullativ, Kilinochchi and Jaffna districts. Extensive surveillance and vigorous control

measures are being done in all the districts with the objective of eliminating the mosquito. As a result of these measures, positive breeding sites have not been identified from Vavuniya, Mullativ and Kilinochchi Districts. In Mannar district and Jaffna Municipal Council area still a low prevalence of positive breeding sites exists despite extensive control measures. As the vector is resistant to almost all adulticides, larvivorous fish, temiphos and source reduction are being used to control the vector

Table 4-3 : Number of malaria cases investigated and treated during 2017

Case investigation	No. (%)
Confirmed imported malaria cases received first-line anti-malaria treatment according to national policy at;	
Public sector health facilities	38 (100.0)
Private sector sites	19 (100.0)
Confirmed cases fully investigated and classified (Imported/Indigenous)	57 (100.0)

Source: Anti-Malaria Campaign

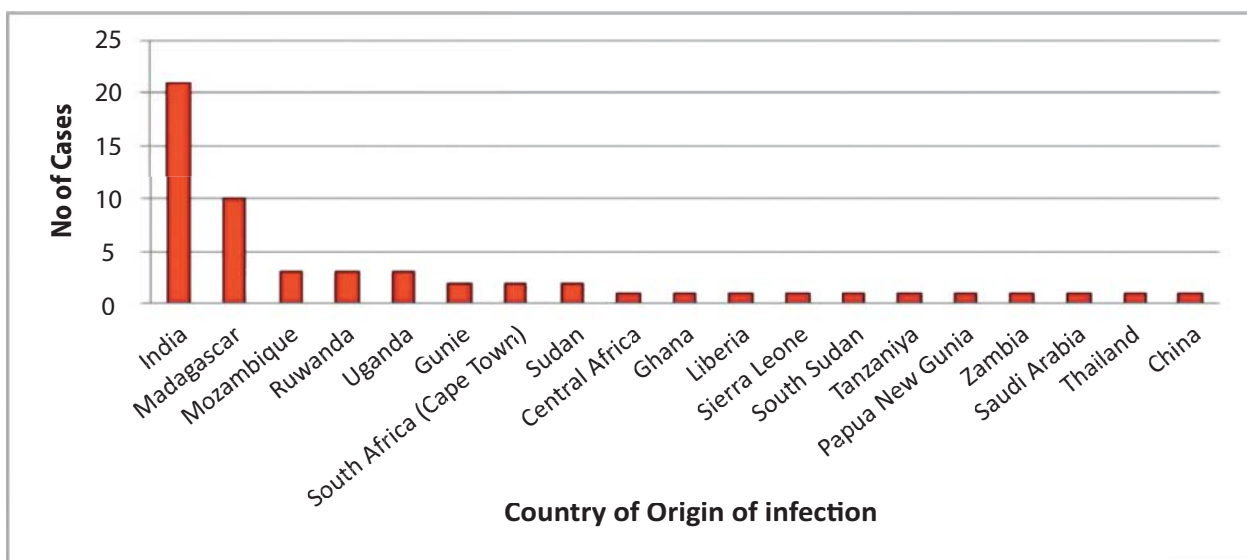


Figure 4.23: Imported malaria cases by country of origin in 2017

Source: Anti-Malaria Campaign

4.9. Filariasis

Anti-malaria campaign should be adequately resourced to continue stringent vigilance to prevent the re-introduction of malaria into the country

In Sri Lanka, Lymphatic filariasis is caused by two types of filarial parasitic worms; *Wuchereria bancrofti* (main parasite) and *Brugia malayi*. The main vector responsible for the spread of Bancroftian filariasis in Sri Lanka is the female mosquitoes of *Culex quinquefasciatus*. This mosquito breeds in highly polluted collections of water, such as blocked drains, damaged septic tanks and latrine pits, etc. which abound in urban habitats. Female mosquitoes of *Mansonia* species transmit the Brugian filariasis. Breeding of *Mansonia* spp. is associated with aquatic plants such as *Pistia*, *Salvinia*, etc.

In Sri Lanka, lymphatic filariasis is endemic in eight districts (Colombo, Kalutara, Gampaha, Galle, Matara, Hambantota, Kurunegala, & Puttalam) in three provinces (Western, Southern & North-Western Provinces). There are Regional Anti Filariasis Units (RAFUs) in seven districts (excluding Hambantota). Filariasis control activities are carried out by the Anti-Filariasis Campaign (AFC) and Regional Anti

Filariasis Units (RAFU) in endemic districts These institutions conduct parasitological surveys (through night blood filming of community); treat microfilaria positive persons; conduct entomological surveys, implement vector control activities and manage lymphedema patients.

Sri Lanka is one of the three countries in the region to have received the declaration of elimination of Lymphatic Filariasis as a public health problem by World Health Organization (WHO) on 21st July 2016 as the country reached the specific target of mf rate less than 1%. Elimination status was defined as microfilaria rate of less than 1%.

One of the main strategies adopted for elimination was the interruption of transmission through Mass Drug Administration (MDA) with two drugs regime (DEC and Albendazole) to the entire endemic population for five years with the support from the international partners and the WHO.

Although Sri Lanka received declaration of elimination of Filariasis as a public health problem in 2016, Filariasis foci are still prevalent in few localities in endemic districts

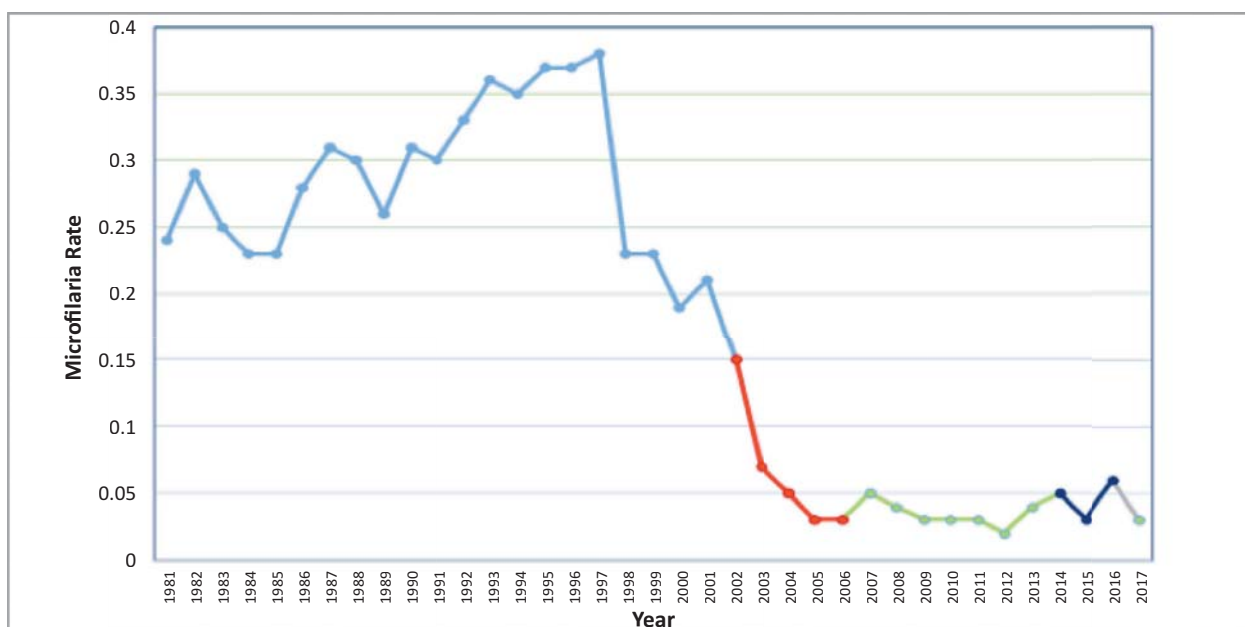


Figure 4.24: Microfilaria Rates in Sri Lanka, 1981-2017

Source: Anti-Filariasis Campaign

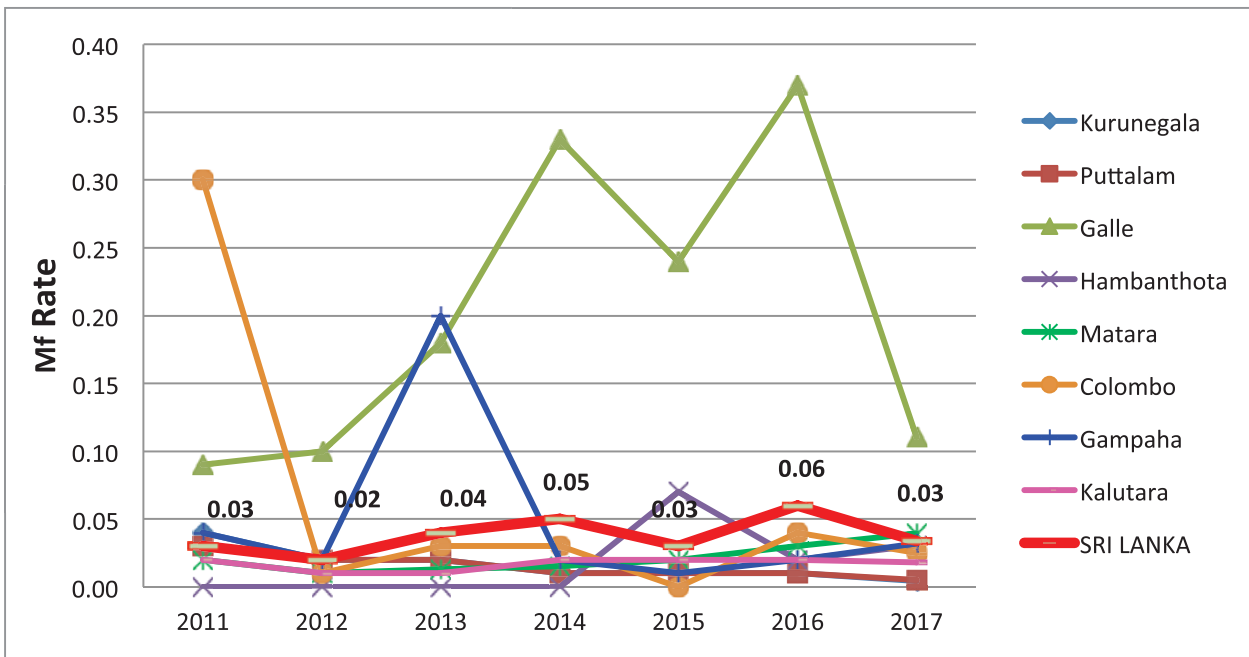


Figure 4.25: Microfilaria rates in endemic districts in 2017

Source: Anti-Filariasis Campaign

4.10. Leprosy

Leprosy is a neglected tropical disease caused by *Mycobacterium leprae* which is curable with Multidrug therapy (MDT). Sri-Lanka achieved the elimination target for leprosy in 1995. However, annually about 2000 new cases are being reported every year. Over the past decade the new case detection rate (NCDR) has been stagnating around 8-10 per 100,000 population

Although Sri-Lanka achieved the elimination target for leprosy in 1995, annually about 2000 new cases are being reported every year.

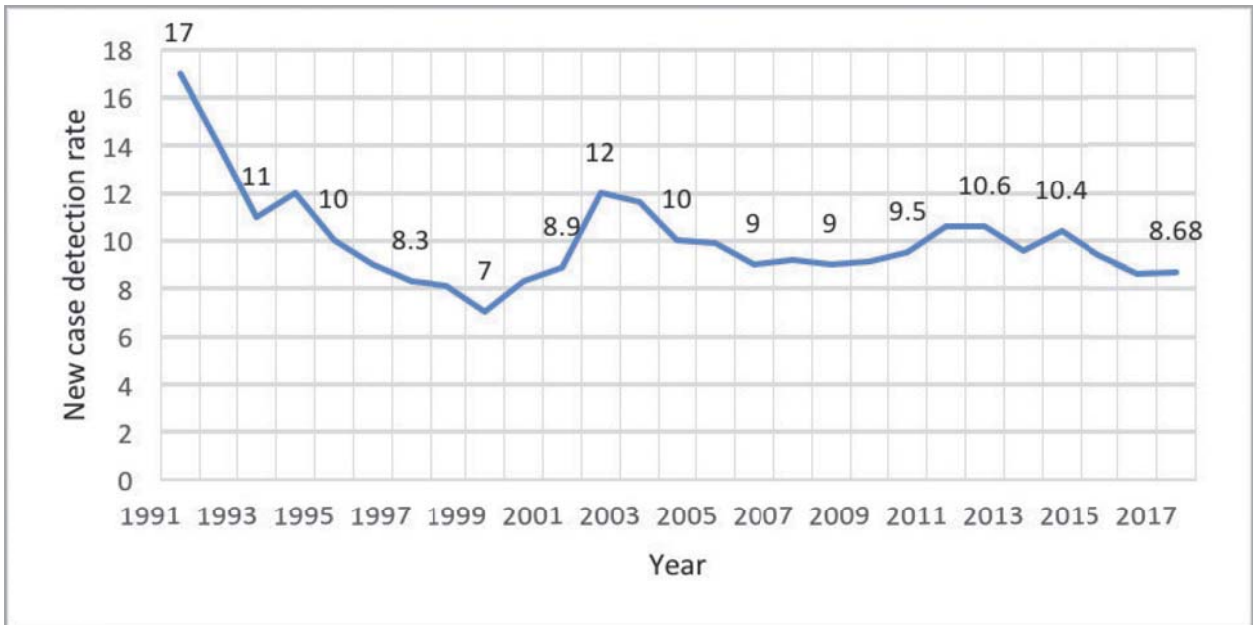


Figure 4.26: New case detection rates of leprosy per 100 000 population from 1991-2017

Source: Anti-Leprosy Campaign

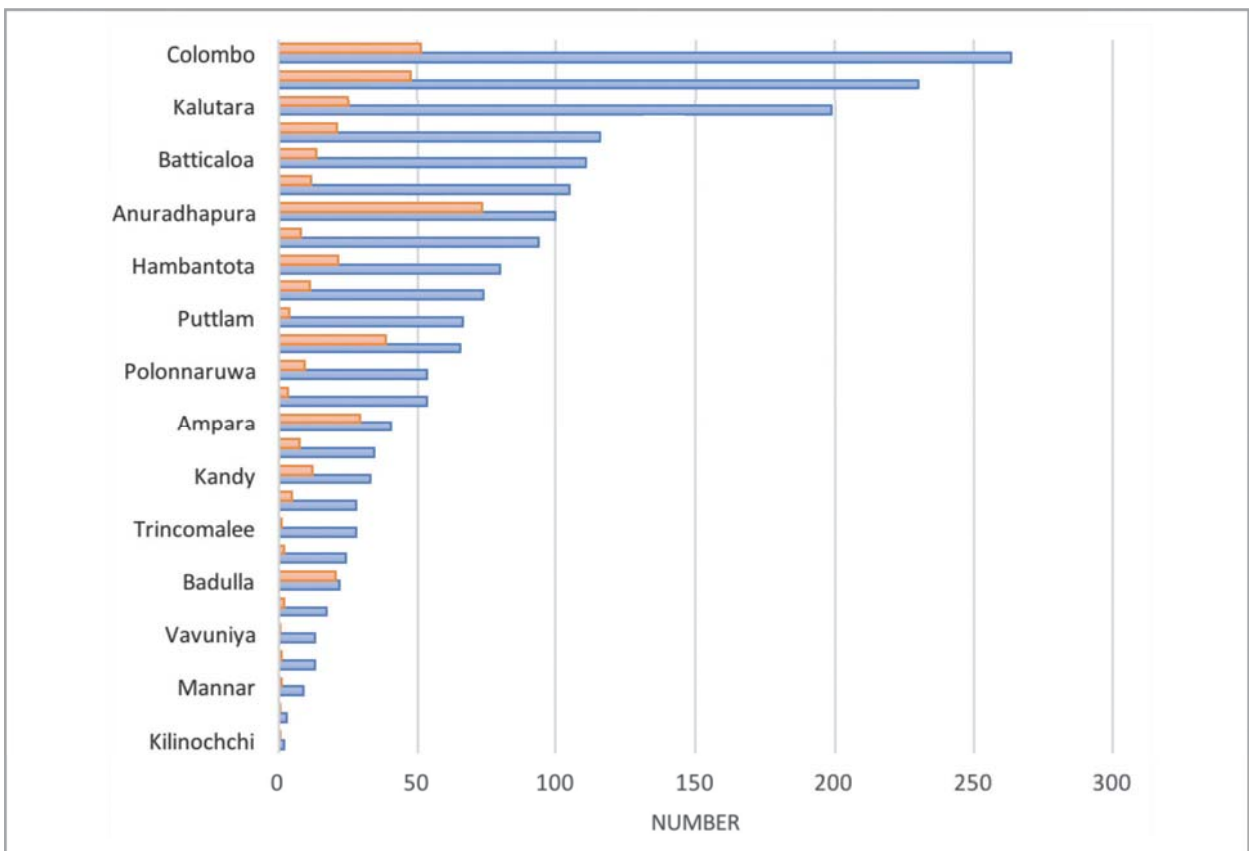


Figure 4.27: New cases and NCDR according to districts in 2017

Source: Anti-Leprosy Campaign

Leprosy can be classified on the basis of clinical manifestations and skin smear results. In the classification based on skin smears, patients showing negative smears at all sites are grouped as paucibacillary leprosy (PB), while those showing positive smears at any site are grouped as having multibacillary leprosy (MB).

Although leprosy is easily curable, late presentations can lead to disabilities. Stigma and discrimination due to the disease is identified as a major problem in controlling the disease

High number of child & multi-bacillary type of leprosy cases, and the late presentation are key problems currently faced by the country

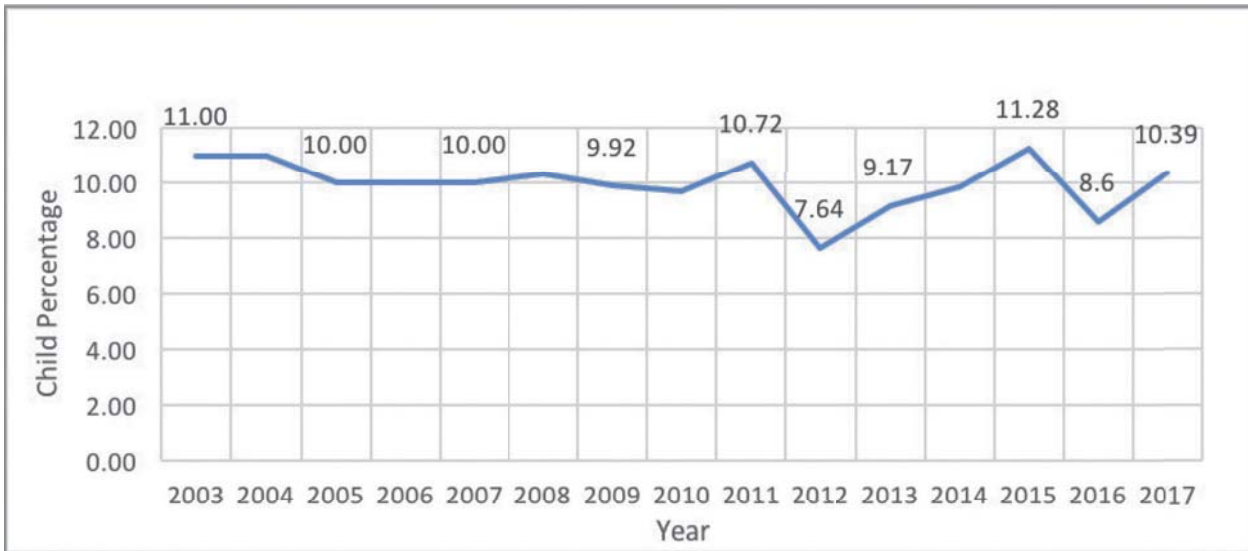


Figure 4.28: Child case percentage among new leprosy cases from 2003-2017

Source: Anti-Leprosy Campaign

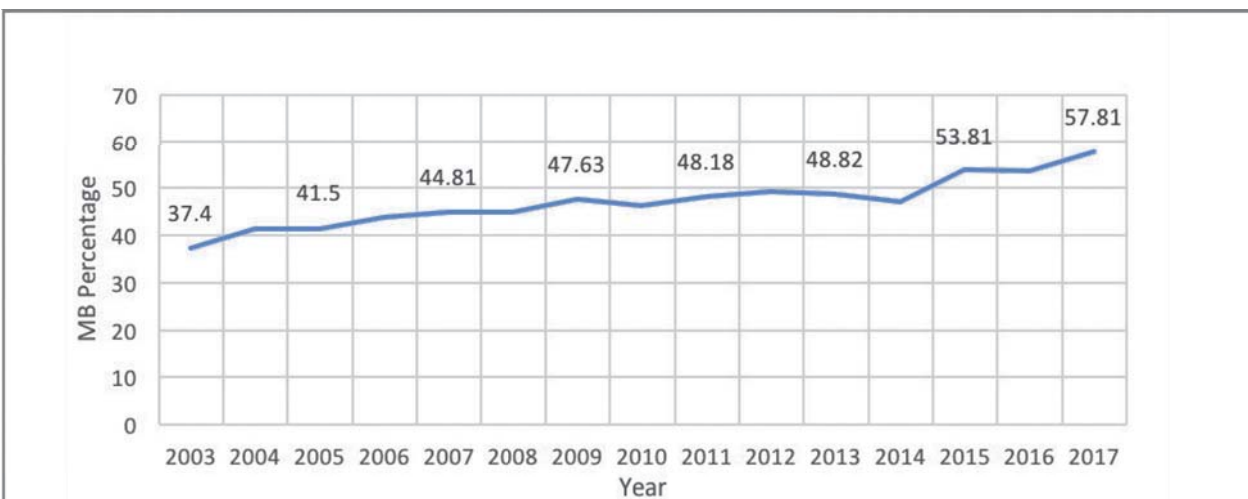


Figure 4.29: MB percentage at the time of diagnosis among leprosy cases from 2003-2017

Source: Anti-Leprosy Campaign

Forty percent of the cases were reported from the Western province. Nearly 14% of the cases were reported from Uva province and 12% from the Eastern and Southern provinces.

The districts with a highest number of cases were Colombo, Gampaha, Kalutara, Kurunegala, Batticaloa and Galle.

Table 4.4 shows the provincial detection indicators for the country for 2017.

Table 4-4 : Detection rates by province - 2017

Province	Population	Leprosy		NCDR	MB		Child		Grade 2 deformity	
		New cases	%		No.	%	No.	%	No.	%
Central	2,832,692	63	3.35	2.22	41	65.08	4	6.35	05	7.94
Eastern	1,660,415	232	12.36	13.97	125	53.88	28	12.07	13	5.6
Northern	1,156,904	55	3.36	4.75	41	74.55	5	9.09	6	10.91
North Central	1,411,684	153	6.82	10.84	99	64.71	14	9.15	11	7.19
North Western	2,544,701	183	8.16	7.19	115	62.84	12	6.56	27	14.75
Sabaragamuwa	1,946,001	128	9.75	6.58	72	56.25	5	3.91	12	9.38
Southern	2,623,092	259	12.36	9.87	150	57.92	23	8.88	8	3.09
Uva	1,392,282	46	13.8	3.30	23	50.00	0	0.00	7	15.22
Western	6,061,659	758	40.39	12.5	419	55.28	104	13.72	48	6.33

Source: Anti-Leprosy Campaign

In 2017, several key interventions were undertaken. The National Leprosy Strategy 2016-2020 was finalized. The paper-based information system was replaced by an online system. The pilot study on leprosy post-exposure prophylaxis (LPEP) as a prophylactic prevention method was continued in Puttalam and Kalutara districts. House-to-house/community and Ring surveys were conducted in all districts with emphasis on high endemic districts. Disease surveillance was further strengthened by expanding satellite clinics, mobile clinics, and special skin clinics. Framework for Inter-faith forum with the Alliance Development Trust (ADT) was commenced and partnerships with the ADT and Leprosy Mission UK/Wales strengthened. Activities were initiated for a KAP study and a communication campaign. Drug resistance surveillance was initiated for relapse cases.

4.11. Leishmaniasis

The number of notified cases of leishmaniasis in 2017 was 1508. Hambanthota had the highest number (512) reported, followed by Anuradhapura (280), Mathara (203), Kurunegala

(180) and Polonnaruwa (164). Out of the total number reported, 1096 were clinically confirmed. The largest proportion of confirmed cases belonged to the age group of 25-49 years (32.2 %).

4.12. Rabies

Twenty-one labs confirmed cases of human rabies were reported in 2017. The districts that reported the highest number of cases were Kurunegala (05), Kandy (03), and Anuradhapura (02). Districts of Gampaha, Matale, Galle, Hambanthota, Matara, Mullaitivu, Batticaloa, Polonnaruwa, Badulla, Monaragalanumberand Kaluthara reported one case each.

5. Non-Communicable Diseases (NCD)

5.1. Major Non-Communicable Diseases

According to Indoor Morbidity and Mortality Return (IMMR) data for 2017, 40% of the total deaths occurred in the government hospitals in Sri Lanka were due to major non-communicable diseases such as cardiovascular disease, cancer, chronic respiratory diseases, and diabetes mellitus. According to the IMMR data 2017, proportionate mortality for ischemic heart disease is 12%, neoplasms 9%, diseases of the respiratory system (excluding pneumonia, upper respiratory illnesses, influenza) is 8% and cerebrovascular disease 6%, while Hypertensive diseases and Diabetes Mellitus each account for 1% proportional mortality. Mortality among all ages due to major chronic NCDs in state sector hospitals in Sri Lanka in the year 2017 is shown in Table 5.1.

Key messages:

- 40% Of the total government hospital deaths in Sri Lanka in the year 2017, were due to major non communicable diseases
- Ischemic heart disease has been the number one leading cause of hospital deaths during the last decade.

Source: Medical Statistics Unit, based on IMMR data

Table 5.1: Number of deaths occurred among all ages due to major NCDs in government hospitals in Sri Lanka - 2017

Major NCD	ICD code	No. of deaths
Cardio-vascular diseases	I10-I99	15,031
Cancer	C00-D48	4,938
Chronic respiratory diseases	J20-22-J40-98	4,577
Diabetes Mellitus	E10-E14	803

Source: Medical Statistics Unit, Ministry of Health

Figure 5.1 shows the trend of mortality due to chronic NCDs in state sector hospitals from 2012 to 2017

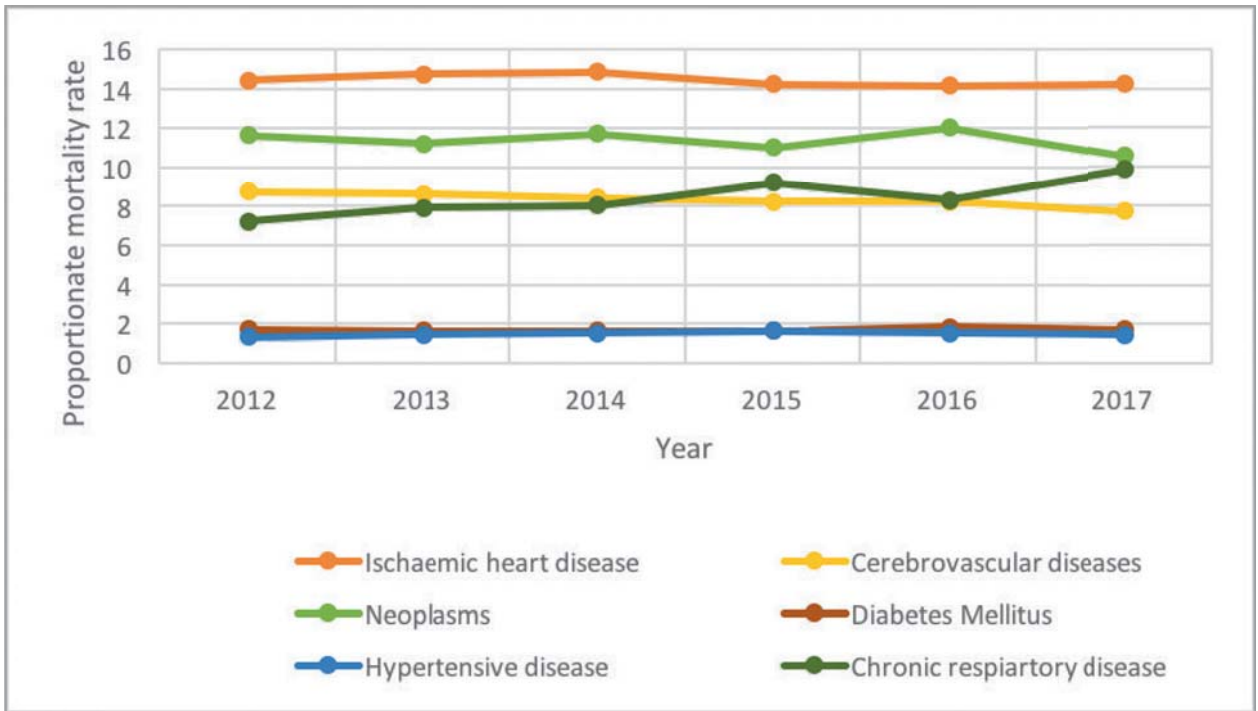


Figure 5.1: Trend of Mortality due to chronic NCDs in state sector hospitals from 2012-2017

Source: Medical Statistics Unit, Ministry of Health

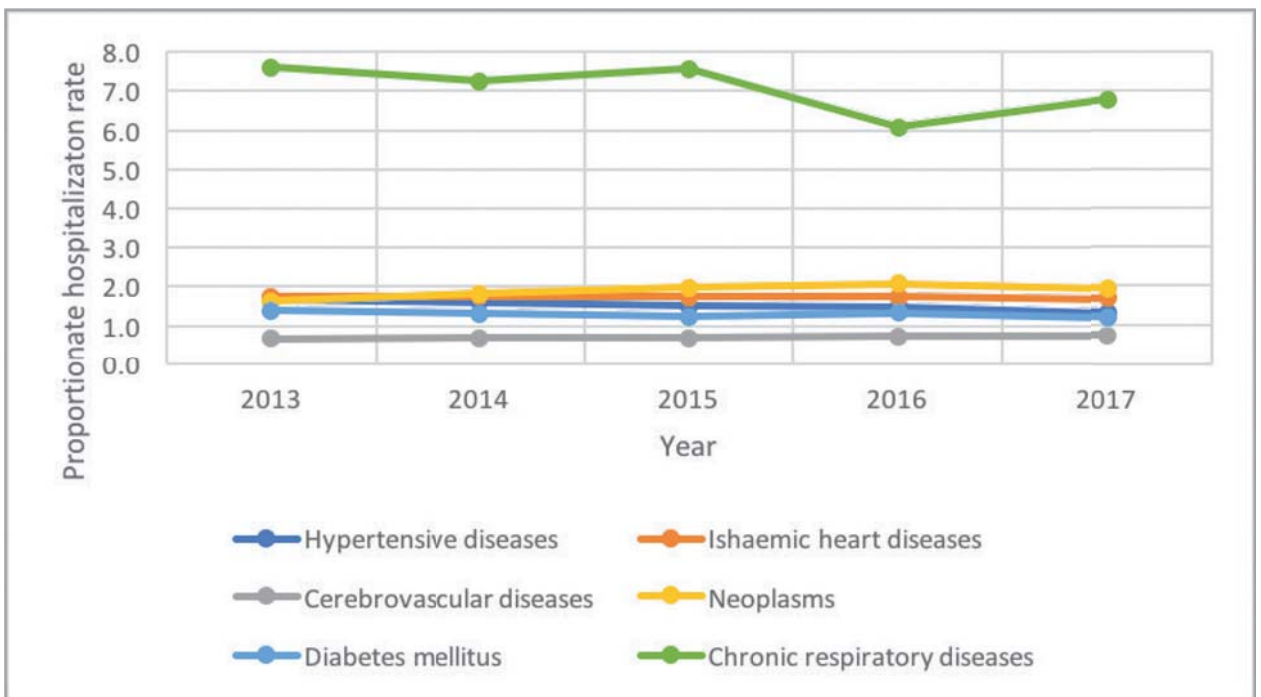


Figure 5.2: Trend of state sector hospitalization due to chronic NCDs from 2013-2017

Source: Medical Statistics Unit, Ministry of Health

Considering the ever-increasing incidence and prevalence of chronic NCDs in the country, several activities were undertaken by the national programme for prevention and control of non-communicable diseases across

all prevention levels (primary, secondary and tertiary level), across all levels of care through lifecycle approach.

Thereby,

- Provision of advocacy and technical support for policy and regulation formulation and re-formulation related to NCDs.
- Conducting and providing technical support in health education and health promotion programmes on NCD risk factors and emphasize the importance of early detection of NCDs; for school children at schools, work settings, and community.
- Coordinating, conducting and providing technical support as a stakeholder for several programmes for school children in collaboration with the Ministry of Education and the School health unit of the Family Health Bureau, Ministry of Health
- Coordinating, conducting and providing technical support as a stakeholder for several programmes for the youth in collaboration with the Ministry of Youth affairs
- Providing technical support for various NCD prevention activities conducted by several Units within the Ministry of Health, such as the Nutrition Division and Health Promotion Unit of the Health Promotion Bureau.
- Conducting of Training of trainers programmes for MOO-NCDs on behavioural change communication, health promotion, and community empowerment
- Development of management guidelines for cardiovascular diseases, diabetes mellitus, overweight and obesity for primary health care doctors
- Training the regional Consultant Physicians and Medical Officers at primary health care settings on the management guidelines for Cardiovascular diseases, Diabetes mellitus, Overweight and obesity
- Conducting quarterly and annual reviews of MOO-NCDs to monitor the nation-wide NCD prevention activities
- Coordinating and conducting several local and foreign capacity building programmes for MOO-NCDs and regional consultant community physicians
- Conducting regular monitoring of the implementation of the multisectoral action plan for prevention and control of NCDs

5.2 Acute NCDs

Key messages:

- Traumatic injuries are the number one cause of hospitalization over the last two decades
- About 1 million people are hospitalized each year due to all forms of injuries
- Traumatic injuries are the 10th highest cause of hospital deaths in Sri Lanka
- National injury surveillance was started in 2016, and specific injury related data have been obtained through this system
- National injury policy came into effect from year 2017 onwards.

Injuries are the number one cause of hospitalization in Sri Lanka for the last 2 decades. During the last 10 years, traumatic injuries accounted for about 15–19% of total admissions to the state sector hospitals annually. However, over the last 8 years, mortality due to traumatic injuries remained

low accounting to around 3.6% of all deaths. Currently it is the 10th highest cause of mortality among hospitalized patients. The proportionate mortality and hospitalization due to all forms of injuries and traumatic injuries among the state sector hospitals is shown in Figure 6.3.

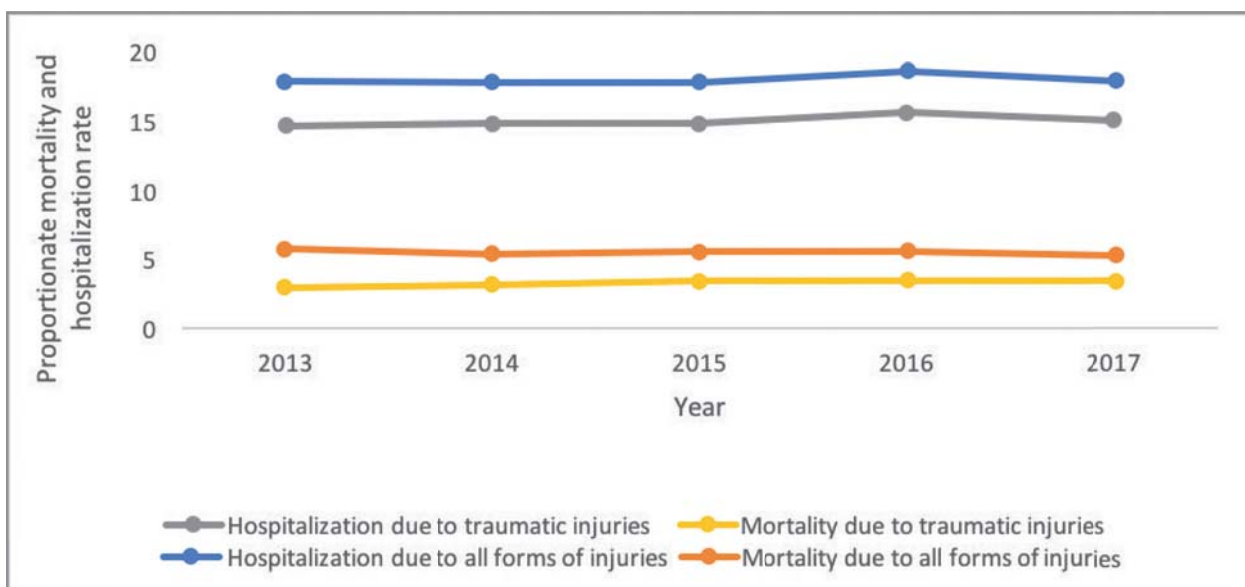


Figure 5.3: Comparison of mortality and hospitalization rates due to all forms of injuries and due to traumatic injuries from year 2013 to 2017

Source: Medical Statistics Unit, Ministry of Health

The true picture of injuries could be significantly different from what is reported through IMMR since IMMR reports details of the patients who had inward care only. As government hospitals usually admit about 25 – 30% of all victims attending to hospitals for inward care, the total number of victims received inward care as well as outpatient care may be more than this 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 seek home remedies without attending any health facility, the number of victims due to injuries undoubtedly more than the reported numbers. Actions taken:

- The national policy and strategic framework on injury prevention and management was developed in the year 2017. This policy directs multisectoral prevention actions for prevention and control of injuries.
- The National Injury surveillance system was launched as a sentinel site surveillance in the secondary and tertiary care state sector hospitals in 2016. This system provides the burden of injuries by specific injury mechanisms.
- Injury death review was piloted
- Injury prevention working groups for injury surveillance, to prevent and control child and home injuries, transport injuries, drowning related injuries and on building safety is conducted frequently throughout the year.

- “Child injury prevention – a practical guide for public health staff”, a guide book for public health staff focused on child injury prevention was developed.
- “Home safety checklist” – a self-awareness guide to making home an injury-free space was developed to be distributed among the households of the country.
- “Safe community programme” focused on injury prevention was conducted in the Gampaha district.
- Mass media campaign - a series of TV commercials focused on road traffic accidents were conducted.
- National injury prevention week was commemorated in the first week of July 2017 focusing on road safety, safety at the workplace, Home safety, safety of children at preschools and at schools.
- “First aid handbook” focused on the community was launched and the training based on the handbook was given to the provincial and regional health staff, school teachers, school van/bus drivers, and three-wheeler drivers.
- To aid the first aid training programmes conducted at the district and MOH levels, 370 manikins were distributed to the RDHS and MOHs.
- First aid boxes and first aid items were distributed among 1030 schools at the initial step in 2017 under the school safety programme.

5.3. 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 nationally representative data. The initial paper-based system was converted to a real-time online data reporting system. In parallel to the above changes, surveillance was renamed as the National Renal Registry.

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

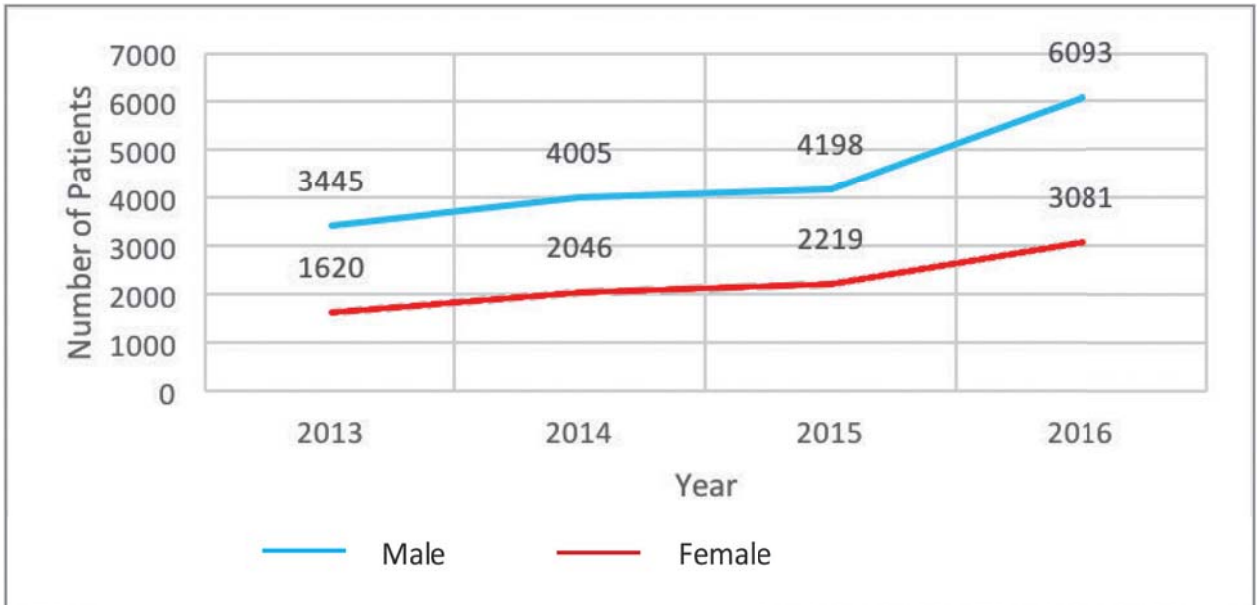


Figure 5.4: No. of CKDu patients as reported to the National Renal Registry

Source: National Renal Registry, Epidemiology Unit

5.4. Cancer

The National Cancer Control Programme is the national focal point for the prevention and control of cancers in the country and is responsible for policy formulation, advocacy, monitoring and evaluation of interventions to prevent and control cancers.

There are nine state sector cancer treatment centers, one in each province of the country, that deliver specialized cancer care.

The number of newly diagnosed patients reported from these centers showed a marginal drop from 2016 to 2017 (Figure 5.5). The probability of having duplicate entries due to certain patients being registered at more than one cancer treatment center cannot be excluded.

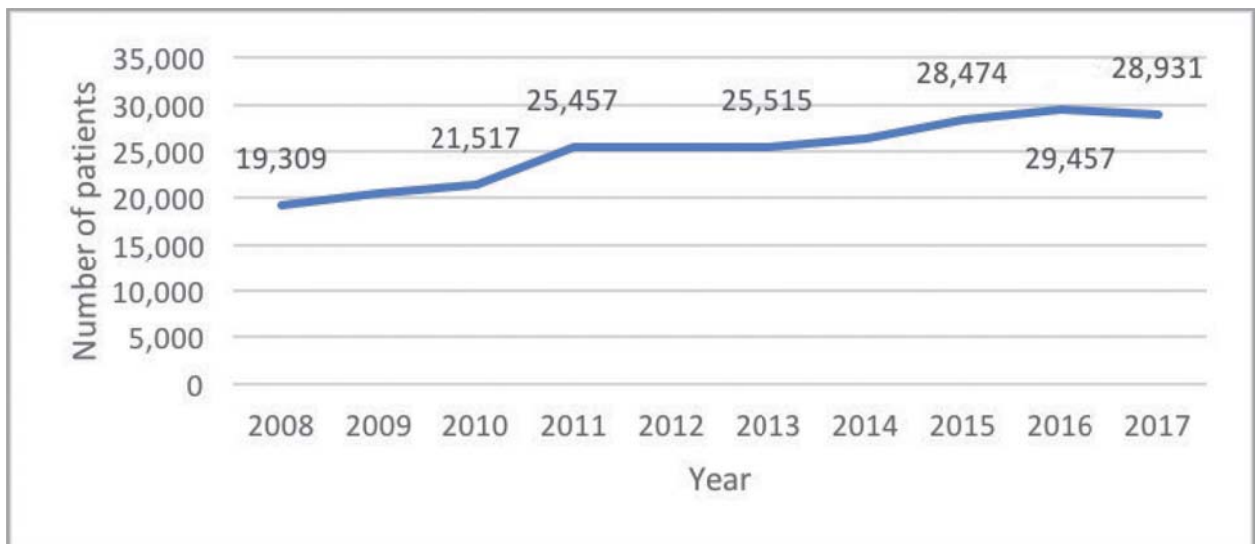


Figure 5.5: Number of new patient registrations at cancer treatment centers 2008-2017

Source: National Cancer Control Program

Constraints identified in the cancer surveillance system to publish up to date information

There is a significant delay in extracting patient information from cancer treatment centers due to the non-availability of designated persons at these centers. Unavailability of data entry operators also at national level further widens this delay. Therefore, different alternative strategies should be carried out to collect patient information from the nine cancer treatment centers.

In addition, significant number of information is duplicated, and data cleaning consumes a long time. This could have been minimized if a unique identification number was available for each patient.

Trends in cancer incidence

The overall cancer incidence rates in Sri Lanka have doubled within the 26 years from 1985 to 2011. The age-standardized cancer Incidence rate (ASR) was 44.3 per 100,000 population in 1985. By 2011, it had risen to 89.2 per 100,000 population. The observed increase could be partly due to the increased detection and reporting while the larger contribution is likely to be due to the genuine increase in the incidence.

The Cancer Registry maintained at the National Cancer Control Programme is hospital-based and the data are collected from nine cancer treatment units, 14 pathology laboratories and 13 Oral & Maxillo-Facial surgical units of government hospitals.

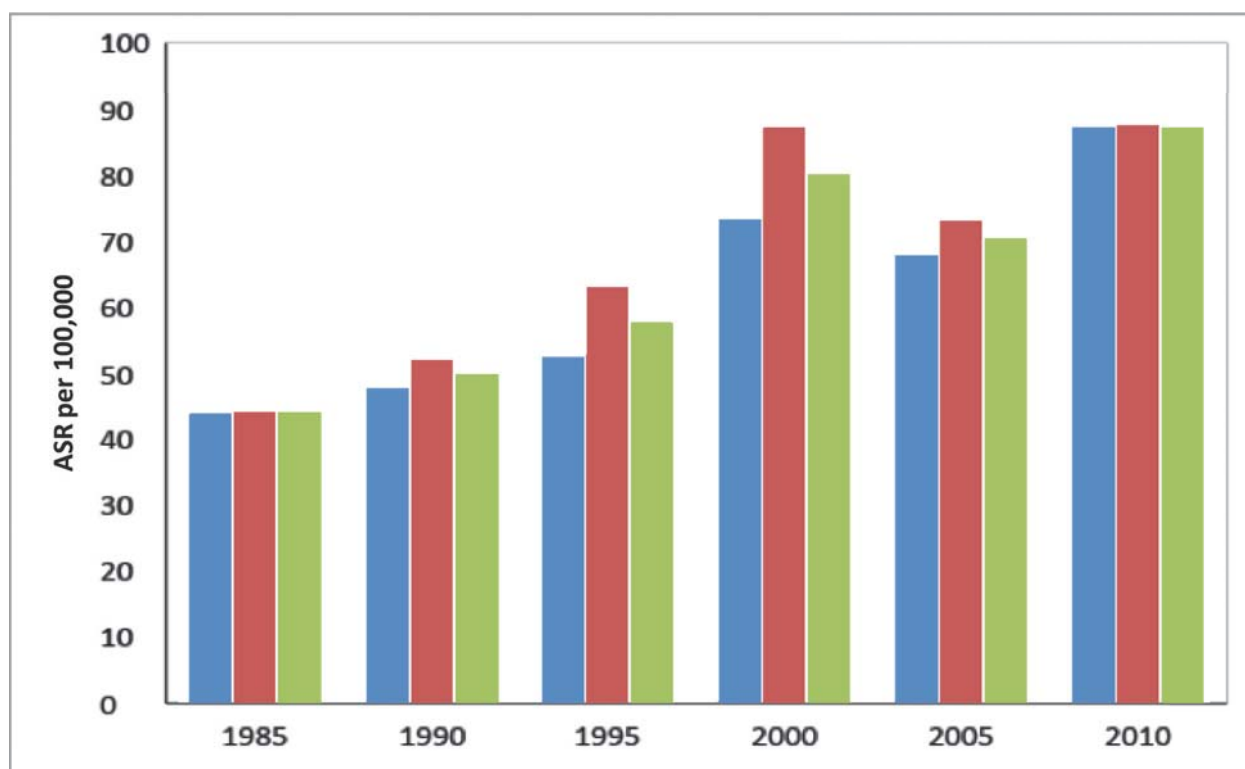


Figure 5.6 : Overall Cancer Age Standardized Rate from 1985 - 2010

Source: National Cancer Control Program

Leading cancer sites by crude rate in 2011

Similar to the year 2010, lip, oral cavity and pharyngeal cancer remains the commonest cancer among males while breast cancer continues to be the commonest cancer among females (Table 5.2).

Commonest cancer

- **males: Lip, oral cavity and pharyngeal cancer;**
- **females: breast cancer**

Table 5.2: Leading cancer sites by crude rate in 2011

Leading Cancer Sites		Crude Rate per 100,000 (%*)
Male	Lip, oral cavity and pharynx	16.4 (18.2)
	Trachea, bronchus and lung	8.8 (9.4)
	Oesophagus	6.7 (7.3)
	Colon and rectum	5.7 (6.2)
	Prostate gland	5.5 (5.7)
Female	Breast	23.3 (26.5)
	Cervix uteri	8.2 (9.2)
	Thyroid gland	6.8 (8.3)
	Ovary	6.7 (7.5)
	Lip, oral cavity and pharynx	5.8 (6.5)
Overall	Breast	12.2 (14.1)
	Lip, oral cavity & pharynx	10.0 (11.1)
	Cervix uteri	8.2 (4.8)
	Ovary	6.7 (3.9)
	Oesophagus	5.9 (6.4)
	Colon & Rectum	5.7 (6.4)

*Number of cancers as a percentage out of all cancers

Source: National Cancer Control Program

Breast Cancer

Breast cancer which is the commonest cancer among females and overall as well, has reported a substantial increase in ASR within 26 years (ASR 9.4 in 1985 to 23.3 in 2011) (Figure 5.9). However, the graph is almost flattening with a slight steep from 2008 up to 2011.

The number with late diagnosis (stage III and IV) in the year 2011 is higher than 2010 findings (Figure 5.10). Staging information was available only for 57% of cases. A majority (57.6%) of them were diagnosed at stages II-A and II-B. Almost 1/3rd of cases (32.5%) were diagnosed at late stages (stage III and above)

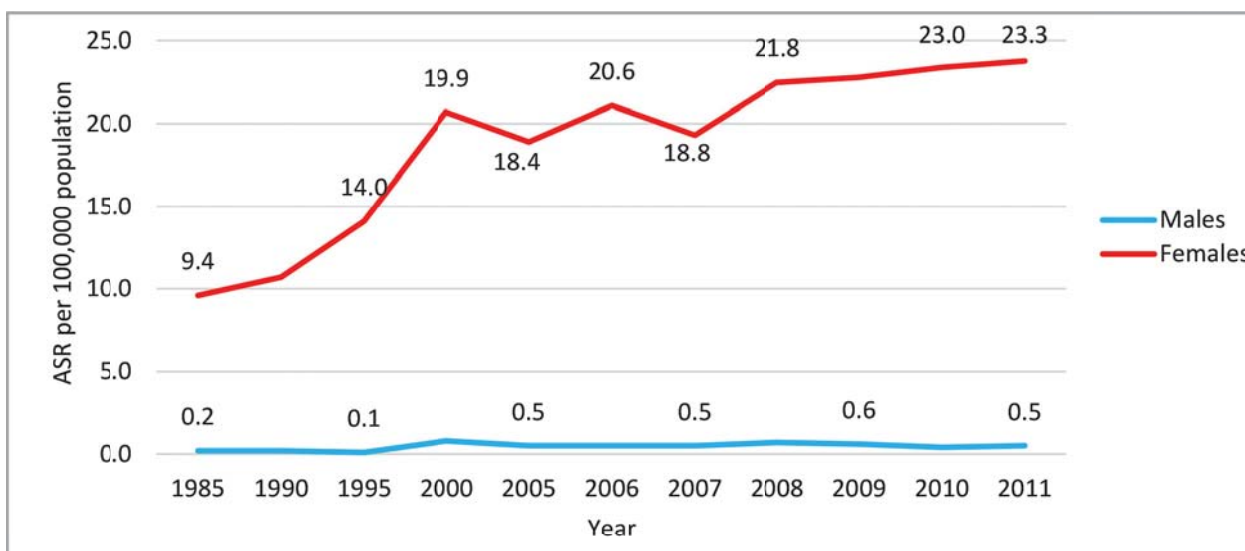


Figure 5.7: Age Standardized Rate of Breast Cancer from 1985 to 2011

Source: National Cancer Control Program

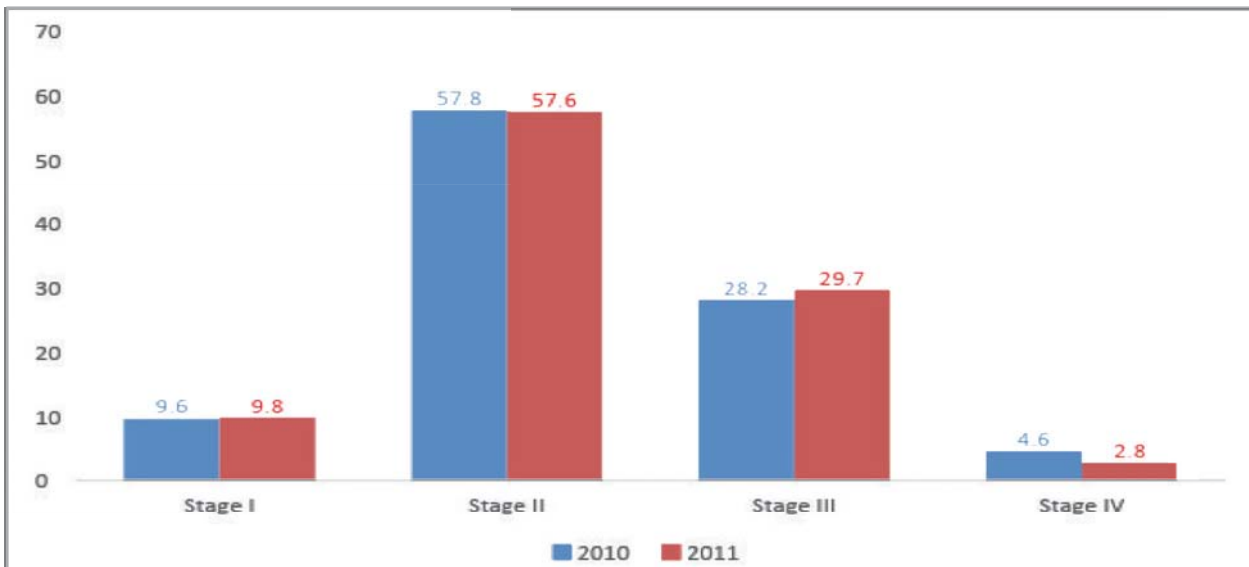


Figure 5.8: Comparison of Staging Information for Breast Cancer Between Year 2010 and 2011

Source: National Cancer Control Program

Following are the key actions in prevention and control of breast cancers:

- Implementation of National Guideline on Clinical Breast Examination through Well Woman Clinics and Healthy Lifestyle Centers (Age 20 – 40 years: every 3 years, after 40 years: annual examination).
- Encourage the self-referral of women for breast screening by creating awareness and providing better services
- Assign use the newly appointed Public Health Nursing Officers for clinical breast examination and teaching self-breast examination at the HLCs and in the community.

- Stenthening mammogram facilities for females at high risk for breast cancer to be strengthened.

Cancer of Lip, Oral Cavity and Pharynx

Cancer of lip, oral cavity, and pharynx, which is the commonest group of cancers among males remained as the number one among men during the past few years. The increase is marked among males (ASR 16.0 in 2006 to 22.3 in 2011). Information on staging was available only for 19.7% of oral cancers and out of these cases a majority (76.5%) were diagnosed at late stage (Stage III and above).

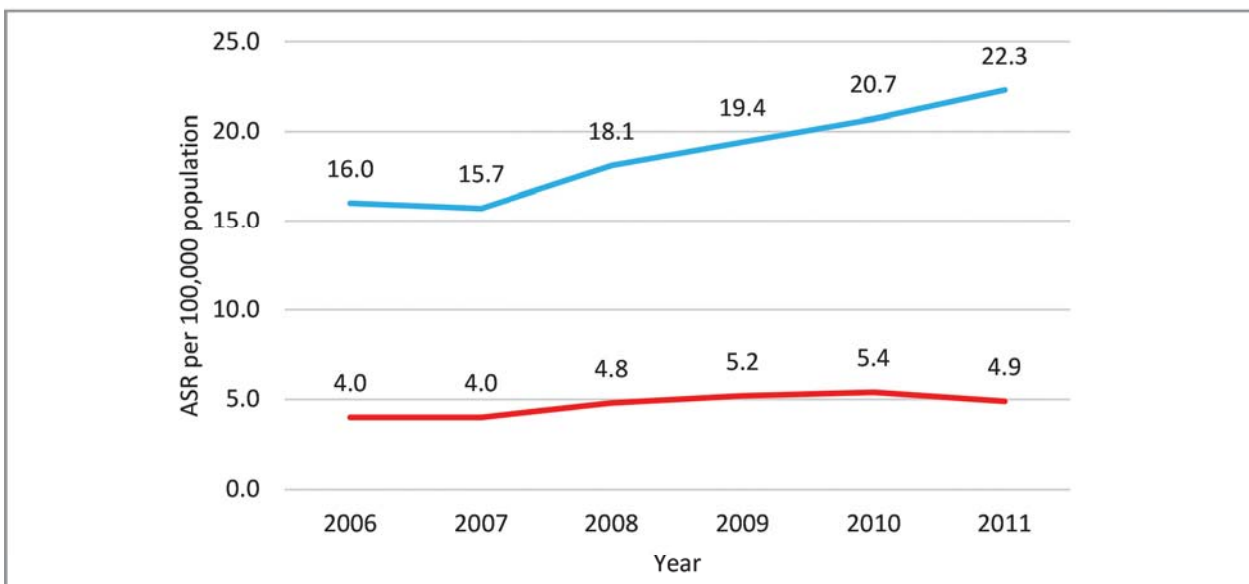


Figure 5.9: Age Standardized Rates of Cancer of Lip, Oral Cavity and Pharynx from 2006 to 2011

Source: National Cancer Control Program

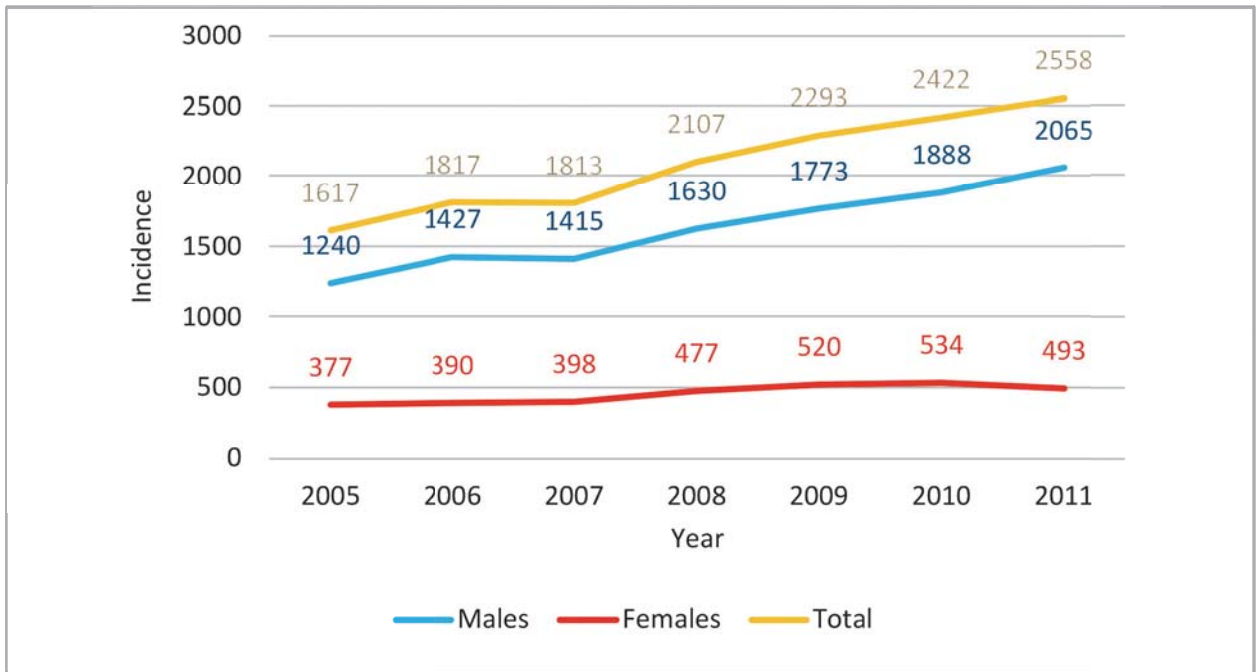


Figure 5.10: Incidence of Cancer of Lip, Oral Cavity and Pharynx from 2005 to 2011
 Source: National Cancer Control Program

Screening of individuals having higher risk for oral cancer (those who chew betel quid 3 or more times a day; those who chew betel quid less than 3 times a day but additionally smoke and/ or consume alcohol habitually; those who consume tobacco and areca nut products habitually) facilitates the identification of Oral Potentially Malignant Disorders (OPMD) as well as early detection of oral cancer. Early detection will also vastly improve the outcome of treatment and the quality of life of the patient.

Individuals having a higher risk for oral cancer are advised to carry out mouth self-examination monthly in order to detect OPMD and oral cancer at an early stage by themselves.

Dental Surgeons are advised to follow the “National Guideline for Management of Oral Potentially Malignant Disorders for Dental & Medical Practitioners” when managing patients with OPMD.

Very few percentages of oral cancers are having staging information. Therefore, it is necessary to inform OMF Surgeons to mention the stage of each and every patient on the clinic files.

Colon Cancer

As seen in figures 5.11 and 5.12, the incidence rate of colon cancer among males has increased by almost 6 times over the last 26 years (Age-standardized rate 0.4 in 1985 to 2.4 in 2011). For the last few years incidence rate of colon cancer among females has also increased rapidly (Age-standardized rate 1.8 in 2006 to 2.8 in 2011)

Colon cancer can be prevented to some extent by adopting healthy behavior including preventing obesity and practicing healthy dietary practices. Mass scale awareness programmes should be conducted to prevent some of these preventable cancers.

Country specific risk stratification model needs to be developed while people at risk should undergo series of screening tests starting from non-invasive fecal occult blood to invasive endoscopy procedures.

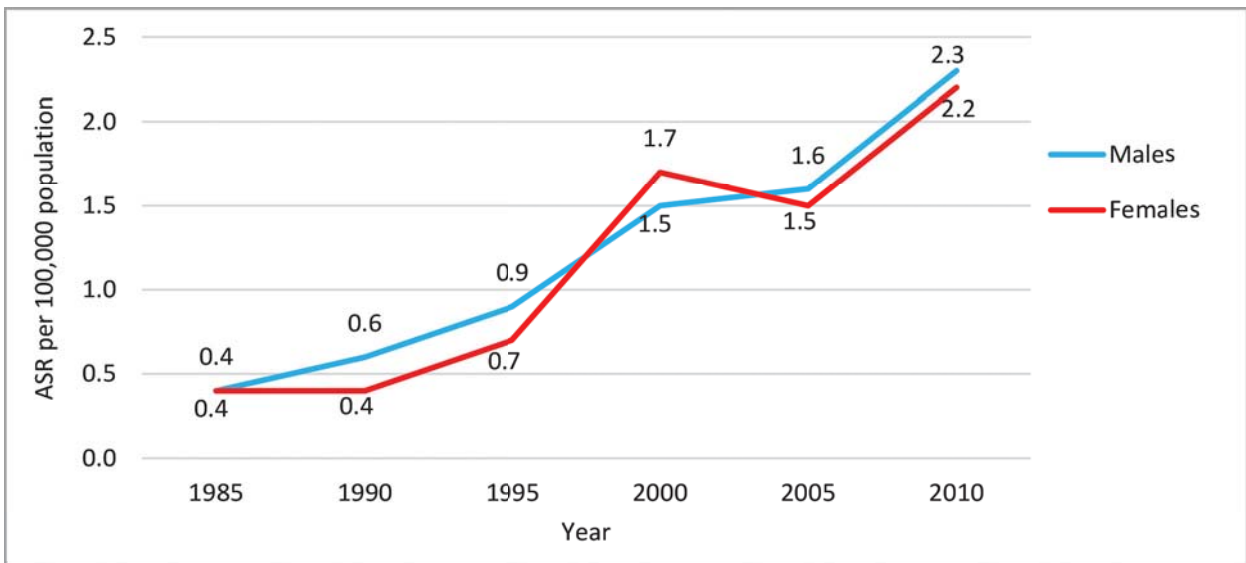


Figure 5.11: Age Standardized Rate of Colo-Rectal Cancer from 1985 to 2010

Source: National Cancer Control Program

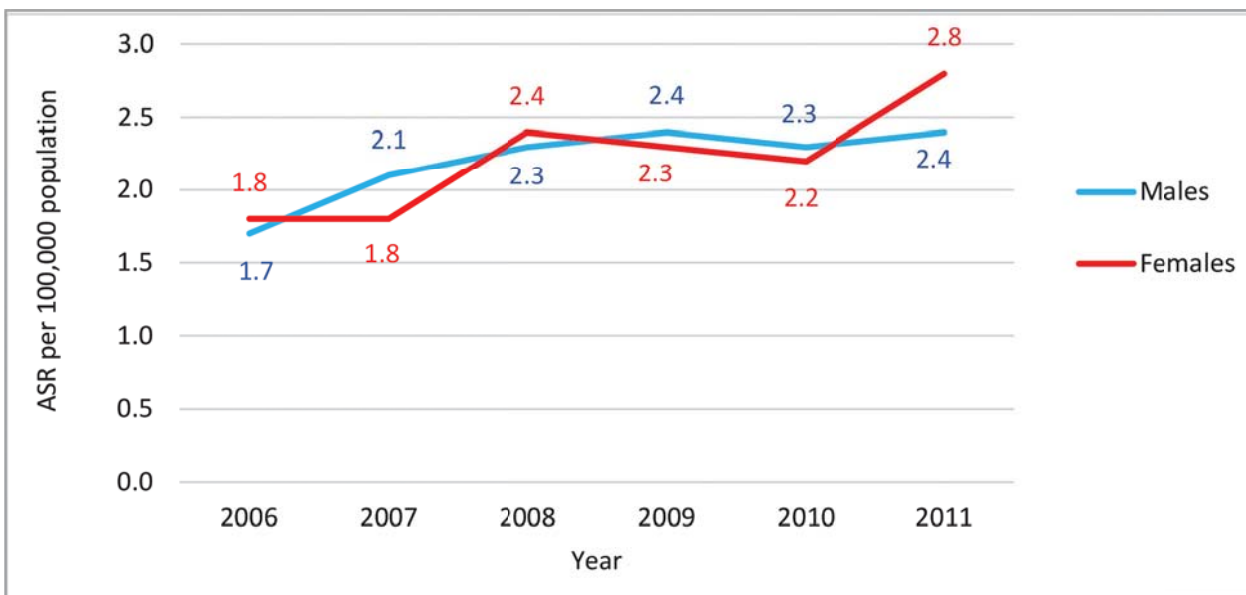


Figure 5.12: Age Standardized Rate of Colon Cancer from 2006 to 2011

Source: National Cancer Control Program

Thyroid cancer

Thyroid cancer rates among females have increased alarmingly by more than 4 times from 1985 to 2011 (Age-standardized rate 1.7 in 1985 to 6.8 in 2011) (Figure 5.13).

However, since the year 2008 up to 2010 the ASR rates of thyroid cancer among females and males are more or less static and on downward trend after that.

Following are some of the priority actions in prevention & control of thyroid cancers:

- Carry out relevant researches to find out the possible reasons for the rapid increase, especially among females.
- Strengthen programmes for early detection of thyroid abnormalities (especially in Healthy Life-style Centers, Well Woman Clinics) especially in areas with high incidence.

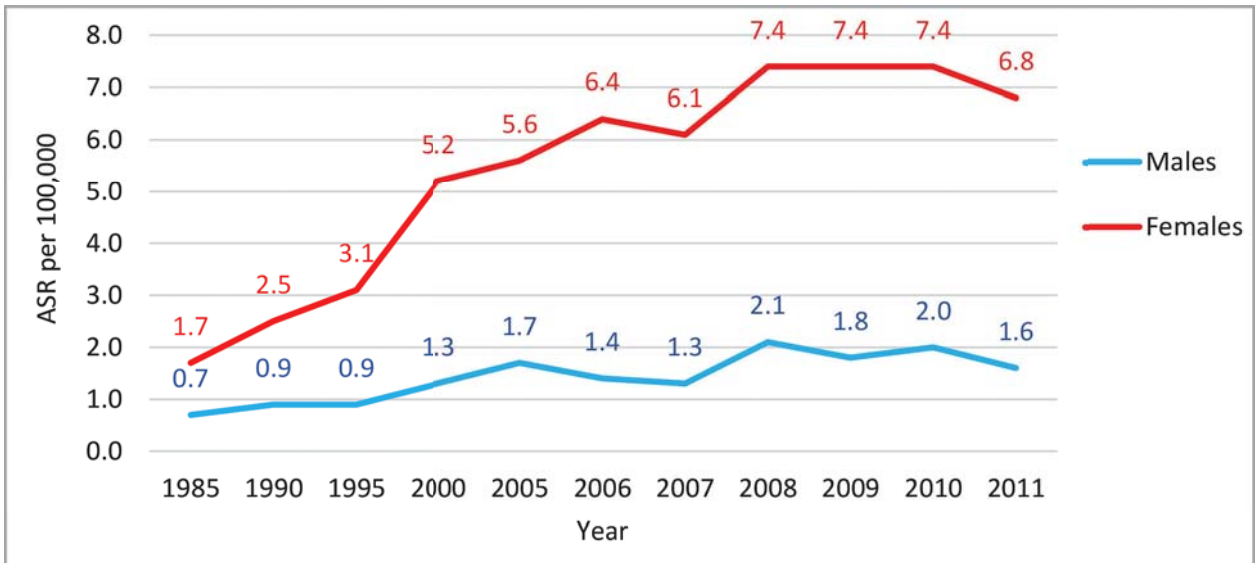


Figure 5.13: Age Standardized Rate of Thyroid Cancer from 1985 – 2011

Source: National Cancer Control Program

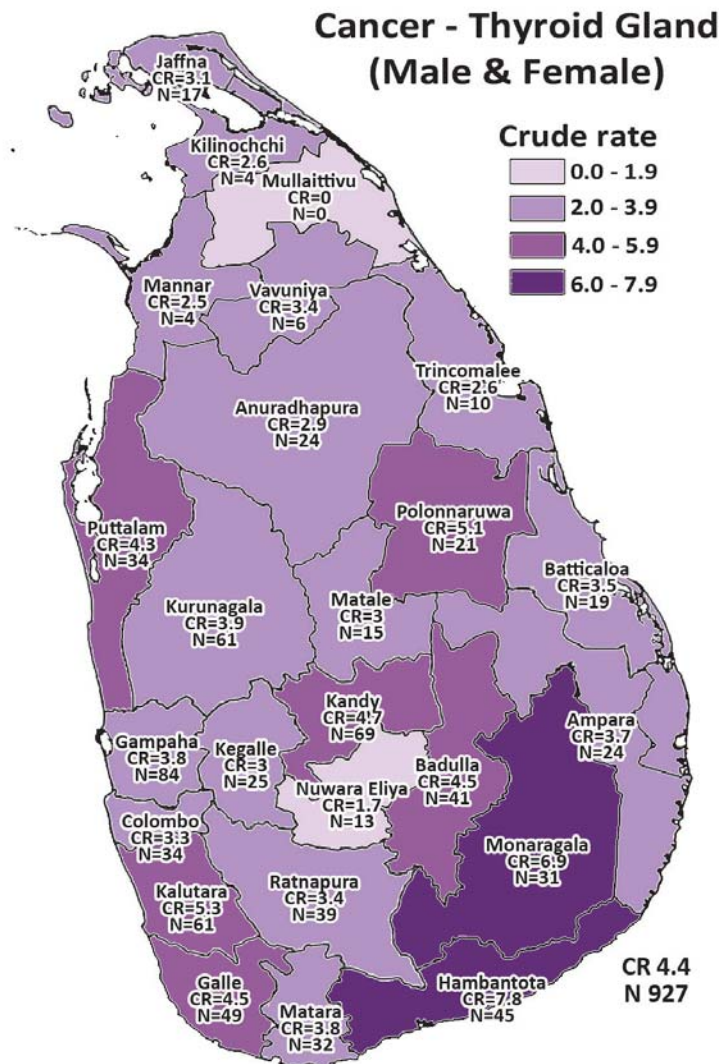


Figure 5.14: Distribution of Thyroid Cancer Incidence Cases in 2011

Source: National Cancer Control Program

Cervical Cancer

Cervical cancer incidence rate remained static over the last few years, but has not fallen up to an acceptable level (Age-standardized rates 10.0 in 1995 to 8.2 in 2011) (Figure 5.15 & 5.16) due to low population-based screening coverage.

(24% coverage according to STEP survey

2015 and pap smear coverage for 35-year age cohort is only 50% with wide district variation according to FHB). When the ASR plotted yearly since 2006, it shows very sluggish downward trend. (Figure 5.18)

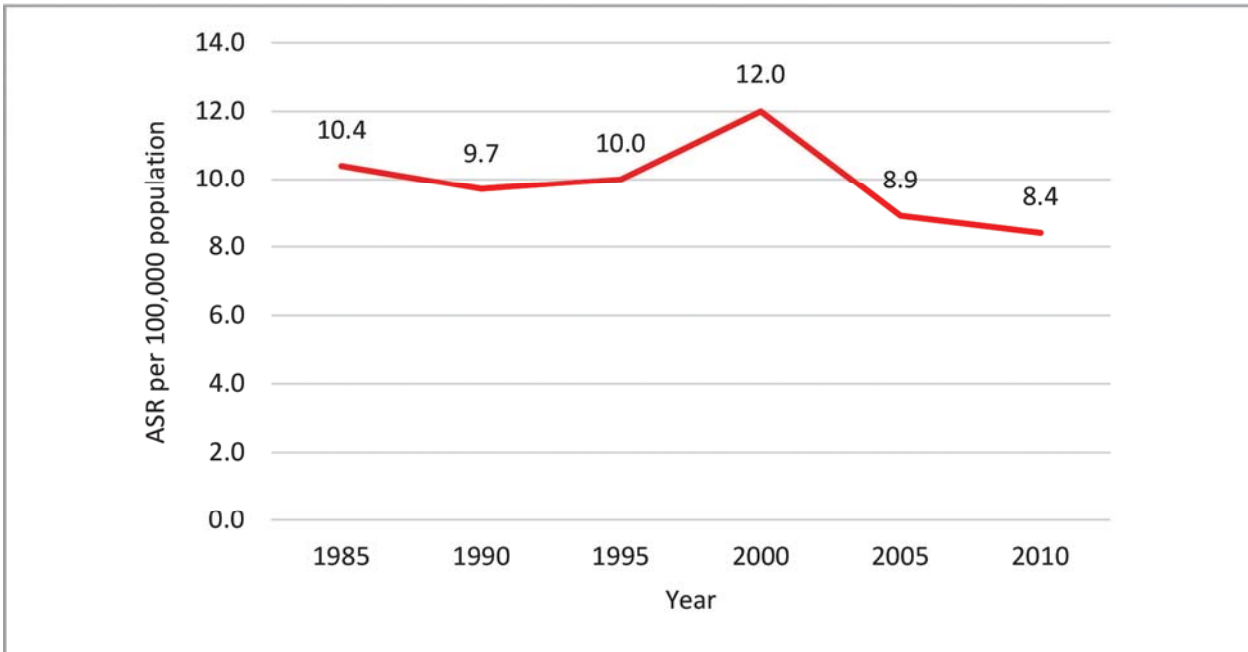


Figure 5.15: Age Standardized Rate of Cervical Cancer from 1985 – 2010

Source: National Cancer Control Program

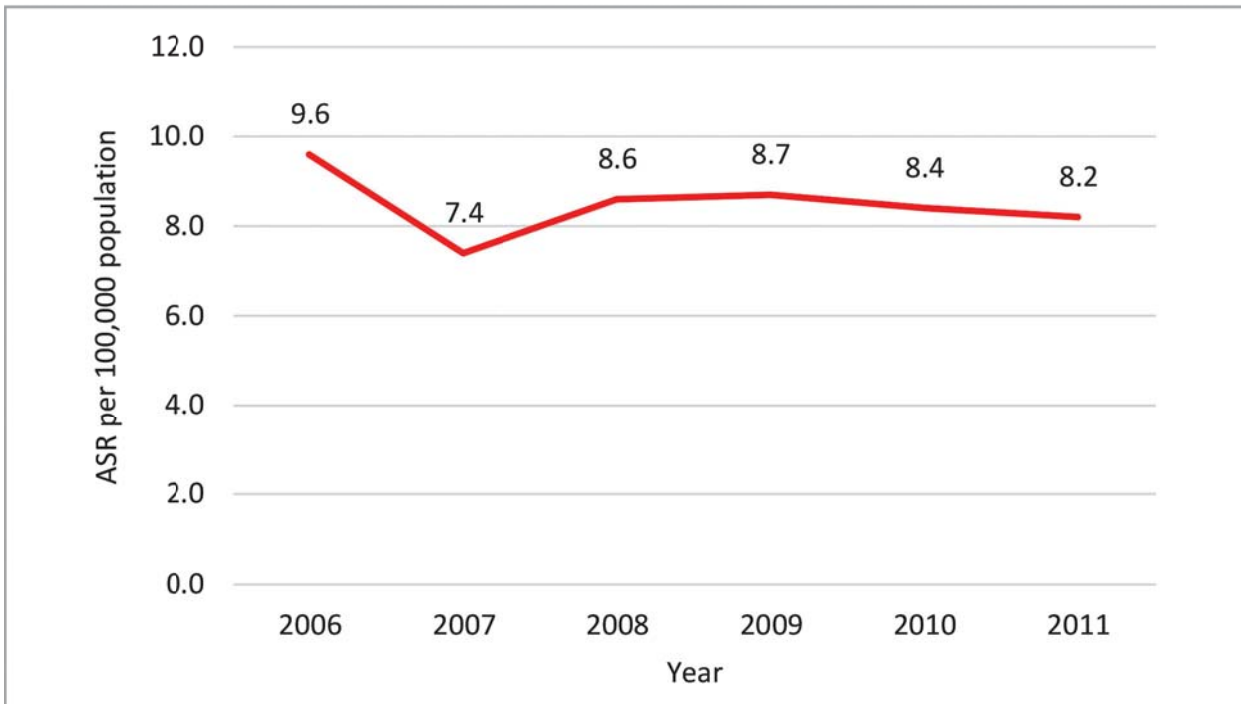


Figure 5.16: Age Standardized Rate of Cervical Cancer from 2006 to 2011

Source: National Cancer Control Program

Following actions are recommended to curtail cervical cancers in the country:

- Steps to be taken to increase pap smear coverage by adding another age cohort (probably 45-year age cohort) for pap smear
- Commencement of HPV DNA testing, in order to reduce the burden of pap smear testing (e.g. inadequate Cytoscreeners etc.)
- Infrastructure facilities at well woman clinics have to be strengthened to cater more women.
- Enhance mobile screening facilities in the community and in working places to catch more women who are above 35 years of age and women who are working.

Cancer-specific deaths

Mortality data for cancer-specific deaths extracted from the Registrar General's Department from year 2001 to 2010 shows a gradual increase of age-standardized death rates in both males and females (Figure 5.17). However, it should be noted that the Registrar General's Department data is not a comprehensive source of mortality data. Improvement of registration of deaths at divisional level and Initiation of population-based cancer registries at the district or provincial level are identified as important actions towards enhancing quality of this data.

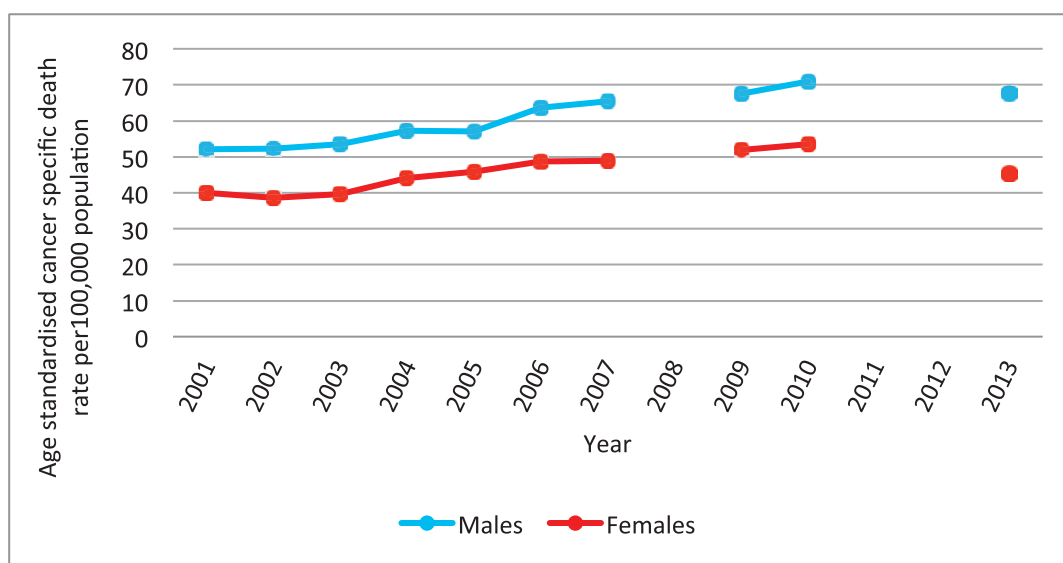


Figure 5.17: Age Standardized Cancer Specific Death Rates from 2001 – 2013

Source: Registrar General's Department

Data not available for years 2008, 2011 and 2012

5.5. Mental Health

5.5.1. Suicides

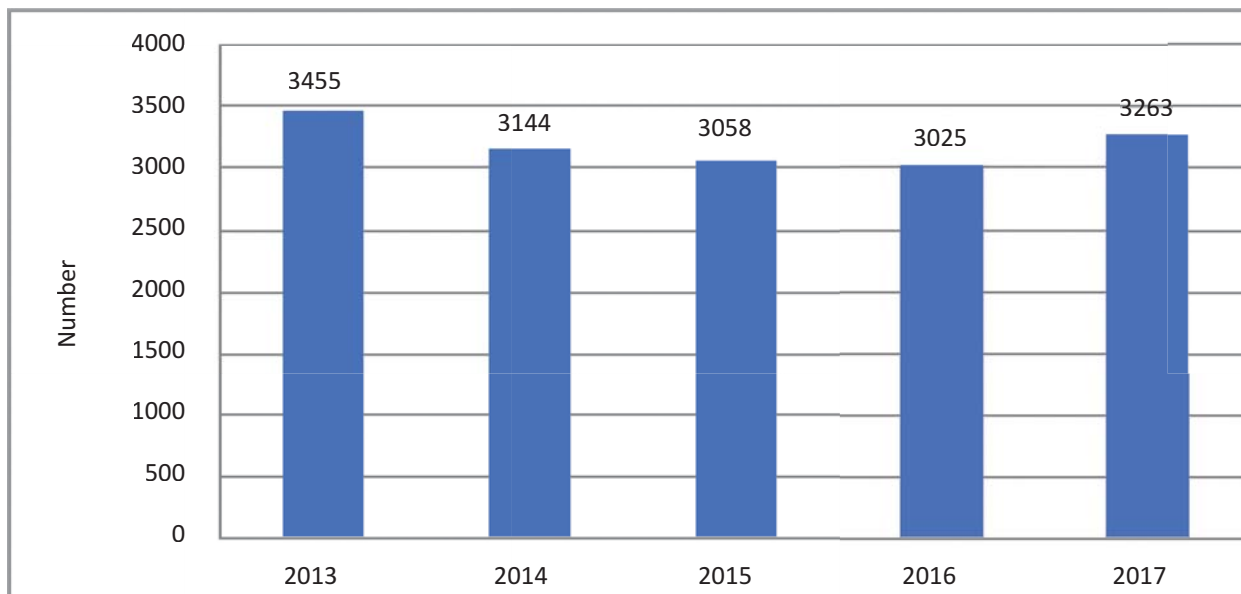


Figure 5.18: Number of Suicides in Sri Lanka over the past five years

Source: Directorate of Mental Health

Suicides have increased slightly in 2017 when compared to previous three years (Figure 5.18). This increase is due to the increase in suicides among males, while suicides among females have decreased in 2017 (Figure 5.19).

Number of suicides remain relatively static over the past five years

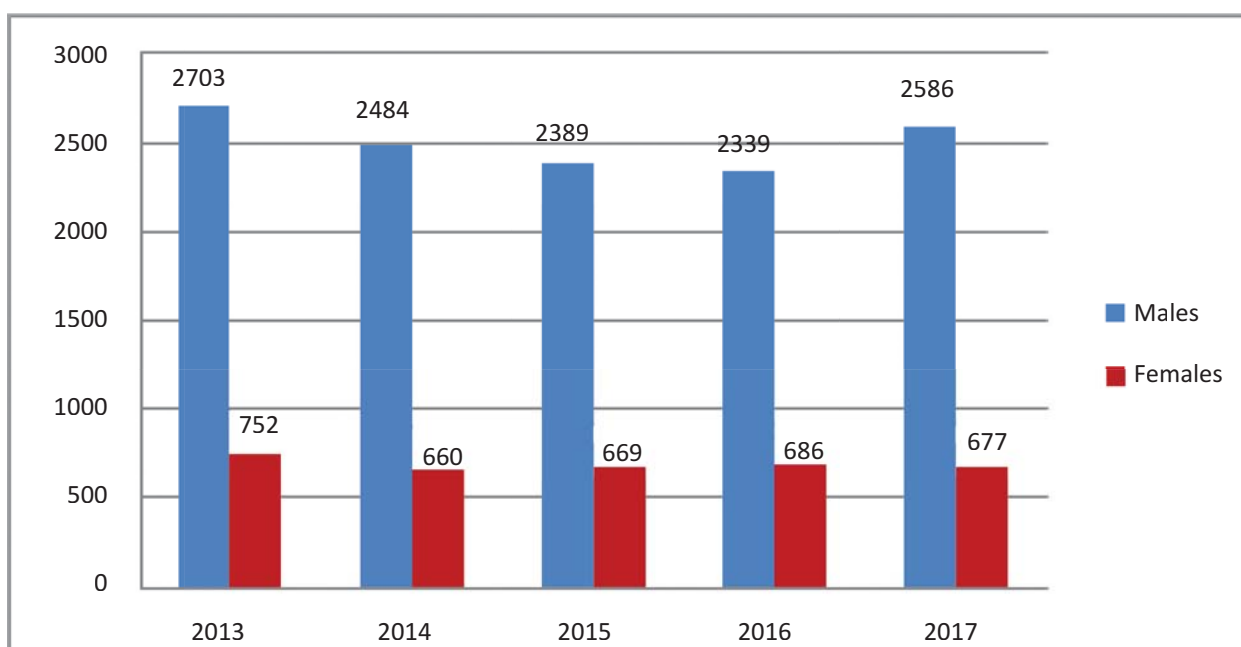


Figure 5.19: Number of suicides by sex

Source: Directorate of Mental Health

Marital disharmony and family disputes causes 19% of suicides, the presence of chronic diseases and disabilities caused 11.6% of suicides and mental disorders caused 10% of suicides in 2017. The reason was not available for more than a third (35.2%) of the suicides.

Media guidelines should be developed to address adverse media coverage on suicides which is proven to increase 'copycat' suicides as an essential component in suicide prevention. Also, community Support Centers should be established to provide continuous support to all people in need with an aim to prevent suicides. Following actions were taken by the Directorate of Mental Health on suicide prevention:

- Initial steps to formulate a National Strategic Plan on Suicide Prevention..
- Care for the mentally ill patients was strengthened by improving inward facilities as well as both medium stay and long stay units
- IEC materials (mainly posters) were developed to improve Mental Health Literacy and Life Skills of the general public.
- A Health Magazine "Suwaya" was printed focusing on adolescent mental wellbeing and distributed to all schools and health care institutions.

5.5.2. Mental Disorders

The burden of mental disorders continues to grow with significant impacts on health and major social, human rights and economic consequences in all countries of the world. There is an overall increase in mental & behavioural disorders during past years in Sri Lanka (Medical Statistic Unit). This increase might be due to improvement of diagnostic facilities as well as increased reporting as a result of implementation of e-based management information system. This rise could be actual increase of mental illnesses or due to increased awareness on mental disorders improving health seeking behavior among the community. Persons with Dementia and Mental & behavioral disorders due to use of alcohol have increased during past years.

Following actions were taken by the Directorate of Mental Health to address the burden of mental health disorders:

- strengthen psychiatric inpatient and outpatient care for mentally ill patients.
- strengthening of human resources with cadre increase and new recruitment for psychiatric units to provide multi-disciplinary care.
- Out patients mental health clinics were increased to cover all MOH divisions in the country.
- consumer and carer societies were strengthened to facilitate the rehabilitation process.
- Introduction to the Electronic Management Information system on Mental Health to obtain more accurate, timely and good quality data.

There is an overall increase in mental & behavioural disorders during past years in Sri Lanka

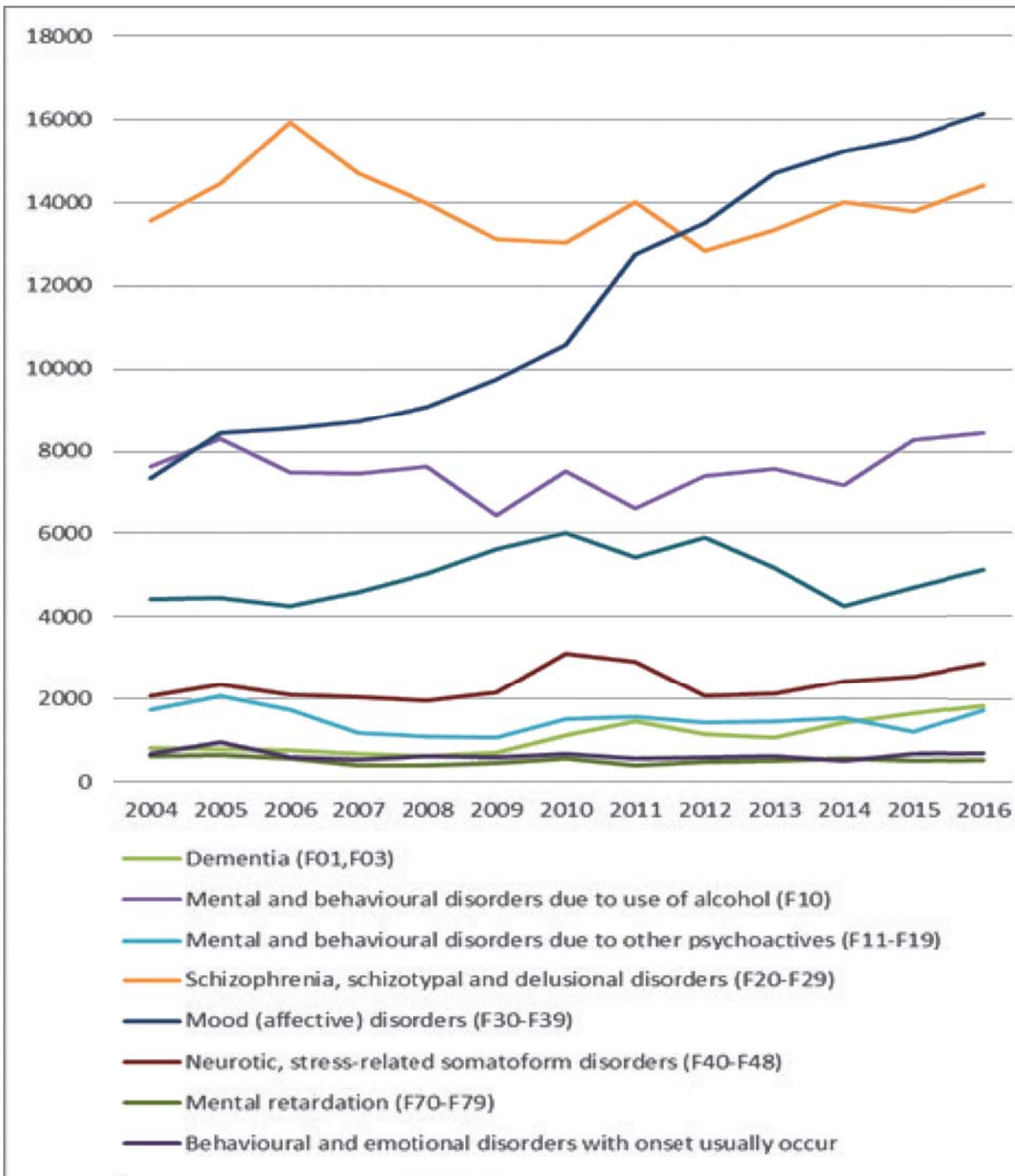


Figure 5.20: Trends in mental disorders based on hospital admissions from 2004-2016
 Source: Directorate of Mental Health

6. Oral Health

6.1 Oral Health Services

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

Oral Health Services are provided to the public by both Government & private sector. However, nearly 60-65% of services are provided by the government sector in both urban & rural set ups. Moreover majority of the dental surgeons who work in the government sector are involved in part time private practice.

Nearly 2% of the oral health services 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 2017, there were 488 SDC manned by 391 SDTs. Sixty two ADCs which are located in school premises are 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.

101 new Dental Surgeons and 30 School Dental Therapists were recruited during the year of 2016. During the year of 2017, new appointments were not given. Therefore, in 2017 there were 1516 Dental Surgeons working at the public sector.

Specialized services

The five main specialties in the oral health care services in Sri Lanka are Oral & Maxillo Facial Surgery, Orthodontics, Community/ Public Health Dentistry, Restorative Dentistry and Oral Pathology. In 2017, there were 69 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 Office of Provincial Director 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 6.1: Distribution of Dental consultants by Specialty at the end of 2017

Specialty	Number
Oral & Maxillo Facial Surgery	28
Orthodontics	21
Community Dentistry	08
Restorative Dentistry	10
Oral Pathology	02
Total	69

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 various destination of the country on request. During the year 2017, the 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. Furthermore, the mobile dental unit which is attached to Ministry of Health is working under the theme of “Access to Health Care” by travelling to deprived areas where the access is limited and providing their services

Table 6.2: Prevalence and Severity of Dental caries

Age group	Prevalence & Severity	1994/95	2002/03	2015/16*
6 years	Prevalence	76.4%	65.5%	63.1%
	DMFT		(5 yrs)	(5 yrs)
		4.1	3.6	3.1
		(5 yrs)	(5 yrs)	
12 years	Prevalence	53.1%	40.0%	30.4%
	DMFT	1.4	0.9	0.6
35-44 years	Prevalence	91.1%	91.5%	92.5%
	DMFT	10.1	8.4	6.5%

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

Table 6.3 : Prevalence of Healthy gums in 12 years and 35-44 year olds

Age group	1994/95	2002/03	2015/16*
12 years	13.3%	27.2%	55.3%
35-44 years	2.1%	10.1%	47.4%

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

Oral Disease Trends

Ministry of Health with the collaboration with World Health Organization has conducted four National Oral Health Surveys in 1983/84, 1994/95, 2002/03 and 2015/16. The fourth National Oral Health Survey data collection was completed in 2016.

These indicate overall declining trend in prevalence and severity of dental caries and improvements in periodontal health (Table 6.2, 6.3).

Teeth present and prosthetic treatment need

According to the fourth National Oral Health Survey report 2015/2016*, mean number of deciduous teeth present among 5-year-old children was 19.4 and mean number of permanent teeth present among 35-44 years was 27.5 and it was 15.3 among 65-74 years. Edentulousness rate among 65-74 years was 11.3.

Oral Health Related Behaviors

According to the fourth National Oral Health Survey report 2015/2016*, use of fluoridated tooth paste and tooth brushes was high (around 75%) among all age groups except among elderly.

Use of Oral Health Care Services

According to the fourth National Oral Health Survey report 2015/2016*, adults aged 35-44 years and children aged 12 years were the major consumers of dental services when compared the other index age groups. Furthermore, 12-year-old school children visited mostly to School Dental Clinics (53.4%) on their last visit. Majority of adults aged 35-44 years visited Hospital Dental clinic (52.4%) and General Dental Practice (30.7%) on their last visit of dental care.

The most frequent type of treatment received was the extraction among 35-44 and 65-74 age groups.

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 Program/Fluoride Varnish program.
3. Oral Potentially Malignant disorder (OPMD) and Oral Cancer Prevention and early detection programme.
4. Dental Fluorosis prevention & control programme.
5. School Oral Health Program

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 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 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 discoloration 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.

The training of school dental therapists is conducted by the training school of IOH Maharagama. The School Dental Therapists are attached to schools and they provide services to the school children between 3 – 13 years of age. Their target groups are grade 1, 4, 7 and they provide screening and comprehensive oral health care to the target school children.

Risk Factors

In 2017...

27.5%
in the prevalence of
alcohol use among
males



24.4%
in current smoking
among males



25%
were
Overweight
among the screened
population



20%
had raised
blood pressure
among the screened
population

Risk Factors

7. Risk Factors

Health and wellbeing are affected by many factors. A risk factor is any attribute, characteristic or exposure of an individual that increases the likelihood of developing a disease or injury (WHO).

In practice, risk factors often coexist and interact with one another and act on individual health as well as the health of communities.

As there is a rising demand for healthcare services, despite of severe funding pressures currently facing the public health sector in Sri Lanka, early detection, identification and prevention of modifiable risk factors are crucial to minimize the burden of health related conditions/diseases in the country.

In general, health related risk factors can be categorised into following groups.

- o Behavioural risk factors
- o Physiological/ biomedical risk factors
- o Environmental risk factors,
- o Genetic risk factors
- o Demographic risk factors

Behavioural risk factors are those that individuals have the most ability to modify through lifecycle and behavioural choices. Physiological/Biomedical risk factors are bodily states that are often influenced by behavioural risk factors as well as genetic and other factors. Environmental risk factors include social, economic, cultural and political factors as well as physical, chemical and biological factors which in turn impacts both behavioural and physiological risk factors.

Reducing exposure to above mentioned modifiable risk factors would greatly improve the health of the nation and thereby reduce the healthcare costs.

Considering the interrelated nature of the modifiable risk factors, this chapter concentrates on the modifiable risk factors in Sri Lanka, under the following headings.

- 1) Food and Nutrition Related Risk Factors
- 2) Adolescence Health Risk Factors
- 3) Gender based violence
- 4) Risk factors for Non Communicable Diseases
- 5) Risk factors associated with Physical Environment

7.1. Food and Nutrition related risk factors

Comparing to the other key health indicators of the country, nutrition related health indicators in Sri Lanka remaining at less satisfactory level.

Malnutrition in Sri Lanka takes many forms and widespread among different groups of population.

Despite the decrease in prevalence of stunting among children over last four decades, wasting still affects children less than 5 years. Further more, prevalence of overweight and obesity is rising and micronutrient deficiencies are prevalent among children and women.

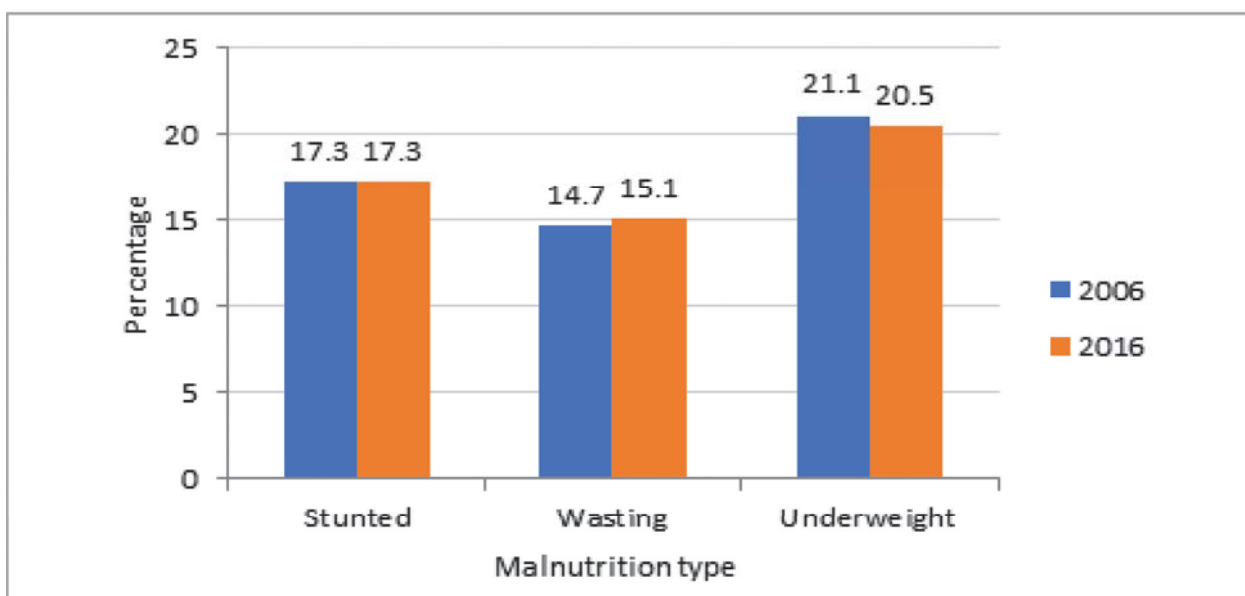


Figure 7.1 : Trends in Nutritional Status of children under 5 years of age

Source: Demographic and Health Survey 2016

Table 7.1: Nutritional status of women

Among ever-married women age 15-49, the percentage with height under 145 cm, mean Body Mass Index (BMI), and the percentage with specific BMI levels, by background characteristics, Sri Lanka 2016

Background characteristic	Height		Body Mass Index								
	% below 145 cm	Number of ever married women	Mean Body Mass Index (BMI)	18.5-24.9 (Total normal)	<18.5 (Total thin)	17.0-18.4 (Mildly thin)	<17 (Moderately and severely thin)	>=25.0 (Total overweight or obese)	25.0-29.9 (Overweight)	>=30.0 (Obese)	Number of ever married women
Age											
15-19	7.2	219	21.9	56.1	22.9	11.5	11.4	20.9	15.8	5.2	170
20-29	5.3	3,930	23.3	51.0	16.3	9.2	7.0	32.8	24.4	8.4	3,383
30-39	6.1	7,406	24.9	46.3	7.8	4.8	3.0	45.9	32.3	13.6	6,943
40-49	9.6	6,332	25.5	41.8	6.2	3.8	2.3	52.0	36.1	15.9	6,310
Residence											
Urban	5.2	2,790	26.1	38.6	5.6	3.0	2.6	55.8	35.8	20.1	2,629
Rural	7.2	14,427	24.6	46.6	9.1	5.5	3.6	44.2	31.9	12.4	13,558
Estate	14.9	671	22.2	54.6	22.0	12.7	9.3	23.4	17.3	6.1	620

Source: Demographic and Health Survey 2016

Actions Taken

1. District Nutrition Action Plan (DNAP). Implemented the nutrition related activities under District Nutrition Action Plan Island wide.

2. Nutrition aspects of Early Childhood Development Programme

(Multi-sectoral approach programme) Orientation programme and TOT programmes of the “Nutrition aspects of Early Childhood Development Programme” were conducted. Three modules were developed by the technical support of the Nutrition Coordination Division with financial support by FAO to promote nutrition status of preschool children.

Modules are

- a. A Practical Guide prepared to improve the nutritional status, good habits, and caring practices of school children.
- b. Preschool Children’s Nutrition and Care (Parent’s participation in improving nutrition status of preschool children).
- c. Practical Guide to promote nutrition knowledge of Preschool Teachers.

3. Establishment of National Nutrition Surveillance System (NNSS)

A consultative meeting was held during the first quarter of 2016 in Nuwara Eliya district to review the indicators of the system followed by National level consultative meeting to finalize the indicators.

4. National Nutrition Month June 2017: Nutrition Coordination Division is the focal point to conduct the National Nutrition Month Activities and the Theme of 2017- National Nutrition Month was “Taste without sugar”. Inauguration ceremony of the National Nutrition Month was held on 23rd June at the Auditorium of the Rathnawalee Balika

Vidyalaya, Gampaha. A Booklet on “Taste without sugar” (sugar content of different beverages and food) launched during the National Nutrition Month.

5. Report on Cost of Health Sector component of the National Nutrition Programme of Sri Lanka.

Government of Sri Lanka spends considerable amount of money on nutrition, while the other non-government and UN Agencies also provide financial support to improve the nutritional status of the people of Sri Lanka. Despite the large amount of money spend on nutrition, the cost of the programme have never been studied so far.

Therefore, the assessment of cost of the Health sector component of the National Nutrition Programme of Sri Lanka was conducted by the Nutrition Coordination Division with the technical support of Dr. Neil Thalagala CCP, FHB with the financial assistance of UNICEF.

Final report on “Cost of Health Sector component of the National Nutrition Programme of Sri Lanka” was launched on 23rd August 2017 at the ‘Lavender Hall’, BMICH under the distinguished patronage of Hon. Minister of Health, Nutrition and Indigenous Medicine, Dr. Rajitha Senarathne.

6. Multisectoral approach for nutritional interventions at divisional level

District Nutrition Monitoring System (DNMS)

Android based mobile app was developed by Health Informatics Society of Sri Lanka (HISSL) for grass root level electronic data collection under the Multi Sectoral Action Plan on nutrition.

Nutrition Coordination Division implemented the pilot project of the DNMS with the technical support of HISSL in

Matale, Polannaruwa and Nuwera Elliya districts following a training programme conducted to Public Health Midwives. HISSL is currently working with ICTA to develop the Master Patient Index for the interoperability between DNMS and National Nutrition Information System. NNational Strategy for Prevention and Control of Micro Nutrient Deficiencies in Sri Lanka (2017-2022)

7. National Strategy for Prevention and Control of Micro Nutrient Deficiencies in Sri Lanka (2017- 2022) was developed by the Nutrition Coordination Division with the support of the Technical Committee and funded by UNICEF and WHO. The main objective is to provide guidance to improve the nutrition status of the population by preventing and alleviating micronutrient deficiencies and that will pave the way forward for a healthier future for all Sri Lankans.

8. World Food Programme assisted Fortified Blended Food (FBF) for Moderate Acute Malnutrition (MAM)

- Under this
 - a. Technical assessment of Thripasha programme has been completed
 - b. Assessment of supply chain were completed
- Improved the current Thripasha product by upgrading micro nutrient pre mix
- Increased the production capacity
- In the process of developing new FBF for MAM treatment

Overall coordination is done by Nutrition Coordination Division

7.1.1. Maternal 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 early as possible to mitigate the effects on fetus.

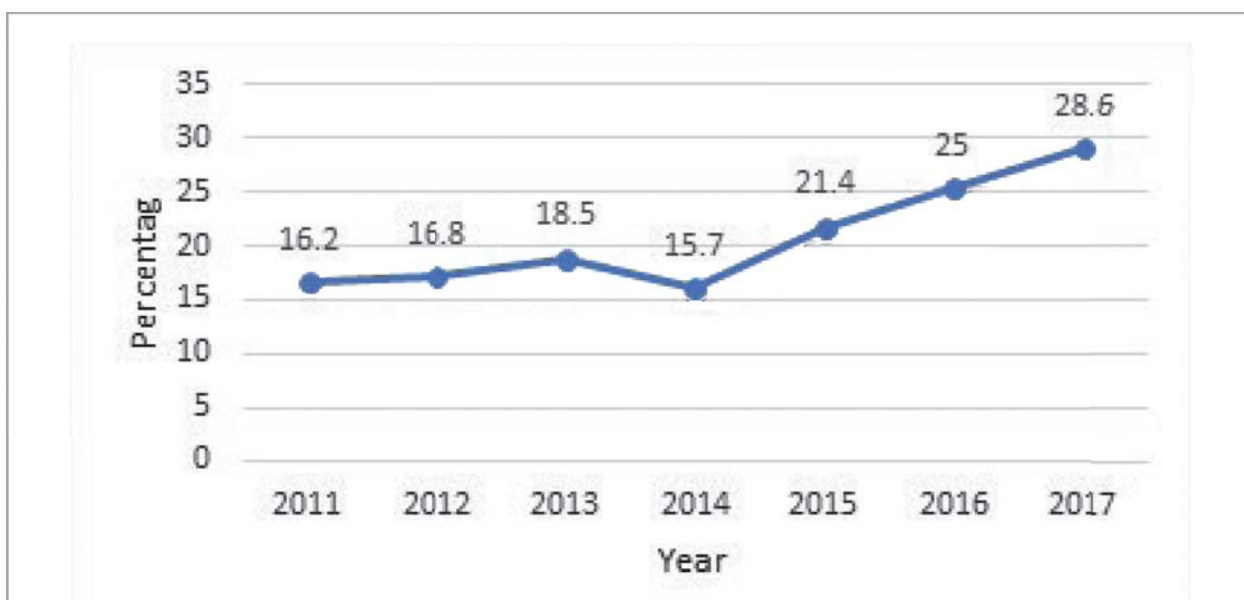


Figure 7.2: Anaemia in pregnancy over the past five years

Source: Family Health Bureau

Out of every four pregnant women one is found to be an anaemic (Hb< 11g/dl). This increase was evident 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% .

Categorization of anaemia showed that majority (74% of anaemic women) were mildly anaemic, with another 26% being moderately anaemic. No cases of severe anaemic 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.

Multi sectoral, long-term programme with further causal analysis is essential to combat

the anaemia in pregnancy in Sri Lanka.

Inter-district variations have been observed in nutritional status, such as anaemia, BMI status among pregnant women (Figure 7.3). 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

During the last three years there is a significant increase in number of mothers with BMI more than 25 (before 12 weeks)

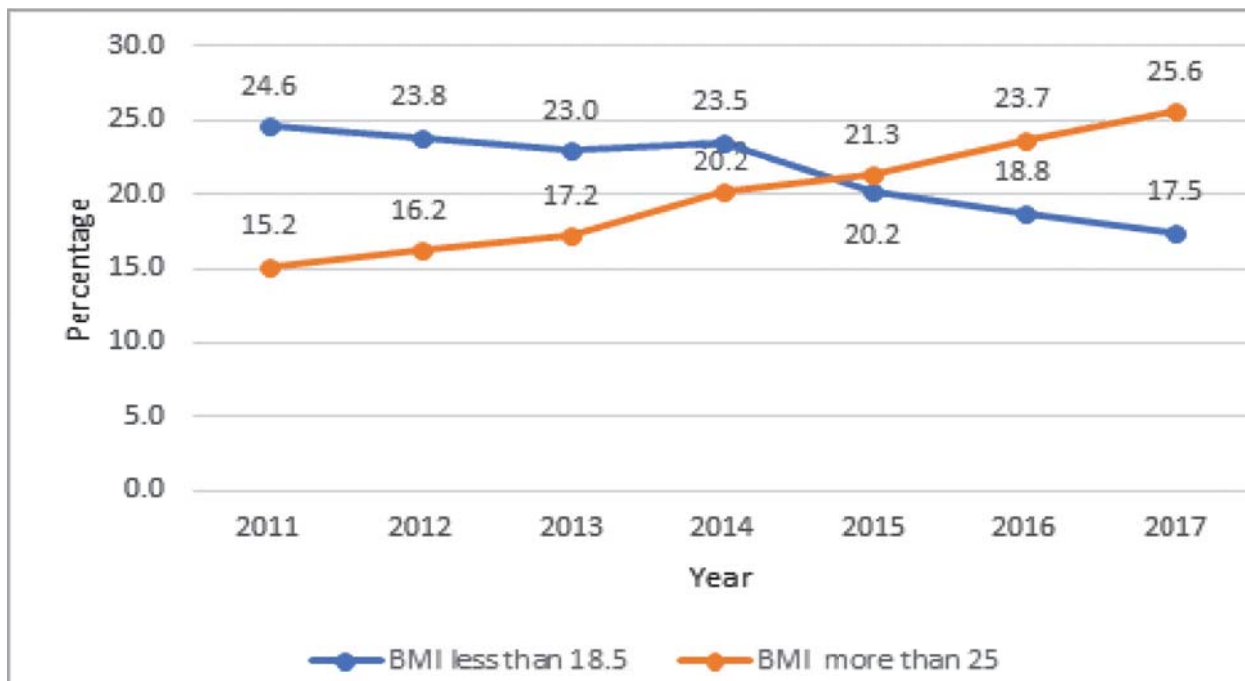


Figure 7.3: BMI in pregnancy from 2011 - 2017

Source: Family Health Bureau

7.1.2. Risk Factors Related to Nutrition status of children

Low Birth Weight among new born

Low birthweight shows a slight reduction over the years. Discrepancy between two

data sources may be due to non-availability of private sector data with the Medical Statistics Unit.

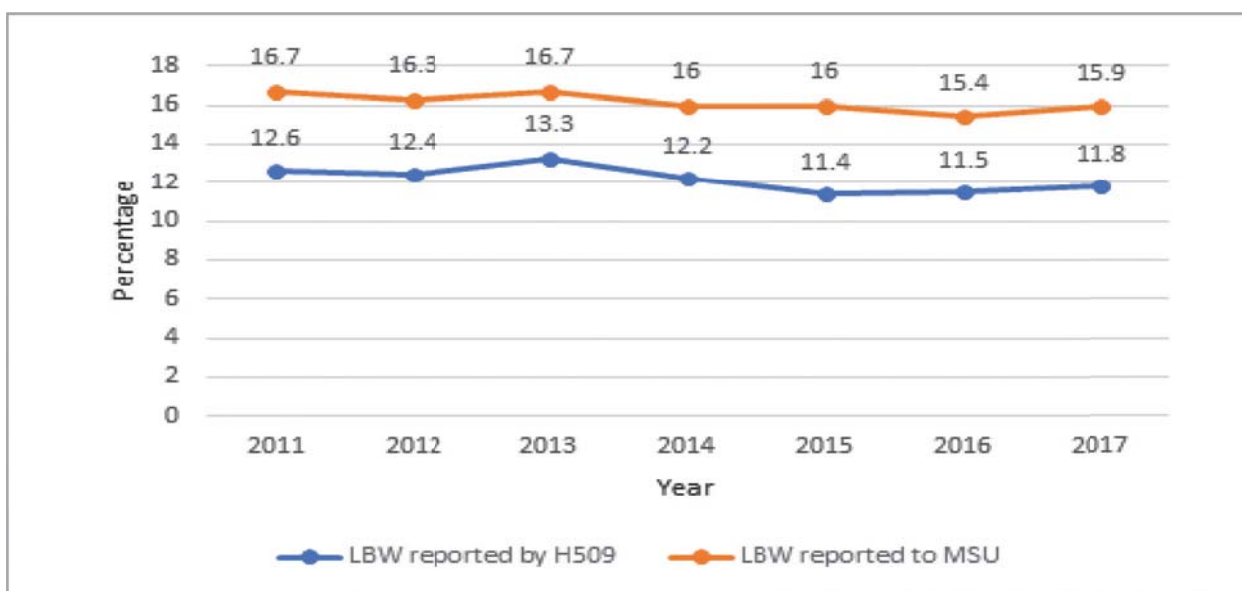


Figure 7.4: Low birth weight among new born

Source: Family Health Bureau

Nutrition Status of Children under the Age of Five Years

There is a declining trend, albeit slow in all three indices, underweight (weight for age < -2SD), stunting (length/height for age < -2SD) and wasting (weight for length/height < -2SD) over the years.

According to WHO population cut offs, Sri Lanka is a low prevalent country with regard to chronic under nutrition among children under five years. Prevalence of stunting is below 20 percent. Prevalence of acute under nutrition with wasting stands at 11.1%. However, percentage of overweight children under 5 yrs of age is low (0.5%).

Undernutrition among children under five years remain static over the recent past

In spite of high assessment coverage (94%) during nutrition month, the reported malnutrition rates are low compared with DHS 2016. It was reported comparatively higher rates for stunting (17.3%), underweight (20.5%), wasting (15.1%) and overweight/obesity (2%).

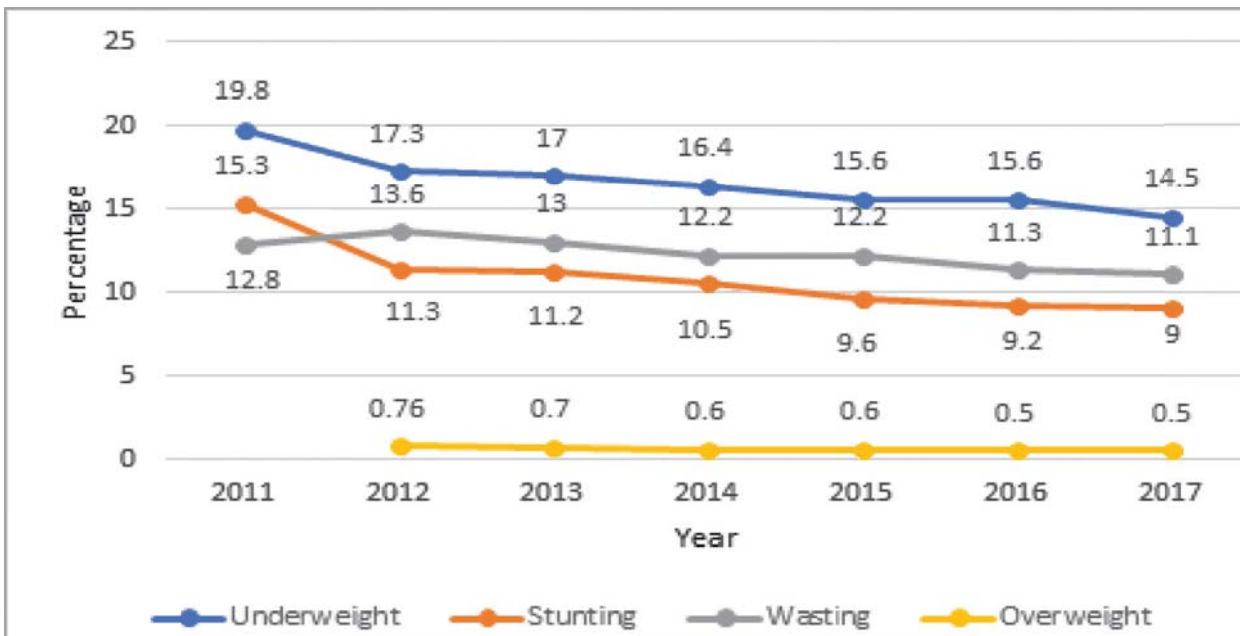


Figure 7.5: Malnutrition among under five children from 2011 to 2017

Source: Nutrition Month data - Family Health Bureau

Ministry of Health is implementing many nutrition specific evidence-based interventions island wide to address malnutrition.

Preterm growth charts were introduced to the child health programme to improve quality of growth assessment of preterm infants. This will address the stagnating trends on preterm infants by improving early detection and interventions at an easily modifiable stage. In addition, from year 2017 onwards, multiple micronutrient supplementation was scaled up island wide to address anemia among infants and young children.

Extensive effort should be taken targeting improvement of quality and the coverage of

these 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.

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 could be achieved through inter sector collaboration which should encompass implementation of nutrition sensitive interventions such as ensuring food security, poverty alleviation and support for proper child care.

- 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 undernutrition).

Malnutrition among School Children

During School Medical Inspections (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.

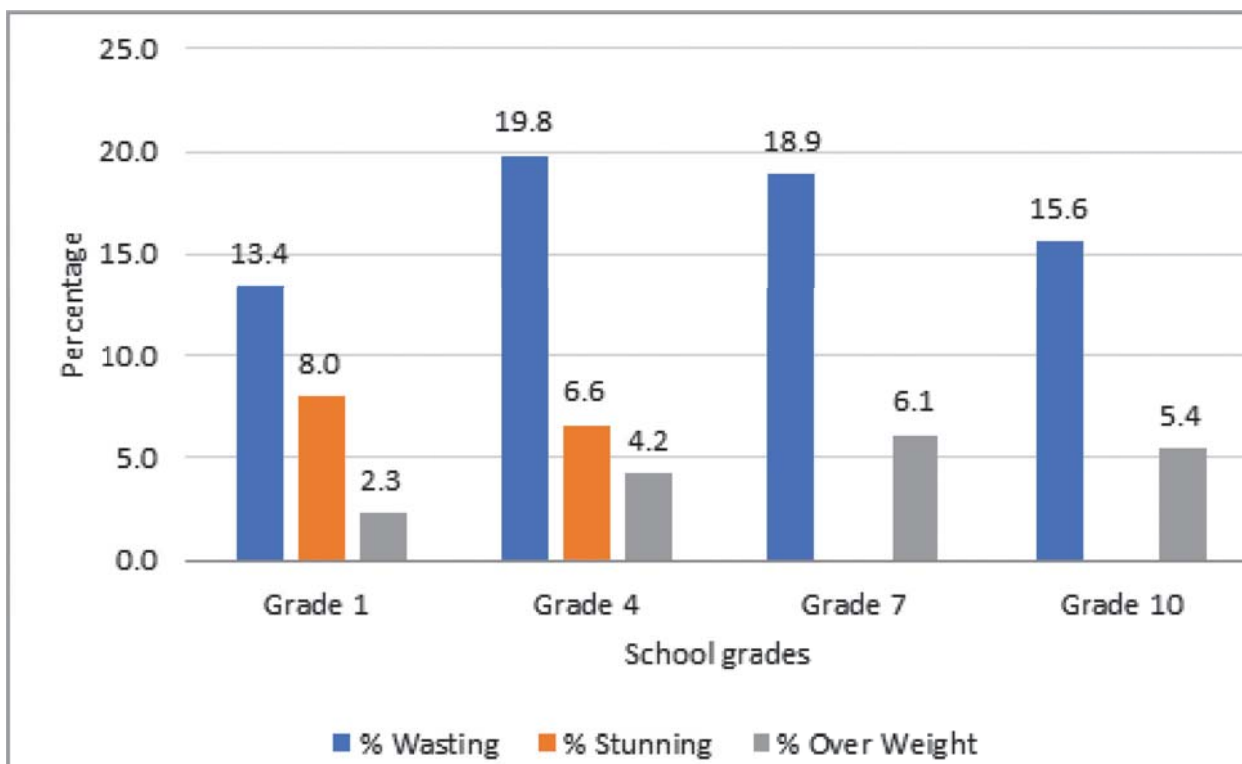


Figure 7.6: Percentage of school children in different grades with stunting, wasting and overweight in 2017

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

- In 2017, 8% and 6.6% of children in grades 1 and 4 were stunted respectively.
- Wasting was higher compared to stunting in grade 1 and 4, while the highest rate of wasting was reported among children in grade 4 (19.8%)

During the year 2017, 118084 (88%) grade 10 students were assessed for their nutritional status. The trends of prevalence of overweight and low BMI among male and female students are given in figures 7.7 and 7.8 respectively. The overall overweight among grade 10

students in 2017 was 6.9%. with 7.4% among females and 6.3% among males. Meanwhile the overall Low BMI among grade 10 students in 2017 was 20% while it is 24.2% among males and 16.1% among females.

Prevalence of both overweight and obesity has increased among grade 10 students according to the Nutrition Month Survey 2017

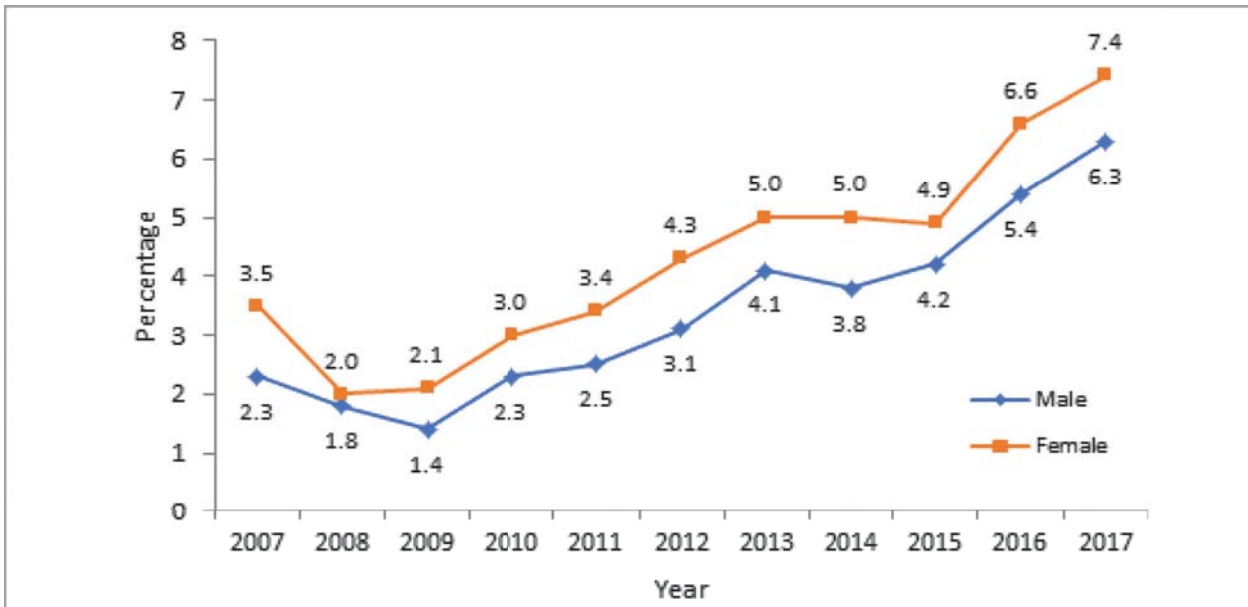


Figure 7.7: Percentages of Grade 10 children with overweight and Obese BMI 2007-2015

Source – Nutrition Month Survey

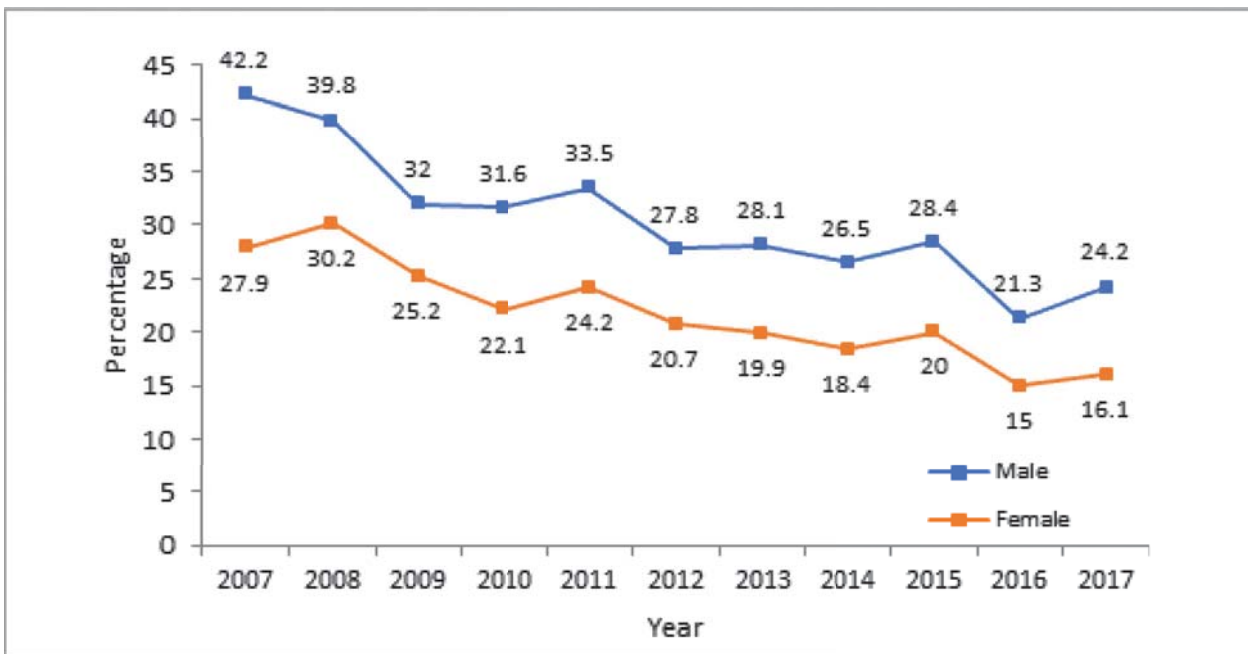


Figure 7.8: Percentages of Grade 10 children with low BMI 2011-2017

Source – Nutrition Month Survey

Prevalence of both overweight and obesity has increased among grade 10 students according to the Nutrition Month Survey 2017. 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 2017.

7.2. Adolescence Health Risk Factors

7.2.1. Teenage Pregnancies

Following continuous interventions at field level, a slight reduction in percentage of teenage pregnancies over 2011 to 2017 was observed from 6.1% to 4.6%. Identification of high-risk adolescents & provision of services through youth friendly health service clinics and strengthening life skills on adolescent sexual reproductive health are some of the main interventions carried out in the field.

Whereas adolescent fertility rate (live births for 1000 15-19yr old girls) remain stagnant over 1975 to 2016 (DHS, 2016) (Figure 7.9). Close to eighty percent out of total teenage pregnancies reported in year 2016 were in age group of 16-18 years (79.3%). However, 2% of teenage pregnancies belonged to the age group under 16 years.

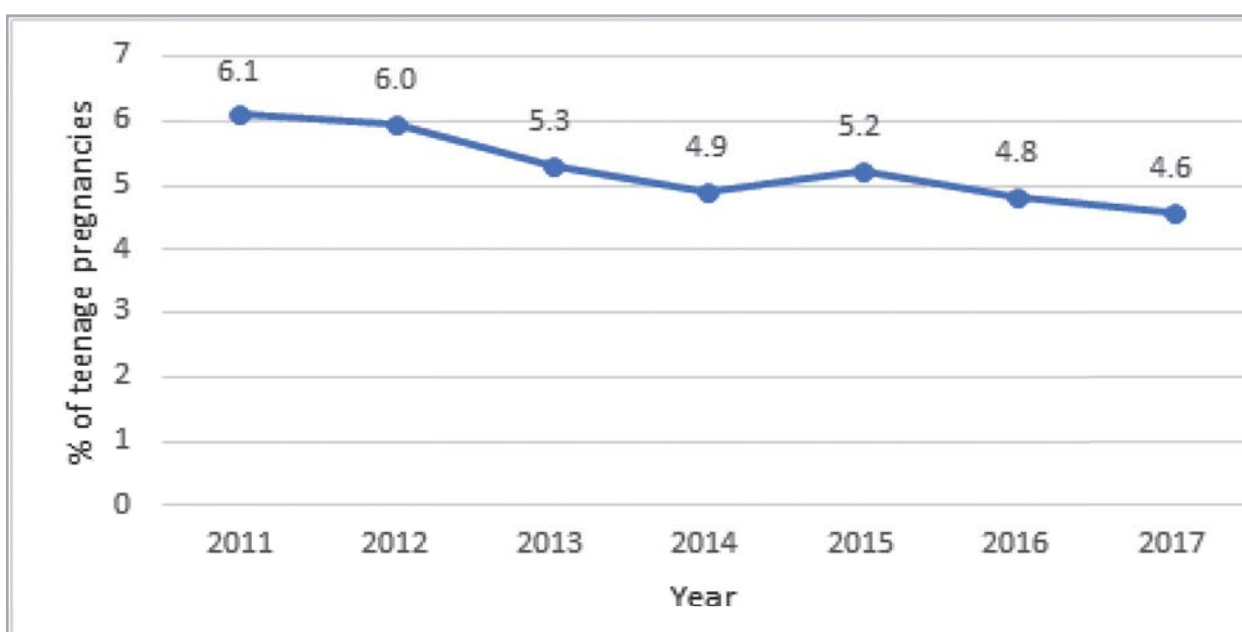


Figure 7.9: Teenage pregnant mothers out of all registered pregnancies

Source: Nutrition Month data - Family Health Bureau

Actions Taken

Several interventions are being carried out at field focusing on reducing teenage pregnancies and improving the sexual health service provision for adolescents. Identifying high risk adolescents, provision of services at field through youth friendly health service clinics and strengthening life skills related to adolescent sexual reproductive health are some of the main interventions carried out in the field.

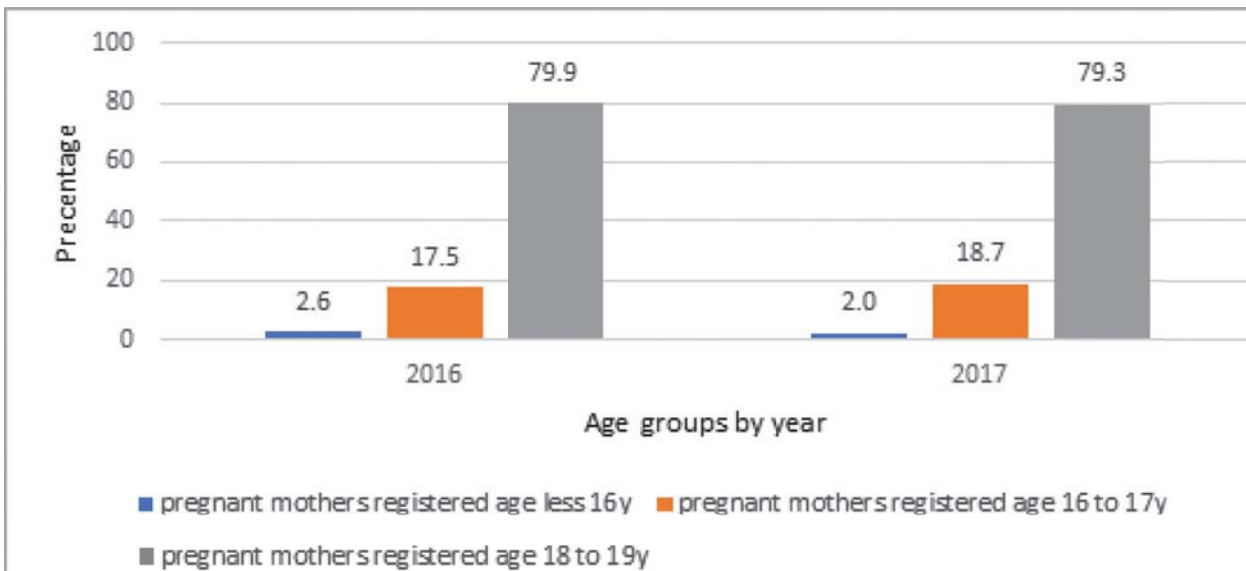


Figure 7.10: Age group wise percentages of teenage pregnancies among pregnant mothers in 2016 & 2017

7.3. Gender-based Violence

Gender Based Violence (GBV) is recognized as a major public health issue which has 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 as a hidden problem since most of the survivors do not reveal about their sufferings due to reasons such as culture, fear of reprisal, and concern over children, shame and internalizing the violence. It is also an ever-increasing burden to the health care services of the country. In addition, the social and economic burden to the country at national level due to GBV is tremendous and, it is currently estimated to be more than that due to malignancies.

Gender Based Violence during pregnancy which is a common occurrence leads to many negative pregnancy outcomes including miscarriages, still births and maternal deaths. Also, GBV in one generation can influence the behaviour of the next generation by a process of learned behaviour. 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 survivors in adult life.

The health sector in Sri Lanka has responded favourably by addressing GBV in the areas of prevention as well as management of the survivors, in an effective manner, cross cutting the health sector. Gender and Women's Health Unit of the Family Health Bureau (FHB) is the national focal point of Ministry of Health for addressing GBV in Sri Lanka. The programmes implemented by FHB include programmes which focus mainly on prevention of GBV, programmes concentrating both prevention and management of GBV and programmes centered mainly on provision of care for survivors of GBV.

Public Health Care workers including Public Health Midwives and Public Health Inspectors are trained by FHB to conduct GBV prevention activities and also to identify survivors of GBV, to provide basic emotional support and to refer for other supportive services.

Following are the national level statistics on persons identified with GBV at field level

Table 7.2: Survivors of Gender Based Violence identified at field level (National data)

		2016	2017
No. of survivors identified at field level	Men	1,365	2,649
	Women	4,769	6,157
No. of survivors given emotional support at field level		3,298	4,103
No. of survivors referred for other supportive services		1,096	2,438

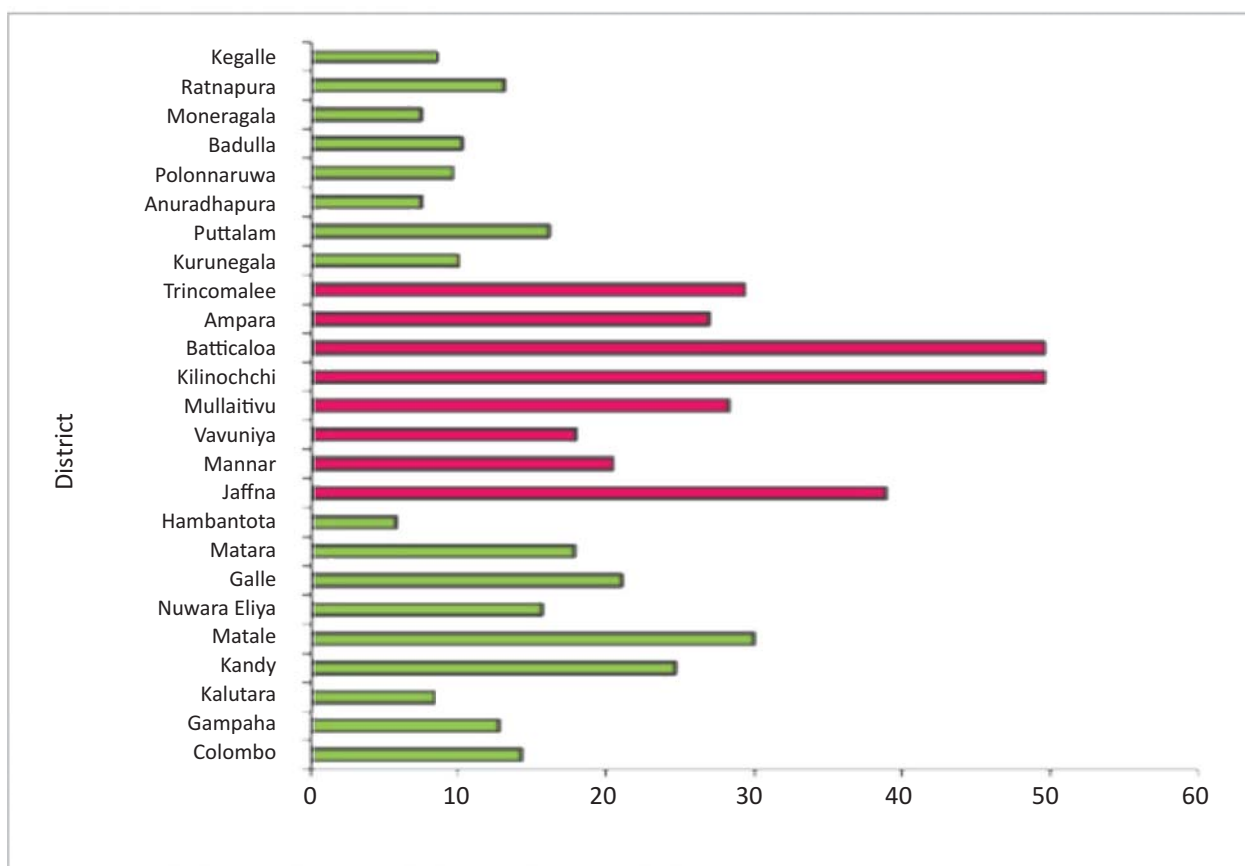


Figure 7.11: Prevalence of domestic violence by district

Source: Sri Lanka Demographic and Health Survey 2016

As seen in figure 7.11, highest domestic violence prevailed in Northern & Eastern Provinces.

Actions Taken

Gender Based Violence care centres named “Mithuru Piyasa/ Natpu Nilayam” are established at state sector hospitals, which were dedicated to provide emotional and

medical support to survivors of GBV. These centres are operated by the hospital staff working in the out patient’s department. The staff of Mithuru Piyasa centres were extensively trained by FHB prior to establishment of “Mithuru Piyasa/ Natpu Nilayam” centres. Fifty seven (57), hospital based “Mithuru Piyasa/ Natpu Nilayam” centres were established in Sri Lanka covering all the provinces, by the end of year 2017.

Table 7.3: Service provision for GBV survivors through “Mithuru Piyasa “ centres- 2011-2017

Year	Number of “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	1,010
2012	08	870	355	432	249	1,906
2013	16	1,722	726	827	471	3,746
2014	20	2,949	1,360	1,309	717	6,335
2015	31	4,670	2,683	2,135	1,261	10,749
2016	46	7,426	4,131	2,977	2,194	17,028
2017	57	7,463	4,743	3,276	2,834	18,316

Source : Family Health Bureau

7.4. Risk factors for Non Communicable Diseases

7.4.1. Prevalence of behavioural and intermediate risk factors for NCD

- Among the screened population at HLCs across the country, nearly 25% were overweight with BMI>25Kgm²
- Among the screened population, 20% had raised blood pressure (systolic >140mmHg and/or diastolic >90mmHg)
- There is a 27.5% reduction of alcohol consumption among males in the year 2017 compared to 2014
- Current smoking among males shows a 24.4% reduction in 2017 compared to that of the year 2014.
- The age of initiation of alcohol consumption and tobacco smoking continuously remains within the 16-20years age group.

Table 7.4 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 7.4: Prevalence of behavioral 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 ≥25)	19.6%	30.4%	25%	24.6%	34.3%	29.3%
Obese (BMI≥30)	3.6%	5.9%	4.7%	3.5%	8.4%	5.9%

Source: STEPs Survey 2015

Prevention and control of Alcohol use

Table 7.4 indicates the prevalence of alcohol consumption in the year 2015 compared to that of the year 2007.

The prevalence of alcohol consumption among males from 2014 to 2017 is shown in Figure 7.12.

There is a 27.5% reduction in the prevalence of alcohol use among males in 2017 compared to the prevalence in 2014

Table 7.5: Prevalence of alcohol consumption among Sri Lankans

Sex	Consumption rate	
	2007	2015
Female	1.2%	0.5%
Male	26.0%	34.8%
Both sexes	13.5%	17.9%

Source: STEPs Survey 2015



Figure 7.12: Trend in alcohol consumption among Sri Lankan males

Source: ADIC

However, the main age of initiation of alcohol consumption has been within the age group of 16-20 years continuously. In the year 2017, 56.7% of males within the age group of 16-20 years had initiated consuming alcohol.

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”.
- The National strategic plan on prevention of alcohol was developed in the year 2017
- 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.

Way forward

- Establishment of at least one Alcohol Rehabilitation Centre per district
- Strengthen collaboration to implement multi-sector action plan on alcohol prevention and control

Prevention and control of Tobacco smoking

There is a 24.4% reduction in current smoking among males in 2017 compared to that of the year 2014

Figure 7.13 shows the rate of current smokers in the country from 2014 to 2017. However, the age of initiation of smoking continuously remains within the 16-20 years age group.

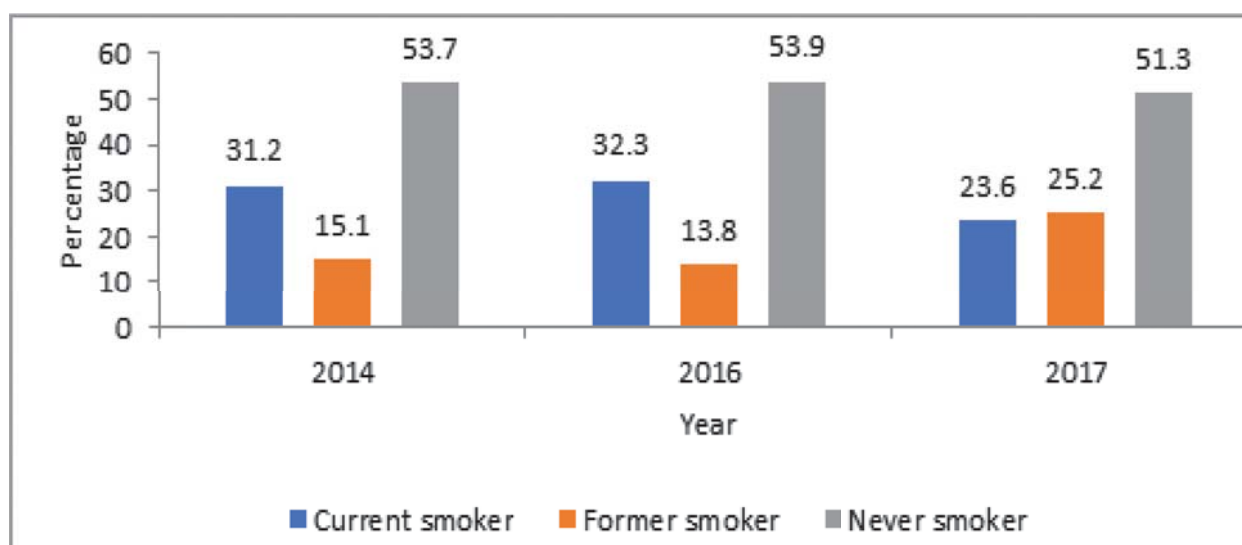


Figure 7.13: Prevalence of current smoking among males

Source: ADIC

7.4.2. Prevalence of risk factors among the screened population

The national programme for prevention and control of non-communicable disease has taken an initiative to establish Healthy Life Style Centres (HLCs) across the island to screen the general population for NCDs and to promote lifestyle modification. The target group to screen at HLCs is 40 – 65 years.

Main objective of screening is to identify behavioural and intermediate risk factors and

to intervene early to prevent a CVD event. In addition, this screening also provides an opportunity for early detection and early initiation of treatment for NCDs to prevent complications among the diagnosed patients.

The prevalence of behavioural and intermediate risk factors of NCDs among the screened population is shown in Table 7.6.

Table 7.6: Prevalence of behavioural and intermediate risk factors among the screened population from 2013-2017

Behavioural or intermediate risk factor	Number (%) of screened population with risk factor				
	2013a	2014b	2015c	2016d	2017e
Fasting blood glucose >126 mg/dl	37,980 (11.58)	48,853 (12.75)	41,372 (10.57)	33,845 (10.79)	60,998 (11.1)
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)	110,549 (20.17)
Overweight (BMI ≥25 kg/m ²)	90,686 (27.65)	100,618 (26.26)	99,873 (25.53)	78,695 (25.09)	136,137 (24.84)
Obese (BMI ≥30 kg/m ²)	29,255 (8.92)	29,043 (7.58)	32,300 (8.26)	24,955 (7.96)	41,440 (7.56)
Current tobacco smoker	18,170 (5.54)	25,557 (6.67)	26,826 (6.86)	21,356 (6.80)	30,986 (5.65)
Current drinker	40,604 (12.38)	28,775 (7.51)	29,836 (7.63)	25,339 (8.08)	41,829 (7.63)
Smokeless tobacco user	21,089 (6.43)	53,604 (13.99)	53,651 (13.71)	45,230 (14.42)	66,265 (12.09)
With 10-year CVD risk ≥30%	1,836 (0.56)	1,724 (0.45)	2,268 (0.58)	908 (0.29)	1,794 (0.33)

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

e: 163638 men screened; 384410 women screened; total population screened: 548048

Source: Directorate of NCD

The district wise prevalence of behavioural and intermediate risk factors of NCDs among the screened population in the year 2017 is given in the Annexure II, Table 5.

7.5. Physical Environment

Safe drinking-water, sanitation and hygiene protect people from disease and are crucial to human health and wellbeing. Achieving safe and affordable drinking water and access to adequate and equitable sanitation and hygiene for all by 2030 is one of the Sustainable Development Goals.

7.5.1. Safe Drinking Water

The World Health Organization's (WHO) guidelines for drinking water quality (4 th Edition) recommended Water Safety Plans (WSPs) as the most effective means of consistently ensuring the safety of a drinking water supply.

Actions taken

Water Safety Plan implementation of Sri Lanka continued from the year 2015 under the advocacy and implementation support from the WHO.

At the end 2016, there were 82 urban Water Safety Plans implemented Island - wide in various stages by the Deputy General Managers of Regional Support Centres (RSCs) with assistance of Water Safety Plan Advisory Unit established in Kandy. Eleven Urban WSP training programs were conducted for all RSCs under the Man-power Development Section of the National Water Supply & Drainage Board (NWSDB). In addition, 16 Water Supply Schemes were evaluated by international Water Safety Plan Auditing Programs.

Recommendations

- Implementation of Water Safety Plans in all Water Supply Schemes under NWSDB by the year 2020 to have sustainable and efficient water utilities according to the agreed road map

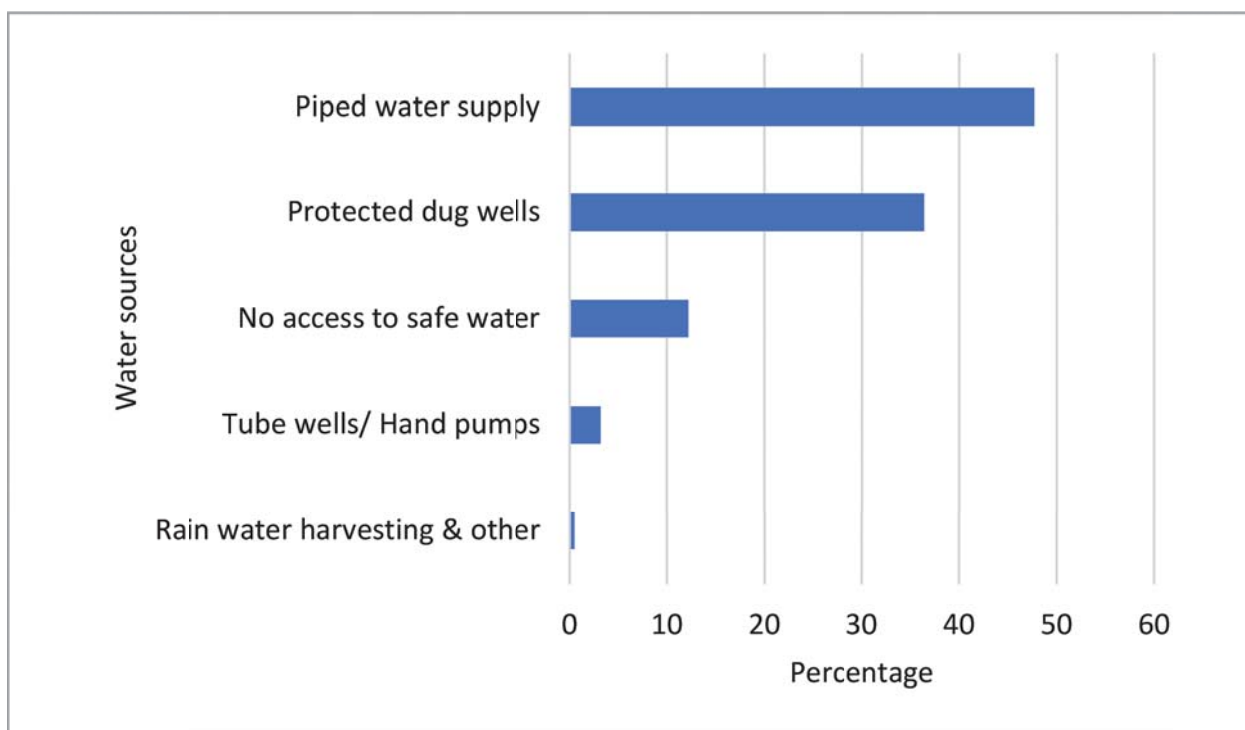


Figure 7.14: Access to safe water coverage

Source: National Water Supply & Drainage Board - Annual Report 2016

Chronic Kidney Disease of unknown aetiology (CKDu) Prevention Programme by National Water Supply & Drainage Board

CKDu has become one of the most serious public health issues of national concern in Sri Lanka. The underline aetiology of the CKDu have been yet unknown and is yet to be identified. As the disease is proved to be endemic, it is highly believed to be an environmentally induced disease.

The National Water Supply and Drainage Board (NWSDB) developed a strategy and work plans to provide safe drinking water to CKDu affected areas according to the recommendations by WHO and medical professionals.

This plan includes short term, medium term and long term strategies. The program covers the CKDu affected areas in all affected provinces. For this program 1000 million rupees has been allocated for the year 2016 and this budget has been used for providing medium

term and short term solutions for CKDu affected areas.

(Source: National Water Supply & Drainage Board - Annual Report 2016)

7.5.2. Sanitation

Figure 7.15 indicates the percentage of households with improved, not shared, sanitation facilities by Urban, Rural, Estate sector. It is evident that estate sector is still lagging behind the other sectors as expected.

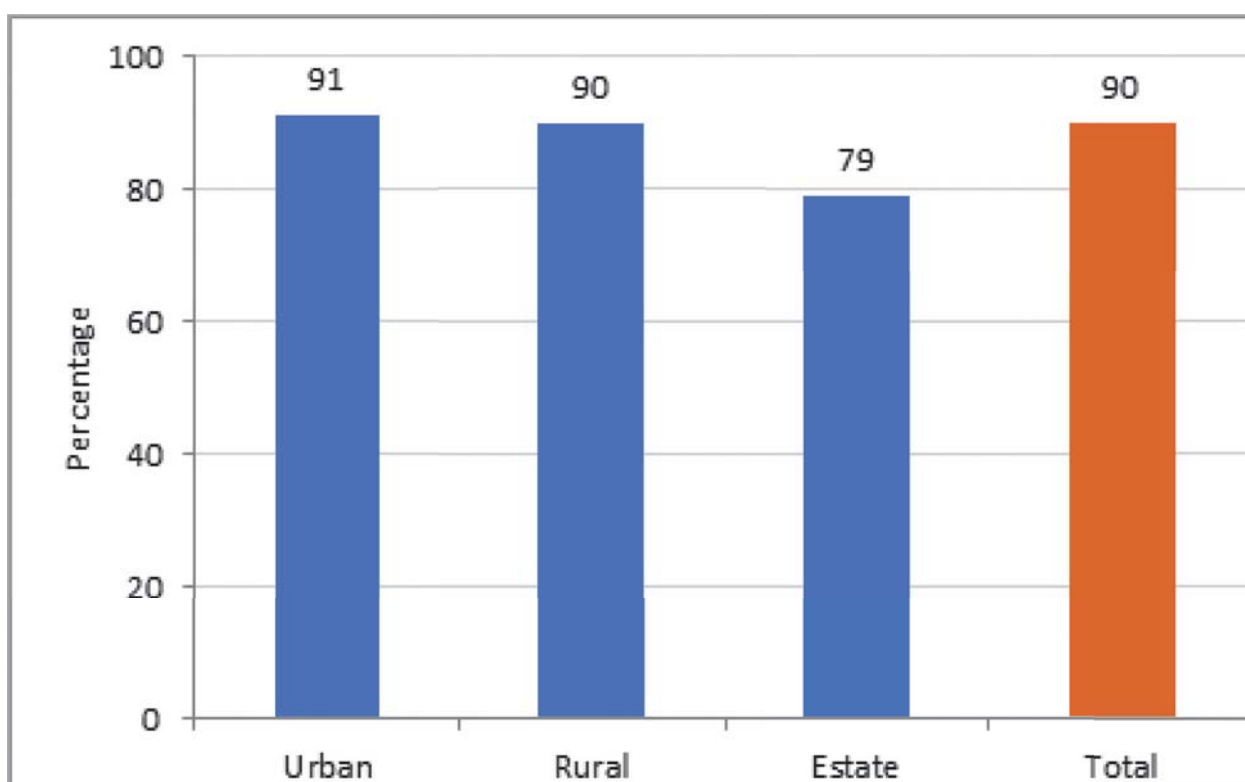


Figure 7.15: Percentage of Households with improved, not shared, sanitation facilities by Urban, Rural, Estate sector

Source: DHS 2016

Service Coverage

In 2017...

Only **2.7%** eligible families were **Reported** as *subfertile*

50% have been visited by PHM
94% Infants have been **Registered** by PHM

33% of primi mothers attended atleast **one** Session of **Pre-conception care**

93.2% **SMI** Coverage

96% of all pregnant mothers **REGISTERED** for antenatal care services

19.4% **WWC** Attendance

Almost **ALL DELIVERIES** had taken place in healthcare institutions

>95% Immunization Coverage

2:5 caesarean sections rate

282 MOH areas with >2 HLCs

Service Coverage

* SMI - School Medical Inspection
WWC - Well-Women's Clinic (compared to 2013)
MOH - Medical Officer of Health
HLC - Healthy Lifestyles Center

8. 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 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 effect of the service provided. The assessment of the service coverage indicators is a critical dimension to tracking performance

8.1. Service coverage indicators

According to the WHO publication on 2018 Global Reference List of 100 core health indicators (plus health-related SDGs); “Service coverage indicators reflect priorities across the spectrum of health services including reproductive, maternal, newborn, child and adolescent, immunization, HIV, TB, malaria, neglected tropical diseases, noncommunicable diseases, mental health and substance abuse.” The service coverage indicators published in the 2018 Global Reference List of 100 core health indicators (plus health-related SDGs) are stated in the next page. Out of these service coverage indicators, some indicators were selected to be included in the Annual Health Bulletin 2017 based on availability of information through the current routine health information system. Further, related indicators suggested by the service providing agencies were also included in this section.

Service coverage indicators reflect priorities across the spectrum of health services including reproductive, maternal, newborn, child and adolescent, immunization, HIV, TB, malaria, neglected tropical diseases, noncommunicable diseases, mental health and substance abuse.

Reproductive, maternal, newborn, child and adolescent

- Demand for family planning satisfied with modern methods [SDG 3.7.1]
- Contraceptive prevalence rate
- Antenatal care coverage
- Births attended by skilled health personnel [SDG 3.1.2]
- (Also: institutional delivery – overall and in “baby-friendly” institutions)
- Postpartum care coverage – women
- Postnatal care coverage – newborn
- Care-seeking for symptoms of pneumonia
- Coverage of diarrhoea treatment
- Vitamin A supplementation coverage

Immunization

- Immunization coverage rate by vaccine for each vaccine in the national schedule [SDG 3.b.1]

HIV

- People living with HIV who know their status
- Prevention of mother-to-child transmission
- Antiretroviral therapy (ART) coverage
- HIV viral load suppression

HIV / TB

- Coverage of treatment for latent TB infection (LTBI)
- HIV test results for TB patients
- HIV-positive new and relapse TB patients on ART during TB treatment

Tuberculosis

- Drug susceptibility testing coverage for TB patients
- TB treatment coverage
- Treatment coverage for drug-resistant TB

Malaria

- Intermittent preventive therapy for malaria during pregnancy (IPTp)
- Use of insecticide treated nets (ITNs)
- Treatment of confirmed malaria cases
- Indoor residual spraying (IRS) coverage

Neglected tropical diseases

- Number of people requiring interventions against neglected tropical diseases [SDG 3.3.5]
- Coverage of preventive chemotherapy for selected neglected tropical diseases

Screening and preventive care

- Cervical cancer screening

Mental health

- Coverage of services for severe mental health disorders

Substance abuse

- Treatment coverage for alcohol and drug dependence [SDG 3.5.1]

Essential health services

- Coverage of essential health services [SDG 3.8.1]

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

8.2.1. Reproductive Health

Family planning is an important component of reproductive health services provided by Ministry of Health, Nutrition and Indigenous Medicine. The objective of the National Family Planning Programme is to enable all the couples to have a desired number of children with optimal timing and spacing. Sri Lanka records the best family planning performance in the region, and it has contributed to the impressive health indicators and socioeconomic development.

Two main outcome indicators are used to assess the Family Planning Programme. These are new acceptor rates and current user rate. Two definitions are used in describing the indicators:

- Current user is a woman/man (eligible family) who is using any method of contraception at a given point of time. This indicator provides the Contraceptive Prevalence Rate (CPR) among eligible families for a given year.
- A new acceptor is defined as a woman/man using a particular modern contraceptive method for the first time from any service provider belonging to the national programme.

Unmet need for family planning means a fertile woman married or living in union, not using any contraception, not wanting any more children or wanting to postpone for at least two years.

Contraceptive prevalence rate and unmet need for family planning

Of the eligible families registered by PHMs (n= 3,805,213) 67.3% had been using any method at the end of year 2017, the proportion of modern methods and traditional methods users were 57.9% and 9.4% respectively. A consistent decline in the unmet need for family planning is observed in the recent past (a 15% decline since 2013). However, the overall contraceptive prevalence seems to be fluctuating. Further reduction in unmet need is also important if the maternal morbidity and mortality are to be reduced further.

In order to improve this situation, new strategies like targeting special groups and involvement of the private sector are being explored.

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).

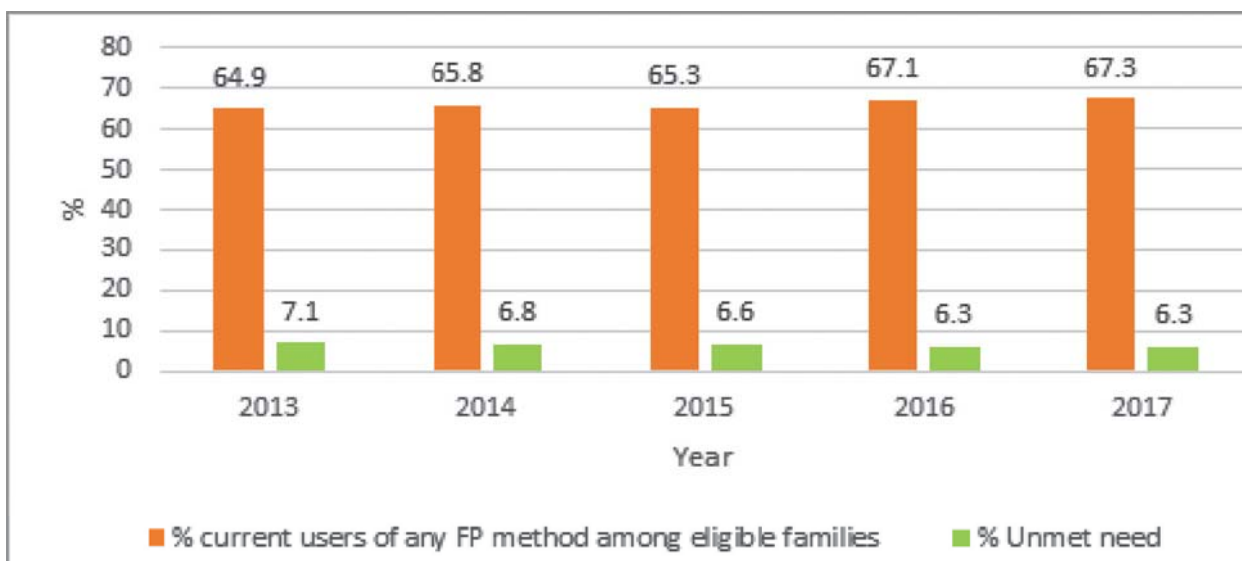


Figure 8.1: Contraceptive Prevalence Rate and the Unmet Need for family (2013-2017)

Source: RHMIS, Family Health Bureau

Eligible families – as reported by the PHM in H 509

New Acceptors of family planning

During 2017, 168,120 couples had been recruited for various contraceptive methods (i.e. new acceptors).

Out of total new acceptors, 90.6% had accepted temporary methods as a new method from the programme during 2017

Table 8-1 : Contraceptive methods new acceptors by method from 2013 - 2017

Item	2013	2014	2015	2016	2017
New Acceptors (No.)	181,645	127,130	153,901	157,191	168,120
IUD	52,917	40,813	44,916	37,517	32,986
Oral Pills	43,556	26,644	33,279	27,609	26,080
Sterilizations	15,771	11,657	14,919	14,806	16,106
Injectable	34,713	8,195	14,491	36,322	49,262
Implants	34,688	39,821	46,796	40,937	43,686

Source: FHB RHMIS 2017

Prevalence of modern family planning methods

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. The most popular temporary method of contraception in 2017 has been IUDs (11.1%), followed by injectables (10.8%), OCPs (9.2%) and condoms (8.9%). Approximately 12.9% of

eligible families practice female sterilization (LRT) for fertility control.

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

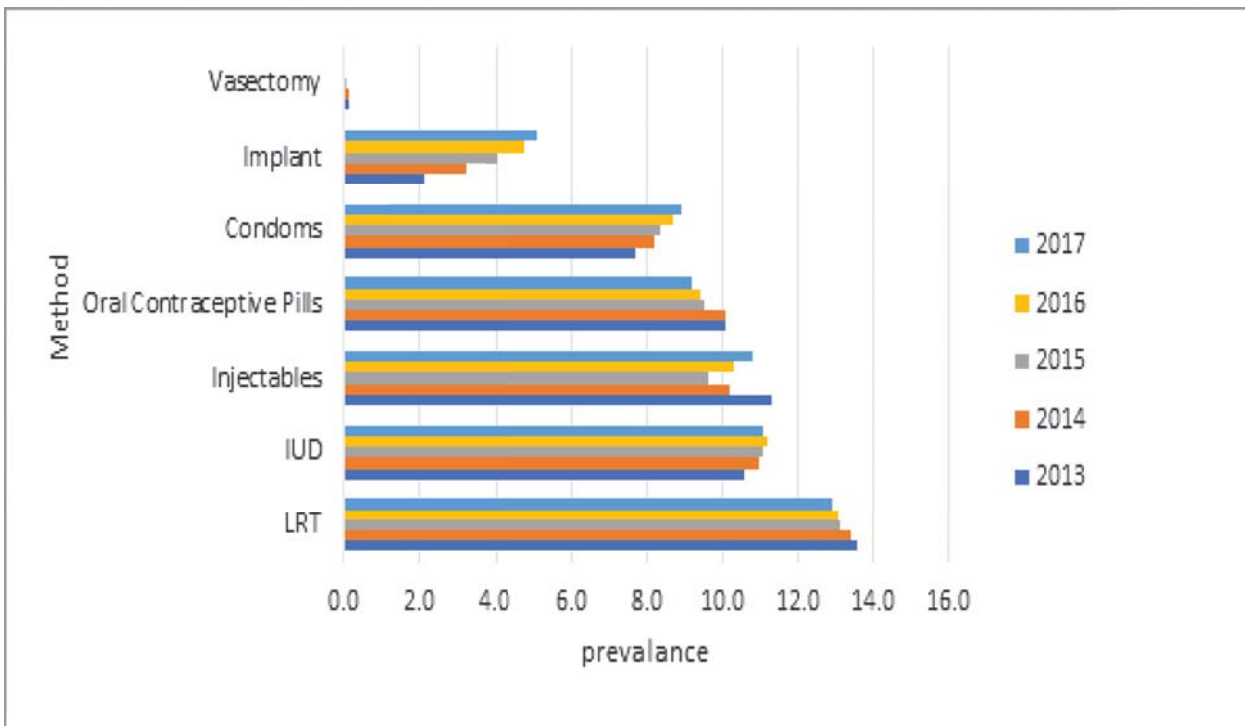


Figure 8.2: Modern family planning methods used by eligible families 2013 -2017

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

Services for subfertile couples

Provision of services for subfertile couples is an important component of the National Family Planning programme. Field staff identify subfertile couples among the families registered in the Eligible Family Register and refer them for further management. However, reporting of subfertility is low and in 2017 it was only 2.7% which again is a grossly under-reported value.

Under-reporting of subfertility: In 2017, only 2.7% of eligible families were reported as subfertile

8.2.2. 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 2017, one third of primi mothers have attended at least one session of pre-conception care

In 2017, out of all primi mothers registered by PHMs, 32.6% have attended at least one session of pre-conception care and 26.6% have attended both sessions.

8.2.3. Antenatal Care coverage

The registration of pregnant mothers has been more than 90% over the years and in 2017 it was 95.6%. Out of them, over 79.4% registered for care before 8 weeks of amenorrhea and this number has been rising over the last few years from 72% to 79%. 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.

In 2017, 96% of all pregnant mothers registered for antenatal care services

Table 8-2 : Pregnant mother registration and provision of care through the National Programme (2013- 2017)

Indicator	2013	2014	2015	2016	2017
Pregnant mothers registered by PHMs out of estimated pregnancies	90.0	91.2	93.5	99.1	95.6
Pregnant Mothers registered before 8 weeks	75.4	76.2	77.1	78.5	79.4
Pregnant Mothers registered between 8-12 weeks	17.7	17.4	16.5	14.9	14.3
Pregnant mothers protected with Rubella at registration	97.0	98.2	97.6	96.6	98.2
Pregnant mothers tested for VDRL at the time of delivery	99.7	98.1	98.7	99.9	98.7
Pregnant mothers blood group tested at the time of delivery	99.9	97.8	99.0	99.9	99.4
Pregnant mothers protected for Tetanus out of reported deliveries	99.9	97.8	99.3	99.9	99.3

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

In 2017, 90.9% of registered pregnant women were visited at least once at home by the

PHM, and 96.3% of them attended at least one field clinic visit

Table 8-3 : Antenatal Service coverage by Public Health Staff for the past five years (2013-2017)

Indicator	2013	2014	2015	2016	2017
Registered pregnant mothers visited at least once at home by PHM	91.3	90.2	88.5	90.3	90.9
Registered pregnant mothers attended at least one field clinic visit	94.8	95.5	94.6	94.7	96.3

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

8.2.4. Perinatal and Postnatal Care Coverage

Pregnancy outcome was reported for 86.4% of pregnancies registered with the PHM. Almost all reported deliveries in 2017 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 37% 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.

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

Table 8-4 : Pregnancy outcome and postpartum care for mothers registered during 2013 - 2017

Indicator	2013	2014	2015	2016	2017
% of pregnancy outcome reported out of registered pregnancies	91.5	93.7	95.8	85.0	86.4
% of deliveries reported out of total live births registered	87.7	91.6	96.2	93.7	92.3
% of deliveries reported out of total estimated pregnancies	76.7	75.3	78.4	91.4*	83.9
% of institutional deliveries out of the total reported deliveries	99.9	99.7	99.9	99.9	99.9
Number of home deliveries	336	525	280	222	246
% of Home deliveries out of total reported deliveries	0.1	00.09	0.09	0.07	0.1
Postpartum mothers receiving at least 1 visit by PHM during 1st 10 days out of estimated births	80.6	79.3	73.6	76.2	80.8
Postpartum mothers receiving 1 visit by PHM during 1st 5 days out of estimated births	-	-	67.2	66.1*	63.5
% Caesarean sections out of total institutional reported deliveries	31.8	32.1	33.8	36.3	37.3
The average number of home visits during first 10 postpartum days	2.0	1.7	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.

8.2.5. Infant and Childcare service coverage

Coverage of infant and childcare services by field staff

The PHM should register infants for domiciliary and clinic care which includes immunization, growth assessment and development. In 2017, nearly 94% of infants have been registered by PHMs, and out of registered infants, 50% 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 8.5).

While the percentage of infants weighed was 87.5%, it was 78% in 1-2-year age group and, 80.3% among the 2-5-year group. More attention should be paid to increase the weighing coverage of the 1-2 and 2-5-year age groups by field staff.

More than 75% 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 8-5 : Infant and childcare provided by the field staff he last five years

Indicator	2013	2014	2015	2016	2017
Infants registered by PHMM	91.7	90.6	89.3	95.3*	94.1
% Infants having at least 1 home visit after 42 days out of registered infants	63.9	58.0	53.7	53.4	50.3
Average number of home visits per infant	7.4	7.5	7.0	7.2	6.9
Weighing					
% of infants weighed	85.7	84.3	88.2	88.4	87.5
% of young children (1-2 years) weighed	79.3	77.1	80.2	79.2	78.7
% of 2 - 5 years children weighed	77.8	63.0	78.7	80.5	80.3
Clinic attendance					
% of infants making at least one clinic visit (of registered infants)	99.6	99.1	100	100	100
The average number of clinic attendance for an infant	5.2	5.3	4.5	4.7	4.7
Vitamin A supplementation					
% of estimated infants given Vitamin A at 6 months	68.9	68.8	71.6	80.5	78.7
% of estimated children given Vitamin A at 18 months	70.7	71.9	74.9	80.6	86.1
% of estimated children given Vitamin A at 3 years	71.4	73.1	74.5	90.5	91.2

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

*Before 2016 calculated out of first visits by PHM, from 2016 were based on the number of births actually registered by RG for the year.

8.2.6. 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.

3,976,852 children. The SMIs were conducted in 9,505 schools resulting in overall school coverage of 93.2%. Follow up visits by the PHI for the students identified with correctable defects were closely monitored at the monthly MOH conferences.

There were 10,194 schools and 1,634,751 children to be examined out of the enrolled

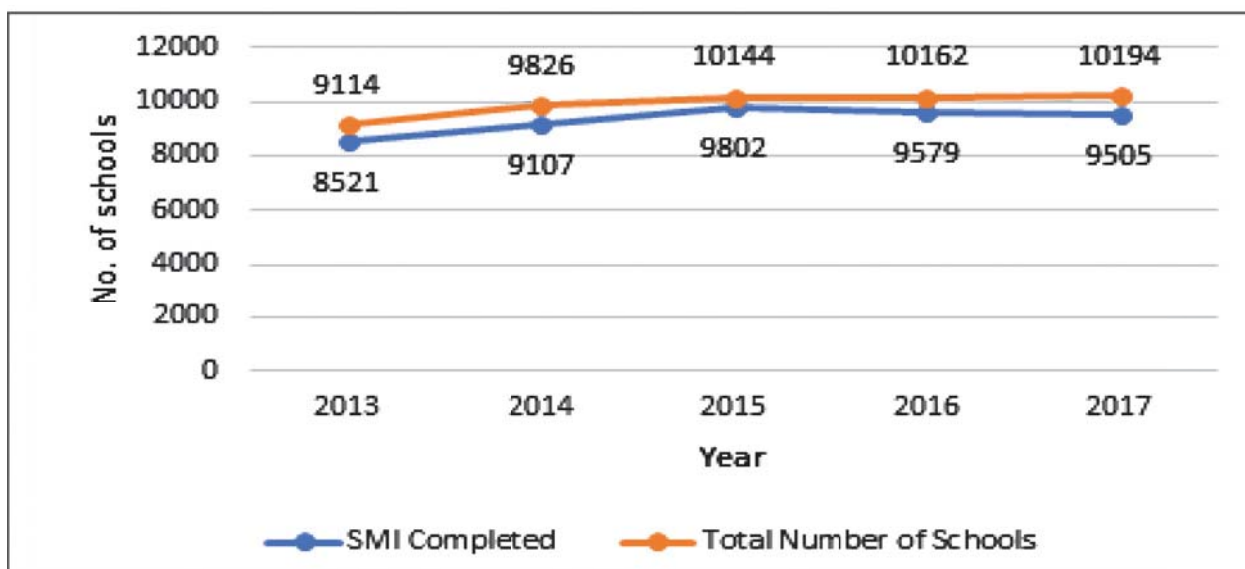


Figure 8.3: Total number of schools and number of schools where SMI were conducted increased over the last five years (2013 to 2017)

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

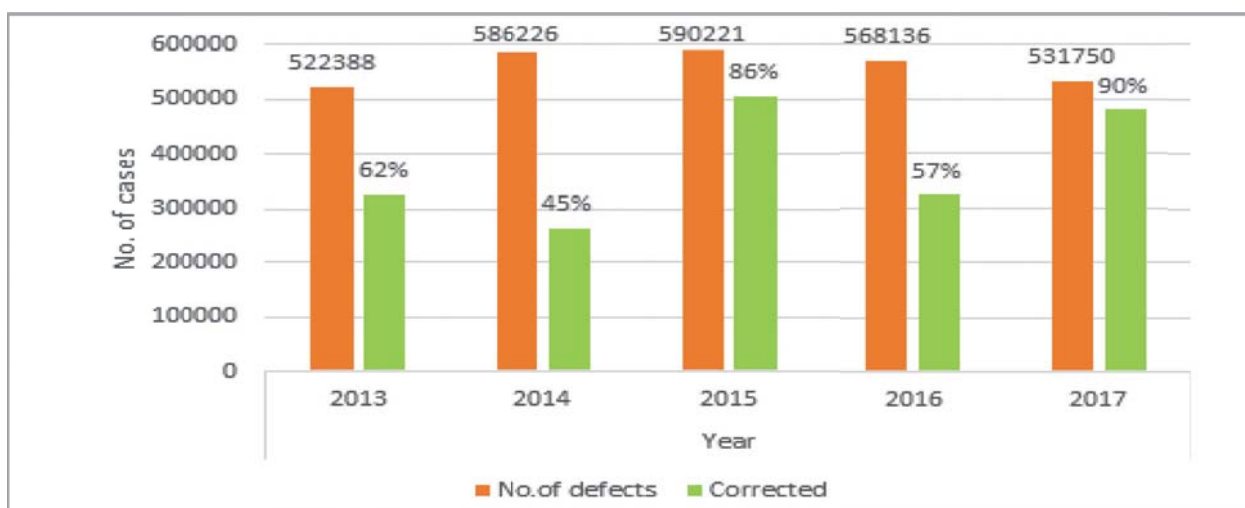


Figure 8.4: Progress of the SMI follow up 2013 – 2017

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

8.3. 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).

Percentage of the target population that has received the last recommended dose of the basic series for each vaccine recommended in the national schedule by vaccine. This should include all vaccines within a country's routine immunization schedule

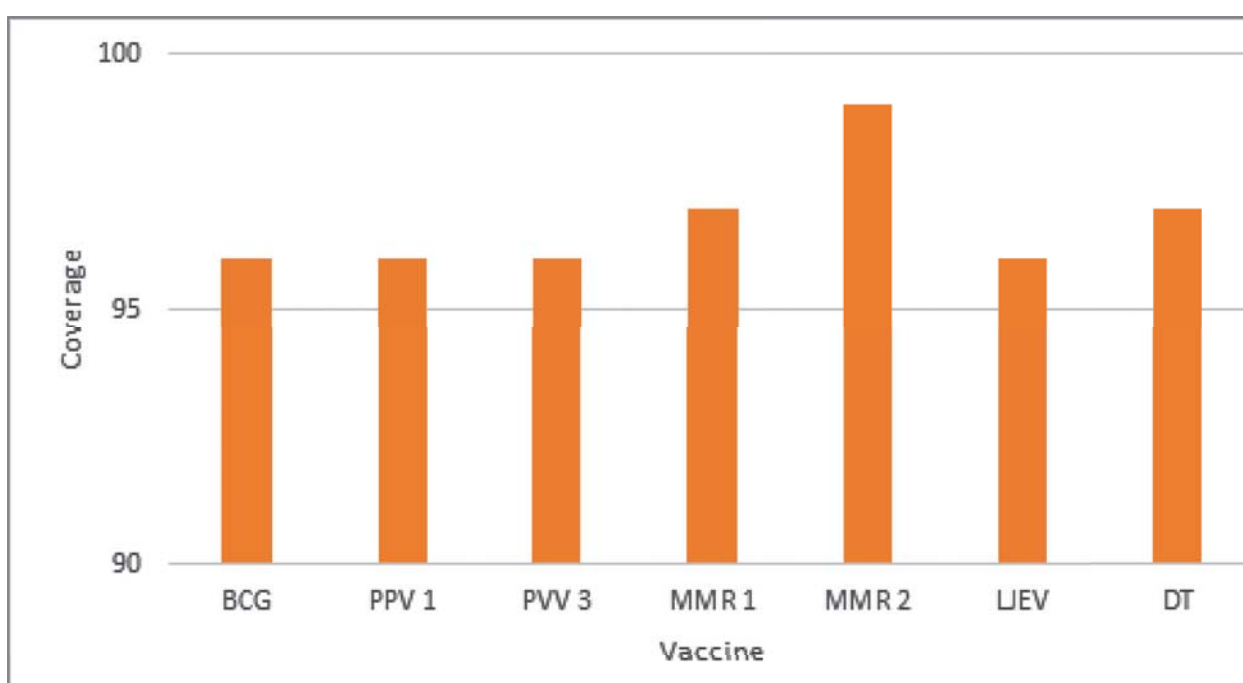


Figure 8.5: Immunization coverage

Source: Epidemiology Unit

Immunization coverage for all vaccines of the Expanded Programme of Immunization (EPI) is above 95% (Figure 8.5). Please see Annexure-II for more details on;

- Anex 2, table 1: Incidence of Expanded Programme of Immunization (EPI) Target Disease 1955-2017;
- Anex 2, table 2: Immunization Coverage by (RDHS) area, 2016; and
- Anex 2, table 3: Number of Selected Adverse Events by Vaccination in 2016 (for further information)

Immunization coverage for all vaccines of the Expanded Programme of Immunization (EPI) is above 95%

8.4. HIV service coverage

8.4.1. People living with HIV who know their status

According to The Joint United Nations Programme on HIV/AIDS (UNAIDS), 90-90-90 treatment targets need to be achieved to get the goal of “Ending AIDS epidemic”. 90-90-90 treatment targets are given below.

- I. 90% of all PLHIV know their HIVh status
- II. 90% of all PLHIV diagnosed receive ART
- III. 90% of all people on ART have viral suppression

**68% of PLHIV know their status,
54% of them are on ARV treatment
93% of them are virally suppressed**

33.9% in 2013 to 53.3% in 2017 (n=114,314). (see figure 8.6 below)

Ten districts had an overall coverage of over 60%: Ampara, Anuradhapura, Badulla, Batticaloa, Hambantota, Kegalle, Matale, Monaragala, Nuwara Eliya and Polonnaruwa. (see figure 8.7 below)

The 35- year age cohort of women attending well women clinics had steadily gone up from 33.9% in 2013 to 53.3% in 2017

8.5. Screening and preventive care

8.5.1. Well women service coverage

The target age group for Well Women Clinic services are women aged 35- 60 years (i.e. nearly 25 percent of the population in Sri Lanka). The WWC services are implemented through a network of over 800 clinics in the community as well as in hospital settings. Since 2007, the cohort of females aged 35 years was screened for cervical cancer (pap smears) and in 2016 the cohort of 45-year aged women was also added for compulsory screening for cervical cancer. However, the other women aged 35-60 years who voluntarily request screening are also provided services at WWCs. The overall coverage of women in the 35- year age cohort of women attending well women clinics had steadily gone up from

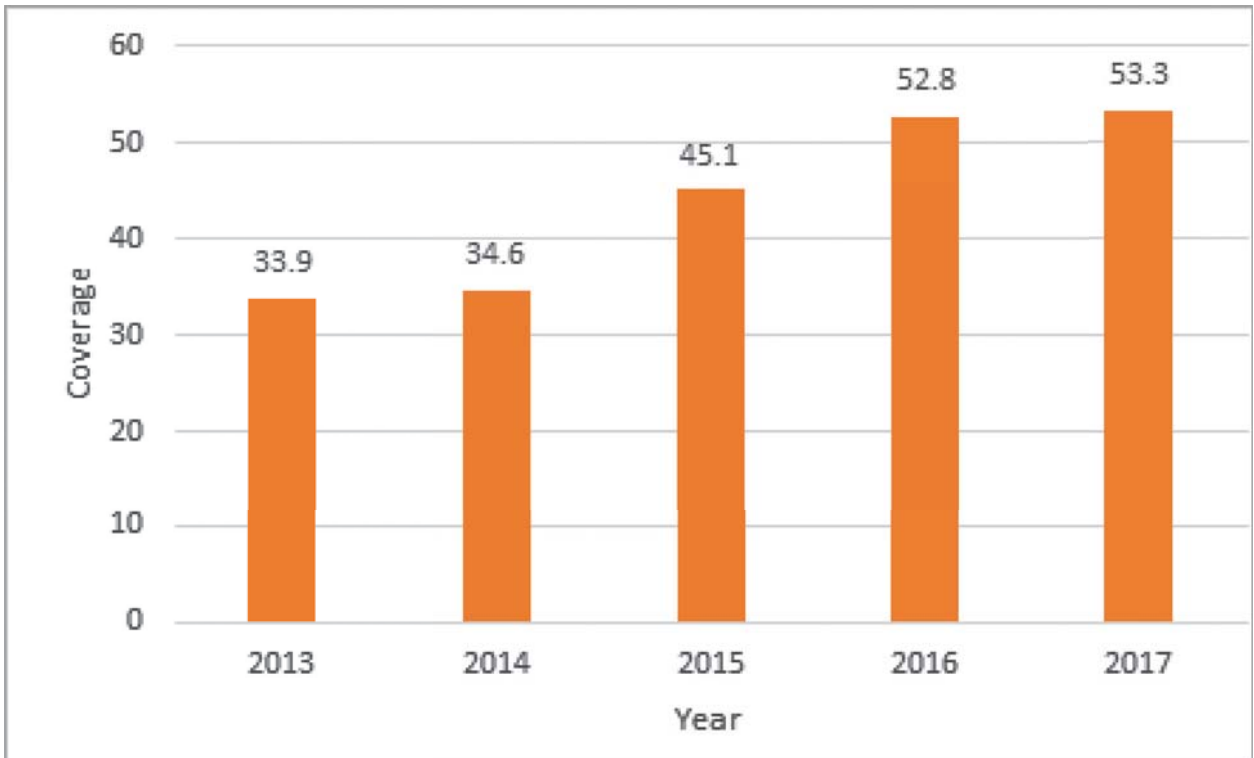


Figure 8.6: Percentage coverage of women in 35 years cohort attending WWCs from 2013 to 2017

Source: Family Health Bureau

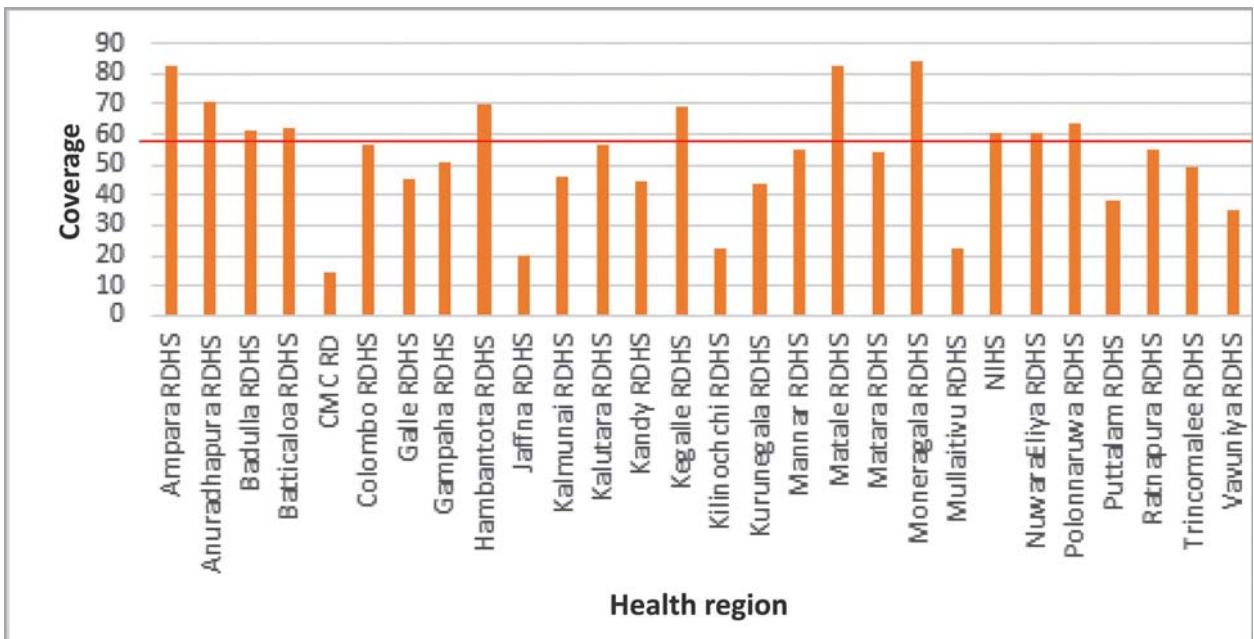


Figure 8.7: Well women clinic service coverage by health districts

Source: Family Health Bureau

Content Source: Family Health Bureau

8.6. Non-Communicable diseases Service Coverage

8.6.1. NCD Screening at Healthy Lifestyle Centres

NCD screening is carried out by 871 HLCs established at primary care Settings. In 2017, the HLCs screened 10.2% of the target population across the country. However, it is noteworthy that male participation at HLCs was poor with a 2.3:1 female: male ratio.

NCD screenings include blood pressure measurement, BMI, Blood sugar (fasting blood sugar or random blood sugar) and total Cholesterol testing and screening for lifestyle risk factors such as tobacco (Smoking and smokeless) use 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 to assess the CVD risk within the next 10 years and if necessary, interventions are offered.

In 2017, there were 282 Medical Officer of Health areas with more than 2 HLCs. Figure 6 shows the Medical Officer of Health areas with two or more HLCs from 2013 to 2017 across the country.

In 2017, there were 282 Medical Officer of Health areas with more than 2 HLCs

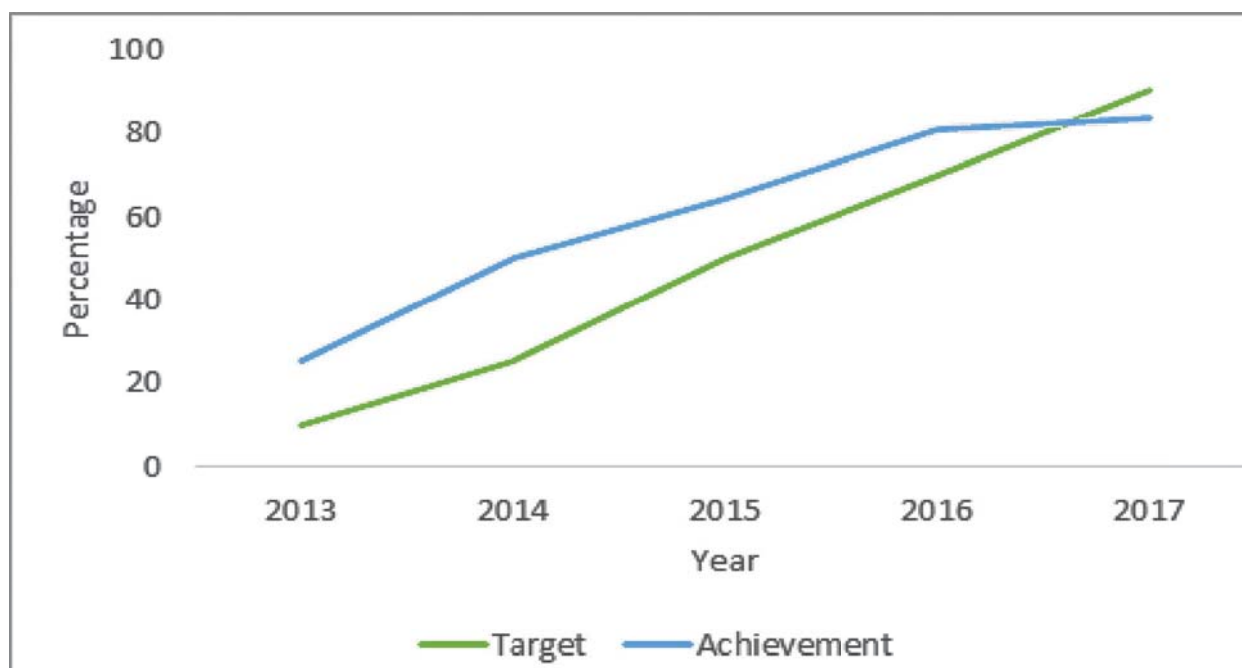


Figure 8.8 : Percentage of Medical Officer of Health areas with at least two healthy lifestyle centers (HLC)

Source: Directorate of NCD

Table 8.6 portrays the coverage of screening of the target population by the HLCs across the country

Table 8-6 : The number and services of Healthy Lifestyle Centres in Sri Lanka, 2011–2017

	2011	2012	2013	2014	2015	2016	2017
Total number of HLCs	126	420	672	760	814	826	871
% of MOH areas in a district with two or more HLCs ^a	-	-	56.0 (187/ 334)	69.5 (235/ 338)	77.8 (263/ 338)	79.6 (269/ 338)	83.4 (282/ 338)
Cumulative % of the target population (aged 40–65 years) screened ^b	2.5	3.8	12.7	19.9	23.1	25.5	42.7
Ratio of men: women screened ^a	-	-	1: 2.7	1: 2.5	1: 2.6	1: 2.7	1: 2.3

HLC: Healthy Lifestyle Centre; MOH: medical officer of health.

^a Data not available for 2011 and 2012.

^b Target population is nearly 25% of the country population.

Source: Directorate of NCD

8.6.2. 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).

8.6.3. 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).

8.6.4. Service availability and readiness assessment

In addition, to obtain an insight about the services availability and the readiness of the institutions to provide services related to the chronic NCDs, Service Availability and Readiness assessment (SARA) Survey was conducted among 755 nationally representative state and private sector hospitals across all levels of care (Primary, secondary and tertiary care), in the year 2017.

The service readiness of the institutions was assessed based on the domains of guidelines and trained staff, equipment, diagnostics and medications and commodities.

Health System



Government owned and operated health institutions provide **full spectrum of healthcare services**



High penetration of public health service provider facilities - on average less than 4.8km from a person's residence



Performance of Sri Lankan health system is remarkably high for Current Health Expenditure of

USD 153
per capita.



Public healthcare service facilities **no user fees** at the point of delivery



Centralized procurement of medicines and other supplies - enhancing the bargaining power of the Ministry of Health



Bypassing of lower level health institutions due to non enforcement of referral system

9. Organization of the Healthcare Delivery System

Government health services encompass preventive, curative, rehabilitative and promotional health care services. However, as a result of the open economy reforms, private healthcare services also had taken off. Notably, following the late 1970's change of economic philosophy, private sector established its presence. Currently, private sector services are mostly established focusing on the curative healthcare service delivery. Large proportion of such services are concentrated in the urban settings where western province having a significant presence of the private sector. The government health service is obligated to play the role of "regulator" for such services as well.

Government health services has a long history. The government health system of the country has performed well in the past enabling citizens to enjoy better health outcomes and impacts. Public services have been the pillar for most of the achievements in healthcare. Successive governments starting from the latter stages of colonial era had committed to maintaining public healthcare services and continuously upgrading the health system. Therefore, public services had improved step by step over the years. As a result, public health services were well set and has continually served people from as far as in 1930's.

Organization of healthcare services is unique to the country. Free health and free education has been part of the political ideology. Therefore, public healthcare service facilities are operated on the principle of ***no user fees at the point of delivery.***

Public healthcare service facilities are operated on the principle of no user fees at the point of care delivery.

Healthcare services structure of the country could be categorized to a Beveridge Model of healthcare which has a close resemblance to the model of post-world war II National Health System (NHS) of Britain. As salient features of the model, Sri Lankan system too has a predominantly dominant public sector service delivery, funded mainly through government revenue (general taxation) and without user fees.

Another important feature of the Sri Lankan health system is that government services do not have the *Purchaser Provider Split (PPS)*. This requires a well-established service delivery network owned and operated by the government. Therefore, the financial resources are committed through central and provincial level government administration for healthcare services. Funding is mainly provided by *Line-item* budgets to maintain services.

Payment for human resources is done by 'salary' method. Although there is a process to monitor the individual performance, there is a lack of performance-based incentive mechanism within the government system. However, to overcome drawbacks of the payment method the privilege of dual practice is granted to medical doctors which has assisted to retain medical practitioners in the system and in the country by providing means of enhancing income without an additional burden to the country's financial coffers. Furthermore, population has benefitted from a fair number of additional part-time general practitioners who provide primary care services. This has improved the accessibility for primary care and also helped to contain prices of general practitioner services by enhancing the supply side. However, there is a dire need to strengthen the national primary care delivery model which include the general practice. Further to this, few other categories of staff also have gained approval for dual practice.

Main disadvantage of the currently practiced financing method is that the difficulty in promoting accountability for resource consumption or cost containment. Additionally, setting standards regarding resource consumption, motivating workforce etc. has also been considered difficult.

Health system performance when put on perspective, the Sri Lanka's performance is remarkably high for a lower middle-income country with the level of current Health Expenditure of USD 153 per capita in 2016. Sri Lanka's health spending as a percentage of GDP is very low by regional standards. Government spending as a percentage of GDP is very low and system is run with a high share of Out of Pocket Expenditure (OOPE). Even with a high rate of OOPE, Catastrophic Health Expenditure and Impoverishment have remarkably low rates of incidence.

Sri Lanka has committed for Universal Health Coverage (UHC) much before the neighboring regional countries. Coverage is ensured through the supply side of healthcare services operated by the reinforced government healthcare service providers.

Sri Lanka's health system's performance is remarkably high for a lower middle income country with the level of current Health Expenditure of USD 153 per capita in 2016.

9.1 Organization of Public Sector Healthcare Services

A strong public sector service provider network is distributed throughout the country with a high penetration level. Any category of public sector service provider is available for service in less than 4.8 km (average) from a person's residence.

Public sector services are organized based on type of services; curative, preventive, rehabilitative and promotional services. Largest commitment is made for curative care services through extensive hospital network. They are managed directly by the Ministry of Health, Nutrition and Indigenous Medicine or by the Provincial Departments of Health. Following table summarizes the number of different levels of curative care institutions in the country. Government curative care services currently operates with a combine bed strength of over 75,000 which also includes Intensive Care and High Dependency beds. The table 9.1 shows a summary of the institutions and the bed strength for at the end of 2017.

A public health service provider is available for service in less than 4.8 km (average) from any person's residence

Table 9-1 : Types of Hospitals, Numbers and the Bed Strength (as at 31.12.2017)

Hospitals type	No. of. Hospitals				Bed Strength			
	Line Ministry	Provincial	Other	Total	Line Ministry	Provincial	Other	Total
National Hospital	1	-	-	1	3,278	-	-	3,278
Teaching Hospitals	15	-	-	15	17,032	-	-	17,032
Provincial General Hospitals	3	-	-	3	5,076	-	-	5,076
District General Hospitals	10	9	-	19	7,342	4,738	-	12,080
Base Hospitals - A	5	19	-	24	1,425	7,466	-	8,891
Base Hospitals - B	3	47	-	50	729	8,231	-	8,960
Divisional Hospitals - A	1	49	-	50	231	5,114	-	5,345
Divisional Hospitals - B	1	133	-	134	62	9,014	-	9,076
Divisional Hospitals - C	1	295	-	296	48	7,853	-	7,901
Primary Medical Care Units & Maternal Homes	5	6	-	11	60	85	-	145
Special Hospitals*	10	4	11	25	3,674	187	1,630	5,491
Total	55	562	11	628	38,957	42,688	1,630	83,275

* Five Teaching Hospitals (Dental Institute - Colombo, Angoda (N. I. M. H.), Cancer Hospital - Maharagama, Chest Hospital - Welisara, Rehabilitation Hospital - Ragama) have been categorized under Special Hospitals

Source: Medical Statistics Unit

Although, curative care services are extensively distributed and spread throughout the country, the non-existence or non-enforcement of a proper referral system is creating a situation of organized chaos within the system. Bypassing of smaller healthcare service facilities or primary care institutions is a common phenomenon. This in turn creates undesirable situations in the health system such as overcrowding at central or secondary and tertiary levels and underutilization at lower levels. Additionally, as a direct result of bypassing the lower level institutions, public has to spend quite a lot of resources in terms of Out of Pocket Expenditure and time to receive services at overcrowded higher levels. This behavior forces inequities in healthcare service provision as people go in search of institutions with better facilities, experts in clinical medicine etc. even when their health need could be managed at a lower level without causing any undesirable outcomes. A good illustration of this phenomenon is observed in the case of childbirth; lower level hospitals with maternity wards are grossly underutilized while hospitals starting from base hospitals and above are overcrowded. However, all of this does not lead to negative

impacts as people are having a choice within the government service providers and has further improved accessibility for improved care. It should be well noted that Sri Lanka has no limitations set-out to the free movement of health care seekers from care provider to provider based on their health seeking behavior.

Preventive services are provided through extensive network of 341 Medical Officer of Health (MOH) offices where entire country is divided geographically into MOH regions. Cluster of MOH's are organized based on the administrative district to Regional Director Health Services which is 26 in number and few such districts are grouped under the Provincial Director of Health Services coinciding with the 9 provinces. Preventive services, largely focusing on Maternal and Child Services are provided through this system. At field level Public Health Midwives and Public Health Inspectors are largely engaged in service provision.

In addition, diseases of public health importance are addressed through specialized campaigns operating centrally.

Tuberculosis, Malaria, filariasis, Sexually Transmitted Diseases are few such campaigns operating vertically. These organizations are engaged in their curative, preventive, rehabilitative and promotion activities in their mandated disease specific areas.

Health promotion activities under the Ministry of Health is mainly handled through the Health Promotion Bureau. However, many disease specific work is also handled through respective vertical campaigns and specialized hospitals within the public system.

9.2. Medical Supplies Division (MSD)

Operating a large-scale healthcare service provision involves complicated procurement of supplies, storage and distribution of supplies to the end user level.

Requirements of healthcare service providers include pharmaceuticals including dangerous drugs, surgical Items, laboratory Items, radioactive Items and printed materials. Furthermore, a significant proportion of pharmaceuticals and other consumables are of critical nature for management of patients.

Sri Lanka's government health system is one of the few instances in the world in which a centralized procurement system operate. All medical supplies are estimated and procured following government procurement guidelines. Majority of supplies are subjected to international competitive bidding. The whole process generates a market situation of monopsony which generates a high bargaining power to the health system which in turn helps to keep the costs down.

State Pharmaceuticals Corporation, a government owned commercial undertaking under the Ministry of Health, Nutrition and Indigenous Medicine is the procurement arm of the government medical services.

Goods duly procured are received by the MSD which has the responsibility of distributing throughout the country ensuring safety and

efficacy while maintaining the cold chain to healthcare service providers.

Medical Supplies Division is equipped with a large central warehouse complex in Colombo with further additional bulk warehouses in greater Colombo as well as in Welisara and Digana. The main distribution network includes 26 regional stores covering each of 26 Regional Director Health Service. Additionally, supplies are directly issued to stores of all line ministry healthcare service provision institutions including vertical campaigns.

Regional stores and line ministry healthcare institutions are linked to an on-line system which helps to manage vast operations.

9.2.1 Supply of vaccines

Under the prevention of communicable diseases, all the Sri Lankans are vaccinated against a list of communicable diseases under the Expanded Programme of Immunization. The vaccines are procured and centrally stored by the Epidemiology unit. They are distributed to the Regional Drug Stores and from there, the vaccines are distributed to the network of Medical Officer of Health offices and public hospitals, maintaining the cold chain. The vaccination is done in Immunization and Child welfare clinics in the field and in public hospitals. The MOH offices distribute the vaccines to the particular clinics. The Epidemiology Unit, monitors the vaccine coverage of the country and it also monitors the adverse effects following immunization.

9.3. Biomedical Engineering Services

Division of Biomedical Engineering services of the Ministry of Health, Nutrition and Indigenous Medicine performs an important support service to all government healthcare service providers. The division is primarily responsible for assisting in procurement of medical equipment, installing, commissioning and maintaining medical equipment in Line Ministry Hospitals while similar support is provided to provincial health system through decentralized units of the respective province.

Repairing and maintaining medical equipment is a critical service performed to all healthcare institutions. The main warehouse and service facility is located in Colombo. A team of 14 Bio Medical Engineers leads the functions with 42 Foreman and 43 Technicians assisting.

Additionally, the division is also involved in developing guidelines and policies with regards procuring and utilization of biomedical equipment.

9.4. Medical Research Institute (MRI)

Medical Research Institute is the apex laboratory facility under Ministry of Health, Nutrition and Indigenous Medicine and also is the national reference laboratory for the Sri Lanka. The institute is expected to provide services with special investigations required for government healthcare service providers, engage in research activities, provide laboratory support for research, assist in monitoring activities such as routine testing of water samples, generate evidence for clinicians and health administrators and assist in formulating policies and guidelines. Additionally, the MRI is also the National control laboratory for the National Authority for Vaccines and biological and also carries out the pre-registration evaluation of pharmaceuticals and reagents.

Research areas of the institute includes many medical areas namely; bacteriology, immunology, virology, mycology, parasitology, histopathology, hematology, biochemistry,

nutrition, pharmacology, natural products, and animal sciences.

9.5. Board Managed Hospitals

Ministry of Health, Nutrition and Indigenous Medicine operates two board managed hospitals in the country. The main difference between these two hospitals and the other ministry operated hospitals is that board managed hospitals are fee levying hospitals. These two hospitals are business ventures under the ministry.

However, the hospitals are not completely independent as they depend on the annual allocation provided from the treasury to meet most of their capital expenditure and part of recurrent expenditure.

9.5.2. Wijaya Kumarathunga Hospital

Wijaya Kumarathunga Hospital was established by an act of parliament in 1999. It is situated at Seeduwa, Katunayake. The hospital had initial humble beginnings as a small 60 bedded hospital.

Currently hospital has undergone many expansions and serving public as a hospital with primary focus on eye care. Other specialties also have been introduced to the hospital.

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

MSU provides data for various user requirements, conducts training/awareness programmes to all the staff who are handling data in hospital record rooms and carries out hospital reviews to identify data lapses. In addition, MSU prepares the population estimates for all Medical Officer of Health (MOH) areas annually. The unit also maintains a list of health institutions and updates it every year.

Since 1960, MSU has collected data using paper based formats. In 2010, Medical Statistics Unit has taken an initiative to develop Electronic Indoor Morbidity and Mortality Reporting System (eIMMR). eIMMR is a web based system designed to facilitate collection, storage, analysis and dissemination of inward patients statistics. It is expected to improve efficacy, efficiency and accuracy of the manual system and also expected the timeliness and accuracy of the data through validation methods used. This system has the sophistication to cater for numerous analytical requirements and also functions as a disease surveillance system. The recurrent costs incurred for data collection is significantly reduced due to the reduction in printing, postage and logistical costs.

A redevelopment of the eIMMR system is commenced on 2019 to upgrade the system. The database will be restructured to maintain a larger set of data than the current database. A list of private hospitals with the relevant codes, indigenous medicine diagnose codes and some analysis features are to be developed and included in the software.

Two new projects have been commenced by the unit, to capture the Indigenous Medicine sector patient data to the eIMMR system and to capture medical procedure data from the operation theatres island wide. The main objective is to fulfil the high demand for the data from the health administration as well as the researchers and many other data users.

Annual Health Bulletin (AHB) is the main publication of the unit since 1980. It has been a good approach to disseminate hospital data. Many units, programmes and directorates has contributed the AHB and it provides a comprehensive image of the health sector of the country.

10. Curative Care Services

Government sector is the leading healthcare provider of the country, and by end of 2017 there were 628 curative care hospitals in government health services providing inward treatments. Detailed information of those hospitals is provided in the Annexure 01: Detailed Table 07.

OPD care is delivered by all hospitals and Primary Medical Care Units and the needs of higher treatments and patient care are directed to inward care or to a nearest larger hospital when facilities are unavailable.

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

There are occasional outreach clinics conducted by specialists. A continuous series of treatments are thereby managed for identified cases.

10.1. Distribution of Beds and Bed Strength

Hospital beds play the key role in measuring of patient capacity of the hospital system. The total bed strength in the government health institutions was 83,275 in 2017. It is a rate of 3.9 beds per 1,000 population. The details of the distribution of hospital beds are illustrated in the Annexure 01: Detailed Table 07.

Number of government health institutions and patient beds in Sri Lanka over the period from 2012 to 2017 are presented in the following table (Table 10-1).

Table 10-1 : Number of Health Institutions and Hospital Beds, 2012 - 2017

Item	2012	2013	2014	2015	2016	2017
Hospitals ¹	621	624	622	631	629	628
Hospital Beds ¹	76,087	78,243	80,105	80,581	81,580	83,275
Hospital Beds per 1,000 Population	3.8	3.8	3.9	3.8	3.8	3.9
Inpatient Beds per 1,000 Population	3.5	3.5	3.6	3.5	3.5	3.6
Central Dispensaries/Primary Medical Care Units	487	461	475	473	480	496
MOH Areas	337	334	338	341	342	347

¹ 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 10-2).

Table 10-2 : Availability of Hospital Beds by Type of Institution, 2017

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	323 - 3,278	1,269	10
Provincial General Hospitals	3	1,513 - 2,002	1,692	2
District General Hospitals	19	202 - 1,214	636	10
Base Hospital Type A	24	158 - 651	370	12
Base Hospital Type B	50	30 - 416	179	30
Divisional Hospital Type A	50	26 - 231	107	25
Divisional Hospital Type B	134	9 - 137	68	70
Divisional Hospital Type C	296	2 - 70	29	148
Primary Medical Care Unit and Maternity Homes	11	10 - 22	13	7
Other Hospitals *	25	8 - 1,456	220	20

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

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

Source: Medical Statistics Unit

10.2. Service Utilization

10.2.1. Attendance to Out Patient Departments (OPD) of Hospitals

Outpatient attendance showed a slight decline in 2014 - 2016, but it again increased in 2017, up to 55,399,335. It is an increment of 3.3% from 2016. The district wise distribution of OPD visits is presented in the Annexure 01: Detailed Table 30.

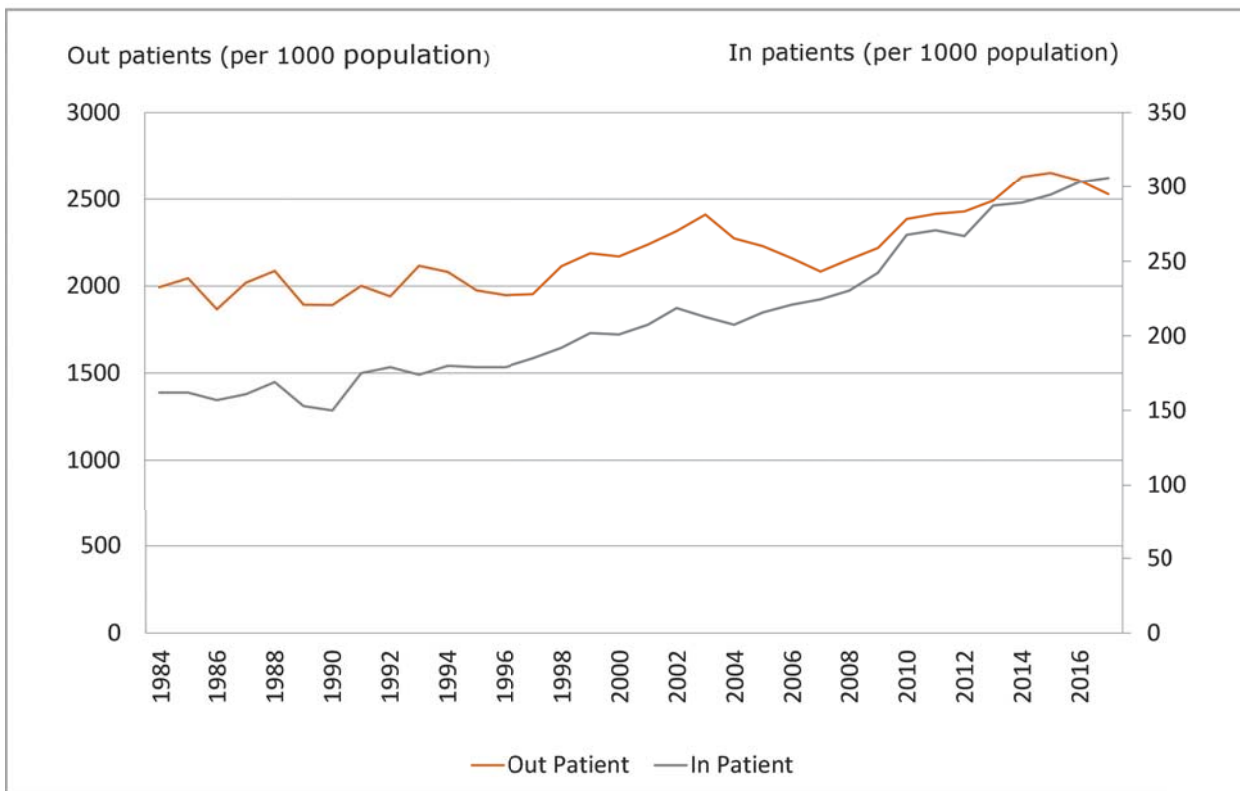


Figure 10.1 : Inpatient and Outpatient Attendance in Government Medical Institutions, 1984 – 2017

Source: Medical Statistics unit

10.2.2. Attendance to Curative Care Health Clinics

There were 27,853,477 clinic visits in 2017, which is a continuation of the increasing trend shown in the previous years. (Annexure 01: Detailed table 33).

Although there are comprehensive categorization of clinics in the major hospitals, majority of the Divisional Hospitals and Primary Medical Care Units are functioning under the main categorization of clinics such as Medical, Surgical, Paediatric, etc.

10.2.3. Maternal Services

Table 10-3 illustrates the maternal services provided by different types of government health institutions. Total number of deliveries took place in the government hospitals was 299,093 in 2017.

Table 10-3 : Maternal Services by Type of Institution, 2017

Type	Outcome of Delivery			Total Deliveries		Method of Delivery			
	Single Deliveries	Twin Deliveries	Other Deliveries	Number	%	Normal	Forceps	Caesarean	
								Number	%
Teaching Hospitals	85,636	1,000	36	86,672	29.0	52,377	1,236	33,059	38.1
Provincial General Hospitals	25,507	292	10	25,809	8.6	15,763	117	9,929	38.5
District General Hospitals	80,549	804	9	81,362	27.2	49,931	584	30,847	37.9
Base Hospitals Type A	60,285	449	10	60,744	20.3	38,761	329	21,654	35.6
Base Hospitals Type B	38,191	231	-	38,422	12.8	25,015	357	13,050	34.0
Divisional Hospitals Type A	1,696	6	-	1,702	0.6	1,699	3	-	-
Divisional Hospitals Type B	2,814	8	-	2,822	0.9	2,822	-	-	-
Divisional Hospitals Type C	1,445	7	-	1,452	0.5	1,452	-	-	-
Primary Medical Care Units and Maternity Homes	107	1	-	108	0.0	108	-	-	-
Total	296,230	2,798	65	299,093	100.0	187,928	2,626	108,539	36.3

Source: Medical Statistics Unit

Out of total deliveries in government hospitals 65% occurred in Teaching, Provincial General and District General Hospitals.

Caesarean rate is 36.3% out of total deliveries occurred in government hospitals.

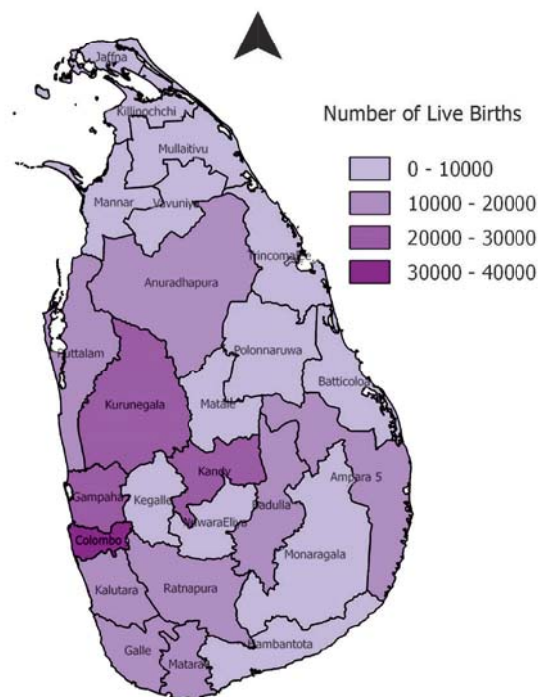


Figure 10.2: Distribution of Hospital Live Births by place of occurrence in Sri Lanka, 2017

Source: Medical Statistics unit

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

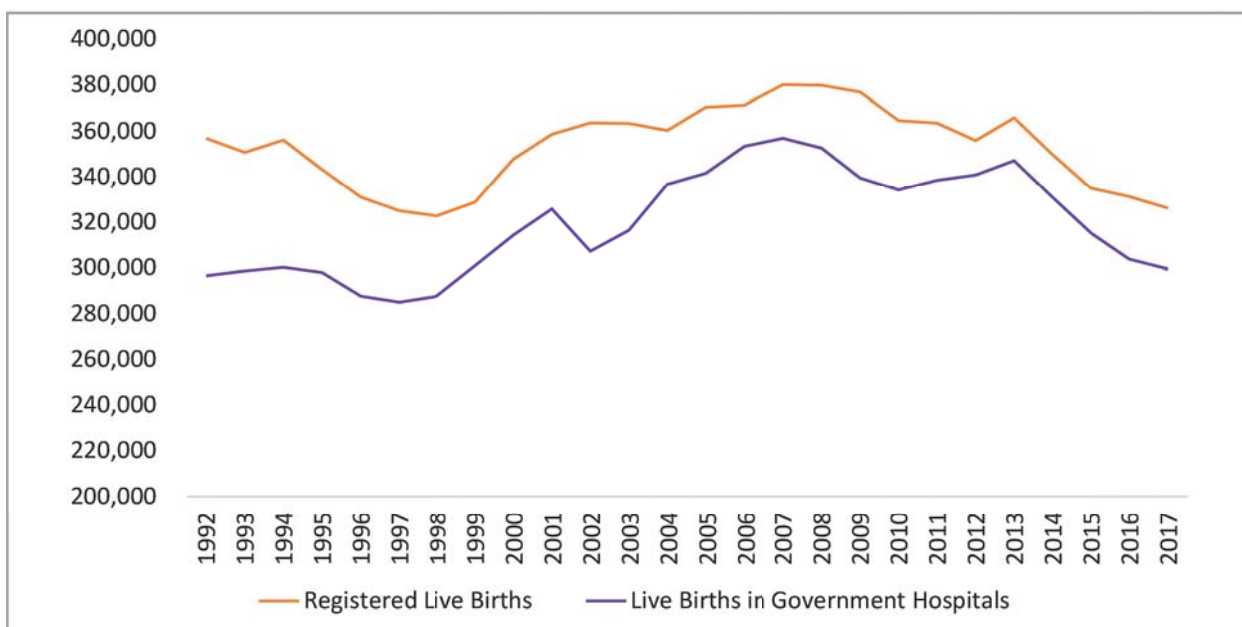


Figure 10.3 : Registered Births Vs Hospital Live Births, 1992 - 2017

Source: Registrar General's Department and Medical Statistics Unit

Fig 10.3 shows the changing pattern of the registered live births and government hospital live births, by time. In 2017, 92.06% of live births occurred in the government health institutions.

10.2.4. Utilization of Medical Institutions

Since a proper referral system is not been enforced in Sri Lanka, patients are free to visit any type of institution to obtain necessary treatments. Hence It is clearly seen an underutilization in many of the small institutions and overcrowding in the bigger institutions.

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.

Resource availability (human and physical), geographical conditions or some other such facts may lead to the selection of the institution to be visited. However it should be studied further to identify those facts.

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

Average duration of stay is significantly high in specialized hospitals such as Mental, Chest, Leprosy and Rehabilitation (Annexure 01: 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. This situation is very common for past decades.

Bed occupancy rates (BOR) is relatively lower in Divisional Hospitals. In 2017, bed occupancy rates of Teaching Hospitals are in between 59% and 89%.

In 2017, Thambuttegama, Kiribathgoda, Kahawatta, Dikoya, Panadura, killinochchi, Dambulla, Tangalle, Avissawella and Homagama are the major hospitals with a BOR greater than 100%. BOR in Thambuttegama is 123%. BOR in the Colombo prison hospital is also 141%.

Bed Turnover Rates in Teaching Hospitals are varying in between 78 and 108. In 2017, Panadura, Dambulla and Thambuttegama hospitals have recorded a high Bed Turnover Rate (BTR). High BOR incorporated with the high BTR, points out the insufficient hospital bed capacity.

It should be considered that among the Divisional Hospitals Athurugiriya, Malwathuhipitiya, Mahadivulwewa and

Handapanagala hospitals have recorded a higher BOR together with a higher BTR. Fig 10.4 shows the Bed Turnover Rate (BTR), Bed Occupancy Rate (BOR) and Average Duration of Stay (ADOS) by type of hospitals. However, the “other” hospital category is having big variations, and so cannot be reasonably compared with others.

Bed Turnover Rate (BTR) and Bed Occupancy Rate (BOR)

Average Duration of Stay

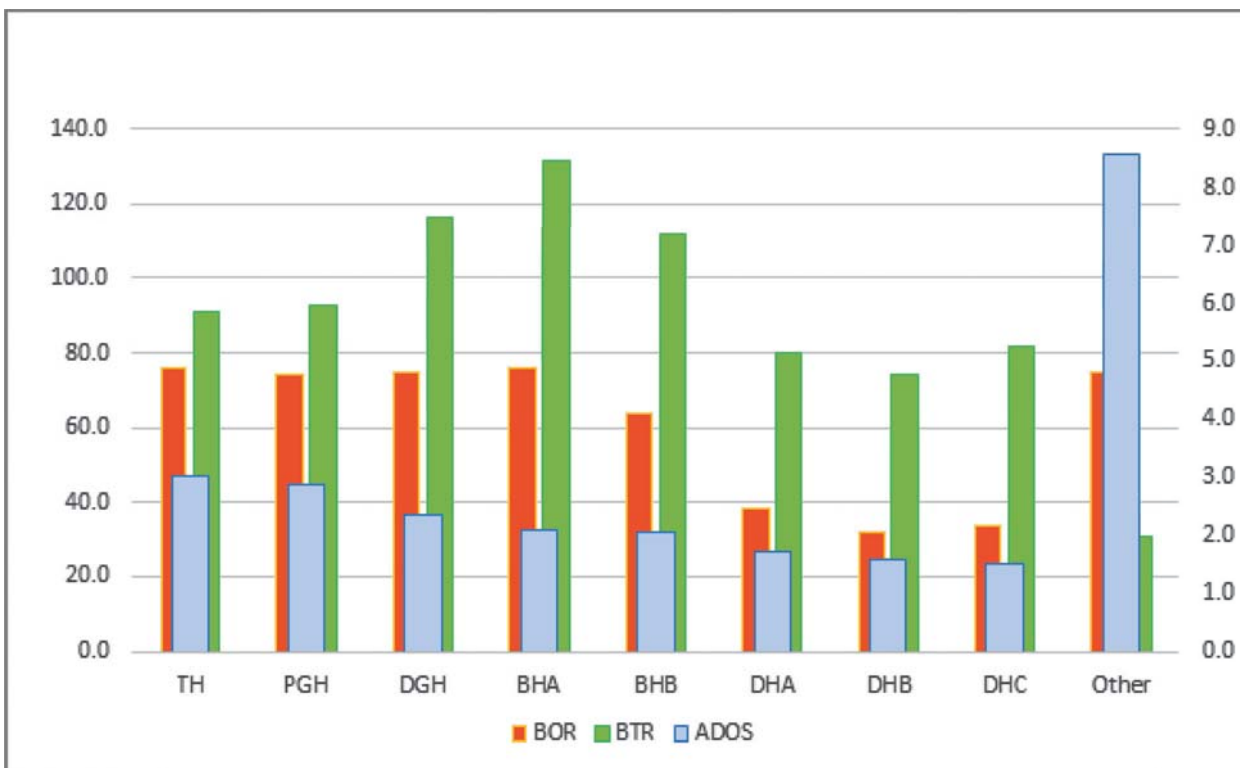


Figure 10.4 : Utilization of Medical Institutions, 2017

Source: Medical Statistics Unit

10.3. Human Resources management

Various units under the Ministry of Health, Nutrition and Indigenous Medicine and Provincial Departments of Health are working on managing health human resources. The cadre norms are being prepared and the cadre is approved from the Management Services Department and Salaries and Cadre Commission by the Management Development and Planning unit of Ministry of Health and Provincial Ministries of Health. Different units work in recruitment and transfers of health staff, ensuring an optimum distribution of health cadre. The human resource management of Medical Consultants is being done by the Deputy Director General (Medical Services) I unit, whereas the human resource management of Grade Medical Officers are done by the directorates under Deputy Director General (Medical Services) II. The units under Deputy Director Generals (Administration) is responsible for human resource management of nursing officers and other technical and non technical staff. While the above units are responsible mainly for the recruitment, transfers and retirement of health staff, the Deputy Director General (Investigations) and Senior Assistant Secretary (Investigations) unit are working on the disciplinary actions pertaining to health staff, ensuring the quality use of the health human resources.

10.4. Recruitment of health staff

The recruitment of health staff is mainly based on the academic merit of students in the Advanced Level examination of the respective years. All the recruited medical and dental officers are trained in state and foreign universities while rest of the categories are mainly trained by the schools under the Ministry of Health providing Diplomas/Higher Diplomas. The Ministry of Health has employed an online recruitment management system to recruit the officers who are to be trained by the Ministry of Health. Furthermore, there is some proportion of nursing, medical laboratory

technologists, pharmacists and etc. who are recruited from the state universities after their graduation.

10.5. Training and education of the health human resource

The training and education is a vital activity of management of health human resource in the country. The mechanisms by which the basic and in-service trainings carried out are different for different categories of health care staff.

10.5.1. Basic training of health staff: Medical and Dental officers

Medical Officers are trained through the routine university system of Sri Lanka. In 2017, six state owned Medical Faculties supplied Medical Graduates to the Sri Lankan health system. The medical graduates who get qualified from the foreign medical faculties are also given the opportunity to enter the Sri Lankan health system, when they pass the Examination for Registration to Practice Medicine (ERPM) conducted by the Sri Lanka Medical Council. Ministry of Health provides the opportunity for all these Medical Graduates to get full registration of Sri Lanka Medical Council by providing them Internship appointments in state owned Teaching, Provincial and District General and Base Hospitals. Once they complete the internship and get the full registration of SLMC, they are recruited to the Sri Lanka Medical Service. The Dental Officers are directly recruited to the state health system of Sri Lanka, once they are graduated from the Faculty of Dental Sciences, University of Peradeniya.

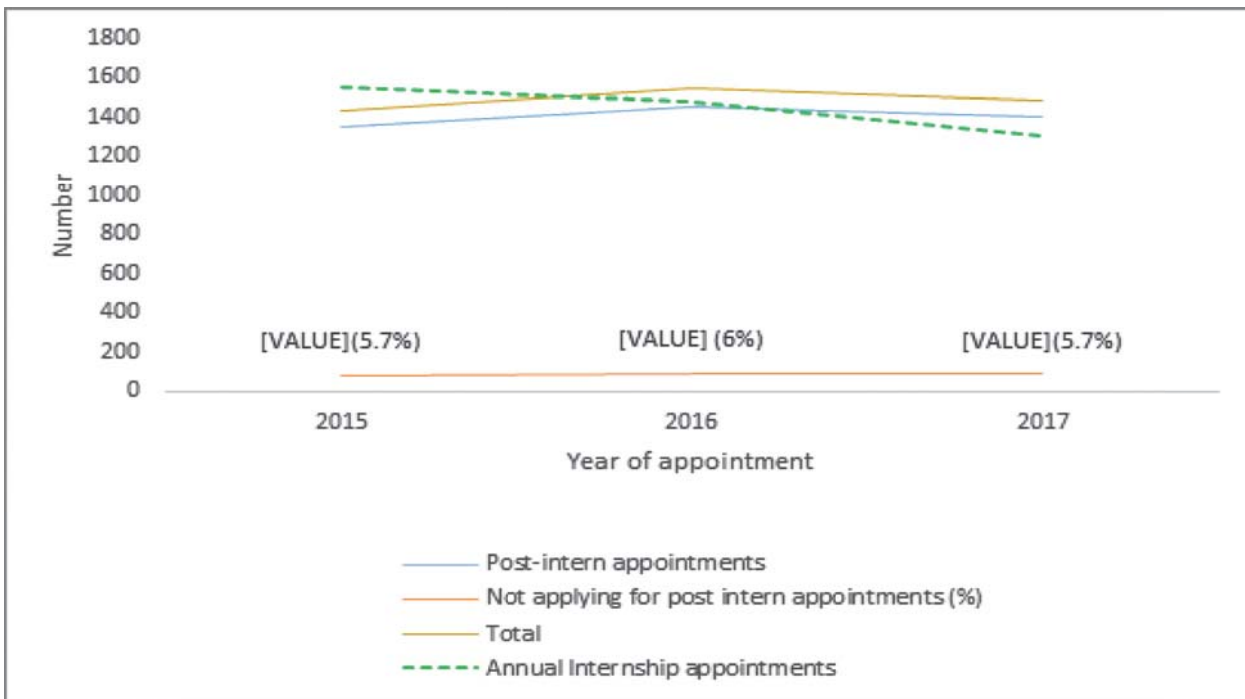


Figure 10.5: Annual post internship appointments from 2015-2017

Source: Education Training and Research Unit

According to the figure 10.5 there has been a declining trend in the internship appointments. Although there is a slight drop in post intern appointments in 2017, compared to 2016, there is constant supply of medical officers to the state health sector. Annual dropouts from internship to post internship is approximately 6%, which may need careful exploration to take measures to retain them in the system. The Medical Officers and Dental Officers in the state sector, once they complete a mandatory period of work, will be eligible to undergo post graduate training to become a Consultant. Post Graduate Institute of Medicine (PGIM) of University of Colombo, provides the post graduate training in different specialties. Ministry of Health works in close liaison with PGIM in deciding the specialties and the

curriculum of the post graduate training. The Ministry also pays the post graduate trainees' course fees, full paid leave during the period of study of post graduate training, living allowance for foreign training and opportunities for training in state owned healthcare institutions.

PGIM has been introducing new courses on frequent basis and there is an incremental trend in number of course conducted in each year and the highest can be seen in 2017, reaching 130 courses. However, it is essential that the Ministry of Health evaluates the current health system needs and closely liaise with the PGIM to evaluate the educational outcomes of these programmes, against the current health system needs.

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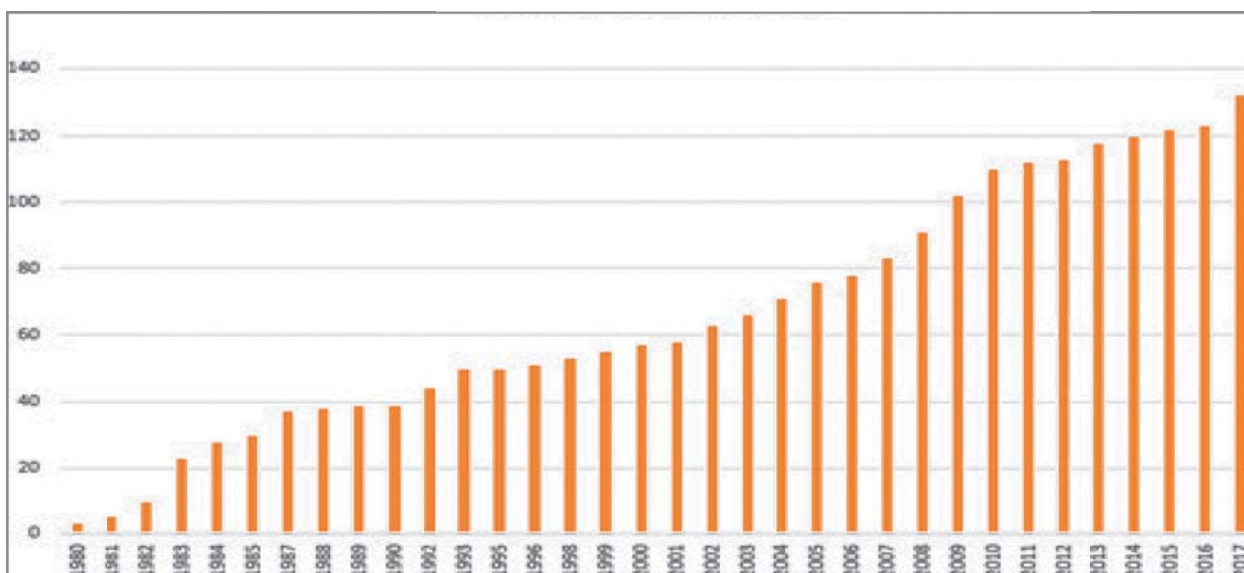


Figure 10.6: No of courses conducted by PGIM from 1980-2017

Source: Postgraduate Institute of Medicine

The number graduates qualified has risen over the years from 1980 to 2017 where the highest number was qualified in 2017. Further

to this, 526 studies were carried out by the postgraduate trainees in 2017.

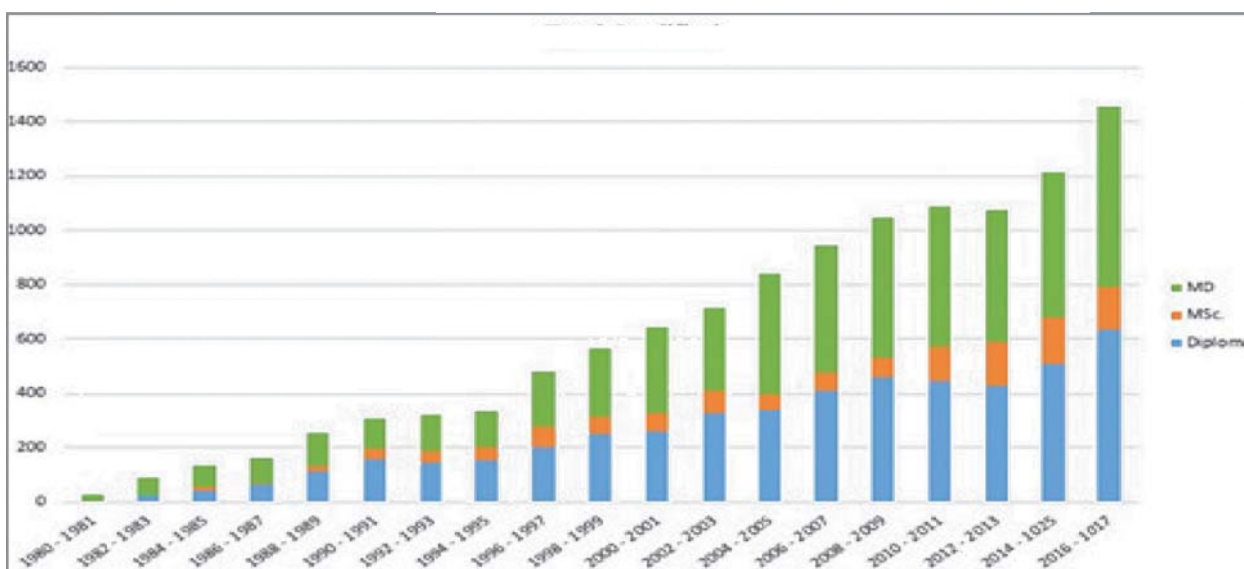


Figure 10.7: Total qualified trainees by PGIM upto 2017

Source: Postgraduate Institute of Medicine

It should be highlighted that the total MSc and Diploma graduates has increased more than the MDs over the years, making it essential to evaluate how best to utilize them for the improvement in health system performance. The health system has to identify proper positioning of the MSc and Diploma holders based on the need. Currently there is no intermediate cadre positions for medical officers who qualify with MSc/Diplomas who do not intend to board certify as Consultants. Hence, there is a possibility of losing the

intended return to the system. On the other hand, it is vital to study the distribution of current graduates in the health system. Furthermore, the board certification as consultants has risen from less than 50 per year (1980) to more than 200 per year (2017). However, there is a relative plateau of board certifications from the year 2011 to 2017, despite the rise in qualifying the MD programmes over relevant years. It is essential to study this observation with more granular details to understand the underlying issues.

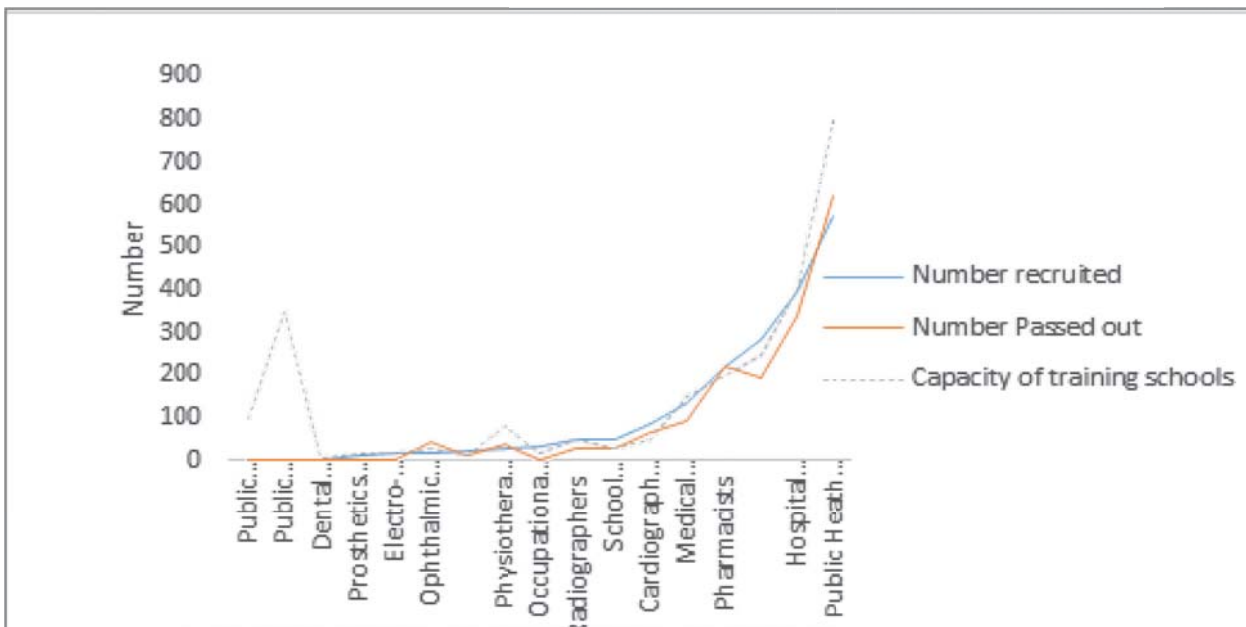


Figure 10.8: No of board certifications from 1988 - 2017

Source: Education Training and Research Unit

10.5.2. Basic training of health staff: Other categories

The responsibility of training the nursing and other technical staff lies with the Deputy Director General (Education, Training and Research). Once the technical staff is recruited, they are allocated to Ministry of Health and Provincial Departments of Health owned training schools. The facilities for these training schools and the curriculum is being updated periodically with wide consultation of relevant stakeholders. Once the recruits are passed out from the training schools, they are placed in their due work stations. These training institutions also provide in-service training to technical staff including the Medical and Dental Officers. The Unit is responsible for developing policies and capacity building in research related to health. Coordination and technical supervision of the work carried out by these institutions is a responsibility of the DDG (ET&R).

Intake for training is determined by the administrative sections of the Ministry of Health in consultation with ET&R Unit and Planning Unit, which does not come under the mandate of ET&R.

The duration and the capacity to recruit trainees for each training programme (although the capacity remains unchanged on yearly basis, there can be minor alterations based on new developments) are shown in the table. The recruitment for many programmes were increased against the capacity of the schools in 2017 (eg:Public Health Inspectors, Electro-encephalography, School Dental Therapist and Ophthalmic Technology) while the basic nursing training programme recruited a greater number of students compared to the annual demand of the country. Other programmes were running in their optimum capacities. If the demand rises, there is a dire need to increase the capacity of the current training programmes.

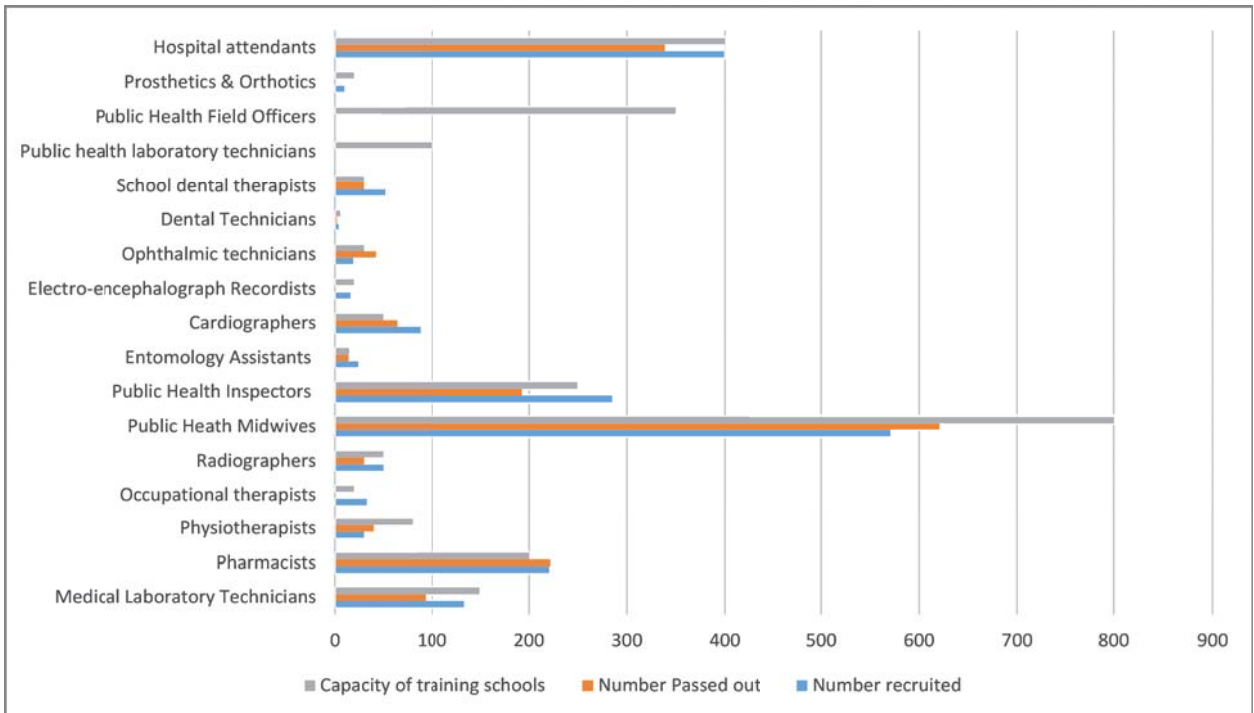


Figure 10.9: Profile of basic training programmes (except nursing) carried out in 2017

Source: Education Training and Research Unit

Annual recruitment of student nurses for 2015-2017 and, annual number passed out from 2015-2017 are illustrated in figure 10.10. It also shows the projected number to be passed out in 2018-2019. The number passed out in 2017 has increased compared to the year 2016, mainly because of the increased intake in 2014.

As per the intake pattern there is expected decline in projected pass outs in 2019. Hence it should be highlighted that the recruitment mechanism is not consistent over the years giving rise to potential gaps in the number of nursing officers, further deepening the cadre gaps.

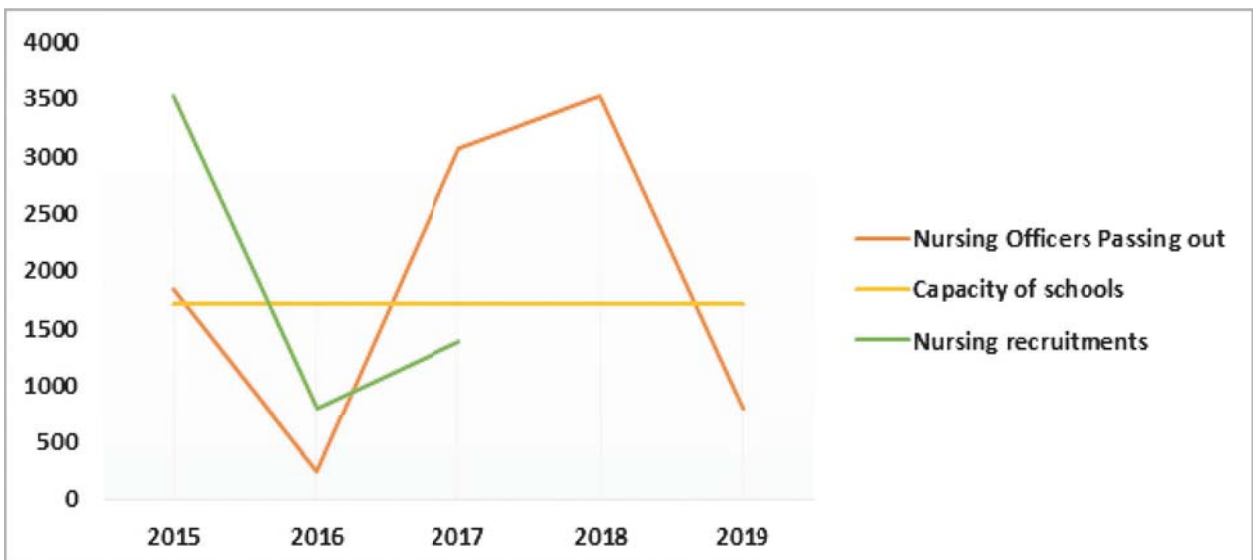


Figure 10.10: Recruitment of student nurses in 2015-2017 and the actual/projected numbering of nursing officers passing out from 2015-2019.

Source: Education Training and Research Unit

Other than the above intake of nursing officers there were six post basic training programmes conducted in 2017 and total of 864 were trained

in respective programmes (Table 10.4). These programmes were developed based on the current and future service needs.

Table 10-4 : Categories of post basic training programmes carried out in 2017 with numbers of Nursing Officers trained.

	Training Programme	Number
1	Psychiatry nursing	102
2	Emergency care	60
3	Intensive nursing care	113
4	Nursing care in spinal cord injuries	30
5	Theatre nursing	30
6	Midwifery	864

Source: Education Training and Research Unit

10.5.3. Capacity Development of Service Providers of the Department of Health

The ET&R Unit plays the pivotal role in management of in-service training programmes in the health sector by providing the necessary technical and financial assistance. Depending on the institutional needs, during the year 2017 funds were allocated for the training of many

categories of the health workforce. The ET&R Unit reviews the training proposal for eligibility, based on the training needs identified by the relevant institutions. Training programmes fulfilling eligibility criteria were funded. During the year 2017, Rs. 61.5mn were spent for in-service training programmes.

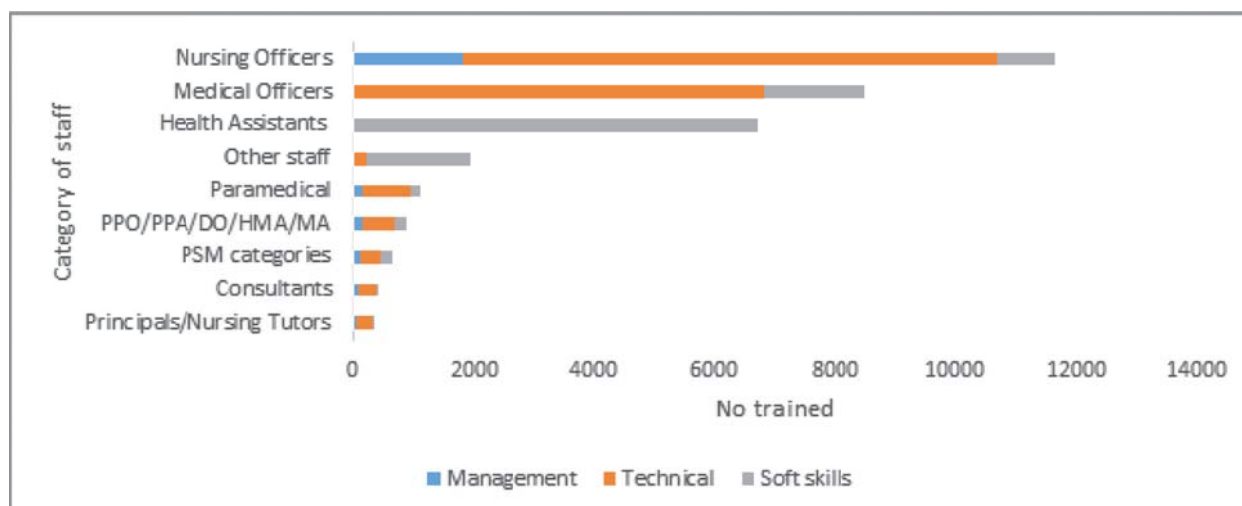


Figure 10.11: Numbers and categories of staff in-service received with funds from the ET&R unit during the year 2017

Source: Education Training and Research Unit

The training programmes were conducted and supported to develop technical, management and/or soft skills of the staff categories, based on the training needs analysis carried out in 2015. More than 12000 Nursing officers/ senior grade nursing officers were trained covering all the three types of skills. All the training received

by the health assistants were on development of their soft skills. Consultants and nursing tutor categories received least training based on the number trained. It is recommended that the Ministry of Health take measures to evaluate the outcome of these training programmes to the performance of the health system.

10.6 Directorate of Private Health Sector Development, together with Private Health Services Regulatory Council

Ministry of Health & Indigenous Medicine recognizes the value of safe, efficient and quality health service provision either through State or Private Healthcare Services, through monitoring and evaluation, regulating through guidelines and developing through capacity building and technical support.

Objectives

1. To complete the process of amending the PMI Act
2. To improve registration and regulation of private medical institutions
3. To streamline the mechanism to collect Health Information from private health sector
4. To strengthen the human resources capacity of the private health sector
5. To educate all Authorized Officers at Provincial levels on PMI Act and executing the power vested to them
6. To create awareness among health professionals, general public and patients' rights groups on PMI Act, patients' rights and obligations of health professionals
7. To request private health sector to limit the prizes for laboratory tests and specific selected procedures.
8. To upgrade the resources at Directorate of Private Health Sector Development (D/PHSD) and Secretariat of Private Health Services Regulatory Council (S/PHSRC) including human resources, infrastructure facilities etc

Major Achievements in 2015 and 2016

- Coordination of the process of amending the existing Private Medical Institutions (Registration) Act with Legal Decision of the Ministry of Health, Nutrition and Indigenous Medicine and Legal Draftsman.

- Continuation of registration & renewal of Private Medical institutions' licensing
- Providing technical expertise in human resource development training programmes conducted by provinces and private health institutions
- Handling of complaints against Private Medical Institutions
- Inspection and observation visits to Private Medical Institutions
- Coordinating with other Directorates of Ministry of Health, Nutrition and Indigenous Medicine, Sri Lanka Medical Council, Health Sector Trade Unions and Professional Organizations if and when necessary
- Establishment of proper information system in Private Medical Institutions
- Granting preliminary approval to establish new private hospitals after evaluating the project proposals.
- Processing of documents pertaining to Kidney Transplants by private hospitals
- Processing of documents pertaining to Temporary Registration of specialists

List of Special events/Innovations 2015 and 2016

- Conduct of an advocacy workshop in coordination with Provincial Director of Health Services/North Central Province following observation visits to selected private medical institutes in the province.
- Conduct of quarterly review meetings with private hospitals on services offered by National Blood Transfusion Services.

- Evaluation and assessment of services offered by selected private hospitals in order to make recommendations to be registered at the President's Fund.
- Development of quality of services provided by the private medical institutions by advocating to adhere to National Guidelines and Standards in patient care and treatment.
- Development of quality of services provided by the private medical institutions by advocating to adhere to National Guidelines and Standards in conducting preventive services.
- Submission of the finalized regulations for registration of minimum requirement for Private Hospitals and Private Medical Laboratories to the Legal Draftsman.
- Finalization of proposed regulations for registrations of Medical Centers, Full Time and Part Time Medical Practices, Full Time and Part Time Dental Surgeries, Home Nursing Care Services, Private Ambulance Services and Homes for Long Term Care and Palliative Care .
- Improvement of complaints handling procedure by timely investigation and enforcing remedial actions against Private Medical Institutions.
- Establishment and maintenance of proper information system in Private Medical Institutions including data on human resource, communicable and non-communicable diseases.
- Initiation of the conduct of refresher/ gap filling courses for "Dental Surgery Assistants" who are currently employed at dental surgical practices/clinics in collaboration with PHSD, PHSRC, NAITA and SLDA.
- Conducting refresher/gap filling courses for "Private Health Sector Nurses" who are currently employed at private hospitals in collaboration with PHSD, PHSRC, NAITA and APHNNH.
- Conduct of a training workshop for the staff of selected private hospitals and medical centers to develop Knowledge, Attitudes and Practices in respect of HIV/AIDS and STD prevention treatment and care in collaboration with National STD/AIDS Control Programme.
- Conduct of a training programme for private health professionals who conduct Pre- departure Health Assessments for out bound migrants on developing the quality of care and services in collaboration with National Program for Tuberculosis Control and Chest Diseases.
- Develop guidelines for Ethical Review Committee for human tissue transplants with special reference to kidney transplants conducted at private hospitals.
- Develop guidelines to streamline the procedure in situations of death either of donors or recipient of human tissue transplants with special reference to kidney transplants conducted at private hospitals.
- Develop suitable charges/prices for various procedures and medical laboratory tests charged by private health sector.
- Observation visits to private hospitals to make recommendations to improve the Kidney Transplant programme.

Action Taken in 2017

- ◇ Ensure coverage of a family physician to each citizen
 - Advocacy meetings with Private Health Services Regulatory Council, College General Practitioner, Independent Medical Practitioners Association and Society of General Medical Practitioners.

- Develop guidelines in mechanism to ensure coverage of a family physician to each citizen with Private Health Services Regulatory Council, College General Practitioners, Independent Medical Practitioners Association and Society of General Medical Practitioners.
 - Develop mechanism for proper referral and back referral system with Private Health Services Regulatory Council, College General Practitioners, Independent Medical Practitioners Association and Society of General Medical Practitioners.
 - Capacity building of General Practitioners to cater the demands of population including routing medical problems and emergency medical problems.
- ◇ Completion of amending the existing Private Medical Institutions (Registration) Act.
 - ◇ Improvement of registration and renewal of registration of Private Medical institutions' by strengthening the capacity of Provincial Health Authorities.
 - ◇ Improvement of complain handling procedure by timely investigation and enforcing remedial actions against Private Medical Institutions.
 - ◇ Inspection and observation visits to Private Medical Institutions.
 - ◇ Establishment and maintenance of proper information system in Private Medical Institutions including data on human resource, communicable and non-communicable diseases.
 - ◇ Conduct of an advocacy workshops in coordination with Provincial Directorates of health Services following observation visits to selected private medical institutes in the respective provinces.

10.6.1. Last 5 year performance Trend

Table 10-5 : Registered Number of Private Medical Institutions by Category

Category	Abbreviation	Number of Registrations				
		2013	2014	2015	2016	2017
Private Hospitals and Nursing Homes & Maternity Homes	PH	104	101	107	103	106
Medical Laboratories	L	190	234	268	366	403
Medical Centers/ Screening Centers/ Day Care Medical Centers/ Channel Consultations	MC	88	133	120	147	185
Full Time General Practices/ Dispensaries/ Medical Clinics	FGP	79	79	93	113	117
Part Time General Practices/ Dispensaries/ Medical Clinics	PGP	111	119	126	189	197
Full Time Dental Surgeries	FDS	26	28	26	25	26
Part Time Dental Surgeries	PDS	9	12	8	7	11
Full Time Medical Specialist Practices	FMS	6	8	7	4	04
Part Time Medical Specialist Practices	PMS	3	5	3	9	04
Private Ambulance Services	AS	10	8	10	12	10
Other Private Medical Institutions	OPMI	30	30	32	34	40
Total Private Medical Institutions		656	757	800	1,009	1,103

Source: Private Health Services Regulatory Council

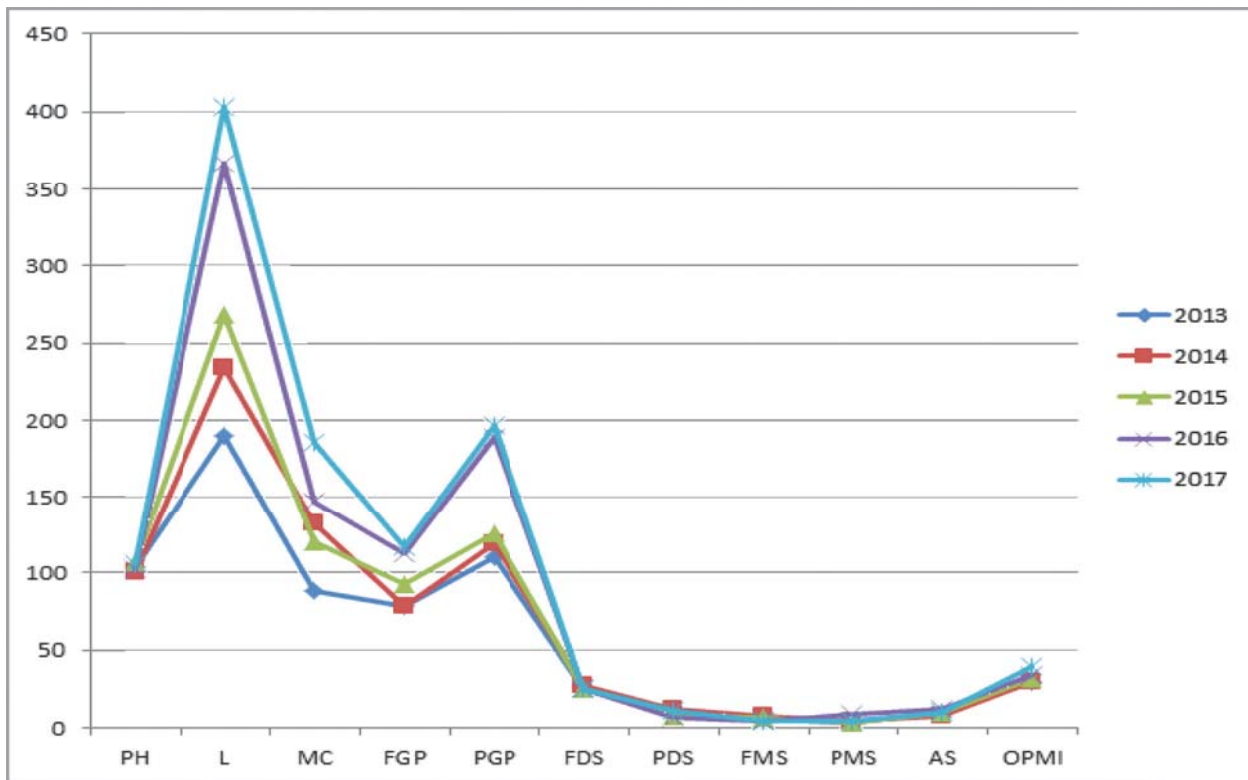


Figure 10.12: Status of the Registration of Private Medical Institute by Category

Source: Private Health Services Regulatory Council

Special Development activities planned for 2018

- Initiation of a survey in respect of private health sector with the help of PHI in the MOH areas.
- Introducing Anti-Microbial Resistance (AMR) guideline to all Private Sector Hospitals
- Conduct of Inland wide survey on price charged by private health institutes for identified 51 medical and surgical procedures.

10.7 Data Collection on Private Sector of Western Medicine and State Sector of Indigenous Medicine

There is a lack of information on the private sector of western medicine and indigenous medicine sector health care systems. To fill this gap, Medical Statistics Unit (MSU) initiated a data collection process in private sector of western medicine and state sector of indigenous medicine in Sri Lanka. Preparation of an institutional frame was the main activity

under this project, and for this need, a base survey was done by the MSU at the end of 2017 with the financial support of World Health Organization (WHO). Information on staff availability, services, medical recording system and other health related activities were collected through this survey.

10.7.1. Private Sector of Western Medicine

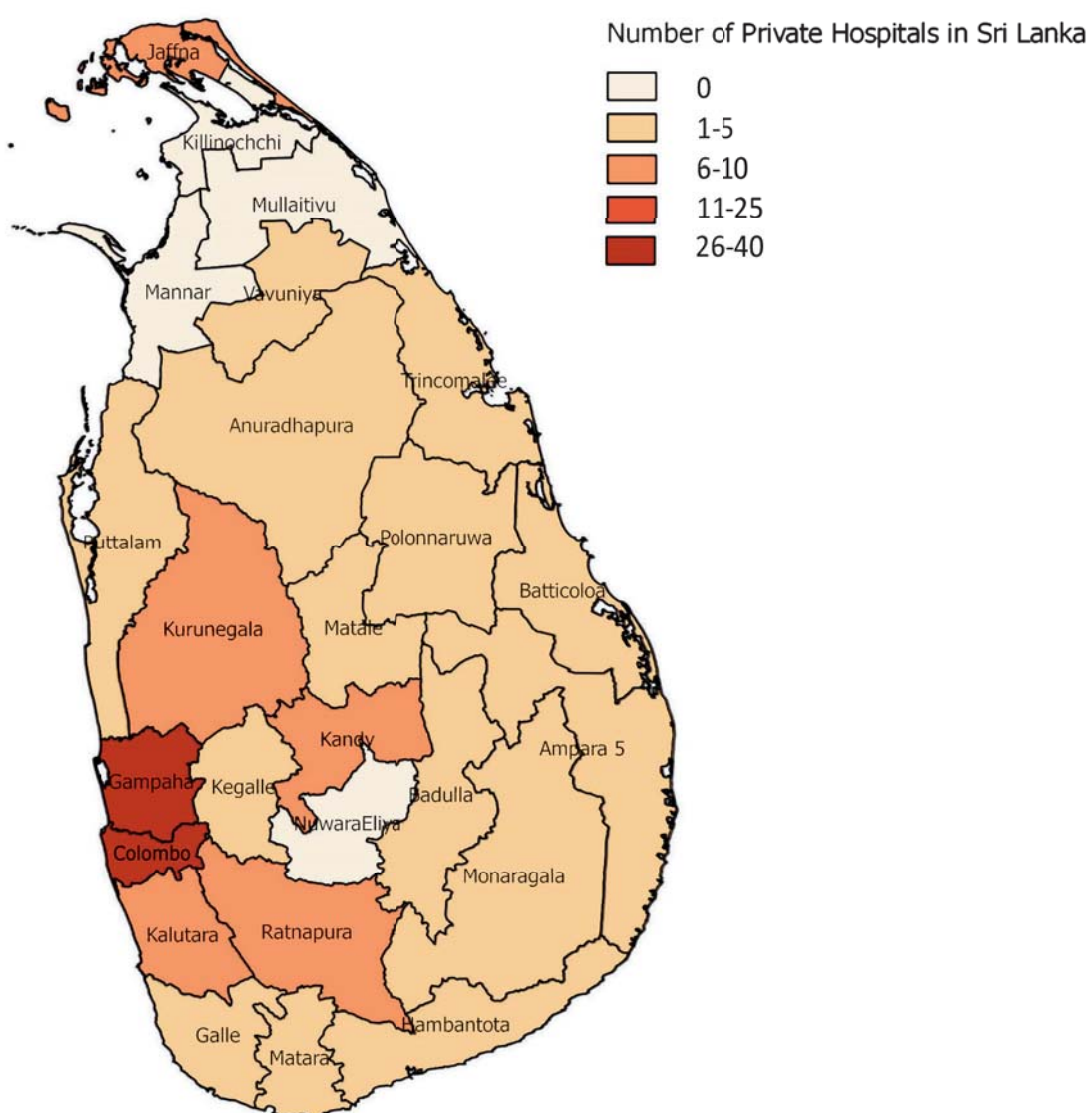


Figure 10.13 : Distribution of Private Hospitals in Sri Lanka, 2017
Source: Medical Statistics Unit

When the private sector is concerned, the survey was focused on only the private hospitals in the western medicine stream currently providing inward treatment facility, and they are termed as private hospitals here. Key findings of the data collection process are stated below.

Hundred and Forty one (141) private hospitals provide inward patient care services in Sri Lanka and the annual number of admissions is estimated around 135,000. It is around 2% of the total admissions of government hospitals where western medicine is practiced.

The majority of the private hospitals are concentrated in the Western province. There are 37 private hospitals in Colombo district and 26 private hospitals in Gampaha district. There are no private hospitals in Kilinochchi, Mullativu, Mannar and Nuwara Eliya districts.

Table 10-6 : Distribution of Total Patient Beds in Private Sector Hospitals in Sri Lanka

District	No. of Patient Beds in Private Sector Hospitals	District	No. of Patient Beds in Private Sector Hospitals
Colombo	2,314	Mannar	0
Gampaha	672	Batticaloa	43
Kalutara	211	Ampara	25
Kandy	331	Trincomalee	24
Matale	29	Kalmunai	19
Nuwara Eliya	0	Kurunegala	167
Galle	120	Puttalam	99
Matara	95	Anuradhapura	21
Hambantota	33	Polonnaruwa	7
Jaffna	241	Badulla	13
Kilinochchi	0	Monaragala	24
Mullaitivu	0	Ratnapura	137
Vavuniya	15	Kegalle	46
Total			4,686

Source: Medical Statistics Unit

Bed strength is a major representation of the capacity of health institutions. Nearly half of the total bed strength of private sector is concentrated in Colombo district. Approximately 30% of private hospitals are

having proper beds categorization. Nearly half of those beds are categorized as medical beds.

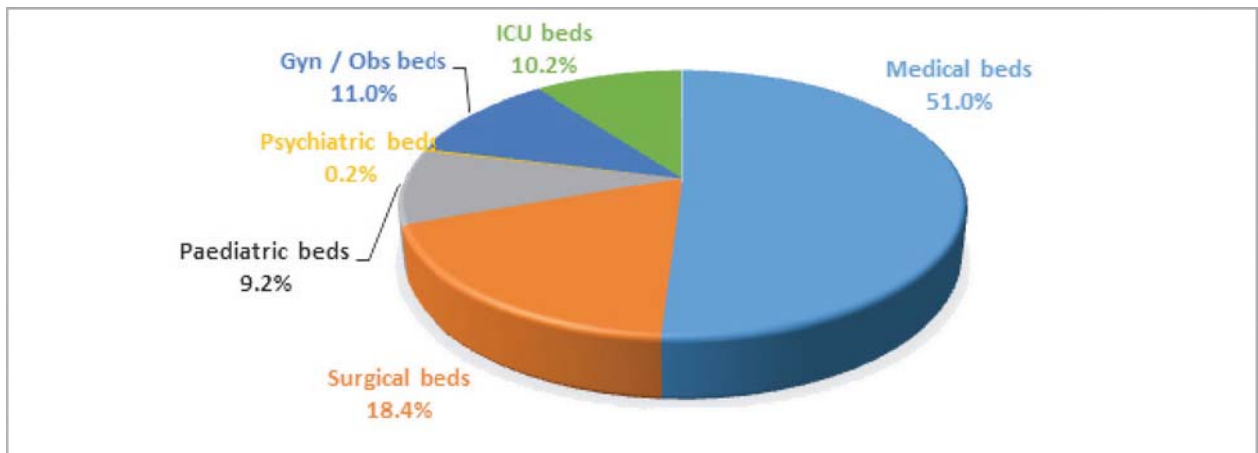


Figure 10.14: Percentage of Types of Beds in Private Sector Hospitals

Source: Medical Statistics Unit

Among the consultants/specialists, 99% are working on Part time/Locum/Visiting basis in private sector. Majority of them are males. Among medical officers, 83% are working on Part time/Locum/Visiting basis in private sector and the majority is male as well. Most of the dental surgeons are also working as part time basis in private sector. But the nursing staff and paramedical staff are completely different, and over 90% of them are fulltime workers.

Only 16.3% of private hospitals have neonatology units and nearly 50% provides immunization services. Blood bank facilities are available in 7.8% of the private hospitals and 62.4% have ambulance services.

More than 80% of private hospitals have medical laboratories, ultra sound scan and ECG facilities. But only 8% of hospitals have MRI facilities and 20% of hospitals have CT scan facilities.

Almost all the private hospitals have their own patient record keeping system. 74% of private hospitals have appointed special staff to maintain hospital records and statistics. Data processing is available in 47% of hospitals.

Around 79% of private hospitals provide practical training for nurses. In most of the times, nursing students of the private sector nurses training schools are sent to those hospitals for their practical training.

There are twelve private hospitals which are engaged in medical tourism.

Table 10-7 : Distribution of Health Staff in Private Health Sector by District

District	Consultants	Medical Officers	Dental Surgeons	Nursing Staff	Paramedical Staff	Attendants
Colombo	4,257	1,579	93	3,293	1,717	806
Gampaha	984	315	33	955	550	152
Kalutara	247	104	8	201	143	26
Kandy	321	136	12	364	79	202
Matale	21	5	0	14	0	0
Galle	365	66	6	427	85	61
Matara	82	85	3	134	83	59
Hambantota	40	8	1	57	6	1
Jaffna	196	52	7	230	67	36
Vavuniya	4	2	0	5	1	1
Batticaloa	92	27	3	33	19	28
Ampara	70	10	5	33	14	16
Trincomalee	32	8	1	14	5	3
Kurunegala	257	50	11	171	55	55
Puttalam	80	37	6	106	26	12
Anuradhapura	83	22	2	14	2	8
Polonnaruwa	28	8	1	18	0	0
Badulla	37	5	2	18	2	9
Monaragala	15	5	1	15	7	2
Ratnapura	132	26	4	118	27	13
Kegalle	0	6	2	41	14	5
Grand Total	7,343	2,556	201	6,261	2,902	1,495

Source: Medical Statistics Unit

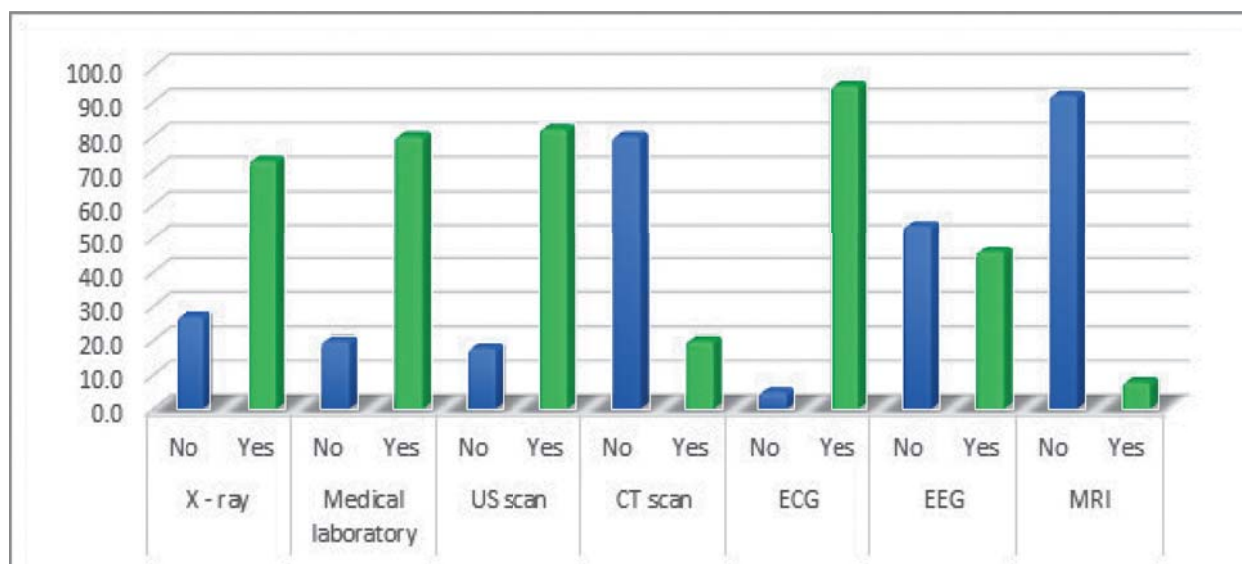


Figure 10.15: Percentages of Availability of Investigations in Private Sector Hospitals

Source: Medical Statistics Unit

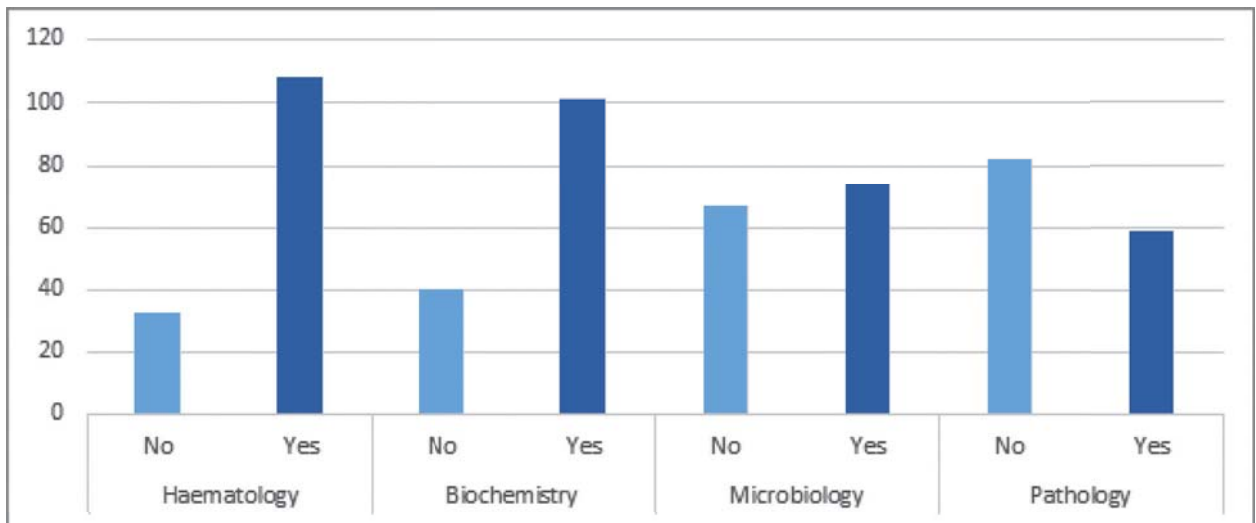


Figure 10.16: Number of Hospitals Perform Haematology, Biochemistry, Microbiology and Pathology Tests in Private Sector

Source: Medical Statistics Unit

10.7.2. State Sector of Indigenous Medicine

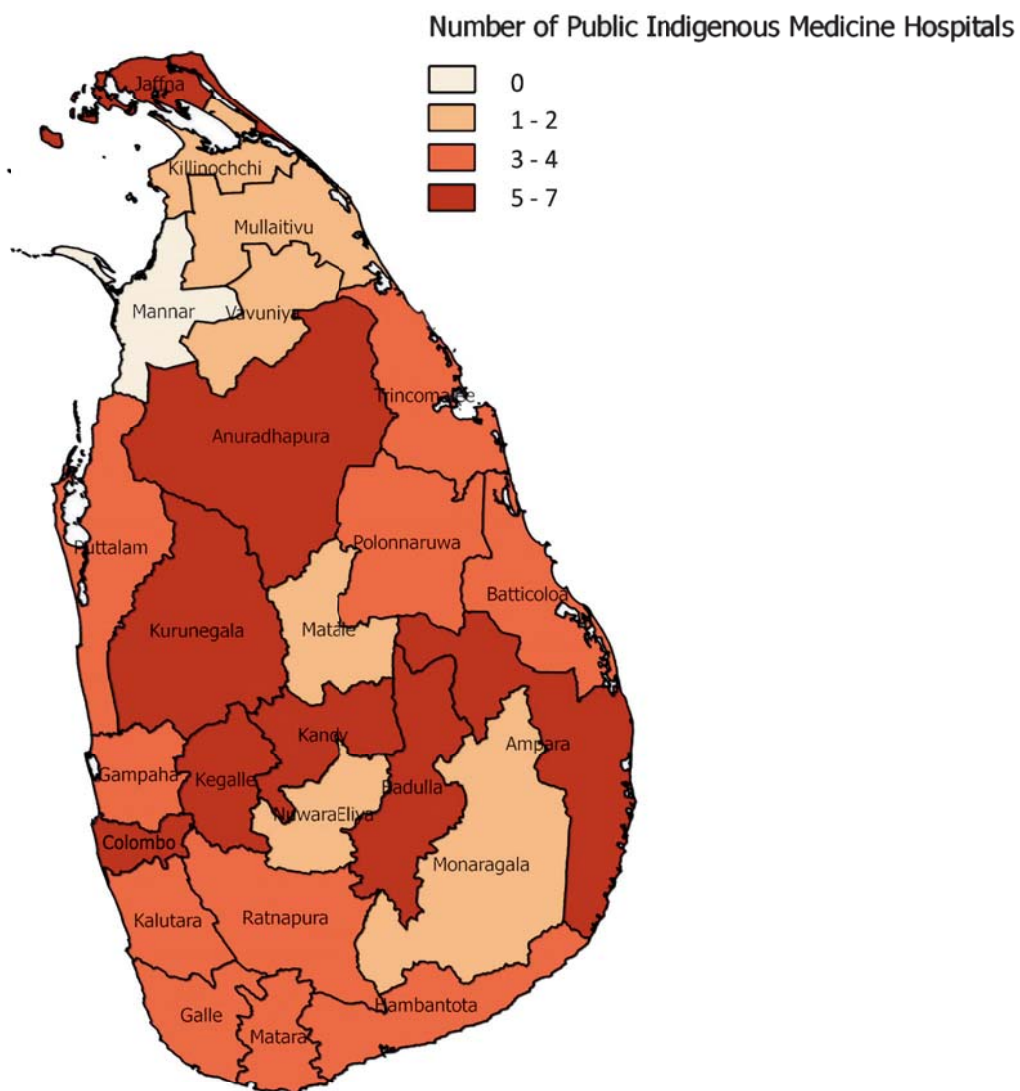


Figure 10.17 : Distribution of State Indigenous Medicine Hospitals in Sri Lanka, 2017

Source: Medical Statistics Unit

There are no inward treatment facilities functioning in any of the state indigenous medicine hospitals in Mannar district.

The indigenous medicine healthcare delivery system is dispersed over the country, in general. It is observed by the survey teams that some of

those hospitals are located in extremely rural areas with poor physical and human resources but provide services for a considerable number of patients. According to some hospital staff, some patients tend to visit those hospitals which are far from their living area, rather than visiting nearby hospitals.

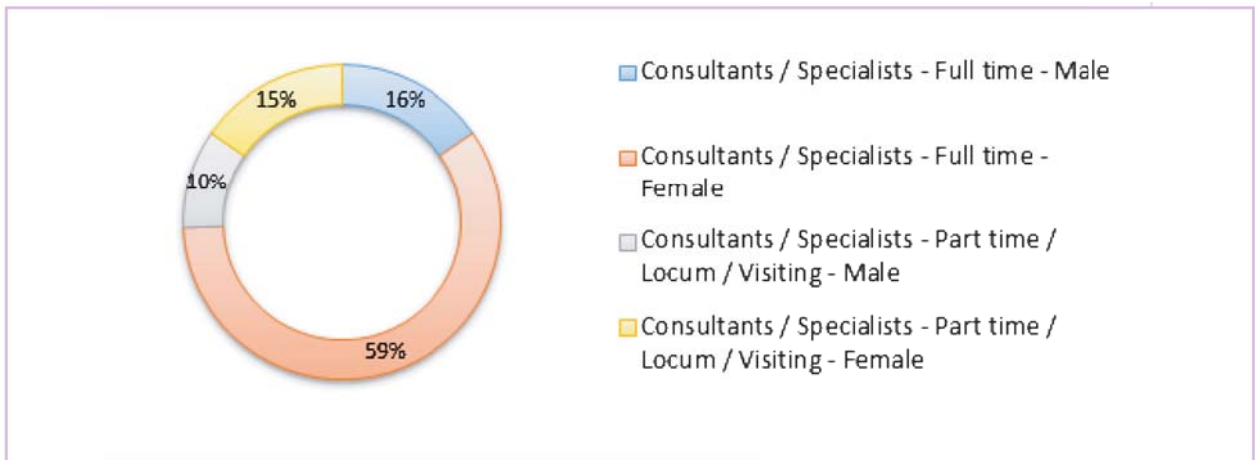
Table 10-8 : Distribution of Total Patient Beds in State Indigenous Medicine Sector Hospitals in Sri Lanka

District	No. of Patient Beds in State Indigenous Medicine Sector Hospitals	District	No. of Patient Beds in State Indigenous Medicine Sector Hospitals
Colombo	412	Mannar	0
Gampaha	199	Batticaloa	60
Kalutara	126	Ampara	233
Kandy	248	Trincomalee	114
Matale	33	Kurunegala	430
Nuwara Eliya	52	Puttalam	93
Galle	142	Anuradhapura	217
Matara	191	Polonnaruwa	183
Hambantota	250	Badulla	183
Jaffna	200	Monaragala	111
Mullaitivu	22	Ratnapura	261
Vavuniya	44	Kegalle *	193
Kilinochchi	12	Total	4,009

* Excludes Kegalle Base Ayurvedic Hospital

Source: Medical Statistics Unit

Colombo and Kurunegala are the leading districts by the hospital beds. 44% of hospitals in state indigenous medicine sector have bed categorization systems. Among the categorized beds, 67% of the beds are categorized as Male/Female Beds.



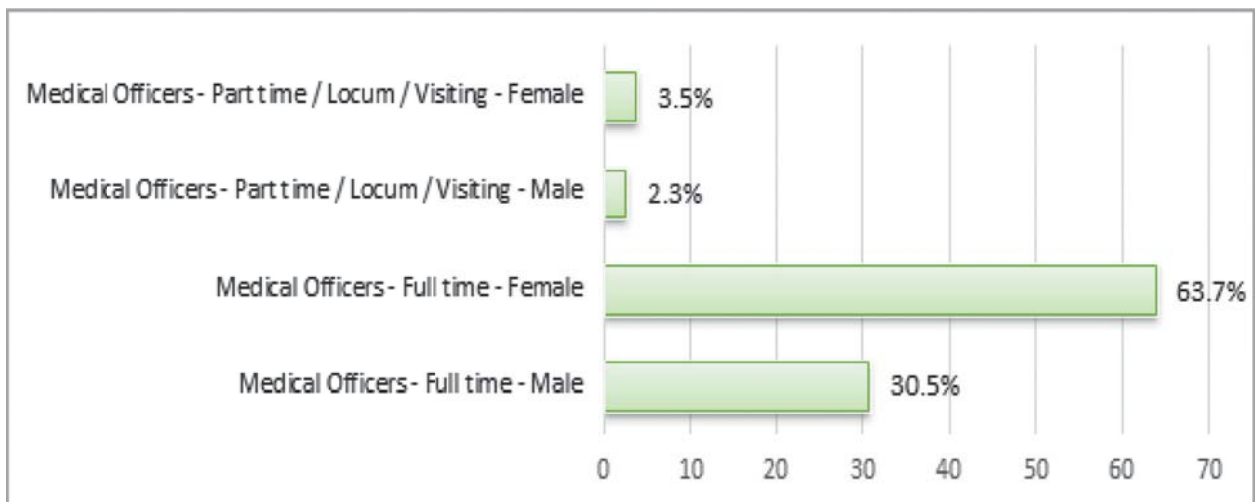
Excludes Kegalle Base Ayurvedic Hospital

Figure 10.18 : Percentage Distribution of Consultants in State Indigenous Medicine Sector

Source: Medical Statistics Unit

Majority of the Consultants/Specialists are females working on full time basis. There are

a few Consultants/Specialists working on part time basis

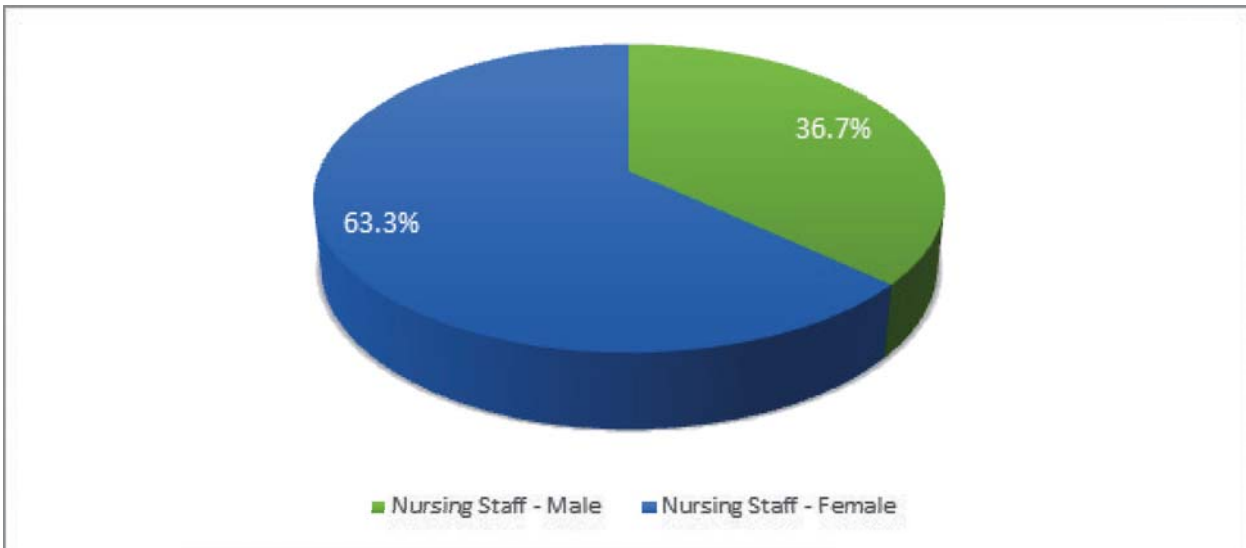


Excludes Kegalle Base Ayurvedic Hospital

Figure 10.19: Percentage Distribution of Medical Officers in State Indigenous Medicine Sector

Source: Medical Statistics Unit

There are a few part time/visiting medical officers in state indigenous medicine hospitals.



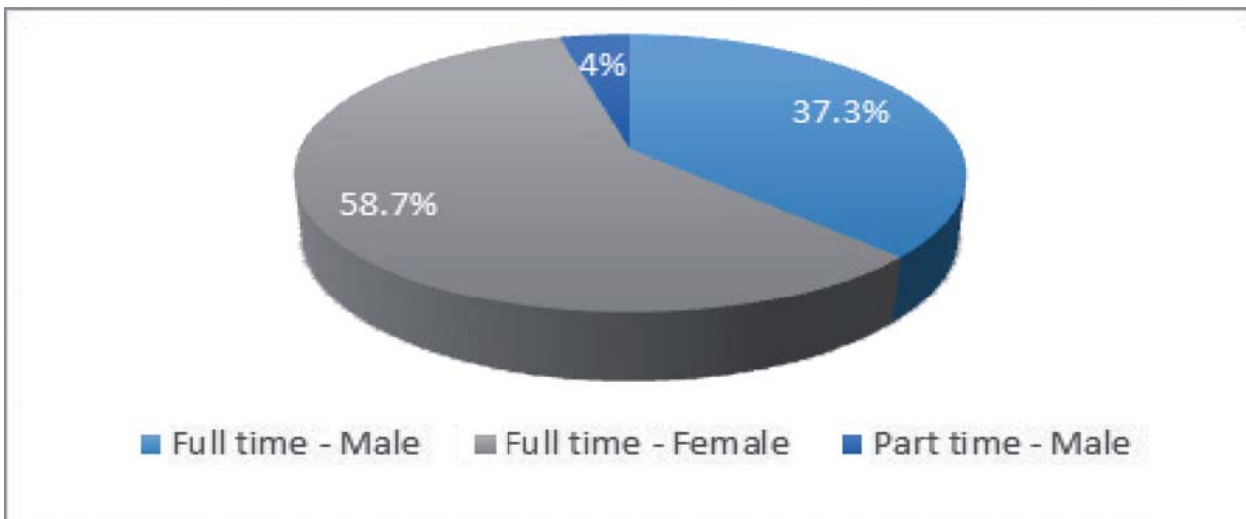
Excludes Kegalle Base Ayurvedic Hospital

Figure 10.20 : Percentage Distribution of Nursing Staff in State Indigenous Medicine Sector

Source: Medical Statistics Unit

It is noted, in some hospitals there are no any qualified nursing staff. There is no any part time

basis nursing staff in this sector at all.



Excludes Kegalle Base Ayurvedic Hospital

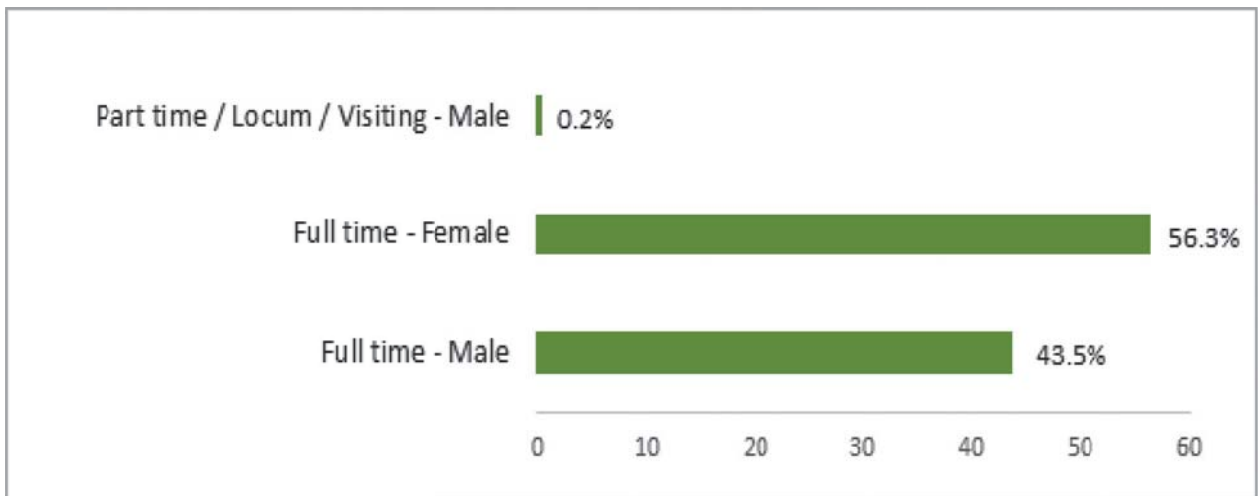
Figure 10.21 : Distribution of Paramedical Staff in State Indigenous Medicine Sector

Source: Medical Statistics Unit

All most all the paramedical staff (96%) is working in full time basis. There are no any females working on part time basis among paramedical staff in this sector.

This situation is same for attendants and other staff in the state Indigenous Medicine sector.

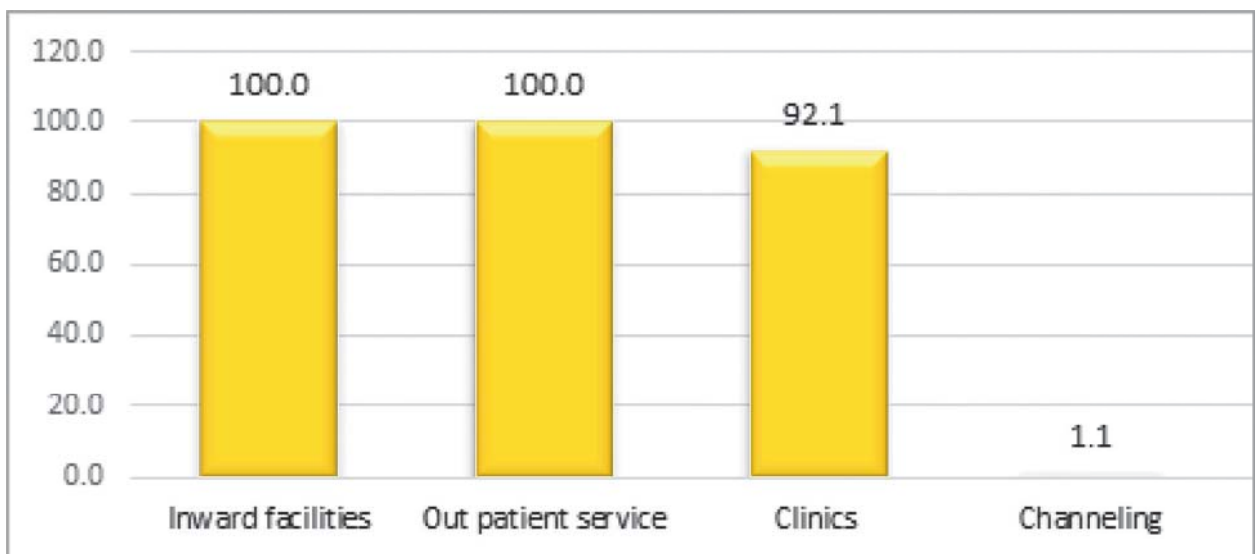
(Figure 10.22)



Excludes Kegalle Base Ayurvedic Hospital

Figure 10.22 : Distribution of Attendants in State Indigenous Medicine Sector

Source: Medical Statistics Unit



Excludes Kegalle Base Ayurvedic Hospital

Figure 10.23 : Percentages of Availability of Facilities at State Indigenous Medicine Sector

Source: Medical Statistics Unit

Table 10-9 : Number of Hospitals with X-Ray, Medical Laboratory and ECG

X - Ray		Medical Laboratory		ECG	
Yes	No	Yes	No	Yes	No
4	85	16	73	1	88

Excludes Kegalle Base Ayurvedic Hospital

Source: Medical Statistics Unit

Although Indigenous medicinal practice is mainly based on traditional diagnosis methods, the modern technological tests are performed in some hospitals. Four hospitals have X-Ray

facilities and one hospital has ECG facility. Medical laboratories are maintained in 16 hospitals.

Table 10-10 : Number of Hospitals with ETU and Ambulance Service Facilities in State Indigenous Medicine Sector

ETU		Ambulance Service	
Yes	No	Yes	No
22	67	11	78

Excludes Kegalle Base Ayurvedic Hospital

Source: Medical Statistics Unit

Table 10-11 : Number of Hospitals by Type of Tests Performing in the Medical Laboratory in State Indigenous Medicine Sector

Haematology		Biochemistry	
Yes	No	Yes	No
16	73	8	81

Excludes Kegalle Base Ayurvedic Hospital

Source: Medical Statistics Unit

Almost all the state indigenous medicine sector hospitals maintain patient records. Percentage of hospitals which have specialized staff for record keeping is 73%. Data processing is done in 66% of hospitals.

11. Laboratory Services

11.1. 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 under the line ministry and provincial ministries 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 head quarters at National Blood Centre (NBC), NBTS has 96 blood banks island wide.

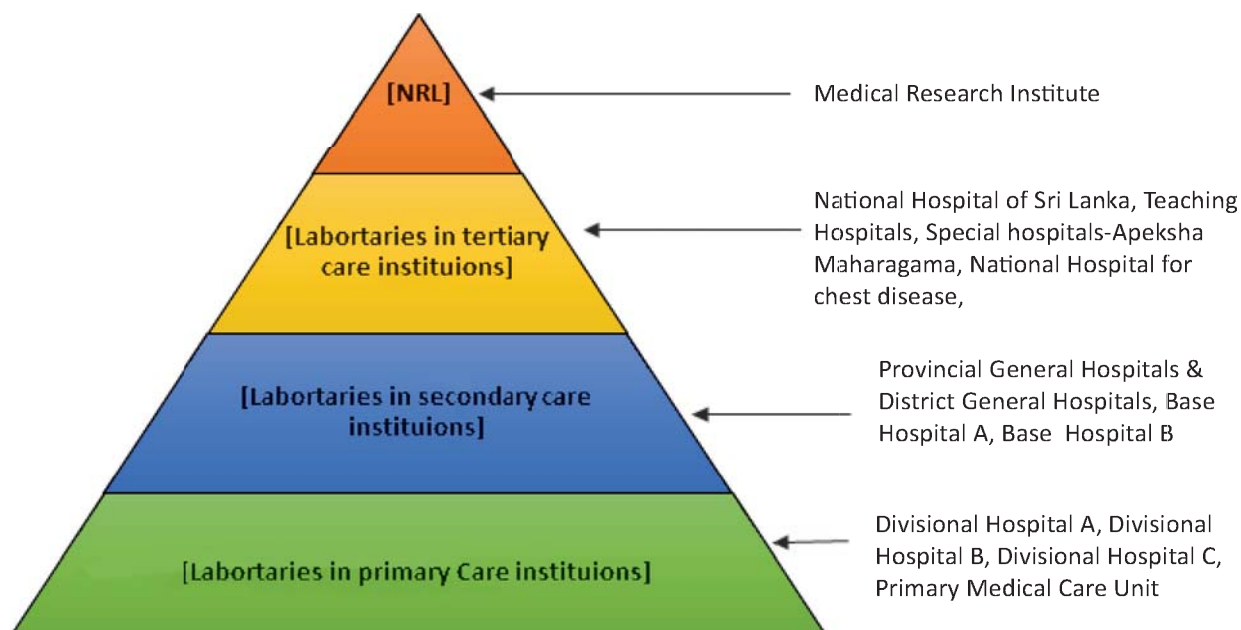
The categorization of blood banks is as follows,

1. National Blood Centre - the headquarters
2. Cluster Centres.
3. Peripheral Blood Banks.

11.2. 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.



Key message 1:

There is a dearth of laboratories in primary care institutions

All tertiary care institutions and 96% of secondary care institutions have functioning laboratories. Only 5.4% of primary care institutions have laboratories.

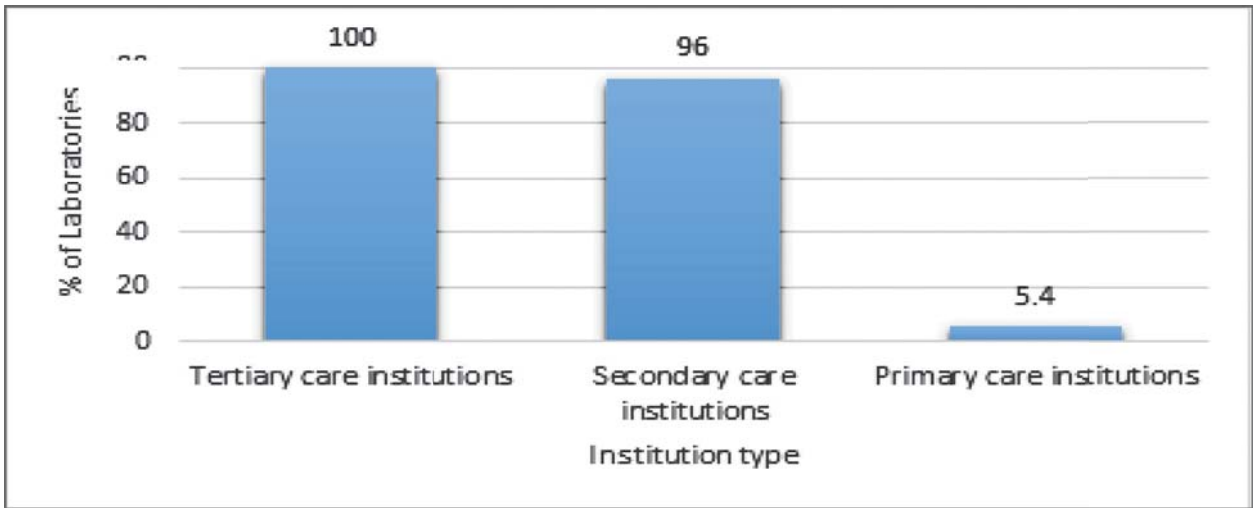


Figure 11.1: Distribution of Laboratories in Primary, Secondary and Tertiary Care Institutions

Source: Deputy Director General (Laboratory Services) division

Recommendation

1. Strengthen and Establish laboratories in all primary care institutions
2. Expansion of the cluster laboratory system with operationalized laboratory network

There are laboratories in 96% of health care institutions under the Line Ministry and 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 Ministry have functioning laboratories, where as was 99% of primary care intuitions are managed by the Provincial Ministry

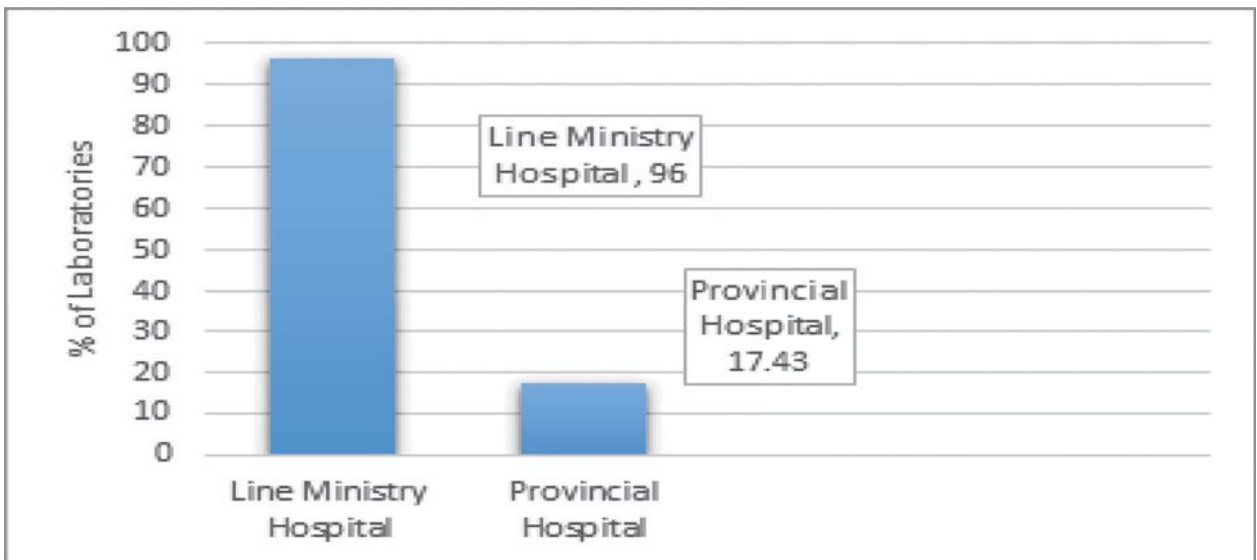


Figure 11.2: Distribution of laboratories in health care institutions under the purview of the Line Ministry and the Provincial Ministry

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.

TH, PGH, DGH and BH-A and BH-B health care institutions under the purview of the Line Ministry have laboratory facilities.

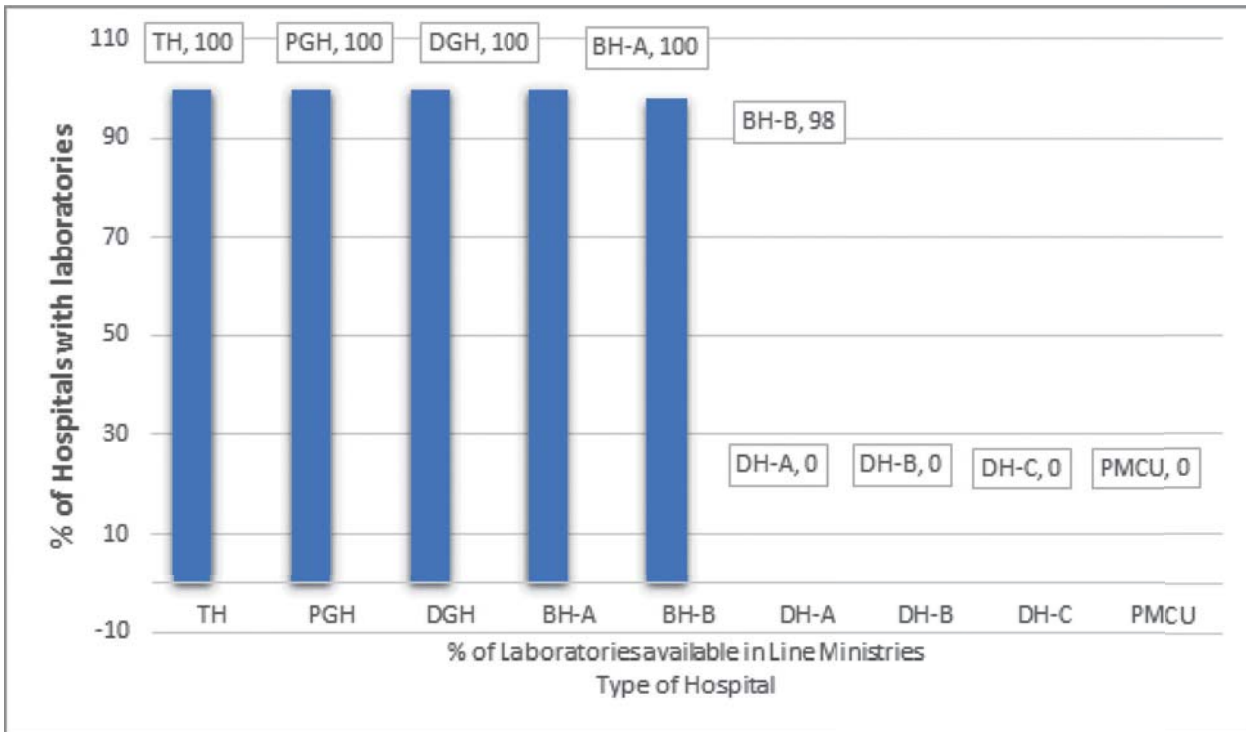


Figure 11.3: Type of Line Ministry Institution according to availability of Laboratory Facilities

Source: Deputy Director General (Laboratory Services) division

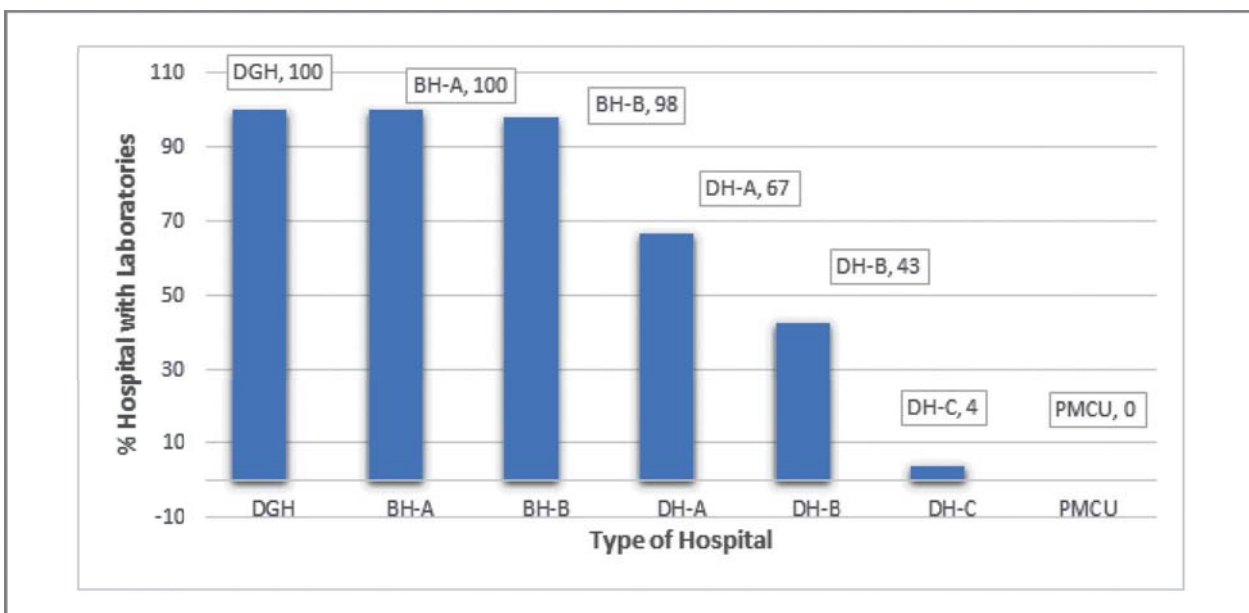


Figure 11.4: Type of Provincial Ministry Institution according to availability of Laboratory Facilities

Source: Deputy Director General (Laboratory Services) division

Recommendations

1. Establish and strengthen Provincial reference laboratories in all provinces.
2. 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 920 million in 2017. In 2017, while 100% of these allocations were released the actual expenditure is 750 million. (Financial progress 82%) This is significant improvement in expenditure considering the fact that the actual expenditure remained less than 400 million throughout the last five years due to lack of imprest to proceed with the purchasing of equipment.

Key message 3 :

Though the allocation for purchasing laboratory equipment was increased but financial progress is stagnant due to inadequate cash flow (Lack of Imprest).

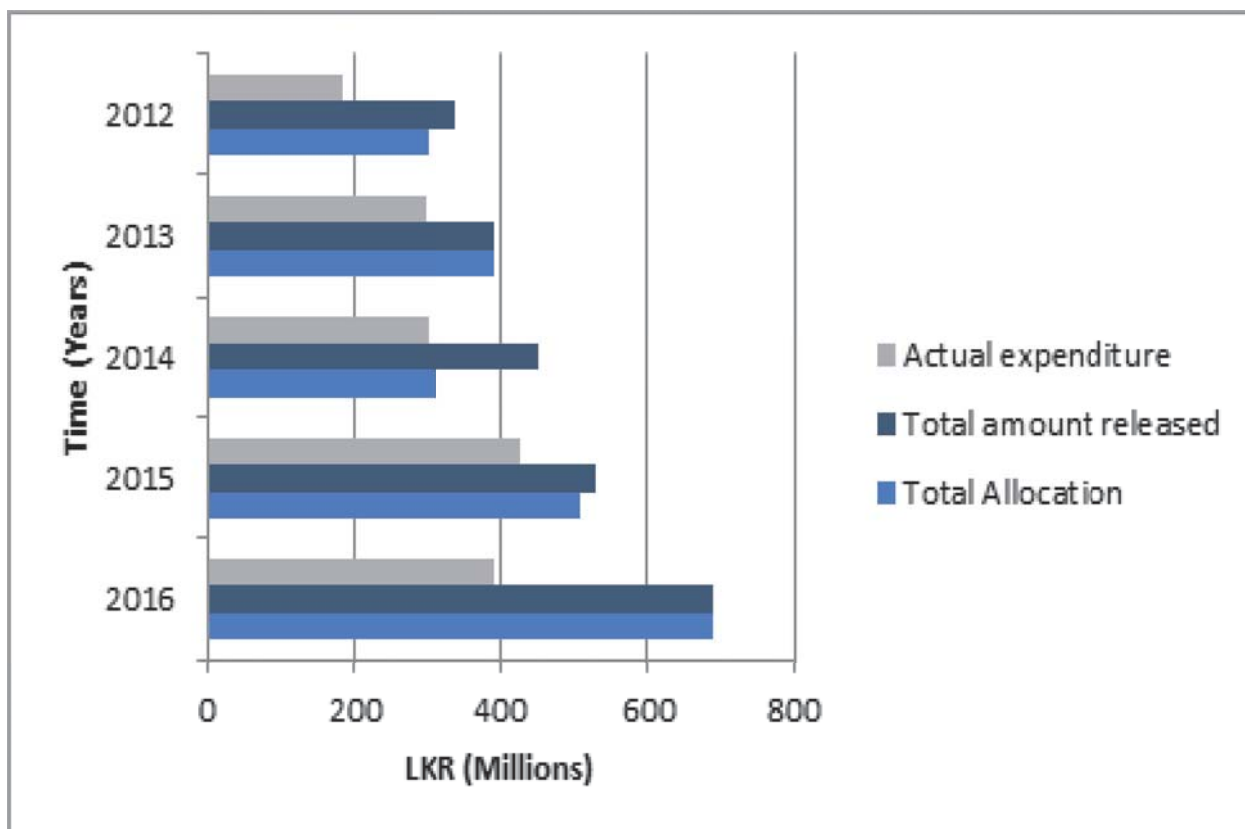


Figure 11.5: Lab financing for purchasing of laboratory equipment for line ministry laboratories

Source: Deputy Director General (Laboratory Services) division

Key message 4 :

Underutilization of service agreement funds by the health care institutions

Recommendation

To provide finances to match the allocation.
(Mismatch between the graph and the explanation)

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

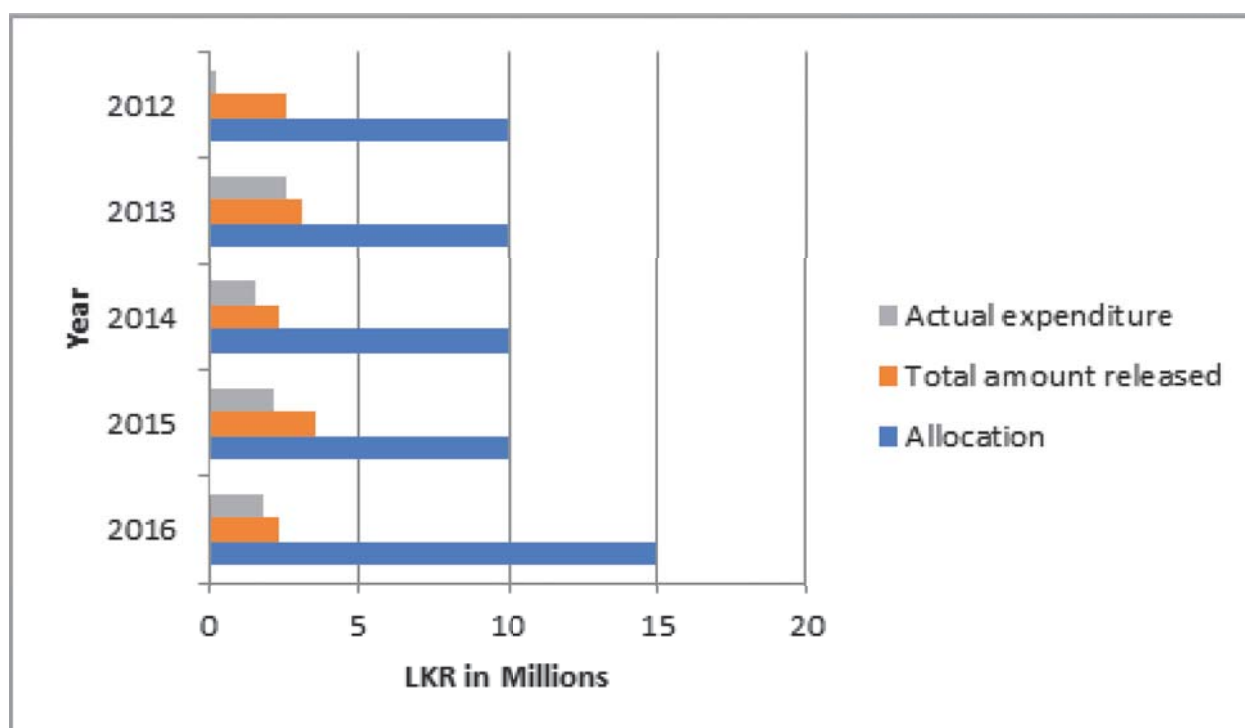


Figure 11.6: Lab financing for maintenance of equipment

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) No strong collaboration between the curative sector laboratories and preventive sector laboratories at the Ministry level.

- 2) Balancing the capacity of new technology with current needs.
- 3) Preventive maintenance and repair of laboratory equipment.
- 4) Rapid staff turn-over and shortage of qualified/specialized staff.
- 5) Poor remuneration of staff.

Achievements in 2017

1) Development of laboratories in line ministry institutions

According to the current health policy, to reduce the out of pocket expenditure, health services are to be provided free of charge to all citizens of the country. In this view automated analysers were given to most of the laboratories in the line ministry and provincial health institutions.

Total of 919 million rupees funds were allocated for the year 2017 DDG (LS) which were released for purchasing of new laboratory equipment for line ministry hospitals and many laboratories were equipped with fully automated analyser for Haematology and Bio chemistry.

2) Strengthening of the Provincial laboratory expansion programme.

The Provincial level hospital 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.

In the year 2017 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) Strengthening of mobile laboratory services.

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 area. The services were provided at Health camps and Mobile Health Clinics.

organized by government and non-governmental, social organizations. In the year 2017, mobile laboratory services were offered to 155 centres all over the country and 42,531 tests were done through the service.

4) Strengthening of Virology laboratory services in the country

With the increasing trend of viral illnesses in the community, and the new advances in medicine, diagnostic virology services have entered the mainstream medical practice providing a rapid accurate diagnosis of infectious diseases.

Until 2016, the virology laboratory services in the government sector was only limited to the Medical Research Institute, Colombo and it was inadequate to meet the priority needs of the country. Furthermore, the services will be further required with the initiation of stem cell transplantation and expansion of solid organ transplant programme. In this context, steps have been taken to expand the availability of virology diagnostic services at several regional centers throughout the country.

The decision was taken to establish regional virology laboratories at Teaching hospitals, Kandy, Karapitiya, Jaffna, and Anuradhapura and also at Apeksha Hospital, Maharagama to accommodate the needs for stem cell transplantation service.

The virology laboratory at Teaching Hospital Kandy was further strengthened and services expanded as a regional laboratory in 2017.

5) Implementation of the decision to perform all laboratory investigations in the hospitals ensuring full utilization of available resources.

6) Heads of all health care institutions were made aware of the allocation for maintenance activities beyond 5 years of purchasing.

Special Projects

1) Antimicrobial Resistance

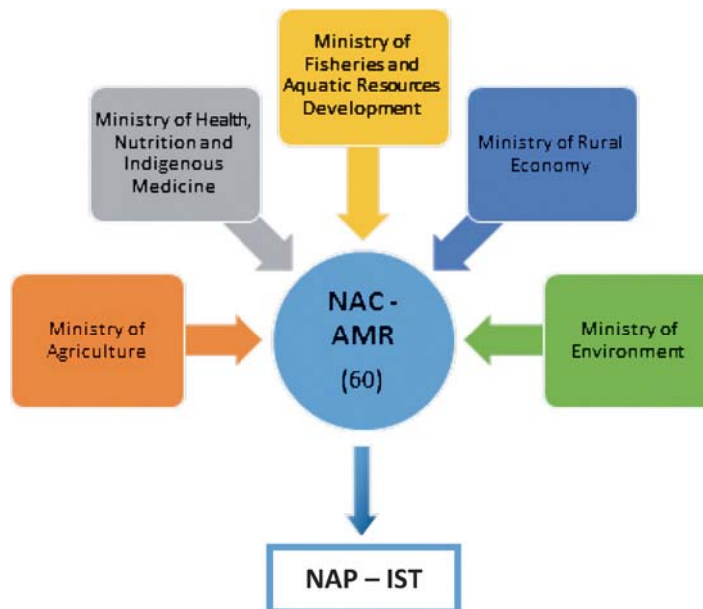
Introduction

Antimicrobial resistance is spreading throughout the world, compromising our ability to treat infectious diseases, as well as undermining many other advances in health and medicine. Numerous types of anthropogenic activity, including irrational antibiotic use limit the usefulness of these agents, jeopardizing the lives of millions of humans. It is estimated that by 2050, if not curtailed, the number of deaths attributable to AMR will mount up to 10 million by 2050 and the major brunt of the burden will fall on low or middle income countries.

National Focal Point for AMR containment in Sri Lanka:
Deputy Director General
Laboratory services
The National Advisory committee for combating Antimicrobial Resistance (NAC – AMR)

Chaired by : The Director General of Health Services
Members : 60 members
4 Sectors : Human health , Veterinary, Fisheries, Agriculture and Environment sectors
4 Ministries : Ministry of Health, Nutrition and Indigenous Medicine, Ministry of Rural Economy, Ministry of Fisheries and Aquatic Resources Development, Ministry of Agriculture, Ministry of Environment and Mahaweli Development.

Main Function : Serves as the apex body for decision making in combating AMR



National Action Plan implementation strengthening team (NAP-IST)

Chaired by : The Deputy Director General (Laboratory Services)

Members : Comprises of 30 members of the advisory committee, identified to coordinate the implementation of activities pertinent to combating AMR.

Achievements in 2017

1) Aligned with the Global Action Plan, drafting the National Strategic Plan to combat antimicrobial resistance (NSP-AMR) was completed in 2017. The NSP-AMR spreads under 5 main objectives:

- Improve awareness and understanding of antimicrobial resistance through effective communication.
- Strengthen the knowledge and evidence base through surveillance and research.
- Reduce the incidence of infection through effective sanitation, hygiene and infection prevention measures.
- Optimize the use of antimicrobial medicines in human and animal health.
- Prepare the economic case for sustainable investment and increase investment in medicines, diagnostic tools, vaccines and other interventions.

2) Training of trainers programme for public education to combat Antimicrobial resistance with special emphasis on preparation of IEC materials.

3) Awareness programmes on combating AMR were conducted in several districts.

4) Development of the National Protocol for Antimicrobial resistance surveillance in SL.

5) Launching of the national guideline on Empirical and prophylactic use of antimicrobial was launched in 2016.

6) Introduction of antibiotic stewardship teams at hospitals by authorization of prescribing “Red light” antibiotics.

Recommendations

- 1) Strengthen multisectoral coordination between human and animal sector.
- 2) Regulation of Over-the-counter sale of antibiotics.
- 3) Strengthen legislation against unauthorized prescriptions in the human and animal health sectors.
- 4) Strengthen infection control programs in animal sector.
- 5) Strengthening Antimicrobial stewardship activities.
- 6) Strengthen the existing mechanisms to check drug quality before registration and post surveillance.
- 7) Develop a comprehensive educational coverage on rational use of antibiotics targeting the community.
- 8) Strengthen legislation against unauthorized prescriptions in the human and animal health sectors.

Priority actions for 2018

- 1) Conduct AMR awareness programmes systematically throughout the island among target groups.
- 2) Establishment of The National Surveillance system for Antimicrobial resistance in Sri Lanka.
- 3) Conduct island wide infection prevention control programme among health care personnel.
- 4) Develop a comprehensive program for community and healthcare personnel education on rational use of antibiotics with national coverage.

11.3. National Blood Transfusion Service

National Blood Transfusion service (NBTS), Sri Lanka is a fully government owned special campaign coming under the Ministry of Health. It is the sole supplier of blood and blood products to all government hospitals and majority of private sector hospitals. There are 101 functioning hospital based blood banks & 2 standalone blood centres (National Blood Centre & Southern Regional Blood Centre (SRBC- Kamburugamuwa) affiliated to 19 cluster centres, depending on the geographic distribution.

The Director NBTS being the chief executive officer of the organization, who is responsible for implementation and supervision of the common decisions taken by the organization. The majority of NBTS staffs are affiliated with the 19 cluster centres across the country. Each cluster centre is headed by Consultant Transfusion Physician or a senior medical officer. Each centre also has a Consultant Transfusion Physician who gives clinical and technical guidance.

This report compiles the consolidated statistics of the performance of the blood banks of the National Blood Transfusion Services for the year 2017.

Main functions of the NBTS

- 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) Blood component processing, testing, storage and transportation.
- 4) Specialized laboratory and diagnostic services.
 - a. Immuno Hematology Reference Laboratory
 - b. HLA Testing
 - c. Nucleic Acid Testing for transfusion transmitted infections (HIV, Hep B, C)
 - d. Pathogen Inactivation of Platelets (PI)
 - e. Frozen Red Cell (FRC) preparation and processing.
 - f. Stem Cell Transplantation – Collection, processing and storage of stem cells for autologous stem cell Transplantation programme at CIM.
 - g. Cord Blood Bank (still under validation)
- 5) Conducting Teaching & Training programs by NBTS.
 - a. Provision of Continuous Medical Education to all staff categories of NBTS
 - b. Training of Undergraduates, Post Graduates, Nursing Officers, and Students of Allied Health Sciences on blood banking and transfusion medicine.
 - c. Training for foreign students, (fellowship holders of WHO, AATM and other organizations.)

Achievements in 2017

- 1) NBTS was able to maintain 100% collection of blood from voluntary blood donations during the year 2017. (423,668 units of whole blood)
- 2) Three new blood banks opened
 - BH Theldeniya – Kandy cluster
 - BH Galigamuwa – Kurunegala cluster
 - BH Kaththankudy – Batticaloa cluster
- 3) Successful acceptance of application from NBTS for consideration as a WHO-CC.
- 4) HLA testing expanded with introduction of molecular testing and training by an accreditation expert from Netherlands.
- 5) Frozen Red Cell facility – validated to issue frozen blood products for clinical use
- 6) Initiated the project of bone marrow transplantation at LRH.
- 7) Successful continuation of provision of Fresh Frozen Plasma for fractionation

- 8) Successful continuation of stem cell transplantation programme at Apeksha Hospital, Maharagama.

Table 11-1 : Annual Blood Collection

Year	Voluntary collection	Replacement collection	Total collection
2010	268,128	34,755	302,883
2011	318,885	11,315	330,200
2012	349,423	2,182	351,605
2013	380,808	0	380,808
2014	380,367	0	380,367
2015	395,500	0	395,500
2016	414,175	0	414,175
2017	423,668	0	423,668

Source : National Blood Transfusion Service

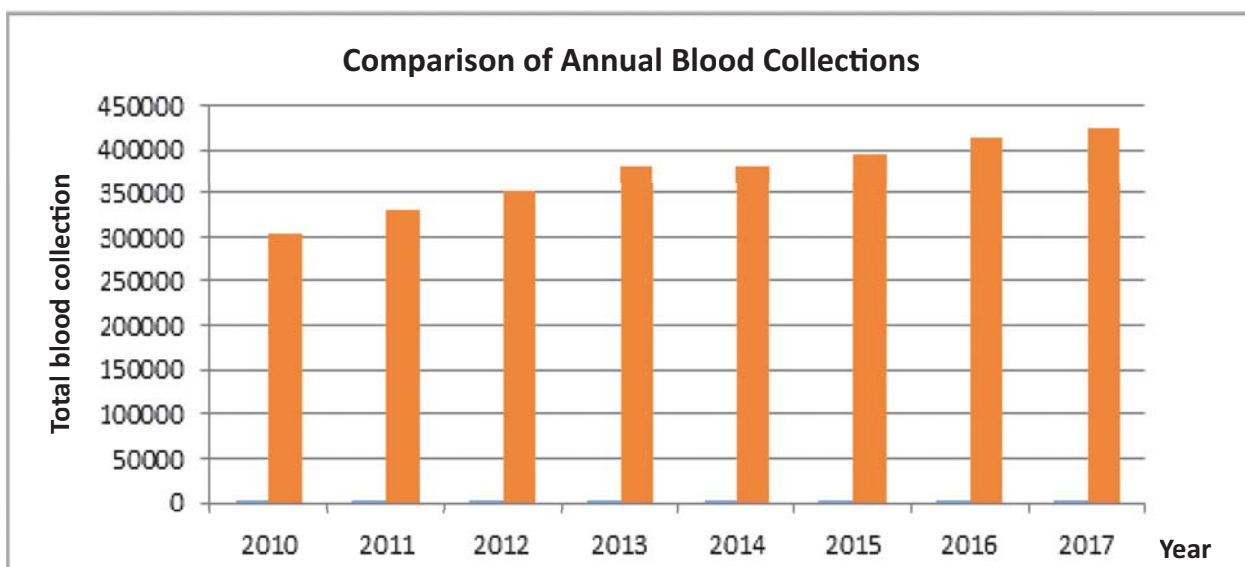


Figure 11.7: Comparison of Annual Blood Collections

Source : National Blood Transfusion Service

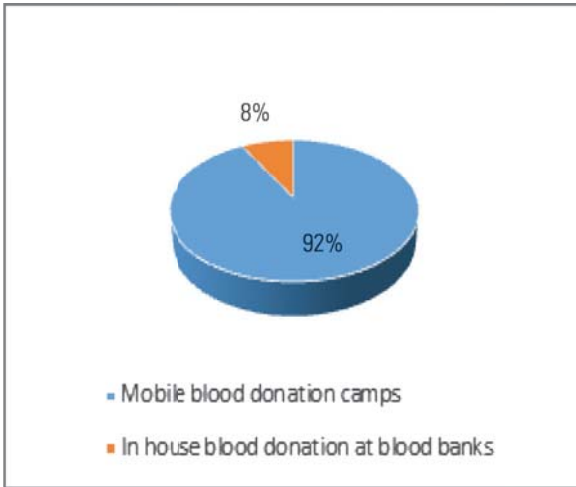


Figure 11.8: Distribution of total blood collection by mode of collection

Source : National Blood Transfusion Service

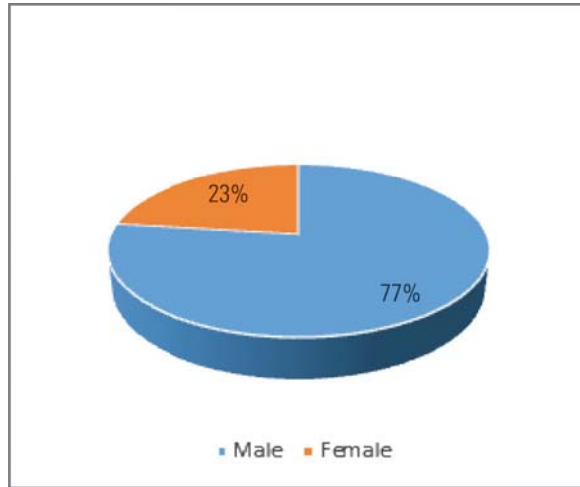


Figure 11.9: Gender distribution of blood donors

Source : National Blood Transfusion Service

Majority (77%) of blood donors are male and 23% were females.

Table 11-2 : Component preparation and comparison with previous years

	2011	2012	2013	2014	2015	2016	2017
RCC	335,746	361,149	380,760	379,774	393,348	408,959	417,792
Platelets	179,315	199,489	189,879	220,335	313,726	285,646	252,865
FFP	294,910	319,869	282,231	344,091	344,788	369,299	378,983

Source : National Blood Transfusion Service

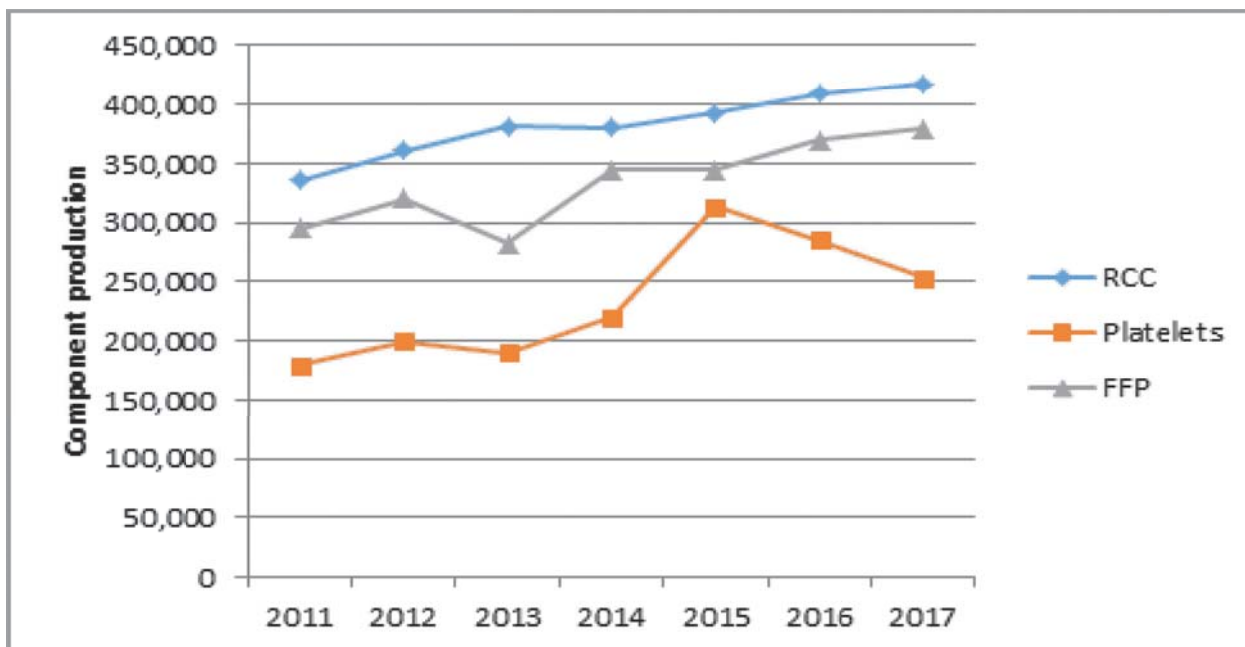


Figure 11.10: Component preparation and comparison with previous years, 2011 - 2017

Source : National Blood Transfusion Service

Testing of Donated Blood for Transfusion Transmissible Infections.

NBTS performs testing for all mandatory TTI testing, as per the recommendations of WHO.

NBTS consists of 18 testing centers, which has the facilities to test for HIV 1&2, Hepatitis B, C, VDRL and Malaria.

11.4. Screening of donated blood for Transfusion Transmitted Infections (TTI Tests)

Table 11-3 : Prevalence of TTI and Comparison with Previous years

Year	2013	2014	2015	2016	2017
Total Collection	380,808	380,367	395,500	414,175	423,668
HIV (scr. +ve)	625	648	646	696	764
Prevalence	0.16%	0.17%	0.16%	0.17%	0.18%
HIV (Conf. +ve)	16	26	21	25	28
Prevalence	0.004%	0.007%	0.005%	0.006%	0.006%
Hepatitis B (rpt. +ve)	273	394	409	505	618
Prevalence	0.07%	0.10%	0.10%	0.12%	0.14%
Hepatitis C (rpt. +ve)	953	657	800	847	905
Prevalence	0.25%	0.17%	0.2%	0.20%	0.21%
VDRL +ve	1,016	1,265	1,125	1,027	1,411
Prevalence	0.27%	0.33%	0.28%	0.25%	0.33%
TPPA +ve	180	152	175	152	152
Prevalence	0.05%	0.04%	0.04%	0.04%	0.03%
MP +ve	0	0	0	0	0
Prevalence	0%	0%	0%	0%	0%

Source : National Blood Transfusion Service

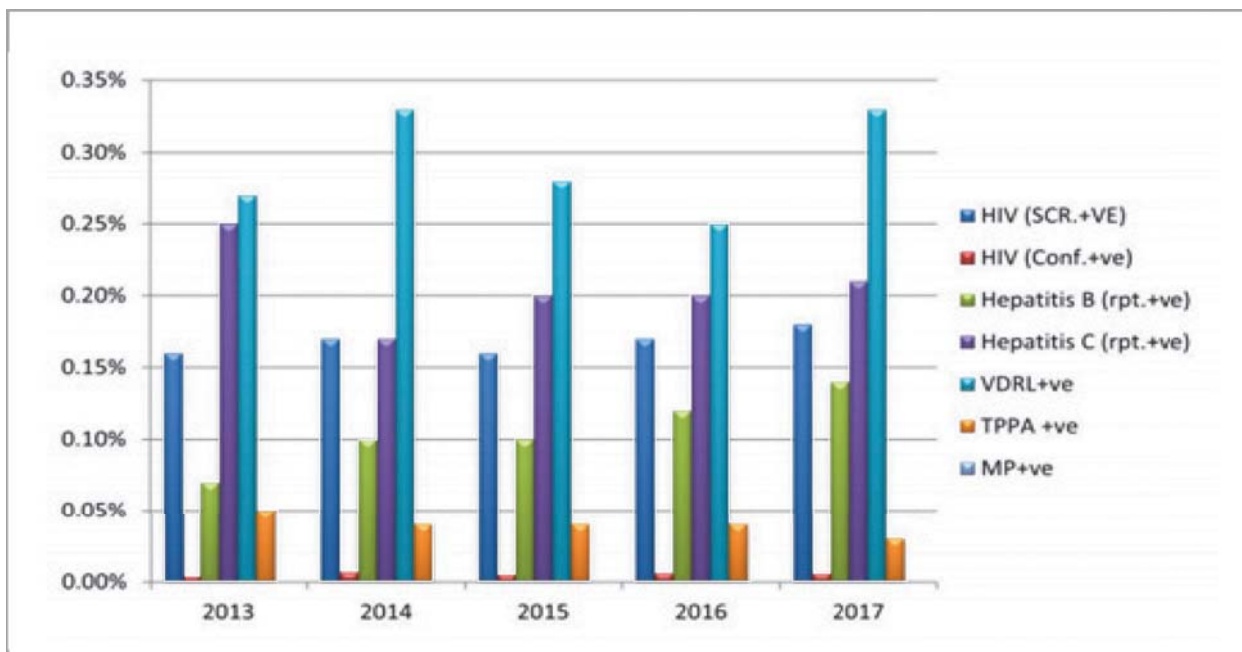


Figure 11.11: Percentage TTI reactive donations in comparison to previous years

Source : National Blood Transfusion Service

HLA testing

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

Table 11-4 : Comparison of HLA Statistics, 2013 - 2017

Typing and cross matches	2013	2014	2015	2016	2017
Class 1	2,876	2,293	2,288	2,015	1,253
Class 11	2,856	2,297	2,214	2,214	1,099
Cross match	2,076	1,365	1,471	1471	1,952
B27	194	352	194	194	492
PRA (Class I , Class II)	207	179	295	295	475
Transplantation					
Kidney (Patients,Donor)	2,721	2,455	2,094	2,094	1,027
Bone Marrow (Patients, Donors)	136	192	108	108	163
AP donor	14	11	32	32	7
Cadaveric Donors	22	7	15	15	169

Source : National Blood Transfusion Service

PRA - Panel reactive antibodies

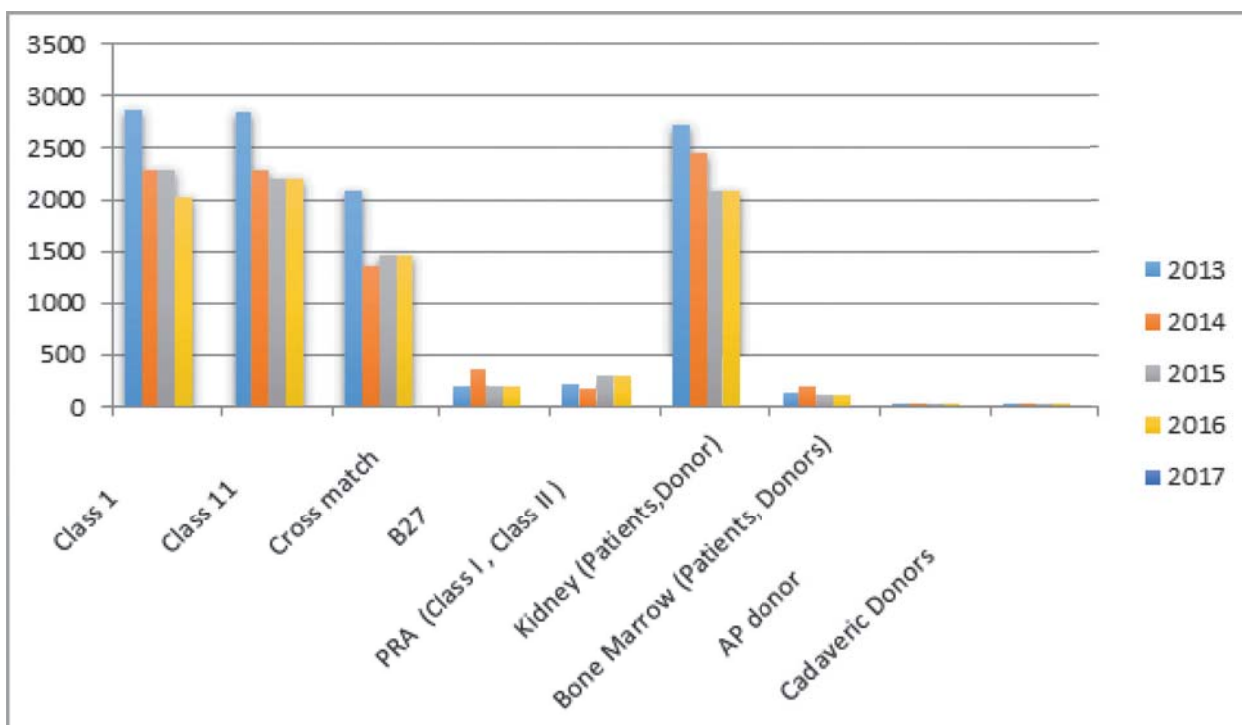


Figure 11.12: Comparison of HLA Statistics, 2013 - 2017

Source : National Blood Transfusion Service

Table 11-5 : Immuno-haematology Testings performed, 2013 - 2017

Test category	2013	2014	2015	2016	2017
Difficult compatibility testing	3,263	2,413	2,656	2,767	3,003
Antenatal Screening	1,371	1,640	1,263	3,266	4,440
Antibody titrations	398	243	394	241	272
DAT profile	790	637	603	702	1,013
Extended phenotypes	237	303	439	414	363
Cold agglutination titration	50	38	154	47	42
Isohaemagglutination test	43	80	54	97	53
Haemolysin test	26	26	55	97	156
Confirmation of Bombay O	13	111	22	15	10
Elution studies	11	30	26	30	50
Transfusion reaction investigations	15	14	49	21	39

Source : National Blood Transfusion Service

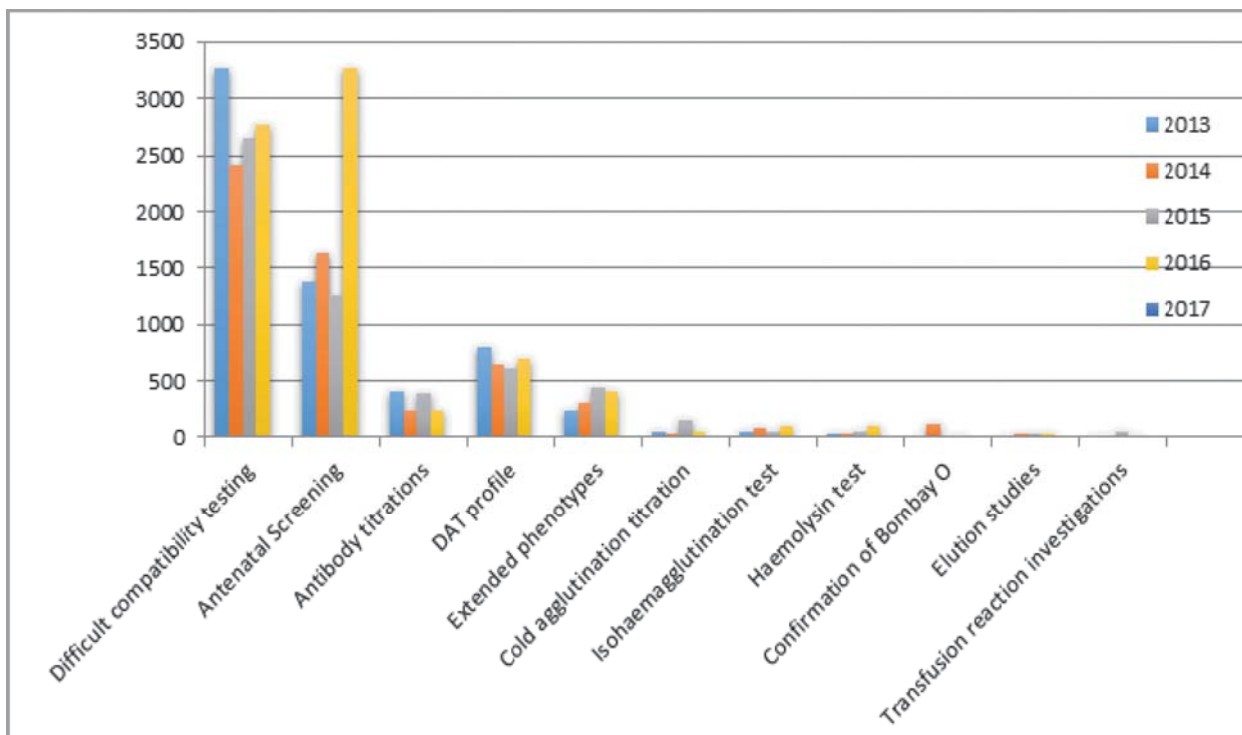


Figure 11.13: Immuno-haematology Testings performed, 2013 - 2017

Source : National Blood Transfusion Service

Preparation of Reagents

Table 11-6 : Statistics of reagent preparation, 2012 - 2017

Reagents prepared	2012	2013	2014	2015	2016	2017
PBS working solution (L)	5,510	5,730	5,565	7,785	3,965	*0
PBS stock solution (L)	520	610	620	810	3,965	*0
Alsevers solution(l)	108	116	148	172	274	396
Antibody screening cells(mL)	73,114	66,390	39,255	45,650	162,800	188,800
Anti A1 (ml)	1,030	837.5	482.5	775	1,450	906
Anti H (ml)	80	247.5	327.5	475	1,125	678
ABO Reverse grouping cells (ml)	19,280	21,980	28,275	37,625	120,200	132,300

Source : National Blood Transfusion Service

*PBS was not prepared due to non-availability of the reagent. Normal saline was used as an alternative

Statistics of Teaching and Training

Training programs conducted for each Staff categories of NBTS

1. Blood Bank Medical officers - 4 weeks programs.
2. Nursing officers – 4 weeks and 2 weeks programs.
3. Medical Laboratory Technologists – 8 weeks programs.
4. Public Health Inspectors-4 weeks Program.
5. Pharmacists -1 week.
6. Junior staff /Lab orderly – 1 week programs.
7. Ambulance Drivers -3 days.

Number of trainees trained in 2017

Table 11-7 : Blood Bank Staff trained in 2017

	Staff Category	Number of trainees
1	Medical Officers	
	2 weeks	7
	4 weeks	45
	6 weeks	54
		Total - 108
2	Nursing Officers	
	Matrons	3
	Nursing sisters	7
	NO - 2 weeks + NBTSIS	54
	NO – 4 weeks + NBTSIS	57
		Total - 121
3	Medical Laboratory Technologists	8
4	Junior Staff	38

Source : National Blood Transfusion Service

Table 11-8 : Non - Blood Bank Staff trained in 2017

	Staff Category	Number of trainees
1	Haematology Diploma Trainees	17
2	Virology MD Trainee	1
3	Medical Students	Total - 100
	University of Statistics	16
	KDU	84
4	MLT students	189
5	Nursing Students	243
6	Intern pharmacists	14
7	Health Assistant - Navy Officers	32
8	School students (of SBC)	21

Source : National Blood Transfusion Service

Table 11-9 : CME and Workshops conducted for year 2017

No.	Programme	Staff Category	Date	No. of participants
1	CME on Sample acceptance for reference lab	NBC Nursing Officers	27.02.2017	10
2	CME on Blood and blood Component irradiation	NBC & CIM MLT NBC Medical Officers	01.03.2017	23
3	Blood Safety Solutions (TTI screening)	Consultant Transfusion Physicians Medical Officers	09.03.2017	59
4	Emergency management of renal failure patients	NBC Medical Officers NBC Nursing Officers	15.03.2017	20
5	Workshop on Skills development immune-haematology	Colombo Cluster Blood Bank Medical Officers	22.03.2017	24
6	Workshop on Quality Assurance of Blood Component Production	Consultant Transfusion Physicians HBB Medical Officers HBB MLTT	28.03.2017 29.03.2017	70 65
7	Workshop on Safe blood Transfusion	Colombo Cluster Blood Bank Nursing Officers	03.04.2017	26
8	Workshop on Quality Assurance of Blood Component Production	Lab Orderlies	30.05.2017	6
9	Training programme on Compomat G5 Evaluation	Consultant Transfusion Physicians HBB Medical Officers HBB MLTT	28.06.2017 29.06.2017	45 44
10	Workshop on Skills development in Blood Bank Serology	Blood Bank Medical Officers	03.08.2017	20
11	Training on Barcode printing	Office staff	10.08.2017	7
12	Seminar on Quality Assurance in nucleic Acid Amplification Testing	Consultant Transfusion Physicians NBC Medical Officers	25.08.2017	27

Source : National Blood Transfusion Service

Nucleic Acid Testing for transfusion transmitted viruses - 2017

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.

blood (Eg: Human Immunodeficiency Virus-HIV, Hepatitis B Virus-HBV and Hepatitis C Virus-HCV).

Nucleic Acid Testing directly amplifies and detects the genetic material (DNA or RNA) of viruses in order to screen for the existence of transfusion transmitted infections in donated

Table 11-10 : Total NAT tests performed and details of test results

Month	Total No of Tests	No of Reactives	Serology Reactivity	Serology Non Reactives
January	6,860	4	HBV - 3	1
February	5,475	3	HBV - 3	0
March	5,641	3	HBV - 2 , HIV - 1	0
April	5,469	0	0	0
May	8,938	4	HBV - 1	3
June	8,461	7	HBV - 2 , HIV - 2	3
July	8,803	5	HBV - 2 , HIV - 3	0
August	9,884	5	HBV - 3	2
September	4,930	1	0	1
October	4,989	3	HIV - 2 , HCV - 1	0
November	9,390	16	HBV - 2 , HIV - 3	11
December	12,040	5	HBV - 3	2
Total	90,880	56		23

Source : National Blood Transfusion Service

Special development activities of 2017

There are two on going projects to develop the National Blood Transfusion Service. Namely;
Upgrading the National Blood Transfusion Services (NBTS) with State of the Art Technology.

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

Two main constructions including new wing to the National blood Centre (NBC) and Blood Bank building(12,675 sqft) and to National cancer Institute- Maharagama(12,647 sqft) are being conducted under the project and 90% of the construction has been completed in the new wing to NBC while 95% of construction completed the building of National Cancer Institute.

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

12. Indigenous Medicine Sector

12.1. Ministerial Priorities

1. Strengthening legal framework on indigenous medicine.
2. Strengthening and enhancing the Ayurvedic research.
3. Use Information Technology to Ayurveda.
4. Human resource development for updating and improving Ayurvedic health care.
5. Increasing the production of Ayurvedic medicines and cultivation of herbs, improvement and establishment of herbal gardens.
6. Maintaining the Ayurvedic commercialization
7. Enhancing the availability of Homeopathy Medical System

- Teaching Hospitals
- Research Hospitals
- Herbal Gardens

- ◇ Ayurvedic Drugs Corporation
- ◇ Homeopathic Medical Council
- ◇ Community Health Promotion Service
- ◇ Homeopathy Hospital

In addition to treat patients in Island wide, Ayurvedic Research Institution is conducting various research programs for new trials and identifying the factors badly effect on their health, which providing specialist consultation service, carrying out diseases alleviation programs and therapeutic services, prediction of health issues ,pertaining to health, Planning, Implementation and assessment, Health Education, Research activities, Public Health activities, manufacturing Medicine, and Standardization, Cultivation of Aurvedic herbal plants and also Aryurvedic service management. There are seven herbal gardens spread over 303 acres island wide to enhance the production of Ayurvedic herbs locally.

Institutions under Indigenous Medicine Sector

- ◇ Department of Ayurveda
 - National Institute of Traditional Medicine
 - Bandaranaike Memorial Ayurveda Research Institute.
 - The Ayurveda Medical Council

Table 12-1 : Island Wide Ayurvedic and Homeopathy Medical Organizations: 2017

Hospitals	No. of Functioning Aurvedic Hospitals	Location
Teaching Hospitals , Ayurveda	05	Borella, Yakkala, Kaithady, Trincomalee, Manchantuduva.
Ayurvedic Research Hospitals	03	Navinna, Hambantota, Ampara.
Provincial Ayurvedic Hospitals	95	All over the island .
Provincial Ayurvedic Central Dispensaries	230	All over the island.
Autonomous Ayurvedic Dispensaries	374	All over the island.
Herbal gardens	07	Pallekele, Giradurukotte, Haldummulla, Pinnaduwa, Pattiyapola, Kanneliya, Navinna.
Homeopathy Hospital	01	Welisara.
Homeopathy Clinics	07	Palamunai, Parakaduwa, Kurunegala, Tholangamuwa, Mathale, Dehiwala, Moneragala.

Source - Statistical Unit, Indigenous Medicine Division

There are 708 Ayurvedic Hospitals and Ayurvedic Dispensaries in Sri Lanka under the

Indigenous Medicine Division providing patient care and counseling services.

Table 12-2 : Information of Received Statistics of Ayurvedic Hospitals and Ayurvedic Dispensaries - 2017*

Type of Hospitals / Dispensaries	No of Functioning Aurvedic Hospitals	No of Received Information	Received Percentage %
Ayurveda Teaching Hospital	5	4	80
Research Hospital	3	3	100
Ayurvedic Hospitals	95	76	80
Ayurvedic Central Dispensary	230	169	73
Free Ayurvedic Dispensary	374	265	71
Homeopathic hospital	1	1	100
Total	708	518	73

*Provisional

Source – Statistics Unit, Indigenous Medicine Division

Below Statistical Tables were created by using 73% received Hospital Returns-2017

Table 12-3 : Physical Background of Ayurvedic Hospitals and Ayurvedic Dispensaries - 2017*

Type of Hospitals / Dispensaries	Number of Beds	Number of Doctors	Pharmacists	Nursing staff	Attendant staff
Ayurveda Teaching Hospitals	292	63	4	25	34
Research hospitals	148	28	2	20	13
Provincial Ayurvedic hospitals	3,544	670	28	112	356
Provincial Ayurvedic Ayurvedic Central Dispensary	-	316,	1	-	30
Free Ayurvedic Dispensary	-	222	-	-	-
Homeopathic Hospitals	22	2	1	-	2
Total	4,006	1,301	36	157	435

*Provisional

Source – Statistics Unit, Indigenous Medicine Division

Ayurvedic Hospitals and Ayurvedic Dispensaries carry out Ayurvedic Medical Needs and Treatments on a daily basis, while Ayurvedic hospitals provide outpatient care, as well as

inpatient care for patients. Table 11.4. Average indoor and outdoor daily arrival of patients by type of hospital / dispensary – 2017*

Table 12-4 : Average indoor and outdoor daily arrival of patients by type of hospital / dispensary – 2017*

Hospital type / Dispensary type	Average No. of Treatment days **	Total Number of Patients	Total Number of Outdoor Patients	Total Number of Indoor patients	Average daily visits (outdoor patients)	Daily Visits (Indoor patients)
National Ayurvedic Teaching Hospitals	311	130,083	127,740	2,343	411	8
Research Hospitals	291	58,661	57,692	969	198	3
Provincial Ayurvedic Hospital	301	1,905,473	1,872,812	32,661	6,222	109
Provincial Ayurvedic Central Dispensary	271	1,223,279	1,223,279	-	4,514	-
Free Ayurvedic Dispensary	201	1,056,570	1,056,570	-	5,257	-
Homeopathic Hospital	242	1,324	1,209	115	5	0
Total	240	4,375,390	4,339,302	36,088	2,684	32

*Provisional

** Except Weekend and Full Moon Poya day

Drugs required for treating patients manufactured locally and imported which cannot be produced locally. On average, about 127 types of drugs are imported without duty.

Source – Statistics Unit, Indigenous Medicine Division

Table 12-5 : The values and amount of Imported Ayurvedic Pharmaceuticals by year

Year	The amount of (kg)	The value of imports of drugs
2013	1,495,721.50	583,476,174.00
2014	2,075,280.20	829,630,447.50
2015	2,220,408.40	891,811,144.50
2016	2,580,473.30	890,085,922.50

Source – Custom Statistics, Department of Customs

Annexure I

Table 1. Administrative Divisions and Local Government Bodies, 2017

Administrative Areas (Province/District)	Divisional Secretary Divisions	Grama Niladari Divisions	Local Government Bodies		
			Municipal Councils	Urban Councils	Pradeshiya Sabhas
Western Province					
Colombo	13	557	5	5	3
Gampaha	13	1,177	2	5	12
Kalutara	14	762	-	4	12
Central Province					
Kandy	20	1,187	1	4	17
Matale	11	545	2	-	11
Nuwara Eliya	5	491	1	2	5
Southern Province					
Galle	19	895	1	2	17
Matara	16	650	1	1	15
Hambantota	12	576	1	1	10
Northern Province					
Jaffna	15	435	1	3	13
Kilinochchi	4	95	-	-	3
Mannar	5	153	-	1	4
Vavuniya	4	102	-	1	4
Mullaitivu	6	136	-	-	4
Eastern Province					
Batticaloa	14	346	1	2	9
Ampara	20	503	2	1	17
Trincomalee	11	230	-	2	11
North-Western Province					
Kurunegala	30	1,610	1	1	19
Puttalam	16	548	-	2	10
North Central Province					
Anuradhapura	22	694	1	-	18
Polonnaruwa	7	295	-	-	7
Uva Province					
Badulla	15	567	2	1	15
Monaragala	11	319	-	-	10
Sabaragamuwa Province					
Ratnapura	17	575	1	2	14
Kegalle	11	573	-	1	11
Sri Lanka	331	14,021	23	41	271

Source : Department of Census and Statistics

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

Administrative Area (Province/District)	Land Area (sq. km) as at 1988 ¹	Percentage Land Area	2017*			Average Annual Growth Rate % 1981 - 2012 ³
			Population (‘000) ²	Percentage Distribution of Population	Population Density (Persons per sq. km)	
Sri Lanka	62,705	100.00	21,444	100.0	342	1.0
Western Province	3,593	5.73	6,081	28.4	1,692	
Colombo	676	1.08	2,419	11.3	3,578	1.0
Gampaha	1,341	2.14	2,391	11.1	1,783	1.7
Kalutara	1,576	2.51	1,271	5.9	806	1.2
Central Province	5,575	8.89	2,722	12.7	488	
Kandy	1,917	3.06	1,452	6.8	757	0.9
Matale	1,952	3.11	514	2.4	263	1.0
Nuwara Eliya	1,706	2.72	756	3.5	443	0.6
Southern Province	5,383	8.58	2,611	12.2	485	
Galle	1,617	2.58	1,113	5.2	688	0.9
Matara	1,270	2.03	851	4.0	670	0.7
Hambantota	2,496	3.98	647	3.0	259	1.1
Northern Province	8,290	13.22	1,119	5.2	135	
Jaffna	929	1.48	608	2.8	654	-0.7
Kilinochchi	1,205	1.92	124	0.6	103	0.7
Mannar	1,880	3.00	107	0.5	57	-0.2
Vavuniya	1,861	2.97	184	0.9	99	2.0
Mullaitivu	2,415	3.85	96	0.4	40	0.7
Eastern Province	9,361	14.93	1,677	7.8	179	
Batticaloa	2,610	4.16	560	2.6	215	1.5
Ampara	4,222	6.73	705	3.3	167	1.7
Trincomalee	2,529	4.03	412	1.9	163	1.3
North-Western Province	7,506	11.97	2,508	11.7	334	
Kurunegala	4,624	7.37	1,694	7.9	366	0.9
Puttalam	2,882	4.60	814	3.8	282	1.4
North Central Province	9,741	15.53	1,349	6.3	138	
Anuradhapura	6,664	10.63	918	4.3	138	1.3
Polonnaruwa	3,077	4.91	431	2.0	140	1.5
Uva Province	8,335	13.29	1,349	6.3	162	
Badulla	2,827	4.51	864	4.0	306	0.9
Monaragala	5,508	8.78	485	2.3	88	1.6
Sabaragamuwa Province	4,921	7.85	2,028	9.5	412	
Ratnapura	3,236	5.16	1,151	5.4	356	1.3
Kegalle	1,685	2.69	877	4.1	520	0.7

Source : ¹ Survey General's Department

² Registrar General's Department

³ Census of Population & Housing, 2012

Table 3. Population by Five Year Age Group and Sex, 1981, 2001, 2012 and 2017

Age Group	1981 ¹		2001 ¹		2012 ¹		2017 ²					
	Population	%	Population	%	population ('000)	%	Population ('000)	%	Population ('000)	%	Population ('000)	%
	Total		Male		Female		Total		Male		Female	
All ages	14,846,750	100.0	16,929,689	100.0	20,359	100.0	21,444	100.0	10,382	100.0	11,062	100.0
0 - 4	1,854,738	12.5	1,439,761	8.5	1,744	8.6	1,839	8.6	927	8.9	912	8.2
5 - 9	1,682,527	11.3	1,483,591	8.8	1,748	8.6	1,843	8.6	930	9.0	913	8.3
10 - 14	1,689,333	11.4	1,525,674	9.0	1,640	8.1	1,729	8.1	874	8.4	855	7.7
15 - 19	1,603,187	10.8	1,646,827	9.7	1,644	8.1	1,733	8.1	864	8.3	869	7.9
20 - 24	1,526,463	10.2	1,591,126	9.4	1,533	7.5	1,614	7.5	782	7.5	832	7.5
25 - 29	1,274,857	8.6	1,340,562	7.9	1,553	7.6	1,636	7.6	783	7.5	853	7.7
30 - 34	1,125,426	7.6	1,290,121	7.6	1,639	8.1	1,727	8.1	839	8.1	888	8.0
35 - 39	839,073	5.7	1,258,112	7.4	1,409	6.9	1,484	6.9	723	7.0	761	6.9
40 - 44	698,203	4.7	1,170,941	6.9	1,359	6.7	1,431	6.7	697	6.7	734	6.6
45 - 49	609,289	4.1	1,030,560	6.1	1,286	6.3	1,354	6.3	651	6.3	703	6.4
50 - 54	539,524	3.6	917,139	5.4	1,219	6.0	1,284	6.0	612	5.9	672	6.1
55 - 59	422,322	2.8	671,403	4.0	1,064	5.2	1,120	5.2	527	5.1	593	5.4
60 & above	981,808	6.6	1,563,872	9.2	2,521	12.4	2,650	12.4	1,173	11.3	1,477	13.4

* Provisional

Note : Year 2001 population excludes the districts Jaffna, Mannar, Vavunia, Mullaitivu, Kilinochchi, Batticaloa & Trincomalee.

Source : ¹ Census of Population and Housing
² Registrar General's Department

Table 4. Vital Statistics by District

District	Crude Birth Rate (CBR)		Crude Death Rate (CDR)		Maternal Mortality Ratio	Infant Mortality Rate	Neo-Natal Mortality Rate	
	2016*	2017*	2016*	2017*	2014	2014	2013	2014
	Per 1,000 Population				Per 100,000 Live Births	Per 1,000 Live Births		
Colombo	14.0	13.7	7.1	7.4	18.7	13.8	8.1	8.1
Gampaha	12.8	12.4	6.2	6.5	24.0	5.6	4.8	5.1
Kalutara	13.3	13.0	6.5	7.1	6.4	6.5	4.1	5.5
Kandy	16.4	15.9	6.8	7.2	57.1	13.3	9.6	9.6
Matale	16.9	14.8	6.1	6.5	-	5.4	6.5	3.8
Nuwara Eliya	17.0	15.2	6.1	6.1	21.2	8.1	6.0	5.7
Galle	15.9	15.2	7.1	7.7	25.9	7.1	4.7	4.2
Matara	13.9	13.3	6.3	6.5	41.8	3.5	3.5	2.6
Hambantota	19.3	17.6	5.3	5.5	18.0	3.6	2.4	2.5
Jaffna	14.1	14.9	7.3	7.4	45.9	13.0	10.8	9.8
Kilinochchi	19.5	21.8	3.6	4.1	-	2.7	4.9	0.9
Mannar	18.5	19.6	3.9	4.0	-	3.0	0.6	1.5
Vavuniya	16.1	17.8	4.2	4.8	26.6	7.2	4.8	5.9
Mullaitivu	10.5	11.4	3.8	3.9	100.0	1.0	3.3	1.0
Batticaloa	16.9	17.8	5.6	4.9	21.0	9.5	9.4	7.9
Ampara	20.5	20.2	4.6	4.8	22.5	2.9	1.1	1.3
Trincomalee	20.2	20.4	4.4	4.5	23.5	1.5	0.9	0.6
Kurunegala	15.2	14.6	6.3	6.9	28.9	8.7	10.6	7.7
Puttalam	17.6	17.4	5.5	5.9	28.3	3.8	2.4	2.8
Anuradhapura	17.1	16.9	5.1	6.1	19.8	6.1	5.0	4.7
Polonnaruwa	16.8	16.4	5.1	5.9	27.6	3.5	6.0	2.5
Badulla	16.8	16.6	6.2	6.3	23.6	6.9	5.5	4.1
Monaragala	17.5	17.0	4.9	5.1	13.7	2.2	1.7	1.6
Ratnapura	15.9	15.7	6.1	6.5	30.0	4.9	3.5	3.3
Kegalle	14.4	13.8	6.8	7.4	19.3	2.6	4.8	2.0
Sri Lanka	15.6	15.2	6.2	6.5	25.7	7.6	5.9	5.3

* 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												
		Protected well within premises	protected well outside premises	Unprotected well	* Tap within unit	* Tap within premises but outside unit	* Tap outside premises	Rural water supply project	Tube well	Bowser	River/ tank/ streams/ spring	Rain water	Bottled water	Other
Western Province														
Sri Lanka	5,264,282	1,652,972	772,819	211,556	1,110,050	363,043	181,235	482,937	177,432	18,931	239,952	4,022	9,984	39,349
Colombo	572,475	123,735	11,188	1,951	360,380	29,938	26,539	12,728	2,065	38	1,560	112	828	1,413
Gampaha	604,009	317,581	43,463	13,128	126,947	26,607	17,208	18,388	35,527	481	274	131	605	3,669
Kalutara	305,737	138,335	41,714	13,508	63,237	9,212	5,633	20,378	7,272	90	4,933	90	43	1,292
Central Province														
Kandy	348,019	49,629	38,580	10,117	132,091	28,270	14,564	39,395	6,762	688	24,032	221	61	3,609
Matale	129,710	26,731	22,822	5,253	24,559	8,876	4,168	22,399	7,500	62	6,605	28	63	644
Nuwara Eliya	181,182	9,149	10,157	6,899	19,002	22,837	11,826	38,262	1,169	66	60,177	103	17	1,518
Southern Province														
Galle	273,140	117,064	40,126	19,214	56,542	14,807	7,671	7,028	3,171	135	5,984	10	41	1,347
Matara	206,790	65,292	25,843	12,457	46,985	17,580	3,913	19,013	1,562	14	13,140	48	25	918
Hambantota	156,476	18,709	11,881	3,618	38,450	42,035	7,728	24,791	3,666	501	3,264	57	108	1,668
Northern Province														
Jaffna	140,323	54,642	44,554	1,255	2,407	2,963	14,251	-	15,607	3,142	13	3	53	1,433
Killinochchi	28,369	9,033	9,652	7,029	32	87	43	-	1,481	835	12	1	3	161
Mannar	23,975	5,700	6,644	661	1,192	3,834	1,302	-	1,666	2,785	32	2	42	115
Vavuniya	41,908	19,540	8,517	1,623	880	1,171	1,522	275	7,256	134	8	38	912	32
Mullaitivu	24,896	8,153	8,242	6,462	60	100	141	-	1,088	210	48	-	4	388
Eastern Province														
Batticaloa	134,966	77,504	29,831	2,965	4,110	4,762	802	796	12,184	210	994	135	78	595
Ampara	165,166	44,011	33,011	7,436	35,590	24,812	5,607	10,148	2,375	168	755	83	39	1,131
Trincomalee	96,951	26,911	22,617	3,175	15,596	15,106	4,170	1,001	1,408	4,425	1,090	12	81	1,359
North Western Province														
Kurunegala	443,349	230,275	111,409	25,653	15,640	6,355	4,656	34,950	9,312	142	2,389	343	444	1,781
Puttalam	202,796	57,030	34,591	3,661	17,626	13,074	5,545	19,864	34,696	3,961	491	715	3,445	8,097
North Central Province														
Anuradhapura	231,356	50,933	64,063	7,811	33,806	17,571	8,164	35,054	5,941	205	3,138	1,259	2,504	907
Polonnaruwa	111,010	29,968	25,434	7,627	12,098	8,554	2,979	18,437	3,273	28	1,620	174	480	338
Uva Province														
Badulla	214,900	29,028	27,523	12,707	28,328	15,963	7,813	45,155	2,198	106	44,812	205	40	1,022
Monaragala	120,137	25,872	20,186	7,076	15,009	13,785	4,251	20,424	5,483	69	6,892	79	21	990
Sabaragamuwa Province														
Ratnapura	285,893	49,680	37,636	14,384	28,830	24,976	12,868	75,632	4,235	399	34,825	111	34	2,283
Kegalle	220,749	68,467	43,135	15,886	30,653	9,768	7,871	18,819	535	37	22,864	62	13	2,639

Source : Census of Population and Housing, 2012

Note : * * ' Refers to piped born water distributed through pipe lines by National Water Supply and Drainage Board or the Local Government

Table 6. Households in Occupied Housing Units by Type of Toilet Facility and District, 2012

Province/District	Total Households	Type of Toilet			
		Exclusive	Shared	Common	Not Using a Toilet
Sri Lanka	5,264,282	4,565,611	574,303	36,088	88,280
Western Province					
Colombo	572,475	509,447	43,101	19,602	325
Gampaha	604,009	529,623	72,180	1,447	759
Kalutara	305,737	279,716	24,776	458	787
Central Province					
Kandy	348,019	312,932	31,740	1,639	1,708
Matale	129,710	112,819	15,969	231	691
Nuwara Eliya	181,182	144,939	27,164	2,019	7,060
Southern Province					
Galle	273,140	246,407	25,192	502	1,039
Matara	206,790	187,602	18,289	462	437
Hambantota	156,476	138,062	17,728	58	628
Northern Province					
Jaffna	140,323	114,174	17,033	1,866	7,250
Mannar	23,975	17,471	3,657	342	2,505
Vavuniya	41,908	31,860	5,133	1,898	3,017
Mullaitivu	24,896	15,764	3,844	148	5,140
Kilinochchi	28,369	17,560	4,539	64	6,206
Eastern Province					
Batticaloa	134,966	99,173	18,523	345	16,925
Ampara	165,166	142,438	18,194	191	4,343
Trincomalee	96,951	75,723	16,516	1,071	3,641
North Western Province					
Kurunegala	443,349	391,708	46,208	869	4,564
Puttalam	202,796	172,310	22,973	988	6,525
North Central Province					
Anuradhapura	231,356	193,611	32,347	189	5,209
Polonnaruwa	111,010	94,835	13,906	135	2,134
Uva Province					
Badulla	214,900	183,329	28,963	402	2,206
Monaragala	120,137	104,608	13,027	186	2,316
Sabaragamuwa Province					
Ratnapura	285,893	248,948	34,647	648	1,650
Kegalle	220,749	200,552	18,654	328	1,215

Source : Census of Population and Housing, 2012

Table 7. Distribution of Government Medical Institutions and Beds by Regional Director of Health Services Division, December 2017

RDHS Division	Teaching Hospital		Provincial General Hospital		District General Hospital		Base Hospital Type A		Base Hospital Type B		Divisional Hospital Type A		Divisional Hospital Type B		Divisional Hospital Type C ¹		Primary Medical Unit and Maternity Home		Other Hospitals ²		Total Hospitals		Beds per 1,000 Population	Primary Medical Care Units	MOH Area		
	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds	Ins	Beds					
Colombo	7	8,039					3	1,286	1	286	1	91	6	404	2	66	5	60	9	3,998	34	14,230	5.9	28	16		
Gampaha	1	1,569			2	1,440	1	636	2	291	4	632	1	84	7	216			5	1,165	23	6,033	2.5	45	16		
Kalutara			1	927			3	1,047	2	206	2	207	7	502	6	180					21	3,069	2.4	11	15		
Kandy	3	3,941			1	473			2	602			14	1,011	33	1,038			6	209	59	7,274	5.0	28	23		
Matale			1	845	1	845	1	315					4	272	14	354					20	1,786	3.5	15	13		
Nuwara Eliya			1	422	1	422	1	158	1	172	2	245	8	570	14	414					27	1,981	2.6	21	13		
Galle	2	2,294			1	1,214			2	425	2	211	6	527	5	162			21	1	9	26	4,397	4.0	24	20	
Matara			1	675	1	675	1	297	2	376			9	705	8	281					16	2,539	3.0	21	17		
Hambantota			1	293	1	293	1	43					4	346	19	430					1	76	22	2,410	3.7	13	12
Jaffna	1	1,313					2	691	2	266			4	103	6	130					28	3,046	5.0	16	14		
Kilinochchi			1	202	1	202	1	95	2	95	2	118	2	38	4	39					9	569	4.6	3	4		
Mullaitivu			1	670	1	670	1	93					1	37	6	81					11	492	5.1	4	5		
Vavuniya			1	331	1	331						1	105	4	254	5	112				11	802	7.5	9	5		
Mannar			1	756	1	756	2	448	2	383	2	158	3	189	12	407					22	2,586	4.6	14	14		
Batticaloa	1	1,001					2	448	2	339			1	70	6	203					10	1,368	4.8*	15	7		
Ampara			1	497	1	497	3	994	4	479			3	221	7	291			3	50	20	2,035		9	13		
Kalmunai			1	593	1	593	1	405	1	374	2	261	4	196	9	224					16	1,445	3.5	18	12		
Trincomalee			1	2,002	1	2,002	1	651	3	980	9	1,067	11	774	20	533			14		46	6,021	3.6	54	29		
Kurunegala			1	930	1	930							4	460	10	672					18	2,053	2.5	30	13		
Puttalam			1	1,513	1	1,513	2	820	1	167	2	235	9	578	32	556					1	13	40	4,298	4.7	21	19
Anuradhapura			1	480	1	480							2	216	1	136	4	126			12	1,601	3.7	16	7		
Polonnaruwa			1	484	1	484	2	820	1	167	2	235	9	578	32	556					47	3,869	4.5	16	16		
Badulla			1	848	1	848	3	1,034	3	1,034	6	521	3	92	10	101					18	1,701	3.5	10	11		
Monaragala			1	1,561	1	1,561	4	846	4	846	7	583	7	357	18	341					1	8	39	4,180	3.6	29	18
Ratnapura			1	848	1	848	3	1,034	3	1,034	6	521	3	92	10	101					1	13	24	2,609	3.0	21	11
Kegalle			1	848	1	848	3	1,034	3	1,034	6	521	3	92	10	101					1	13	24	2,609	3.0	21	11
Sri Lanka	16	20,310	3	5,076	19	12,080	24	8,891	50	8,960	50	5,345	134	9,076	296	7,901	11	145	25	5,491	628	83,275	3.9	496	347		

Source : Medical Statistics Unit

^a Includes Kalmunai data

¹ Divisional Hospitals (DHCs) which have no indoor facilities are also included in some districts (Gampaha - 1, Jaffna - 1, Kilinochchi - 1, Mullaitivu - 3, Puttalam - 1, Badulla - 10, Kegalle - 6)

² Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"

Table 7a. Distribution of Inpatient Beds¹ by Regional Director of Health Services Division, December 2017

RDHS Division	Teaching Hospital	Provincial General Hospital	District General Hospital	Base Hospital Type A	Base Hospital Type B	Divisional Hospital Type A	Divisional Hospital Type B	Divisional Hospital Type C	Primary Medical Care Unit and Maternity Home	Other Hospitals ²	Total Inpatient Beds	Inpatient Beds per 1,000 Population
Colombo	7,657			1,226	272	87	353	52	60	3,791	13,498	5.6
Gampaha	1,477		1,360	615	279	578	66	182		1,128	5,685	2.4
Kalutara			865	966	179	174	433	163			2,780	2.2
Kandy	3,657		443		572		898	881		195	6,646	4.6
Matale			817	292			241	301			1,651	3.2
Nuwara Eliya			414	142	142	226	531	358			1,813	2.4
Galle	2,188			828	115	190	430	288	10	8	4,057	3.6
Matara			1,166		386	177	466	117			2,312	2.7
Hambantota			644	270	343	618	243	243		76	2,194	3.4
Jaffna	1,280			653	248		300	355			2,836	4.7
Kilinochchi			258		39		87	109			493	4.0
Mullaitivu			188		90	114	30	38			460	4.8
Vavuniya			607		87		27	51			772	4.2
Mannar			268			84	199	72			623	5.8
Batticaloa	989			429	362	141	182	356			2,459	4.4
Ampara			687		263		61	177			1,188	4.2 ³
Kalmunai				884	421		187	237	30		1,759	
Trincomalee			474		286			338			1,320	3.2
Kurunegala		1,910		629	901	967	672	459	8		5,546	3.3
Puttalam			543	389	357	239	169	186			1,883	2.3
Anuradhapura	2,091			337	337	402	561	562		13	3,966	4.3
Polonnaruwa			884		191	131	178	109			1,493	3.5
Badulla		1,459		700	145	198	501	473			3,476	4.0
Monaragala			466		432	94	359	208			1,559	3.2
Ratnapura		1,400	456		809	517	321	261		8	3,772	3.3
Kegalle			797		957	474	80	88		13	2,409	2.7
Sri Lanka	19,339	4,769	11,337	8,245	8,213	4,793	7,950	6,664	108	5,232	76,650	3.6

Source : Medical Statistics Unit

¹Excludes Examination beds, labour room beds, OPD beds, etc.

²Teaching Hospitals: Institute of Cancer, Mental and Dental hospitals are categorized under "Other Hospitals"

³ Includes Kalmunai data

Table 8. Beds by Speciality and Regional Director of Health Services Division, December 2017

RDHS Division	Mixed Medical & Surgical ¹	Medical	Surgical	Paediatrics/Children ²	Obstetric/Gynaecology	Communicable Diseases	Tuberculosis	Cancer	Leprosy	Psychiatry	Neurology/Neuro Surgery	Genito Urinary	Cardiology	E.N.T	Eye	Skin	Orthopaedic/Accident	Thoracic Surgery	Plastic Surgery/Burns Unit	Rheumatology/Rehabilitation	Dental	Others ³	Total
Colombo	644	2,438	1,961	1,870	1,765	3	37	793		1,623	340	109	193	115	537	79	675	170	42		68	768	14,230
Gampaha	367	1,344	981	735	940		361		50	208	14	44	15	46	199		47		258		21	403	6,033
Kalutara	587	554	473	548	519					51				13	38	22	61				13	190	3,069
Kandy	426	1,780	853	1,102	1,142	14	88	148		182	204	46	86	76	197	41	205	62		34	106	482	7,274
Matale	213	541	220	234	341					48				15	61	18	28					67	1,786
Nuwara Eliya	482	310	211	276	483					53				12	27					22		105	1,981
Galle	326	1,104	573	647	756			191		92	62	20	14	41	98	38	61	85		32	21	236	4,397
Matara	81	728	373	407	552					42	20		16		45	28	37			40	2	168	2,539
Hambantota	445	457	308	352	456					91				23	31	21	32				21	173	2,410
Jaffna	174	784	551	361	553		20	108		91	22		24		79	22	4			10		243	3,046
Kilinochchi	3	218	72	97	114					10												55	569
Mullaitivu	20	154	115	69	95																	39	492
Vavuniya	41	149	150	130	210		10			13				27	13		85					53	881
Mannar	3	289	64	115	198					10												123	802
Batticaloa	476	441	368	416	455			71		37	10			34	40	15	56					167	2,586
Ampara	173	339	166	227	259	7				32			14		32		26			24	12	57	1,368
Kalmunai	78	552	305	388	379					22					30					10		271	2,035
Trincomalee	66	410	228	190	355		15			20					57		15					89	1,445
Kurunegala	986	1,413	579	786	1,025			110		63	63	29	16	45	104	65	116			42	38	541	6,021
Puttalam	149	529	317	319	496		19								47	7	39					131	2,053
Anuradhapura	692	986	434	586	760	35		81		141	49	28	38		30	21	71			14		332	4,298
Polonnaruwa	253	276	189	233	275	12				19	39	27	48		49	8	55					118	1,601
Badulla	523	820	550	508	675			116		75	65		30	44	74	23	96			12	29	229	3,869
Monaragala	337	320	215	304	359										40							126	1,701
Ratnapura	554	990	583	573	798	5	38	79		39	25	29	20	24	78	32	98				22	193	4,180
Kegalle	304	534	418	437	518					34				33	42	38	41					203	2,609
Sri Lanka	8,403	18,460	11,257	11,910	14,478	76	588	1,697	50	2,996	913	332	514	548	1,948	478	1,848	317	42	505	353	5,562	83,275

Source : Medical Statistics Unit

¹ Beds in medical and surgical intensive care units; wards for priests, armed service personnel and medical and surgical paying wards

² Beds in premature baby units

³ Mixed wards with beds for obstetrics, psychiatry, skin, ENT, eye, dental, neurology, surgery, tuberculosis and haematology

Table 9. Key Health Personnel, 1991 - 2017

Year	Medical Officers ¹		Dental Surgeons ²		Registered/ Assistant Medical Officers		Nurses		Public Health Nursing Sisters		Public Health Inspectors		Public Health Midwives		Hospital Midwives	
	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate	No.	Rate
1991	2,934	17.0	358	2.1	1,201	7.0	9,934	57.6	101	0.6	914	5.3	3,583	20.8	1,776	10.3
1992	3,345	19.2	381	2.2	1,253	7.2	11,214	64.4	113	0.6	846	5.0	4,108	23.6	2,025	11.6
1993	3,713	21.1	390	2.2	1,305	7.4	11,818	67.1	109	0.6	876	5.0	4,361	24.8	2,172	12.3
1994	4,047	22.7	387	2.2	1,357	7.6	13,060	73.1	117	0.7	928	5.2	4,400	24.6	2,214	12.4
1995	4,577	25.3	421	2.3	1,376	7.6	13,403	74.0	174	1.0	932	5.1	4,383	24.2	2,288	12.6
1996	5,117	27.9	462	2.5	1,397	7.6	13,933	79.1	189	1.0	915	5.0	4,352	23.8	2,393	13.1
1997	5,628	30.1	481	2.6	1,384	7.4	13,815	73.8	145	0.8	901	4.8	4,497	24.0	2,284	12.2
1998	6,427	34.2	521	2.8	1,340	7.1	14,448	77.0	183	1.0	888	4.7	4,578	24.4	2,410	12.8
1999	6,994	36.7	529	2.8	1,340	7.0	14,052	73.8	237	1.2	1,142	6.0	4,625	24.3	2,503	13.1
2000	7,963	41.1	637	3.3	1,349	7.0	14,716	76.0	270	1.4	1,486	7.7	4,798	24.8	2,596	13.4
2001	8,384	44.8	751	4.0	1,343	7.2	15,797	84.4	259	1.4	1,401	7.5	4,654	24.9	2,723	14.5
2002	9,290	48.9	867	4.6	1,326	7.0	16,517	86.9	310	1.6	1,470	7.7	4,819	25.4	2,794	14.7
2003	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2004	8,874	45.6	915	4.7	1,218	6.3	18,654	95.8	315	1.6	1,397	7.2	4,524	23.2	2,668	13.7
2005	10,198	51.9	954	4.9	1,274	6.5	19,934	101.4	313	1.6	1,512	7.7	4,896	24.9	2,371	12.1
2006	10,279	51.7	1,181*	5.9	1,183	5.9	24,988	125.7	299	1.5	1,535	7.7	5,080	25.5	2,555	12.8
2007	11,023	55.1	1,314*	6.6	1,194	6.0	31,466	157.3	290	1.4	1,740	8.7	6,167	30.8	2,828	14.1
2008	12,479	61.7	858	4.2	1,134	5.6	30,063	148.7	270	1.3	1,475 ³	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 ³	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 ³	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 ³	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
2017	19,800	92.3	1,473	6.9	818	3.8	45,480	212.1	328	1.5	1,720	8.0	5,746	26.8	2,485	11.6

* Provisional

Rate per 100,000 population

¹ All medical officers in curative, administrative and preventive services including specialists and interns

² Includes Regional and Consultant Dental Surgeons

³ Excludes 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 2017

RDHS Division	Administrative Grade (Senior and Deputy) Medical Officers		Administrative Grade (Senior and Deputy) Non Medical Officers		Medical Officers														Total Medical Officers ²		Regional Dental Surgeons		Dental Surgeons		P.G.I.M Trainees**		Dental Surgeons ³	
	70	68	Specialists (Curative Care)	Hospital Medical Officers (D.M.O., S.H.O., H.O., M.O. in OPD, etc.)	Medical Officers in RDS/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	Medical Officers (Blood Bank)	Internee Medical Officers	P.G.I.M. Trainees **	Other Medical Officers	Medical Officers ¹	Total Medical Officers ²	Consultant Dental Surgeons	Regional Dental Surgeons	Dental Surgeons	P.G.I.M Trainees**	Dental Surgeons ³			
Colombo	70	68	620	3,093	61	3	10	5	-	18	38	1	6	10	74	178	271	287	4,055	4,745	30	1	234	36	301			
Gampaha	8	-	152	1,214	62	2	-	1	11	12	-	1	1	5	44	112	243	48	1,756	1,916	5	1	76	-	82			
Kalutara	8	-	96	598	44	-	-	-	-	2	2	2	1	3	28	73	10	30	793	897	3	2	63	2	70			
Kandy	15	-	191	1,274	40	-	-	2	-	7	1	1	1	2	4	100	138	56	1,626	1,832	5	1	174	12	192			
Matale	4	-	38	244	16	-	-	-	-	1	1	1	2	3	3	15	-	16	303	345	1	1	23	-	25			
Nuwara Eliya	4	-	46	239	20	-	-	-	-	-	-	-	-	4	9	44	-	10	326	376	1	1	31	-	33			
Galle	10	-	139	715	38	1	-	2	-	2	4	1	1	-	15	96	2	15	892	1,041	6	1	63	-	70			
Matara	6	-	55	419	33	1	-	1	-	2	12	-	1	2	6	54	-	22	553	614	2	1	41	-	44			
Hambanthota	3	-	51	292	17	-	-	-	-	1	2	2	1	5	11	42	-	16	389	443	1	1	28	-	30			
Jaffna	6	-	71	376	16	-	-	-	-	-	-	-	9	5	14	56	54	15	546	623	2	1	45	-	48			
Kilinochchi	2	-	21	89	3	-	1	-	-	2	-	1	-	1	3	-	-	2	102	125	-	1	10	-	11			
Mannar	3	1	15	71	5	-	1	-	1	-	1	1	1	1	2	-	-	3	87	105	-	-	12	-	12			
Vavunia	4	1	32	189	5	-	1	-	-	2	3	-	1	2	4	20	-	9	236	272	3	1	20	-	24			
Mullaitivu	1	-	8	57	6	-	-	-	-	-	-	2	-	1	2	-	-	4	74	83	-	-	11	-	11			
Batticaloa	6	-	53	283	15	-	1	-	1	-	1	2	1	-	7	51	2	18	382	441	-	1	29	-	30			
Ampara	3	-	31	233	11	-	1	-	-	1	1	1	1	4	12	3	-	4	272	306	1	1	18	-	20			
Trincomalee	9	-	43	195	14	-	2	-	-	1	2	-	2	3	6	24	-	21	270	322	2	-	23	-	25			
Kaimunai	5	-	30	272	14	-	1	-	-	-	1	-	1	3	14	34	-	11	351	386	-	1	28	-	29			
Kurunegala	5	1	94	792	58	-	2	1	-	3	7	-	1	9	15	99	5	28	1,020	1,119	4	1	80	2	87			
Puttiam	3	-	58	376	26	-	-	1	-	3	1	2	2	10	11	59	3	9	503	564	2	1	46	2	51			
Anuradhapura	5	1	83	457	32	1	-	-	-	3	5	2	3	2	3	-	-	14	522	610	2	1	40	-	43			
Polonnaruwa	4	-	42	263	19	-	1	-	-	-	-	-	1	-	2	30	-	50	366	412	2	2	33	-	37			
Badulla	5	-	73	375	24	-	1	-	-	2	-	-	2	5	13	42	-	32	496	574	2	-	58	-	60			
Monaragala	3	-	38	206	14	-	1	-	-	-	1	1	1	5	5	53	-	9	296	337	-	1	24	-	25			
Rathnapura	7	-	83	572	30	-	1	-	-	-	6	1	4	7	15	-	7	8	651	741	1	1	63	1	66			
Kegalle	5	-	58	370	19	-	1	1	1	2	1	1	2	8	12	64	-	26	508	571	2	1	44	-	47			
Sri Lanka	204	72	2,221	13,264	642	8	27	14	14	64	92	21	48	100	334	1,249	735	763	17,375	19,800	77	24	1,317	55	1,473			

** Include PGIM trainees drawing their salaries from the institutions concerned

¹ Total Medical Officers, exclude: Administrative and Specialists

² Total Medical Officers

³ Total Dental Surgeons

Continued...
Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2017

RDHS Division	Registered/ Assistant Medical Officers	Matrons	Ward Sisters	Principals/Sister Tutors	Nursing Officers	Supervising Public Health Nursing Sisters/Public Health Nursing Sisters	Pupil Nurses	Total Nurses	MRO	MRA	SSO	PO	PPA	DO	DA	Pharmacists	Medical Laboratory Technologists	Radiographers	Physiotherapists	Speech Therapists	Occupational Therapists	School Dental Therapists	Dental Technicians	Entomologists	Entomological Officers/ Assistants
Colombo	126	64	247	43	8,562	37	1,033	9,986	7	5	-	12	14	478	63	387	588	209	207	21	45	35	22	9	33
Gampaha	79	21	101	27	2,376	37	675	3,237	3	4	1	35	3	62	4	123	109	34	63	6	23	34	1	1	6
Kalutara	43	11	68	37	1,484	28	613	2,241	1	4	-	1	4	66	6	59	81	13	16	1	4	24	1	2	7
Kandy	123	13	117	37	3,435	23	813	4,438	1	23	17	44	4	130	6	149	130	72	64	8	16	18	4	1	9
Matale	28	5	28	-	552	9	-	594	1	6	6	8	1	29	-	32	26	7	5	1	1	9	-	-	5
Nuwara Eliya	13	6	9	1	492	4	-	512	-	1	1	4	-	26	-	24	23	8	9	1	1	13	-	1	1
Galle	57	6	56	18	2,030	25	585	2,720	2	4	-	1	15	110	40	81	81	37	29	4	7	24	2	2	8
Matara	35	10	47	18	1,253	9	678	2,015	1	2	-	-	19	117	10	56	46	14	15	3	6	21	1	1	9
Hambanthota	10	6	27	9	1,003	8	835	1,888	-	1	-	4	7	70	4	43	37	14	8	1	3	15	-	-	8
Jaffna	10	10	29	21	703	3	132	898	-	-	-	1	1	106	9	52	40	17	21	-	2	7	1	-	2
Kilinochchi	-	3	3	-	90	1	-	97	-	-	-	-	-	20	-	5	4	2	2	-	-	2	-	-	2
Mannar	4	3	11	-	121	2	1	138	-	-	-	1	-	23	-	6	5	2	2	-	-	1	-	-	2
Vavunia	1	6	11	8	232	4	241	502	-	-	-	17	-	9	-	14	15	5	6	1	-	4	-	-	3
Mullaitivu	-	2	4	-	88	1	-	95	-	1	1	1	-	11	-	6	4	2	2	-	-	1	-	-	2
Batticaloa	11	13	34	9	652	11	272	991	-	1	-	25	-	17	-	34	32	12	10	-	5	5	-	1	3
Ampara	2	6	9	19	559	7	838	1,438	2	-	-	-	-	32	3	31	28	6	10	1	2	3	-	-	3
Trincomalee	7	5	17	2	501	2	-	527	-	-	-	11	-	19	1	30	23	8	12	1	1	3	-	1	5
Kalmunai	13	9	18	-	670	10	-	707	-	3	-	12	-	48	2	37	36	12	10	2	-	7	3	-	6
Kurunegala	91	16	92	35	2,199	28	812	3,182	4	18	-	6	-	247	16	93	86	36	26	3	5	39	2	-	10
Puttiam	20	4	29	6	688	7	-	734	-	3	-	3	3	45	11	43	39	8	10	3	1	15	-	1	3
Anuradhapura	26	8	80	6	1,339	17	462	1,912	2	1	-	-	4	29	8	62	64	18	24	2	3	17	2	1	6
Polonnaruwa	9	4	19	-	601	4	-	628	-	2	1	-	7	10	8	40	27	11	12	1	2	10	-	1	3
Badulla	38	8	62	15	1,184	14	700	1,983	1	1	-	14	1	96	3	66	70	20	20	3	4	17	1	1	3
Monaragala	6	5	16	-	562	11	-	594	-	7	-	-	8	62	-	28	30	8	6	1	1	11	-	-	4
Rathnapura	29	11	55	20	1,440	14	679	2,219	1	1	-	-	4	116	3	70	54	21	17	2	4	16	1	1	8
Kegalle	37	8	46	-	1,138	12	-	1,204	1	5	-	12	11	132	6	55	46	14	12	1	1	17	1	1	4
Sri Lanka	818	263	1,235	331	33,954	328	9,369	45,480	27	93	27	212	106	2,110	203	1,626	1,724	610	618	67	137	368	42	25	155

Continued...

Source : Medical Statistics Unit

Table 10. Distribution of Health Personnel by Regional Director of Health Services Division, December 2017

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	Photograph Technicians	Audiology Technicians	Orthapdic Technicians	Cinema Technicians	Assistant Technicians	Attendants	Accountant	Administrative Officers	Management Assistants	Ward Clerks	Telephone Operators	Drivers	SKS (Ordinary)	SKS (Junior)	Any Other	Total	
Colombo	61	15	12	250	17	418	220	102	33	46	136	11	-	12	1	9	5	2	2	-	1,615	30	64	972	136	63	611	2,732	3,150	4,211	32,295
Gampaha	19	1	5	121	16	460	145	26	10	25	101	14	1	-	-	2	1	1	34	451	5	9	147	30	19	77	478	1,098	724	9,846	
Kalutara	10	2	12	80	13	375	149	16	2	10	62	14	-	1	-	1	-	1	-	508	5	4	147	13	10	98	275	532	484	6,365	
Kandy	24	2	18	91	19	413	197	33	12	13	100	8	1	4	-	5	-	-	-	820	6	5	256	40	26	186	1,149	1,344	582	12,635	
Matale	6	1	5	42	13	164	58	6	-	10	48	8	1	-	-	-	-	-	-	172	1	2	62	2	4	50	110	244	165	2,303	
Nuwara Eliya	6	1	7	41	13	282	82	5	2	4	56	2	-	-	-	-	-	-	-	230	1	2	71	10	4	74	296	338	142	2,716	
Galle	14	2	8	103	10	311	135	18	5	7	87	7	-	1	-	3	-	2	-	368	5	8	202	27	12	109	481	1,080	581	7,921	
Matara	7	2	13	71	15	261	108	13	3	10	63	13	-	1	-	1	-	1	-	335	2	3	135	17	11	83	319	516	299	5,331	
Hambanthota	7	-	4	57	15	191	103	10	3	5	64	13	-	1	-	2	-	1	-	244	1	3	78	7	6	67	230	417	330	4,445	
Jaffna	7	1	19	70	12	138	85	5	3	4	70	16	-	2	-	2	-	-	-	521	3	6	82	6	22	82	226	646	403	4,269	
Kilinochchi	1	1	5	14	4	52	7	2	-	2	26	7	-	1	-	-	-	-	-	100	2	-	28	2	1	31	32	294	91	973	
Mannar	1	1	1	19	4	50	26	1	-	2	18	4	-	1	-	-	-	-	-	103	2	1	19	11	3	35	101	228	152	1,085	
Vavunia	2	-	3	15	3	63	25	2	-	1	18	5	-	1	-	-	-	1	-	129	2	2	44	4	3	43	83	320	149	1,792	
Mullaitivu	1	-	4	20	3	42	17	-	-	-	23	3	-	-	-	-	-	-	-	99	1	-	29	-	-	31	126	14	215	848	
Batticaloa	3	2	15	65	9	174	97	11	2	2	38	36	-	-	-	2	-	2	-	166	-	3	56	-	2	37	63	393	613	3,409	
Ampara	2	2	7	30	10	121	38	9	1	4	32	14	-	-	-	-	1	-	-	177	1	4	72	6	8	56	129	396	266	3,273	
Trincomalee	5	3	7	43	13	146	79	6	1	3	41	25	4	-	-	-	1	-	-	251	-	1	55	2	2	44	106	247	385	2,466	
Kalmunai	4	2	13	51	10	158	123	9	1	10	39	38	-	1	-	-	-	-	-	209	3	3	93	6	3	64	154	536	308	3,151	
Kurunegala	10	2	18	109	29	390	184	19	5	33	146	22	1	1	-	1	1	-	-	738	4	5	177	14	20	134	619	1,227	500	9,480	
Puttalam	8	2	11	56	13	185	47	9	2	12	64	17	-	-	-	1	-	-	-	158	2	3	74	4	8	59	127	466	114	2,959	
Anuradhapura	6	1	17	76	18	220	123	13	5	33	98	16	-	-	-	1	-	-	-	516	2	5	134	-	1	129	432	795	372	5,848	
Polonnaruwa	5	1	5	36	8	118	51	9	2	7	48	7	-	-	-	1	-	-	-	189	1	3	67	5	6	59	167	533	85	2,634	
Badulla	10	2	10	61	16	282	108	13	2	11	96	5	-	1	-	2	-	-	-	389	3	5	128	19	2	141	970	589	304	6,145	
Monaragala	3	1	10	33	12	182	65	6	1	5	46	5	-	-	-	1	-	-	-	207	1	2	65	2	3	81	288	343	154	2,644	
Rathnapura	12	2	20	95	26	317	116	12	2	17	90	12	-	1	-	2	-	-	-	395	4	4	156	19	15	113	650	836	454	6,744	
Kegalle	6	2	12	71	19	233	97	4	-	7	78	11	1	-	-	1	-	-	-	237	1	5	120	11	10	53	444	738	219	4,558	
Sri Lanka	240	51	261	1,720	340	5,746	2,485	359	97	283	1,688	333	9	29	1	37	8	12	34	9,327	88	152	3,469	393	264	2,547	10,787	17,320	12,302	146,175	

Source : Medical Statistics Unit

Table 11. Distribution of Specialists in Curative Care Services¹ by Regional Director of Health Services Division, December 2017

RDHS Division	General Physicians	General Surgeons	Gynaecologists & Obstetricians	Cardiologists	Chest Physicians	Thoracic Surgeons	Neurologists	Neuro Surgeons	Dermatologists	Rheumatologists	Psychiatrists	Paediatric Surgeons	ENT Surgeons	Eye Surgeons	Orthopaedic Surgeons	Plastic Surgeons	Genito Urinary Surgeons	Anaesthesiologists	Histo-Pathologists/Chemical Pathologists	Haematologists	Bacteriologists/Microbiologists	Biochemists	Oncologists/Radiotherapists	Oncology Surgeons	Radiologists	Venerologists	Judicial Medical Officers	Public Health/Community Health Physicians	Endocrinologists	Gastroenterologists	Nephrologists	Specialist Dental Surgeons-Orthodontists	Maxillofacial/Restorative Specialist Dental Surgeons	Specialist Dental Surgeons-Restorative	Others ²	Total
Colombo	58	41	30	16	2	10	9	10	13	7	18	33	5	9	17	13	10	7	49	21	15	1	14	4	36	6	8	8	6	3	9	7	7	3	66	642
Gampaha	24	11	10	4	4	4	3	-	5	4	5	13	1	5	5	4	1	3	5	7	5	-	2	-	9	3	3	2	2	2	1	2	3	-	2	157
Kalutara	11	6	7	2	1	-	1	-	3	1	3	10	-	2	3	2	-	-	5	3	3	2	1	-	4	1	2	6	1	-	-	1	2	-	17	100
Kandy	17	9	11	7	3	3	4	2	5	4	5	19	5	5	9	3	1	2	14	7	4	4	3	2	11	1	3	4	2	1	4	2	2	1	17	196
Matale	5	4	4	1	1	-	1	-	2	1	1	3	-	1	2	1	-	-	2	2	2	1	-	-	2	1	1	-	-	-	-	-	-	-	-	39
Nuwara Eliya	8	4	4	1	1	-	-	-	1	1	2	5	-	1	2	1	-	1	3	1	1	1	-	-	3	2	1	-	-	-	-	-	1	-	1	47
Galle	19	8	8	4	1	2	2	4	1	4	12	2	2	6	2	2	1	2	11	5	4	3	1	4	2	10	1	2	1	1	3	1	1	1	9	142
Matara	6	4	5	1	1	-	1	-	3	1	3	6	-	2	1	2	-	1	2	2	1	2	-	-	4	1	1	1	1	-	-	-	1	-	3	57
Hambantota	8	5	6	2	1	-	-	-	2	1	2	5	-	1	1	1	-	1	2	2	2	1	-	1	4	-	1	-	1	-	-	-	1	-	1	52
Jaffna	11	6	3	4	1	1	1	-	2	1	1	2	-	2	3	2	1	1	4	3	1	1	3	1	7	-	1	2	1	1	1	1	1	-	4	74
Kilinochchi	3	2	2	-	-	-	-	-	1	-	1	3	-	1	-	1	-	-	1	1	1	-	-	-	1	-	1	-	-	-	-	-	-	-	-	21
Vavuniya	4	2	2	1	1	-	1	-	1	1	2	2	-	1	1	2	-	1	3	1	1	1	-	-	2	-	1	-	-	-	1	2	1	-	-	35
Mannar	2	2	1	-	1	-	-	-	1	-	-	1	-	1	-	1	-	-	-	1	1	1	-	-	1	-	1	-	-	-	-	-	-	-	-	15
Mullaitivu	2	2	1	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	7
Batticaloa	7	6	3	2	1	-	1	1	1	-	1	4	1	1	1	2	-	1	3	2	1	-	2	1	3	-	1	-	1	1	1	1	1	-	2	53
Ampara	5	5	3	1	1	-	1	-	1	1	1	3	-	1	-	1	-	1	1	1	1	-	1	-	1	-	1	-	-	-	-	-	-	-	-	32
Kalmunai	7	4	4	1	-	-	-	-	1	-	1	6	-	-	1	-	-	-	1	1	-	-	-	2	-	1	-	1	-	-	-	-	-	-	-	30
Trincomalee	7	5	5	1	1	-	-	-	1	1	1	4	-	1	2	1	-	1	4	1	1	-	1	-	3	-	1	1	-	-	-	-	-	-	-	44
Kurunegala	13	8	8	3	1	-	1	1	3	2	3	10	1	3	2	3	1	1	5	3	2	1	3	1	6	1	1	1	1	1	1	1	2	1	4	98
Puttalam	8	5	6	1	1	-	-	-	2	-	2	6	-	2	2	2	-	1	4	3	2	1	-	2	1	2	1	2	2	-	-	-	-	-	2	60
Anuradhapura	8	4	4	2	1	-	1	2	3	1	5	6	2	2	1	2	1	1	5	4	1	2	2	1	5	1	1	2	1	1	1	1	1	1	7	84
Polonnaruwa	7	3	2	2	1	-	1	-	2	1	2	2	-	1	1	-	-	1	3	1	1	1	-	3	-	1	-	1	-	2	-	1	1	-	2	44
Badulla	9	6	7	1	1	-	1	1	2	1	3	5	1	1	1	3	-	1	4	3	1	1	-	6	1	2	1	1	1	-	-	1	1	5	75	
Moneragala	5	3	4	1	1	-	-	-	1	-	1	5	-	1	1	1	-	1	3	1	1	1	-	3	1	1	1	-	-	-	-	-	-	-	1	38
Rathnapura	12	7	7	3	1	-	1	-	4	-	5	9	-	2	2	2	-	1	4	3	2	1	-	5	2	2	2	-	1	1	1	1	-	2	84	
Kegalle	8	6	8	1	-	-	-	-	4	-	3	7	-	2	1	2	-	-	4	2	1	1	-	4	1	1	1	1	-	-	-	-	-	-	-	60
Total	274	168	155	62	29	20	30	19	68	30	75	182	18	50	65	54	16	29	142	81	54	3	45	14	138	24	41	82	22	11	26	25	31	7	145	2,286

¹Excludes: Specialists working under University Grants Commission

²Includes: Virologists, Immunologists, Parasitologists, Nephrologists & Neonatologists

Source: Medical Statistics Unit

Table 12. National Expenditure, Health Expenditure and GNP, 2012 - 2017

Description	2012	2013	2014	2015	2016	2017
National Expenditure (Rs. Million)	2,192,234	2,411,606	2,601,723	3,203,280	3,106,443	3,470,589
Government Health Expenditure (Not Included Private Health Sector) (Rs. Million)	89,291	120,346	155,008	181,122	192,535	206,182
Health Expenditure (Not Included Private Health Sector) as a % of National Expenditure	4.07	4.99	5.96	5.65	6.20	5.94
Mid Year Population ('000 Persons)	20,425	20,585	20,771	20,966	21,203	21,444
Per Capita Health Expenditure (Not Included Private Health Sector) (Rs.)	4,372	5,846	7,463	8,639	9,081	9,615
GNP/GNI (Rs. Billion)	8,578	9,366	10,125	10,676	11,585	12,933
Health Expenditure as a % of GNP	1.04	1.28	1.53	1.70	1.66	1.59

Source : Central Bank of Sri Lanka -Annual Report 2017, Department of National Budget - Budget Estimate 2019
Ministry of Finance and Planning, Sri Lanka - Annual Report 2017,
Department of State Accounts, General Treasury - Financial Statements for the year ended 31st December
2017
Ministry of Health Nutrition & Indigenous Medicine - Appropriation Account - 2017

Table 13. Summary of Health Expenditure and Source of Fund, 2012 - 2017

Rs. Million						
Description	2012	2013	2014	2015	2016	2017
Government Health Expenditure (Not Included Private Health Sector)						
Recurrent Expenditure	74,184	100,968	130,360	149,790	164,397	172,525
Capital Expenditure	15,107	19,378	24,648	31,332	28,138	33,657
	89,291	120,346	155,008	181,122	192,535	206,182
Source of Fund						
Consolidated Fund	81,781	111,988	136,123	168,904	184,754	197,912
Foreign Aid	7,510	8,358	18,885	12,218	7,781	8,270
	89,291	120,346	155,008	181,122	192,535	206,182

Source : Central Bank of Sri Lanka - Annual Report 2017, Department of National Budget - Budget Estimate 2019
Ministry of Finance and Planning Sri Lanka - Annual Report 2017,
Department of state Accounts, General Treasury - Financial Statements for the year ended 31st December 2017
Ministry of Health Nutrition & Indigenous Medicine - Appropriation Account - 2017

Table 14. Summary of Health Expenditure by Programme, 2017

(Rs. Million)

Programme	Health Expenditure - 2017			
	Ministry of Health	Department of Ayurveda	Provincial Health	Total
Recurrent Expenditure				
01. Operational Activities	103,958	-		
1. Minister's Office	109			
2. Ministry Administration and Establishment Services	3,687			
3. Medical Supply Division	38,953			
5. Hospital Operation	61,209			
02. Development Activities	12,838	-		
11. Human Resources Development	9,825			
14. Health Promotion and Disease Prevention	1,022			
16. National Nutrition Programme	1,692			
17. Medical Research	299			
Total Recurrent Expenditure	116,796	1,238	54,491	172,525
Capital Expenditure				
01. Operational Activities	7,000	-		
1. Minister's Office	95			
2. Ministry Administration and Establishment Services	775			
3. Medical Supply Division	75			
5. Hospital Operation	6,055			
02. Development Activities	20,500	-		
11. Human Resources Development	898			
13. Hospital Development Project	15,381			
14. Health Promotion and Disease Prevention	496			
15. Control of Communicable and Non Communicable Diseases	3,427			
16. National Nutrition Programme	105			
17. Medical Research	80			
19. Promotion of Indigenous Medicine	113			
Total Capital Expenditure	27,500	539	5,618	33,657
Total Health Expenditure (Recurrent + Capital)				
01. Operational Activities	110,958	-	-	-
1. Minister's Office	204			
2. Ministry Administration and Establishment Services	4,462			
3. Medical Supply Division	39,028			
5. Hospital Operation	67,264			
02. Development Activities	33,338	-		
11. Human Resources Development	10,723			
13. Hospital Development Project	15,381			
14. Health Promotion and Disease Prevention	1,518			
15. Control of Communicable and Non Communicable Diseases	3,427			
16. National Nutrition Programme	1,797			
17. Medical Research	379			
19. Promotion of Indigenous Medicine	113			
Grand Total (Recurrent + Capital)	144,296	1,777	60,109	206,182

Source : Central Bank of Sri Lanka - Annual Report 2017, Department of National Budget - Budget Estimate 2019
 Ministry of Finance and Planning Sri Lanka - Annual Report 2017,
 Department of State Accounts, General Treasury - Financial Statements for the year ended 31st December 2017
 Ministry of Health Nutrition & Indigenous Medicine - Appropriation Account - 2017

Table 15. Indoor Morbidity and Mortality Statistics by Broad Disease Groups, 2017

Disease Group	Total*	Live Discharges (%)										Deaths
		Sex		Age Group							Not Known	
		Male	Female	under 1	1 - 4	5 - 16	17 - 49	50 - 69	70+			
1 Intestinal infectious diseases (A00-A09)	109,996	46.8	53.2	7.3	18.8	16.5	27.6	18.8	11.0	0.0	66	
2 Tuberculosis (A15-A18)	8,123	68.8	31.2	0.2	0.4	2.3	38.1	44.0	14.9	0.1	255	
3 Other bacterial diseases (A20-A49)	24,151	66.4	33.6	12.2	9.0	8.6	35.3	25.1	9.8	0.0	5,406	
4 Infections with sexual mode of transmission (A50-A64)	661	48.1	51.9	3.8	1.5	3.3	62.5	22.9	5.6	0.3	2	
5 Viral diseases (A80-B34)	553,912	54.1	45.9	2.4	9.0	18.8	49.1	16.4	4.3	0.0	429	
6 Malaria (B50-B54)	88	61.4	38.6	1.1	8.0	12.5	47.7	19.3	11.4	-	-	
7 Helminthiasis (B76,B77,B79,B80)	73	54.8	45.2	1.4	9.6	41.1	28.8	16.4	2.7	-	-	
8 Other infectious and parasitic diseases	12,722	50.1	49.9	2.4	9.8	14.8	44.9	22.7	5.4	0.0	8	
9 Neoplasms (C00-D48)	135,009	44.8	55.2	0.3	3.2	5.7	26.5	49.8	14.4	0.0	4,938	
10 Iron deficiency anaemias (D50)	7,684	36.4	63.6	0.7	2.5	5.1	33.7	33.3	24.6	0.1	12	
11 Haem. con. and other diseases of blood and ... (D51-D89)	33,326	48.0	52.0	1.8	7.0	21.7	31.3	22.5	15.7	0.1	88	
12 Diabetes mellitus (E10-E14)	84,984	46.0	54.0	0.0	0.2	1.1	25.8	55.1	17.8	0.1	803	
13 Malnutrition and vitamin deficiencies (E40-E46,E50-E56)	1,025	48.5	51.5	3.3	19.6	9.7	24.8	26.7	15.9	-	2	
14 Oth eno, nutr and metabo... (E00-E07,E15-E34,E58-E89)	33,041	35.0	65.0	1.3	1.9	4.5	37.5	38.2	16.4	0.0	134	
15 Mental and behavioural disorders (F00-F99)	52,783	60.0	40.0	0.0	0.4	3.5	63.3	26.4	5.7	0.7	-	
16 Diseases of the nervous system (G00-G98)	69,218	51.1	48.9	2.7	4.9	11.8	41.2	27.8	11.4	0.2	638	
17 Diseases of the eye and adnexa (H00-H59)	153,234	51.2	48.8	0.7	2.6	6.6	24.6	43.6	21.8	0.0	-	
18 Dis of the ear.. (H60-H61,H65-H74,H80-H83,H90-H95)	51,704	46.4	53.6	2.9	10.9	17.2	34.9	24.8	9.4	0.0	-	
19 Rheum. fever and rheum. heart dis. (I00-I02,I05-I09)	3,068	49.3	50.7	-	0.8	21.2	37.1	33.3	7.4	0.2	42	
20 Hypertensive diseases (I10-I15)	92,163	41.1	58.9	0.0	0.0	0.3	20.8	48.0	30.8	0.2	643	
21 Ischaemic heart disease (I20-I25)	117,250	56.0	44.0	0.0	0.0	0.2	18.4	53.6	27.8	0.1	6,649	
22 Other heart diseases (I26-I51)	38,516	51.3	48.7	0.4	0.3	1.5	20.6	45.2	31.9	0.1	4,005	
23 Cerebrovascular disease (I60-I69)	50,307	59.8	40.2	0.0	0.1	0.3	11.4	47.1	41.0	0.2	3,585	
24 Other diseases of the circulatory system (I70-I84)	45,977	59.7	40.3	0.1	0.8	2.3	37.4	44.6	14.7	0.1	149	
25 Influenza (J10-J11)	3,646	39.7	60.3	3.5	15.0	13.1	42.8	18.7	7.0	0.0	35	
26 Pneumonia (J12-J18)	25,777	52.6	47.4	9.5	16.7	10.6	17.2	28.7	17.3	0.0	3,856	
27 Other dise. of the upper respir. tract (J00-J06,J30-J39)	130,744	50.0	50.0	8.2	21.8	21.2	27.3	15.3	6.2	0.0	28	
28 Diseases of the resp. system exclu... (J20-J22, J40-J98)	469,256	52.1	47.9	6.6	13.1	13.7	20.3	28.4	18.0	0.0	4,577	
29 Diseases of teeth and supporting structure (K00-K14)	17,715	55.5	44.5	0.6	9.6	18.9	41.7	22.1	7.0	0.0	-	
30 Diseases of the gastrointestinal tract (K20-K92)	313,557	53.4	46.6	0.7	2.5	9.8	44.0	31.1	11.9	0.0	2,375	
31 Diseases of skin ad subcutaneous tissue (L00-L08,L10-L98)	224,084	55.8	44.2	1.5	5.4	9.1	34.7	34.5	14.7	0.0	102	
32 Disorders of the musculoskeletal system (M00-M99)	175,233	53.4	46.6	0.1	1.2	7.3	45.8	33.3	12.3	0.1	63	
33 Diseases of the urinary system (N00-N39)	265,560	56.3	43.7	1.2	2.9	5.5	42.6	33.7	14.0	0.1	2,756	
34 Diseases of breast (N60-N64)	13,622	10.6	89.4	0.8	0.7	4.2	67.1	22.4	4.8	-	2	
35 Diseases of the male genital organs (N40-N50)	21,678	100.0	-	0.9	7.2	13.0	30.3	29.2	19.3	0.0	4	
36 Disor. of female genito-urinary sys. (N70-N98, N99.2, N99.3)	82,196	-	100.0	0.1	0.2	2.0	70.4	23.0	4.2	0.0	3	
37 Abortions (O00-O08)	48,752	-	100.0	-	-	0.2	99.4	0.3	-	0.1	3	
38 False labour (O47)	13,903	-	100.0	-	-	0.5	99.4	0.0	-	0.1	-	
39 Other obstetric conditions and those admitted...	246,494	-	100.0	-	-	0.3	99.5	0.1	-	0.1	37	
40 Single spontaneous delivery (O80)	181,042	-	100.0	-	-	0.3	99.6	0.0	-	0.1	-	
41 Slow fetal growth, fetal malnutrition and... (P05-P07)	7,245	47.4	52.6	100.0	-	-	-	-	-	-	557	
42 Other conditions originating in the perinatal period (P00-P04, P08-P96)	38,997	49.3	50.7	100.0	-	-	-	-	-	-	548	
43 Congenital malformations deformations... (Q00-Q99)	11,573	58.7	41.3	36.3	29.7	17.0	11.7	4.3	1.0	0.0	530	
44 Signs, symptoms and abnormal clinical findings (R00-R99)	654,365	48.6	51.4	2.4	6.3	11.1	39.7	27.8	12.7	0.0	705	
45 Traumatic injuries (S00-T19, W54)	1,044,392	66.4	33.6	0.5	6.5	16.1	49.9	20.4	6.5	0.1	1,800	
46 Burns and corrosion (T20-T32)	14,878	57.1	42.9	2.4	22.1	16.3	40.8	14.1	4.3	0.0	191	
47 Toxic effects of pesticides (T60.0,T60.1-T60.9)	10,242	61.6	38.4	0.3	4.4	9.3	69.0	14.4	2.5	0.2	342	
48 Snake bites (T63.0)	31,361	60.2	39.8	0.2	2.9	11.3	51.8	28.3	5.4	0.0	66	
49 Tox. effe. of ot. sub. oth tha.. (T36-T59,T61-T62,T63.1-T65)	65,244	49.0	51.0	0.7	7.7	15.0	59.3	13.9	3.3	0.1	242	
50 Effects of unspecified external causes... (T33-T35,T66-T79)	65,450	51.2	48.8	1.4	7.8	20.3	41.4	22.2	6.9	0.0	132	
51 Complications of surgical and medical care... (T80-T88)	13,517	52.1	47.9	3.5	6.4	10.3	42.4	27.5	9.9	0.0	28	
52 Sequelae of injuries, poisoning and of other... (T90-T98)	2,727	62.3	37.7	0.9	2.7	7.3	36.2	37.8	14.9	0.1	12	
53 Persons encountering health services.... (Z00-Z13,Z40-Z54)	663,124	53.1	46.9	2.5	4.5	8.6	37.4	32.5	14.5	0.0	-	
54 Sterilizations (Z30.2)	5,635	2.8	97.2	-	-	-	96.6	2.4	-	1.0	-	
55 Undiagnosed/Un-coded	369,225	51.4	48.6	2.9	4.5	8.7	45.1	27.8	10.8	0.3	5,490	
Total	6,910,249	49.8	50.2	2.7	5.8	10.5	43.7	26.2	11.1	0.1	52,338	

* Total = (Number of Live Discharges + Deaths)

Source : Medical Statistics Unit

Table 16. Trends in Hospital Morbidity and Mortality by Broad Disease Groups, 2009 - 2017

Disease Group by International Classification of Diseases (10 th Revision)	Morbidity (Cases per 100,000 population)										Mortality (Cases per 100,000 population)									
	2009 ⁵	2010 ⁶	2011 ⁶	2012	2013	2014	2015	2016	2017	2009 ⁵	2010 ⁶	2011 ⁶	2012	2013	2014	2015	2016	2017		
1. Certain infectious and parasitic diseases (A00-B99)	2,976.1	2,693.2	2,202.5	2,364.5	2,208.0	2,102.4	1,984.9	2,061.6	3,309.7	15.5	17.2	18.4	16.6	18.4	21.5	22.8	26.0	28.8		
2. Neoplasms (C00-D48)	368.8	403.2	418.8	470.9	477.8	540.0	604.6	640.4	629.6	18.5	21.5	22.2	22.2	22.2	24.0	22.9	24.3	23.0		
3. Diseases of the blood & blood-forming organs & certain disorders involving the immune mechanism (D50-D89)	113.4	124.6	128.9	138.8	144.7	154.9	173.9	195.2	191.2	0.5	0.6	0.6	0.5	0.5	0.5	0.5	0.4	0.5		
4. Endocrine, nutritional and metabolic diseases (E00-E90)	455.3	465.1	455.1	518.3	535.9	524.9	526.9	573.6	555.2	4.0	4.0	4.1	4.0	3.7	3.8	3.9	4.4	4.4		
5. Mental and behavioural disorders (F00-F99)	195.2	213.7	219.0	223.2	227.6	226.9	233.4	244.3	246.1	-	-	-	-	-	-	-	-	-		
6. Diseases of the nervous system (G00-G99)	308.4	313.8	319.3	329.3	323.9	320.1	323.9	324.4	322.8	3.2	3.0	2.6	2.9	2.9	2.9	2.8	2.8	3.0		
7. Diseases of the eye and adnexa (H00-H59)	648.4	646.7	647.0	697.9	699.6	758.8	786.6	832.3	714.6	-	-	-	-	-	-	-	-	-		
8. Diseases of the ear and mastoid process (H60-H95)	161.9	168.9	180.4	184.9	197.8	200.0	219.0	221.6	241.1	-	-	-	-	-	-	-	-	-		
9. Diseases of the circulatory system (I00-I99)	1,436.7	1,490.1	1,456.1	1,573.1	1,588.4	1,619.5	1,610.4	1,641.6	1,619.5	60.6	63.1	61.9	65.4	66.6	69.6	68.6	66.7	70.3		
10. Diseases of the respiratory system (J00-J99)	2,910.3	2,873.7	2,709.9	2,892.7	2,939.3	2,847.0	3,028.4	2,513.2	2,935.2	21.9	24.1	23.1	25.2	28.1	30.1	35.3	30.0	39.6		
11. Diseases of the digestive system (K00-K93)	1,295.6	1,375.5	1,386.5	1,439.3	1,440.6	1,482.9	1,545.1	1,552.4	1,544.8	12.3	12.0	10.1	10.4	11.2	11.6	11.1	11.1	11.1		
12. Diseases of the skin and subcutaneous tissue (L00-L99)	874.4	901.7	903.7	970.0	952.4	1,038.9	991.1	1,121.5	1,045.0	-	-	0.2	0.1	0.2	0.3	0.4	0.5	0.5		
13. Diseases of the musculoskeletal system and connective tissue (M00-M99)	689.3	708.3	736.8	789.7	768.6	777.1	804.1	838.9	817.2	0.3	0.2	0.2	0.3	0.3	0.3	0.2	0.3	0.3		
14. Diseases of the genitourinary system (N00-N99)	1,411.0	1,506.8	1,494.3	1,578.3	1,567.0	1,601.3	1,620.8	1,747.4	1,786.3	10.7	11.1	11.6	12.1	12.4	13.1	13.0	12.8	12.9		
15. Pregnancy, childbirth and the puerperium ^{1,4} (O00-O99)	4,528.6	4,613.9	4,668.2	5,299.6	5,389.3	5,266.0	5,226.2	5,167.6	5,211.2	1.1	1.0	0.9	0.9	1.0	0.6	0.6	0.6	0.7		
16. Certain conditions originating in the perinatal period ^{2,3} (P00-P96)	-	-	-	9,188.4	11,448.5	12,729.4	13,138.4	13,565.6	14,182.4	-	-	-	222.2	389.2	360.3	372.1	308.1	338.9		
17. Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)	58.5	61.9	52.9	55.8	63.0	58.7	54.8	55.0	54.0	2.9	3.1	2.6	2.6	2.7	2.9	3.2	2.4	2.5		
18. Symptoms, signs and abnormal clinical and laboratory findings not elsewhere classified (R00-R99)	2,180.2	2,143.7	2,030.8	2,300.1	2,430.2	2,549.7	2,708.0	2,854.7	3,051.5	10.5	9.7	7.7	8.6	9.4	6.6	4.8	3.1	3.3		
19. Injury, poisoning and certain other consequences of external causes (S00-T98)	4,585.4	4,832.9	4,880.2	5,316.3	5,210.7	5,289.8	5,446.5	5,753.6	5,818.9	17.2	15.2	15.2	13.9	12.5	12.4	12.7	12.9	13.1		

¹ Rate Per 100,000 females of the reproductive age group

² Per 100,000 live births / infant population

³ Not calculated for the year 2009 - 2011 since infant population was not available

Excludes

⁴ Single spontaneous delivery, false labour and those admitted and discharged before delivery

⁵ Kilinochchi and Mullaitivu districts,

⁶ Mullaitivu district

Source : Medical Statistics Unit

Table 17. Trends in Hospitalization and Hospital Deaths of Selected Diseases, 2010 - 2017

Disease and ICD Code	Number of Hospitalizations per 100,000 Population										Number of Deaths per 100,000 Population						
	2010 ²	2011 ²	2012	2013	2014	2015	2016	2017	2010 ²	2011 ²	2012	2013	2014	2015	2016	2017	
Intestinal infectious diseases (A00-A09)	732.4	684.3	634.4	607.5	619.8	625.9	619.4	512.9	0.4	0.3	0.2	0.3	0.3	0.3	0.4	0.3	
Tuberculosis (A15-A19)	48.7	45.1	39.0	40.6	41.5	40.8	42.2	37.9	2.2	1.6	1.5	1.6	1.6	1.5	1.3	1.2	
Diphtheria (A36)	-	-	-	-	-	0.0	0.0	-	-	-	-	-	-	-	-	-	
Whooping cough (A37)	-	0.3	0.5	0.2	0.3	0.5	0.3	0.1	-	-	-	-	-	0.0	-	-	
Septicaemia (A40, A41)	28.2	17.7	33.6	38.1	44.2	47.0	56.1	60.7	11.5	11.3	12.6	14.4	17.5	18.7	22.6	24.3	
Rabies (A82)	0.3	0.7	0.2	0.2	0.3	0.7	0.7	0.8	0.2	0.1	0.1	0.1	0.0	0.0	0.0	0.0	
Measles (B05)	0.7	0.5	0.4	23.2	16.5	15.5	2.2	0.6	-	-	-	-	-	0.0	-	-	
Viral hepatitis (B15-B19)	14.5	12.4	15.9	16.1	15.2	12.9	7.6	5.4	-	0.1	-	-	-	0.0	0.0	0.0	
Malaria (B50-B54)	2.9	0.7	0.6	0.5	0.4	0.2	0.3	0.4	-	-	-	-	-	-	-	-	
Helminthiasis (B76, B77, B79, B80)	1.1	1.0	1.2	1.3	0.6	0.5	0.5	0.3	-	-	-	-	-	-	-	-	
Diabetes mellitus (E10-E14)	357.2	345.9	388.1	411.4	391.8	381.8	414.6	396.3	3.3	3.6	3.3	3.1	3.2	3.3	3.6	3.7	
Nutritional deficiencies (E40-E46, E50-E56)	6.5	7.2	7.6	7.9	4.6	6.7	5.2	4.8	0.1	0.1	-	-	-	0.1	0.0	0.0	
Anaemias (D50-D64)	96.6	98.7	105.6	111.9	121.7	137.3	156.9	151.1	0.4	0.4	0.3	0.4	0.4	0.4	0.3	0.3	
Hypertensive disease (I10-I15)	476.9	470.2	486.4	489.3	477.7	463.6	464.3	429.8	3.4	2.9	2.6	2.8	3.1	3.4	3.1	3.0	
Ischaemic heart disease (I20-I25)	478.2	455.4	494.9	506.1	524.3	532.1	540.5	546.8	24.8	25.3	27.6	29.1	30.6	29.7	28.5	31.0	
Asthma (J45-J46)	948.2	893.6	928.0	910.8	916.3	911.0	787.3	803.3	3.7	2.9	3.1	3.0	2.9	3.2	2.5	2.9	
Diseases of the liver (K70-K76)	85.1	68.4	77.5	82.2	83.2	76.3	77.2	74.9	9.8	7.8	8.3	8.7	9.1	8.7	8.9	8.9	
Abortions ¹ (O00-O08)	836.1	859.3	959.3	922.4	893.4	870.4	861.3	864.4	-	0.1	-	0.1	0.2	0.1	0.0	0.1	

¹ Rate per 100,000 females of the reproductive age group

Excludes:

² Mullaitivu district

Source : Medical Statistics Unit

Table 18. Leading Causes of Hospitalization, 2017

Rank Order	ICD Code (10 th Revision)	Causes of Hospitalization	Number of Cases	Proportionate Morbidity	Cases per 100,000 Population
1	S00 - T19, W54	Traumatic injuries	1,044,392	18.4	4,870.3
2	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	654,365	11.5	3,051.5
3	A80 - B34	Viral diseases	553,912	9.7	2,583.1
4	J20 - J22, J40 - J98	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	469,256	8.3	2,188.3
5	K20 - K92	Diseases of the gastrointestinal tract	313,557	5.5	1,462.2
6	N00 - N39	Diseases of the urinary system	265,560	4.7	1,238.4
7	O10 - O46, O48 - O75, O81 - O99, Z35	Direct and indirect obstetric causes	245,157	4.3	1,143.2
8	L00 - L99	Diseases of skin and subcutaneous tissue	224,084	3.9	1,045.0
9	M00 - M99	Diseases of the musculoskeletal system and connective tissue	175,233	3.1	817.2
10	H00 - H59	Diseases of the eye and adnexa	153,234	2.7	714.6
11	C00 - D48	Neoplasms	135,009	2.4	629.6
12	J00 - J06, J30 - J39	Other dise. of the upper respir. tract	130,744	2.3	609.7
	A00 - T98, Z35, Z00 - Z13, Z30.2, Z40 - Z54, W54	All causes ¹	5,681,618	100.0	26,495.1

¹ Analysed all discharges (Live Discharges+Deaths) excluding ; 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

Source : Medical Statistics Unit

Table 19. Leading Causes of Hospital Deaths, 2017

Rank Order	ICD Code (10 th Revision)	Causes of Death	Number of Deaths	Proportionate Mortality	Deaths Per 100,000 Population
1	I20 - I25	Ischaemic heart disease	6,649	14.2	31.0
2	A20 - A49	Zoonotic and other bacterial diseases	5,406	11.5	25.2
3	C00 - D48	Neoplasms ¹	4,938	10.5	23.0
4	J20 - J22, J40 - J98	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	4,577	9.8	21.3
5	I26-I51	Pulmonary heart disease and diseases of the pulmonary circulation	4,005	8.5	18.7
6	J12 - J18	Pneumonia	3,856	8.2	18.0
7	I60 - I69	Cerebrovascular disease	3,585	7.7	16.7
8	N00-N39	Diseases of the urinary system	2,756	5.9	12.9
9	K20 - K92	Diseases of the gastro-intestinal tract	2,375	5.1	11.1
10	S00 - T19, W54	Traumatic injuries	1,800	3.8	8.4
11	E10 - E14	Diabetes mellitus	803	1.7	3.7
12	R00 - R99	Symptoms, signs and abnormal clinical and laboratory findings	705	1.5	3.3
13	I10 - I15	Hypertensive disease	643	1.4	3.0
14	G00 - G98	Disease of the nervous system	638	1.4	3.0
15	P05 - P07	Slow fetal growth, fetal malnutrition	557	1.2	2.6
	A00-T98, Z00-Z13, Z35, Z40-Z54, W54	All causes ²	46,848	100.0	218.5

¹ Includes deaths reported (not classified by type of neoplasm) from Cancer Institute, Maharagama

Source : Medical Statistics Unit

² Analysed all deaths excluding undiagnosed/uncoded

Table 20. Leading Causes of Hospitalization, 2008 - 2017¹

Disease and ICD (10 th Revision) Code	2017		2016		2015		2014		2013		2012		2011 ²		2010 ²		2009 ³		2008	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Traumatic injuries (S00-T19, W54)	1	18.4	1	19.3	1	18.5	1	18.4	1	18.1	1	17.0 ⁴	1	17.0 ⁴	1	16.2 ⁴	1	15.6 ⁴	1	15.6 ⁴
Symptoms, signs and abnormal clinical and laboratory findings (R00-R99)	2	11.5	2	11.5	2	11.2	2	10.7	2	10.4	2	9.8	2	9.4	2	9.5	2	9.8	3	9.1
Viral diseases (A80-B34)	3	9.7	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
Diseases of the respiratory system excluding diseases of upper the respiratory tract, pneumonia and influenza	4	8.3	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
Diseases of the gastro-intestinal tract	5	5.5	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
Diseases of the urinary system (N00-N39)	6	4.7	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
Direct and indirect obstetric causes (O10-O46, O48-O75, O81-O99, Z35)	7	4.3	7	4.6	6	4.7	6	4.8	6	5.0	6	4.9	6	4.9	6	4.7	6	4.6	6	4.8
Diseases of the skin and subcutaneous tissue (L00-L99)	8	3.9	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
Diseases of the musculoskeletal system and connective tissue (M00-M99)	9	3.1	9	3.4	9	3.3	9	3.3	9	3.3	9	3.4	9	3.4	10	3.2	10	3.1	9	3.2
Diseases of the eye and adnexa (H00-H59)	10	2.7	10	3.4	10	3.2	10	3.2	10	3.0	10	3.0	11	3.0	11	2.9	12	2.9	11	2.9
Neoplasms (C00-D48)	11	2.4	11	2.6	12	2.5	13	2.3	15	2.0	15	2.0	15	2.0	16	1.8	16	1.7	16	1.8
Other dise. of the upper respir. tract (J00-J06, J30-J39)	12	2.3	14	2.1	13	2.5	12	2.5	11	2.6	12	2.7	12	2.7	12	2.8	11	3.0	12	2.8

Source : Medical Statistics Unit

Excludes:

- ¹ 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
- ² Mullaitivu District
- ³ Kilinochchi and Mullaitivu Districts
- ⁴ Bitten or struck by dog (W54)

Table 21. Leading Causes of Hospital Deaths, 2010 - 2017

Disease and ICD (10 th Revision) Code	2017		2016		2015		2014		2013		2012		2011 ²		2010 ²	
	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%	Rank	%
Ischaemic heart disease (I20 - I25)	1	14.2	1	14.1	1	14.2	1	14.8	1	14.7	1	14.4	1	13.4	1	12.8
Zoonotic and other bacterial diseases (A20 - A49)	2	11.5	3	11.6	3	9.7	3	9.1	6	7.9	6	7.1	6	6.7	6	6.6
Neoplasms ¹ (C00 - D48)	3	10.5	2	12.0	2	11.0	2	11.7	2	11.2	2	11.6	2	11.8	2	11.1
Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza (J20 - J22, J40 - J98)	4	9.8	5	8.3	4	9.2	6	8.0	5	7.9	5	7.2	5	6.9	5	7.0
Pulmonary heart disease and diseases of the pulmonary circulation (I26 - I51)	5	8.5	4	8.7	5	8.3	4	8.6	4	8.4	3	9.0	4	8.7	3	8.7
Pneumonia (J12 - J18)	6	8.2	7	6.4	7	7.5	7	6.6	8	6.1	8	5.7	9	5.2	9	5.2
Cerebrovascular disease (I60 - I69)	7	7.7	6	8.2	6	8.2	5	8.4	3	8.6	4	8.7	3	8.7	4	8.7
Diseases of the urinary system (N00 - N39)	8	5.9	8	6.3	8	6.2	8	6.3	7	6.2	7	6.3	7	5.7	8	5.7
Diseases of the gastro-intestinal tract (K20 - K92)	9	5.1	9	5.5	9	5.3	9	5.7	9	5.7	9	5.4	8	5.4	7	6.2
Traumatic injuries (S00 - T19, W54)	10	3.8	10	3.9	10	3.8	10	3.5	11	3.3	11	3.7	11	3.6	11	3.7
Diabetes mellitus (E10 - E14)	11	1.7	11	1.8	13	1.6	13	1.6	13	1.6	14	1.7	14	1.9	16	1.7
Symptoms, signs and abnormal clinical and laboratory findings (R00 - R99)	12	1.5	12	1.6	11	2.3	11	3.2	10	4.8	10	4.5	10	4.1	10	5.0
Hypertensive disease (I10-I15)	13	1.4	13	1.5	12	1.6	14	1.5	16	1.4	18	1.3	16	1.5	15	1.8

¹ Includes deaths reported from the Cancer Hospital (not analysed by site and type of neoplasm)

² Excludes Mullaitivu District

Source : Medical Statistics Unit

Table 22. Leading Causes of Hospitalization by District, 2017 ¹

District and Rank		Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullaitivu	Batticaloa	Ampara ²	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Ratnapura	Kegalle	
Traumatic injuries	S00 - T19, W54	1	1	1	1	1	1	1	1	1	1	1	2	2	1	1	1	1	1	1	1	1	1	1	1	1	1	1
	Signs, symptoms and abnormal clinical and laboratory findings	2	3	3	2	2	2	3	2	2	2	3	1	1	2	3	2	2	2	2	2	2	2	2	2	2	2	4
Viral diseases	A80 - B34	3	2	2	3	3	3	5	3	4	4	4	5	6	3	5	3	3	3	4	3	5	4	4	5	3	2	2
	Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza	4	5	4	4	4	4	2	4	3	3	2	3	3	4	2	4	4	4	4	3	4	3	3	3	3	4	3
Diseases of the gastrointestinal tract	K20 - K92	5	7	5	5	5	7	4	5	6	5	7	6	7	10	6	5	5	5	5	6	4	6	6	6	6	5	5
	Diseases of the urinary system	6	6	7	8	6	8	12	6	8	8	6	9	9	8	5	4	8	7	7	6	8	6	5	5	4	6	7
Direct and indirect obstetric causes	O10 - O46, O48 - O75, O81 - O99, Z35	7	8	8	7	7	6	6	9	5	10	5	7	4	6	8	6	6	6	8	5	7	7	7	8	7	8	10
	Diseases of the skin and subcutaneous tissue	8	9	6	6	11	9	10	8	9	7	6	8	10	7	7	9	9	9	8	7	7	8	8	9	8	7	6
Diseases of the musculoskeletal system and connective tissue	M00 - M99	9	12	9	9	9	10	7	10	10	8	10	4	5	11	9	7	8	10	9	13	9	10	7	9	9	8	
	Diseases of the eye and adnexa	10	10	12	13	8	5	11	11	7	16	8	13	31	17	28	17	12	12	14	9	18	9	12	13	10	14	
Neoplasms ;	C00-D48	11	4	22	28	10	30	25	7	32	30	11	29	22	26	37	19	36	19	19	31	13	29	11	27	13	26	
	Other dise. of the upper respir. tract	12	16	10	10	12	11	9	15	12	15	12	11	15	8	10	10	11	9	11	12	10	11	10	10	11	9	

¹Excludes:

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

²Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 23. Leading Causes of Hospital Deaths by District, 2017

Disease and ICD (10 th Revision) Code	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Vavuniya	Mannar	Kilinochchi	Mullaitivu	Batticaloa	Ampara ²	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Ratnapura	Kegalle
Ischaemic heart disease I20 - I25	1	2	1	1	3	1	3	2	1	2	3	2	3	2	1	1	1	1	1	2	1	2	4	1	3	3
Zoonotic and other bacterial diseases A20 - A49	2	3	2	3	2	3	7	5	4	5	2	6	17	2	12	5	2	2	6	3	2	3	1	3	1	1
Neoplasms ¹ C00 - D48	3	1	10	9	1	9	6	1	9	6	4	8	4	7	7	7	8	9	3	11	5	7	5	8	7	8
Diseases of the respiratory system excluding diseases of upper respiratory tract, pneumonia and influenza J20 - J22, J40 - J98	4	4	5	4	4	5	4	3	2	4	1	4	4	6	5	4	3	4	2	4	6	4	3	2	5	2
Pulmonary heart disease and diseases of the pulmonary circulation I26-I51	5	5	4	2	6	4	1	8	6	1	5	3	1	4	5	1	5	6	7	1	7	8	7	6	4	5
Pneumonia J12 - J18	6	8	7	7	7	2	5	4	2	3	8	5	17	1	3	9	4	5	5	6	3	5	2	7	2	4
Cerebrovascular disease I60 - I69	7	6	6	5	4	6	2	6	5	11	6	7	4	4	-	10	6	3	4	8	8	5	9	5	6	6
Diseases of the urinary system N00-N39	8	9	8	8	8	8	8	10	7	7	6	1	14	7	3	7	7	7	9	7	4	1	6	4	8	9
Diseases of the gastrointestinal tract K20 - K92	9	7	3	6	9	9	8	9	10	11	9	9	8	12	8	12	13	12	8	5	10	10	10	10	9	7
Traumatic injuries S00 - T19, W54	10	11	9	11	10	7	16	7	8	9	10	15	10	12	2	6	9	8	10	9	9	9	8	9	10	10
Diabetes mellitus E10 - E14	11	10	11	16	12	12	15	12	27	10	13	16	17	-	-	16	23	-	11	14	13	28	14	27	19	14
Signs, symptoms and abnormal clinical and laboratory findings R00 - R99	12	13	12	12	19	15	10	15	11	8	17	10	2	9	8	3	10	13	18	13	17	17	16	16	13	11
Hypertensive diseases I10 - I15	13	17	15	18	13	16	11	11	12	13	11	-	4	-	12	12	20	14	12	12	16	26	11	19	14	15
Diseases of the nervous system G00 - G98	14	14	18	15	11	17	16	13	18	18	12	10	10	12	12	16	17	14	15	19	15	11	15	14	11	12
Slow fetal growth, fetal malnutrition and... P05 - P07	15	18	13	13	15	11	23	19	15	14	16	10	17	-	-	-	12	25	13	17	11	12	24	12	12	21

Includes :

¹ Deaths reported from Cancer Hospital (not analysed by site and type of neoplasm)

²Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 24. Cases and Deaths of Poisoning and Case Fatality Rate¹ by Regional Director of Health Services Division, 2017

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	Rate per 100,000 Population		
			Cases	Deaths	Cases	Deaths					Cases	Deaths	
Colombo	2,088	8	129	9	175	2	2,315	14	4,707	33	194.6	1.4	0.70
Gampaha	1,938	6	160	25	142	4	1,892	13	4,132	48	172.8	2.0	1.16
Kalutara	1,400	2	44	-	154	6	2,037	14	3,635	22	286.0	1.7	0.61
Kandy	1,859	11	354	22	137	-	2,607	7	4,957	40	341.4	2.8	0.81
Matale	642	5	429	20	62	2	1,346	7	2,479	34	482.3	6.6	1.37
Nuwera Eliya	499	2	616	12	104	2	1,953	11	3,172	27	419.6	3.6	0.85
Galle	1,017	1	68	5	85	4	1,538	8	2,708	18	243.3	1.6	0.66
Matara	767	1	63	5	78	11	1,251	17	2,159	34	253.7	4.0	1.57
Hambantota	803	2	325	1	326	8	942	4	2,396	15	370.3	2.3	0.63
Jaffna	682	2	269	11	68	-	3,342	7	4,361	20	717.3	3.3	0.46
Kilinochchi	238	-	1	-	22	-	1,557	3	1,818	3	1,466.1	2.4	0.17
Mullaitivu	182	-	78	3	15	-	421	-	696	3	725.0	3.1	0.43
Vavuniya	172	-	55	3	-	-	1,510	13	1,737	16	944.0	8.7	0.92
Mannar	140	-	25	-	15	-	770	3	950	3	887.9	2.8	0.32
Batticaloa	1,071	2	217	1	88	-	1,937	1	3,313	4	591.6	0.7	0.12
Ampara ²	762	-	286	10	178	5	1,770	2	2,996	17	425.0	2.4	0.57
Trincomalee	636	4	145	4	132	-	1,360	1	2,273	9	551.7	2.2	0.40
Kurunegala	2,090	-	1,126	44	130	2	2,531	12	5,877	58	346.9	3.4	0.99
Puttalam	826	-	594	20	115	-	1,476	3	3,011	23	369.9	2.8	0.76
Anuradhapura	1,500	1	606	16	595	11	2,695	7	5,396	35	587.8	3.8	0.65
Polonnaruwa	803	1	295	16	151	1	1,017	4	2,266	22	525.8	5.1	0.97
Badulla	675	-	461	23	81	-	2,750	14	3,967	37	459.1	4.3	0.93
Moneragala	496	2	291	8	127	4	1,345	4	2,259	18	465.8	3.7	0.80
Ratnapura	934	2	396	15	98	1	1,348	13	2,776	31	241.2	2.7	1.12
Kegalle	547	1	116	6	15	-	767	7	1,445	14	164.8	1.6	0.97
Sri Lanka	22,767	53	7,149	279	3,093	63	42,477	189	75,486	584	352.0	2.7	0.77

Source : Medical Statistics Unit

¹ Deaths per 100 cases

² Includes Kalmunai RDHS Division

Table 25. Distribution of Patients with Mental Disorders by Regional Director of Health Services Division, 2017

RDHS Division	Dementia	Mental and Behavioral Disorders		Schizophrenia, Schizotypal and Delusional Disorders	Mood Disorders	Neurotic, Stress-Related Somatoform Disorders	Mental Retardation Related Disorders	Behavioral and Emotional Disorders Usually in Childhood and Adolescence	Other and Unspecified Mental Disorders	Total
		Due to Use of Alcohol	Due to Other Psychoactive Substance Use							
Colombo	427	1,087	742	4,507	3,957	614	291	143	1,093	12,861
Gampaha	86	993	437	1,175	1,673	267	4	39	386	5,060
Kalutara	43	608	53	578	434	96	5	20	456	2,293
Kandy	84	965	67	503	2,217	267	16	72	323	4,514
Matale	16	191	13	278	457	60	10	43	63	1,131
Nuwara Eliya	14	218	5	202	272	99	3	22	134	969
Galle	87	925	10	898	837	66	4	20	236	3,083
Matara	26	632	9	222	392	67	2	1	220	1,571
Hambantota	20	74	38	253	134	47	1	4	195	766
Jaffna	29	199	30	835	332	318	19	14	180	1,956
Kilinochchi	33	156	64	279	264	60	15	8	49	928
Mullaitivu	-	32	2	22	97	6	-	-	38	197
Vavuniya	6	44	5	194	248	86	-	9	54	646
Mannar	5	37	4	114	94	36	6	1	42	339
Batticaloa	43	453	28	106	152	151	1	16	173	1,123
Ampara	22	29	2	232	235	23	-	14	37	594
Kalmunai	11	40	91	301	55	52	2	5	64	621
Trincomalee	18	30	53	133	326	62	9	9	77	717
Kurunegala	43	696	38	427	1,635	66	7	77	266	3,255
Puttalam	4	185	17	113	100	30	1	7	74	531
Anuradhapura	46	178	70	628	949	156	66	26	553	2,672
Polonnaruwa	11	256	23	296	401	61	7	6	142	1,203
Badulla	561	161	100	890	408	55	5	85	354	2,619
Monaragala	4	78	35	161	275	43	15	9	103	723
Ratnapura	41	231	15	696	312	64	1	58	150	1,568
Kegalle	10	192	24	115	375	75	2	12	38	843
Sri Lanka	1,690	8,690	1,975	14,158	16,631	2,927	492	720	5,500	52,783

Source : Medical Statistics Unit

Table 26. Case Fatality Rate ¹ for Selected Diseases, 2013 - 2017

Disease and ICD Code	2013			2014			2015			2016			2017		
	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)	1,961	3	0.2	1,753	5	0.3	1,298	-	-	1,109	-	-	942	1	0.1
Tetanus (A34, A35)	170	4	2.4	99	3	3.0	87	5	5.7	74	3	4.1	138	-	-
Shigellosis (A03)	2,000	2	0.1	2,097	1	0.0	1,737	-	-	1,236	4	0.3	917	1	0.1
Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight (P05 - P07)	7,534	632	8.4	7,434	571	7.7	7,455	586	7.9	6,463	520	8.0	7,245	557	7.7
Measles (B05)	4,755	-	-	3,436	1	0.0	3,240	1	0.0	457	-	-	138	-	-
Whooping cough (A37)	50	-	-	68	-	-	105	1	1.0	70	-	-	30	-	-
Viral hepatitis (B15 - B19)	3,288	9	0.3	3,164	7	0.2	2,706	6	0.2	1,617	6	0.4	1,151	3	0.3
Malaria (B50 - B54)	106	-	-	75	-	-	48	-	-	56	-	-	88	-	-
Tetanus neonatorum (A33)	13	-	-	-	-	-	-	-	-	2	-	-	4	-	-
Diseases of the liver (K70 - K76)	16,836	1,790	10.6	17,283	1,882	10.9	16,005	1,819	11.4	16,361	1,882	11.5	16,061	1,898	11.8
Septicaemia (A40, A41)	7,814	2,945	37.7	9,171	3,634	39.6	9,845	3,930	39.9	11,889	4,782	40.2	13,022	5,208	40.0
Snake bites (T63.0)	40,468	95	0.2	37,309	94	0.3	36,631	78	0.2	34,494	55	0.2	31,361	66	0.2
Hypertensive diseases (I10 - I15)	100,224	578	0.6	99,224	649	0.7	97,207	713	0.7	98,437	649	0.7	92,163	643	0.7
Ischaemic heart disease (I20 - I25)	103,656	5,975	5.8	108,905	6,346	5.8	111,564	6,221	5.6	114,609	6,041	5.3	117,250	6,649	5.7
Pneumonia (J12 - J18)	24,290	2,489	10.2	23,062	2,802	12.1	26,451	3,288	12.4	22,116	2,738	12.4	25,777	3,856	15.0
Asthma (J45 - J46)	186,565	610	0.3	190,333	612	0.3	191,004	667	0.3	166,935	529	0.3	172,262	630	0.4
Bacterial meningitis (G00, G03)	3,683	100	2.7	3,813	95	2.5	3,167	104	3.3	3,791	106	2.8	4,231	108	2.6

¹ Deaths per 100 cases

Source : Medical Statistics Unit

Table 27. Inpatients Treated and Hospital Deaths by Type of Institution and RDHS Division, 2017

RDHS Division	Teaching Hospitals		Provincial General Hospitals		District General Hospitals		Base Hospitals Type A		Base Hospitals Type B		Divisional Hospitals Type A		Divisional Hospitals Type B		Divisional Hospitals Type C		Other Hospitals with Indoor Patients		Total		Inpatients per 1,000 Population	Hospital Deaths per 100 Cases
	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths	Cases	Deaths		
Colombo	632,061	8,609	-	-	187,645	1,377	25,120	246	10,902	19	43,385	70	13,773	15	112,920	1,811	1,025,806	12,147	424	1.2		
Gampaha	143,924	2,139	-	-	79,208	692	37,176	207	46,641	150	9,624	20	35,232	40	24,373	218	571,950	4,897	239	0.9		
Kalutara	-	-	-	-	144,486	1,350	15,528	18	14,651	37	44,564	75	15,421	11	-	-	333,044	2,367	262	0.7		
Kandy	312,988	3,580	-	-	-	-	60,071	492	-	-	61,239	125	56,747	63	4,764	11	534,577	4,578	368	0.9		
Matale	-	-	-	-	59,885	410	-	-	-	-	19,124	40	21,906	24	-	-	181,534	1,235	353	0.7		
Nuwara Eliya	-	-	-	-	23,940	166	21,239	81	4,168	20	27,775	55	23,436	41	-	-	154,658	944	205	0.6		
Galle	199,137	2,687	-	-	92,268	597	10,913	63	13,423	7	31,848	46	27,572	18	-	-	375,161	3,418	337	0.9		
Matara	-	-	-	-	-	-	39,050	170	13,167	18	33,588	69	9,961	4	-	-	219,342	1,456	258	0.7		
Hambantota	-	-	-	-	40,920	384	39,882	77	-	-	53,559	54	22,848	9	-	-	224,281	940	347	0.4		
Jaffna	132,047	1,457	-	-	51,904	239	15,675	53	-	-	19,190	19	12,582	1	-	-	231,398	1,769	381	0.8		
Kilinochchi	-	-	-	-	-	-	3,566	-	-	-	4,106	-	9,919	1	-	-	58,868	129	475	0.2		
Mullaitivu	-	-	-	-	-	-	7,106	3	11,602	4	1,527	-	1,647	-	-	-	39,549	95	412	0.2		
Vavuniya	-	-	-	-	-	-	4,729	21	-	-	2,336	3	4,700	9	-	-	72,982	442	397	0.6		
Mannar	-	-	-	-	-	-	-	-	2,872	3	5,463	3	2,294	5	-	-	33,911	128	317	0.4		
Batticaloa	78,158	190	-	-	37,905	68	29,505	21	10,349	4	10,967	4	25,974	7	-	-	192,858	294	344	0.2		
Ampara ¹	-	-	-	-	94,291	445	67,497	159	-	-	12,109	5	29,953	8	-	-	260,485	1,128	369	0.4		
Trincomalee	-	-	-	-	20,980	100	41,320	85	-	-	-	-	27,544	24	-	-	140,716	484	342	0.3		
Kurunegala	-	-	194,422	2,852	63,100	326	82,695	399	83,808	154	48,083	117	34,620	30	-	-	506,728	3,878	299	0.8		
Puttalam	-	-	-	-	49,444	281	42,340	384	15,081	28	10,367	11	13,997	10	-	-	186,721	1,308	229	0.7		
Anuradhapura	155,793	2,328	-	-	-	-	52,634	129	36,817	54	46,310	54	47,356	79	580	-	339,490	2,644	370	0.8		
Polonnaruwa	-	-	-	-	-	-	27,021	101	10,495	37	20,223	15	10,431	10	-	-	172,389	1,243	400	0.7		
Badulla	-	-	107,479	900	81,120	753	21,023	169	17,611	54	34,658	26	35,113	21	-	-	297,004	1,923	344	0.6		
Monaragala	-	-	-	-	-	-	45,524	202	7,173	13	23,468	30	26,414	9	-	-	166,036	710	342	0.4		
Ratnapura	-	-	121,126	1,391	-	-	101,333	532	34,680	43	20,143	15	22,545	27	-	-	363,064	2,577	315	0.7		
Kegalle	-	-	-	-	-	-	93,492	713	43,978	53	7,477	1	4,899	-	491	-	227,697	1,604	260	0.7		
Total	1,654,108	20,990	423,027	5,143	1,027,096	7,188	884,439	4,325	377,418	698	591,133	857	536,884	466	143,128	2,040	6,910,249	52,338	322	0.8		

¹ Includes Kalmunai RDHS Division

Source : Medical Statistics Unit

Table 28. Hospitalizations, Hospital Deaths and Case Fatality Rates of selected Non-Communicable Diseases, 2016 - 2017

Disease and ICD Code	2016						2017					
	Live Discharges		Deaths		Case Fatality Rate *	Case Fatality Rate *	Live Discharges		Deaths		Case Fatality Rate *	
	Male	Female	Male	Female			Male	Female	Male	Female		
Diabetes mellitus (E10-E14)	39,846	47,297	387	386	0.88	0.88	38,745	45,436	401	402	0.94	
Essential hypertension (I10)	36,660	53,148	240	259	0.55	0.55	34,705	50,088	225	315	0.63	
Other hypertensive diseases (I11-I15)	3,574	4,406	84	66	1.85	1.85	2,891	3,836	49	54	1.51	
Ischaemic heart diseases (I20-I25)	60,904	47,664	3,392	2,649	5.27	5.27	61,887	48,714	3,792	2,857	5.67	
Cerebrovascular diseases (I60-I69)	26,670	17,606	2,076	1,457	7.39	7.39	27,922	18,800	2,086	1,499	7.13	
Chronic obstructive pulmonary diseases (J40-J44)	29,074	7,365	793	170	2.57	2.57	32,288	8,578	1,140	191	3.15	
Asthma (J45-J46)	82,583	83,823	266	263	0.32	0.32	82,896	88,736	289	341	0.37	
Alcoholic liver diseases (K70)	2,902	307	272	20	8.34	8.34	2,365	285	277	23	10.17	
Other diseases of liver (K71-K76)	7,979	3,291	1,122	468	12.36	12.36	8,205	3,308	1,121	477	12.19	
Neoplasms (C00-D48)	58,130	72,516	2,878	2,270	3.79	3.79	58,248	71,823	2,720	2,218	3.66	
Renal failure (N17-N19)	24,315	12,455	1,198	605	4.67	4.67	31,286	16,605	1,254	628	3.78	

* 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, 2017

RDHS Area	Neoplasms (C00-D48)			Diabetes Mellitus (E10-E14)			Essential hypertension (I10)			Ischaemic heart disease (I20-I25)			Cerebrovascular disease (I60-169)		
	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	60,123	1,990	3.20	10,696	237	2.17	8,238	52	0.63	19,666	1,371	6.52	6,591	585	8.15
Gampaha	4,186	207	4.71	6,742	92	1.35	6,340	41	0.64	9,477	664	6.55	4,996	358	6.69
Kalutara	1,805	68	3.63	2,732	17	0.62	3,488	12	0.34	6,268	420	6.28	3,281	189	5.45
Kandy	13,137	586	4.27	7,704	89	1.14	7,692	74	0.95	8,382	430	4.88	4,242	407	8.75
Matale	752	45	5.65	2,116	24	1.12	2,763	15	0.54	2,701	206	7.09	877	85	8.84
Nuwara Eliya	893	50	5.30	2,985	9	0.30	3,844	10	0.26	3,185	116	3.51	1,651	119	6.72
Galle	14,216	409	2.80	2,874	79	2.68	3,165	82	2.53	6,271	408	6.11	3,077	296	8.78
Matara	763	46	5.69	2,123	1	0.05	2,133	18	0.84	3,864	279	6.73	1,686	123	6.80
Hambantota	614	60	8.90	2,868	31	1.07	3,632	25	0.68	3,417	123	3.47	1,027	28	2.65
Jaffna	5,224	145	2.70	2,953	22	0.74	1,928	47	2.38	2,376	221	8.51	1,687	95	5.33
Kilinochchi	282	7	2.42	391	-	-	331	-	-	541	14	2.52	176	13	6.88
Mullaitivu	54	5	8.47	453	-	-	562	-	-	393	18	4.38	92	-	-
Vavuniya	311	21	6.33	544	5	0.91	1,345	-	-	710	44	5.84	543	26	4.57
Mannar	225	6	2.60	638	1	0.16	411	2	0.48	1,154	9	0.77	140	6	4.11
Batticaloa	1,447	10	0.69	2,233	2	0.09	1,625	3	0.18	2,001	38	1.86	564	6	1.05
Ampara	242	29	10.70	1,143	1	0.09	1,156	1	0.09	1,473	70	4.54	421	56	11.74
Kalmunai	220	14	5.98	3,760	1	0.03	987	2	0.20	2,619	127	4.62	620	21	3.28
Trincomalee	1,436	20	1.37	2,491	-	-	1,304	3	0.23	1,674	54	3.13	547	40	6.81
Kurunegala	4,438	382	7.93	6,133	87	1.40	8,400	65	0.77	9,541	609	6.00	3,999	358	8.22
Puttalam	609	33	5.14	1,933	20	1.02	1,794	11	0.61	2,700	132	4.66	920	55	5.64
Anuradhapura	5,063	238	4.49	5,176	32	0.61	5,733	15	0.26	5,610	373	6.23	2,002	140	6.54
Polonnaruwa	784	77	8.94	1,513	2	0.13	1,780	2	0.11	3,109	143	4.40	1,170	101	7.95
Badulla	5,895	189	3.11	4,138	19	0.46	5,000	29	0.58	3,093	194	5.90	1,449	97	6.27
Monaragala	809	38	4.49	2,730	1	0.04	3,483	5	0.14	1,973	96	4.64	807	52	6.05
Ratnapura	5,613	195	3.36	4,455	10	0.22	3,785	11	0.29	5,198	273	4.99	2,711	197	6.77
Kegalle	930	68	6.81	2,657	21	0.78	3,874	15	0.39	3,205	217	6.34	1,446	132	8.37
Sri Lanka	130,071	4,938	3.66	84,181	803	0.94	84,793	540	0.63	110,601	6,649	5.67	46,722	3,585	7.13

* 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, 2017

RDHS Area	Bronchitis, emphysema and other chronic obstructive pulmonary disease (J40-J44)			Asthma (J45-J46)			Alcoholic liver disease (K70)			Other diseases of liver (K71-K76)			Renal failure (N17-N19)		
	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *	Live Discharges	Deaths	Case Fatality Rate *
Colombo	3,715	159	4.10	13,573	82	0.60	362	91	20.09	2,152	314	12.73	6,515	265	3.91
Gampaha	2,363	101	4.10	19,315	43	0.22	384	55	12.53	1,823	315	14.73	2,390	68	2.77
Kalutara	1,975	48	2.37	9,075	42	0.46	280	31	9.97	559	91	14.00	1,290	53	3.95
Kandy	6,382	210	3.19	9,417	54	0.57	63	5	7.35	1,328	133	9.10	2,535	131	4.91
Matale	2,141	71	3.21	3,411	15	0.44	51	4	7.27	221	31	12.30	2,548	49	1.89
Nuwara Eliya	2,607	57	2.14	4,103	8	0.19	47	-	-	153	22	12.57	158	11	6.51
Galle	2,193	89	3.90	9,075	50	0.55	51	5	8.93	789	93	10.54	812	60	6.88
Matara	700	14	1.96	5,932	9	0.15	15	1	6.25	223	26	10.44	1,659	43	2.53
Hambantota	1,319	28	2.08	11,032	32	0.29	40	1	2.44	178	21	10.55	969	28	2.81
Jaffna	901	35	3.74	8,686	13	0.15	55	1	1.79	902	67	6.91	322	32	9.04
Kilinochchi	582	8	1.36	1,207	-	-	5	-	-	107	1	0.93	2,288	7	0.31
Mullaitivu	103	2	1.90	1,367	1	0.07	7	2	22.22	53	2	3.64	2,238	9	0.40
Vavuniya	400	6	1.48	1,479	4	0.27	1	-	-	58	8	12.12	276	73	20.92
Mannar	134	-	-	656	1	0.15	4	1	20.00	73	2	2.67	537	2	0.37
Batticaloa	561	5	0.88	4,994	4	0.08	31	2	6.06	48	2	4.00	856	8	0.93
Ampara	1,121	23	2.01	1,754	3	0.17	5	-	-	47	8	14.55	1,619	35	2.12
Kalmunai	1,208	36	2.89	4,512	1	0.02	12	-	-	61	3	4.69	1,649	21	1.26
Trincomalee	1,128	17	1.48	3,551	1	0.03	23	6	20.69	111	2	1.77	2,692	30	1.10
Kurunegala	1,455	69	4.53	15,338	93	0.60	579	22	3.66	448	166	27.04	1,383	192	12.19
Puttalam	431	10	2.27	3,964	14	0.35	199	30	13.10	302	44	12.72	137	23	14.38
Anuradhapura	1,602	49	2.97	6,903	39	0.56	33	5	13.16	546	60	9.90	5,024	289	5.44
Polonnaruwa	786	42	5.07	2,996	9	0.30	19	6	24.00	120	33	21.57	724	154	17.54
Badulla	2,598	110	4.06	7,803	19	0.24	140	19	11.95	165	25	13.16	2,735	148	5.13
Monaragala	1,446	43	2.89	6,412	8	0.12	13	-	-	207	20	8.81	4,333	41	0.94
Ratnapura	858	33	3.70	9,465	36	0.38	139	4	2.80	607	61	9.13	1,950	63	3.13
Kegalle	2,157	66	2.97	5,612	49	0.87	92	9	8.91	232	48	17.14	252	47	15.72
Sri Lanka	40,866	1,331	3.15	171,632	630	0.37	2,650	300	10.17	11,513	1,598	12.19	47,891	1,882	3.78

* Deaths per 100 cases

Source : Medical Statistics Unit

Table 30. OutPatient Attendance by District and Type of Institution, 2017

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	2,126,734	-	-	654,590	194,238	145,607	738,068	189,057	-	750,269	-	678,507	5,477,070	2,264.2
Gampaha	493,898	-	561,252	233,720	312,177	579,514	87,841	462,988	-	239,914	3,848	729,182	3,704,334	1,549.3
Kalutara	-	-	307,576	503,671	197,741	159,192	507,981	348,310	-	-	27,682	233,660	2,285,813	1,798.4
Kandy	989,833	-	315,333	-	429,158	-	951,771	1,145,549	-	257,067	113,204	387,706	4,589,621	3,160.9
Matale	-	-	318,999	191,955	-	-	246,735	382,449	-	-	562	263,624	1,404,324	2,732.1
Nuwara Eliya	-	-	194,139	114,828	152,774	88,385	304,560	422,044	-	-	-	288,151	1,564,881	2,069.9
Galle	540,274	-	-	301,984	86,258	162,002	424,597	395,394	70,804	10,347	64,803	544,493	2,600,956	2,336.9
Matara	-	-	313,224	-	221,244	141,590	362,517	235,453	-	-	12,963	603,216	1,890,207	2,221.2
Hambantota	-	-	257,754	133,043	322,456	-	677,354	348,652	-	-	-	217,484	1,956,743	3,024.3
Jaffna	328,502	-	-	283,634	168,719	-	272,531	568,505	-	-	-	258,420	1,880,311	3,092.6
Kilinochchi	-	-	242,104	-	50,819	-	28,758	189,125	-	-	-	10,033	520,839	4,200.3
Mullaitivu	-	-	88,806	-	74,441	111,188	35,901	71,476	-	-	-	31,654	413,466	4,306.9
Vavuniya	-	-	336,924	-	74,840	-	22,803	127,888	-	-	14,096	70,869	647,420	3,518.6
Mannar	-	-	159,164	-	-	46,524	109,385	113,740	-	-	-	60,400	489,213	4,572.1
Batticaloa	202,188	-	-	295,488	279,474	85,938	117,253	413,019	-	-	3,927	279,887	1,677,174	2,995.0
Ampara	-	-	168,949	596,955	656,861	-	219,790	443,699	96,413	-	4,436	341,284	2,528,387	3,586.4
Trincomalee	-	-	127,155	110,523	277,520	-	-	289,859	-	-	-	312,614	1,117,671	2,712.8
Kurunegala	-	576,437	-	227,714	482,128	814,283	767,471	767,857	11,711	-	-	783,225	4,430,826	2,615.6
Puttalam	-	-	238,733	178,095	163,293	220,779	207,044	335,486	-	-	-	456,179	1,799,609	2,210.8
Anuradhapura	287,718	-	-	-	371,540	504,546	610,902	866,999	-	14,537	41,515	385,605	3,083,362	3,358.8
Polonnaruwa	-	-	397,163	-	240,987	117,283	295,232	256,545	-	-	-	164,910	1,472,120	3,415.6
Badulla	-	295,076	-	395,591	213,580	267,421	536,042	734,395	-	-	38,413	314,983	2,795,501	3,235.5
Monaragala	-	-	179,190	-	447,618	102,285	384,073	457,816	-	-	8,184	111,427	1,690,593	3,485.8
Ratnapura	-	323,354	212,952	-	712,488	481,442	322,100	550,766	-	10,161	51,143	540,433	3,204,839	2,784.4
Kegalle	-	-	382,559	-	565,354	479,455	119,422	223,851	-	10,452	23,740	369,222	2,174,055	2,479.0
Sri Lanka	4,969,147	1,194,867	4,801,976	4,221,791	6,695,708	4,507,434	8,350,131	10,340,922	178,928	1,292,747	408,516	8,437,168	55,399,335	2,583.4

Source : Medical Statistics Unit

Table 31. Out Patient Attendance by RDHS Division, 2017

RDHS Division	Quarter				Total Visits
	First	Second	Third	Fourth	
Colombo	1,409,099	1,338,699	1,344,601	1,384,671	5,477,070
Gampaha	950,472	898,540	903,452	951,870	3,704,334
Kalutara	605,925	555,054	544,783	580,051	2,285,813
Kandy	1,155,096	1,141,091	1,134,446	1,158,988	4,589,621
Matale	371,720	335,805	333,488	363,311	1,404,324
Nuwara Eliya	400,727	391,793	377,098	395,263	1,564,881
Galle	684,880	632,687	630,131	653,258	2,600,956
Matara	504,039	449,336	463,453	473,379	1,890,207
Hambantota	523,950	477,570	470,608	484,615	1,956,743
Jaffna	529,205	403,187	440,279	507,640	1,880,311
Kilinochchi	158,374	112,721	113,560	136,184	520,839
Mannar	115,396	89,105	97,229	111,736	413,466
Vavuniya	171,935	143,529	156,344	175,612	647,420
Mullaitivu	138,297	107,284	113,882	129,750	489,213
Batticaloa	464,919	396,404	391,388	424,463	1,677,174
Ampara	225,370	205,917	200,144	218,784	850,215
Kalmunai	454,570	379,334	410,063	434,205	1,678,172
Trincomalee	320,487	238,027	261,986	297,171	1,117,671
Kurunegala	1,117,969	1,104,449	1,056,606	1,151,802	4,430,826
Puttalam	458,319	427,292	429,702	484,296	1,799,609
Anuradhapura	825,794	719,634	703,246	834,688	3,083,362
Polonnaruwa	402,262	332,387	344,422	393,049	1,472,120
Badulla	722,836	682,388	675,683	714,594	2,795,501
Monaragala	431,618	419,265	403,672	436,038	1,690,593
Ratnapura	837,161	772,290	766,515	828,873	3,204,839
Kegalle	539,881	553,879	532,759	547,536	2,174,055
Sri Lanka	14,520,301	13,307,667	13,299,540	14,271,827	55,399,335

Source : Medical Statistics Unit

Table 32. Out Patient Department (OPD) Visits by Type of Hospital, 2017

Hospital Type	Quarter				Total Visits
	First	Second	Third	Fourth	
Teaching Hospitals	1,296,358	1,192,846	1,216,456	1,263,487	4,969,147
Provincial General Hospitals	297,216	293,379	301,106	303,166	1,194,867
District General Hospitals	1,266,655	1,121,558	1,158,547	1,255,216	4,801,976
Base Hospitals - Type A	1,131,155	989,204	1,015,156	1,086,276	4,221,791
Base Hospitals - Type B	1,730,859	1,615,955	1,609,320	1,739,574	6,695,708
Divisional Hospitals - Type A	1,177,467	1,106,401	1,065,297	1,158,269	4,507,434
Divisional Hospitals - Type B	2,188,920	2,034,691	1,972,212	2,154,308	8,350,131
Divisional Hospitals - Type C	2,730,140	2,499,795	2,447,065	2,663,922	10,340,922
Primary Medical Care Units with Maternity Homes	48,646	43,773	44,187	42,322	178,928
Other Institutions with Indoor Facility ¹	330,004	319,840	314,778	328,125	1,292,747
Other Institutions without Indoor Facility	101,289	93,540	105,111	108,576	408,516
Primary Medical Care Units	2,221,592	1,996,685	2,050,305	2,168,586	8,437,168
Total Visits	14,520,301	13,307,667	13,299,540	14,271,827	55,399,335

¹ 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, 2017

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	232,494	1,174,617	214,479	1,103,123	237,118	1,185,195	232,460	1,187,489	916,551	4,647,424
Gampaha	148,431	618,232	116,906	553,628	140,797	609,103	136,900	600,791	543,034	2,381,754
Kalutara	69,915	288,805	62,012	261,273	72,737	296,223	85,029	304,835	289,693	1,151,136
Kandy	141,291	702,124	137,151	686,874	147,914	722,569	159,523	750,416	585,879	2,861,983
Matale	33,194	174,569	31,392	166,112	34,696	177,442	35,329	172,178	134,611	690,301
Nuwara Eliya	38,496	178,450	35,541	159,293	29,722	169,739	34,709	170,150	138,468	677,632
Galle	75,418	302,129	73,216	284,933	85,648	321,980	80,168	322,808	314,450	1,231,850
Matara	59,253	211,583	50,010	190,583	63,910	217,082	60,862	217,907	234,035	837,155
Hambantota	36,352	158,202	30,158	142,182	33,004	159,448	33,282	160,629	132,796	620,461
Jaffna	57,743	315,431	55,768	307,319	54,660	320,445	56,287	317,982	224,458	1,261,177
Killinochchi	11,854	42,974	12,099	40,626	10,634	44,454	12,202	43,643	46,789	171,697
Mullaitivu	7,626	29,625	9,313	31,339	10,416	32,706	9,880	30,435	37,235	124,105
Vavuniya	21,747	100,007	21,404	102,819	23,246	110,678	23,679	108,890	90,076	422,394
Mannar	12,760	48,168	13,580	51,456	13,889	53,057	14,920	52,840	55,149	205,521
Batticaloa	37,463	165,667	35,488	154,675	41,125	162,317	36,530	151,325	150,606	633,984
Ampara	39,686	109,669	27,290	102,907	29,915	112,477	31,063	108,205	127,954	433,258
Kalmunai	34,305	141,870	30,229	133,986	31,288	151,198	33,012	145,251	128,834	572,305
Trincomalee	25,095	107,540	23,692	107,367	25,331	110,291	26,211	112,427	100,329	437,625
Kurunegala	65,491	383,483	61,643	379,955	75,317	398,809	68,569	376,259	271,020	1,538,506
Puttalam	59,810	207,180	52,775	190,973	58,459	207,216	56,003	211,966	227,047	817,335
Anuradhapura	49,739	300,772	47,912	291,507	51,735	300,247	61,547	319,457	210,933	1,211,983
Polonnaruwa	37,888	169,940	39,388	151,478	43,755	169,439	39,654	180,833	160,685	671,690
Badulla	80,603	341,744	71,346	326,238	84,745	348,708	85,584	347,412	322,278	1,364,102
Monaragala	38,818	122,693	34,430	116,428	36,622	131,537	37,644	124,381	147,514	495,039
Ratnapura	82,680	330,916	73,252	308,359	84,764	345,241	90,115	355,233	330,811	1,339,749
Kegalle	50,233	258,901	46,599	248,438	51,054	270,169	53,933	280,529	201,819	1,058,037
Sri Lanka	1,548,385	6,982,291	1,407,073	6,593,871	1,572,501	7,127,770	1,595,095	7,154,271	6,123,054	27,858,203

Source : Medical Statistics Unit

Table 34. Clinic Visits by Quarter, by Type of Hospital, 2017

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	361,758	1,773,298	331,257	1,669,565	364,979	1,824,460	371,989	1,833,289	1,429,983	7,100,612
Provincial General Hospitals	44,339	262,333	40,280	244,872	46,741	268,095	48,751	277,097	180,111	1,052,397
District General Hospitals	303,754	1,065,106	253,891	974,767	298,687	1,085,815	292,488	1,099,975	1,148,820	4,225,663
Base Hospitals Type A	181,263	757,374	166,745	709,720	189,905	787,371	197,178	761,740	735,091	3,016,205
Base Hospitals Type B	160,851	698,529	143,609	648,158	163,334	708,207	166,668	706,405	634,462	2,761,299
Divisional Hospitals Type A	72,440	399,846	66,210	382,640	82,296	395,576	81,493	401,185	302,439	1,579,247
Divisional Hospitals Type B	121,402	631,446	123,133	604,228	133,847	641,915	134,612	630,919	512,994	2,508,508
Divisional Hospitals Type C	141,271	628,083	128,023	616,584	132,682	642,898	137,879	643,468	539,855	2,531,033
Primary Medical Care Units and Maternity Homes	1,228	5,963	1,064	5,915	1,353	6,427	1,513	6,455	5,158	24,760
Other Hospitals and Clinics ¹	75,350	309,865	64,891	287,625	71,391	289,384	72,983	317,696	284,615	1,204,570
Primary Medical Care Units	84,729	450,448	87,970	449,797	87,286	477,622	89,541	476,042	349,526	1,853,909
Grand Total	1,548,385	6,982,291	1,407,073	6,593,871	1,572,501	7,127,770	1,595,095	7,154,271	6,123,054	27,858,203

¹ Includes : Mental, Chest, Leprosy, Police, Prison, Fever, Cancer, Dental and Rehabilitation Hospitals

Source : Medical Statistics Unit

Table 35. Rank Order of Clinic Visits in RDHS Division, 2017

RDHS Division and Rank Order	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Kilinochchi	Mullaitivu	Vavunia	Mannar	Batticaloa	Ampara	Kalmunai	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Rathnapura	Kegalle	
Medical	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Dental	2	2	2	2	2	2	2	2	2	2	3	2	2	2	3	2	2	2	3	2	2	2	2	2	2	2	2	2
Gynaecology and Obstetrics	3	5	4	5	4	4	3	3	5	3	4	3	3	5	6	8	3	4	2	3	3	3	3	3	4	3	3	
Eye	4	3	3	3	5	7	7	4	3	4	5	5	5	4	5	6	6	7	4	12	4	11	9	6	6	5	7	
Diabetic	5	7	7	15	3	3	6	9	12	9	2	4	4	3	2	4	5	3	7	5	5	15	10	4	3	10	4	
Surgical	6	6	6	6	7	6	4	5	6	7	6	6	8	6	9	3	4	5	6	10	9	4	8	5	7	6	8	
Psychiatric	7	8	5	4	8	5	9	7	4	5	7	10	6	7	7	10	10	6	12	7	6	8	6	8	5	4	6	
Skin	8	10	8	7	11	8	8	10	7	8	9	8	10	11	11	7	8	10	5	11	7	5	7	7	9	7	5	
Cardiology	9	4	12	12	6	13	14	11	8	13	8	12				5	12	13	11	6	13	7	5	12	14	12	11	
Pediatric	10	13	10	11	9	9	5	6	11	6	11	7	7	8	14	9	9	9	8	8	10	6	12	9	8	8	9	
Baby	11	14	9	8	10	10	10	13	9	10	12	14	12	15	4	18	7	12	9	4	8	9	13	10	11	11	10	
E.N.T	12	11	11	9	15	12	13	16	14	11	13	9		9	10	12	11	8	10	15	11	10	14	13	10	9	12	
Orthopaedic	13	12	15	13	12	11	12	12	15	12	10	11	11	13	12	14	13	15	13	14	12	13	4		12	15	13	
Cancer	14	9	18	17	13		16	8	16	14	14	13			15	11	18		15	9	15	12	17	11	15	14	16	
Other	15	15	14	14	14	14	11	15	10	17	18		9	16	13	17	15	11	14	16	16	18	15	16	13	19	14	
Nerve	16	18	17	10	16	16		18	13		17			11			16	16		18		16	11	18		13		
V.D	17	19	13	16	20	15	15	20	17				10	12	8	15	17	14		17	14	14	18	17	17	17	15	
Genito Urinary	18	20	16		18			14	18	15	15					16	14			13		17	16	15		16		
Neuro Surgical	19	16			17			19		16	16		14			13	19					19		14	16	17		
Thoracic	20	17			19		17	17							16			16			17		19					
Rectum	21	21			21																	20				18		

Source : Medical Statistics Unit

Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2017

Type of Clinic	Sri Lanka	Colombo	Gampaha	Kalutara	Kandy	Matale	Nuwara Eliya	Galle	Matara	Hambantota	Jaffna	Kilinochchi	Mullaithivu
Medical	12,639,230	1,712,279	1,127,256	547,417	1,175,426	379,231	410,174	460,056	400,260	329,292	467,095	61,867	64,543
Dental	3,154,244	367,990	222,387	171,951	288,442	80,892	56,122	190,472	128,429	73,405	128,891	30,169	16,937
Gynaecology and Obstetrics	1,732,762	278,221	165,538	64,031	154,589	36,115	46,311	87,940	35,309	39,258	87,616	17,046	12,621
Eye	1,468,437	358,517	201,389	87,801	138,003	23,444	22,195	77,631	44,197	36,044	69,008	9,356	4,788
Diabetic	1,385,153	251,498	73,730	3,788	174,852	38,136	23,242	34,643	13,765	13,581	151,015	15,364	9,337
Surgical	1,199,025	276,318	92,696	39,740	114,014	25,449	26,353	75,387	31,473	24,660	62,534	8,324	3,008
Psychiatric	1,098,637	205,784	112,091	67,362	100,794	27,949	16,527	42,204	37,623	29,242	58,291	4,830	4,410
Skin	876,544	161,027	73,672	34,306	67,407	20,618	16,635	34,626	29,223	16,297	45,824	6,608	
Cardiology	799,830	286,803	30,666	13,001	131,998	6,038	5,216	28,284	27,046	3,755	55,819	1,168	
Pediatric	724,432	74,307	69,550	20,207	81,975	18,741	24,016	66,510	15,568	27,841	25,345	6,745	3,939
Baby	613,574	59,327	72,521	29,708	76,150	13,308	9,198	15,605	19,024	10,540	23,498	627	174
E.N.T	531,539	137,231	55,561	26,018	59,245	6,512	5,440	11,541	12,446	8,637	17,066	6,474	
Orthopaedic	428,802	116,194	17,870	12,792	65,184	8,305	6,077	16,186	11,456	5,584	43,174	2,329	680
Cancer	394,099	170,837	2,966	157	61,329		1,261	35,618	300	1,147	10,933	790	
Other	227,000	49,231	18,804	6,169	59,906	4,647	6,788	12,711	17,699	112	2,204		2,354
Nerve	204,169	30,105	9,387	23,450	49,881	330		9,991	13,065		3,261		
V.D	114,096	25,994	26,052	3,238	5,985	586	1,491	3,408	246				1,314
Genito Urinary	113,159	22,963	9,618		22,512			12,906	26	698	5,752		
Neuro Surgical	96,190	31,480			23,245			4,850		368	3,851		
Thoracic	51,861	31,305			7,360		586	11,281					
Rectum	5,420	13			3,686								

Continued...

Source : Medical Statistics Unit

Table 36. Clinic Visits by Type of Clinic and RDHS Division, 2017

Type of Clinic	Vavuniya	Mannar	Batticaloa	Ampara	Kalmunai	Trincomalee	Kurunegala	Puttalam	Anuradhapura	Polonnaruwa	Badulla	Monaragala	Rathnapura	Kegalle
Medical	188,007	87,318	307,557	214,782	269,182	215,375	804,132	349,502	660,393	332,658	635,962	218,690	649,450	572,177
Dental	36,430	15,712	63,638	54,657	73,984	33,037	186,730	115,261	128,978	90,773	192,078	79,910	191,223	135,746
Gynaecology and Obstetrics	25,312	11,665	21,811	33,081	37,080	34,992	119,481	68,143	75,001	35,048	84,290	29,666	75,826	56,771
Eye	27,499	12,353	22,511	18,625	20,015	28,723	11,843	50,265	22,802	20,081	59,145	18,076	53,586	30,540
Diabetic	33,640	24,583	46,560	19,726	72,823	19,357	79,099	43,238	13,831	16,486	84,029	48,219	25,305	55,306
Surgical	15,457	5,475	47,138	21,902	23,461	21,775	26,698	29,868	38,877	20,369	73,421	17,598	50,564	26,466
Psychiatric	14,930	8,753	16,179	10,525	21,119	6,884	48,045	39,998	30,011	22,172	46,876	20,218	62,874	42,946
Skin	12,783	4,022	22,267	11,156	9,191	28,471	24,233	30,088	36,617	21,757	53,883	14,694	49,699	51,440
Cardiology			23,740	5,225	1,468	7,345	64,348	1,931	32,542	24,080	14,526	1,984	23,093	14,894
Paediatric	14,498	2,471	17,446	10,835	12,434	12,275	33,250	27,573	33,761	15,139	31,559	16,743	37,178	24,526
Baby	3,301	14,096	450	12,412	6,629	11,451	81,481	30,049	29,376	10,021	30,383	10,395	23,874	19,976
E.N.T	12,937	4,532	9,689	6,447	15,752	9,026	6,756	15,231	25,859	9,760	13,503	10,425	35,379	10,072
Orthopaedic	9,549	3,632	3,975	4,757	200	6,342	7,052	12,617	20,349	26,775		4,568	13,343	9,812
Cancer		613	12,315	567		653	29,403	1,059	20,897	2,192	21,109	660	18,275	1,018
Other	269	3,366	3,081	2,238	8,139	1,919	3,973	890	4,177	4,535	6,116	3,078	658	3,936
Nerve	10,608			1,740	119		245		13,351	16,307	1,394		20,935	
V.D	9,898	6,831	3,885	1,016	590		436	1,362	14,258	863	2,857		2,009	1,777
Genito Urinary			3,147	3,145			11,301		6,828	2,674	6,269		5,320	
Neuro Surgical	7,276		8,595	422					3,512		6,702	115		634
Thoracic		99			119			260						
Rectum									563				1,158	

Source : Medical Statistics Unit

Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2017

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	3.20	73.81	83.58							1.99	89.96	164.11	2.51	65.55	95.08
Gampaha	3.03	89.19	106.81				2.05	79.56	140.92	2.05	78.42	138.75	1.86	75.66	147.78
Kalutara							2.19	71.43	118.37	1.99	86.50	158.20	1.65	39.84	88.04
Kandy	3.06	79.30	94.02				2.26	57.61	92.68				2.11	66.65	114.89
Matale							2.61	75.58	105.02	1.83	105.33	209.23			
Nuwara Eliya							2.60	92.92	129.81	2.28	111.50	177.79	1.74	78.36	164.28
Galle	3.10	82.80	96.83							2.00	67.38	122.52	2.10	53.92	93.23
Matara							2.12	66.36	113.51				2.27	63.45	101.31
Hambantota							2.36	71.00	109.00	2.29	102.01	161.69	1.82	68.92	137.54
Jaffna	2.75	82.50	108.73							2.41	55.34	83.28	2.20	36.06	59.59
Kilinochchi							2.17	110.32	185.00				1.26	31.69	91.85
Mullaitivu							2.24	52.62	85.39				1.17	24.12	75.22
Mannar							3.28	66.87	74.12						
Vavuniya							2.25	64.71	104.62				2.12	31.04	53.34
Batticaloa	2.66	74.44	100.66							1.80	43.43	87.57	1.38	28.01	73.98
Ampara							2.82	66.69	85.88				1.74	54.15	113.08
Trincomalee							1.55	58.85	137.96	1.77	43.78	89.93	1.83	69.67	138.42
Kalmunai										2.49	71.02	103.64	2.07	47.02	82.30
Kurunegala				2.69	75.13	101.38				2.01	57.21	103.60	2.45	63.77	94.51
Puttalam							2.47	65.57	96.24	2.28	88.46	140.50	2.13	81.16	138.43
Anuradhapura	2.77	59.96	78.33										1.93	81.24	153.04
Polonnaruwa							2.29	75.26	119.50				1.94	75.02	140.47
Badulla				3.47	71.52	74.62				2.29	76.50	121.39	2.03	86.95	155.79
Monaragala							2.11	86.98	149.74				2.38	76.16	116.28
Ratnapura				2.69	75.18	101.60	2.41	98.01	147.67				2.33	89.54	139.53
Kegalle							3.01	89.15	107.56				2.09	60.34	104.85
Sri Lanka	3.04	76.17	90.77	2.88	74.01	93.03	2.35	75.13	116.21	2.10	75.77	131.30	2.07	63.83	111.85

Continued...
Source : Medical Statistics Unit

Table 37. Utilization of Medical Institutions by Regional Director of Health Services Division, 2017

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	1.29	38.85	109.93	1.41	46.40	119.76	1.15	86.88	275.33	8.11	79.02	34.79	3.41	75.73	80.57
Gampaha	2.35	54.31	83.84	1.23	52.48	155.19	1.38	75.13	198.19	11.14	65.80	21.07	2.64	75.86	104.45
Kalutara	1.80	39.11	78.98	1.39	35.82	93.81	1.56	41.94	97.64				1.93	64.40	121.66
Kandy				1.71	32.65	69.43	1.60	33.62	76.74	6.36	42.46	23.96	2.61	63.05	87.76
Matale				1.37	30.40	80.95	1.94	32.88	61.73				2.14	65.50	111.21
Nuwara Eliya	2.62	26.99	37.35	1.64	29.99	66.37	1.42	33.38	84.34				2.07	55.44	97.07
Galle	1.83	34.02	67.71	1.84	37.04	73.16	1.32	33.42	92.04	3.33	60.18	63.67	2.54	67.83	97.11
Matara	2.04	40.29	71.76	1.48	30.12	74.19	1.21	28.89	87.25				2.01	54.47	98.71
Hambantota				1.45	34.78	87.35	1.38	32.66	85.99				1.94	58.94	110.63
Jaffna				1.36	23.24	62.10	1.61	15.06	34.21				2.47	56.69	83.52
Kilinochchi				1.66	23.14	50.68	1.42	32.09	82.36				1.96	68.85	127.90
Mullaitivu	1.50	41.24	100.10	1.64	31.11	69.00	1.12	14.42	46.95				1.76	40.24	83.02
Mannar	1.18	8.88	27.36	1.61	9.50	21.51	1.15	8.61	27.34				2.69	33.25	45.00
Vavuniya				1.24	22.15	64.97	1.23	31.73	94.43				2.14	56.74	96.25
Batticaloa	1.75	33.59	69.95	1.54	28.42	67.04	1.47	29.43	72.87				2.10	49.96	86.23
Ampara				1.27	15.30	43.71	1.41	24.74	63.85				2.28	54.80	87.19
Trincomalee							1.48	34.19	84.11				1.70	49.36	105.55
Kalmunai				1.77	24.25	49.82	1.86	39.43	77.10				2.27	55.61	88.84
Kurunegala	1.50	35.08	85.07	1.64	30.43	67.48	1.48	30.00	73.86				2.19	54.79	91.01
Puttalam	1.92	34.72	65.66	1.47	20.94	51.75	1.59	32.27	73.63				2.17	57.88	96.66
Anuradhapura	1.60	39.18	89.10	1.82	39.02	77.93	1.80	37.35	75.68	4.59	49.68	38.67	2.25	52.97	85.41
Polonnaruwa	1.30	36.59	102.37	1.43	37.80	96.12	1.67	46.27	101.10				2.04	65.33	116.50
Badulla	1.51	38.16	91.93	1.61	30.29	68.42	1.60	37.67	85.59				2.49	60.76	88.62
Monaragala	1.78	32.59	66.72	1.67	36.31	79.00	1.26	42.15	122.13				1.98	62.94	115.55
Ratnapura	1.76	37.60	77.82	1.40	24.60	63.76	1.50	29.37	71.54				2.29	65.39	103.77
Kegalle	1.67	43.30	94.17	1.40	42.20	110.17	1.58	40.44	93.21	25.34	109.57	14.73	2.34	65.88	102.11
Sri Lanka	1.74	38.37	80.12	1.56	31.83	74.18	1.52	34.09	81.62	8.56	74.68	31.13	2.45	63.32	93.77

Source : Medical Statistics Unit

Table 38. Average Duration of Stay (Days) in Selected Types of Hospitals per Quarter, 2005 - 2017

Type of Hospital	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017
National Hospital, Colombo	4.4	4.4	4.3	4.3	4.2	4.0	4.3	3.9	3.9	3.7	3.7	3.7	3.5
Teaching Hospitals		3.6	3.6	3.5	3.4	3.3	3.2	3.1	3.2	3.3	3.2	3.1	2.9
Provincial Hospitals ^{1,2}	4.2	3.1	3.3	3.2	3.1	2.6							
Base Hospitals ³	3.0	2.4	2.3	2.2	2.1	2.1							
District Hospitals	2.2	1.9	2.0	2.1	2.1	1.8							
Peripheral Units	2.0	1.9	2.0	1.9	1.9	1.6							
Rural Hospitals ⁴	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	2.9
District General Hospitals							2.5	2.4	2.3	2.4	2.3	2.2	2.3
Base Hospitals Type A							2.3	2.0	2.1	2.1	2.1	2.0	2.1
Base Hospitals Type B							2.2	2.1	2.3	2.1	2.1	2.1	2.1
Divisional Hospitals Type A							1.8	1.7	1.8	1.9	1.7	1.7	1.7
Divisional Hospitals Type B							1.9	1.7	1.7	1.6	1.6	1.5	1.6
Divisional Hospitals Type C							1.8	1.6	1.8	1.7	1.6	1.6	1.5
Childrens' Hospital	3.1	2.9	3.3	3.2	3.0	2.8	3.0	2.8	2.9	2.8	2.9	2.8	2.7
Eye Hospital	7.3	3.8	3.3	3.8	4.4	3.6	4.3	4.0	4.2	4.5	3.5	3.3	3.7
Cancer Hospital	10.0	8.3	8.2	7.0	7.0	7.0	6.7	5.9	5.8	5.1	4.7	4.3	4.3
Mental Hospitals	62.8	30.2	60.0	65.9	60.2	27.7	33.6	28.7	36.5	38.7	51.2	51.4	49.5
Chest Hospitals	8.7	14.4	NA	12.5	10.5	14.7	14.3	12.3	15.7	14.7	15.9	15.5	14.9
Maternity Hospitals	5.5	5.7	3.6	3.3	3.4	3.6	3.1	3.5	2.7	3.7	3.8	3.8	3.5
Maternity Homes	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	75.5
Rehabilitation Hospitals		24.5	30.0	26.1	26.9	26.5	33.0	24.0	29.3	30.0	30.0	18.9	17.1

¹ Includes Teaching Hospitals upto 2005
For the year 2009

² Includes Provincial General Hospitals and General Hospitals.

³ Includes District Base Hospitals

⁴ Includes Estate Hospitals

Source : Medical Statistics Unit

Table 39. Registered Births and Hospital Births, 1980 - 2017

Year	Registered Live Births ¹	Live Births in Government Hospitals ²	% of Live Births in Government Hospitals
1980	418,373	316,394	75.6
1985	389,599	292,970	75.2
1990 ^a	294,120	241,390	82.1
1991 ^a	304,347	262,388	86.2
1992	356,842	296,484	83.1
1993	350,707	298,567	85.1
1994	356,071	300,180	84.3
1995	343,224	297,949	86.8
1996 ^b	330,963	287,514	86.9
1997 ^b	325,017	284,955	87.7
1998	322,672	287,514	89.1
1999	328,725	300,866	91.5
2000	347,749	314,352	90.4
2001	358,583	325,813	90.9
2002	367,709	307,272	83.6
2003	370,643	316,465	85.4
2004	364,711	336,642	92.3
2005	370,731	341,539	92.1
2006	373,538	353,361	94.6
2007	386,573	356,852	92.3
2008	373,575	352,523	94.4
2009	368,304	339,437	92.2
2010	363,881	334,137	91.8
2011	363,415*	338,463	93.1
2012	355,900*	340,800	95.8
2013	365,792*	347,033	94.9
2014	349,715*	330,898	94.6
2015	334,821*	315,221	94.1
2016	331,073*	303,593	91.7
2017	326,052*	300,169	92.06

* Provisional

Excludes:

^a Northern and Eastern Provinces

^b Kilinochchi and Mullaitivu Districts

Source : ¹ Registrar General's Department
² Medical Statistics Unit

Table 40 : Live Births, Maternal Deaths, Still Births and Low Birth Weight Babies in Government Hospitals by District, 2017

District	Live Births	Maternal Deaths		Still Births		Low Weight Births ⁴	
		No.	Rate ¹	No.	Rate ²	No.	Rate ³
Colombo	36,337	8	22.0	243	6.6	5,486	15.1
Gampaha	20,753	5	24.1	109	5.2	3,879	18.7
Kalutara	13,810	1	7.2	94	6.8	1,675	12.1
Kandy	24,349	11	45.2	179	7.3	4,186	17.2
Matale	8,140	6	73.7	51	6.2	1,266	15.6
Nuwara Eliya	8,831	-	-	71	8.0	2,297	26.0
Galle	17,146	2	11.7	90	5.2	2,120	12.4
Matara	10,012	3	30.0	74	7.3	1,641	16.4
Hambantota	9,721	1	10.3	44	4.5	1,130	11.6
Jaffna	7,475	2	26.8	45	6.0	1,052	14.1
Killinochchi	2,370	-	-	21	8.8	270	11.4
Mullaitivu	873	-	-	1	1.1	151	17.3
Vavuniya	3,509	-	-	20	5.7	603	17.2
Mannar	1,802	-	-	7	3.9	153	8.5
Batticaloa	8,648	1	11.6	50	5.7	1,297	15.0
Ampara ⁵	13,900	-	-	61	4.4	1,924	13.8
Trincomalee	8,169	2	24.5	27	3.3	1,210	14.8
Kurunegala	21,346	11	51.5	137	6.4	3,121	14.6
Puttalam	13,338	3	22.5	67	5.0	2,177	16.3
Anuradhapura	15,061	2	13.3	107	7.1	2,223	14.8
Polonnaruwa	6,963	-	-	33	4.7	1,274	18.3
Badulla	15,208	10	65.8	109	7.1	3,084	20.3
Monaragala	6,609	-	-	36	5.4	1,121	17.0
Ratnapura	17,165	3	17.5	124	7.2	2,999	17.5
Kegalle	8,634	1	11.6	53	6.1	1,407	16.3
Sri Lanka	300,169	72	24.0	1,853	6.1	47,746	15.9

¹ Per 100,000 live births

Source : Medical Statistics Unit

² Per 1,000 total births

³ Per 100 live births

⁴ Birth weight less than 2,500 grams

⁵ Includes Kalmunai RDHS division

Table 41. Performance of Dental Surgeons by RDHS Division, 2017

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	HF Sessions	Referrals	Others	Total Attendance	Pregnant Mothers	Under 3 Years	Adolescents (13-19 Years)	Inward Patients
Colombo	51,397	38,929	843	292	811	41,409	11,196	55,696	10,535	3,505	2,035	1,535	19,993	1,214	351	242	994	5,176	11,107	35,172	247,585	14,713	1,783	21,240	3,345
Gampaha	66,897	25,930	526	399	767	36,182	15,113	31,208	4,614	2,256	1,455	9,626	567	194	340	1,551	1,551	5,478	6,820	22,835	203,560	13,056	1,936	13,609	3,923
Kalutara	35,670	18,956	377	299	713	24,158	9,725	23,882	3,580	656	389	790	5,928	626	333	378	761	5,309	4,559	16,220	124,413	12,863	1,037	12,743	557
Kandy	37,382	19,157	286	305	536	24,221	6,078	32,849	5,712	1,000	891	4,436	9,539	1,032	822	129	820	1,890	3,761	14,874	143,293	9,531	1,345	15,044	719
Matale	32,269	7,820	729	784	901	19,046	6,805	9,023	2,005	988	837	1,991	5,226	239	143	304	1,041	5,281	4,427	8,939	86,930	9,372	2,403	7,658	683
Nuwara Eliya	28,307	16,468	135	114	181	10,697	2,248	15,818	2,655	647	436	1,424	4,228	473	245	90	714	2,270	1,990	4,077	79,857	7,040	1,418	7,395	499
Galle	19,346	4,584	228	169	216	10,845	3,009	9,360	1,657	323	468	440	2,444	268	147	58	256	1,770	896	7,774	54,651	4,136	375	4,170	366
Matara	43,025	17,281	254	305	576	27,942	12,256	36,902	5,453	2,569	2,174	1,508	11,038	350	1,796	221	1,587	5,555	6,296	16,283	141,714	10,067	2,107	22,250	631
Hambantota	19,435	20,474	211	165	200	11,177	2,077	11,797	779	412	335	500	1,665	180	353	177	809	1,818	1,737	14,176	80,846	7,681	621	5,730	301
Jaffna	33,474	28,510	308	113	523	11,560	1,309	9,876	4,324	1,491	974	68	5,436	142	26	71	235	4,918	1,721	13,957	110,396	8,586	363	5,834	552
Mannar	6,579	6,404	11	40	47	1,054	62	1,546	426	119	55	1	623	-	-	8	93	208	354	4,520	23,708	1,416	39	1,166	180
Vavuniya	8,512	7,775	146	49	176	2,250	213	6,489	489	362	172	121	1,556	14	4	37	83	8,049	1,954	9,076	41,460	3,034	326	3,577	56
Mullaitivu	5,693	1,467	90	71	64	1,162	251	1,436	624	118	62	531	1,278	4	105	19	39	170	113	448	13,198	1,070	65	1,195	142
Batticaloa	37,514	16,390	395	427	340	5,342	202	11,262	3,306	482	319	67	4,817	22	244	65	394	6,667	3,755	17,001	98,958	11,771	754	14,176	747
Ampara	12,036	13,642	119	127	110	7,979	453	14,275	720	473	336	2,443	1,925	470	145	83	94	7,173	1,905	4,035	53,816	5,137	1,178	3,543	484
Trincomalee	24,531	15,338	619	332	454	3,799	750	5,083	2,035	439	154	59	2,830	12	300	5	591	12,616	1,400	24,531	59,884	8,207	611	7,331	482
Kurunegala	77,279	45,122	435	547	1,084	42,024	13,056	41,429	8,675	3,020	1,869	2,787	13,096	2,773	863	312	2,549	8,889	9,187	40,291	258,684	26,888	8,217	19,932	1,282
Puttalam	20,169	10,169	143	106	295	4,787	1,710	7,235	2,479	506	211	126	3,042	263	13	14	357	1,455	891	7,339	54,942	5,277	826	3,977	482
Anuradhapura	31,856	19,331	220	174	225	11,391	1,294	15,401	2,556	624	155	917	5,294	661	283	115	416	2,972	1,447	11,174	100,403	11,312	1,638	10,652	622
Polonnaruwa	21,303	10,455	131	332	148	13,639	314	23,646	1,637	1,315	1,888	1,466	6,351	239	52	156	545	4,126	3,140	15,712	92,346	8,457	3,421	6,008	471
Badulla	46,439	27,229	422	394	402	24,506	13,091	35,266	6,026	2,387	1,624	3,192	11,464	795	525	199	1,386	4,278	6,605	21,100	178,471	13,718	4,560	19,943	965
Monaragala	19,646	18,659	389	366	234	13,538	1,727	25,604	3,670	1,794	814	2,134	11,025	642	233	307	1,073	250	1,858	17,302	119,136	9,106	832	7,256	483
Ratnapura	15,896	10,692	119	84	189	10,648	3,209	16,771	1,050	894	388	684	3,310	335	247	109	539	6,200	1,381	6,968	61,932	6,168	850	3,940	328
Kegalle	26,310	17,362	209	136	582	18,234	1,865	25,554	2,556	2,367	1,548	1,150	4,065	532	171	104	746	1,146	3,040	14,136	105,890	8,523	1,997	6,593	652
Total	720,965	418,144	7,345	6,130	9,774	377,590	108,013	467,408	77,563	28,747	19,589	29,409	145,799	11,853	7,595	3,543	17,673	103,664	80,344	347,940	2,536,073	217,129	38,702	224,962	18,952

Note : Based on the consolidated statistics submitted by the Regional Dental Surgeons and Monthly Dental Returns

Source : Medical Statistics Unit

Annexure II

Table1. Incidence of Expanded Programme of Immunization (EPI) Target Disease 1955-2017

Year	Diphtheria		Measles		Poliomyelitis		Tetanus		Tetanus Neonatarum		Tuberculosis		Whooping Cough	
	Cas- es	Rate	Cases	Rate	Cases	Rate	Cases	Rate	Cas- es	Rate	Cases	Rate	Cases	Rate
1955	1,179	13.5	3,499	40.1	155	1.8	873	10	ND	-	ND	-	1,941	22.2
1960	1,042	10.5	3,060	30.9	303	3.1	1,435	14.5	ND	-	10,519	106.3	1,786	18
1965	1,232	11.0	2,037	18.2	494	4.4	1,812	16.2	ND	-	6,927	62	2,109	18.9
1970	986	7.9	4,086	32.6	405	3.2	1,441	11.5	847	230.2	5,762	46	1,651	13.2
1975	310	1.3	5,000	37.0	396	2.9	1,186	8.8	812	216	7,324	54.3	1,341	9.9
1980	37	0.3	5,032	34.1	262	1.8	892	6.0	351	83.9	6,212	42.2	542	3.7
1985	10	0.1	9,398	59.3	40	0.3	405	2.6	76	19.5	5,889	37.2	536	3.4
1986	3.0	0.01	6,235	38.7	34	0.2	453	2.8	49	13.6	6,596	40.9	161	1.0
1987	0	0	3,508	21.4	149	0.9	258	1.6	37	10.3	6,411	39.2	31	0.2
1988	0	0	2,650	16.0	25	0.2	273	1.6	39	12.8	6,092	36.7	25	0.2
1989	0	0	780	4.6	16	0.1	295	1.8	19	5.3	6,429	38.2	61	0.4
1990	0	0	4,004	27.6	9.0	0.1	183	1.1	5	4.7	6,666	39.2	271	1.9
1991	1	0.005	1,896	12.8	1.0	0.005	188	1.3	10	4.7	6,174	35.7	25	0.2
1992	0	0	701	4.0	12	0.1	231	1.3	14	2.6	6,802	39.0	6	0.03
1993	1	0.005	558	3.2	15	0.1	196	1.1	11	3.7	6,885	39.0	18	0.1
1994	0	0	390	2.2	0	0	156	1.1	11	2.0	6,121	34.3	34	0.3
1995	0	0	465	2.6	0	0	167	1.0	2	3.0	5,869	31.5	171	1.0
1996	1	0.005	158	0.9	0	0	97	0.7	6	4.8	5,366	29.3	33	0.2
1997	0	0	66	0.4	0	0	23	0.5	4	3.5	6,547	35.6	205	1.8
1998	0	0	23	0.1	0	0	24	0.1	4	4.5	6,925	36.9	94	0.5
1999	0	0	2,341	12.5	0	0	23	0.1	3	4.0	7,157	37.6	61	0.3
2000	0	0	4,096	21.2	0	0	38	0.2	1	0.3	8,129	42.9	88	0.5
2001	0	0	309	1.7	0	0	75	0.4	3	0.9	8,418	45	52	0.3
2002	0	0	139	0.7	0	0	34	0.2	2	0.6	8,884	46.9	16	0.1
2003	0	0	65	0.4	0	0	30	0.2	2	0.6	9,312	48.4	118	0.6
2004	0	0	35	0.4	0	0	32	0.2	1	0.6	8,639	48.4	51	0.2
2005	0	0	24	0.4	0	0	25	0.1	1	0.6	9,448	48.4	80	0.4
2006	0	0	21	0.1	0	0	38	0.2	2	0.01	10,016	48.1	48	0.2
2007	0	0	37	1.2	0	0	16	0.1	0	0	9,817	47.9	21	0.1
2008	0	0	2	0.01	0	0	22	0.1	1	0.005	8,181	39.5	16	0.1
2009	0	0	129	0.1	0	0	26	0.1	0	0	10,306	49.8	48	0.2
2010	0	0	49	0.2	0	0	15	0.1	0	0	10,235	48.9	15	0.1
2011	0	0	129	0.6	0	0	26	0.1	0	0	9,454	44.1	55	0.3
2012	0	0	51	0.3	0	0	8	0.03	0	0	8,720	43	61	0.3
2013	0	0	2,107	13.3	0	0	19	0.1	0	0	5,488	26.8	67	0.3
2014	0	0	1,686	15.0	0	0	14	0.1	0	0	6,710	32.5	38	0.4
2015	0	0	1,568	12.0	0	0	16	0.08	0	0	7,402	35.3	107	0.5
2016	0	0	76	1.0	0	0	11	0.05	0	0	7,486	35.3	51	0.3
2017	0	0	1	0.005	0	0	16	0.07	0	0	7,532	35.1	24	0.1

Source: H399 Notified; Epidemiology Unit

Population for year 2017=21,443,930 (Source= Registrar General's Department, Sri Lanka) / ND= No Data, Rate was calculated per 100,000 population

Table 2. Immunization Coverage by (RDHS) area, 2017

BCG coverage is given based on the place of delivery of the hospital

Province	RDHS	BCG	PPV 1	PPV 3	MMR 1	MMR 2	LJEV	DT
Western Province								
	Colombo	142	97	95	97	93	97	92
	Gampaha	69	98	95	92	99	97	98
	Kalutara	75	98	97	104	100	95	96
Central Province								
	Kandy	118	99	97	92	99	96	95
	Matale	91	96	97	96	98	98	100
	Nuwara Eliya	73	99	97	99	95	97	99
Southern Province								
	Galle	119	97	97	94	95	95	92
	Hambantota	85	98	95	97	97	98	92
	Matara	78	95	95	97	100	99	96
Northern Province								
	Jaffna	94	97	94	101	94	96	94
	Kilinochchi	123	98	97	95	105	95	94
	Mannar	94	102	102	98	101	96	100
	Vavuniya	139	99	98	99	96	95	93
	Mullaithivu	63	96	93	99	100	96	93
Eastern Province								
	Batticaola	126	105	100	99	99	96	94
	Ampara	99	94	94	92	93	91	90
	Kalmunai	110	103	99	101	103	99	93
	Trincomalee	106	103	98	96	103	98	92
North-Western Province								
	Kurunegala	85	95	95	97	101	97	99
	Puttalam	113	94	94	97	97	96	97
North-Central Province								
	Anuradhapura	90	96	95	97	98	96	99
	Polonnaruwa	118	98	96	98	97	99	94
Uva Province								
	Badulla	112	99	99	100	101	95	95
	Moneragala	75	100	100	102	105	93	97
Sabaragamuwa Province								
	Ratnapura	102	97	96	97	102	97	100
	Kegalle	66	94	94	93	98	95	98
Sri Lanka		96	96	96	97	99	96	97

MMR 2 coverage is given based on compatible age birth cohort and MMR 1 coverage is based on the <1 year population.

Source: Epidemiology Unit

Table 3. Number of Selected Adverse Events by Vaccination in 2017

	BCG	OPV	PVV*	DPT	MMR	LJE	DT	TT	aTd	Total ** number of AEFI reported
Total Number of AEFI Reported	20	11	5,861	3,881	477	248	239	52	105	10,894
AEFI reporting rate/100,000 doses administered	6.2	0.7	629.4	1,215.2	71.8	75.5	68.9	9.3	32.1	
No of High Fever (>39oC) cases reported	3	1	2,021	,1395	113	93	45		6	3,677
Rate of reporting High Fever /100,000 doses administered	0.9	0.1	217.0	436.8	17.0	28.3	13.0		1.8	
No of Allergic reactions reported		5	498	568	216	78	68	20	21	1,474
Rate of Reporting allergic reactions /100,000 doses administered		0.3	53.5	177.8	32.5	23.8	19.6	3.6	6.4	
No of Severe local reactions reported			122	154	9	3	13	5	3	309
Rate of severe local reactions /100,000 doses administered			13.1	48.2	1.4	0.9	3.7	0.9	0.9	
No of Seizure (Febrile/Afebrile) reported			85	285	16	34	4			424
Rate of seizures /100,000 doses administered			9.1	89.2	2.4	10.4	1.2			
No of Nodules reported	4		1,717	547	11	4	34	6	15	2,338
Rate of nodules /100,000 doses administered	1.2		184.4	171.3	1.7	1.2	9.8	1.1	4.6	
No of Injection site abscess reported	7		553	81	2	1	1	3		648
Rate of injection site abscess/100,000 doses administered	2.2		59.4	25.4	0.3	0.3	0.3	0.5		
No of Hypotonic Hypotensive Episodes reported			5	2	1	1	1			10
Rate of Hypotonic Hypotensive episodes /100,000 doses administered			0.5	0.6	1.2	0.3	0.3			

*PVV - Pentavalent vaccine

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

Source: Epidemiology Unit

Table 4. Sentinel Site Surveillance Of Influenza Like Illness (ILI) and Severe Acute Respiratory Illness (SARI) , 2017

Month/2017	Human Surveillance											
	ILI Surveillance						SARI Surveillance					
	Total OPD Visits	Total ILI visits Reported	Proportion of ILI Out of Total OPD visits (2) / (1)*100	Total ILI samples tested	Total Positive	Influenza yield from ILI Samples (5)/(4)*100	Total Admissions	Total SARI Reported	Proportion of SARI / Total Admissions (8) / (7)*100	Total SARI samples tested	Total Positive	Influenza yield from SARI Samples (11)/ (10)*100
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(11)	(12)	
January	334,964	5,681	1.70%	55	5	9.09%	8,936	108	1.21%	55	10	18.18%
February	348,328	7,646	2.20%	27	2	7.41%	9,034	196	2.17%	114	27	23.68%
March	455,133	12,109	2.66%				9,833	324	3.30%			
April	321,027	7,749	2.41%				5,535	228	4.12%			
May	298,814	6,733	2.25%				5,493	78	1.42%			
June	383,684	7,504	1.96%				7,224	55	0.76%			
July	371,146	5,376	1.45%				6,593	31	0.47%			
August	327,568	4,627	1.41%	44	7	15.91%	4,884	11	0.23%	44	4	9.09%
September	459,349	8,174	1.78%	66	5	7.58%	8,653	44	0.51%	37	4	10.81%
October	366,992	7,291	1.99%	66	13	19.70%	7,324	33	0.45%	32	6	18.75%
November	365,394	6,546	1.79%	69	20	28.99%	8,890	63	0.71%	54	19	35.19%
December	473,049	8,975	1.90%	54	4	7.41%	10,324	188	1.82%	51	13	25.49%
Total	4,505,448	88,411	1.96%	381	56	14.70%	92,723	1,359	1.47%	387	83	21.45%

Source: Epidemiology Unit

Table 5. Summary on occurring domestic violence by background characteristics

Percentage of women age 15-49 who have not experienced any violence from intimate partner, experienced at least one violence, and percentage of women who have experienced in daily violence among women who suffered, from violence and percentage of women who requested help for domestic violence among women who suffered from violence according to background characteristics

Background characteristic	No any violence from intimate partner	Experienced at least one violence	Number of women	Experienced in domestic violence		
				Experienced any form of violence daily	Requested help for domestic violence	Number of women who suffered from violence
Age						
15-19	86.7	12.7	169	7.8	*	21
20-24	83.6	14.7	1,130	12.0	30.1	166
25-29	83.5	15.5	2,335	9.0	27	361
30-34	82.4	16.5	3,364	9.0	27.9	553
35-39	82.3	16.2	3,720	12.0	29.1	603
40-44	81.5	17	3,056	15.1	25.4	518
45-49	79.4	18.9	2,856	19.3	28.4	539
Residence						
Urban	79.3	19.8	2,582	8.4	26.8	512
Rural	82.6	16.0	13,403	13.2	27.8	2,140
Estate	80.5	17.0	643	18.7	31.3	110
District						
Colombo	85	14.3	1,625	6.0	38	233
Gampaha	86.9	12.8	1,564	7.8	30.3	200
Kalutara	90.9	8.3	968	17.5	38.1	80
Kandy	73.9	24.7	1,117	16.3	20.8	275
Matale	69.7	30	432	27.1	31.8	130
Nuwara Eliya	83.5	15.7	543	22.3	30.8	85
Galle	77.1	21.1	818	10.8	29.3	172
Matara	81.8	17.9	681	13.8	61.6	122
Hambantota	93.5	5.7	519	4.2	-14.9	30
Jaffna	58.9	38.9	443	15.1	11.1	172
Mannar	76.8	20.5	78	6.0	7.9	16
Vavuniya	79.6	18	125	11.4	8.6	23
Mullaitivu	68.3	28.3	76	12.0	6.8	22
Killinochchi	48.7	49.6	88	28.3	13.5	44
Batticaloa	49.9	49.6	493	25.3	7.3	244
Ampara	72.6	27	669	12.0	12.1	181
Trincomalee	70	29.4	334	34.9	26.3	98
Kurunegala	87.7	10.1	1,481	15.7	31.2	149
Puttalam	82.3	16.2	620	12.0	28.1	101
Anuradhapura	88.2	7.4	907	7.2	82.3	67
Polonnaruwa	90.1	9.7	376	7.2	-32.5	37
Badulla	88.7	10.3	656	10.8	32.2	67
Monaragala	91.3	7.4	436	7.8	-32	32
Ratnapura	84.8	13.2	1,016	9.6	36.8	134
Kegalle	86.7	8.6	564	10.2	30.5	49
Education						
No education	71.4	24.8	248	31.9	33.4	61
Passed Grade 1-5	67.6	29.8	1,121	33.7	24.8	334
Passed Grade 6-10	80.4	18.1	7,351	15.1	26.8	1334
Passed G.C.E.(O/L) or equivalent	84.1	14.6	3,682	10.2	29	538
Passed G.C.E.(A/L) or equivalent	87.6	11.5	3,438	4.8	30.3	396
Degree and above	86.4	12.5	788	3.0	30.8	99
Wealth quintile						
Lowest	70	28.1	3,062	27.1	24.4	859
Second	80.7	17.8	3,351	16.3	28.9	595
Middle	84.5	13.7	3,501	9.0	30.2	480
Fourth	86.2	12.8	3,473	6.6	22.6	443
Highest	87.3	11.9	3,241	6.0	36.6	385
Total 15-49	82	16.6	16,629	12.6	27.8	2,762

Source: Sri Lanka Demographic and Health Survey 2016

Table 6. District wise prevalence of behavioural and intermediate risk factors among the screened population – 2017

District	Target population	Total Screened	% of Smokers Detected	% of Tobacco Chewers Detected	% of Alcoholics	% of BMI 25 - 29.9	% of BMI > 30	Blood pressure >140/90	% with Blood Glucose \geq 126mg/dl	% with CVD >30
Ampara	176,250	26,188	7.1	13.3	6.5	31.3	9.8	9.8	13.8	0.3
Anuradhapura	229,500	22,490	4.3	18.6	10.9	25.3	7.6	25.0	11.1	0.2
Badulla	216,000	32,711	8.1	21.8	12.0	25.5	6.6	23.2	10.0	0.4
Batticaloa	140,000	8,203	6.2	10.9	6.5	34.3	12.5	45.2	12.0	0.5
Colombo	604,750	25,823	6.6	9.3	8.5	29.6	11.8	14.9	11.2	0.2
Galle	278,250	27,338	3.1	3.7	3.5	20.9	5.4	11.3	11.7	0.2
Gampaha	597,750	68,113	4.6	7.4	7.0	25.8	10.0	15.2	9.0	0.3
Hambantota	161,750	9,410	12.3	26.8	17.0	59.6	17.3	32.6	18.1	0.5
Jaffna	152,000	9,454	6.0	11.1	6.0	31.3	11.1	21.4	12.9	0.1
Kalutara	317,750	22,648	3.6	8.4	6.9	16.9	8.1	14.0	8.7	0.2
Kandy	363,000	36,382	7.1	7.1	8.7	21.7	7.9	37.7	18.1	0.1
Kegalle	219,250	25,633	2.9	7.3	3.5	23.0	6.2	16.8	14.0	0.1
Kilinochchi	31,000	3,319	20.4	14.9	20.2	28.9	6.9	42.5	12.3	0.6
Kurunegala	423,500	54,137	2.8	9.6	3.8	23.0	5.4	21.2	9.8	0.4
Mannar	26,750	6,518	10.3	14.1	9.7	28.0	7.3	13.8	10.0	0.03
Matale	128,500	9,479	15.3	10.4	10.6	28.4	6.5	17.5	6.2	0.0
Matara	212,750	17,036	3.4	8.3	3.6	27.7	7.8	33.7	12.0	0.3
Moneragala	121,250	20,818	11.0	28.0	13.8	30.5	7.8	31.2	14.5	0.6
Mullitivu	24,000	8,544	11.4	23.4	11.3	29.2	9.4	14.1	8.4	0.5
Nuwara Eliya	189,000	27,230	11.6	31.2	17.5	28.8	6.8	27.2	15.8	1.5
Polonnaruwa	107,750	22,355	6.9	12.9	9.5	21.4	7.4	18.0	7.0	0.1
Puttlam	203,500	28,558	6.2	13.5	7.0	31.0	9.7	23.9	14.5	0.4
Rathnapura	287,750	22,346	5.3	20.3	8.7	22.2	5.4	18.9	9.1	0.1
Trincomalee	103,000	5,661	9.7	13.5	7.5	20.8	6.1	16.6	8.2	0.5
Vavunia	46,000	7,654	14.3	24.4	14.4	25.8	9.1	16.9	13.5	0.3

BMI - Body Mass Index
 BP - Blood Pressure
 CVD - Cardiovascular Diseases

Source: Directorate of NCD

Table 7. Household drinking water

Percent distribution of households and de jure population by source of drinking water, time to obtain drinking water, and treatment of drinking water, according to residence, Sri Lanka 2016

Characteristic	Households				Population			
	Urban	Rural	Estate	Total	Urban	Rural	Estate	Total
Source of drinking water								
Improved source	98.7	91.0	43.0	90.2	98.7	91.2	43.8	90.4
Tap born water (main line)	73.5	28.3	19.2	35.1	73.6	28.7	19.7	35.7
Tube well	2.9	3.8	0.4	3.6	2.9	4.0	0.4	3.6
Protected well	11.0	33.8	8.1	29.1	10.7	33.6	8.2	28.7
Semi Protected well	3.4	13.1	4.3	11.2	3.5	12.9	4.3	11.0
Rural water supply project	4.3	8.7	11.0	8.1	4.7	8.7	11.3	8.1
Bottled water, improved source for drinking ¹	3.5	3.2	0.1	3.1	3.3	3.4	0.1	3.3
Unimproved source	1.0	8.2	56.7	9.1	1.0	8.0	55.9	8.9
Unprotected well	0.2	2.4	2.8	2.0	0.2	2.4	3.0	2.0
Rain water	0.0	0.1	0.0	0.1	0.0	0.1	0.0	0.1
River/tank/streams/spring	0.5	5.2	53.6	6.4	0.5	5.0	52.7	6.3
Bowser	0.3	0.5	0.2	0.5	0.3	0.5	0.2	0.5
Other	0.3	0.8	0.3	0.7	0.3	0.8	0.3	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Time to obtain drinking water (round trip)								
Water on premises	91.6	77.9	69.1	79.7	91.8	78.4	69.2	80.2
Less than 30 minutes	7.0	18.3	27.0	16.9	7.0	17.7	26.8	16.4
30 minutes or longer	1.0	3.2	3.0	2.8	0.9	3.1	3.1	2.7
Don't know/missing	0.4	0.7	0.8	0.6	0.3	0.7	0.9	0.7
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
Water treatment prior to drinking²								
Boiled	46.9	38.0	68.7	40.6	45.6	38.1	69.0	40.6
Bleach/chlorine added	0.6	0.6	0.2	0.6	0.7	0.7	0.3	0.7
Strained through cloth	2.9	4.5	6.2	4.3	3.0	4.5	6.6	4.4
Ceramic, sand or other filter	22.8	21.1	4.8	20.7	23.5	22.0	4.9	21.5
Solar disinfection	0.1	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Let it stand and settle	0.7	0.4	0.1	0.4	0.7	0.4	0.1	0.4
Other	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0
No treatment	36.2	44.0	25.1	42.0	36.7	43.3	24.6	41.4
Percentage using an appropriate treatment method ³	61.7	52.8	70.5	55.0	61.2	53.5	70.7	55.5
Number	4,309	21,778	1,122	27,210	17,212	82,864	4,492	104,569

¹ Because the quality of bottled water is not known, households using bottled water for drinking are classified as using an improved or unimproved source according to their water source for cooking and washing.

² Respondents may report multiple treatment methods so the sum of treatment may exceed 100 percent.

³ Appropriate water treatment methods include boiling, bleaching, filtering, and solar disinfecting

