

Ministry of Health and Sports
The Republic of the Union of Myanmar



Hospital Statistics Report

2017-18

Health Information Division, Department of Public Health

In collaboration with

Department of Medical Services

Nay Pyi Taw, Myanmar

www.mohs.gov.mm

June 2020

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PREFACE

Health information is one of the six building blocks of the health care delivery system. Routine health service information is a subsystem of the overall health information system. It includes collection of data about preventive, promotive, detecting and responding to infectious diseases as well as curative services to improve the overall health status of the population at large and the communities. This publication has mainly focused on curative services given by public and private hospitals. Monthly reports concerning hospital administration and morbidity and mortality of hospital inpatients and outpatients were collected, analyzed and considered for planning, monitoring, and evaluation for hospital care services. Achieving timely reporting is crucial for early detection and response to disease outbreaks and public health emergencies.

The information will be useful for evidence-based decision making for hospital administrators in their day to day management and planning for future development. Hospital utilization data and leading morbidity and mortality pattern are essential for policy formulation, resource allocation and evaluation of performance of health care delivery system.

Special appreciation is due to all staff working in various disciplines of public hospitals under the Ministry of Health and Sports, other Ministries and private hospitals for their involvement in making this report a reality.

This report can fulfil data gaps to some extent and useful for further improving the health sector data and information system. We welcome all interested parties to give suggestions, comments and advice for improvement of hospital statistics reports.

MH
29.6.20

Dr. Myint Htwe
Union Minister

Ministry of Health and Sports

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INTRODUCTION

Hospital statistics report (2017 & 2018) is the collaborative efforts of the Department of Medical Services, Health Information Division; the functional unit of Department of Public Health, Private Hospital Association and registered private hospitals. This report will be useful for planning and management of hospital performance.

The main source of this report is medical records and accuracy, completeness, and timeliness depends on the quality of medical record documentation especially principal diagnosis and comorbidity, International Statistical Classification of Diseases and related health problems (ICD-10). External causes of accidents and injuries data are still challenging to include in this report because of incomplete documentation.

All public hospitals and registered private hospitals are reporting to their performance to the central level by using standardized hospital report forms:

- Form I- Monthly Hospital return (Administrative)
- Form II – Monthly General Inpatient Summary
- Form III – Hospital Daily Record (Inpatient)

These hospital report forms include various data items like admissions, discharges and deaths, outpatients, obstetric services, surgical services, causes of hospitalization, etc. Hospital monthly report for 2017 is only paper-based and electronic hospital reporting system using District Health Information Software (DHIS2) is national only in (15) hospitals. After successful implementation of the pilot, roll out of training phase by phase and total (585) hospitals got training in December 2018. So some hospital returns were paper based and some electronically in 2018. The patients address is not included in the paper based reports, so this hospital report 2017 & 2018 are organized by Region/States in which the hospitals are situated, not based on usual residence of the patients.

The analysis output of monthly hospital report form I and form II are eight hospital administrative indicators and are used to evaluate the performance and utilization of hospital services. Assessment of the efficiency of public hospitals by the Pabon Lasso technique using three administrative indicators; bed occupancy rate,

bed turnover ratio or average turnover of patients per bed per year and average length of stay.

Morbidity and mortality of all inpatients are analyzed by single condition morbidity analysis according to morbidity coding rules and guidelines. In the future, multiple condition coding will be used for case-mix analysis that will be the foundation for health insurance and reimbursement program.

Morbidity and mortality analysis is based on frequency of hospitalization and interpretation should be considered for this issue. Unique health identifier or master patient index will be the solution for this matter and encourage for use in further improvement of health information.

This report can give information related to hospital services and morbidity and mortality patterns of the population. Leading causes of morbidity and mortality by specific age groups, by Region/State and the institutional death rate of infants, under-five and maternal mortality and the burden of specific diseases in hospitalized patients are shown in this report. These will be beneficial for effective and efficient management of scarce resources for curative services.

LIST OF ABBREVIATIONS

BOR	-	Bed Occupancy Rate
CAMRS	-	Computer Assisted Medical Record System
CVD	-	Cardiovascular Disease
ICD-10	-	International Statistical Classification of Diseases and Health Related Problems - Tenth Revision
IMR	-	Infant Mortality Rate
MMR	-	Maternal Mortality Ratio
MOHS	-	Ministry of Health and Sports
NCD	-	Non-communicable Disease
NMR	-	Neonatal Mortality Rate
U5MR	-	Under 5 Mortality Rate
WHO	-	World Health Organization

SUMMARY

Hospital information has been collected by statistical section of Department of Health since 1965 and it was transferred to Health Information section of the Department of Planning and Statistics/ Department of Health Planning. Reporting status from 2009 to 2014 was 85% and above. Department of Health Planning was abolished in 2015 and the Department of Health was also separated to the Department of Public Health and Department of Medical Services. Health Information Section is not included in the formal organization set up of both the Department of Public Health and Department of Medical Services. Health Information is one of the building blocks of Health System. So people who are working in the health information section still try to work as usual work as a functional unit. But governance was complicated and lower administrative levels had confused where they have to give their monthly report. So reporting status was lower in 2015 and 2016 and after the clear directive of 2017 and 2018, reporting status was a little bit increased and 86.9 % in 2018.

In order to improve the accessibility of health care services, the Ministry of Health and Sports has been opening new hospitals. So the number of hospitals and hospital beds is increasing trend during the ten years period (2009-2018). Hospital utilization is also increasing; admission cases were 1.21 million in 2009 and 2.97 million in 2018, outpatient attendants were 3.38 million in 2009 and 11.48 million in 2018. Institutional delivery and surgical cases were also more and more within ten years. Bed occupancy rate based on sanction bed was increased from 53% in 2009 to 74% in 2018. The average duration of stay was decreased from 6 days in 2009 to 5 days in 2018. The hospital death rate was also decreased from 2.3% in 2009 to 1.5% in 2018.

Hospital efficiency is analyzed by applying Pabón Lasso technique using bed occupancy rate, average turnover of patients per beds per year and average duration of stay. Twenty-eight percent of hospitals were in the desirable zone of high occupancy, high turnover and short stay in 2018. Fifty-six percent of hospitals were in undesirable zone of low occupancy and low turnover. Good performance of hospitals by type of hospitals according to Pabón Lasso techniques were; 15.6% of specialist hospitals, 32.1% of general hospitals, 35.7% of 100 bedded hospitals,

30.4% of 50 bedded hospitals, 30.4% of 25 bedded hospitals and 28.3% of station hospitals.

Operation performance was also increased within three years; 645,610 in 2016 and 766,214 in 2018. Out of operation procedure, most of the operations 40% were done under spinal anesthesia, 35% under local anesthesia and 16% under general anesthesia. General hospitals with specialist services covered 36% of operations, station hospitals covered 21% and specialist hospitals had 13 % of total operations in 2018.

Institutional delivery was increased; total deliveries 391,203 in 2016 and 467,560 in 2018. Live births as percent of total deliveries were 98%, 98.3% and 98.4% in 2016 to 2018 respectively and the remaining 2% were stillbirths. Abortion rate was slightly decreased from 12.2% in 2016 to 11% in 2018. Abortion rate as percent of total deliveries and abortion cases was highest in Chin State followed by Kachin State and Kayin State.

Top Leading cause of hospitalizations was pregnancy, childbirth, and the puerperium, 19.8% in 2017 and 20.2% in 2018. The second leading cause was certain infectious and parasitic diseases, 16.3% and 13.9% in 2017 and 2018 respectively. The third leading cause of hospitalization was injury, poisoning and certain other consequences of external causes; 13.3% and 13.1% of hospital cases.

The estimated proportion of Noncommunicable diseases in admission cases was 37.3 % in 2017 and 39.8% in 2018. Noncommunicable diseases were taken 45.3% and 46 % of total inpatient deaths. Low birth rate, septicemia and head injury and intracranial injury are the leading causes of deaths in inpatients. But those are not underlying causes of death because underlying cause of death is not included in paper-based hospital monthly report. So these leading causes of death are extracted from principal diagnosis of inpatients with expired in discharge status. International death certificate form is customized in electronic hospital reporting system using District Health Information Software version 2 (DHIS2) and hopefully, underlying cause of death can be extracted from it and the quality of cause of death will be improved in future.

Single leading cause of morbidity by specific target age group was described. First leading causes of hospitalization in neonatal jaundice in neonate and under one year

age group, Diarrhoea and gastroenteritis of presumed infectious origin in under five years age group, single spontaneous delivery in adolescents (15-19 years) in both 2017 and 2018. Chronic obstructive pulmonary disease in 2017 and cataract in 2018 was first leading in 65 years and above age group.

Disorders related to short gestation and low birth weight was highest in expired cases with neonate, under one year and under five years age group. Intracranial injury and head injury were the highest numbers of adolescent deaths in 2017 and 2018 respectively. Heart failure was the commonest in inpatients with 65 years and above age group. Abortion, other complications of labour and delivery postpartum haemorrhage and eclampsia are the leading causes of maternal mortality in hospital in 2017 and 2018. Institutional mortality in infant, under-five and maternal mortality were decreasing trend during 2010 to 2018.

Certain infectious and parasitic diseases was decreasing trend during 1999 to 2018 from 27.5% to 13.9% of total inpatients. Viral infection of unspecified sites and diarrhea and gastroenteritis were the common causes of hospitalization in both male and female in 2017 and 2018. Septicemia, Tuberculosis and Human immunodeficiency virus disease resulting infectious and parasitic disease were leading mortality among inpatients deaths with certain infectious and parasitic diseases.

Hospitalization due to diseases of cardiovascular diseases was increasing trend during twenty years period (1999-2018) from 3.4% to 6.3% of total inpatients. Hypertension, stroke and heart failure were top three leading causes of hospitalization for male and hypertension, heart failure and chronic ischaemic heart diseases were top three and stroke was fourth leading causes of hospitalization for female among diseases of cardiovascular diseases in 2017 and 2018. Stroke, intracerebral haemorrhage and hypertension were leading causes of death for male and heart failure, stroke and hypertension were leading deaths for female.

Neoplasm cases in inpatients were increasing trend from 2.2% to 3.5% of total inpatients during 1999 to 2018. More than one-third of malignant neoplasm cases occurred in digestive organs (35.8% in 2017 and 36.7% in 2018). Malignant neoplasm of bronchus and lung, liver and intrahepatic bile ducts and stomach were top three neoplasms in male for both morbidity and mortality. Malignant neoplasm of

breast, cervix and bronchus and lungs were the top three causes of hospitalization among neoplasms in female both 2017 and 2018. Malignant neoplasm of bronchus and lung, breast and liver and intrahepatic bile ducts were leading causes of mortality in female.

Hospitalization due to endocrine, nutritional and metabolic diseases in 1999 was only 0.7% of total inpatients and 2.1% in 2018. Diabetes Mellitus cases were 0.9% of total inpatients in 2014 and 1.3% in 2018. Thirteen percent of Diabetes Mellitus cases were peripheral circulatory complication, 5% with ketoacidosis and 4% with renal complication and 3% came to the hospital with coma.

Diseases of respiratory diseases was slightly increasing trend during twenty year from 1999 to 2018. Chronic obstructive pulmonary disease, asthma and status asthmaticus were three leading causes of hospitalization among both male and female and both 2017 and 2018 years. Chronic obstructive pulmonary diseases, pneumonitis due to solids and liquids were leading causes in both male and females. Respiratory failure in males and pulmonary oedema in females were third leading cause of death among diseases of respiratory system.

Proportion percent of injury, poisoning and certain other consequences of external causes was stationary 13.1% to 16.5% of total inpatients during twenty years period. Head injury was the most injured region among injury cases. The information of external causes cannot be collected until now and trying to get in future.

Hospitalization due to ICD-10 chapter wise analysis by Region/State was done for 2018. But it was not based on the permanent address of the patients and based on hospital where it is situated. The address of patients will collect in future. Certain infectious and parasitic diseases were highest in Tanintharyi Region and Kayin State in 2018. Neoplasm was highest in Yangon and Mandalay because of the availability of services for neoplasm cases in these two Regions. Diseases of circulatory system were highest in Yangon, respiratory system was high in Kayin, Chin, and Shan (East). The high proportion percent of inpatients with diseases of digestive system was found in Chin, Rakhine and Yangon. Bago, Nay Pyi Taw and Yangon had a high percent of Endocrine and metabolic diseases. The most proportion percent of hospitalization due to pregnancy, childbirth and puerperium was found in Shan (North), Sagaing and Rakhine. Kayah had the highest percent of hospitalization due

to certain conditions due to originating perinatal period. The proportion percent of congenital malformation was high in Yangon, Mandalay, Kayah and Nay Pyi Taw. Chin, Nay Pyi Taw and Kayah had more than 5% of total inpatients admitted for diseases of genitourinary system. Hospitalization due to injury, poisoning and certain other consequences of external causes was high in Nay Pyi Taw, Mandalay and Sagaing.

Diarrhoea and gastroenteritis were still the top four leading causes of hospitalization in all Regions/States ranged first to fourth leading both 2017 and 2018. Mental and behavioural disorders due to alcohol and opioids take the position 8th to 15th in all regions/States except Kayin, Tanintharyi and Shan (East). Abortion was placed 7th to 15th leading in all Regions/States both 2017 and 2018 except Mon, Shan (East) and Nay Pyi Taw. Gastritis and duodenitis was 3rd to 9th position ranged in leading causes of hospitalization at all Region/States. Hypertension was one of the fifteen leading causes of hospitalization in all Regions/States except for Magway and Nay Pyi Taw in 2018. Unspecific diabetes mellitus was included in the fifteen leading causes of hospitalization in Tanintharyi, Bago, Mon in both 2017 and 2018 and Shan (South) in 2018. Respiratory tuberculosis was 10th to 15th position in Kayin, Rakhine, Yangon and Shan (East) in 2017 and 2018. Snake bite cases were found in the top fifteen leading causes of hospitalization in Magway and Mandalay in 2017 and 2018 and Sagaing in 2017.

SECTION I

HOSPITAL ADMINISTRATIVE STATISTICS

All public hospitals under Ministry of Health and Sports and other ministries are reporting the administrative statistics to Health Information Division under the Department of Health Planning since 1995. After the Department of Health Planning was abolished on 31st March 2015, Health Information Division is only as a functional unit has been functioning under the Department of Public Health.

Information regarding response rate of the public hospitals from 2009 to 2018 are described in Table (1). It includes number of hospitals reported for the specific number of months in each year, total number of public hospitals and union response rate.

Table (1) Reporting Status of the Public Hospitals by the Number of Months Reported (2009-2018)

Year	Number of hospitals by months reported								Total hospitals	Union response rate (%)
	12 Months		6-11 Months		1-5 Months		0-Month			
	No.	%	No.	%	No.	%	No.	%		
2009	722	82.9	62	7.1	8	0.9	79	9.1	871	89.1
2010	721	80.2	85	9.4	13	1.4	79	8.8	898	88.4
2011	729	78.9	85	9.2	15	1.6	95	10.3	924	86.9
2012	651	68.9	182	19.3	16	1.7	96	10.2	945	85.8
2013	684	70.5	166	17.1	21	2.1	98	10.1	969	85.7
2014	664	68.1	223	22.9	21	2.2	67	6.9	975	88.1
2015	404	38.3	444	42.1	69	6.5	137	13	1,054	75.7
2016	485	43.5	340	30.5	141	12.6	149	14.9	1,115	71.8
2017	591	52.7	399	35.6	35	3.1	97	8.6	1,122	83.2
2018	762	67.2	260	22.9	25	2.2	87	7.7	1,134	86.9

Overall reporting status from 2009 to 2018 was shown in figure (1) in comparison with full 12-months response rate and non-response rate against the increasing number of public hospitals. The overall response rate was lowest in 2016 (71.8%) due to separation of Department of Health to Department of Public Health and Medical Services and increase to 83.2% and 87.0% in 2017 and 2018 respectively.

Figure (1) Response Rate of Public Hospitals for Union (2009- 2018)

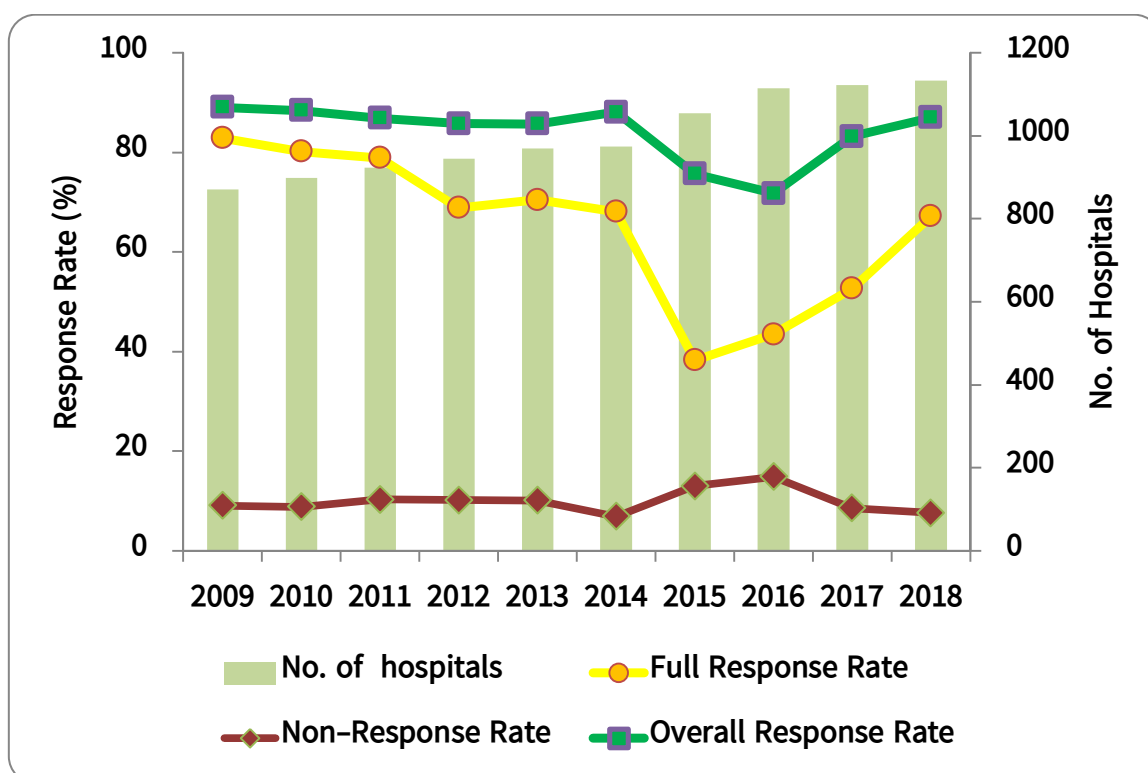
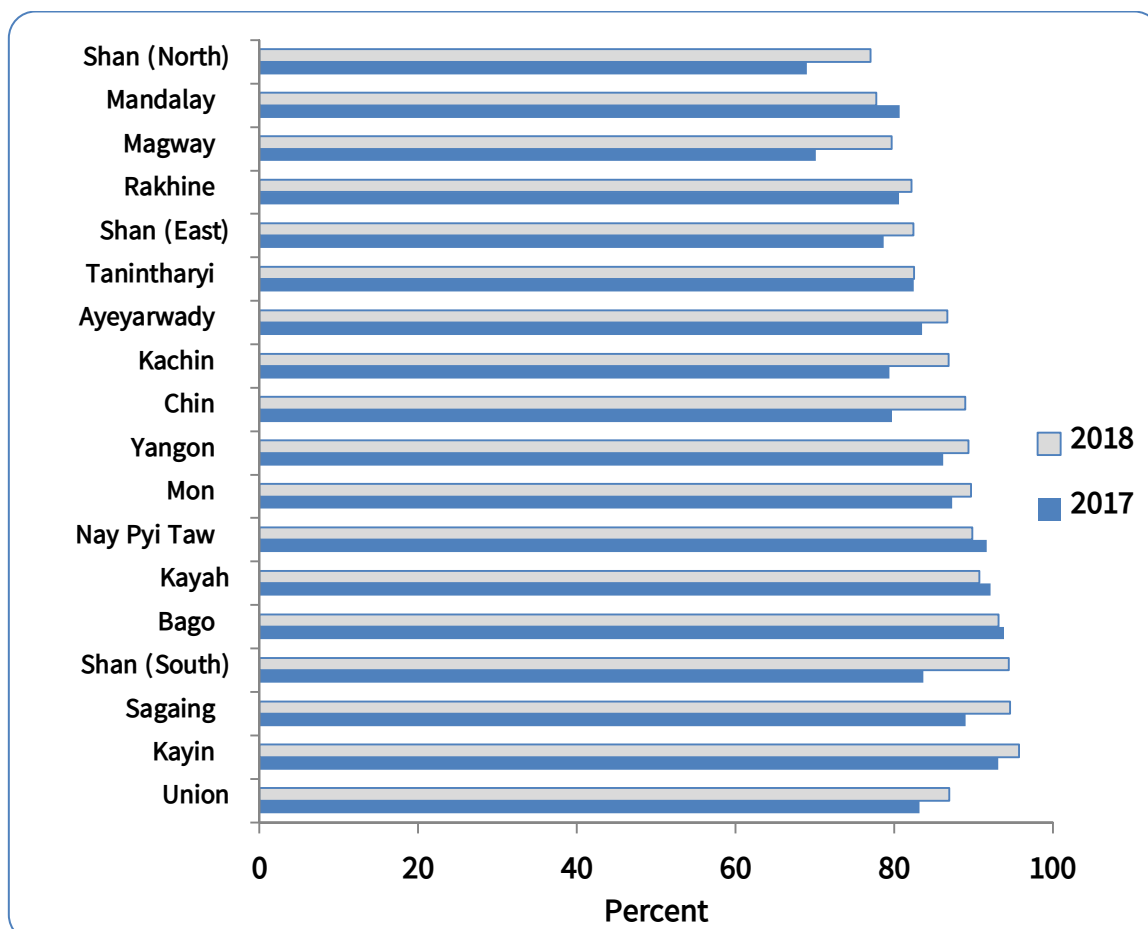


Figure (2) Response Rate of Public Hospitals by Regions and States (2017-2018)



Response rate by public hospitals of each Region and State are described in Figure (2). Almost all Regions and States have higher response rate in 2018 compared to 2017. Highest response rate is found in Kayin State followed by Sagaing Region and Shan State (South).

In Tanintharyi Region, overall response rate is 82.5% in 2017 and 2018. Response rate of Kayah State, Bago Region, Mandalay Region and Nay Pyi Taw have lower response rate in 2018 compared to 2017.

Response rates of the public hospitals were described in details in Table (2).

Table (2) Response Rate of Public Hospitals by Region and State (2017-2018)

Region and State	Number of hospitals by months reported										Overall response rate (%)	
	12 Months		6-11 Months		1-5 Months		0-Month		Total Hospitals			
	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018	2017	2018
Kachin	43.9	67.8	42.1	22.0	3.5	1.7	10.5	8.5	57	59	79.4	86.9
Kayah	72.2	77.8	22.2	16.7	0.0	5.6	5.6	0.0	18	18	92.1	90.7
Kayin	61.8	91.4	35.3	5.7	0.0	0.0	2.9	2.9	34	35	93.1	95.7
Chin	50.0	85.7	32.1	3.6	7.1	0.0	10.7	10.7	28	28	79.8	89.0
Sagaing	62.2	70.1	32.6	28.5	3.7	0.0	1.5	1.5	135	137	89.0	94.6
Tanintharyi	48.7	56.4	38.5	30.8	0.0	2.6	12.8	10.3	39	39	82.5	82.5
Bago	77.3	73.6	19.1	22.7	0.9	0.0	2.7	3.6	110	110	93.9	93.2
Magway	35.6	58.8	40.6	24.5	5.9	2.0	17.8	14.7	101	102	70.1	79.7
Mandalay	55.6	57.3	30.6	21.8	4.6	7.3	9.3	13.6	108	110	80.7	77.7
Mon	66.7	69.0	26.2	26.2	0.0	2.4	7.1	2.4	42	42	87.3	89.7
Rakhine	51.6	62.5	35.5	21.9	1.6	4.7	11.3	10.9	62	64	80.6	82.2
Yangon	61.2	60.0	28.2	32.9	2.4	0.0	8.2	7.1	85	85	86.2	89.4
Shan (South)	10.9	83.1	81.3	13.8	4.7	0.0	3.1	3.1	64	65	83.7	94.5
Shan (North)	37.7	53.6	34.8	27.5	2.9	4.3	24.6	14.5	69	69	69.0	77.1
Shan (East)	51.9	74.1	29.6	11.1	3.7	0.0	14.8	14.8	27	27	78.7	82.4
Ayeyarwady	49.2	67.8	40.8	23.1	4.2	3.3	5.8	5.8	120	121	83.5	86.7
Nay Pyi Taw	69.6	73.9	26.1	17.4	0.0	4.3	4.3	4.3	23	23	91.7	89.9

Note: response rate may be affected by the hospitals which are not under the administration of Ministry of Health and Sports such as some hospitals under other ministries and some from Shan (North).

$$\text{Overall response rate} = \frac{\sum_{i=1}^{12} n_i \times 100}{(\text{Total number of hospitals} \times 12 \text{ months})}$$

n = Number of reporting months × Number of hospitals

This table describes overview of hospital services including number and types of hospitals, availability of sanctioned and available beds and utilization of hospital services.

Table (3) Hospital Service Indicators for Union (2009-2018)

Sr. No.	Hospital Services Indicators	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Number of hospitals	871	898	924	945	969	975	1054	1115	1122	1134
2	Number of sanctioned beds	39060	40913	41804	42569	44046	44133	46060	53188	53622	54239
3	Number of available beds as of 31 st December	44255	45904	45346	45040	48035	48737	51487	55895	59283	61811
4	Number of admissions [.,000]	1212	1340	1324	1530	1793	2095	2562	2754	2912	2971
5	Number of discharges and deaths [.,000]	1208	1312	1322	1520	1785	2085	2550	2745	2908	2966
6	Number of deaths [.,000]	28	30	28	31	32	35	38	42	43	44
7	Number of patient days [.,000]	7498	7952	7842	8651	9878	11254	13278	13923	14414	14734
8	Number of out-patient attendances [.,000]	3381	3627	3660	4166	5519	7318	9301	10190	10737	11489
9	Number of deliveries [.,000]	147	165	178	202	237	282	349	391	443	468
10	Number of surgical operations [.,000]	277	309	338	380	432	504	585	646	704	766
11	Percent of bed occupancy based on available beds	46	47	47	53	56	63	71	68	67	65
12	Percent of bed occupancy based on sanctioned beds	53	53	51	56	61	70	79	72	74	74
13	Average number of inpatients per day [.,000]	21	22	21	24	27	31	36	38	39	40
14	Average number of outpatients per day [.,000]*	14	15	15	17	23	30	38	42	44	47
15	Average duration of stay [in days]	6.2	6	5.9	5.6	5.5	5.4	5.2	5.1	5.0	5.0
16	Average turnover of patients per bed per year	27	29	29	34	37	43	50	49	49	48
17	Average turnover interval [in days]	7.2	6.7	6.5	5.1	4.3	3.1	2.2	2.4	2.5	2.6
18	Hospital death rate (%)	2.3	2.3	2.1	2	1.8	1.7	1.5	1.5	1.5	1.5

Note:-[*] per working days of hospital

Figure (3) Trend of Hospital Resources for Union (2009-2018)

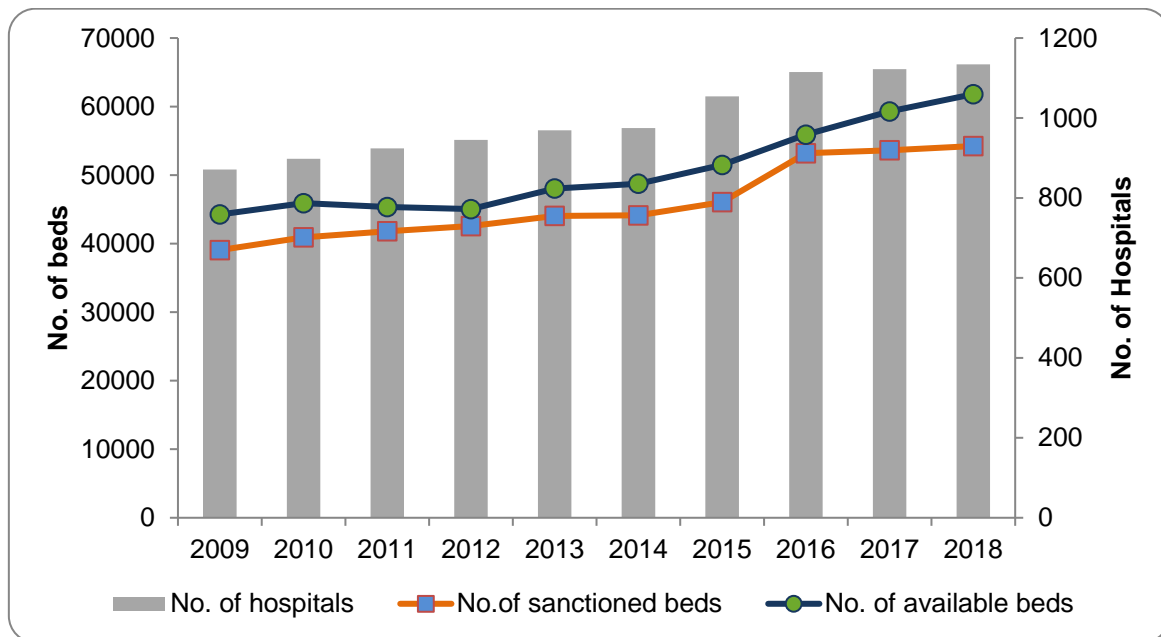
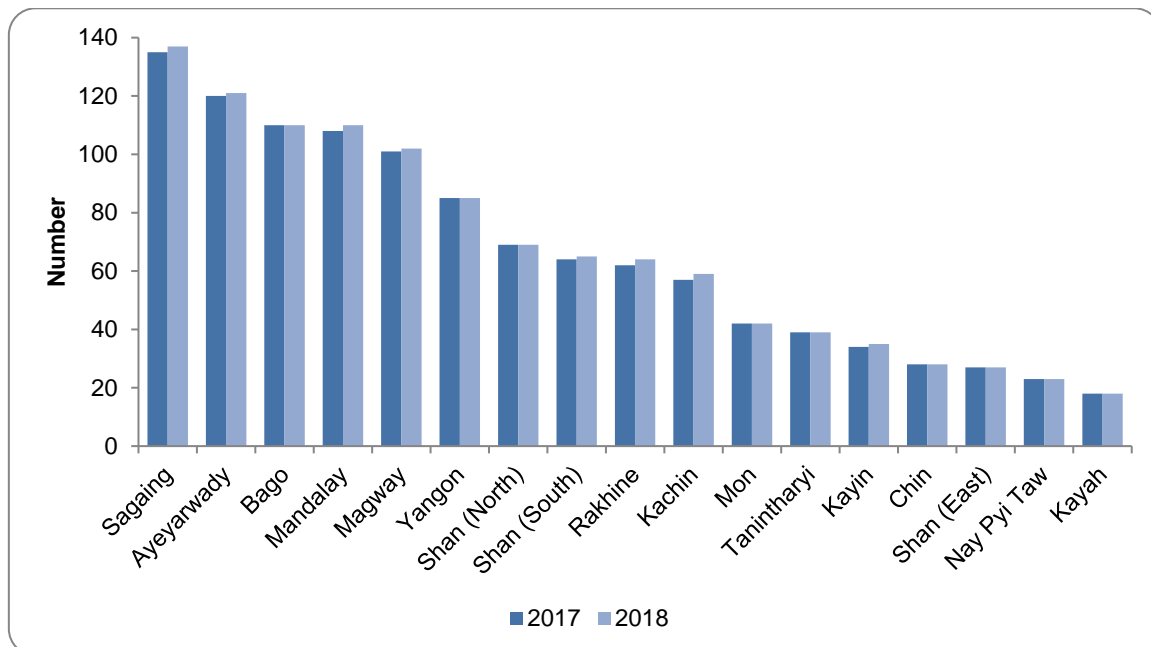


Figure (3) shows hospital resources for Union from 2009 to 2018. Numbers of hospitals were in increasing trend. Number of sanctioned bed and available beds were also increasing.

Figure (4) Distribution of Hospitals across Regions and States (2017-2018)



In Myanmar, hospitals are distributed based on geographic situation and population. Distribution of hospitals across Regions and States are stated in Figure (4). Sagaing Region has the highest number of hospitals and Kayah State has the lowest number.

Figure (5) Distribution of Types of Hospitals by Regions and States (2018)

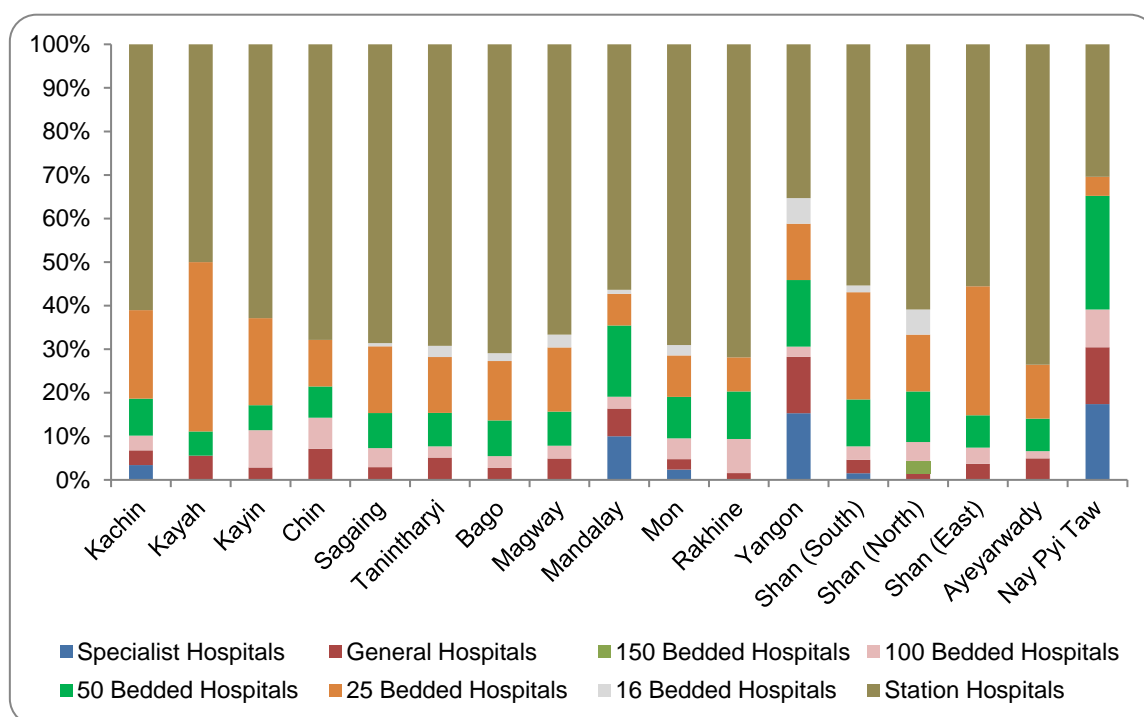


Figure (5) illustrates distribution of types of hospital in each Region and State. In most of the Regions and States except Yangon and Nay Pyi Taw, Station hospitals were more than half of all public hospitals.

Out of 1134 public hospitals providing hospital care services in Myanmar in 2018, Station Hospitals occupied the highest proportion (62.5%), followed by 25 bedded and 50 bedded hospitals. Specialist Hospitals and General Hospitals accounted for 2.8% and 4.7% respectively (Figure. 6).

Figure (6) Percent Distribution of Types of Hospitals (2018)

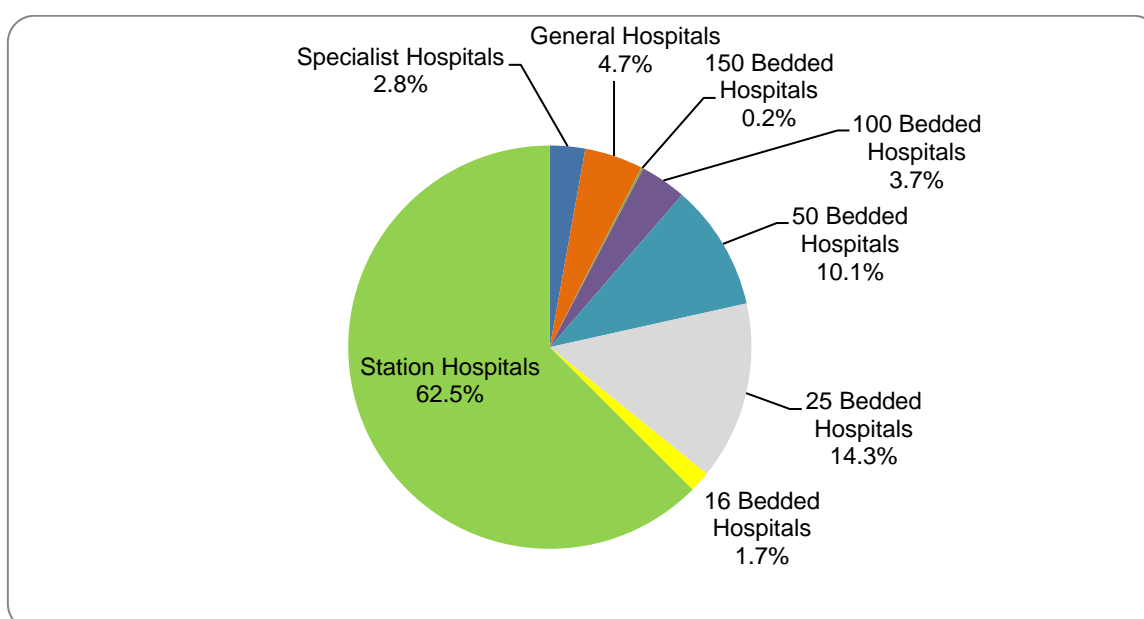


Figure (7) Distribution of sanctioned beds and available beds by Regions and States (2018)

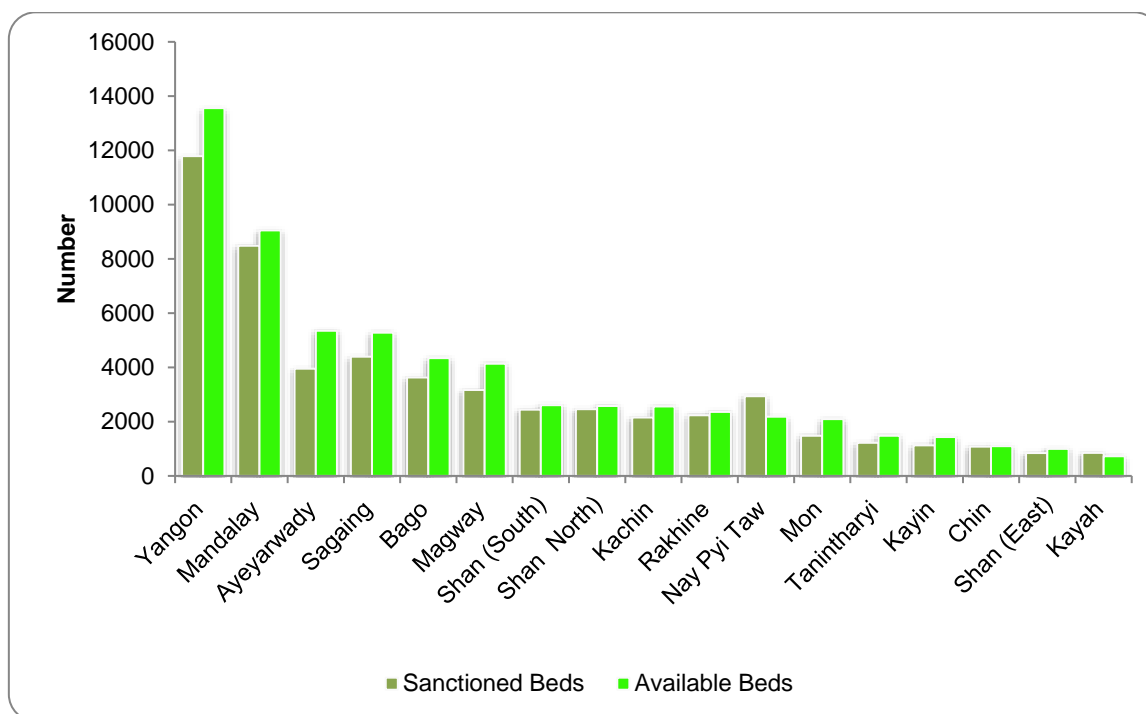


Figure (7) presents distribution of hospital resources in terms of sanctioned and available beds in different Regions and States. Available beds were found to be more than sanctioned beds in most of the Regions and States.

Table (4-1) Availability and Utilization of hospital resources by Regions and States (2017)

Sr. No.	Regions & States	Total number of hospitals	Sanctioned beds	Available beds	Admissions	Discharges & Deaths	Patient days	Number of deaths	Hospital death rate	Out-patient attendances
1	Kachin State	57	2119	2341	96435	96160	486738	1404	1.5	468869
2	Kayah State	18	860	675	28427	28314	139256	253	0.9	169229
3	Kayin State	34	1111	1272	83068	82963	315635	775	0.9	292119
4	Chin State	28	1079	1122	30057	30118	145364	260	0.9	172095
5	Sagaing Region	135	4363	4824	268944	268544	1222666	2092	0.8	994549
6	Tanintharyi Region	39	1223	1361	85478	85265	361577	977	1.1	240334
7	Bago Region	110	3630	4439	273349	272900	1126006	2386	0.9	758232
8	Magway Region	101	3145	4009	222852	222472	972254	1966	0.9	536970
9	Mandalay Region	108	8451	9038	382198	381774	2080106	4304	1.1	1417439
10	Mon State	42	1480	1637	119016	119030	469179	1078	0.9	310870
11	Rakhine State	62	2179	2136	111097	110760	456121	2429	2.2	230391
12	Yangon Region	85	11785	12937	556995	556553	3649593	16666	3.0	2694655
13	Shan State (South)	64	2426	2584	113271	112905	562199	1545	1.4	578229
14	Shan State (North)	69	2461	2535	95662	95555	424110	1360	1.4	489723
15	Shan State (East)	27	840	970	42130	42093	169948	570	1.4	215502
16	Ayeyarwady Region	120	3933	5277	324090	323678	1411619	3434	1.1	650780
17	Nay Pyi Taw	23	2537	2126	78808	78812	421384	1340	1.7	517420
	T o t a l	1122	53622	59283	2911877	2907896	14413755	42839	1.5	10737406

Table (4-1) Availability and Utilization of hospital resources by Regions and States (2017) (Cont.)

Sr. No.	Regions & States	Number of live births	Number of stillbirths	Number of abortions	Surgical operations				Total number of surgical operations	Avg. number of out-patients per day	Avg. number of in-patients per day	Avg. duration of stay (in days)	% of bed occupancy based on available beds	% of bed occupancy based on sanctioned beds	Avg. turnover of patients per year	Avg. turnover interval (in days)
					General anaesthesia	Spinal anaesthesia	Local anaesthesia	Others								
1	Kachin State	12763	242	2140	2787	7202	7634	2621	20244	1937	1334	5.1	57	63	41	3.8
2	Kayah State	3803	45	554	1041	2489	2108	737	6375	699	382	4.9	57	44	42	3.8
3	Kayin State	10829	175	1880	1974	4277	9318	1681	17250	1207	865	3.8	68	78	65	1.8
4	Chin State	3484	100	678	1531	3424	2099	543	7597	711	398	4.8	35	37	27	8.8
5	Sagaing Region	47142	648	5240	11173	26472	22600	8374	68619	4110	3350	4.6	69	77	56	2.0
6	Tanintharyi Region	11286	242	1371	2583	5891	6432	973	15879	993	991	4.2	73	81	63	1.6
7	Bago Region	40091	684	5266	8660	22794	18535	4409	54398	3133	3085	4.1	69	85	61	1.8
8	Magway Region	38441	640	4318	7959	24522	17232	4470	54183	2219	2664	4.4	66	85	55	2.2
9	Mandalay Region	53139	918	6908	23353	40061	32948	11673	108035	5857	5699	5.4	63	67	42	3.2
10	Mon State	16201	255	1730	3105	7798	7397	1710	20010	1285	1285	3.9	79	87	73	1.1
11	Rakhine State	15852	505	2469	3088	9011	6708	1519	20326	952	1250	4.1	59	57	52	2.9
12	Yangon Region	79502	1262	11449	28535	58908	54507	13649	155599	11135	9999	6.6	77	85	43	1.9
13	Shan State (South)	17993	403	2035	6053	8175	11846	4861	30935	2389	1540	5.0	60	63	44	3.4
14	Shan State (North)	17396	260	2137	2996	7546	10014	2778	23334	2024	1162	4.4	46	47	38	5.2
15	Shan State (East)	5105	91	456	478	2211	4081	564	7334	891	466	4.0	48	55	43	4.4
16	Ayeyarwady Region	52036	926	6382	9405	33401	22418	5639	70863	2689	3867	4.4	73	98	61	1.6
17	Nay Pyi Taw	10442	157	1477	4988	8953	8248	1234	23423	2138	1154	5.3	54	46	37	4.5
	T o t a l	435505	7553	56490	119709	273135	244125	67435	704404	44369	39490	5.0	67	74	49	2.5

Table (4-2) Availability and Utilization of hospital resources by Regions and States (2018)

Sr. No.	Regions & States	Total Number of hospitals	Sanctioned beds	Available beds	Admissions	Discharges & Deaths	Patient days	Number of deaths	Hospital death rate	Out-patient attendances
1	Kachin State	59	2151	2558	91759	91610	454980	1236	1.3	466710
2	Kayah State	18	851	724	26205	26227	132993	241	0.9	154053
3	Kayin State	35	1127	1430	84954	84786	338336	767	0.9	311428
4	Chin State	28	1079	1097	29484	29503	149157	273	0.9	166626
5	Sagaing Region	137	4395	5278	279332	279023	1225421	2167	0.8	1092308
6	Tanintharyi Region	39	1223	1481	88341	88341	361347	1230	1.4	241916
7	Bago Region	110	3630	4339	285865	285720	1198566	2382	0.8	782710
8	Magway Region	102	3170	4136	229204	228697	986405	1799	0.8	558603
9	Mandalay Region	110	8483	9052	403232	402555	2168696	4502	1.1	1559125
10	Mon State	42	1480	2092	125459	125244	494814	1155	0.9	373871
11	Rakhine State	64	2236	2357	109659	109502	451399	2438	2.2	230050
12	Yangon Region	85	11785	13556	562682	561483	3742099	17346	3.1	2962711
13	Shan State (South)	65	2442	2607	107924	107663	544774	1609	1.5	594725
14	Shan State (North)	69	2461	2576	96542	96453	432993	1479	1.5	514940
15	Shan State (East)	27	840	997	33113	33114	136658	446	1.3	206450
16	Ayeyarwady Region	121	3949	5351	332569	331908	1449516	3439	1.0	679174
17	Nay Pyi Taw	23	2937	2180	84778	84605	465475	1566	1.9	593105
	T o t a l	1134	54239	61811	2971102	2966434	14733629	44075	1.5	11488505

Table (4-2) Availability and Utilization of hospital resources by Regions and States (2018) (Cont.)

Sr. No.	Regions & States	Number of live births	Number of stillbirths	Number of abortions	Surgical operations				Total number of surgical operations	Avg. number of out-patients per day	Avg. number of in-patients per day	Avg. duration of stay (in days)	% of bed occupancy based on available beds	% of bed occupancy based on sanctioned beds	Avg. turnover of patients per year	Avg. turnover interval (in days)
					General anaesthesia	Spinal anaesthesia	Local anaesthesia	Others								
1	Kachin State	13640	241	2353	3071	8372	8465	2608	22516	1929	1247	5.0	49	58	36	5.2
2	Kayah State	3708	87	530	913	2758	1923	637	6231	637	364	5.1	50	43	36	5.0
3	Kayin State	11835	168	2003	1574	5041	9755	1458	17828	1287	927	4.0	65	82	59	2.2
4	Chin State	3654	75	686	1193	3246	2144	558	7141	689	409	5.1	37	38	27	8.5
5	Sagaing Region	51503	805	5031	11350	34978	25627	9557	81512	4514	3357	4.4	64	76	53	2.5
6	Tanintharyi Region	11482	238	1425	2197	5675	6499	877	15248	1000	990	4.1	67	81	60	2.0
7	Bago Region	43911	722	5456	7886	26958	19786	4776	59406	3234	3284	4.2	76	90	66	1.3
8	Magway Region	39165	535	4113	7610	25976	18221	3842	55649	2308	2702	4.3	65	85	55	2.3
9	Mandalay Region	58092	1027	6972	23911	46922	36633	12327	119793	6443	5942	5.4	66	70	44	2.8
10	Mon State	17757	275	1838	3443	9280	8292	1594	22609	1545	1356	4.0	65	92	60	2.1
11	Rakhine State	17825	498	2546	2888	10850	7969	1444	23151	951	1237	4.1	52	55	46	3.7
12	Yangon Region	79740	1101	12164	30697	63558	62378	14898	171531	12243	10252	6.7	76	87	41	2.1
13	Shan State (South)	17530	307	1975	6047	7615	12304	4415	30381	2458	1493	5.1	57	61	41	3.8
14	Shan State (North)	18228	303	2146	3752	7146	13547	2526	26971	2128	1186	4.5	46	48	37	5.3
15	Shan State (East)	5491	98	473	552	2504	4205	311	7572	853	374	4.1	38	45	33	6.9
16	Ayeyarwady Region	54153	857	6327	9006	35266	23094	5282	72648	2807	3971	4.4	74	101	62	1.5
17	Nay Pyi Taw	12321	188	1616	5037	9862	9665	1463	26027	2451	1275	5.5	58	43	39	3.9
	T o t a l	460035	7525	57654	121127	306007	270507	68573	766214	47473	40366	5.0	65	74	48	2.6

Table (5-1) Estimated Totals for Hospital Resources and Services by Type of Hospitals for Union (2017)

Type of Hospitals	Number of Hospitals	Number of sanctioned beds	Number of available beds	Number of admissions	Discharges & Deaths	Number of deaths	Total Patient Days	Out-patients		Total Births		Number of abortions
								New	Total	Live births	Stillbirths	
Specialist Hospitals	32	9150	9160	255953	255727	4115	2335717	523703	1254749	41288	839	5434
General Hospitals	53	18700	20365	1097472	1097635	27057	5789310	1948157	4201256	131174	2831	16464
150 Bedded Hospitals	2	300	235	4518	4536	91	21893	12434	20165	723	5	76
100 Bedded Hospitals	42	4200	4537	279328	279396	3287	1212566	375733	657764	43535	766	5505
50 Bedded Hospitals	115	5750	6543	365505	364802	3342	1443289	593306	935688	67897	1121	8246
25 Bedded Hospitals	161	4041	4917	300062	299108	2188	1194077	734555	1160687	54903	779	7360
16 Bedded Hospitals	19	304	304	4716	4586	1	9594	54890	86834	2201	5	315
Station Hospitals	698	11177	13222	604323	602106	2758	2407309	1603371	2420263	93784	1207	13090
T o t a l	1122	53622	59283	2911877	2907896	42839	14413755	5846149	10737406	435505	7553	56490

Table (5-1) Estimated Totals for Hospital Resources and Services by Type of Hospitals for Union (2017) (Cont.)

Type of Hospitals	Surgical operations				Average number of out-patients per day	Average number of in-patients per day	Average duration of stay (in days)	Percentage of bed occupancy based on available beds	Percentage of bed occupancy based on sanctioned beds	Average turn-over of patients per year	Average turn-over interval (in days)	Hospital death rate
	General	Spinal	Local	Others								
Specialist Hospitals	18699	28434	37547	7155	5185	6399	9.1	70	70	28	3.9	1.6
General Hospitals	49600	131573	54351	19209	17361	15861	5.3	78	85	54	1.5	2.5
150 Bedded Hospitals	285	288	362	74	83	60	4.8	26	20	19	14.1	2.0
100 Bedded Hospitals	7784	29609	7506	4569	2718	3322	4.3	73	79	62	1.6	1.2
50 Bedded Hospitals	11944	30181	27987	12116	3866	3954	4.0	60	69	56	2.6	0.9
25 Bedded Hospitals	11612	18799	36481	10076	4796	3271	4.0	67	81	61	2.0	0.7
16 Bedded Hospitals	0	0	10	0	359	26	2.1	9	9	15	22.1	0.0
Station Hospitals	19785	34251	79881	14236	10001	6595	4.0	50	59	46	4.0	0.5
T o t a l	119709	273135	244125	67435	44369	39490	5.0	67	74	49	2.5	1.5

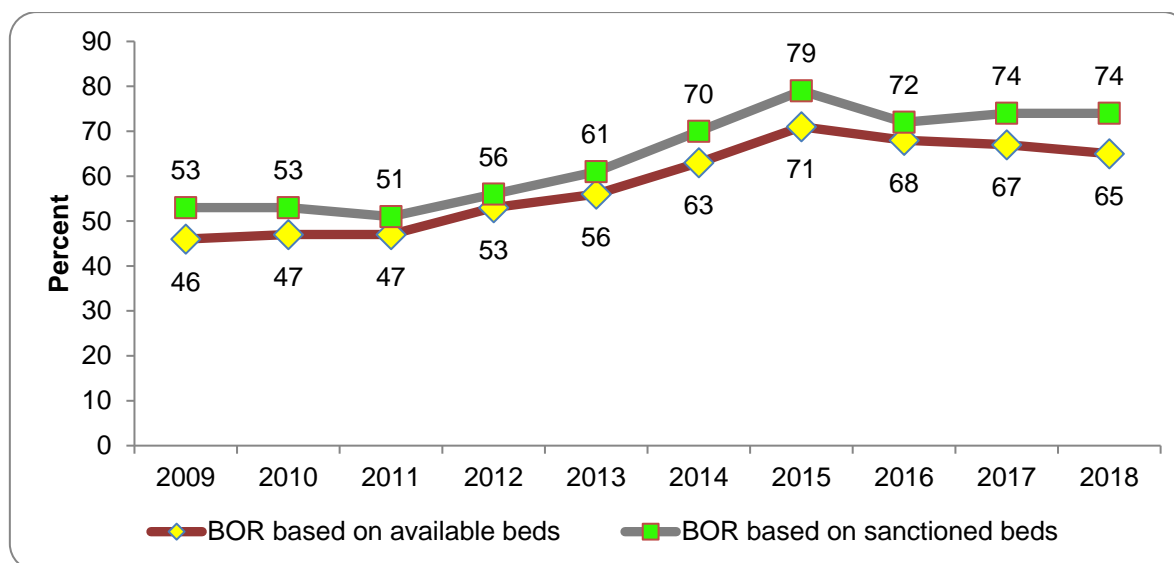
Table (5-2) Estimated Totals for Hospital Resources and Services by Type of Hospitals for Union (2018)

Type of Hospitals	Number of Hospitals	Number of sanctioned beds	Number of available beds	Number of admissions	Discharges & Deaths	Number of deaths	Total Patient Days	Out-patients		Total Births		Number of abortions
								New	Total	Live births	Stillbirths	
Specialist Hospitals	32	9550	9710	257032	256749	3879	2380958	547272	1328410	40454	779	5466
General Hospitals	53	18700	20819	1132371	1132397	28588	5952569	2074153	4583931	133803	2808	17714
150 Bedded Hospitals	2	300	265	8538	8629	192	45633	11703	29316	1463	62	226
100 Bedded Hospitals	42	4200	4968	267947	267897	3255	1187410	398566	760249	45056	801	5374
50 Bedded Hospitals	115	5750	6715	368204	367416	3211	1466714	600827	961725	72790	1095	8240
25 Bedded Hospitals	161	4057	5491	302767	301857	2203	1203331	754678	1212597	58750	698	7130
16 Bedded Hospitals	19	304	304	6015	6001	3	11911	61197	97400	2199	5	298
Station Hospitals	710	11378	13539	628228	625488	2744	2485103	1612663	2514877	105520	1277	13206
T o t a l	1134	54239	61811	2971102	2966434	44075	14733629	6061059	11488505	460035	7525	57654

Table (5-2) Estimated Totals for Hospital Resources and Services by Type of Hospitals for Union (2018) (Cont.)

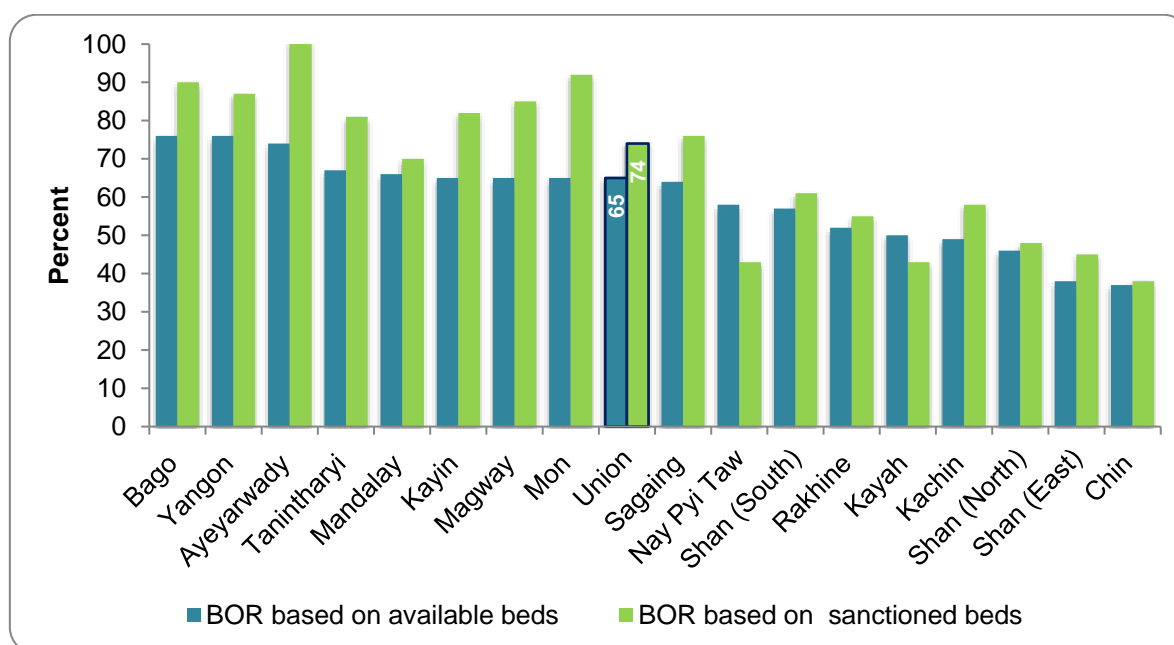
Type of Hospitals	Surgical operations				Avg. number of out-patients per day	Avg. number of in-patients per day	Avg. duration of stay (in days)	% of bed occupancy based on available beds	% of bed occupancy based on sanctioned beds	Avg. turnover of patients per year	Avg. turnover interval (in days)	Hospital death rate
	General	Spinal	Local	Others								
Specialist Hospitals	21251	29364	44858	6180	5489	6523	9.3	67	68	26	4.5	1.5
General Hospitals	51122	143898	57146	20703	18942	16308	5.3	78	87	54	1.5	2.5
150 Bedded Hospitals	836	301	441	19	121	125	5.3	47	42	33	5.9	2.2
100 Bedded Hospitals	7102	31192	6884	3057	3142	3253	4.4	65	77	54	2.3	1.2
50 Bedded Hospitals	11944	36160	31886	13722	3974	4018	4.0	60	70	55	2.7	0.9
25 Bedded Hospitals	10583	23546	41366	8873	5011	3297	4.0	60	81	55	2.7	0.7
16 Bedded Hospitals	0	0	633	0	402	33	2.0	11	11	20	16.5	0.0
Station Hospitals	18289	41546	87293	16019	10392	6809	4.0	50	60	46	3.9	0.4
T o t a l	121127	306007	270507	68573	47473	40366	5.0	65	74	48	2.6	1.5

Figure (8) Trends of Bed Occupancy Rate (2009-2018)



Above figure illustrates the utilization of public hospitals in terms of bed occupancy rate from year 2009 to 2018. In 2018, 74% of sanctioned beds and 65% of available beds were utilized and utilization was found lower than 2015. However, it should be noted that bed occupancy rates are changing based on number of beds. When hospitals are upgraded, number of beds is increased and bed occupancy might be lower.

Figure (9) Bed Occupancy Rate by Regions and States (2018)



Utilization of beds in each Region and State are described in Figure (9). Ayeyarwady Region has the highest bed occupancy rate based on sanctioned beds followed by Mon State, Bago Region, Yangon Region. Chin State has the lowest bed occupancy rate.

**Figure (10) Bed Occupancy Rate based on available beds by Type of Hospitals
(2017- 2018)**

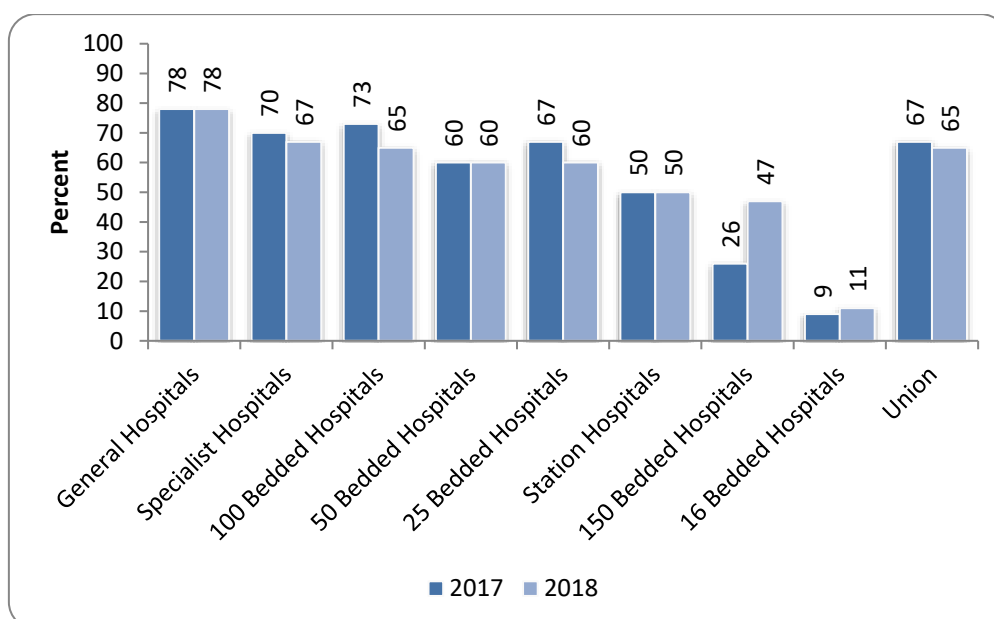


Figure (11) Bed Occupancy Rate based on sanctioned beds by Type of Hospitals (2017- 2018)

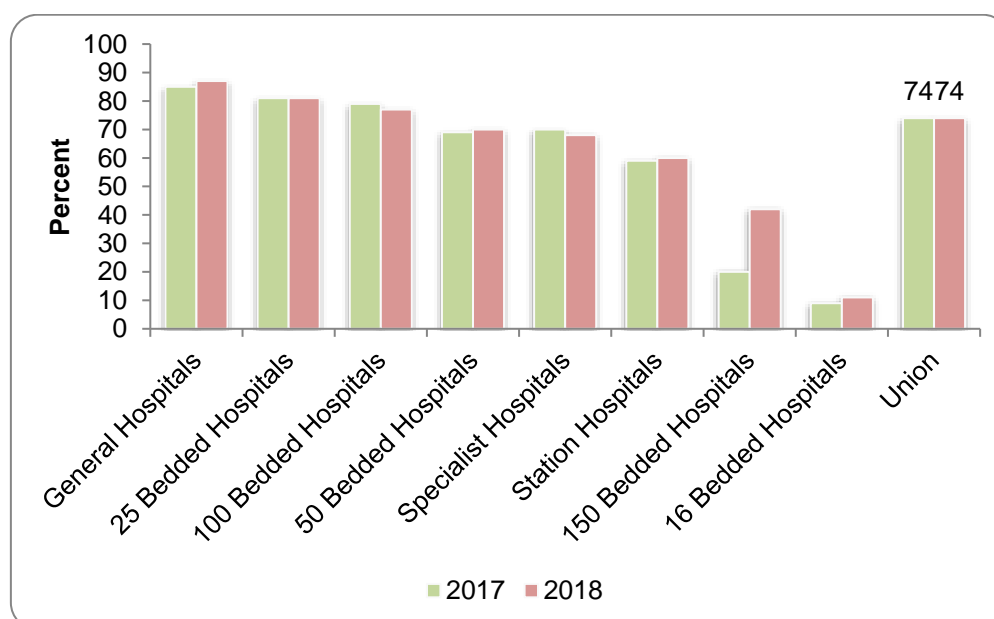
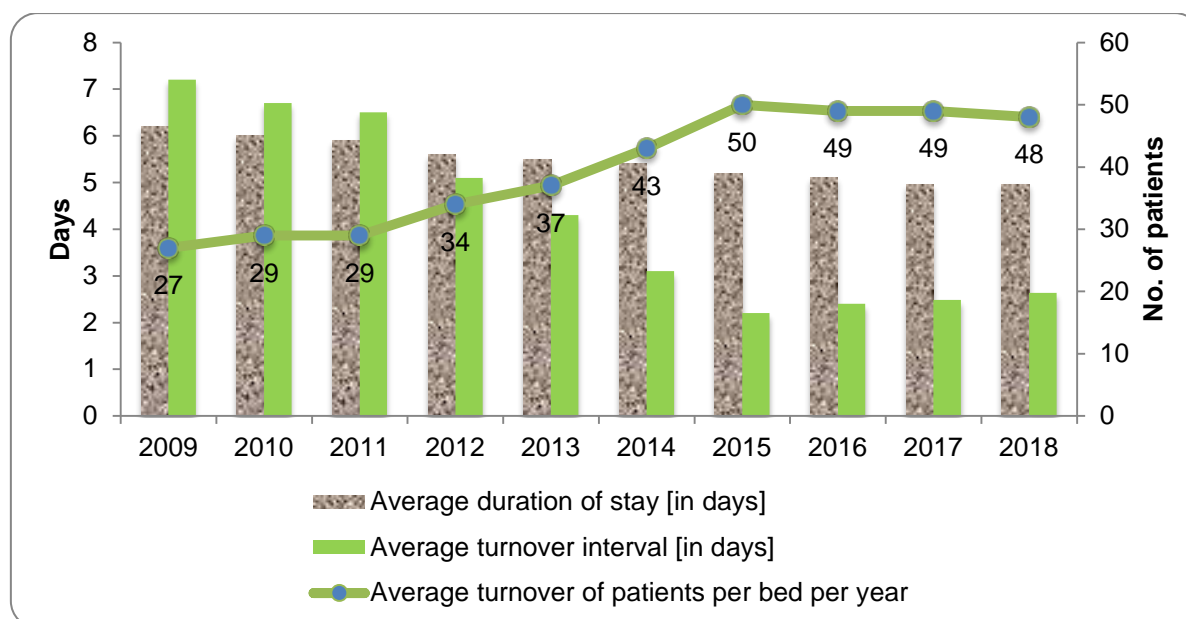


Figure (10) and (11) describes the bed occupancy rates based on available beds and sanctioned beds in each type of hospitals during 2017 and 2018. General hospitals are found more utilized than other types of hospitals.

Figure (12) Trends of Hospital Performance (2009-2018)



Bed occupancy rate, average duration of stays and average turnover interval are regarded as hospital performance indicators in most hospital care setting. In addition to these indicators, average turnover interval is also regarded as hospital performance indicators.

Therefore, hospital performance during 2009 to 2018 is shown with average duration of stay, average turnover interval and average turnover of patient per bed per year. Average duration of stay and average turnover intervals are decreasing trends. Approximately 50 patients were admitted and discharged per bed per year during 2015-2018. The upward trend of the indicator is found during the last decade (Figure. 12).

Hospital performance of various types of the public hospitals during 2017-2018 was illustrated in the following figures. Average turnover of patients per bed per year was highest in 25 bedded and 50 bedded hospitals followed by general hospitals and 100 bedded hospitals (Figure .13). Average turnover interval is the shortest in General hospitals (Figure. 14). Specialist hospitals have the longest duration of stay, on average, around 9 days. The duration of stay in other types of hospitals are approximately 5 days (Figure. 15).

Figure (13) Average turnover of patients per bed per year by Types of Hospitals (2017-2018)

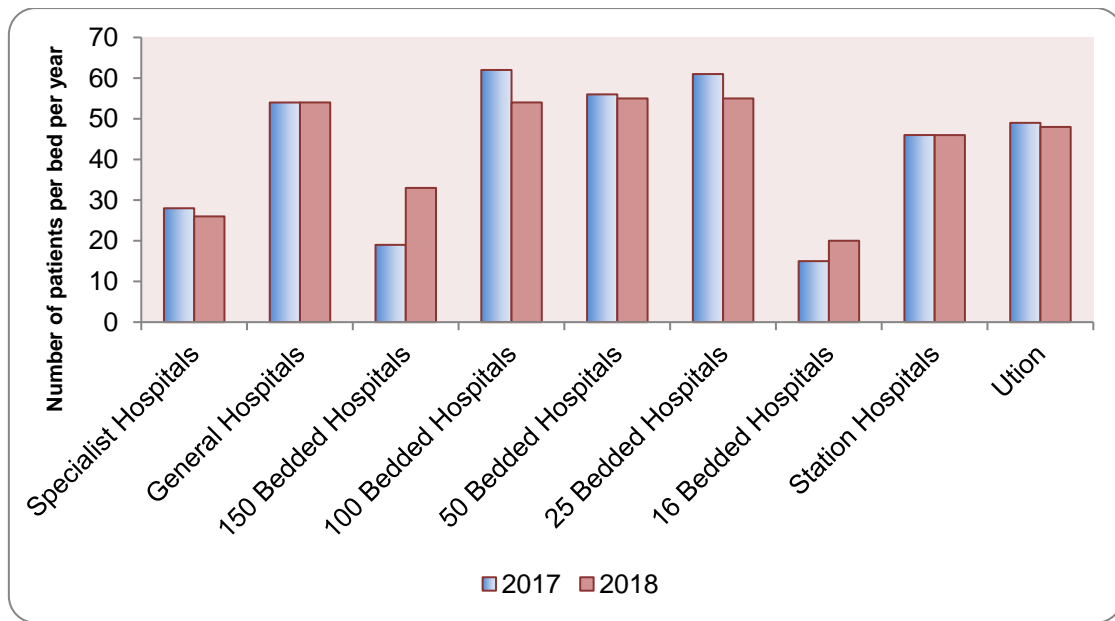


Figure (14) Average turnover interval by Types of Hospitals (2017-2018)

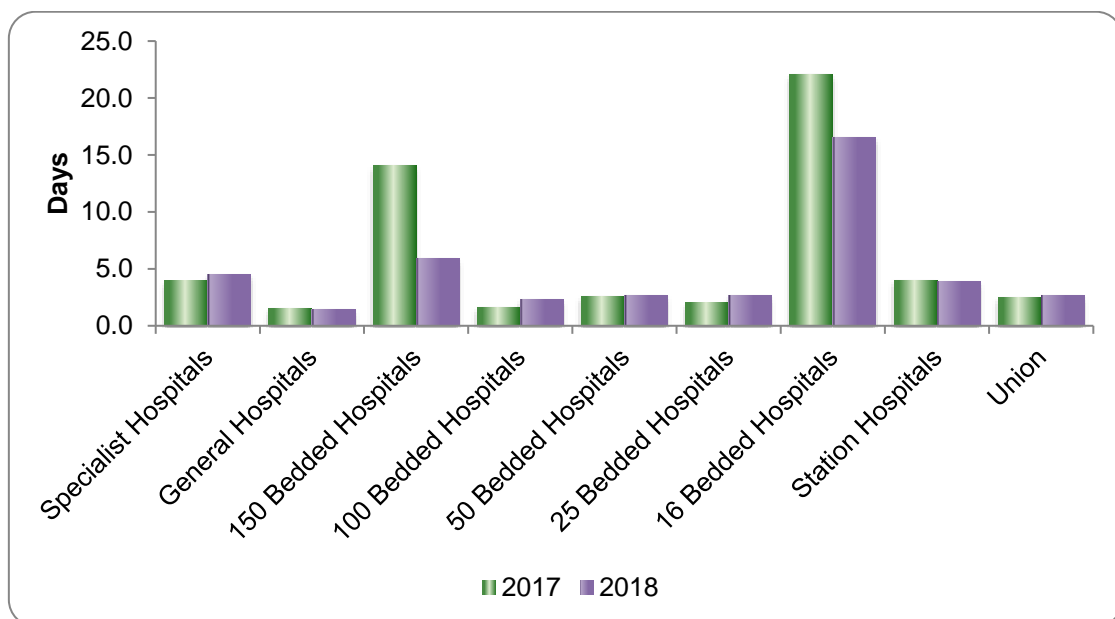


Figure (15) Average duration of Stay by Types of Hospitals (2017-2018)

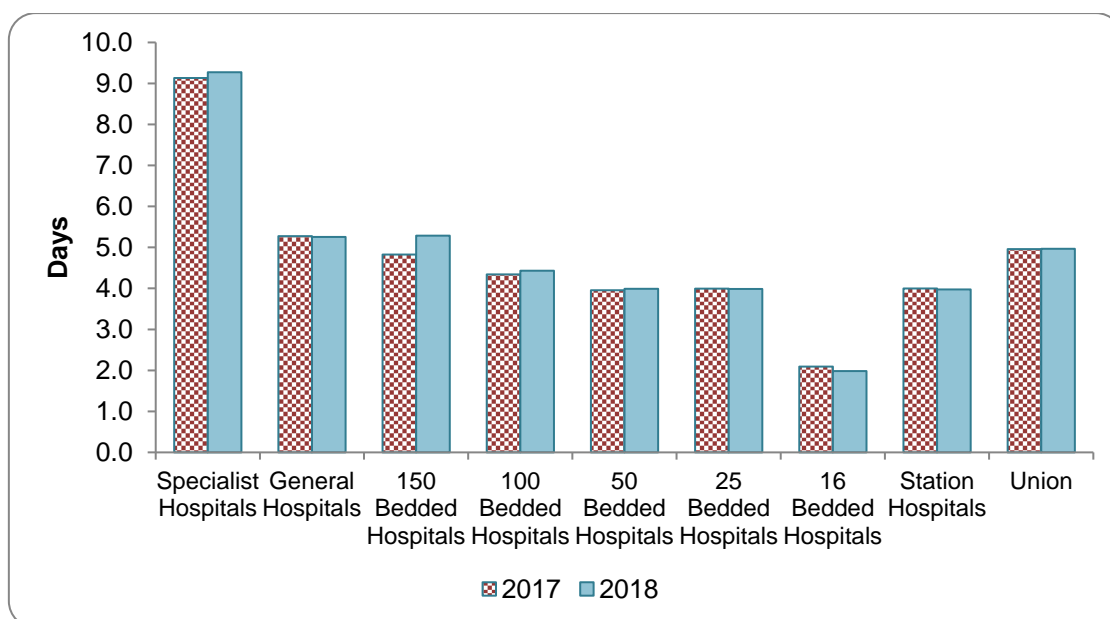
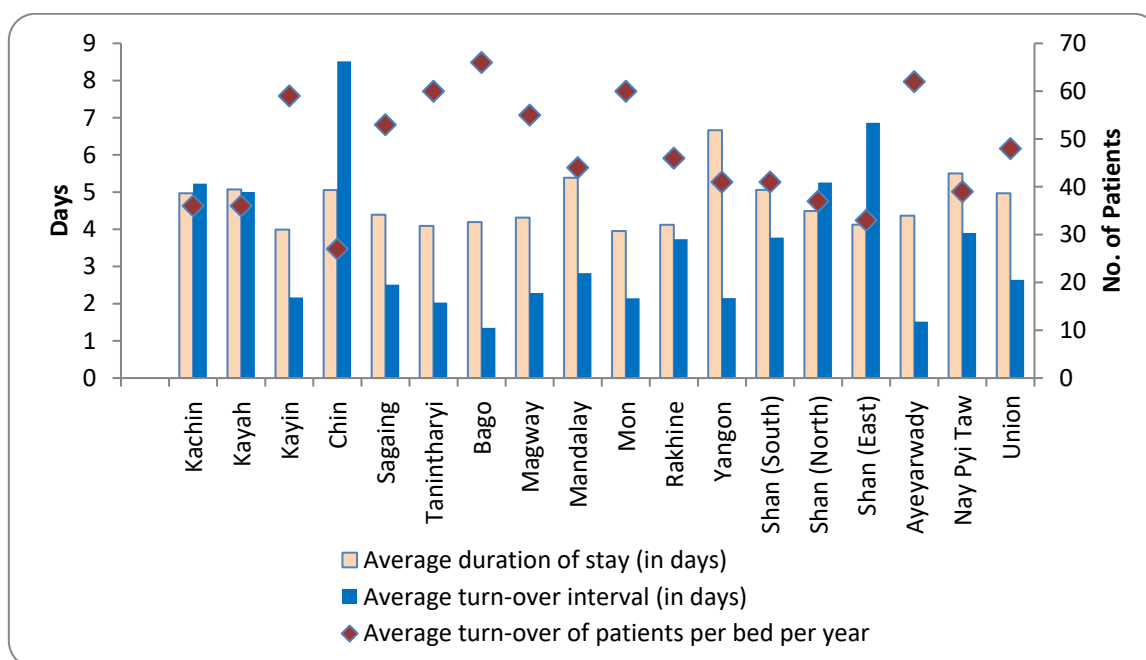
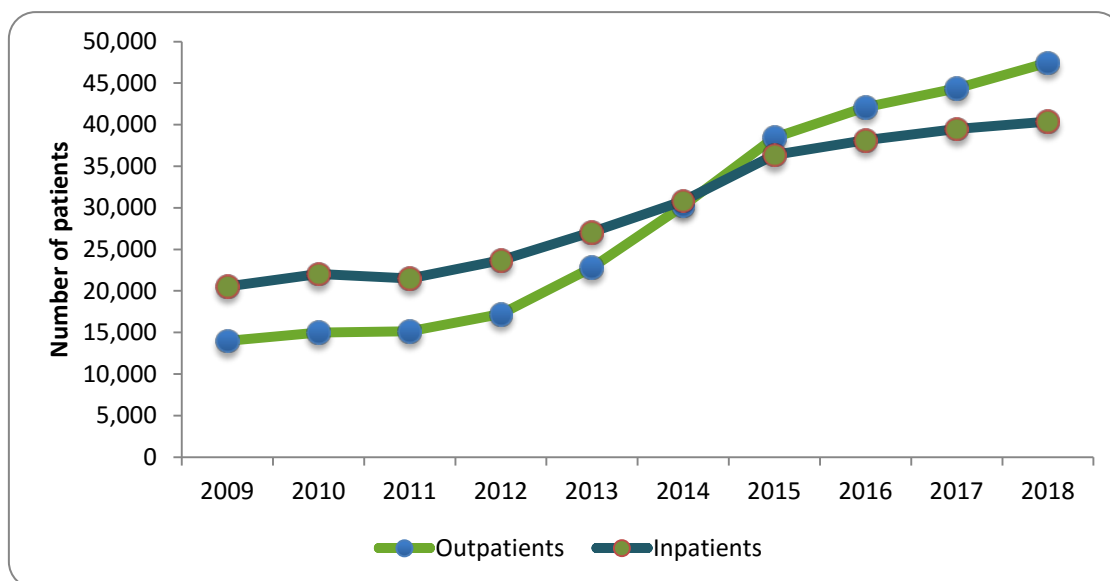


Figure (16) Hospital Performance by Regions and States (2018)



According to the three indicators illustrated in the above figure, Bago Region has the highest turnover of patients per bed and the shorter turnover interval and duration of stay. It is followed by Ayeyarwady Region, Tanintharyi Region and Mon State.

**Figure (17) Utilization of Public Hospitals (Average No. of Inpatients & Outpatients per Day)
(2009-2018)**



Average number of inpatients and outpatients per day is increasing trend during 2009 to 2018 and significant upward pattern is found during 2013 to 2018.

Figure (18) Utilization of Public Hospitals by Type of Hospitals (2018)

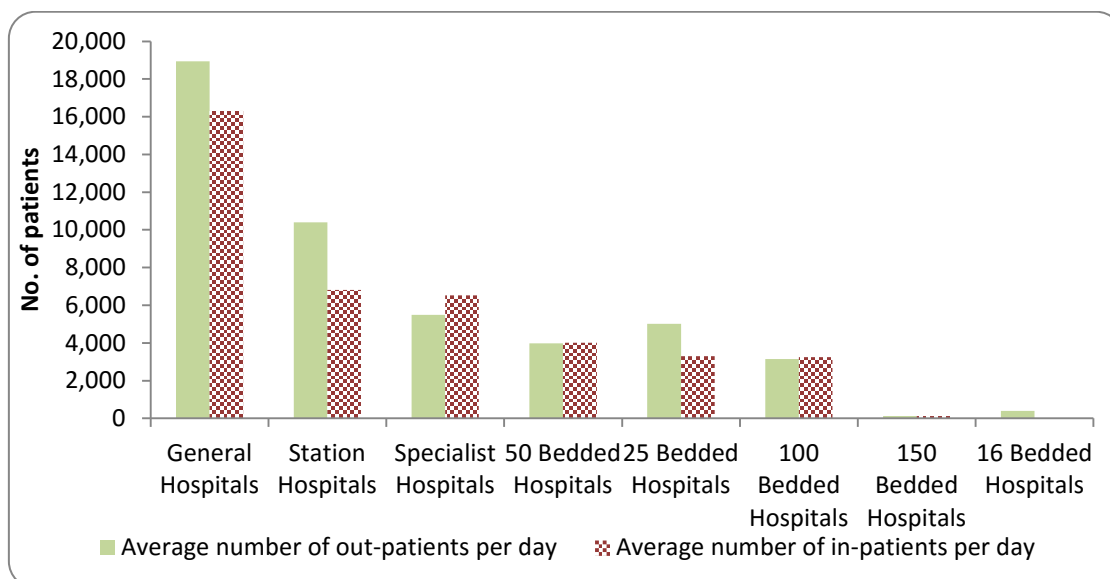


Figure (19) Utilization of Public Hospitals by Regions and States (2018)

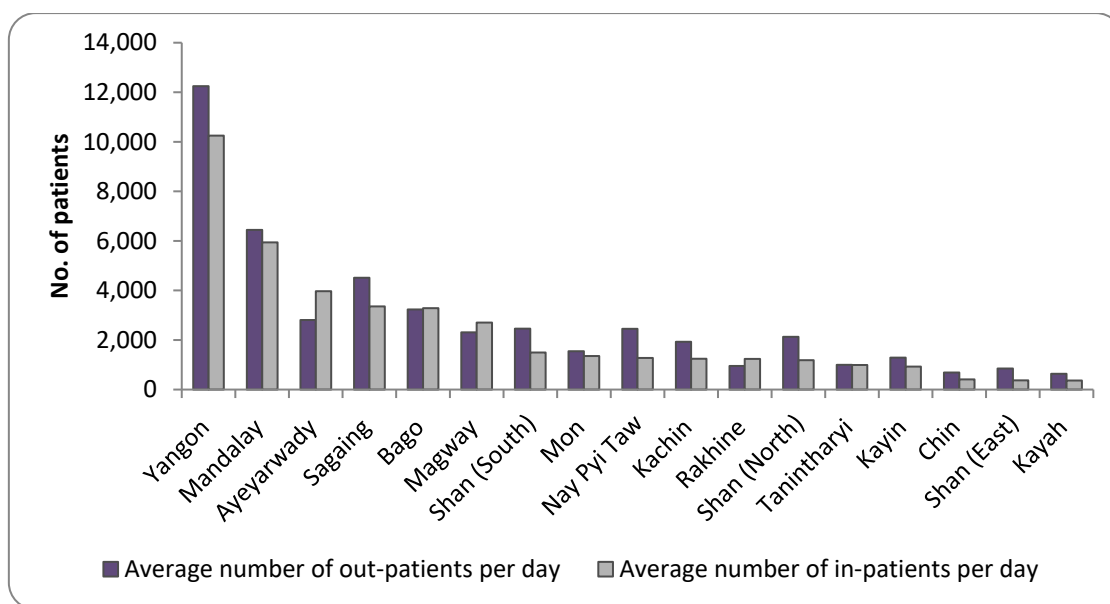


Figure (18) and (19) shows utilization of hospitals in terms of average number of inpatients and outpatients per day by types of hospital and by Regions and States. Average number of inpatients and outpatients are highest in Yangon Region followed by Mandalay Region and Ayeyarwady Region.

Figure (20) Outpatient attendances by Regions and States (2017-2018)

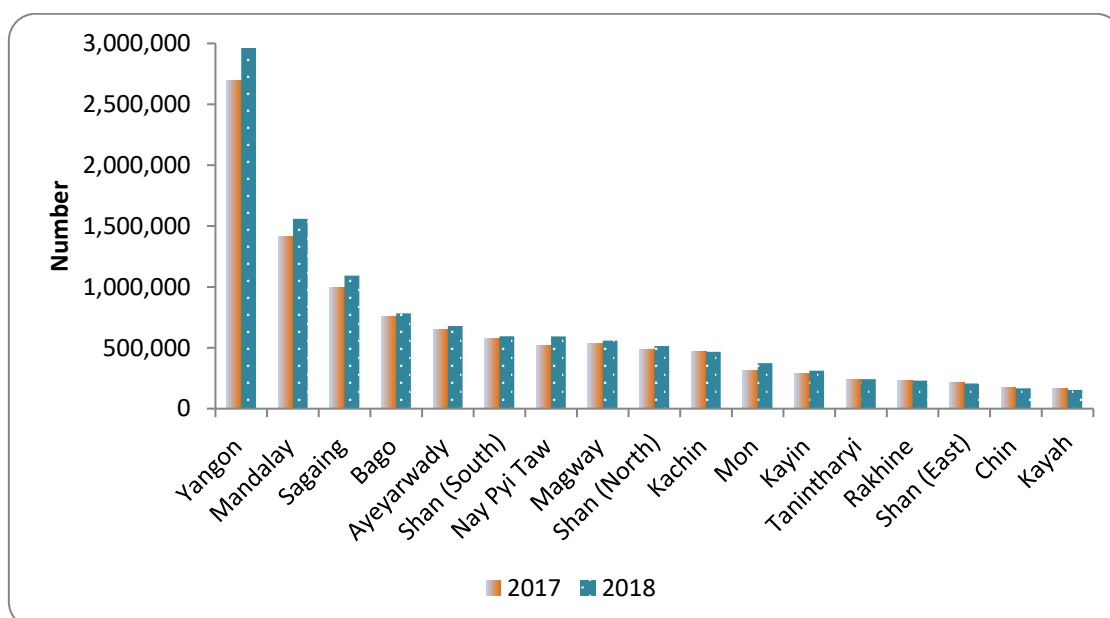


Figure (21) Outpatient attendances by Type of Hospitals (2017-2018)

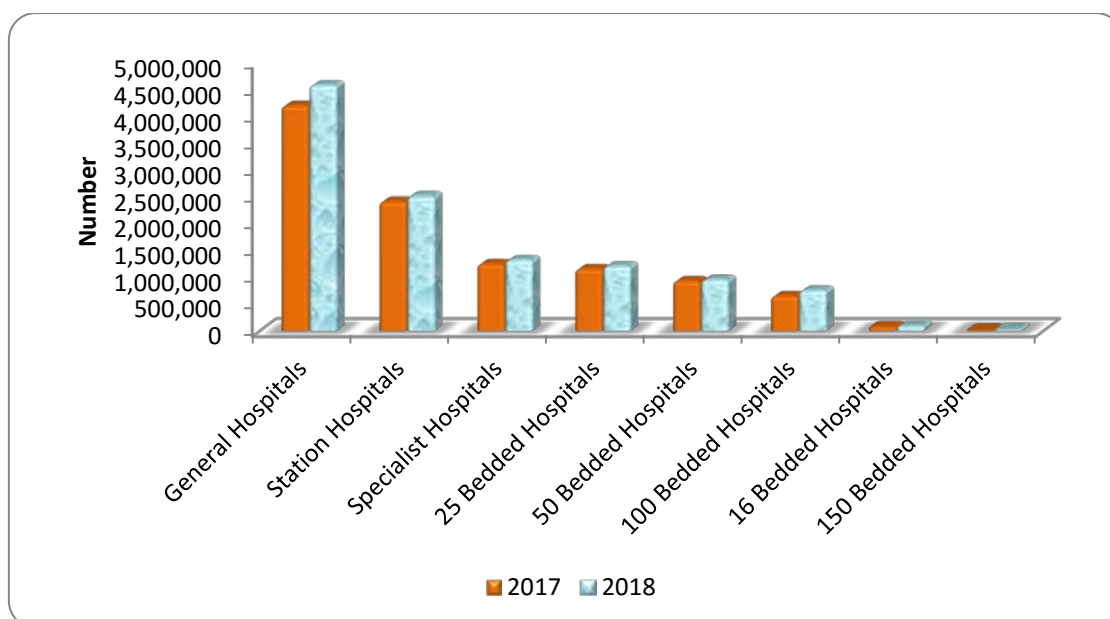
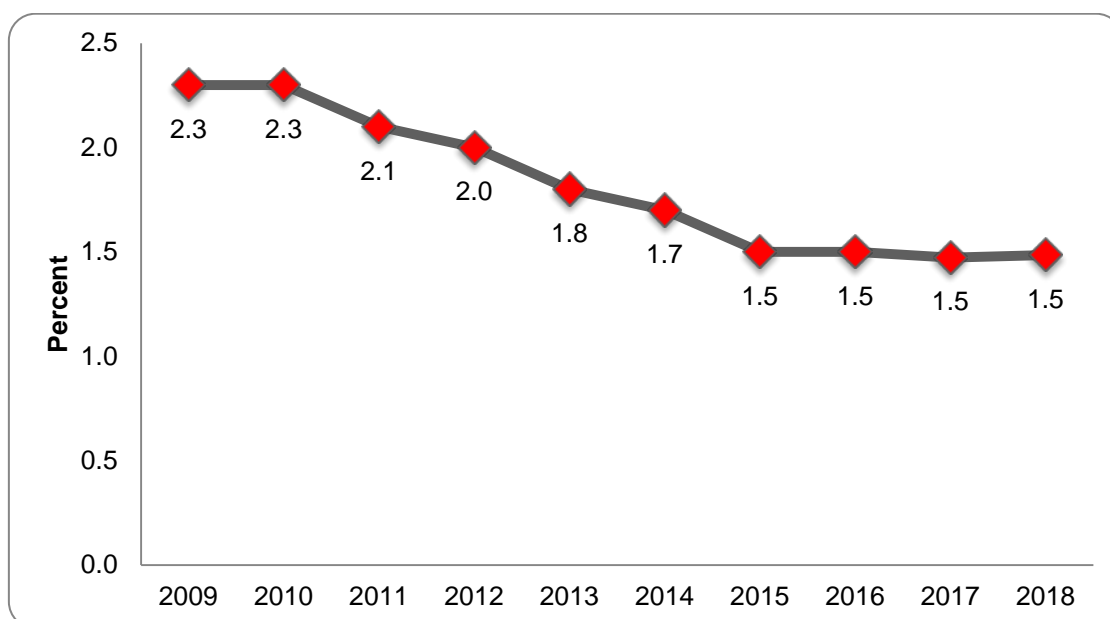


Figure (20) and (21) describes total number of outpatient attendances during 2017-2018.

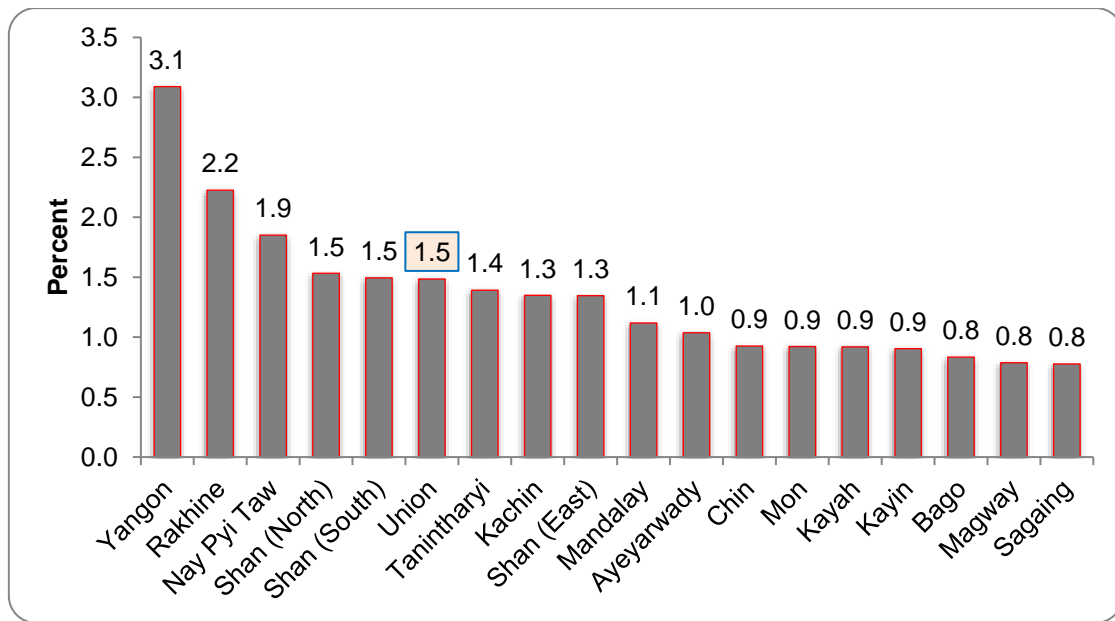
Figure (22) Hospital Death Rate (2009-2018)



Hospital death rate is calculated as percentage of the total deaths to the total discharges and deaths. During 2009 to 2018, it was in decreasing trend in 2.3% in 2009 to 1.5% in 2018..

It was again described by Regions and State in Figure (23). Yangon has the highest hospital death rate (3.1%) followed by Rakhine State (2.2%) and Nay Pyi Taw (1.9%).

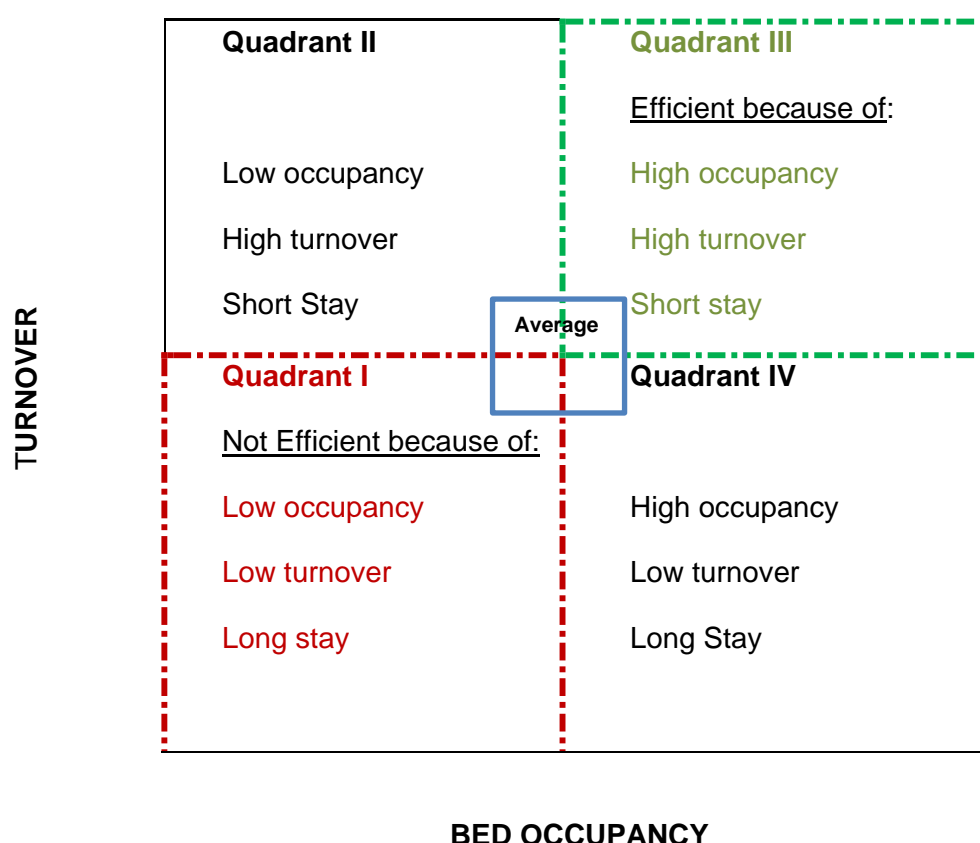
Figure (23) Hospital Death Rate by Regions and States (2018)



Hospital efficiency is analyzed by applying the Pabón Lasso technique. It is a graphical method that makes use of the three indicators; bed occupancy rate, average turnover of patients per bed per year and average length of stay concurrently in assessing the relative performance of hospitals.

In this method, the bed occupancy rate based on sanctioned bed (on the horizontal axis), is plotted against average turnover of patients per bed per year (on the vertical axis), with vertical and horizontal lines dividing the diagram into four regions. The horizontal and vertical demarcations represent the mean values of those indicators. According to the functional relationship of the three measures, any point on the graph represents the reciprocal of the average length of stay of the hospital under consideration. Figure (24) represents the possible features of hospitals located in each of the four regions.

Figure (24) Interpretation of efficiency according to Pabón Lasso*



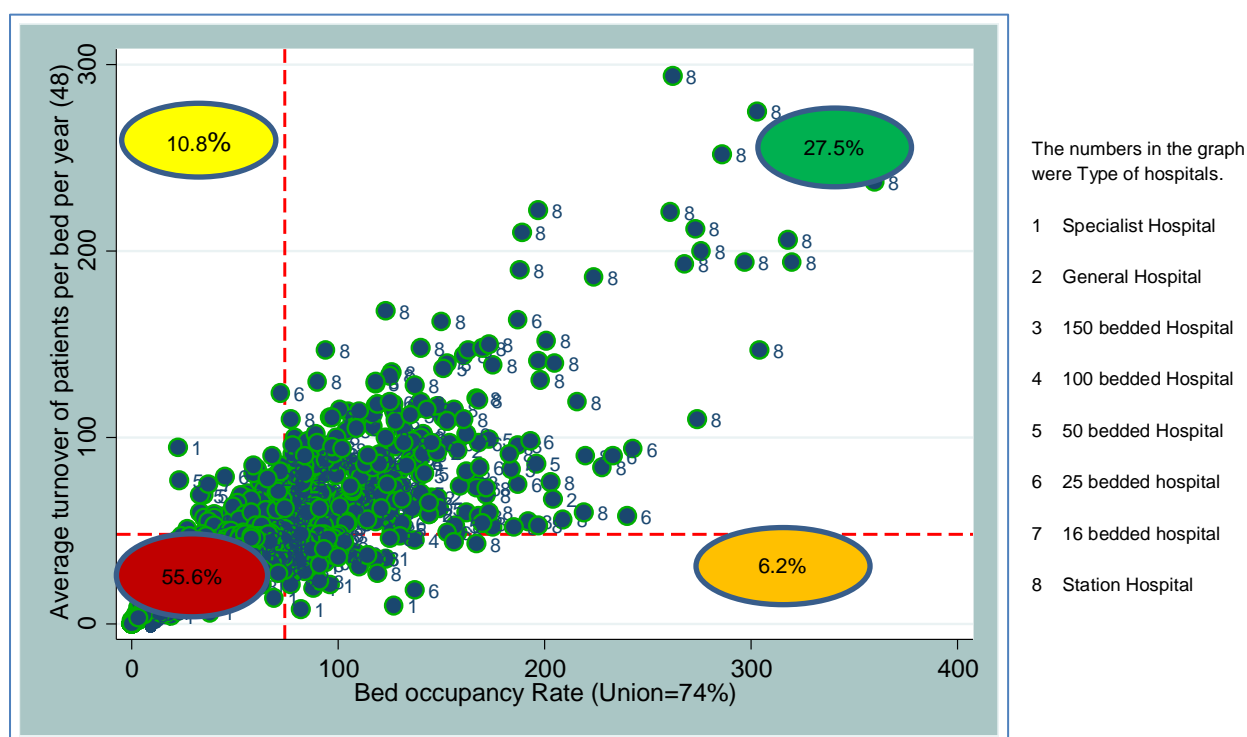
*from Bamum and Kutzin

To assess the efficiency of all the public hospitals under Ministry of Health and Sports during 2017-2018, union figures of bed occupancy rate based on sanctioned bed and average turnover of patients per bed per year were used as cut-off points for the Pabón Lasso graph. The number of hospitals used in this assessment excludes the hospitals under other Ministries. The non-reporting hospitals under Ministry of Health and Sports are also included in this assessment.

As described in Figure (25), 315 hospitals were located in the desirable zone (Quadrant III), accounting for 27.8% of all hospitals under MOHS while 631 hospitals (55.6%) were in the Quadrant I representing poor performance of the hospitals.

Among 315 hospitals in the desirable zone of Pabón Lasso graph which have higher bed occupancy rate and average turnover of patients per bed per year than Union figures, some of the hospitals had utilized more than twice of their capacity in terms of sanctioned beds (Figure. 25).

Figure (25) Pabón Lasso graph for all Public hospitals under Ministry of Health and Sports (2018)

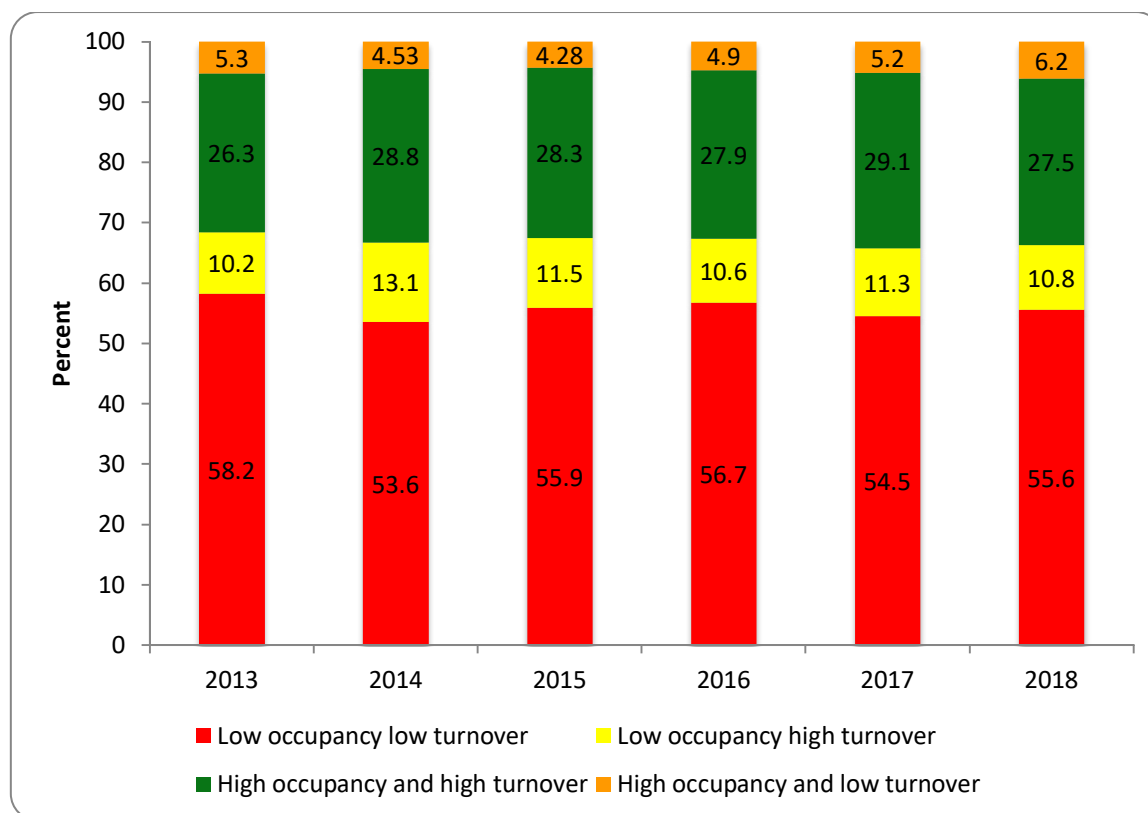


Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.

n = total number of all Hospitals under MOHS (1134 hospitals)

In order to visualize the performance of the public Hospitals under MOHS during 2013 to 2018, the data are analyzed with Pabón Lasso technique and the percent distributions in four quadrants are described in Figure (26).

**Figure (26) Distribution of Hospital Performance according to Pabón Lasso technique
(2013-2018)**



The hospitals which had at least 90% bed occupancy rate were extracted from all hospitals of the desirable zone and it was found that 226 hospitals were using $\geq 90\%$ of the sanctioned beds. It also accounted for 19.9% of all the public hospitals under MOHS. The names of these hospitals were stated together with three hospital utilization indicators in Table (6).

Table (6) Hospitals in the desirable zone of Pabón Lasso graph which also had $\geq 90\%$ bed occupancy rate (2017-2018)

Sr. No.	Hospital Name	Region and State	Bed occupancy Rate (%) Based on Sanctioned Bed		Average turnover of patients per bed per year		Average duration of stay (in days)	
			2017	2018	2017	2018	2017	2018
	Specialist Hospitals							
1	Women & Children, Mawlamyaing	Mon	134	123	102	35	4.8	4.7
	General Hospitals							
1	Magway	Magway	201	204	64	67	6.1	5.9
2	Pakokku	Magway	143	158	89	93	3.9	4.1
3	Sanpya Hospital[Thingangyun]	Yangon	156	148	68	92	6.0	5.9
4	Dawei	Tanintharyi	138	148	81	68	4.5	4.6
5	Hpa-an	Kayin	146	145	96	68	4.3	4.3
6	Hinthada	Ayeyarwady	136	144	60	59	4.4	4.4
7	Myeik	Tanintharyi	148	136	86	87	5.3	4.7
8	Meikhtila	Mandalay	123	136	53	62	4.6	4.4
9	Taungngu	Bago	144	133	65	66	5.3	4.9
10	Insein General Hospital	Yangon	113	120	76	91	4.5	4.8
11	Maubin	Ayeyarwady	105	118	57	55	4.3	5.0
12	Kyaukse	Mandalay	111	118	54	58	4.1	4.5
13	West Yangon General	Yangon	133	108	73	60	4.9	4.9
14	Shwebo	Sagaing	109	93	60	54	4.2	3.9
	100 Bedded Hospitals							
1	Myinchan	Mandalay	162	162	155	60	3.8	4.0
2	Thaton	Mon	146	139	93	87	3.8	3.9
3	Phyu	Bago	126	117	66	106	3.9	4.0
4	Yamethin	Mandalay	118	110	112	114	3.9	3.5
5	Muse	Shan (North)	111	107	100	72	4.0	4.2
6	Ye U	Sagaing	100	105	79	87	4.6	4.4
7	Tharawady	Bago	96	100	61	66	3.7	3.9
8	Myawady	Kayin	102	93	108	94	3.5	3.6
	50 Bedded Hospitals							
1	Aunglan	Magway	216	196	98	86	4.0	4.2
2	Salin	Magway	157	184	76	83	3.8	4.1
3	Myinmu	Sagaing	150	173	83	99	3.8	3.7
4	Einme	Ayeyarwady	167	151	65	137	4.7	4.0
5	Pindaya	Shan (South)	148	149	62	62	6.3	6.2
6	Taikkyi	Yangon	144	145	160	97	3.3	3.2
7	Kyonpyaw	Ayeyarwady	139	142	84	81	6.0	6.4
8	Nyaunglebin	Bago	143	140	78	70	3.4	3.6
9	Tada U	Mandalay	102	140	69	80	3.8	4.6
10	Wakema	Ayeyarwady	149	135	111	112	4.1	4.4
11	Kawlin	Sagaing	131	123	106	70	4.5	4.6
12	Hmawbi	Yangon	123	121	84	69	5.4	5.7
13	Pharkant	Kachin	113	116	116	70	3.5	3.6
14	Palaw	Tanintharyi	114	114	89	62	4.7	4.5
15	Kyauktaga	Bago	116	109	84	82	3.4	3.2

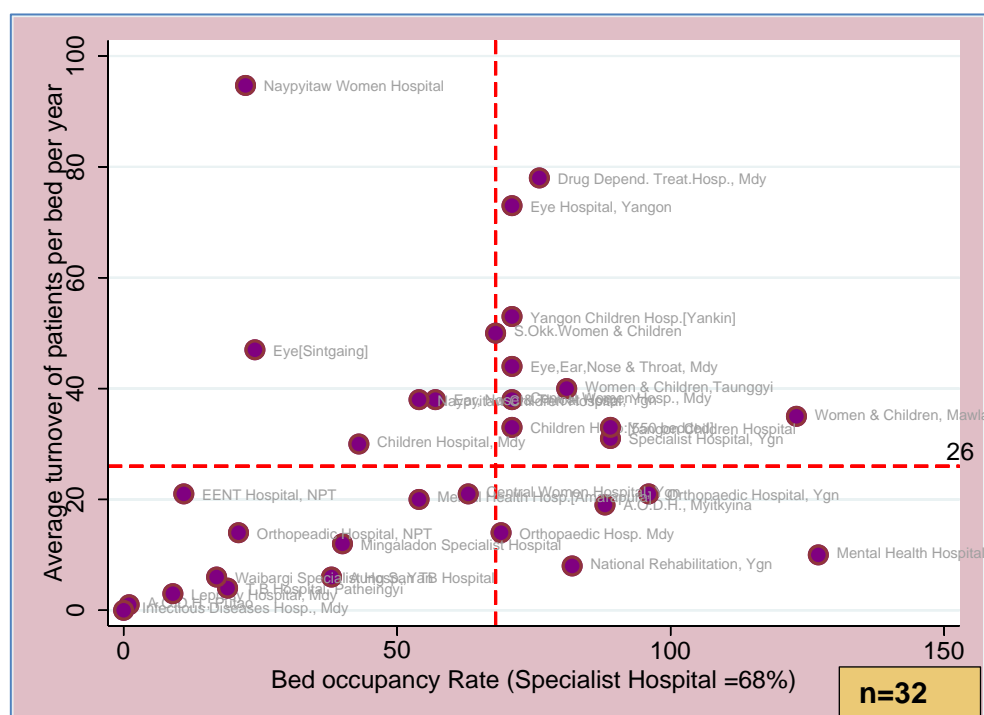
Sr. No.	Hospital Name	Region and State	Bed occupancy Rate (%) Based on Sanctioned Bed		Average turnover of patients per bed per year		Average duration of stay (in days)	
			2017	2018	2017	2018	2017	2018
	50 Bedded Hospitals							
16	Gyobingauk	Bago	102	108	79	85	3.9	3.8
17	Paungde	Bago	118	106	109	72	4.0	3.6
18	Taungdwingyi	Magway	121	105	62	68	4.1	3.4
19	Kayan	Yangon	96	98	99	87	3.6	4.1
20	Natmauk	Magway	100	91	70	56	3.5	3.9
	25 Bedded Hospitals							
1	Kyangin	Ayeyarwady	205	243	112	94	3.8	3.9
2	Salingyi	Sagaing	117	240	99	58	4.3	4.7
3	Pantanaw	Ayeyarwady	282	233	103	90	3.3	3.2
4	Zalun	Ayeyarwady	205	193	153	98	4.9	4.2
5	Pale	Sagaing	174	187	141	163	4.5	4.2
6	Pandaung	Bago	141	187	55	75	5.8	5.7
7	Kyaunggone	Ayeyarwady	156	169	78	84	4.3	4.3
8	Nattalin	Bago	167	168	131	97	3.4	3.7
9	Le'khar	Shan (South)	246	167	86	73	6.0	4.8
10	Bilin	Mon	151	163	167	147	3.3	3.4
11	Yedashe	Bago	110	162	104	102	3.9	3.6
12	Ingabu	Ayeyarwady	126	159	64	74	4.7	5.2
13	Ayadaw	Sagaing	115	154	84	97	3.1	3.6
14	Kamamaung[Phapun]	Kayin	141	151	122	111	3.4	3.1
15	Banmauk	Sagaing	140	148	109	117	4.7	4.6
16	Kama	Magway	112	136	75	98	5.4	4.2
17	Phekon	Shan (South)	151	133	76	85	5.0	4.9
18	Kawa	Bago	126	129	66	81	4.4	3.6
19	Paukkhaung	Bago	132	127	66	118	3.8	3.9
20	Myothit	Magway	108	127	123	114	3.2	4.0
21	Tangyan	Shan (North)	137	125	143	119	3.5	3.8
22	Pauktaw	Rakhine	128	124	84	67	3.5	3.4
23	Thabaung	Ayeyarwady	112	121	60	62	4.4	4.6
24	Kani	Sagaing	114	121	119	78	4.0	4.0
25	Kanyutkwin[Phyu]	Bago	143	121	70	61	4.7	4.5
26	Minhla[Minhla]	Bago	124	121	65	68	3.5	3.2
27	Thanetpin	Bago	106	119	107	118	3.6	3.7
28	Kyondoe[Kawkareik]	Kayin	108	116	121	111	2.7	3.2
29	Myainggyingu [Hlaingbwe]	Kayin	127	114	65	60	4.4	4.2
30	Minhla	Magway	96	113	83	72	4.2	4.1
31	Minsu[Kyaukse]	Mandalay	108	112	109	68	3.6	3.7
32	Ywangan	Shan (South)	115	107	71	71	5.9	5.5
33	Wetlet	Sagaing	139	107	126	110	4.0	3.6
34	Naungcho	Shan (North)	117	106	101	74	4.2	4.4
35	Khampet[Tamu]	Sagaing	94	104	66	58	4.0	3.9
36	Shwedaung	Bago	101	102	56	68	3.6	3.4
37	Mongkaing	Shan (South)	106	100	64	56	4.7	5.1
38	Oktwin	Bago	105	91	78	70	3.1	3.0

Sr. No.	Hospital Name	Region and State	Bed occupancy Rate (%) Based on Sanctioned Bed		Average turnover of patients per bed per year		Average duration of stay (in days)	
			2017	2018	2017	2018	2017	2018
	Station Hospitals							
1	Ngathainggyaung[Yegyi]	Ayeyarwady	331	360	219	237	5.5	5.5
2	Kyonmange[Wakema]	Ayeyarwady	309	320	62	194	4.9	4.8
3	Ziphyugone[Letpadan]	Bago	218	318	128	206	6.2	5.6
4	Tawkyweinn[Kyauktaga]	Bago	283	304	135	147	3.5	3.4
5	Zigone[Kanbalu]	Sagaing	212	303	205	275	3.8	4.0
6	Kyaikhtaw[Kawhmu]	Yangon	308	297	160	194	7.0	5.6
7	Myochaung[Kyauktaga]	Bago	222	286	81	252	4.6	4.1
8	Hlelanku[Htantabin]	Bago	262	276	119	200	4.6	5.0
9	Nabetgyi[Taze]	Sagaing	228	274	155	110	5.4	4.8
10	Kwinkauk[Ingapu]	Ayeyarwady	305	273	212	212	5.3	4.7
11	Ahthoke[Yegyi]	Ayeyarwady	195	268	80	193	4.7	5.1
12	Ywathit[Einme]	Ayeyarwady	232	262	226	294	3.7	3.3
13	Ahtaung[Kyonpyaw]	Ayeyarwady	269	261	242	221	4.1	4.3
14	Phado[Kyauktaga]	Bago	229	228	87	84	4.3	4.5
15	Ywathitgyi[Sagaing]	Sagaing	224	224	184	186	4.5	4.4
16	Aungban[Kalaw]	Shan (South)	259	220	108	90	3.3	3.3
17	Pyuntaza[Nyaunglebin]	Bago	251	219	63	60	3.9	3.5
18	Inbin[Myanaung]	Ayeyarwady	213	216	126	119	4.0	4.2
19	Nantmon[Mohnyin]	Kachin	147	209	94	56	4.7	5.4
20	Zayawady[Phyu]	Bago	145	205	112	140	3.8	4.3
21	Natchaung[Kalay]	Sagaing	154	203	62	76	4.8	5.2
22	Sartaung[Sagaing]	Sagaing	151	198	95	131	5.8	5.5
23	Sharke[Hinthada]	Ayeyarwady	169	197	191	222	3.2	3.2
24	Wetchaung[Kyaunggone]	Ayeyarwady	297	197	213	53	5.1	4.9
25	Saingpyin[Depeyin]	Sagaing	200	197	138	141	3.5	3.4
26	Thakala[Kawa]	Bago	172	192	53	55	4.7	5.1
27	Theinzayat[Kyaukhnyat][Kyaikhto]	Mon	223	189	232	210	3.5	3.3
28	Zayatgyi[Htantabin]	Bago	202	188	136	190	3.6	3.6
29	Kin[Kani]	Sagaing	163	187	117	96	5.1	5.7
30	Betyai[Kyangin]	Ayeyarwady	164	185	38	52	5.8	4.7
31	Tigyit[Pinlaung]	Shan (South)	175	183	88	91	4.7	4.7
32	Swa[Yedashe]	Bago	113	175	104	139	4.0	4.6
33	Martabin[Paung]	Mon	190	173	83	60	3.2	3.4
34	Taloketaw[Hinthada]	Ayeyarwady	166	173	70	150	4.2	4.2
35	Mezalegone[Ingabu]	Ayeyarwady	150	172	108	73	4.1	4.6
36	Loilenlay[Loikaw]	Kayah	191	172	78	69	5.7	5.8
37	Ahhlait[Paung]	Mon	97	170	93	148	3.8	4.2
38	Ahpyauk[Taikkyi]	Yangon	183	170	149	54	4.5	4.6
39	Inyai[Kyonpyaw]	Ayeyarwady	138	168	98	120	5.1	5.1
40	Tagaung[Thabeikkyin]	Mandalay	139	168	64	58	5.1	6.8
41	Ahlaitaw[Tigyain]	Sagaing	129	167	52	121	4.8	5.0
42	Paungtalai[Pyay]	Bago	100	166	47	76	4.1	4.3
43	Yaysakhan[Kyonpyaw]	Ayeyarwady	136	162	77	82	5.2	5.7
44	Htonbo[Pandaung]	Bago	155	161	81	144	4.4	4.1

Sr. No.	Hospital Name	Region and State	Bed occupancy Rate (%) Based on Sanctioned Bed		Average turnover of patients per bed per year		Average duration of stay (in days)	
			2017	2018	2017	2018	2017	2018
	Station Hospitals							
45	Penwegone[Kyauktaga]	Bago	141	158	38	49	5.4	6.2
46	Kyawzee[Taungtha]	Mandalay	101	156	78	115	4.8	4.9
47	Okkan[Taikkyi]	Yangon	187	153	132	109	3.5	3.4
48	Shwepangone Sanpya[Wetlet]	Sagaing	145	153	133	140	4.0	4.0
49	Yelunkyaw[Amarapura]	Mandalay	124	153	93	109	4.9	5.1
50	Theinzeik[Thaton]	Mon	186	150	179	162	3.8	3.4
51	Kanaung[Myanaung]	Ayeyarwady	165	144	71	59	5.4	5.7
52	Thabyegone[Myanaung]	Ayeyarwady	187	144	87	65	5.0	5.2
53	Twinng[Thabeikkyin]	Mandalay	165	143	119	115	5.1	4.5
54	Kyaikkhami[Thanbyuzayat]	Mon	105	141	65	91	3.0	3.3
55	Donzayit[Shwegyin]	Bago	124	140	94	100	4.8	5.1
56	Padan[Ngape]	Magway	139	140	154	148	3.3	3.5
57	Ngar Hmyar Gyi[Ngazun]	Mandalay	126	140	120	119	3.8	4.3
58	Kywepwe[Oktwin]	Bago	118	139	129	87	3.3	3.7
59	Kawbein[Kawkareik]	Kayin	114	138	96	115	3.5	3.5
60	Kyaukmyaung[Shwebo]	Sagaing	126	138	97	99	4.7	5.1
61	Daunggyi[Kyaunggone]	Ayeyarwady	117	137	95	128	3.6	3.9
62	Thakhuttanai[Budalin]	Sagaing	137	135	79	89	5.0	4.4
63	Inn-ma[Pantanaw]	Ayeyarwady	98	132	72	97	3.2	3.2
64	Nantaw[Homalin]	Sagaing	130	132	97	104	4.9	4.6
65	Duya[Hinthada]	Ayeyarwady	140	131	76	67	4.5	4.8
66	Wanetchaung[Hmawbi]	Yangon	111	128	112	73	3.6	3.4
67	Mong Inn[Pindaya]	Shan (South)	122	128	62	66	5.7	5.6
68	Kyarnyet[Thabeikkyin]	Mandalay	132	128	101	95	4.8	4.9
69	Myo Hla[Yedashe]	Bago	143	127	84	78	3.1	3.0
70	Lonekhin[Pharkant]	Kachin	148	126	158	135	2.7	2.7
71	Myitche[Pakokhu]	Magway	113	126	141	50	2.9	3.2
72	Zokethoke[Bilin]	Mon	124	125	135	60	3.4	3.3
73	Konemyint[Yekyi]	Ayeyarwady	117	124	75	75	5.7	6.0
74	Tadaywa[Kyauktan]	Yangon	117	123	138	168	3.1	2.7
75	Shwedaunghmaw[Maubin]	Ayeyarwady	131	123	61	100	4.2	4.5
76	Kanhtooma Sanpya[Taze]	Sagaing	109	123	75	87	5.3	5.1
77	Kyaukchaung[Ngaputaw]	Ayeyarwady	109	120	81	86	4.9	5.1
78	Sinmanaing[Moenyoy]	Bago	115	119	71	78	5.9	5.5
79	Ywazin[Khin U]	Sagaing	113	118	99	117	3.7	3.7
80	Madauk[Nyaunglebin]	Bago	113	117	79	84	4.2	4.1
81	Kanbauk[Yebyu]	Tanintharyi	102	116	74	76	2.7	3.0
82	Chaungna[Kawlin]	Sagaing	117	115	89	83	4.8	5.1
83	Yenanma[Minhla]	Magway	122	115	96	78	4.7	5.3
84	Kume[Myittha]	Mandalay	101	158	81	90	4.6	4.6
85	Kyonkadon[Pyapon]	Ayeyarwady	96	114	89	56	4.0	4.0
86	Ma Lai Thar[Ayadaw]	Sagaing	105	113	62	87	4.9	4.7
87	Natthankwin[Kyaukkyi]	Bago	126	113	102	86	3.6	3.8
88	Myinkakone[Bogale]	Ayeyarwady	110	109	108	105	3.7	3.8
89	Welaung[Taungtha]	Mandalay	105	109	64	67	4.8	4.8

Sr. No.	Hospital Name	Region and State	Bed occupancy Rate (%) Based on Sanctioned Bed		Average turnover of patients per bed per year		Average duration of stay (in days)	
			2017	2018	2017	2018	2017	2018
	Station Hospitals							
90	Yin-Nyein[Paung]	Mon	110	105	64	66	3.3	3.1
91	Padigone[Thegone]	Bago	115	105	124	114	3.4	3.3
92	Kyaukyit[Myaung]	Sagaing	109	104	101	104	3.9	3.7
93	Sinbyugyun[Salin]	Magway	152	103	58	66	4.4	4.1
94	Thayetkone[Einme]	Ayeyarwady	101	102	95	94	3.9	4.0
95	Shwe Thaug Yan[Pathein]	Ayeyarwady	111	101	65	63	5.0	4.9
96	Leiktho[New Thandung]	Kayin	99	101	88	60	4.1	4.0
97	Mawlu[Indaw]	Sagaing	111	101	92	84	3.5	3.2
98	Sinmezwe[Thegone]	Bago	104	101	56	48	3.0	3.4
99	Kyaikpi[Mawlamyainggyun]	Ayeyarwady	93	98	86	91	4.0	3.9
100	Muyitkale[Chaungzon]	Mon	103	97	61	59	4.2	3.8
101	Kyonku[Ngaputaw]	Ayeyarwady	116	97	110	95	3.8	3.7
102	Othegone[Okkpo]	Bago	93	96	53	50	4.1	4.4
103	Phaunggyi[Hlegu]	Yangon	105	94	168	147	2.3	2.3
104	Chutthinn[Kanbalu]	Sagaing	102	94	73	81	5.1	4.3
105	Ahlaigone[Gyobingauk]	Bago	97	94	41	49	5.5	4.5
106	Chaungtha[Pathein]	Ayeyarwady	99	90	108	97	3.4	3.4

Figure (27) Pabón Lasso graph for all Specialists Hospitals under MOHS (2018)



Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.

n = total number of Specialist Hospitals under MOHS

To assess efficiency of 32 specialist hospitals under MOHS, the lines of demarcation were bed occupancy rate (68%) and average turnover of patients per bed per year (about 26 patients) of all specialist hospitals under MOHS. According to the above figure, 10 hospitals (31.3% of all) were in Zone III of the model, indicating a satisfactory level of efficiency while 11 hospitals (34.4%) were in Zone I, having below-average level performance.

Figure (28) Distribution of Performance of Specialist Hospital according to Pabón Lasso technique (2013-2018)

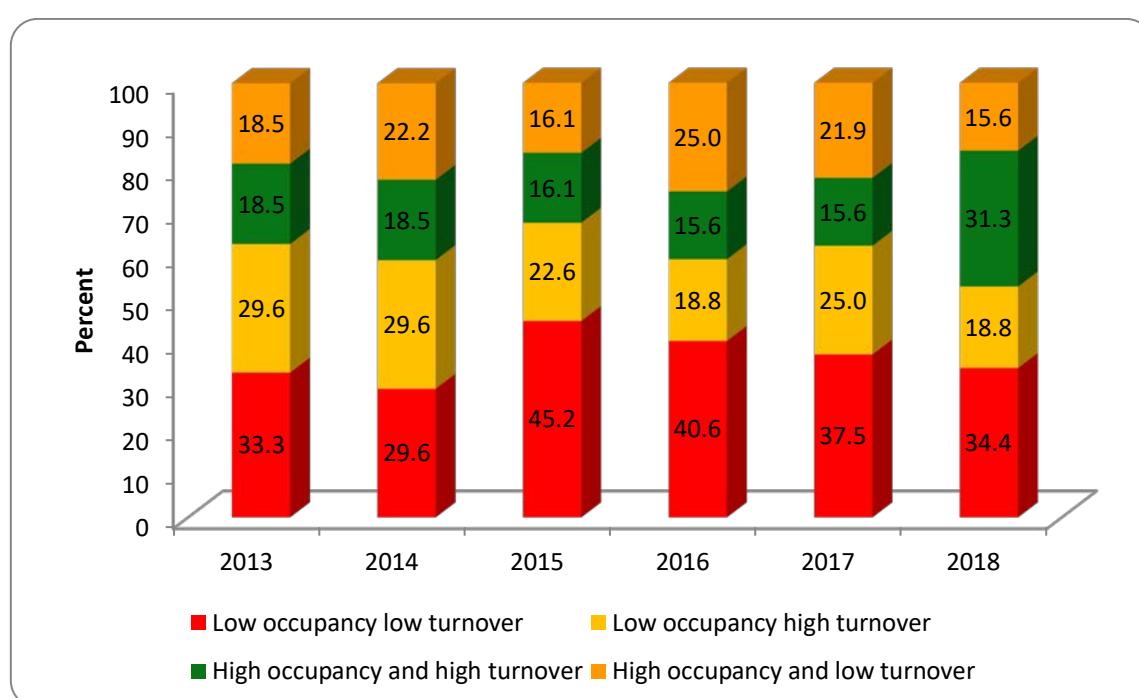
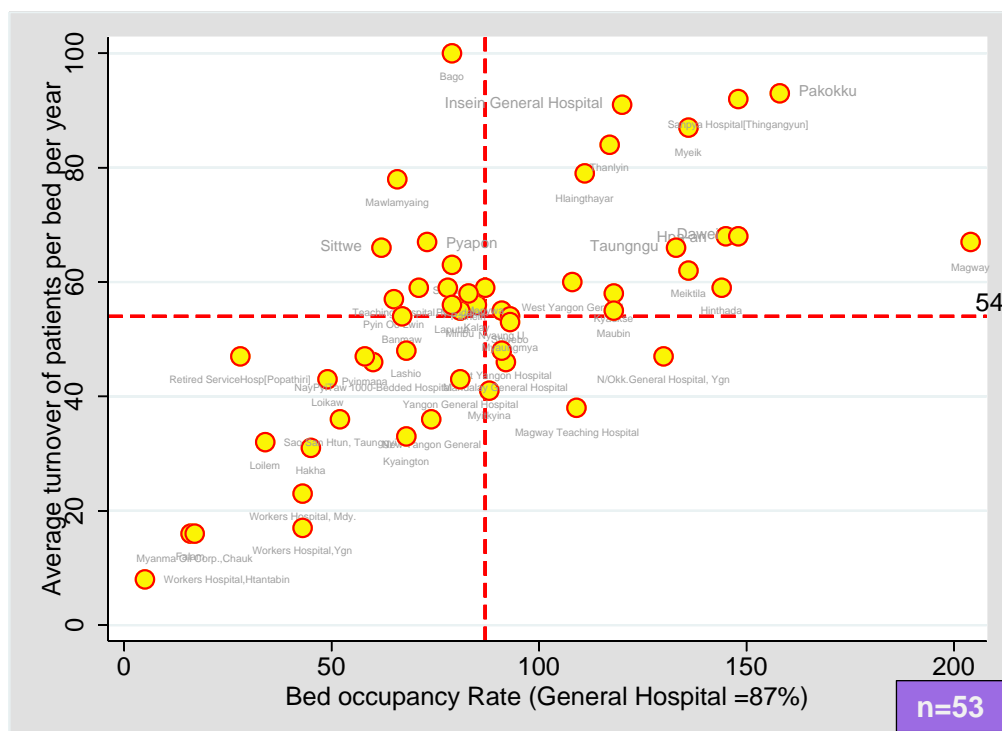


Figure (29) Pabón Lasso graph for all General Hospitals under MOHS (2018)



Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.

n = total number of General Hospitals under MOHS

Regarding hospital utilization, all general hospitals under MOHS were utilizing 87% of their sanctioned beds in average and 54 patients were discharged from each bed during 2018. According to Figure (29), 18 hospitals (34.0%) have more than 100% bed occupancy rate based on sanctioned bed and 17 hospitals (32.1%) are in Zone III having the above average level of performance. Workers Hospital (Htantabin), Falam and Myanma Oil Crop (Chauk) are situated in Zone I having the lowest bed occupancy and lowest turnover of patients.

Figure (30) Distribution of Performance of General Hospital according to Pabón Lasso technique (2013-2018)

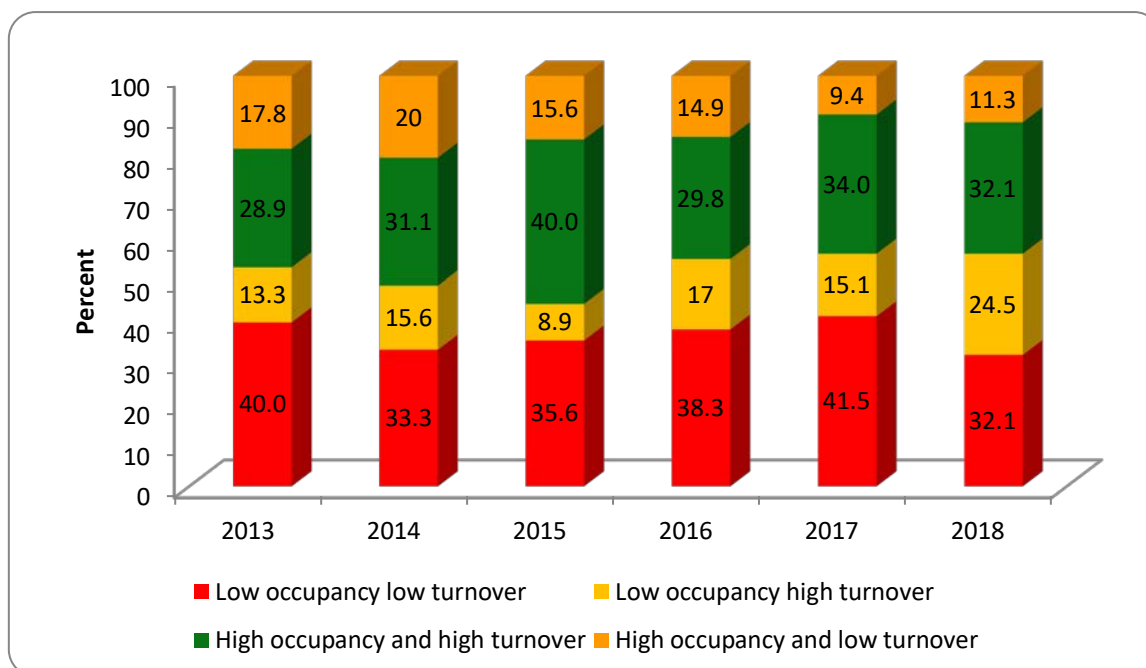
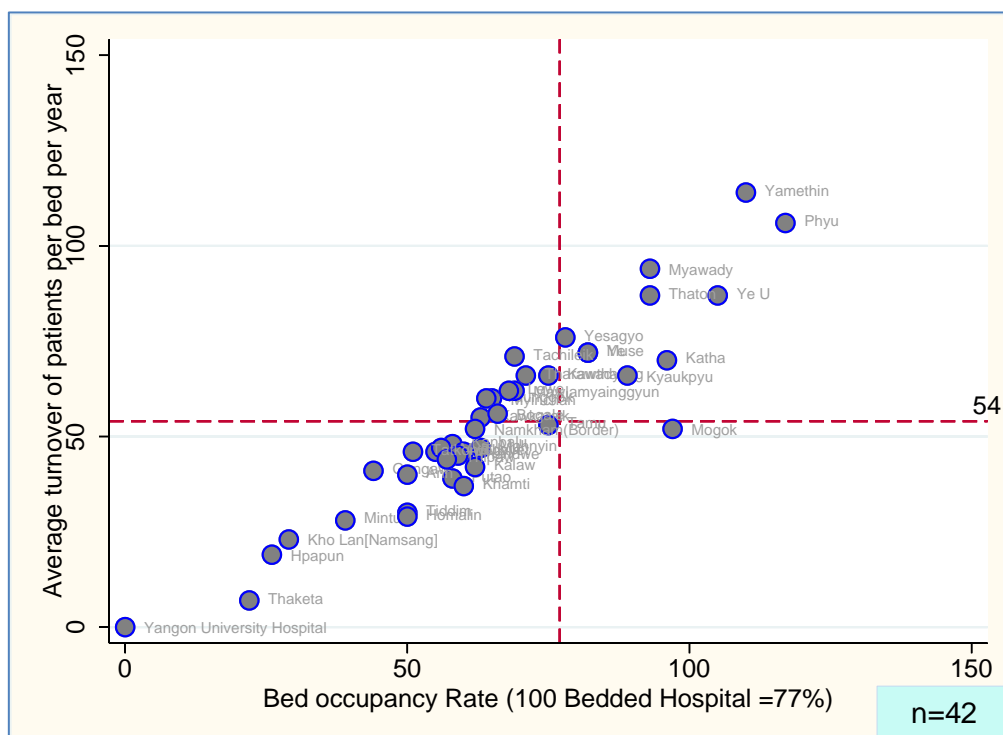


Figure (31) Pabón Lasso graph for 100 bedded hospitals under MOHS (2018)



Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.

n = total number of 100 Bedded Hospitals under MOHS

During 2018, 35.7% of 100 bedded hospitals have satisfactory level of performance according to Pabón Lasso technique while 42.9% are in undesirable zone. Yamethin and Phyu hospitals have the highest bed occupancy rate and highest turnover of patients per bed per year.

Figure (32) Distribution of Performance of 100 bedded Hospital according to Pabón Lasso technique (2013-2018)

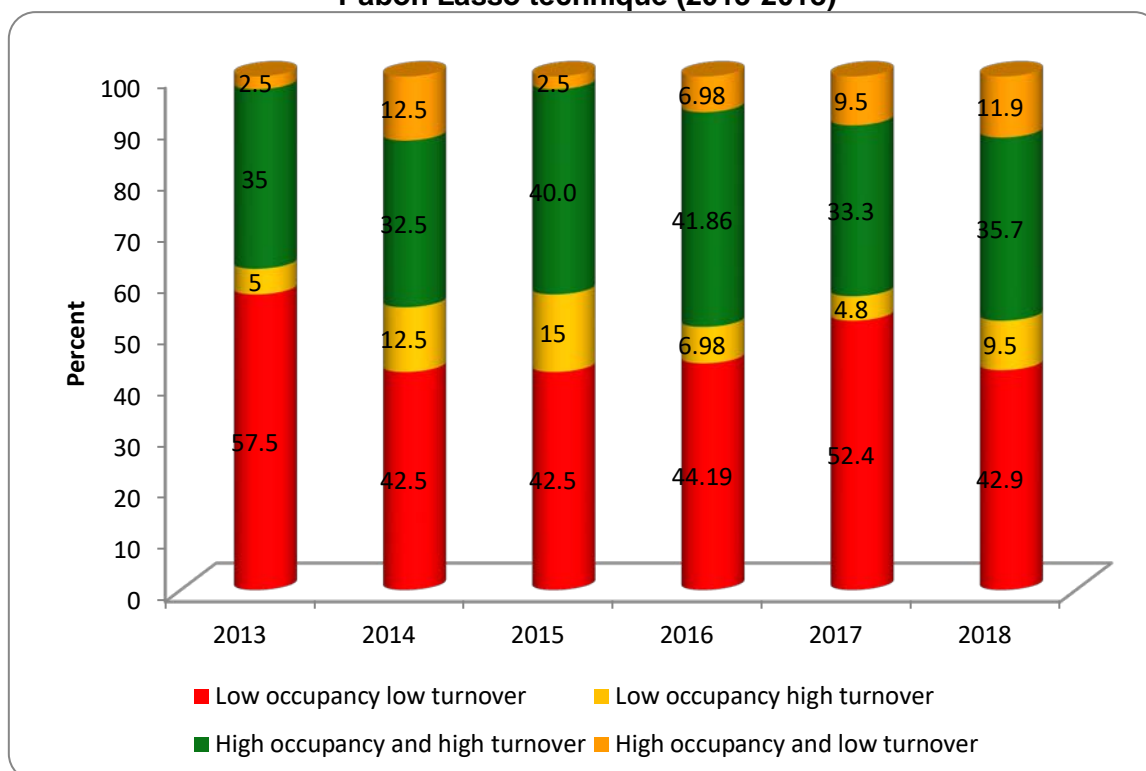
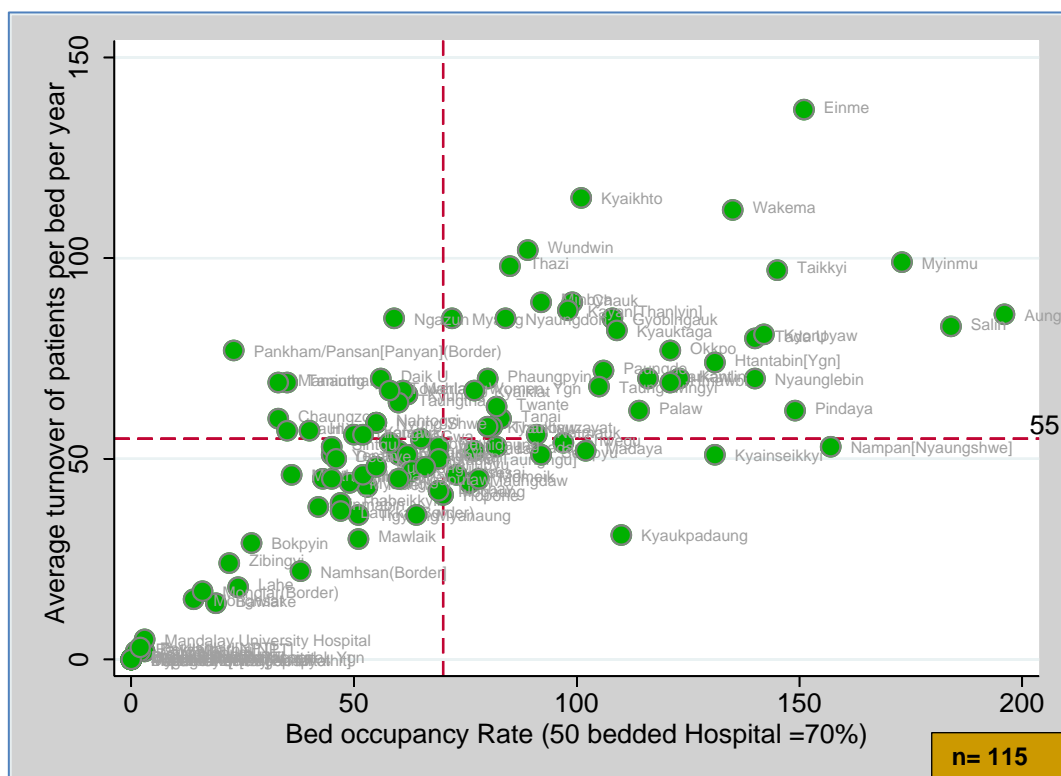


Figure (33) Pabón Lasso graph for 50 bedded hospitals under MOHS (2018)



Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.

n = total number of 50 Bedded Hospitals under MOHS,

Among the 50 bedded hospitals, 30.4% are in the desirable zone while 46.1% are found to have low bed occupancy and low turnover of patients per bed per year.

Figure (34) Distribution of Performance of 50 bedded Hospital according to Pabón Lasso technique (2013-2018)

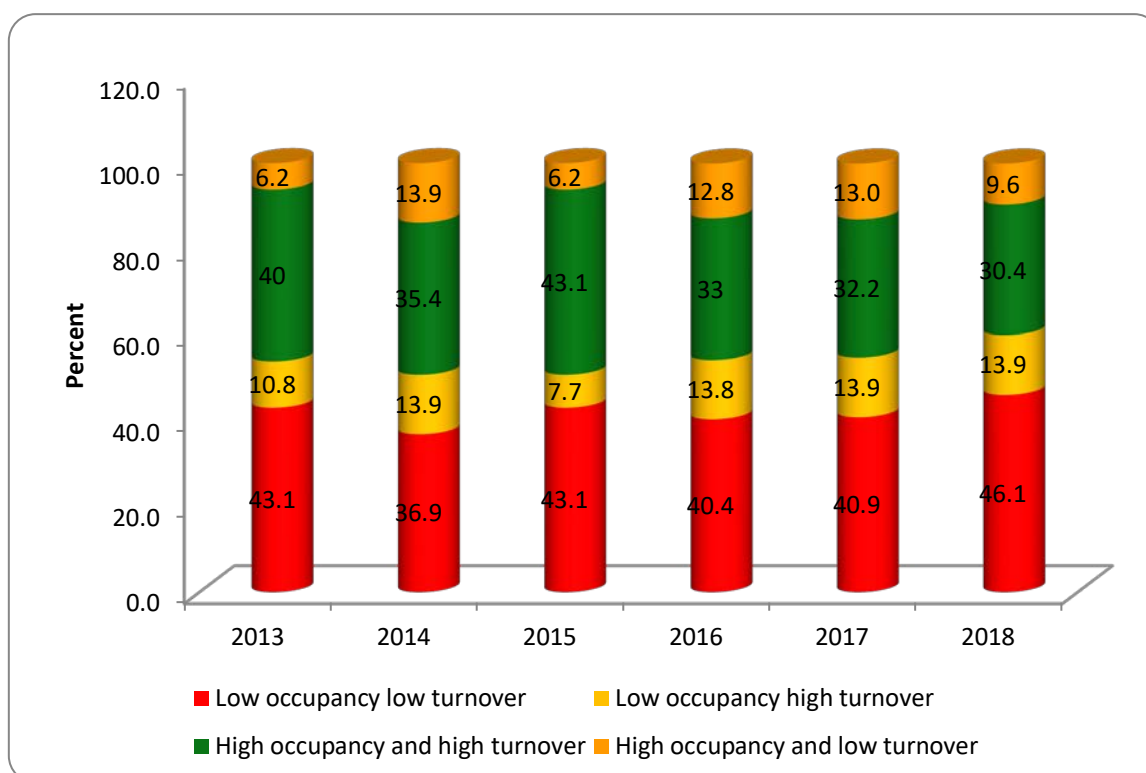
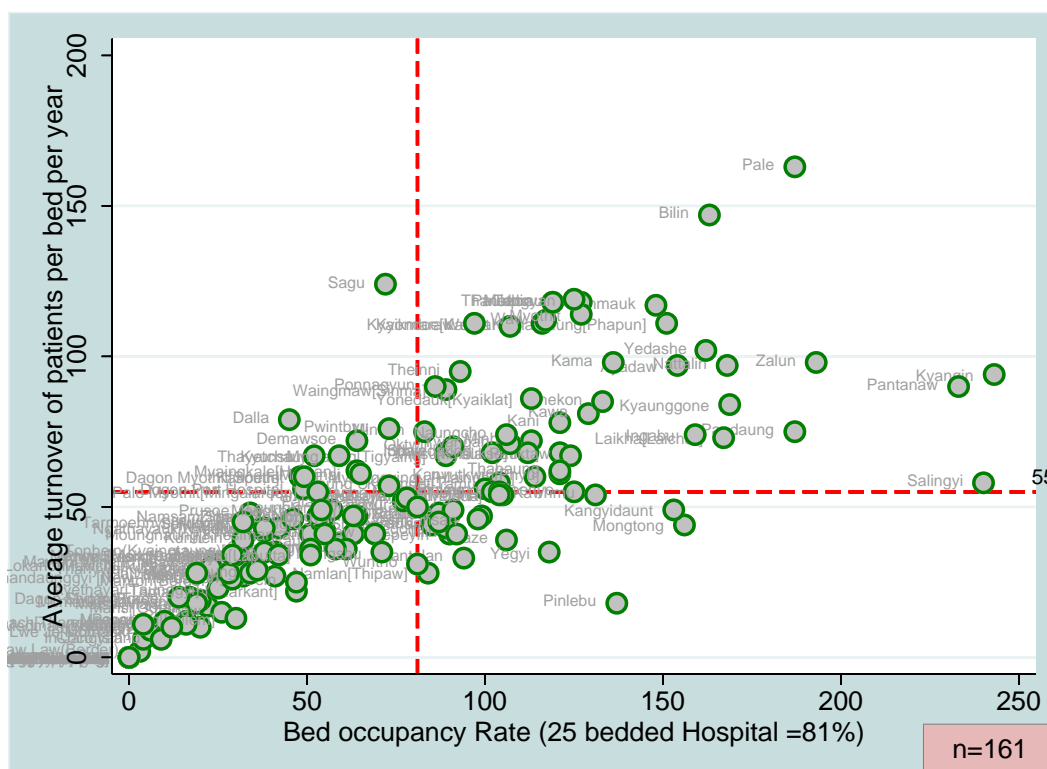


Figure (35) Pabón Lasso graph for 25 bedded hospitals under MOHS (2018)



Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.

n = total number of 25 Bedded Hospitals under MOHS

Among 25 Bedded hospitals, 48 hospitals (29.8% out of 161 hospitals) have satisfactory level of utilization while 49.1 % of the hospitals are found to have underutilization of hospital resources.

Figure (36) Distribution of Performance of 25 bedded Hospital according to Pabón Lasso technique (2013-2018)

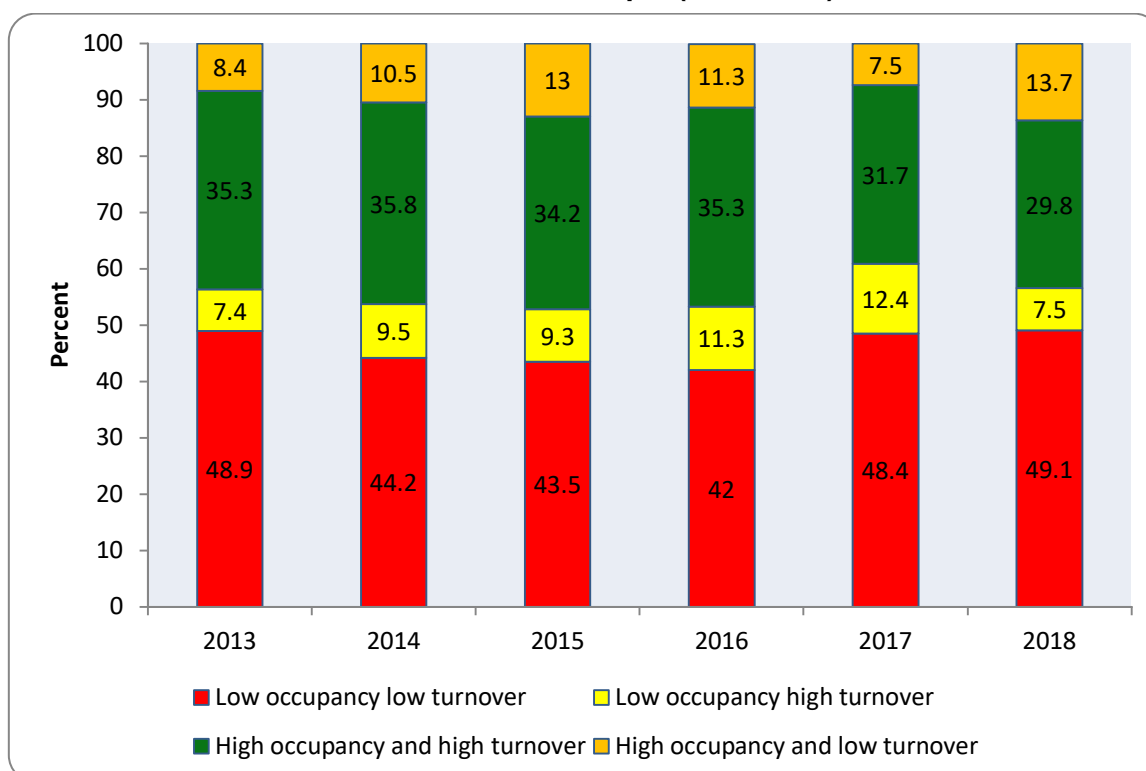
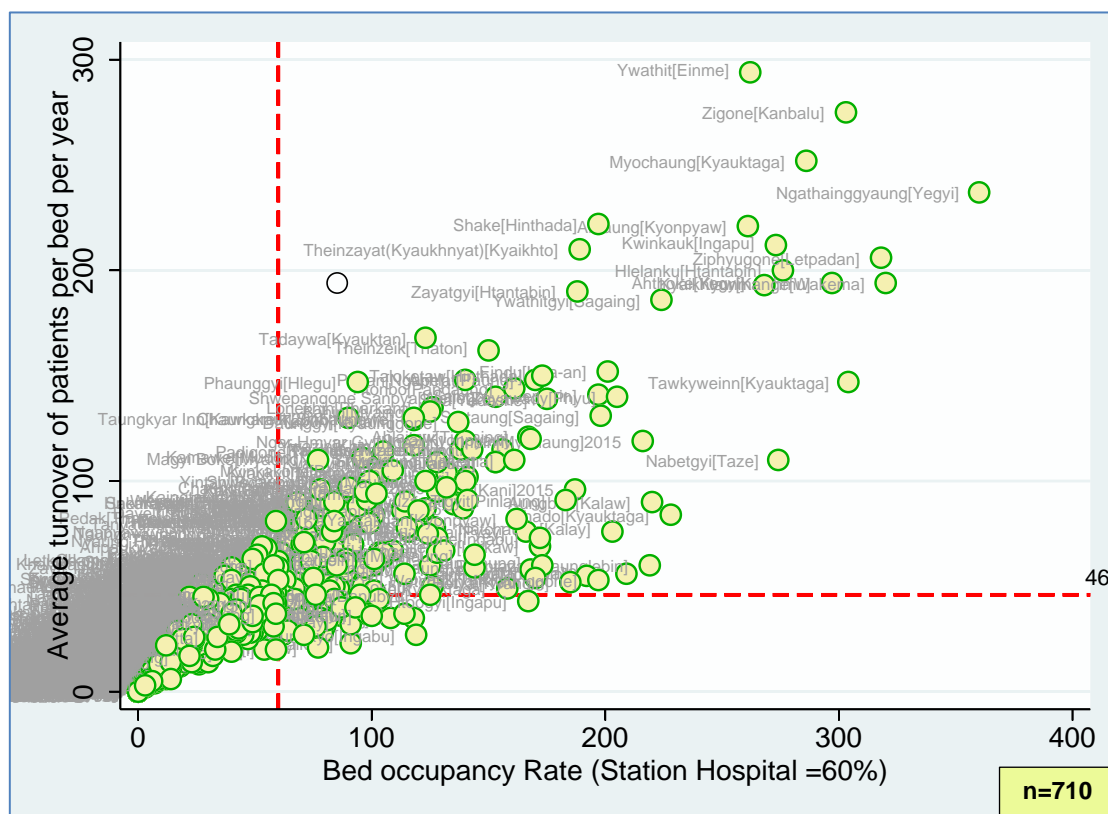


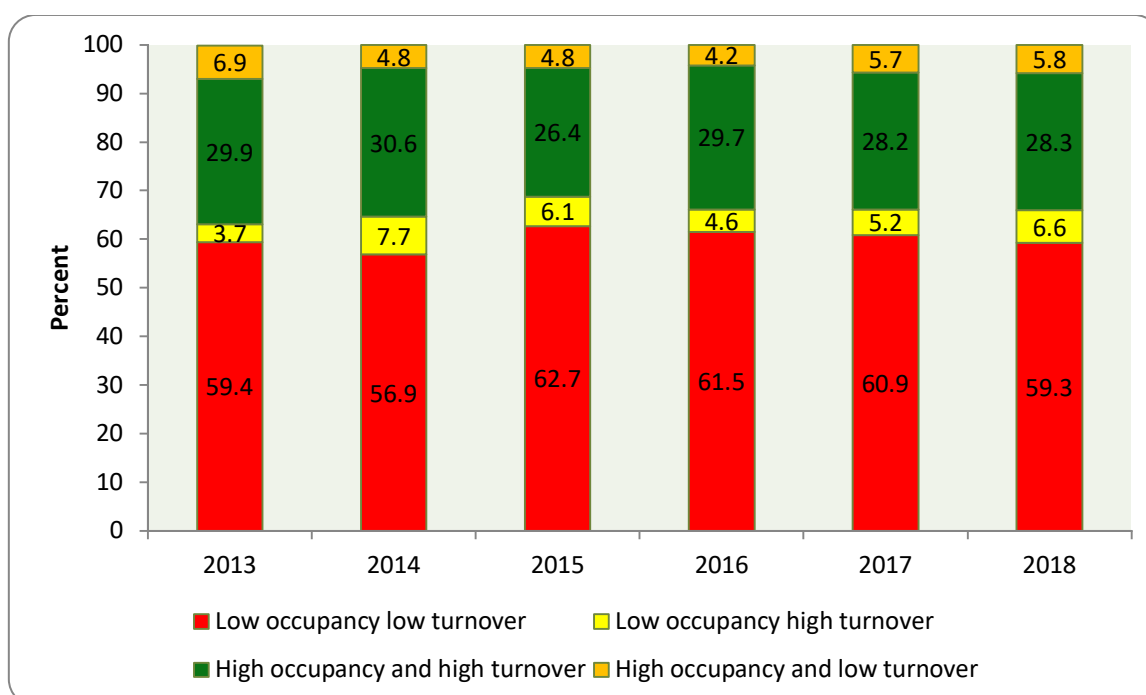
Figure (37) Pabón Lasso graph for Station Hospitals under MOHS (2018)



Note; Non-reporting hospitals were counted as hospitals with poor performance and located in left lower zone.
n = total number of Station Hospitals under MOHS

According to assessment of 710 station hospitals under the Ministry of Health and Sports, 28.3 % of these hospitals (201 hospitals) were in the desirable zone. Ngathainggyaung, Zigone and Ziphyugone station hospitals are found to have highest utilization.

Figure (38) Distribution of Performance of Station Hospital according to Pabón Lasso technique (2013-2018)



SURGICAL OPERATIONS, DELIVERIES, STILLBIRTHS AND ABORTIONS IN HOSPITALS

PART D

Surgical operations by type of anaesthesia, live births, stillbirths and abortion are described in PART D.

Table (7) Number and Percent of Surgical Operations by Type of Hospitals (2016-2018)

Sr. No.	Type of Hospitals	Year	Surgical Operations								
			General Anaesthesia		Spinal Anaesthesia		Local Anaesthesia		Others		All Operations
			No.	%	No.	%	No.	%	No.	%	No.
1	Specialist Hospitals	2016	18565	21.9	26018	30.7	33578	39.6	6588	7.8	84749
		2017	18699	20.4	28434	31.0	37547	40.9	7155	7.8	91835
		2018	21251	20.9	29364	28.9	44858	44.1	6180	6.1	101653
2	General Hospitals with Specialist Services	2016	45603	19.6	118303	50.8	52840	22.7	16167	6.9	232913
		2017	49600	19.5	131573	51.7	54351	21.3	19209	7.5	254733
		2018	51122	18.7	143898	52.7	57146	20.9	20703	7.6	272869
3	150 Bedded Hospitals	2016	268	24.1	219	19.7	459	41.3	166	14.9	1112
		2017	285	28.2	288	28.5	362	35.9	74	7.3	1009
		2018	836	52.3	301	18.8	441	27.6	19	1.2	1597
4	100 Bedded Hospitals	2016	7237	17.3	25503	61.1	6110	14.6	2868	6.9	41718
		2017	7784	15.7	29609	59.9	7506	15.2	4569	9.2	49468
		2018	7102	14.7	31192	64.7	6884	14.3	3057	6.3	48235
5	50 Bedded Hospitals	2016	13497	17.7	27180	35.6	23889	31.2	11884	15.5	76450
		2017	11944	14.5	30181	36.7	27987	34.0	12116	14.7	82228
		2018	11944	12.7	36160	38.6	31886	34.0	13722	14.6	93712
6	25 Bedded Hospitals	2016	12758	17.7	16947	23.5	34070	47.2	8451	11.7	72226
		2017	11612	15.1	18799	24.4	36481	47.4	10076	13.1	76968
		2018	10583	12.5	23546	27.9	41366	49.0	8873	10.5	84368
7	16 Bedded Hospitals	2016	249	21.0	96	8.1	743	62.6	98	8.3	1186
		2017	0	0.0	0	0.0	10	100.0	0	0.0	10
		2018	0	0.0	0	0.0	633	100.0	0	0.0	633
8	Station Hospitals	2016	21449	15.9	29214	21.6	71909	53.2	12684	9.4	135256
		2017	19785	13.4	34251	23.1	79881	53.9	14236	9.6	148153
		2018	18289	11.2	41546	25.5	87293	53.5	16019	9.8	163147
	UNION	2016	119626	18.5	243480	37.7	223598	34.6	58906	9.1	645610
		2017	119709	17.0	273135	38.8	244125	34.7	67435	9.6	704404
		2018	121127	15.8	306007	39.9	270507	35.3	68573	8.9	766214

Table (8) Number and Percent of Surgical Operations by Regions and States (2016-2018)

Regions and States	Year	Surgical Operations								
		General Anaesthesia		Spinal Anaesthesia		Local Anaesthesia		Others		All operations
		No.	%	No.	%	No.	%	No.	%	Number
Kachin State	2016	3079	15.5	6601	33.2	7862	39.6	2318	11.7	19860
	2017	2787	13.8	7202	35.6	7634	37.7	2621	12.9	20244
	2018	3071	13.6	8372	37.2	8465	37.6	2608	11.6	22516
Kayah State	2016	870	15.8	2278	41.3	1718	31.2	648	11.8	5514
	2017	1041	16.3	2489	39.0	2108	33.1	737	11.6	6375
	2018	913	14.7	2758	44.3	1923	30.9	637	10.2	6231
Kayin State	2016	2495	15.8	4320	27.3	8034	50.8	966	6.1	15815
	2017	1974	11.4	4277	24.8	9318	54.0	1681	9.7	17250
	2018	1574	8.8	5041	28.3	9755	54.7	1458	8.2	17828
Chin State	2016	1347	23.8	2500	44.1	1440	25.4	378	6.7	5665
	2017	1531	20.2	3424	45.1	2099	27.6	543	7.1	7597
	2018	1193	16.7	3246	45.5	2144	30.0	558	7.8	7141
Sagaing Region	2016	11426	19.4	22914	38.8	18547	31.4	6104	10.3	58991
	2017	11173	16.3	26472	38.6	22600	32.9	8374	12.2	68619
	2018	11350	13.9	34978	42.9	25627	31.4	9557	11.7	81512
Tanintharyi Region	2016	2934	19.1	5662	36.9	6082	39.6	684	4.5	15362
	2017	2583	16.3	5891	37.1	6432	40.5	973	6.1	15879
	2018	2197	14.4	5675	37.2	6499	42.6	877	5.8	15248
Bago Region	2016	9524	17.6	21480	39.6	19375	35.7	3853	7.1	54232
	2017	8660	15.9	22794	41.9	18535	34.1	4409	8.1	54398
	2018	7886	13.3	26958	45.4	19786	33.3	4776	8.0	59406
Magway Region	2016	7202	14.7	21698	44.3	16576	33.8	3511	7.2	48987
	2017	7959	14.7	24522	45.3	17232	31.8	4470	8.2	54183
	2018	7610	13.7	25976	46.7	18221	32.7	3842	6.9	55649
Mandalay Region	2016	24117	24.3	36227	36.4	27716	27.9	11351	11.4	99411
	2017	23353	21.6	40061	37.1	32948	30.5	11673	10.8	108035
	2018	23911	20.0	46922	39.2	36633	30.6	12327	10.3	119793
Mon State	2016	2963	14.8	6425	32.0	7617	37.9	3077	15.3	20082
	2017	3105	15.5	7798	39.0	7397	37.0	1710	8.5	20010
	2018	3443	15.2	9280	41.0	8292	36.7	1594	7.1	22609
Rakhine State	2016	2877	15.6	7196	38.9	6692	36.2	1728	9.3	18493
	2017	3088	15.2	9011	44.3	6708	33.0	1519	7.5	20326
	2018	2888	12.5	10850	46.9	7969	34.4	1444	6.2	23151
Yangon Region	2016	28387	19.3	54008	36.7	52829	35.9	11922	8.1	147146
	2017	28535	18.3	58908	37.9	54507	35.0	13649	8.8	155599
	2018	30697	17.9	63558	37.1	62378	36.4	14898	8.7	171531
Shan State (South)	2016	5562	20.1	7546	27.2	10219	36.9	4366	15.8	27693
	2017	6053	19.6	8175	26.4	11846	38.3	4861	15.7	30935
	2018	6047	19.9	7615	25.1	12304	40.5	4415	14.5	30381
Shan State (North)	2016	3278	14.9	7537	34.3	8720	39.7	2410	11.0	21945
	2017	2996	12.8	7546	32.3	10014	42.9	2778	11.9	23334
	2018	3752	13.9	7146	26.5	13547	50.2	2526	9.4	26971
Shan State (East)	2016	456	6.8	2145	32.2	3442	51.6	623	9.3	6666
	2017	478	6.5	2211	30.1	4081	55.6	564	7.7	7334
	2018	552	7.3	2504	33.1	4205	55.5	311	4.1	7572
Ayeyawady Region	2016	9170	15.4	27901	46.9	18306	30.8	4118	6.9	59495
	2017	9405	13.3	33401	47.1	22418	31.6	5639	8.0	70863
	2018	9006	12.4	35266	48.5	23094	31.8	5282	7.3	72648
Nay Pyi Taw	2016	3939	19.4	7042	34.8	8423	41.6	849	4.2	20253
	2017	4988	21.3	8953	38.2	8248	35.2	1234	5.3	23423
	2018	5037	19.4	9862	37.9	9665	37.1	1463	5.6	26027
U N I O N	2016	119626	18.5	243480	37.7	223598	34.6	58906	9.1	645610
	2017	119709	17.0	273135	38.8	244125	34.7	67435	9.6	704404
	2018	121127	15.8	306007	39.9	270507	35.3	68573	8.9	766214

Figure (39) Total Number of Surgical Operation performed at Public Hospitals by Regions and States (2018)

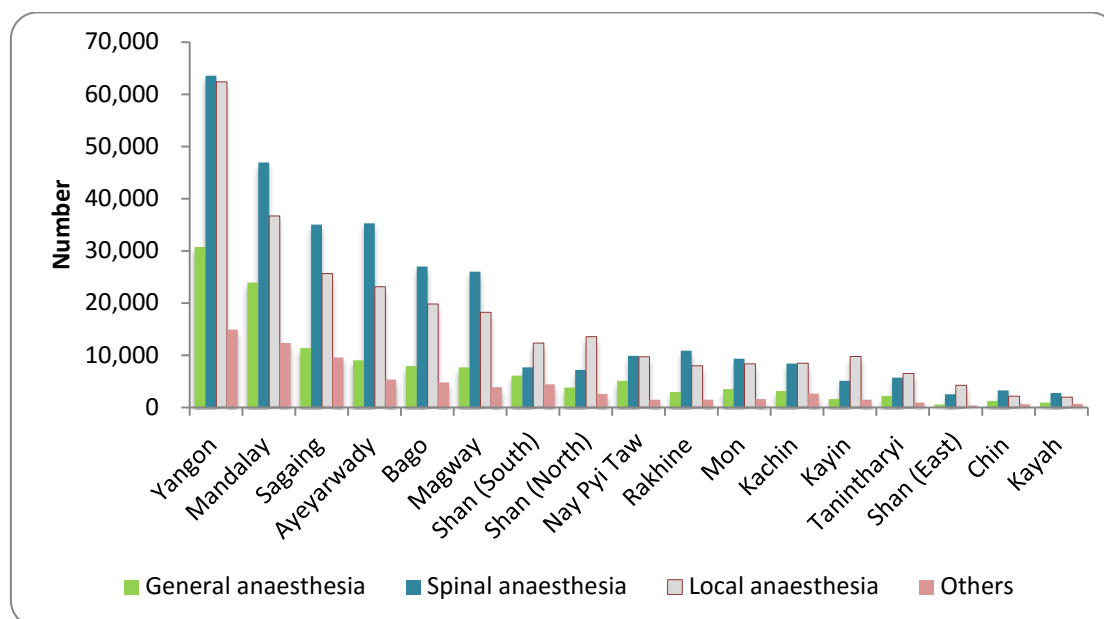
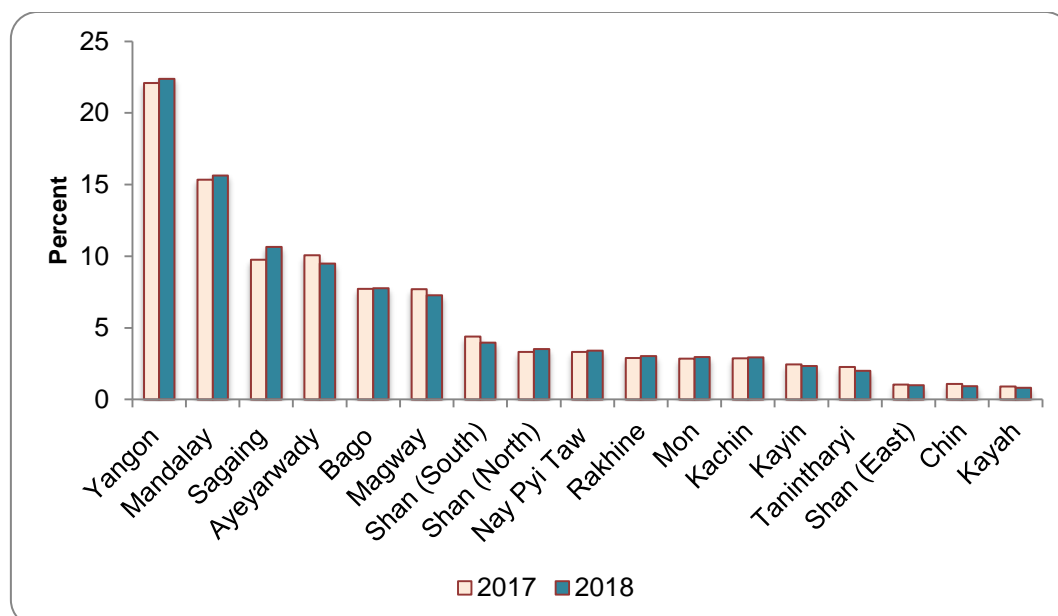
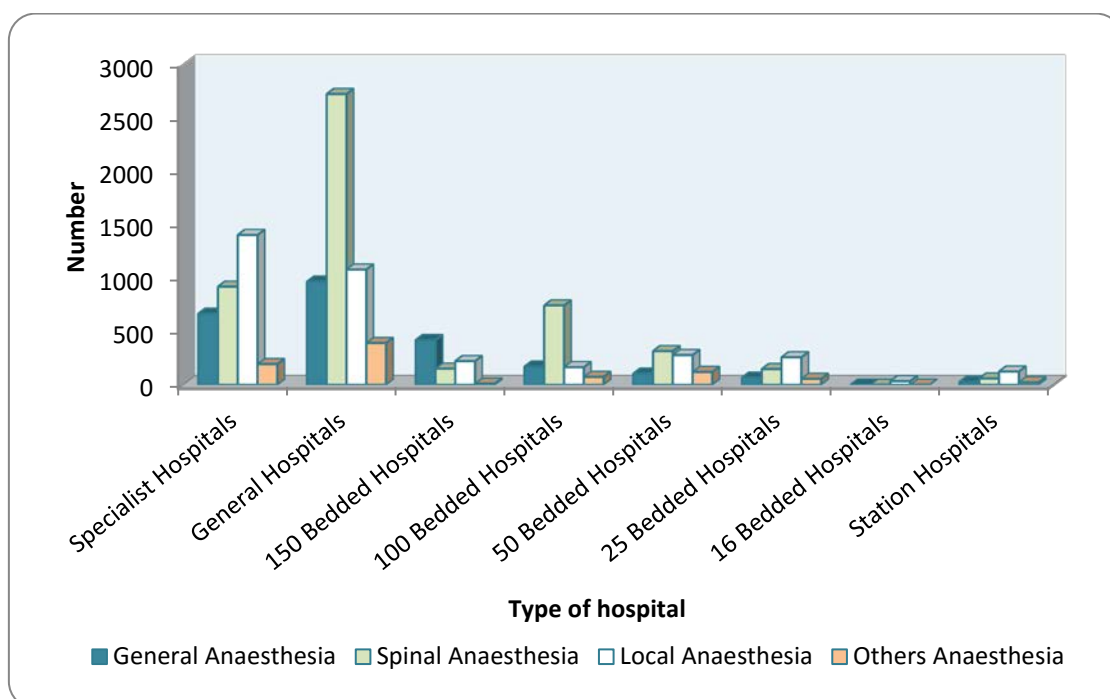


Figure (40) Percent Distribution of Surgical operation Performance by Region and State (2017-2018)



Surgical operations performed under different types of anaesthesia were illustrated by Region and State in the above figures. Public hospitals in Yangon Region were found to have highest level of performance regarding surgical operations which accounted for 22% of all operations performed at public hospitals. The second highest was Mandalay Region. Another four regions: Sagaing, Ayeyarwady, Bago, and Magway had performed more than 5% of total surgical operations. In Shan (East), Chin and Kayah States, 1% of total surgical operations were performed.

Figure (41) Average Number of Surgical Operation in Each Type of Hospitals (2018)



Note: Specialist hospitals which are not performing any surgical operation (eg, mental hospitals) are not excluded from the list of hospitals. Average number of operation by type of anaesthesia in specialist hospitals may be affected by type of specialty.

Figure (42) Percent Distribution of Surgical operation Performance by Type of Hospitals (2017-2018)

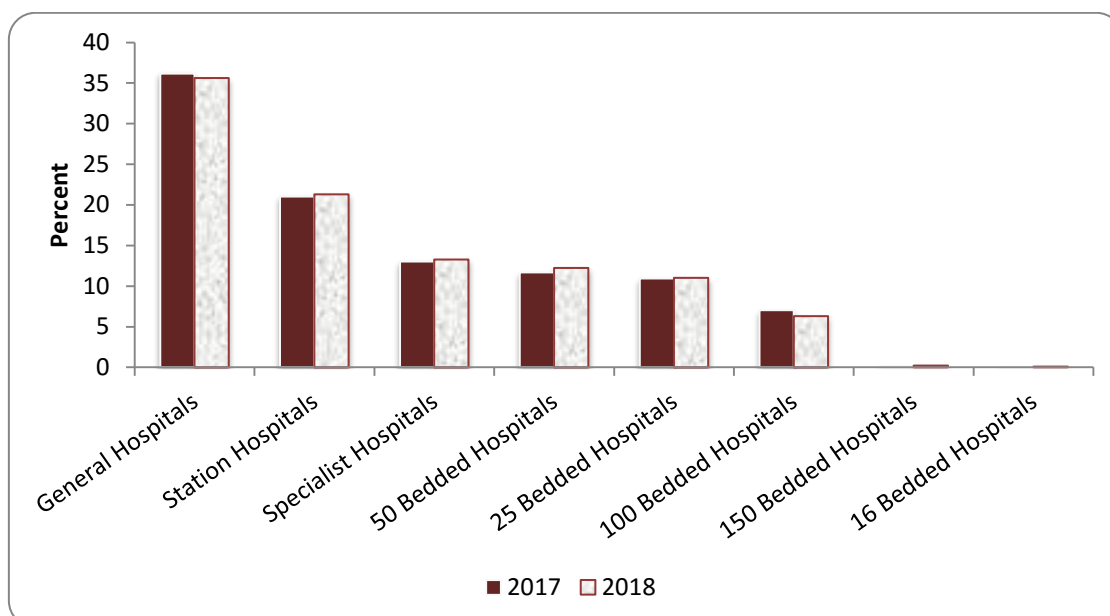


Figure (41 and 42) provides information on surgical operation performance at each type of public hospitals. Various types of surgical operation are mostly performed at general hospitals and surgical operations performed under spinal anaesthesia are the highest.

Figure (43) Distributions of Deliveries by Regions and States (2018)

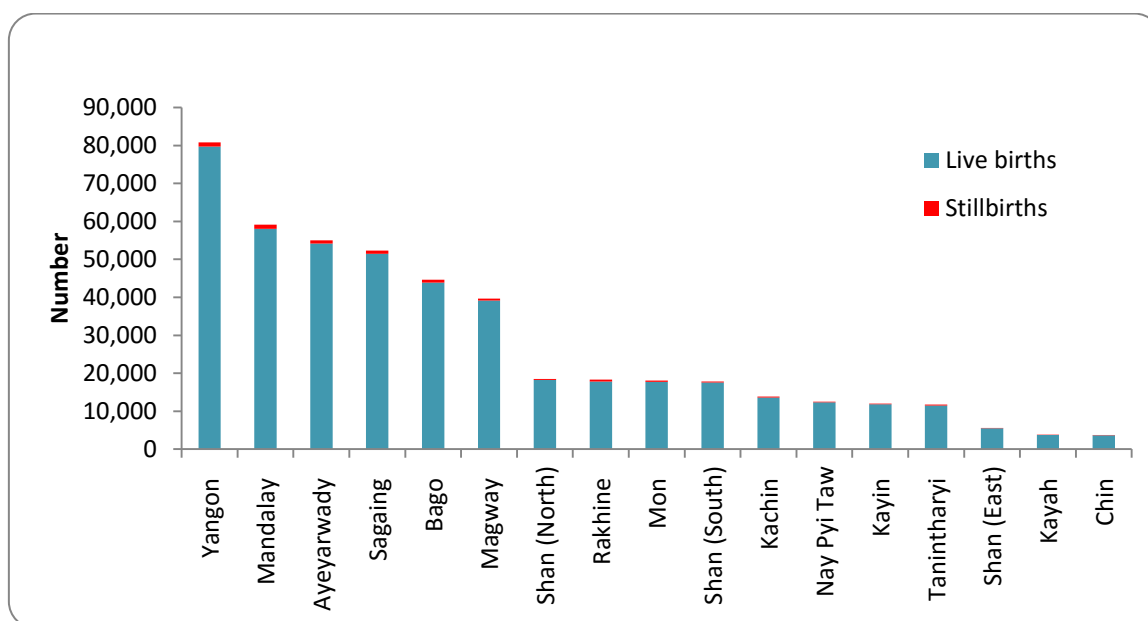
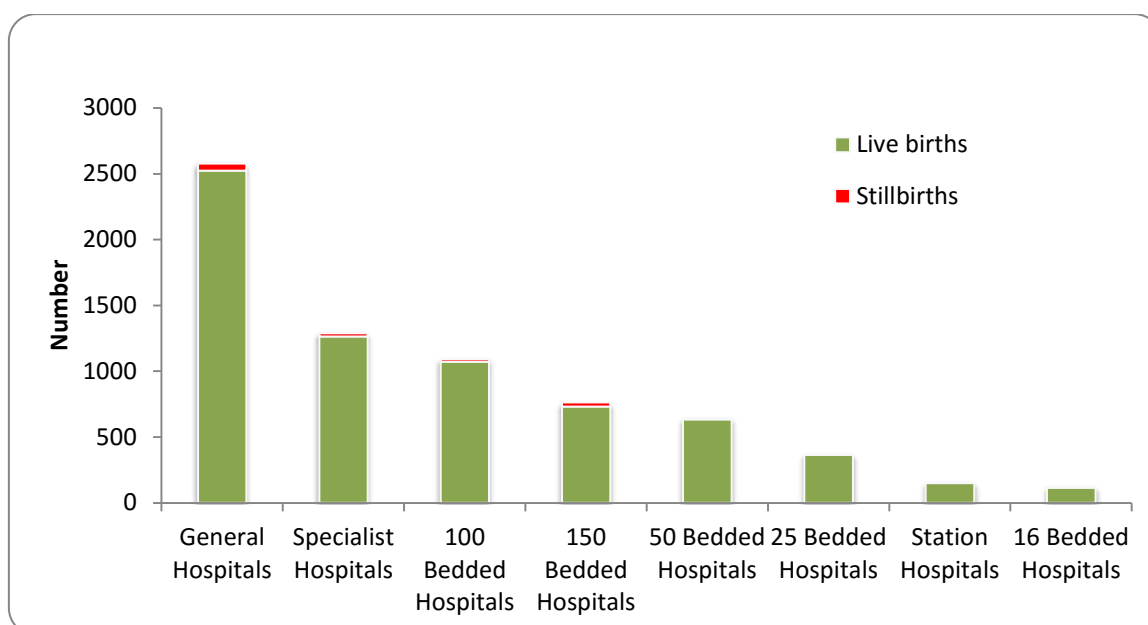


Figure (43) shows utilization of hospital services for deliveries. It was found that hospital deliveries were the highest in Yangon, followed by Mandalay, Ayeyarwady and Sagaing Regions. Kayah and Chin States had the lowest hospital deliveries.

Figure (44) Average No. of Live births and Stillbirths by type of Hospitals (2018)



Note: The average number of deliveries in specialist hospitals may be affected by its type of specialty.

Distribution of average number of live births and stillbirths in each type of hospitals during 2018 was described in Figure (44). Average numbers of live births and stillbirths in general hospital are the highest.

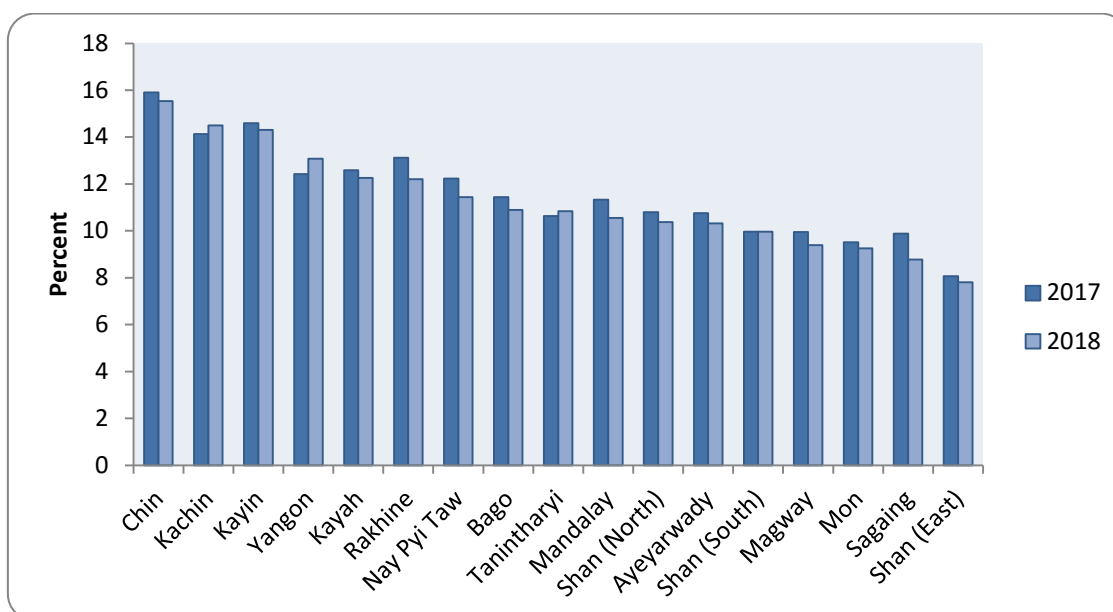
**Table (9) Numbers and Percent of Deliveries, Live births, Stillbirths and Abortions by
Types of Hospital (2016-2018)**

Sr.	Types of Hospital	Year	Deliveries	Live births	Live births as percent of deliveries	Stillbirths	Stillbirths as percent of deliveries	Abortion	Abortion Rate
1	Specialist Hospitals	2016	36987	36253	98.0	734	2.0	4841	11.6
		2017	42127	41288	98.0	839	2.0	5434	11.4
		2018	41233	40454	98.1	779	1.9	5466	11.7
2	General Hospitals with Specialist Services	2016	119244	116530	98.0	2714	2.3	15389	11.4
		2017	134005	131174	97.9	2831	2.1	16464	10.9
		2018	136611	133803	97.9	2808	2.1	17714	11.5
3	150 Bedded Hospitals	2016	761	740	97.0	21	2.8	101	11.7
		2017	728	723	99.3	5	0.7	76	9.5
		2018	1525	1463	95.9	62	4.1	226	12.9
4	100 Bedded Hospitals	2016	39598	38793	98.0	805	2.0	5204	11.6
		2017	44301	43535	98.3	766	1.7	5505	11.1
		2018	45857	45056	98.3	801	1.7	5374	10.5
5	50 Bedded Hospitals	2016	59894	58738	98.0	1156	1.9	7993	11.8
		2017	69018	67897	98.4	1121	1.6	8246	10.7
		2018	73885	72790	98.5	1095	1.5	8240	10.0
6	25 Bedded Hospitals	2016	48884	48251	99.0	633	1.3	7261	12.9
		2017	55682	54903	98.6	779	1.4	7360	11.7
		2018	59448	58750	98.8	698	1.2	7130	10.7
7	16 Bedded Hospitals	2016	2802	2800	100.0	2	0.1	436	13.5
		2017	2206	2201	99.8	5	0.2	315	12.5
		2018	2204	2199	99.8	5	0.2	298	11.9
8	Station Hospitals	2016	83033	81935	99.0	1098	1.3	13080	13.6
		2017	94991	93784	98.7	1207	1.3	13090	12.1
		2018	106797	105520	98.8	1277	1.2	13206	11.0
	Union	2016	391203	384040	98.0	7163	1.8	54305	12.2
		2017	443058	435505	98.3	7553	1.7	56490	11.3
		2018	467560	460035	98.4	7525	1.6	57654	11.0

Table (10) Number and Percent of Deliveries, Live births, Stillbirths and Abortions by Regions & States (2016-2018)

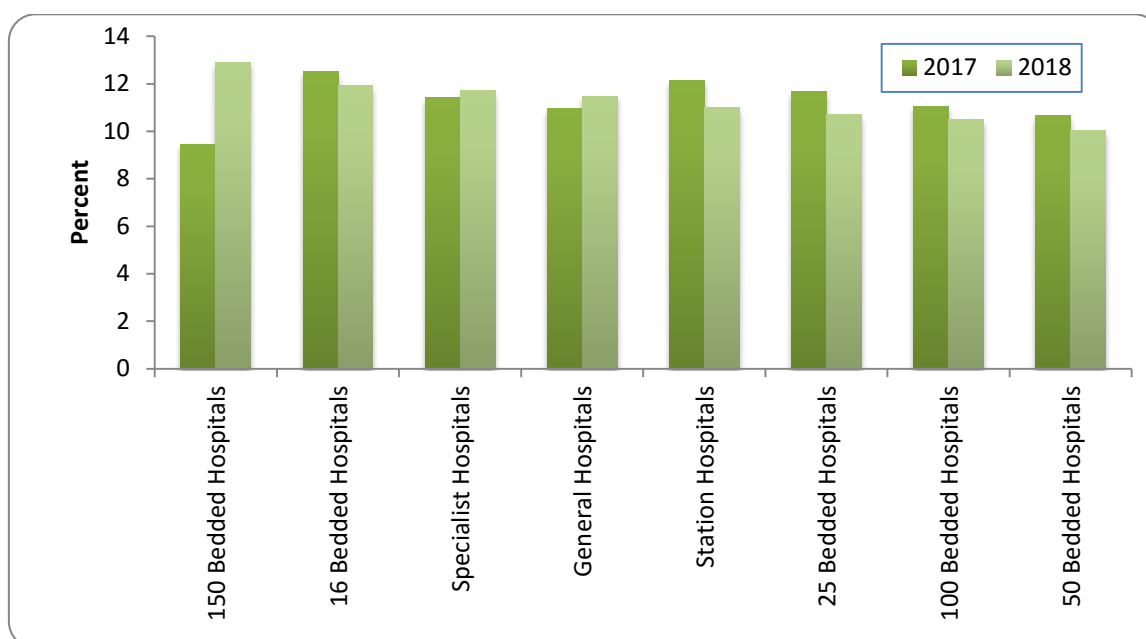
Sr. No.	Regions and States	Year	Deliveries	Live births	%of deliveries	Stillbirths	%of deliveries	Abortions	Abortion Rate
1	Kachin State	2016	12120	11892	98.1	228	1.9	2147	15.0
		2017	13005	12763	98.1	242	1.9	2140	14.1
		2018	13881	13640	98.3	241	1.7	2353	14.5
2	Kayah State	2016	3379	3331	98.6	48	1.4	561	14.2
		2017	3848	3803	98.8	45	1.2	554	12.6
		2018	3795	3708	97.7	87	2.3	530	12.3
3	Kayin State	2016	10142	9971	98.3	171	1.7	1871	15.6
		2017	11004	10829	98.4	175	1.6	1880	14.6
		2018	12003	11835	98.6	168	1.4	2003	14.3
4	Chin State	2016	2941	2868	97.5	73	2.5	511	14.8
		2017	3584	3484	97.2	100	2.8	678	15.9
		2018	3729	3654	98.0	75	2.0	686	15.5
5	Sagaing Region	2016	41498	40911	98.6	587	1.4	4629	10.0
		2017	47790	47142	98.6	648	1.4	5240	9.9
		2018	52308	51503	98.5	805	1.5	5031	8.8
6	Tanintharyi Region	2016	9855	9670	98.1	185	1.9	1264	11.4
		2017	11528	11286	97.9	242	2.1	1371	10.6
		2018	11720	11482	98.0	238	2.0	1425	10.8
7	Bago Region	2016	36967	36184	97.9	783	2.1	5270	12.5
		2017	40775	40091	98.3	684	1.7	5266	11.4
		2018	44633	43911	98.4	722	1.6	5456	10.9
8	Magway Region	2016	33946	33384	98.3	562	1.7	3953	10.4
		2017	39081	38441	98.4	640	1.6	4318	9.9
		2018	39700	39165	98.7	535	1.3	4113	9.4
9	Mandalay Region	2016	47115	46193	98.0	922	2.0	6372	11.9
		2017	54057	53139	98.3	918	1.7	6908	11.3
		2018	59119	58092	98.3	1027	1.7	6972	10.5
10	Mon State	2016	13535	13300	98.3	235	1.7	1437	9.6
		2017	16456	16201	98.5	255	1.5	1730	9.5
		2018	18032	17757	98.5	275	1.5	1838	9.3
11	Rakhine State	2016	14416	13950	96.8	466	3.2	2612	15.3
		2017	16357	15852	96.9	505	3.1	2469	13.1
		2018	18323	17825	97.3	498	2.7	2546	12.2
12	Yangon Region	2016	74332	73113	98.4	1219	1.6	11779	13.7
		2017	80764	79502	98.4	1262	1.6	11449	12.4
		2018	80841	79740	98.6	1101	1.4	12164	13.1
15	Shan State (South)	2016	16231	15921	98.1	310	1.9	2272	12.3
		2017	18396	17993	97.8	403	2.2	2035	10.0
		2018	17837	17530	98.3	307	1.7	1975	10.0
14	Shan State (North)	2016	17013	16679	98.0	334	2.0	2403	12.4
		2017	17656	17396	98.5	260	1.5	2137	10.8
		2018	18531	18228	98.4	303	1.6	2146	10.4
13	Shan State (East)	2016	4577	4504	98.4	73	1.6	451	9.0
		2017	5196	5105	98.2	91	1.8	456	8.1
		2018	5589	5491	98.2	98	1.8	473	7.8
16	Ayeyarwady Region	2016	43849	43029	98.1	820	1.9	5560	11.3
		2017	52962	52036	98.3	926	1.7	6382	10.8
		2018	55010	54153	98.4	857	1.6	6327	10.3
17	Nay Pyi Taw	2016	9287	9140	98.4	147	1.6	1213	11.6
		2017	10599	10442	98.5	157	1.5	1477	12.2
		2018	12509	12321	98.5	188	1.5	1616	11.4
	UNION	2016	391203	384040	98.2	7163	1.8	54305	12.2
		2017	443058	435505	98.3	7553	1.7	56490	11.3
		2018	467560	460035	98.4	7525	1.6	57654	11.0

Figure (45) Abortion Rate by Region and State (2017-2018)



Abortion rate as percentage of total deliveries and abortion cases during 2017-2018 are described in Figure (45). Chin State has the highest abortion rate during 2017 and 2018.

Figure (46) Abortion Rate by Type of Hospitals (2017-2018)



As shown in Figure (46), abortion cases are highest among hospital delivery cases at 16 bedded hospitals in 2017 and 150 bedded hospitals in 2018.

SECTION II

MORBIDITY AND MORTALITY STATISTICS

(A) INPATIENT MORBIDITY AND MORTALITY PATTERNS OF HOSPITALS

This section includes morbidity and mortality pattern among all inpatients in public hospitals during 2017-18. In some graphical presentation, causes of morbidity and mortality among all inpatients were described chapter-wise as classified in ICD-10 (International Statistical classification of Diseases and Related Health Problems-Version 10). All data were compiled and analyzed with single condition morbidity analysis according to Rules and Guidelines for morbidity and mortality coding (ICD-10, WHO).

Figure (47-1) Proportional Morbidity of all Cases of Hospitalization (2017)

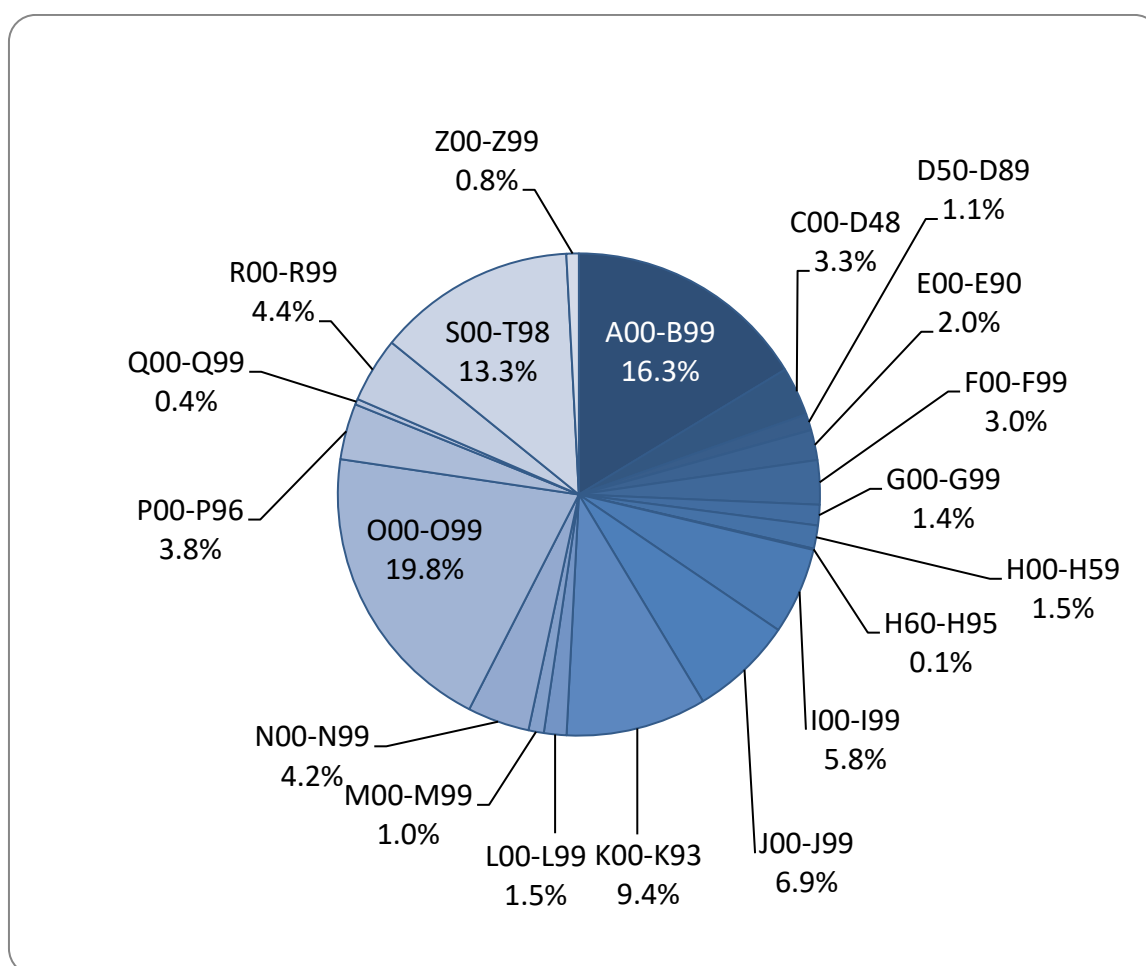
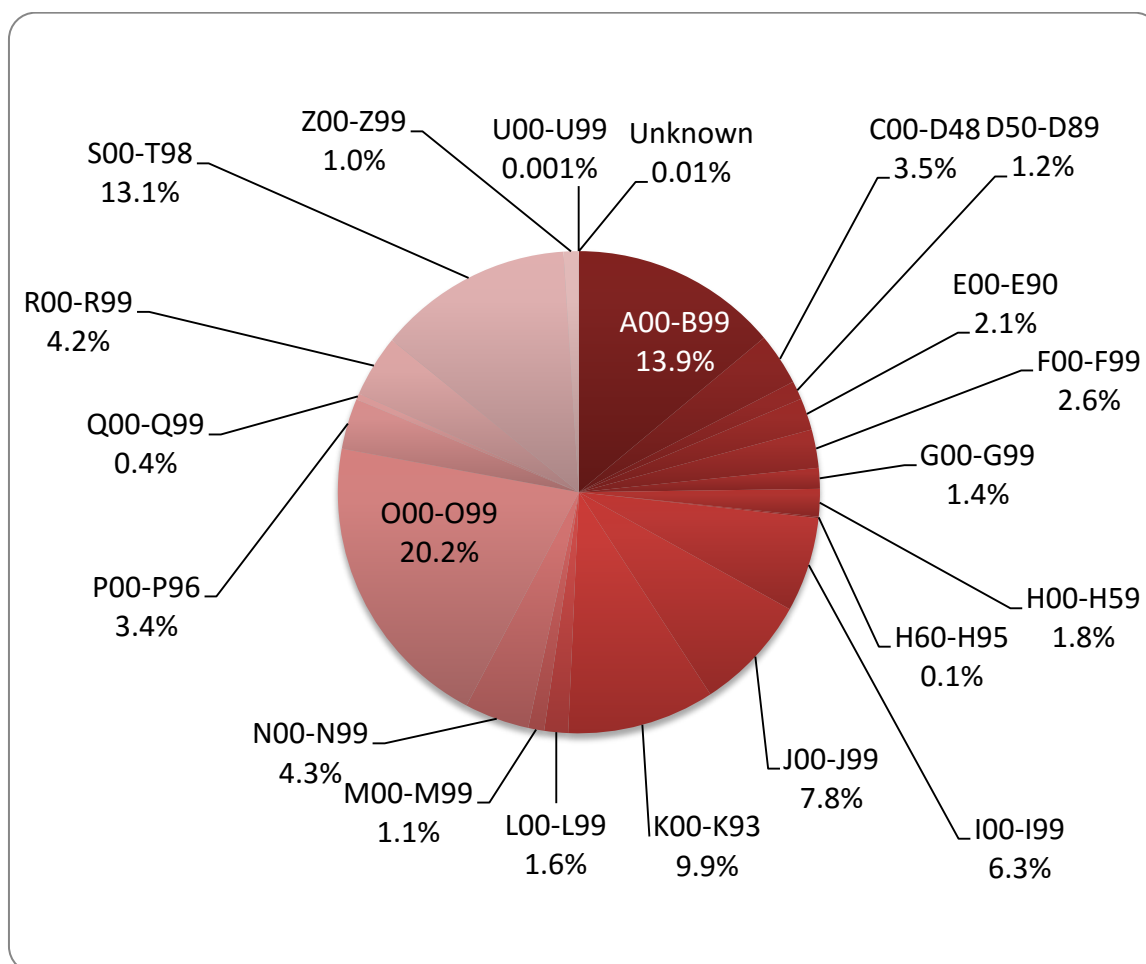


Figure (47-2) Proportional Morbidity of all Cases of Hospitalization (2018)



Note for Figures (47-1 to 47-2):

1. All morbidity data are grouped by Chapters classified as in ICD-10 e.g, A00-B99 is 'Certain infectious and parasitic diseases'. All description for all chapters are shown in Annex 2
2. Because of resource limitation, the codes for types of delivery are taken as main condition and included under the group (O00- O99).

Causes of hospitalization for all inpatients are illustrated in Figure (47-1) to (47-2) conditions relating to pregnancy, child births and puerperium (O00 to O99), Certain infectious and parasitic diseases (A00-B99), injuries, poisoning and certain other consequences of external causes(S00-T98), are found as three leading causes of hospitalization in 2017 and 2018.

Estimated proportions of non-communicable diseases among all hospitalized patients during 2017-18 are described in Figure (48-1) to (48-2).

Figure (48-1) Proportional morbidity and estimated proportion of Non-Communicable Diseases (2017)

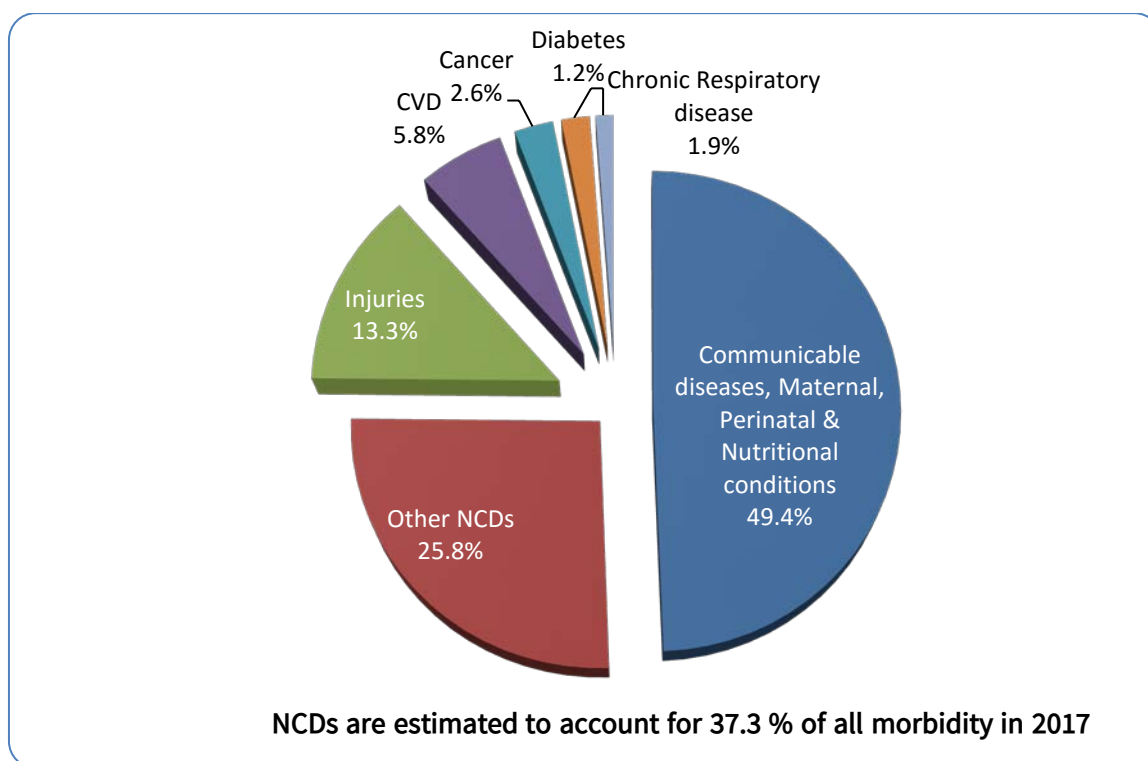


Figure (48-2) Proportional morbidity and estimated proportion of Non-Communicable Diseases (2018)

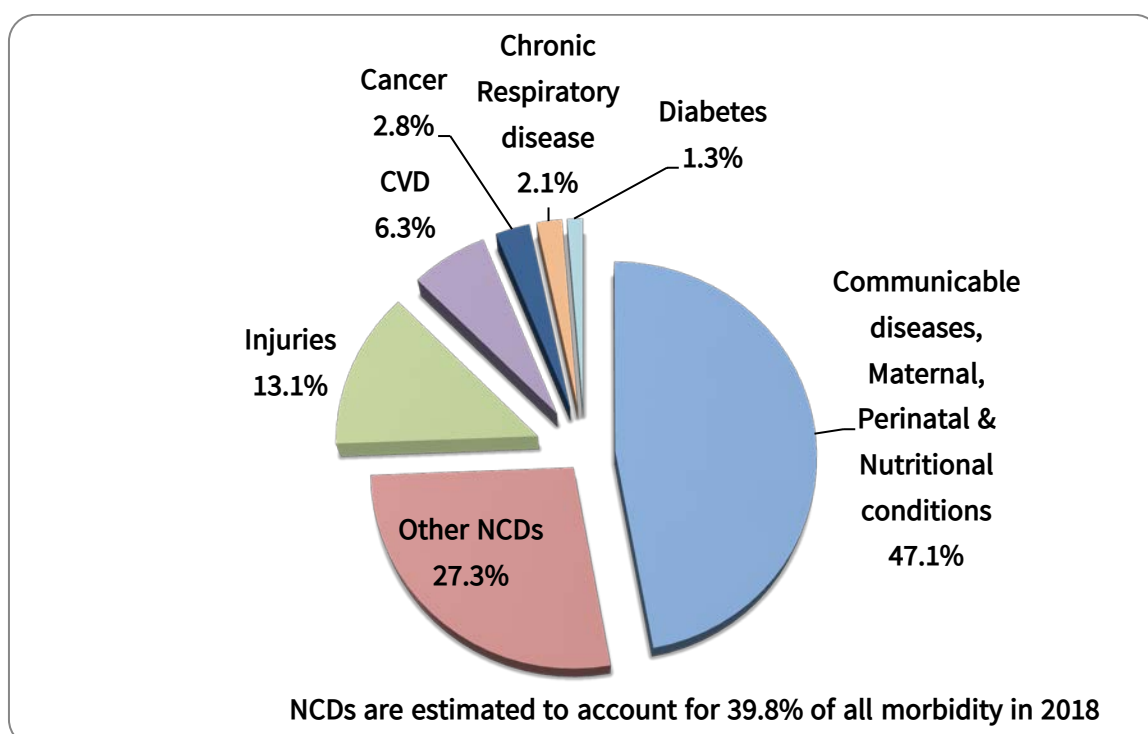
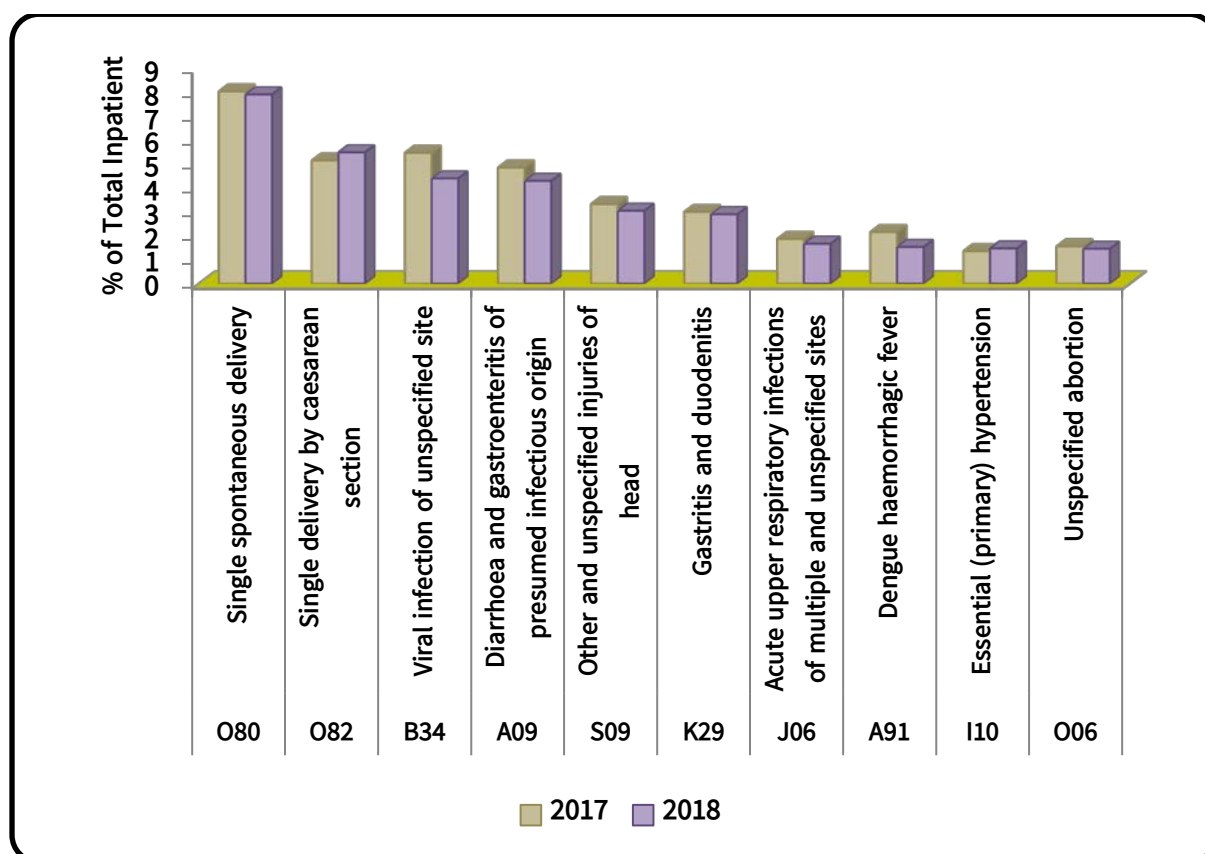


Figure (49) Proportion of Leading causes of Hospitalization among all inpatients (2017-2018)



Ten leading causes of hospitalization during 2018 are described in percentage of total inpatients compared with those in 2017. Single spontaneous delivery, single delivery by caesarean section and viral infection of unspecified sites were three leading causes in 2017 and 2018. Diarrhoea and gastroenteritis of presumed infectious infections were fourth leading and head injury was fifth leading among hospitalized cases.

Proportional mortality and the estimated proportion of Non-communicable diseases among all cases of mortality during 2017-2018 are described in Figure (50-1) and (50-2). Disease of cardiovascular system was the top leading causes of mortality in both 2017 and 2018; 20 % and 19.5% respectively. Certain Infectious and parasitic diseases were second leading in 2017 (14 %) and in 2018 both certain infectious and parasitic diseases and certain conditions originating in the perinatal period were 13.3 % each and take second leading of mortality. Injury, poisoning and certain other external causes were third leading (13.4%) and certain conditions originating in the perinatal period was in fourth position (13.3%) in 2017.

Figure (50-1) Proportional Mortality among all inpatient deaths (2017)

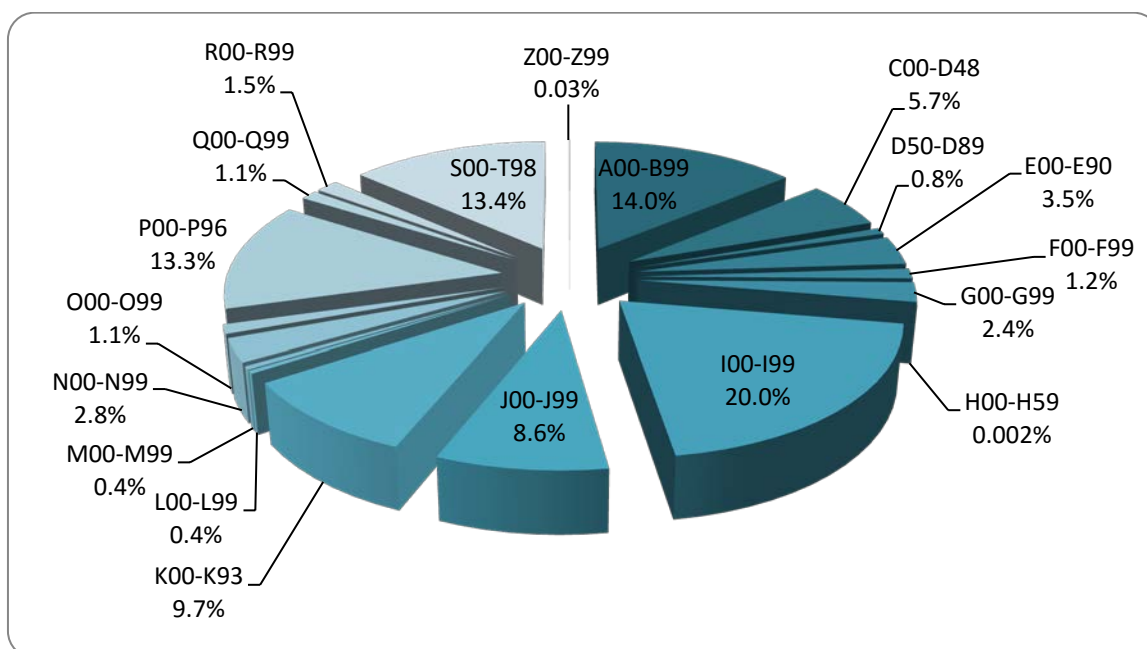
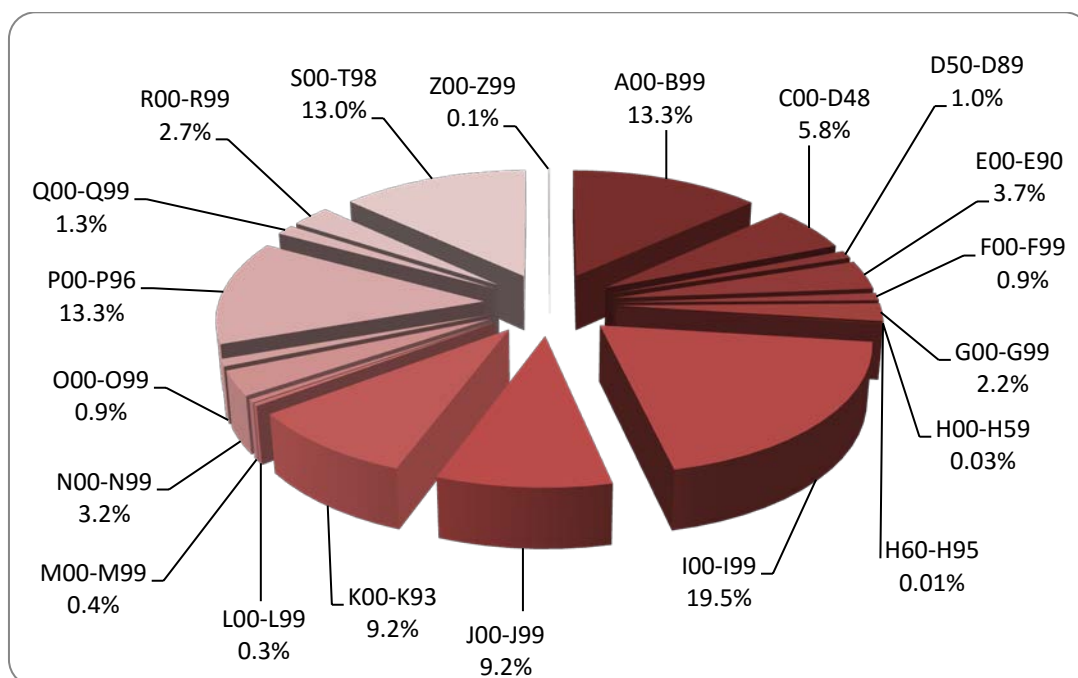


Figure (50-2) Proportional Mortality among all inpatient deaths (2018)



Note for Figure (50-1 to 50-2): All mortality are grouped by Chapters classified as in ICD-10 e.g, A00-B99 is 'Certain infectious and parasitic diseases'. All description for all chapters are shown in Annex 2.

Figure (51-1) Proportional mortality and estimated proportion of Non-communicable diseases (2017)

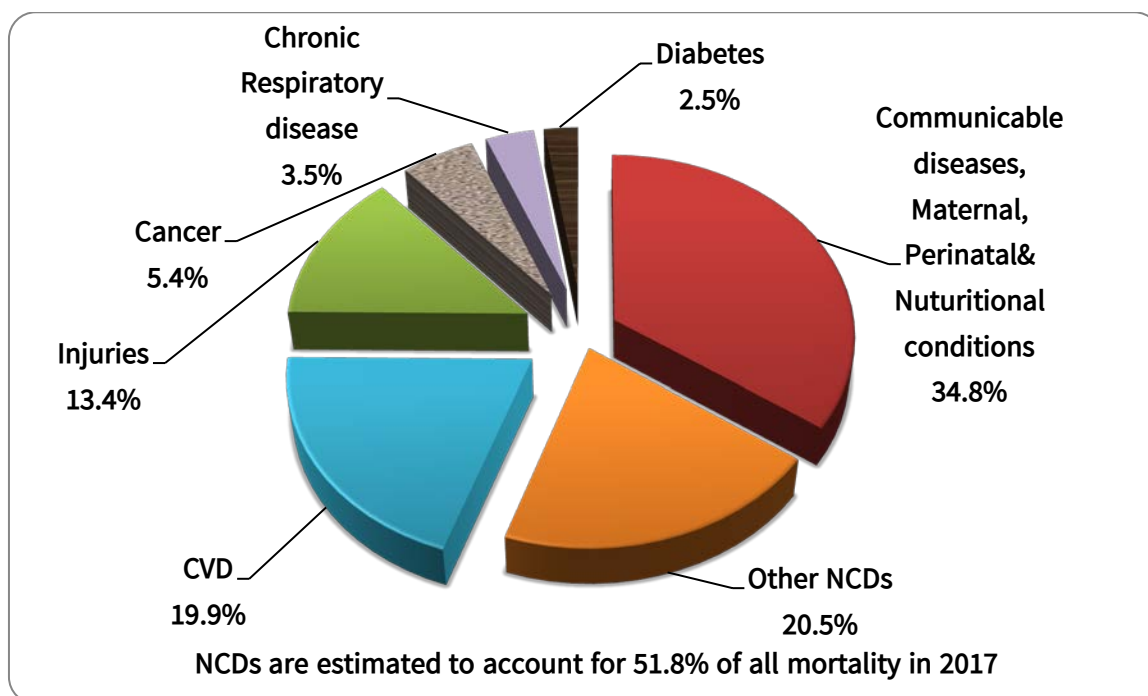


Figure (51-2) Proportional mortality and estimated proportion of Non-communicable diseases (2018)

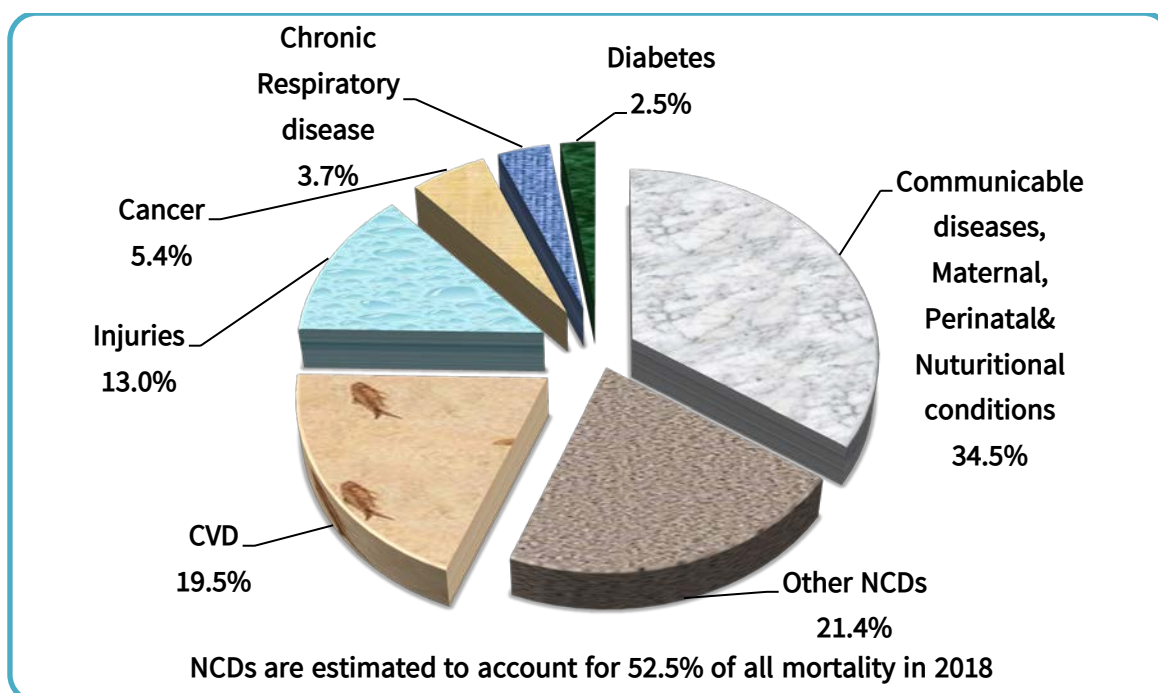
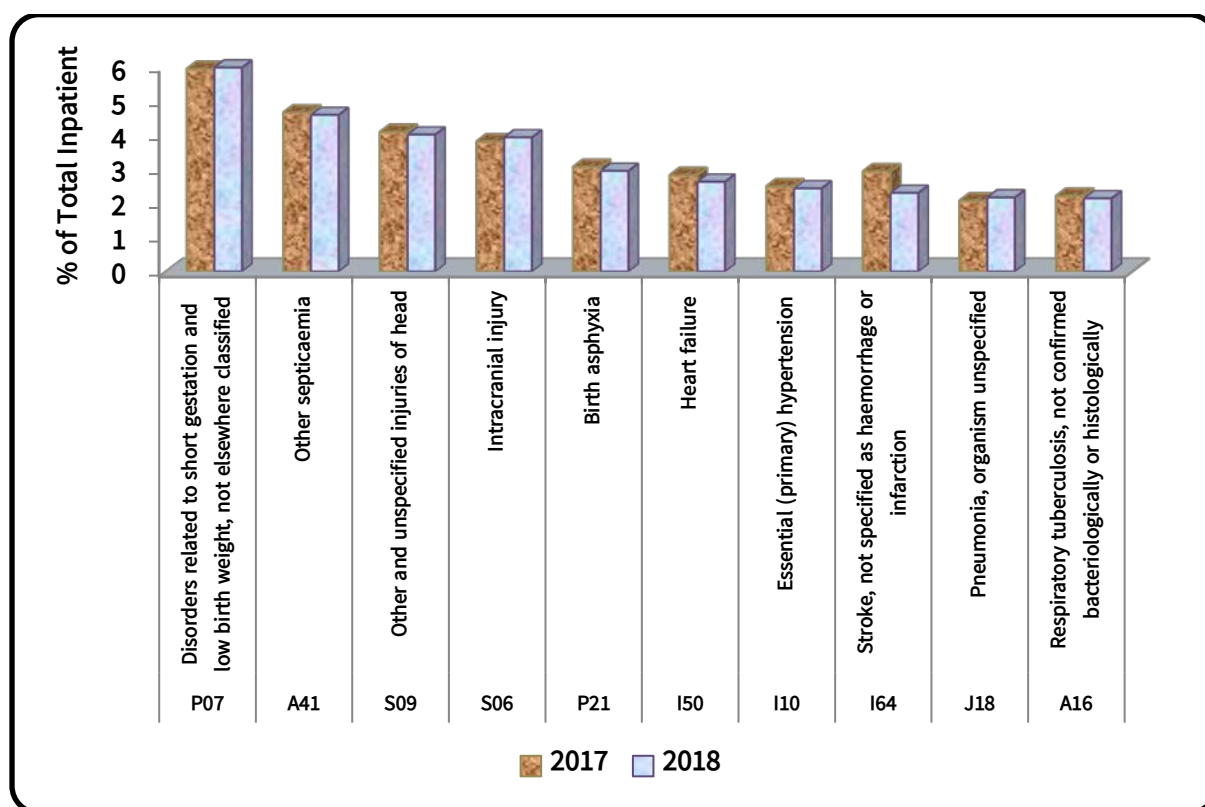


Figure (52) Proportion of Leading causes among all Mortality cases (2017-18)



Leading causes of mortality were described in Figure (52) as percentage of total inpatient deaths and sorted by ten leading causes of mortality in 2017 and 2018. Disorders related to short gestation and low birth weight was found the highest in both 2017 and 2018. Other septicemia was second leading and need to verify causes of septicemia. Good medical record documentation as well as report form should also be modified because underlying cause of death is not included in paper based hospital monthly report. Training on record documentation of quality of certification of cause of death was given and international death certificate format is also put in electronic hospital report system using District Health Information Software version 2 (DHIS2).

**Table (11-1) Single Leading Causes of Morbidity by Sex & Duration of Stay for Union
(2017)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	235265	14.3	235265	8.1	3.5
2	B34	Viral infection of unspecified site	80731	6.4	79422	4.8	160153	5.5	3.5
3	O82	Single delivery by caesarean section	0	0.0	150777	9.2	150777	5.2	6.9
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	73260	5.8	68800	4.2	142060	4.9	3.4
5	S09	Other and unspecified injuries of head	69232	5.5	28148	1.7	97380	3.3	2.9
6	K29	Gastritis and duodenitis	41930	3.3	45867	2.8	87797	3.0	3.6
7	A91	Dengue haemorrhagic fever	30925	2.4	32310	2.0	63235	2.2	3.6
8	J06	Acute upper respiratory infections of multiple and unspecified sites	30731	2.4	23964	1.5	54695	1.9	4.5
9	O06	Unspecified abortion	0	0.0	45691	2.8	45691	1.6	2.9
10	F10	Mental and behavioural disorders due to use of alcohol	43533	3.4	1286	0.1	44819	1.5	5.1
11	P59	Neonatal jaundice from other and unspecified causes	22209	1.8	19539	1.2	41748	1.4	3.8
12	I10	Essential (primary) hypertension	15754	1.2	24101	1.5	39855	1.4	3.6
13	J18	Pneumonia, organism unspecified	18982	1.5	15355	0.9	34337	1.2	4.9
14	T14	Injury of unspecified body region	20872	1.7	13385	0.8	34257	1.2	3.0
15	O81	Single delivery by forceps and vacuum extractor	0	0.0	33355	2.0	33355	1.1	4.1
	...	All other causes	816644	64.6	825828	50.3	1642472	56.5	7
		Total	1264803	100	1643093	100	2907896	100	5.0

(*)Based on International Statistical Classification of Diseases and Related Health Problems (ICD-10) coding, the condition to be used for single-condition morbidity analysis is the main condition treated or investigated during the relevant episode of health care. Therefore, single spontaneous delivery is coded and presented as one of the causes of morbidity.

**Table (11-2) Single Leading Causes of Morbidity by Sex & Duration of Stay for Union
(2018)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	234713	14.0	234713	7.9	3.4
2	O82	Single delivery by caesarean section	0	0.0	162893	9.7	162893	5.5	6.7
3	B34	Viral infection of unspecified site	67071	5.2	63446	3.8	130517	4.4	3.6
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	65629	5.1	61864	3.7	127493	4.3	3.4
5	S09	Other and unspecified injuries of head	64566	5.0	25880	1.5	90446	3.0	2.8
6	K29	Gastritis and duodenitis	41598	3.2	44546	2.7	86144	2.9	3.6
7	J06	Acute upper respiratory infections of multiple and unspecified sites	28137	2.2	21369	1.3	49506	1.7	4.5
8	A91	Dengue haemorrhagic fever	22729	1.8	22851	1.4	45580	1.5	3.7
9	I10	Essential (primary) hypertension	18118	1.4	25583	1.5	43701	1.5	3.6
10	O06	Unspecified abortion	0	0.0	43267	2.6	43267	1.5	2.8
11	J22	Unspecified acute lower respiratory infection	21157	1.6	21588	1.3	42745	1.4	4.8
12	H26	Other cataract	16099	1.3	25832	1.5	41931	1.4	2.4
13	J18	Pneumonia, organism unspecified	23091	1.8	18096	1.1	41187	1.4	4.8
14	F10	Mental and behavioural disorders due to use of alcohol	38985	3.0	1161	0.1	40146	1.4	4.6
15	K35	Acute appendicitis	14922	1.2	18812	1.1	33734	1.1	5.1
	...	All other causes	865842	67.2	886589	52.8	1752431	59.1	6.4
		Total	1287944	100	1678490	100	2966434	100	4.9

(*)Based on International Statistical Classification of Diseases and Related Health Problems (ICD-10) coding, the condition to be used for single-condition morbidity analysis is the main condition treated or investigated during the relevant episode of health care. Therefore, single spontaneous delivery is coded and presented as one of the causes of morbidity.

Table (12-1) Single Leading Causes of Mortality by Sex for Union (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1274	4.8	1297	7.9	2571	6.0	6.0
2	A41	Other septicaemia	1104	4.2	913	5.6	2017	4.7	5.0
3	S09	Other and unspecified injuries of head	1439	5.5	333	2.0	1772	4.1	2.3
4	S06	Intracranial injury	1352	5.1	298	1.8	1650	3.9	3.0
5	P21	Birth asphyxia	709	2.7	618	3.8	1327	3.1	1.8
6	I64	Stroke, not specified as haemorrhage or infarction	839	3.2	431	2.6	1270	3.0	3.1
7	I50	Heart failure	552	2.1	670	4.1	1222	2.9	4.1
8	K74	Fibrosis and cirrhosis of liver	987	3.7	185	1.1	1172	2.7	5.1
9	I10	Essential (primary) hypertension	661	2.5	419	2.5	1080	2.5	3.4
10	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	701	2.7	260	1.6	961	2.2	6.1
11	I61	Intracerebral haemorrhage	666	2.5	277	1.7	943	2.2	2.9
12	B20	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	634	2.4	304	1.8	938	2.2	9.8
13	J18	Pneumonia, organism unspecified	446	1.7	453	2.8	899	2.1	3.7
14	E14	Unspecified diabetes mellitus	320	1.2	509	3.1	829	1.9	4.7
15	K70	Alcoholic liver disease	735	2.8	23	0.1	758	1.8	4.6
	...	All other causes	13971	52.9	9459	57.5	23430	54.7	6.8
		Total	26390	100	16449	100	42839	100	4.8

Table (12-2) Single Leading Causes of Mortality by Sex for Union (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1501	5.5	1134	6.7	2635	6.0	5.3
2	A41	Other septicaemia	1191	4.4	831	4.9	2022	4.6	4.8
3	S09	Other and unspecified injuries of head	1381	5.1	387	2.3	1768	4.0	2.1
4	S06	Intracranial injury	1360	5.0	372	2.2	1732	3.9	2.6
5	P21	Birth asphyxia	700	2.6	597	3.5	1297	2.9	1.9
6	I50	Heart failure	561	2.1	596	3.5	1157	2.6	4.0
7	I10	Essential (primary) hypertension	638	2.4	435	2.6	1073	2.4	3.4
8	I64	Stroke, not specified as haemorrhage or infarction	592	2.2	423	2.5	1015	2.3	3.3
9	J18	Pneumonia, organism unspecified	531	2.0	424	2.5	955	2.2	3.3
10	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	675	2.5	269	1.6	944	2.1	6.6
11	I61	Intracerebral haemorrhage	681	2.5	244	1.4	925	2.1	2.9
12	K70	Alcoholic liver disease	855	3.2	53	0.3	908	2.1	4.9
13	E14	Unspecified diabetes mellitus	293	1.1	497	2.9	790	1.8	5.1
14	I21	Acute myocardial infarction	380	1.4	302	1.8	682	1.5	2.7
15	J44	Other chronic obstructive pulmonary disease	331	1.2	336	2.0	667	1.5	5.9
	...	All other causes	15397	56.9	10108	59.4	25505	57.9	6.6
		Total	27067	100	17008	100	44075	100	4.9

Table (13) Single Leading causes of Morbidity for Union (2014-2018)

Sr. No.	ICD-10 Code	Description	2014		2015		2016		2017		2018	
			Number	%	Number	%	Number	%	Number	%	Number	%
1	O80	Single spontaneous delivery	137274	6.6	178703	7.0	203757	7.4	235265	8.1	234713	7.9
2	O82	Single delivery by caesarean section	102501	4.9	121064	4.7	133068	4.8	150777	5.2	162893	5.5
3	B34	Viral infection of unspecified site	83772	4.0	132030	5.2	135016	4.9	160153	5.5	130517	4.4
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	117656	5.6	152528	6.0	144052	5.2	142060	4.9	127493	4.3
5	S09	Other and unspecified injuries of head	87586	4.2	97449	3.8	98810	3.6	97380	3.3	90446	3.0
6	K29	Gastritis and duodenitis	59036	2.8	74992	2.9	81854	3.0	87797	3.0	86144	2.9
7	J06	Acute upper respiratory infections of multiple and unspecified sites	40334	1.9	40701	1.6	64050	2.3	54695	1.9	49506	1.7
8	A91	Dengue haemorrhagic fever	30547	1.5	86670	3.4	19514	0.7	63235	2.2	45580	1.5
9	I10	Essential (primary) hypertension	25886	1.2	33144	1.3	36970	1.3	39855	1.4	43701	1.5
10	O06	Unspecified abortion	38406	1.8	42630	1.7	44308	1.6	45691	1.6	43267	1.5
11	J22	Unspecified acute lower respiratory infection	18388	0.9	22909	0.9	28723	1.0	32979	1.1	42745	1.4
12	H26	Other cataract	40280	1.9	44778	1.8	35046	1.3	30258	1.0	41931	1.4
13	J18	Pneumonia, organism unspecified	38470	1.8	34654	1.4	48479	1.8	34337	1.2	41187	1.4
14	F10	Mental and behavioural disorders due to use of alcohol	30136	1.4	37124	1.5	42623	1.6	44819	1.5	40146	1.4
15	K35	Acute appendicitis	22693	1.1	25793	1.0	28902	1.1	32295	1.1	33734	1.1
	...	All Other Causes	1211787	58.1	1424899	55.9	1600270	58.3	1656300	57.2	1752431	59.1
		Total	2084752	100	2550068	100	2745442	100	2907896	100	2966434	100

(*)Based on International Statistical Classification of Diseases and Related Health Problems (ICD-10) coding, the condition to be used for single-condition morbidity analysis is the main condition treated or investigated during the relevant episode of health care. Therefore, single spontaneous delivery is coded and presented as one of the causes of morbidity

Table (14) Single Leading causes of Mortality for Union (2014-2018)

Sr. No.	ICD-10 Code	Description	2014		2015		2016		2017		2018	
			Number	%	Number	%	Number	%	Number	%	Number	%
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1752	5.0	1980	5.1	2258	5.4	2571	5.9	2635	6.0
2	A41	Other septicaemia	2622	7.4	3077	8.0	2767	6.6	2017	4.7	2022	4.6
3	S09	Other and unspecified injuries of head	1811	5.1	2115	5.5	2112	5.1	1772	4.1	1768	4.0
4	S06	Intracranial injury	822	2.3	1057	2.7	1403	3.4	1650	3.9	1732	3.9
5	P21	Birth asphyxia	1038	2.9	1158	3.0	1169	2.8	1327	3.1	1297	2.9
6	I50	Heart failure	1054	3.0	1304	3.4	1449	3.5	1222	2.9	1157	2.6
7	I10	Essential (primary) hypertension	336	1.0	577	1.5	697	1.7	1080	2.5	1073	2.4
8	I64	Stroke, not specified as haemorrhage or infarction	951	2.7	1078	2.8	1380	3.3	1270	3.0	1015	2.3
9	J18	Pneumonia, organism unspecified	683	1.9	529	1.4	710	1.7	899	2.1	955	2.2
10	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	1099	3.1	1035	2.7	960	2.3	961	2.2	944	2.1
11	I61	Intracerebral haemorrhage	788	2.2	715	1.9	1089	2.6	943	2.2	925	2.1
12	K70	Alcoholic liver disease	404	1.1	498	1.3	650	1.6	758	1.8	908	2.1
13	E14	Unspecified diabetes mellitus	273	0.8	370	1.0	446	1.1	829	1.9	790	1.8
14	I21	Acute myocardial infarction	588	1.7	401	1.0	628	1.5	678	1.6	682	1.5
15	J44	Other chronic obstructive pulmonary disease	495	1.4	525	1.4	548	1.3	706	1.6	667	1.5
	...	All Other Causes	20482	58.2	22075	57.3	23375	56.1	24156	56.8	25505	57.9
		Total	35198	100	38494	100	41641	100	42839	100	44075	100

Table (15) Leading Grouped Causes of Morbidity for Union (2014-2018)

Sr. No.	Grouped Basic Code	C a u s e s	2014		2015		2016		2017		2018	
			Number	%	Number	%	Number	%	Number	%	Number	%
1	234-244	Pregnancy, childbirth and puerperium	376414	18.1	462644	18.1	516646	18.8	580419	20.0	598407	20.2
2	001-057	Certain infectious and parasitic diseases	338634	16.2	485369	19	413080	15	477864	16.4	413262	13.9
3	271-289	Injury, poisoning and certain other consequences of external causes	304145	14.6	353751	13.9	365781	13.3	389820	13.4	388655	13.1
4	180-197	Diseases of the digestive system	199342	9.6	236926	9.3	257561	9.4	275798	9.5	293593	9.9
5	165-179	Diseases of the respiratory system	149761	7.2	160292	6.3	217383	7.9	201907	6.9	230090	7.8
6	143-164	Diseases of the circulatory system	108424	5.2	131263	5.1	155434	5.7	169862	5.8	188051	6.3
7	211-233	Diseases of the genitourinary system	90765	4.4	107353	4.2	117725	4.3	121694	4.2	128993	4.3
8	267-270	Symptoms, signs, and abnormal clinical and laboratory findings	94264	4.5	112291	4.4	126803	4.6	108775	3.7	123205	4.2
9	058-096	Neoplasms	70459	3.4	83752	3.3	100062	3.6	95797	3.3	103647	3.5
10	245-253	Certain conditions originating in the perinatal period	76202	3.7	88265	3.5	104288	3.8	109915	3.8	100803	3.4
11	112-119	Mental and behavioural disorders	62814	3	73636	2.9	86705	3.2	86827	3.0	76318	2.6
12	101-111	Endocrine, nutritional and metabolic diseases	37226	1.8	47492	1.9	54034	2	59075	2.0	63575	2.1
13	130-139	Diseases of the eye and adnexa	49983	2.4	59098	2.3	58542	2.1	45350	1.6	54778	1.8
14	198-199	Diseases of the skin and subcutaneous tissue	28298	1.4	35231	1.4	41190	1.5	44277	1.5	47295	1.6
15	120-129	Diseases of the nervous system	27816	1.3	33862	1.3	38906	1.4	40418	1.4	41316	1.4
16	097-100	Diseases of the blood & blood-forming organs and certain disorders involving immune mechanism	23629	1.1	26168	1	29094	1.1	32002	1.1	36837	1.2
17	200-210	Diseases of the musculoskeletal system and connective tissue	21888	1	24846	1	31942	1.2	30124	1.0	31721	1.1
18	290-298	Factors influencing health status and contact with health services	13273	0.6	15914	0.6	15804	0.6	24380	0.8	30086	1.0
19	254-266	Congenital malformations, deformations and chromosomal abnormalities	9646	0.5	10011	0.4	11773	0.4	11083	0.4	12586	0.4
20	140-142	Diseases of the ear and mastoid process	1769	0.1	1904	0.1	2689	0.1	2509	0.1	2859	0.1
	...	Special purposes									25	0.001
	...	Unknown									332	0.01
		T o t a l	2084752	100	2550068	100	2745442	100	2907896	100	2966434	100

Table (16) Leading Grouped Causes of Mortality for Union (2014-2018)

Sr. No.	Grouped Basic Code	C a u s e s	2014		2015		2016		2017		2018	
			Number	%	Number	%	Number	%	Number	%	Number	%
1	143-164	Diseases of the circulatory system	6102	17.3	6735	17.5	8592	20.6	8639	20.2	8588	19.5
2	001-057	Certain infectious and parasitic diseases	7065	20.1	7505	19.5	6957	16.7	6044	14.1	5850	13.3
3	245-253	Certain conditions originating in the perinatal period	4584	13.0	4927	12.8	5453	13.1	5752	13.4	5846	13.3
4	271-289	Injury, poisoning and certain other consequences of external causes	4443	12.6	5399	14.0	5877	14.1	5813	13.6	5745	13.0
5	165-179	Diseases of the respiratory system	2962	8.4	2996	7.8	3220	7.7	3702	8.6	4040	9.2
6	180-197	Diseases of the digestive system	2990	8.5	3346	8.7	3611	8.7	4176	9.7	4034	9.2
7	058-096	Neoplasms	1879	5.3	2148	5.6	2405	5.8	2486	5.8	2564	5.8
8	101-111	Endocrine, nutritional and metabolic diseases	752	2.1	828	2.2	1006	2.4	1518	3.5	1626	3.7
9	211-233	Diseases of the genitourinary system	836	2.4	862	2.2	874	2.1	1233	2.9	1390	3.2
10	267-270	Symptoms, signs, and abnormal clinical and laboratory findings	1134	3.2	1247	3.2	866	2.1	229	0.5	1216	2.8
11	120-129	Diseases of the nervous system	774	2.2	887	2.3	1007	2.4	1045	2.4	990	2.2
12	254-266	Congenital malformations, deformations and chromosomal abnormalities	537	1.5	397	1.0	507	1.2	486	1.1	560	1.3
13	097-100	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism	261	0.7	332	0.9	266	0.6	331	0.8	434	1.0
14	112-119	Mental and behavioural disorders	311	0.9	365	0.9	428	1.0	539	1.3	413	0.9
15	234-244	Pregnancy, childbirth and puerperium	367	1.0	361	0.9	327	0.8	484	1.1	401	0.9
	...	All other causes	201	0.6	159	0.4	245	0.6	362	0.8	378	0.9
		T o t a l	35198	100	38494	100	41641	100	42839	100	44075	100

Note: Leading causes in Table (13) to (16) are sorted according to 2018 data.

Table (17-1) Distribution of Discharges and Deaths by Sex and Age Group for Union (2017)

Age group	Discharges and Deaths						Deaths					
	Male	%	Female	%	Total	%	Male	%	Female	%	Total	%
<1	129361	10.2	101894	6.2	231255	8.0	4233	16.0	3682	22.4	7915	18.5
1-4	128665	10.2	99909	6.1	228574	7.9	473	1.8	550	3.3	1023	2.4
5-14	141205	11.2	109168	6.6	250373	8.6	636	2.4	473	2.9	1109	2.6
15-24	144922	11.4	317026	19.3	461948	15.9	1636	6.2	1046	6.4	2682	6.3
25-34	173569	13.7	384748	23.4	558317	19.2	2935	11.1	1095	6.7	4030	9.4
35-44	166107	13.1	227802	13.9	393909	13.5	4337	16.4	1444	8.8	5781	13.5
45-54	143584	11.3	138248	8.4	281832	9.7	4423	16.8	1943	11.8	6366	14.9
55-64	116706	9.2	121742	7.4	238448	8.2	3539	13.4	2426	14.7	5965	13.9
65-74	77752	6.1	87014	5.3	164766	5.7	2453	9.3	1943	11.8	4396	10.3
75&+	44122	3.5	54352	3.3	98474	3.4	1715	6.5	1857	11.3	3572	8.3
Total	1265993	100	1641903	100	2907896	100	26380	100	16459	100	42839	100

Table (17-2) Distribution of Discharges and Deaths by Sex and Age Group for Union (2018)

Age group	Discharges and Deaths						Deaths					
	Male	%	Female	%	Total	%	Male	%	Female	%	Total	%
<1	143613	11.2	111572	6.6	255185	8.6	4674	17.3	3668	21.6	8342	18.9
1-4	121844	9.5	93732	5.6	215576	7.3	505	1.9	447	2.6	952	2.2
5-14	126041	9.8	96335	5.7	222376	7.5	537	2.0	394	2.3	931	2.1
15-24	137572	10.7	312688	18.6	450260	15.2	1566	5.8	825	4.9	2391	5.4
25-34	169263	13.1	392989	23.4	562252	19.0	3013	11.1	1283	7.5	4296	9.7
35-44	171217	13.3	236807	14.1	408024	13.8	4278	15.8	1539	9.0	5817	13.2
45-54	151768	11.8	141988	8.5	293756	9.9	4367	16.1	2111	12.4	6478	14.7
55-64	128465	10.0	131125	7.8	259590	8.8	3666	13.5	2432	14.3	6098	13.8
65-74	86956	6.8	98845	5.9	185801	6.3	2521	9.3	2277	13.4	4798	10.9
75&+	51205	4.0	62409	3.7	113614	3.8	1940	7.2	2032	11.9	3972	9.0
Total	1287944	100	1678490	100	2966434	100	27067	100	17008	100	44075	100

(B) MORBIDITY AND MORTALITY STATISTICS FOR TARGET POPULATION

Table (18-1) Leading causes of Morbidity in Neonate (1-28 days) (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P59	Neonatal jaundice from other and unspecified causes	22203	19526	41729	33.3	3.8
2	P36	Bacterial sepsis of newborn	10776	9215	19991	15.9	5.3
3	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	6247	6115	12362	9.9	10.0
4	P21	Birth asphyxia	5735	4482	10217	8.1	5.4
5	P39	Other infections specific to the perinatal period	2864	2466	5330	4.2	4.8
6	P22	Respiratory distress of newborn	2230	1656	3886	3.1	6.8
7	Z76	Persons encountering health services in other circumstances	1798	1618	3416	2.7	4.5
8	P38	Omphalitis of newborn with or without mild haemorrhage	1483	1505	2988	2.4	5.8
9	P24	Neonatal aspiration syndromes	1113	1197	2310	1.8	5.8
10	P81	Other disturbances of temperature regulation of newborn	1011	992	2003	1.6	4.3
11	P00	Fetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	942	697	1639	1.3	5.4
12	P08	Disorders related to long gestation and high birth weight	800	667	1467	1.2	6.7
13	P05	Slow fetal growth and fetal malnutrition	434	489	923	0.7	6.4
14	A09	Diarrhoea and gastroenteritis of presumed infectious origin	483	429	912	0.7	3.8
15	J06	Acute upper respiratory infections of multiple and unspecified sites	501	370	871	0.7	5.4
16	B34	Viral infection of unspecified site	294	392	686	0.5	3.5
17	P03	Fetus and newborn affected by other complications of labour and delivery	370	311	681	0.5	5.1
18	A41	Other septicaemia	360	222	582	0.5	5.4
19	P55	Haemolytic disease of fetus and newborn	289	256	545	0.4	5.0
20	J18	Pneumonia, organism unspecified	301	232	533	0.4	6.1
	...	All other causes	6890	5474	12364	9.9	7.0
		Total	67124	58311	125435	100	5.4

Table (18-2) Leading causes of Morbidity in Neonate (1-28 days) (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P59	Neonatal jaundice from other and unspecified causes	16914	14309	31223	23.8	3.9
2	P36	Bacterial sepsis of newborn	9464	8183	17647	13.5	5.1
3	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	7222	6667	13889	10.6	9.5
4	P21	Birth asphyxia	5971	4462	10433	8.0	5.4
5	K75	Other inflammatory liver diseases	4650	3901	8551	6.5	3.9
6	B34	Viral infection of unspecified site	3416	2912	6328	4.8	5.8
7	P22	Respiratory distress of newborn	2557	1804	4361	3.3	6.4
8	Z76	Persons encountering health services in other circumstances	1676	1597	3273	2.5	4.5
9	P38	Omphalitis of newborn with or without mild haemorrhage	1694	1441	3135	2.4	4.6
10	P24	Neonatal aspiration syndromes	1484	1310	2794	2.1	6.1
11	P00	Fetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	1279	1322	2601	2.0	5.7
12	P39	Other infections specific to the perinatal period	1356	1118	2474	1.9	4.4
13	P05	Slow fetal growth and fetal malnutrition	1289	1156	2445	1.9	5.4
14	P81	Other disturbances of temperature regulation of newborn	807	731	1538	1.2	4.1
15	J06	Acute upper respiratory infections of multiple and unspecified sites	562	385	947	0.7	5.1
16	P55	Haemolytic disease of fetus and newborn	415	356	771	0.6	5.1
17	J18	Pneumonia, organism unspecified	387	322	709	0.5	5.9
18	P23	Congenital pneumonia	392	290	682	0.5	7.1
19	P08	Disorders related to long gestation and high birth weight	377	294	671	0.5	5.8
20	A41	Other septicaemia	363	296	659	0.5	5.5
	...	All other causes	8713	7286	15999	12.2	6.4
		Total	70988	60142	131130	100	5.4

Table (19-1) Leading causes of Morbidity in under one year age group (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P59	Neonatal jaundice from other and unspecified causes	22210	19539	41749	18.1	3.8
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	16665	11107	27772	12.0	3.8
3	P36	Bacterial sepsis of newborn	10782	9225	20007	8.7	5.3
4	J06	Acute upper respiratory infections of multiple and unspecified sites	11568	7973	19541	8.4	4.8
5	B34	Viral infection of unspecified site	7990	6315	14305	6.2	3.5
6	J18	Pneumonia, organism unspecified	7393	5182	12575	5.4	5.0
7	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	6248	6122	12370	5.3	10.0
8	P21	Birth asphyxia	5735	4482	10217	4.4	5.4
9	P39	Other infections specific to the perinatal period	2865	2467	5332	2.3	4.8
10	J21	Acute bronchiolitis	2489	1399	3888	1.7	4.4
11	P22	Respiratory distress of newborn	2230	1656	3886	1.7	6.8
12	R56	Convulsions, not elsewhere classified	1969	1468	3437	1.5	3.6
13	Z76	Persons encountering health services in other circumstances	1799	1631	3430	1.5	4.7
14	P38	Omphalitis of newborn with or without mild haemorrhage	1487	1507	2994	1.3	5.8
15	A91	Dengue haemorrhagic fever	1530	1423	2953	1.3	3.9
16	E51	Thiamine deficiency	1430	1216	2646	1.1	3.9
17	P24	Neonatal aspiration syndromes	1113	1197	2310	1.0	5.8
18	G03	Meningitis due to other and unspecified causes	1182	995	2177	0.9	9.9
19	P81	Other disturbances of temperature regulation of newborn	1011	991	2002	0.9	4.3
20	R50	Fever of unknown origin	1000	648	1648	0.7	3.7
	...	All other causes	20665	15351	36016	15.6	7.2
		Total	129361	101894	231255	100	5.0

Table (19-2) Leading causes of Morbidity in under one year age group (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P59	Neonatal jaundice from other and unspecified causes	16960	14341	31301	12.3	3.9
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	15955	10333	26288	10.3	3.7
3	J06	Acute upper respiratory infections of multiple and unspecified sites	13022	8731	21753	8.5	4.8
4	B34	Viral infection of unspecified site	11236	9139	20375	8.0	4.3
5	P36	Bacterial sepsis of newborn	9477	8195	17672	6.9	5.1
6	J18	Pneumonia, organism unspecified	9757	6775	16532	6.5	4.9
7	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	7238	6678	13916	5.5	9.5
8	P21	Birth asphyxia	5977	4463	10440	4.1	5.4
9	K75	Other inflammatory liver diseases	4762	3971	8733	3.4	4.0
10	J22	Unspecified acute lower respiratory infection	4417	2955	7372	2.9	4.8
11	J21	Acute bronchiolitis	4578	2455	7033	2.8	4.2
12	P22	Respiratory distress of newborn	2561	1807	4368	1.7	6.5
13	R56	Convulsions, not elsewhere classified	1673	1739	3412	1.3	3.7
14	Z76	Persons encountering health services in other circumstances	1697	1613	3310	1.3	4.6
15	P38	Omphalitis of newborn with or without mild haemorrhage	1708	1445	3153	1.2	4.6
16	A91	Dengue haemorrhagic fever	1598	1238	2836	1.1	4.0
17	P24	Neonatal aspiration syndromes	1485	1312	2797	1.1	6.1
18	P00	Fetus and newborn affected by maternal conditions that may be unrelated to present pregnancy	1281	1323	2604	1.0	5.7
19	P39	Other infections specific to the perinatal period	1359	1121	2480	1.0	4.4
20	E51	Thiamine deficiency	1327	1138	2465	1.0	3.8
	...	All other causes	25545	20800	46345	18.2	6.0
		Total	143613	111572	255185	100	5.0

Table (20-1) Leading causes of Morbidity in under five year age group (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	42437	29733	72170	15.7	3.6
2	B34	Viral infection of unspecified site	31090	26263	57353	12.5	3.4
3	J06	Acute upper respiratory infections of multiple and unspecified sites	25745	19723	45468	9.9	4.5
4	P59	Neonatal jaundice from other and unspecified causes	22209	19539	41748	9.1	3.8
5	J18	Pneumonia, organism unspecified	14899	11548	26447	5.8	4.6
6	P36	Bacterial sepsis of newborn	10781	9225	20006	4.4	5.3
7	A91	Dengue haemorrhagic fever	8183	8742	16925	3.7	3.6
8	R56	Convulsions, not elsewhere classified	9461	6646	16107	3.5	3.3
9	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	6248	6122	12370	2.7	10.0
10	P21	Birth asphyxia	5735	4482	10217	2.2	5.4
11	R50	Fever of unknown origin	3006	2485	5491	1.2	3.6
12	J21	Acute bronchiolitis	3374	1980	5354	1.2	4.2
13	P39	Other infections specific to the perinatal period	2864	2468	5332	1.2	4.8
14	S09	Other and unspecified injuries of head	2632	1813	4445	1.0	2.8
15	L02	Cutaneous abscess, furuncle and carbuncle	2318	1853	4171	0.9	5.0
16	J22	Unspecified acute lower respiratory infection	2377	1541	3918	0.9	4.6
17	P22	Respiratory distress of newborn	2230	1656	3886	0.8	6.8
18	G03	Meningitis due to other and unspecified causes	1987	1708	3695	0.8	9.0
19	Z76	Persons encountering health services in other circumstances	1802	1640	3442	0.7	4.7
20	E51	Thiamine deficiency	1630	1431	3061	0.7	4.1
	...	All other causes	57018	41205	98223	21.4	7.4
		Total	258026	201803	459829	100.0	4.0

Table (20-2) Leading causes of Morbidity in under five year age group (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	38158	26718	64876	13.8	3.5
2	B34	Viral infection of unspecified site	29597	25248	54845	11.7	3.6
3	J06	Acute upper respiratory infections of multiple and unspecified sites	24956	18498	43454	9.2	4.5
4	J18	Pneumonia, organism unspecified	18248	13817	32065	6.8	4.6
5	P59	Neonatal jaundice from other and unspecified causes	16962	14348	31310	6.7	3.9
6	P36	Bacterial sepsis of newborn	9477	8202	17679	3.8	5.1
7	J22	Unspecified acute lower respiratory infection	8863	6589	15452	3.3	4.6
8	R56	Convulsions, not elsewhere classified	8085	6236	14321	3.0	3.4
9	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	7238	6677	13915	3.0	9.5
10	A91	Dengue haemorrhagic fever	7191	6675	13866	2.9	3.7
11	P21	Birth asphyxia	5977	4464	10441	2.2	5.4
12	J21	Acute bronchiolitis	5946	3542	9488	2.0	4.2
13	K75	Other inflammatory liver diseases	4847	4008	8855	1.9	4.0
14	R50	Fever of unknown origin	2892	2508	5400	1.1	3.6
15	P22	Respiratory distress of newborn	2563	1807	4370	0.9	6.5
16	L02	Cutaneous abscess, furuncle and carbuncle	2336	1835	4171	0.9	5.0
17	S09	Other and unspecified injuries of head	2452	1631	4083	0.9	2.3
18	Z76	Persons encountering health services in other circumstances	1717	1623	3340	0.7	4.6
19	G03	Meningitis due to other and unspecified causes	1765	1515	3280	0.7	8.9
20	P38	Omphalitis of newborn with or without mild haemorrhage	1709	1447	3156	0.7	4.6
	...	All other causes	64478	47916	112394	23.9	6.1
		Total	265457	205304	470761	100	4.5

Table (21-1) Leading causes of Morbidity in adolescents (15-19 year age group) (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	O80	Single spontaneous delivery	0	24084	24084	14.1	3.5
2	S09	Other and unspecified injuries of head	8378	3039	11417	6.7	2.7
3	B34	Viral infection of unspecified site	4821	4552	9373	5.5	3.4
4	K29	Gastritis and duodenitis	2639	5598	8237	4.8	3.3
5	O82	Single delivery by caesarean section	0	7705	7705	4.5	7.0
6	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2374	2691	5065	3.0	3.2
7	A91	Dengue haemorrhagic fever	2456	2518	4974	2.9	3.7
8	K35	Acute appendicitis	1924	2804	4728	2.8	4.9
9	F41	Other anxiety disorders	481	3079	3560	2.1	1.9
10	O81	Single delivery by forceps and vacuum extractor	0	3042	3042	1.8	4.1
11	T14	Injury of unspecified body region	2031	960	2991	1.8	2.8
12	O06	Unspecified abortion	0	2828	2828	1.7	3.0
13	O47	False labour	0	2091	2091	1.2	2.6
14	T63	Toxic effect of contact with venomous animals	1340	725	2065	1.2	3.6
15	F43	Reaction to severe stress, and adjustment disorders	359	1634	1993	1.2	2.0
16	T07	Unspecified multiple injuries	1414	327	1741	1.0	3.1
17	S52	Fracture of forearm	1497	216	1713	1.0	5.0
18	L02	Cutaneous abscess, furuncle and carbuncle	1162	470	1632	1.0	5.4
19	N39	Other disorders of urinary system	408	1151	1559	0.9	3.3
20	R50	Fever of unknown origin	663	767	1430	0.8	4.4
	...	All other causes	34790	33544	68334	40.1	6.6
		Total	66737	103825	170562	100.0	4.3

Table (21-2) Leading causes of Morbidity in adolescents (15-19 year age group) (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	O80	Single spontaneous delivery	0	23606	23606	14.4	3.5
2	S09	Other and unspecified injuries of head	7690	2274	9964	6.1	2.7
3	K29	Gastritis and duodenitis	2717	5592	8309	5.1	3.2
4	O82	Single delivery by caesarean section	0	7715	7715	4.7	6.7
5	B34	Viral infection of unspecified site	3401	3583	6984	4.2	3.5
6	K35	Acute appendicitis	2176	3120	5296	3.2	4.7
7	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2000	2644	4644	2.8	3.1
8	F41	Other anxiety disorders	545	3027	3572	2.2	2.1
9	T14	Injury of unspecified body region	1643	974	2617	1.6	2.6
10	A91	Dengue haemorrhagic fever	1354	1223	2577	1.6	3.8
11	O06	Unspecified abortion	0	2538	2538	1.5	2.8
12	O47	False labour	0	2520	2520	1.5	2.7
13	O81	Single delivery by forceps and vacuum extractor	0	2417	2417	1.5	4.0
14	F43	Reaction to severe stress, and adjustment disorders	279	1847	2126	1.3	2.0
15	T63	Toxic effect of contact with venomous animals	1308	657	1965	1.2	3.1
16	S52	Fracture of forearm	1579	241	1820	1.1	5.3
17	L02	Cutaneous abscess, furuncle and carbuncle	1191	525	1716	1.0	5.6
18	R50	Fever of unknown origin	748	634	1382	0.8	4.0
19	N39	Other disorders of urinary system	362	956	1318	0.8	3.5
20	R10	Abdominal and pelvic pain	414	903	1317	0.8	3.0
	...	All other causes	35805	34159	69964	42.6	6.4
		Total	63212	101155	164367	100	4.2

Table (22-1) Leading causes of Morbidity in Elderly (65 year and above age group) (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	J44	Other chronic obstructive pulmonary disease	7313	8616	15929	6.1	5.8
2	H26	Other cataract	5126	9045	14171	5.4	2.4
3	I10	Essential (primary) hypertension	5214	7979	13193	5.0	3.7
4	I50	Heart failure	3620	6132	9752	3.7	5.5
5	A09	Diarrhoea and gastroenteritis of presumed infectious origin	3261	5628	8889	3.4	3.6
6	I64	Stroke, not specified as haemorrhage or infarction	4076	4162	8238	3.1	4.6
7	J22	Unspecified acute lower respiratory infection	3488	4683	8171	3.1	5.3
8	I25	Chronic ischaemic heart disease	2804	4407	7211	2.7	4.9
9	E14	Unspecified diabetes mellitus	2287	4822	7109	2.7	7.0
10	K29	Gastritis and duodenitis	2531	4465	6996	2.7	4.2
11	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	3254	2300	5554	2.1	7.1
12	S72	Fracture of femur	1561	3225	4786	1.8	12.2
13	H25	Senile cataract	1800	2831	4631	1.8	2.6
14	K92	Other diseases of digestive system	2338	1719	4057	1.5	5.2
15	C34	Malignant neoplasm of bronchus and lung	2287	1761	4048	1.5	8.2
16	S09	Other and unspecified injuries of head	2249	1738	3987	1.5	3.3
17	B34	Viral infection of unspecified site	1436	2479	3915	1.5	4.2
18	N40	Hyperplasia of prostate	3378	0	3378	1.3	6.9
19	G81	Hemiplegia	1675	1620	3295	1.3	5.5
20	I21	Acute myocardial infarction	1663	1575	3238	1.2	5.0
	...	All other causes	60518	62174	122692	46.6	7.6
		Total	121879	141361	263240	100	5.6

Table (22-2) Leading causes of Morbidity in Elderly (65 year and above age group) (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	H26	Other cataract	7760	13363	21123	7.1	2.3
2	J44	Other chronic obstructive pulmonary disease	8514	9831	18345	6.1	5.5
3	I10	Essential (primary) hypertension	5770	9196	14966	5.0	3.8
4	I50	Heart failure	4607	7361	11968	4.0	5.4
5	J22	Unspecified acute lower respiratory infection	3769	4980	8749	2.9	5.2
6	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2949	5775	8724	2.9	3.7
7	K29	Gastritis and duodenitis	3073	4992	8065	2.7	4.5
8	I64	Stroke, not specified as haemorrhage or infarction	4030	3827	7857	2.6	4.5
9	E14	Unspecified diabetes mellitus	2350	5256	7606	2.5	7.1
10	I25	Chronic ischaemic heart disease	3004	4328	7332	2.4	4.8
11	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	3926	2422	6348	2.1	7.1
12	S72	Fracture of femur	1584	3266	4850	1.6	12.1
13	C34	Malignant neoplasm of bronchus and lung	2725	2070	4795	1.6	7.6
14	I21	Acute myocardial infarction	2230	2181	4411	1.5	4.7
15	K92	Other diseases of digestive system	2376	1798	4174	1.4	5.0
16	S09	Other and unspecified injuries of head	2111	1970	4081	1.4	3.2
17	B34	Viral infection of unspecified site	1334	2494	3828	1.3	4.0
18	G81	Hemiplegia	1924	1689	3613	1.2	5.2
19	R53	Malaise and fatigue	1263	1946	3209	1.1	4.7
20	N40	Hyperplasia of prostate	3159	0	3159	1.1	6.5
	...	All other causes	69712	72500	142212	47.5	6.9
		Total	138170	161245	299415	100	5.5

Table (23-1) Leading causes of Mortality in neonate (1-28 days) (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1273	1296	2569	39.4	6.0
2	P21	Birth asphyxia	709	618	1327	20.3	1.8
3	P36	Bacterial sepsis of newborn	440	299	739	11.3	5.4
4	P22	Respiratory distress of newborn	199	114	313	4.8	4.1
5	P24	Neonatal aspiration syndromes	164	129	293	4.5	1.9
6	A41	Other septicaemia	92	56	148	2.3	7.6
7	P59	Neonatal jaundice from other and unspecified causes	103	42	145	2.2	2.7
8	P57	Kernicterus	74	61	135	2.1	7.0
9	Q00	Anencephaly and similar malformations	18	45	63	1.0	1.2
10	Q79	Congenital malformations of the musculoskeletal system, not elsewhere classified	27	29	56	0.9	8.4
11	G03	Meningitis due to other and unspecified causes	11	43	54	0.8	2.6
12	Q24	Other congenital malformations of heart	27	12	39	0.6	2.7
13	P81	Other disturbances of temperature regulation of newborn	31	0	31	0.5	1.0
14	J06	Acute upper respiratory infections of multiple and unspecified sites	9	21	30	0.5	2.6
15	Q41	Congenital absence, atresia and stenosis of small intestine	8	19	27	0.4	10.6
16	P23	Congenital pneumonia	6	20	26	0.4	3.2
17	Q89	Other congenital malformations, not elsewhere classified	10	12	22	0.3	5.6
18	P28	Other respiratory conditions originating in the perinatal period	18	5	23	0.3	3.8
19	P29	Cardiovascular disorders originating in the perinatal period	18	3	21	0.3	5.5
20	P83	Other conditions of integument specific to fetus and newborn	8	12	20	0.3	2.0
	...	All other causes	240	208	448	6.8	6
		Total	3485	3044	6529	100	4.6

Table (23-2) Leading causes of Mortality in neonate (1-28 days) (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1498	1131	2629	37.9	5.3
2	P21	Birth asphyxia	700	597	1297	18.7	1.9
3	P36	Bacterial sepsis of newborn	355	227	582	8.4	4.9
4	P22	Respiratory distress of newborn	242	180	422	6.1	3.4
5	P24	Neonatal aspiration syndromes	140	147	287	4.1	2.5
6	B34	Viral infection of unspecified site	118	103	221	3.2	5.8
7	P57	Kernicterus	75	54	129	1.9	1.5
8	A41	Other septicaemia	73	44	117	1.7	5.6
9	P59	Neonatal jaundice from other and unspecified causes	72	36	108	1.6	2.1
10	Q24	Other congenital malformations of heart	44	29	73	1.1	5.3
11	P05	Slow fetal growth and fetal malnutrition	46	20	66	1.0	4.5
12	Q00	Anencephaly and similar malformations	27	39	66	0.9	1.4
13	Q79	Congenital malformations of the musculoskeletal system, not elsewhere classified	22	31	53	0.8	11.0
14	P28	Other respiratory conditions originating in the perinatal period	13	19	32	0.5	2.6
15	P23	Congenital pneumonia	16	14	30	0.4	5.0
16	K75	Other inflammatory liver diseases	16	14	30	0.4	3.7
17	Q89	Other congenital malformations, not elsewhere classified	11	18	29	0.4	5.3
18	P91	Other disturbances of cerebral status of newborn	18	7	25	0.4	2.3
19	G03	Meningitis due to other and unspecified causes	10	14	24	0.4	3.7
20	Q90	Down's syndrome	16	8	24	0.3	8.6
	...	All other causes	391	304	695	10.0	4.4
		Total	3903	3036	6939	100	4.2

Table (24-1) Leading causes of Mortality in Under one age group (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1274	1297	2571	32.5	6.0
2	P21	Birth asphyxia	709	618	1327	16.8	1.8
3	P36	Bacterial sepsis of newborn	441	299	740	9.4	5.5
4	A41	Other septicaemia	192	236	428	5.4	5.9
5	J18	Pneumonia, organism unspecified	207	140	347	4.4	2.2
6	P22	Respiratory distress of newborn	199	114	313	4.0	4.1
7	P24	Neonatal aspiration syndromes	164	129	293	3.7	1.9
8	P59	Neonatal jaundice from other and unspecified causes	102	43	145	1.8	2.7
9	P57	Kernicterus	74	61	135	1.7	7.0
10	G03	Meningitis due to other and unspecified causes	73	47	120	1.5	2.5
11	J22	Unspecified acute lower respiratory infection	77	37	114	1.4	2.1
12	A09	Diarrhoea and gastroenteritis of presumed infectious origin	33	51	84	1.1	1.9
13	Q24	Other congenital malformations of heart	49	34	83	1.1	5.8
14	J06	Acute upper respiratory infections of multiple and unspecified sites	31	39	70	0.9	3.3
15	G04	Encephalitis, myelitis and encephalomyelitis	36	30	66	0.8	4.7
16	Q79	Congenital malformations of the musculoskeletal system, not elsewhere classified	33	31	64	0.8	11.6
17	Q00	Anencephaly and similar malformations	19	45	64	0.8	1.2
18	E46	Unspecified protein-energy malnutrition	18	15	33	0.4	2.3
19	P81	Other disturbances of temperature regulation of newborn	31	0	31	0.4	1.0
20	Q41	Congenital absence, atresia and stenosis of small intestine	8	21	29	0.4	10.9
	...	All other causes	463	395	858	10.8	6.9
		Total	4233	3682	7915	100	4.6

Table (24-2) Leading causes of Mortality in Under one age group (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1501	1133	2634	31.6	5.3
2	P21	Birth asphyxia	700	597	1297	15.6	1.9
3	P36	Bacterial sepsis of newborn	354	227	581	7.0	4.9
4	P22	Respiratory distress of newborn	242	180	422	5.1	3.4
5	A41	Other septicaemia	207	142	349	4.2	4.5
6	P24	Neonatal aspiration syndromes	140	147	287	3.4	2.5
7	J18	Pneumonia, organism unspecified	163	121	284	3.4	3.3
8	B34	Viral infection of unspecified site	132	109	241	2.9	5.8
9	P57	Kernicterus	75	54	129	1.5	1.5
10	P59	Neonatal jaundice from other and unspecified causes	72	36	108	1.3	2.1
11	Q24	Other congenital malformations of heart	60	43	103	1.2	4.8
12	J06	Acute upper respiratory infections of multiple and unspecified sites	48	54	102	1.2	2.4
13	J22	Unspecified acute lower respiratory infection	58	43	101	1.2	3.3
14	A09	Diarrhoea and gastroenteritis of presumed infectious origin	62	33	95	1.1	2.2
15	G03	Meningitis due to other and unspecified causes	50	44	94	1.1	3.4
16	E51	Thiamine deficiency	39	36	75	0.9	1.3
17	P05	Slow fetal growth and fetal malnutrition	46	20	66	0.8	4.5
18	Q00	Anencephaly and similar malformations	27	39	66	0.8	1.4
19	Q79	Congenital malformations of the musculoskeletal system, not elsewhere classified	24	31	55	0.7	11.9
20	P23	Congenital pneumonia	16	19	35	0.4	4.5
	...	All other causes	658	560	1218	14.6	4.6
		Total	4674	3668	8342	100	4.1

Table (25-1) Leading causes of Mortality in under five age group (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1274	1297	2571	28.8	6.0
2	P21	Birth asphyxia	709	618	1327	14.8	1.8
3	P36	Bacterial sepsis of newborn	441	299	740	8.3	5.5
4	A41	Other septicaemia	252	346	598	6.7	5.1
5	J18	Pneumonia, organism unspecified	261	246	507	5.7	2.3
6	P22	Respiratory distress of newborn	200	113	313	3.5	4.1
7	P24	Neonatal aspiration syndromes	164	129	293	3.3	1.9
8	G03	Meningitis due to other and unspecified causes	94	76	170	1.9	2.7
9	J22	Unspecified acute lower respiratory infection	108	39	147	1.6	1.8
10	P59	Neonatal jaundice from other and unspecified causes	103	43	146	1.6	2.7
11	A09	Diarrhoea and gastroenteritis of presumed infectious origin	72	71	143	1.6	1.7
12	P57	Kernicterus	74	61	135	1.5	7.0
13	Q24	Other congenital malformations of heart	51	52	103	1.2	6.6
14	G04	Encephalitis, myelitis and encephalomyelitis	46	46	92	1.0	4.3
15	J06	Acute upper respiratory infections of multiple and unspecified sites	36	44	80	0.9	3.6
16	A91	Dengue haemorrhagic fever	43	21	64	0.7	1.5
17	Q79	Congenital malformations of the musculoskeletal system, not elsewhere classified	33	31	64	0.7	11.6
18	Q00	Anencephaly and similar malformations	19	45	64	0.7	1.2
19	E51	Thiamine deficiency	1	49	50	0.6	1.0
20	E46	Unspecified protein-energy malnutrition	18	28	46	0.5	3.1
	...	All other causes	707	578	1285	14.4	7.3
		Total	4706	4232	8938	100	4.5

Table (25-2) Leading causes of Mortality in under five age group (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	P07	Disorders related to short gestation and low birth weight, not elsewhere classified	1502	1133	2635	28.3	5.3
2	P21	Birth asphyxia	700	597	1297	14.0	1.9
3	P36	Bacterial sepsis of newborn	355	227	582	6.3	4.9
4	A41	Other septicaemia	281	200	481	5.2	4.4
5	J18	Pneumonia, organism unspecified	235	206	441	4.7	2.9
6	P22	Respiratory distress of newborn	242	180	422	4.5	3.4
7	P24	Neonatal aspiration syndromes	140	147	287	3.1	2.5
8	B34	Viral infection of unspecified site	142	113	255	2.7	5.7
9	A09	Diarrhoea and gastroenteritis of presumed infectious origin	94	55	149	1.6	2.2
10	G03	Meningitis due to other and unspecified causes	74	63	137	1.5	3.1
11	J06	Acute upper respiratory infections of multiple and unspecified sites	67	69	136	1.5	2.1
12	P57	Kernicterus	75	54	129	1.4	1.5
13	J22	Unspecified acute lower respiratory infection	71	56	127	1.4	3.0
14	Q24	Other congenital malformations of heart	64	50	114	1.2	4.7
15	P59	Neonatal jaundice from other and unspecified causes	72	36	108	1.2	2.1
16	E51	Thiamine deficiency	46	40	86	0.9	1.3
17	G04	Encephalitis, myelitis and encephalomyelitis	33	38	71	0.8	3.4
18	Q00	Anencephaly and similar malformations	28	39	67	0.7	1.4
19	P05	Slow fetal growth and fetal malnutrition	46	20	66	0.7	4.5
20	Q79	Congenital malformations of the musculoskeletal system, not elsewhere classified	24	33	57	0.6	12.1
	...	All other causes	888	759	1647	17.7	5.2
		Total	5179	4115	9294	100	4.2

Table (26-1) Leading causes of Mortality in adolescents (15-19 year age group) (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	S06	Intracranial injury	116	11	127	11.4	2.1
2	T60	Toxic effect of pesticides	5	94	99	8.9	2.4
3	S09	Other and unspecified injuries of head	68	9	77	6.9	2.7
4	A41	Other septicaemia	15	37	52	4.7	7.6
5	B20	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	7	37	44	4.0	13.4
6	T63	Toxic effect of contact with venomous animals	29	8	37	3.3	1.8
7	A86	Unspecified viral encephalitis	22	13	35	3.2	5.7
8	I50	Heart failure	14	15	29	2.6	2.3
9	B24	Unspecified human immunodeficiency virus [HIV] disease	26	1	27	2.5	1.2
10	M32	Systemic lupus erythematosus	1	23	24	2.2	5.9
11	G03	Meningitis due to other and unspecified causes	10	13	23	2.1	2.0
12	G93	Other disorders of brain	21	0	21	1.9	4.4
13	K92	Other diseases of digestive system	12	9	21	1.9	1.5
14	T07	Unspecified multiple injuries	18	1	19	1.7	20.6
15	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	14	4	18	1.7	2.2
16	N04	Nephrotic syndrome	3	15	18	1.6	3.0
17	I61	Intracerebral haemorrhage	16	2	18	1.6	1.5
18	A09	Diarrhoea and gastroenteritis of presumed infectious origin	15	1	16	1.4	1.1
19	A91	Dengue haemorrhagic fever	2	13	15	1.4	1.0
20	S39	Other and unspecified injuries of abdomen, lower back and pelvis	4	11	15	1.4	5.4
	...	All other causes	238	136	374	33.7	5.6
		Total	656	453	1109	100	4.4

Table (26-2) Leading causes of Mortality in adolescents (15-19 year age group) (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	S09	Other and unspecified injuries of head	103	12	115	11.7	1.7
2	S06	Intracranial injury	83	18	101	10.2	2.1
3	T60	Toxic effect of pesticides	22	30	52	5.3	2.9
4	A41	Other septicaemia	26	20	46	4.6	4.2
5	T63	Toxic effect of contact with venomous animals	17	9	26	2.6	2.9
6	J22	Unspecified acute lower respiratory infection	7	15	22	2.2	5.0
7	J96	Respiratory failure, not elsewhere classified	8	10	18	1.8	8.4
8	I50	Heart failure	15	3	18	1.8	3.1
9	M32	Systemic lupus erythematosus	2	15	17	1.8	13.6
10	S02	Fracture of skull and facial bones	13	4	17	1.8	3.4
11	J18	Pneumonia, organism unspecified	8	8	16	1.7	1.2
12	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	12	3	15	1.6	2.9
13	T07	Unspecified multiple injuries	12	3	15	1.5	2.9
14	S36	Injury of intra-abdominal organs	11	1	12	1.2	3.0
15	B24	Unspecified human immunodeficiency virus [HIV] disease	8	4	12	1.2	6.9
16	C91	Lymphoid leukaemia	8	3	11	1.1	12.9
17	B20	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	8	2	10	1.0	23.6
18	S29	Other and unspecified injuries of thorax	9	0	9	1.0	1.0
19	T65	Toxic effect of other and unspecified substances	4	5	9	0.9	1.3
20	N18	Chronic renal failure	6	3	9	0.9	4.0
	...	All other causes	263	170	433	44.1	6.5
		Total	645	338	983	100	4.3

Table (27-1) Leading causes of Mortality in Elderly (65 year and above age group) (2017)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	I50	Heart failure	198	299	497	6.2	3.6
2	J44	Other chronic obstructive pulmonary disease	258	220	478	6.0	5.0
3	I64	Stroke, not specified as haemorrhage or infarction	249	218	467	5.9	3.7
4	I10	Essential (primary) hypertension	169	229	398	5.0	3.8
5	I25	Chronic ischaemic heart disease	157	170	327	4.1	6.1
6	E14	Unspecified diabetes mellitus	101	188	289	3.6	4.3
7	A41	Other septicaemia	131	154	285	3.6	4.9
8	I21	Acute myocardial infarction	133	137	270	3.4	3.1
9	C34	Malignant neoplasm of bronchus and lung	157	93	250	3.1	8.5
10	I61	Intracerebral haemorrhage	138	80	218	2.7	3.5
11	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	133	64	197	2.5	4.2
12	J22	Unspecified acute lower respiratory infection	107	82	189	2.4	4.6
13	S09	Other and unspecified injuries of head	134	33	167	2.1	2.4
14	S06	Intracranial injury	108	43	151	1.9	2.5
15	J69	Pneumonitis due to solids and liquids	74	52	126	1.6	6.2
16	I51	Complications and ill-defined descriptions of heart disease	72	52	124	1.6	3.3
17	I63	Cerebral infarction	62	55	117	1.5	5.4
18	N18	Chronic renal failure	46	71	117	1.5	6.7
19	I48	Atrial fibrillation and flutter	63	48	111	1.4	4.9
20	J18	Pneumonia, organism unspecified	59	49	108	1.4	3.6
	...	All other causes	1619	1463	3082	38.7	7.1
		Total	4168	3800	7968	100	4.8

Table (27-2) Leading causes of Mortality in Elderly (65 year and above age group) (2018)

Sr. No.	ICD-10 code	Description	Male	Female	Total	% of Total cases	Avg. duration of stay
1	I50	Heart failure	217	277	494	5.6	4.2
2	J44	Other chronic obstructive pulmonary disease	230	234	464	5.3	5.5
3	I64	Stroke, not specified as haemorrhage or infarction	217	232	449	5.1	3.8
4	I10	Essential (primary) hypertension	195	227	422	4.8	3.6
5	I21	Acute myocardial infarction	181	171	352	4.0	2.9
6	A41	Other septicaemia	162	158	320	3.7	4.9
7	E14	Unspecified diabetes mellitus	102	212	314	3.6	5.2
8	I25	Chronic ischaemic heart disease	128	134	262	3.0	4.3
9	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	172	83	255	2.9	8.8
10	I61	Intracerebral haemorrhage	130	83	213	2.4	3.5
11	C34	Malignant neoplasm of bronchus and lung	129	76	205	2.3	10.1
12	J96	Respiratory failure, not elsewhere classified	90	81	171	2.0	4.6
13	J18	Pneumonia, organism unspecified	80	80	160	1.8	4.3
14	S09	Other and unspecified injuries of head	84	70	154	1.8	2.7
15	J69	Pneumonitis due to solids and liquids	93	60	153	1.7	5.2
16	S06	Intracranial injury	84	54	138	1.6	3.7
17	R57	Shock, not elsewhere classified	66	71	137	1.6	2.9
18	I63	Cerebral infarction	73	63	136	1.6	4.7
19	I51	Complications and ill-defined descriptions of heart disease	65	61	126	1.4	3.4
20	I48	Atrial fibrillation and flutter	46	73	119	1.4	6.0
	...	All other causes	1917	1809	3726	42.5	7.2
		Total	4461	4309	8770	100	5.3

Table (28-1) Causes of Maternal Mortality (2017)

Sr. No.	ICD-10 Code	Descriptions	Total
1	O75	Other complications of labour and delivery, not elsewhere classified	138
2	O06	Unspecified abortion	56
3	O72	Postpartum haemorrhage	55
4	O15	Eclampsia	51
5	O85	Puerperal sepsis	41
6	O99	Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium	23
7	O08	Complications following abortion and ectopic and molar pregnancy	22
8	O14	Gestational [pregnancy-induced] hypertension with significant proteinuria	21
9	O00	Ectopic pregnancy	13
10	O71	Other obstetric trauma	13
11	O05	Other abortion	12
12	O66	Other obstructed labour	10
13	O90	Complications of the puerperium, not elsewhere classified	5
14	O07	Failed attempted abortion	4
15	O88	Obstetric embolism	4
16	O36	Maternal care for other known or suspected fetal problems	3
17	O95	Obstetric death of unspecified cause	3
18	O01	Hydatidiform mole	1
19	O21	Excessive vomiting in pregnancy	1
20	O23	Infections of genitourinary tract in pregnancy	1
21	O34	Maternal care for known or suspected abnormality of pelvic organs	1
22	O44	Placenta praevia	1
23	O60	Preterm delivery	1
24	O68	Labour and delivery complicated by fetal stress [distress]	1
25	O86	Other puerperal infections	1
26	O97	Death from sequelae of direct obstetric causes	1
27	O98	Maternal infectious and parasitic diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium	1
		Total	484

Table (28-2) Causes of Maternal Mortality (2018)

Sr. No.	ICD-10 Code	Descriptions	Total
1	O06	Unspecified abortion	92
2	O75	Other complications of labour and delivery, not elsewhere classified	74
3	O72	Postpartum haemorrhage	27
4	O15	Eclampsia	26
5	O14	Gestational [pregnancy-induced] hypertension with significant proteinuria	25
6	O99	Other maternal diseases classifiable elsewhere but complicating pregnancy, childbirth and the puerperium	20
7	O85	Puerperal sepsis	17
8	O36	Maternal care for other known or suspected fetal problems	14
9	O88	Obstetric embolism	12
10	O08	Complications following abortion and ectopic and molar pregnancy	11
11	O90	Complications of the puerperium, not elsewhere classified	6
12	O07	Failed attempted abortion	5
13	O44	Placenta praevia	5
14	O00	Ectopic pregnancy	4
15	O13	Gestational [pregnancy-induced] hypertension without significant proteinuria	4
16	O26	Maternal care for other conditions predominantly related to pregnancy	4
17	O34	Maternal care for known or suspected abnormality of pelvic organs	4
18	O86	Other puerperal infections	4
19	O97	Death from sequelae of direct obstetric causes	4
20	O45	Premature separation of placenta [abruptio placentae]	3
21	O46	Antepartum haemorrhage, not elsewhere classified	3
22	O48	Prolonged pregnancy	3
23	O60	Preterm delivery	3
24	O66	Other obstructed labour	3
25	O73	Retained placenta and membranes, without haemorrhage	3
	...	All other causes	25
		Total	401

Figure (53) and (54) indicates the mortality rate of under- five, infants and neonates in public hospitals maternal mortality ratio from 2010 to 2018.

Figure (53) Institutional Under 5 Mortality Rate, Infant Mortality Rate, Neonatal Mortality Rate in Public Hospitals (2010-2018)

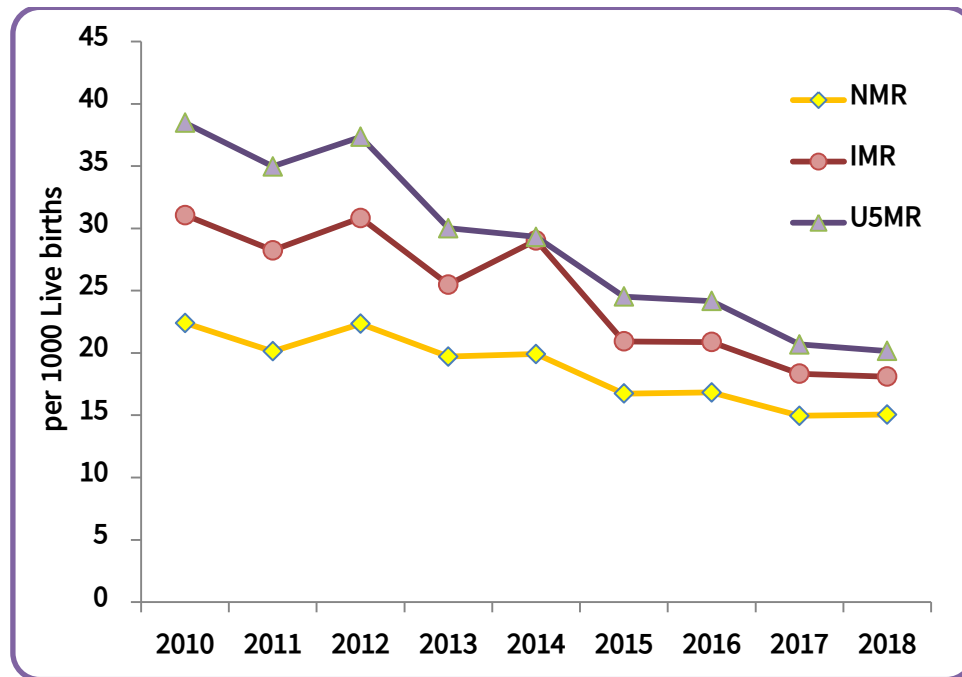
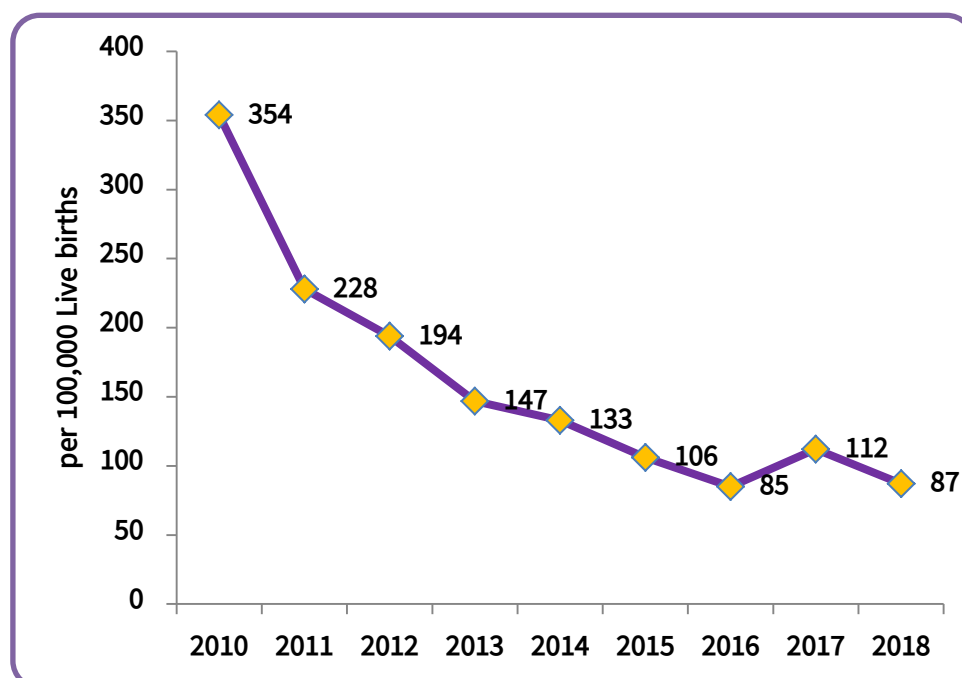


Figure (54) Institutional Maternal Mortality Ratio in Public Hospitals (2010-2018)



(C) MORBIDITY AND MORTALITY STATISTICS OF SPECIFIC DISEASE GROUPS

I. Communicable Diseases

II. Non communicable Diseases

1. Cardiovascular Diseases (I00-I99)
2. Cancer (C00-C97)
3. Diabetes Mellitus (E10-E14)
4. Chronic Respiratory Diseases (J30-J98)

III. Injuries, poisoning and certain other consequences of external causes (S00-T98)

I. Communicable Diseases

**Figure (55) Trend of proportion percent with certain infectious and parasitic diseases
in total inpatients (1999-2018)**

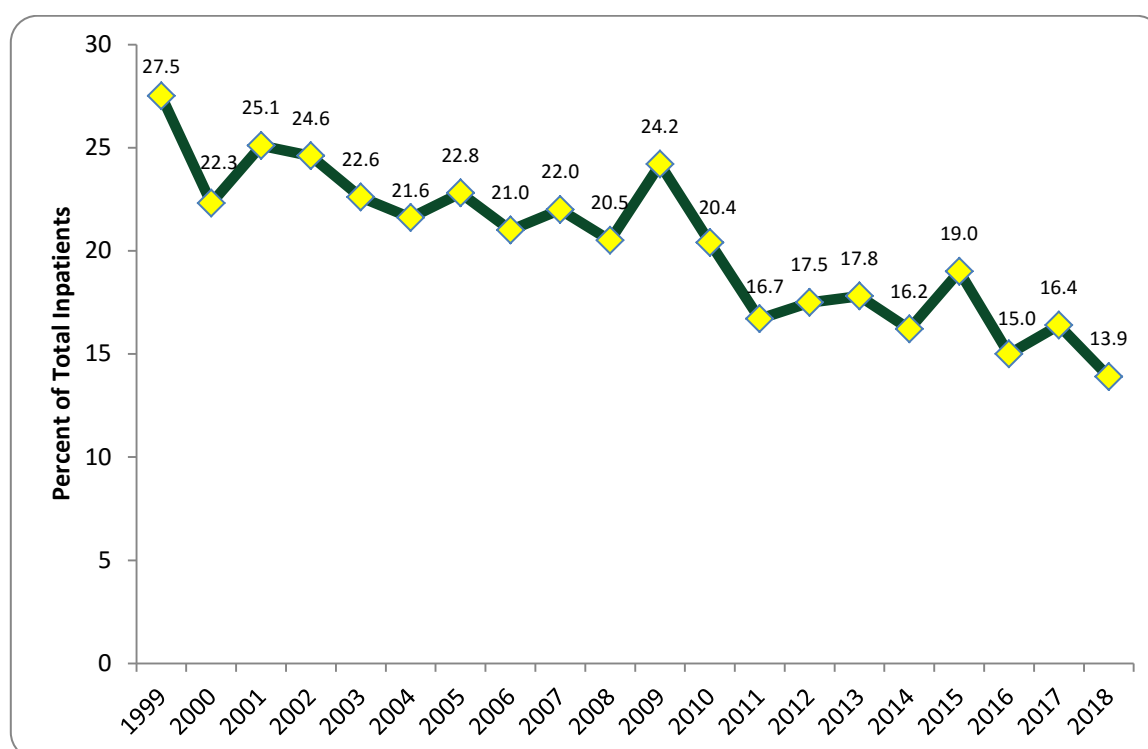


Table (29) Leading causes of Morbidity among Communicable Diseases in Male Patients (2017&2018)

2017			2018		
	Causes	%		Causes	%
1	Viral infection of unspecified site	32.09		Viral infection of unspecified site	30.54
2	Diarrhoea and gastroenteritis of presumed infectious origin	29.12		Diarrhoea and gastroenteritis of presumed infectious origin	29.88
3	Dengue haemorrhagic fever	12.29		Dengue haemorrhagic fever	10.35
4	Respiratory tuberculosis, not confirmed bacteriologically or histologically	7.51		Respiratory tuberculosis, not confirmed bacteriologically or histologically	8.47
5	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	2.07		Typhoid and paratyphoid fevers	2.26
6	Typhoid and paratyphoid fevers	2.01		Unspecified human immunodeficiency virus [HIV] disease	2.19
7	Unspecified human immunodeficiency virus [HIV] disease	1.61		Other septicaemia	1.87
8	Unspecified malaria	1.56		Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	1.64
9	Other septicaemia	1.28		Unspecified malaria	1.30
10	Unspecified viral hepatitis	0.88		Dengue fever [classical dengue]	0.71

Table (30) Leading causes of Morbidity among Communicable Diseases in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Viral infection of unspecified site	35.10	Viral infection of unspecified site	32.76
2	Diarrhoea and gastroenteritis of presumed infectious origin	30.41	Diarrhoea and gastroenteritis of presumed infectious origin	31.95
3	Dengue haemorrhagic fever	14.28	Dengue haemorrhagic fever	11.80
4	Respiratory tuberculosis, not confirmed bacteriologically or histologically	4.70	Respiratory tuberculosis, not confirmed bacteriologically or histologically	5.19
5	Typhoid and paratyphoid fevers	2.33	Typhoid and paratyphoid fevers	2.57
6	Other septicaemia	1.40	Other septicaemia	1.90
7	Unspecified human immunodeficiency virus [HIV] disease	1.22	Unspecified human immunodeficiency virus [HIV] disease	1.51
8	Unspecified malaria	1.13	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	0.89
9	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	1.03	Unspecified malaria	0.88
10	Amoebiasis	0.79	Dengue fever [classical dengue]	0.83

Table (31) Leading causes of Mortality among Communicable Diseases in Male Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other septicaemia	28.91	Other septicaemia	31.92
2	Respiratory tuberculosis, not confirmed bacteriologically or histologically	18.33	Respiratory tuberculosis, not confirmed bacteriologically or histologically	18.09
3	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	16.60	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	9.86
4	Unspecified human immunodeficiency virus [HIV] disease	7.41	Unspecified human immunodeficiency virus [HIV] disease	9.76
5	Diarrhoea and gastroenteritis of presumed infectious origin	3.48	Viral infection of unspecified site	4.80
6	Respiratory tuberculosis, bacteriologically and histologically confirmed	2.99	Diarrhoea and gastroenteritis of presumed infectious origin	4.45
7	Dengue haemorrhagic fever	2.85	Respiratory tuberculosis, bacteriologically and histologically confirmed	3.00
8	Tuberculosis of nervous system	2.28	Tuberculosis of nervous system	2.84
9	Miliary tuberculosis	1.99	Other viral diseases, not elsewhere classified	2.63
10	Unspecified viral encephalitis	1.83	Miliary tuberculosis	1.39

Table (32) Leading causes of Mortality among Communicable Diseases in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other septicaemia	40.97	Other septicaemia	39.29
2	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	13.63	Respiratory tuberculosis, not confirmed bacteriologically or histologically	12.72
3	Respiratory tuberculosis, not confirmed bacteriologically or histologically	11.65	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	8.32
4	Diarrhoea and gastroenteritis of presumed infectious origin	6.45	Unspecified human immunodeficiency virus [HIV] disease	6.81
5	Dengue haemorrhagic fever	6.36	Viral infection of unspecified site	6.00
6	Unspecified human immunodeficiency virus [HIV] disease	5.38	Diarrhoea and gastroenteritis of presumed infectious origin	5.39
7	Human immunodeficiency virus [HIV] disease resulting in other conditions	2.20	Dengue haemorrhagic fever	2.74
8	Respiratory tuberculosis, bacteriologically and histologically confirmed	2.06	Tuberculosis of nervous system	2.13
9	Tuberculosis of other organs	1.88	Respiratory tuberculosis, bacteriologically and histologically confirmed	2.03
10	Unspecified viral encephalitis	1.17	Other viral diseases, not elsewhere classified	1.80

II. Non-Communicable Diseases

1. Cardiovascular Diseases (I00-I99)

Figure (56) Trend of Proportion Percent with Diseases of Circulatory System in total inpatients (1999-2018)

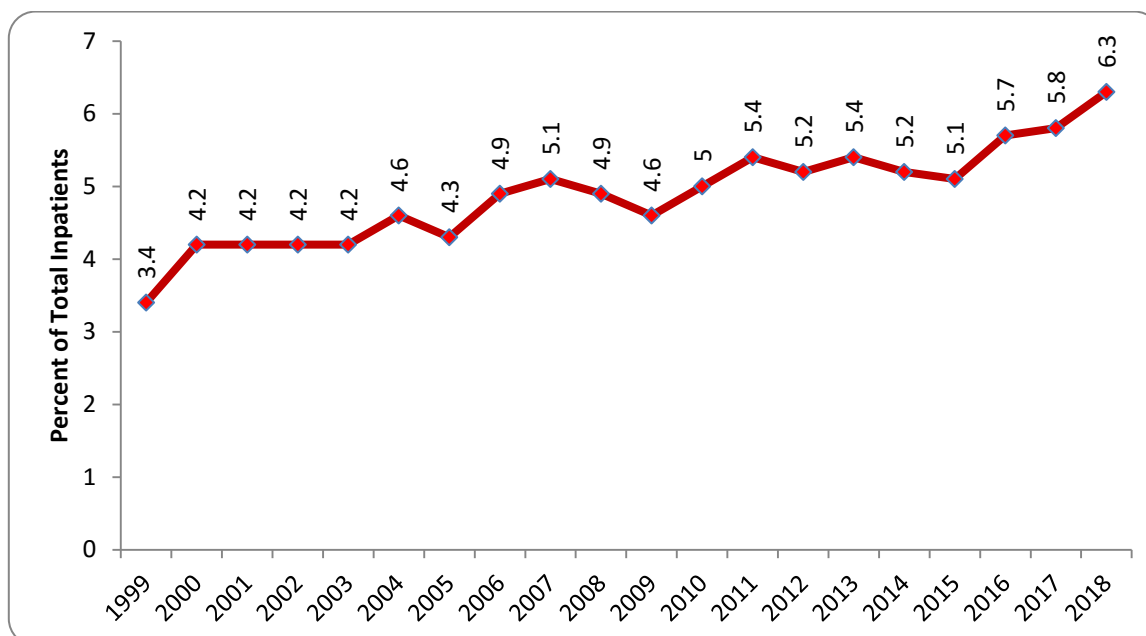


Table (33) Leading causes of Morbidity among Cardiovascular Diseases in Male Patients (2017&2018)

2017			2018		
	Causes	%		Causes	%
1	Essential (primary) hypertension	19.80		Essential (primary) hypertension	20.10
2	Stroke, not specified as haemorrhage or infarction	14.03		Heart failure	12.29
3	Heart failure	12.09		Stroke, not specified as haemorrhage or infarction	11.85
4	Chronic ischaemic heart disease	8.42		Chronic ischaemic heart disease	7.78
5	Acute myocardial infarction	6.17		Acute myocardial infarction	6.94
6	Haemorrhoids	6.14		Haemorrhoids	6.24
7	Intracerebral haemorrhage	4.43		Intracerebral haemorrhage	4.52
8	Complications and ill-defined descriptions of heart disease	3.74		Complications and ill-defined descriptions of heart disease	3.84
9	Cerebral infarction	3.09		Cerebral infarction	3.51
10	Cardiomyopathy	1.99		Cardiomyopathy	2.11

Table (34) Leading causes of Morbidity among Cardiovascular Diseases in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Essential (primary) hypertension	26.69	Essential (primary) hypertension	26.13
2	Heart failure	15.77	Heart failure	16.38
3	Chronic ischaemic heart disease	12.77	Chronic ischaemic heart disease	11.31
4	Stroke, not specified as haemorrhage or infarction	9.69	Stroke, not specified as haemorrhage or infarction	8.30
5	Acute myocardial infarction	3.62	Acute myocardial infarction	4.37
6	Haemorrhoids	3.17	Haemorrhoids	3.43
7	Atrial fibrillation and flutter	2.65	Complications and ill-defined descriptions of heart disease	3.16
8	Complications and ill-defined descriptions of heart disease	2.55	Atrial fibrillation and flutter	2.75
9	Intracerebral haemorrhage	2.16	Cerebral infarction	2.42
10	Cerebral infarction	2.08	Paroxysmal tachycardia	2.37

Table (35) Leading causes of Mortality among Cardiovascular Diseases in Male Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Stroke, not specified as haemorrhage or infarction	16.91	Intracerebral haemorrhage	13.64
2	Intracerebral haemorrhage	13.42	Essential (primary) hypertension	12.78
3	Essential (primary) hypertension	13.32	Stroke, not specified as haemorrhage or infarction	11.86
4	Heart failure	11.12	Heart failure	11.26
5	Acute myocardial infarction	7.66	Acute myocardial infarction	7.61
6	Chronic ischaemic heart disease	4.96	Other nontraumatic intracranial haemorrhage	5.15
7	Other nontraumatic intracranial haemorrhage	4.57	Chronic ischaemic heart disease	4.81
8	Complications and ill-defined descriptions of heart disease	4.23	Complications and ill-defined descriptions of heart disease	4.71
9	Cardiomyopathy	3.63	Cardiomyopathy	4.25
10	Cerebral infarction	2.76	Cerebral infarction	3.27

Table (36) Leading causes of Mortality among Cardiovascular Diseases in Female Patients (2017&2018)

2017		2018	
Causes	%	Causes	%
1 Heart failure	18.20	Heart failure	16.56
2 Stroke, not specified as haemorrhage or infarction	11.71	Essential (primary) hypertension	12.09
3 Essential (primary) hypertension	11.38	Stroke, not specified as haemorrhage or infarction	11.76
4 Acute myocardial infarction	8.09	Acute myocardial infarction	8.39
5 Intracerebral haemorrhage	7.52	Chronic ischaemic heart disease	6.84
6 Chronic ischaemic heart disease	7.12	Intracerebral haemorrhage	6.78
7 Complications and ill-defined descriptions of heart disease	3.26	Complications and ill-defined descriptions of heart disease	3.75
8 Other nontraumatic intracranial haemorrhage	3.20	Atrial fibrillation and flutter	3.39
9 Cerebral infarction	2.80	Other nontraumatic intracranial haemorrhage	3.11
10 Atrial fibrillation and flutter	2.69	Cerebral infarction	2.86

2. Neoplasm

Figure (57) Trend of Proportion Percent with Neoplasm in total inpatients (1999-2018)

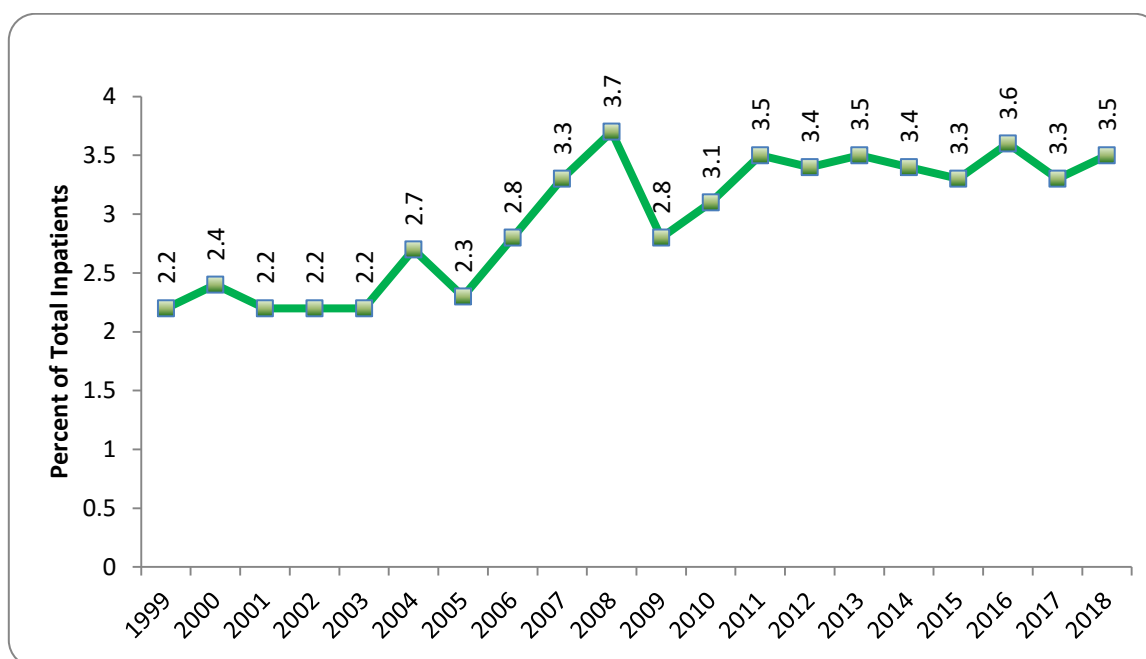


Figure (58) Percent Distribution of All cases of Malignant Neoplasm (2017)

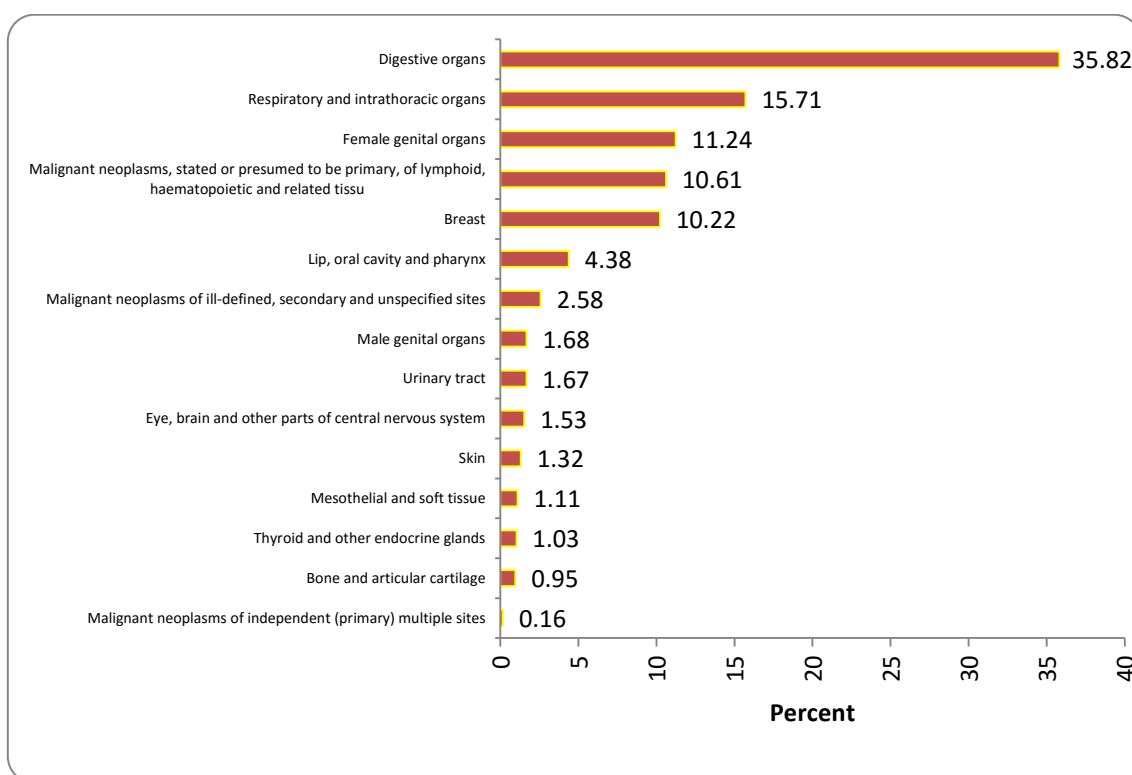


Figure (59) Percent Distribution of All cases of Malignant Neoplasm (2018)

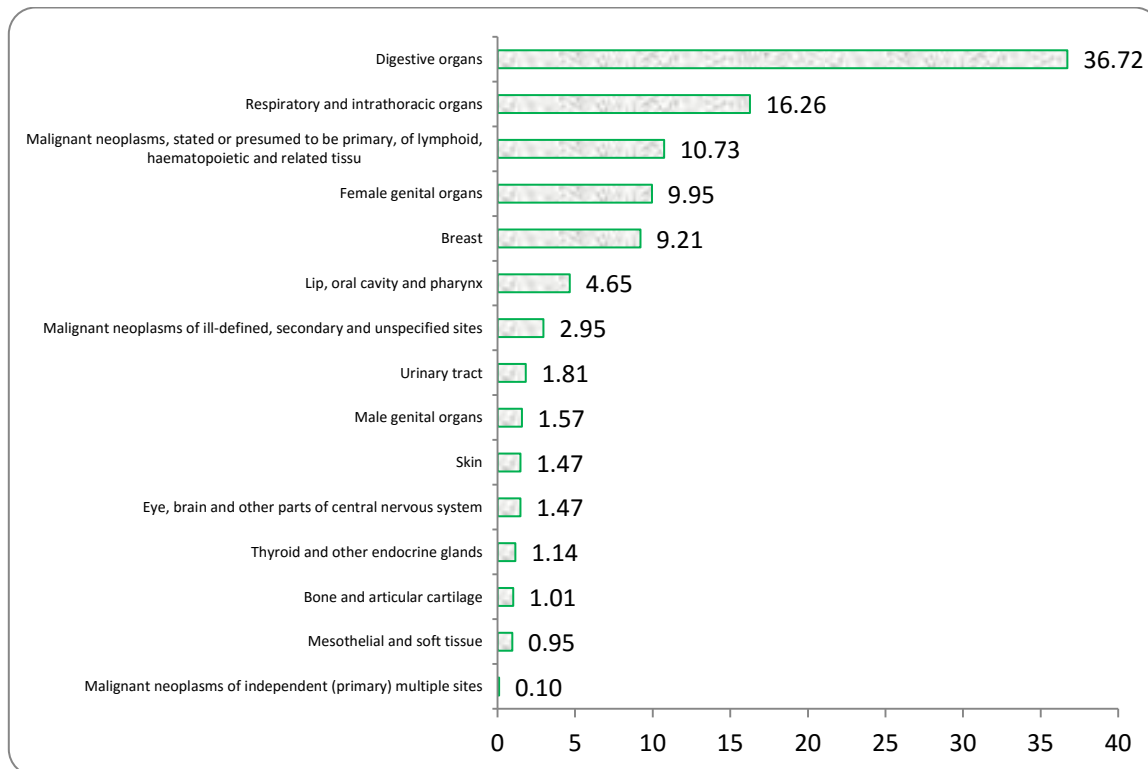


Table (37) Leading causes of Morbidity among Malignant Neoplasm in Male Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Malignant neoplasm of bronchus and lung	15.73	Malignant neoplasm of bronchus and lung	16.65
2	Malignant neoplasm of liver and intrahepatic bile ducts	14.81	Malignant neoplasm of liver and intrahepatic bile ducts	14.29
3	Malignant neoplasm of stomach	10.34	Malignant neoplasm of stomach	9.99
4	Malignant neoplasm of colon	5.52	Malignant neoplasm of colon	5.83
5	Malignant neoplasm of rectum	5.51	Malignant neoplasm of rectum	5.71
6	Malignant neoplasm of larynx	4.83	Malignant neoplasm of oesophagus	4.69
7	Malignant neoplasm of oesophagus	4.39	Malignant neoplasm of larynx	4.23
8	Other and unspecified types of non-Hodgkin's lymphoma	3.86	Myeloid leukaemia	3.67
9	Lymphoid leukaemia	3.81	Lymphoid leukaemia	3.36
10	Myeloid leukaemia	3.15	Other and unspecified types of non-Hodgkin's lymphoma	3.29

Table (38) Leading causes of Morbidity among Malignant Neoplasm in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Malignant neoplasm of breast	18.98	Malignant neoplasm of breast	17.62
2	Malignant neoplasm of cervix uteri	12.81	Malignant neoplasm of cervix uteri	11.51
3	Malignant neoplasm of bronchus and lung	9.59	Malignant neoplasm of bronchus and lung	9.88
4	Malignant neoplasm of stomach	7.17	Malignant neoplasm of stomach	7.07
5	Malignant neoplasm of liver and intrahepatic bile ducts	6.32	Malignant neoplasm of liver and intrahepatic bile ducts	6.40
6	Malignant neoplasm of colon	6.19	Malignant neoplasm of colon	6.21
7	Malignant neoplasm of ovary	5.01	Malignant neoplasm of rectum	5.58
8	Malignant neoplasm of rectum	4.76	Malignant neoplasm of ovary	4.45
9	Myeloid leukaemia	2.92	Myeloid leukaemia	3.06
10	Lymphoid leukaemia	2.33	Lymphoid leukaemia	2.33

Table (39) Leading causes of Mortality among Malignant Neoplasm in Male Patients (2017&2018)

2017			2018		
	Causes	%	Causes	%	
1	Malignant neoplasm of liver and intrahepatic bile ducts	28.18	Malignant neoplasm of liver and intrahepatic bile ducts	23.85	
2	Malignant neoplasm of bronchus and lung	23.99	Malignant neoplasm of bronchus and lung	22.35	
3	Malignant neoplasm of stomach	7.45	Malignant neoplasm of stomach	8.35	
4	Malignant neoplasm of oesophagus	5.51	Malignant neoplasm of oesophagus	4.44	
5	Myeloid leukaemia	3.88	Myeloid leukaemia	3.99	
6	Other and unspecified types of non-Hodgkin's lymphoma	3.65	Other and unspecified types of non-Hodgkin's lymphoma	3.46	
7	Lymphoid leukaemia	2.72	Malignant neoplasm of colon	3.31	
8	Malignant neoplasm of other and unspecified parts of tongue	2.48	Malignant neoplasm of larynx	2.63	
9	Malignant neoplasm of rectum	2.25	Malignant neoplasm of rectum	2.26	
10	Malignant neoplasm of bladder	1.94	Malignant neoplasm of other and unspecified parts of tongue	2.18	

Table (40) Leading causes of Mortality among Malignant Neoplasm in Female Patients (2017&2018)

2017			2018		
	Causes	%	Causes	%	
1	Malignant neoplasm of bronchus and lung	18.89	Malignant neoplasm of bronchus and lung	14.61	
2	Malignant neoplasm of breast	13.36	Malignant neoplasm of breast	13.39	
3	Malignant neoplasm of liver and intrahepatic bile ducts	10.78	Malignant neoplasm of liver and intrahepatic bile ducts	12.08	
4	Malignant neoplasm of cervix uteri	10.31	Malignant neoplasm of cervix uteri	8.52	
5	Myeloid leukaemia	7.25	Malignant neoplasm of stomach	8.05	
6	Malignant neoplasm of stomach	5.82	Myeloid leukaemia	6.27	
7	Malignant neoplasm of ovary	3.05	Malignant neoplasm of colon	3.93	
8	Other and unspecified types of non-Hodgkin's lymphoma	2.86	Malignant neoplasm of ovary	3.84	
9	Lymphoid leukaemia	2.19	Malignant neoplasm of oesophagus	2.81	
10	Malignant melanoma of skin	1.91	Secondary malignant neoplasm of respiratory and digestive organs	2.15	

3. Diabetes Mellitus

Figure (60) Trend of Proportion Percent with Endocrine, nutritional and metabolic diseases in total inpatients (1999-2018)

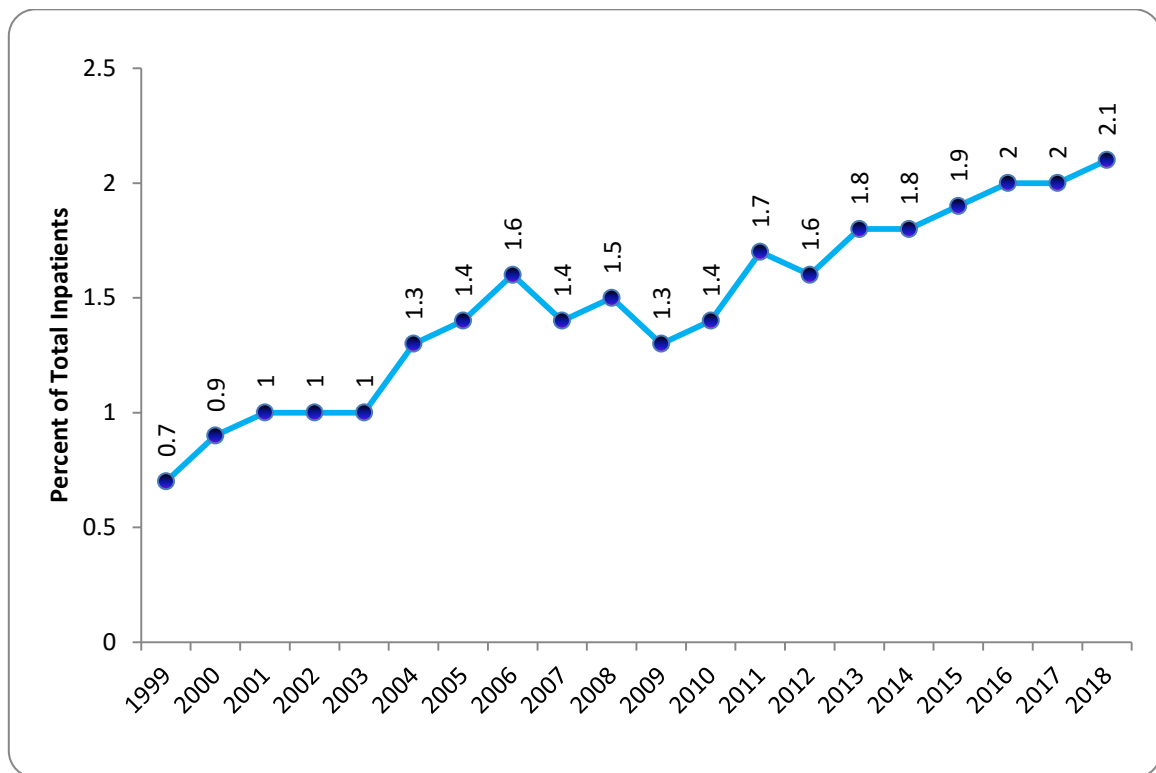


Figure (61) Proportion of Diabetes Mellitus in Total Inpatients (2014-2018)

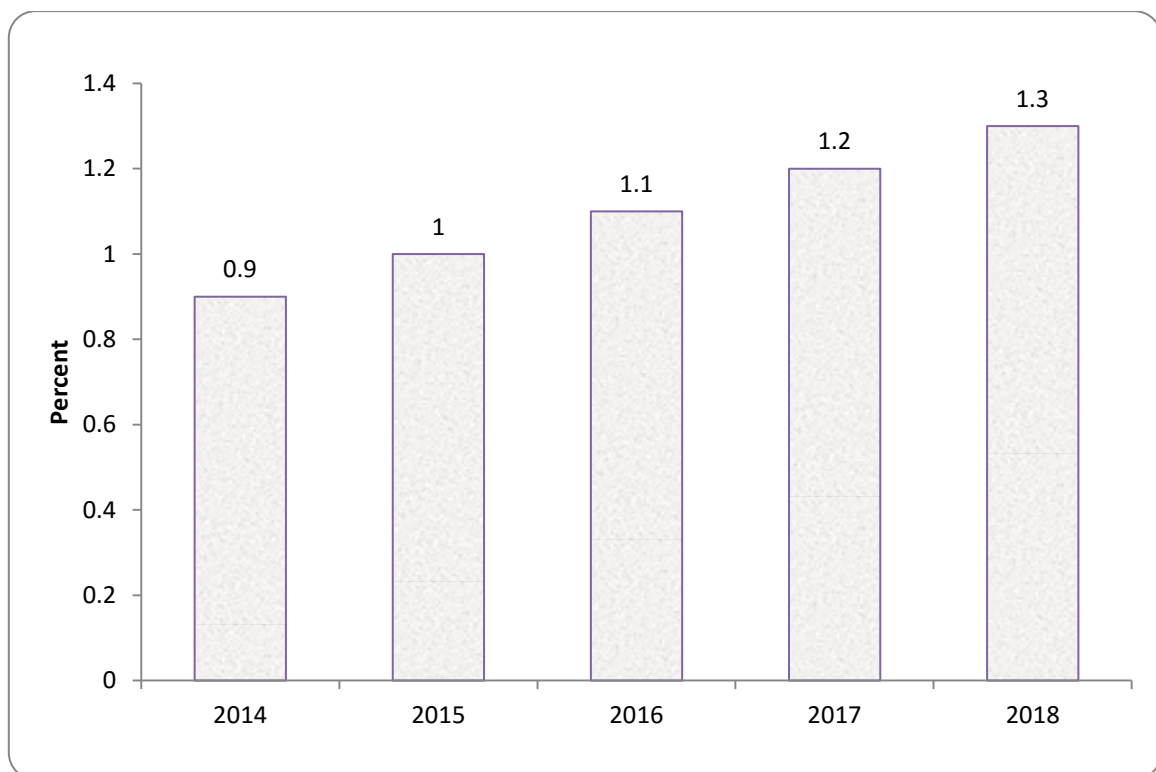


Figure (62) Distribution of various Diabetes Mellitus by sex (2018)

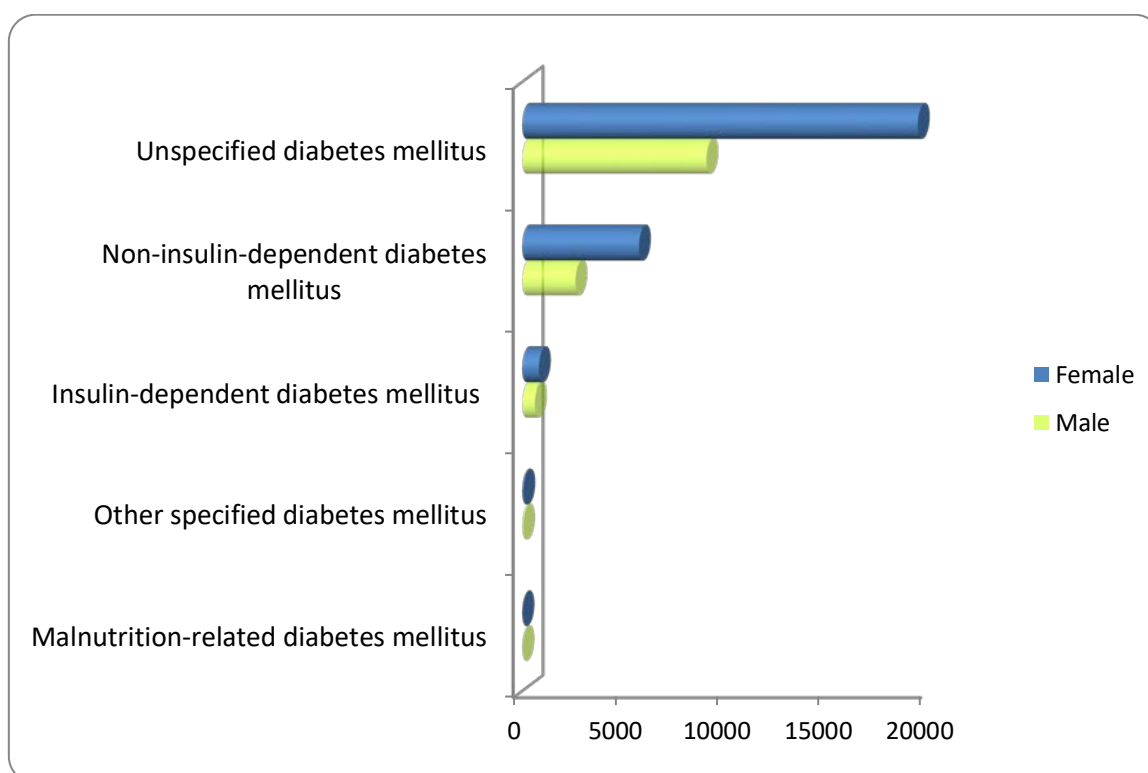
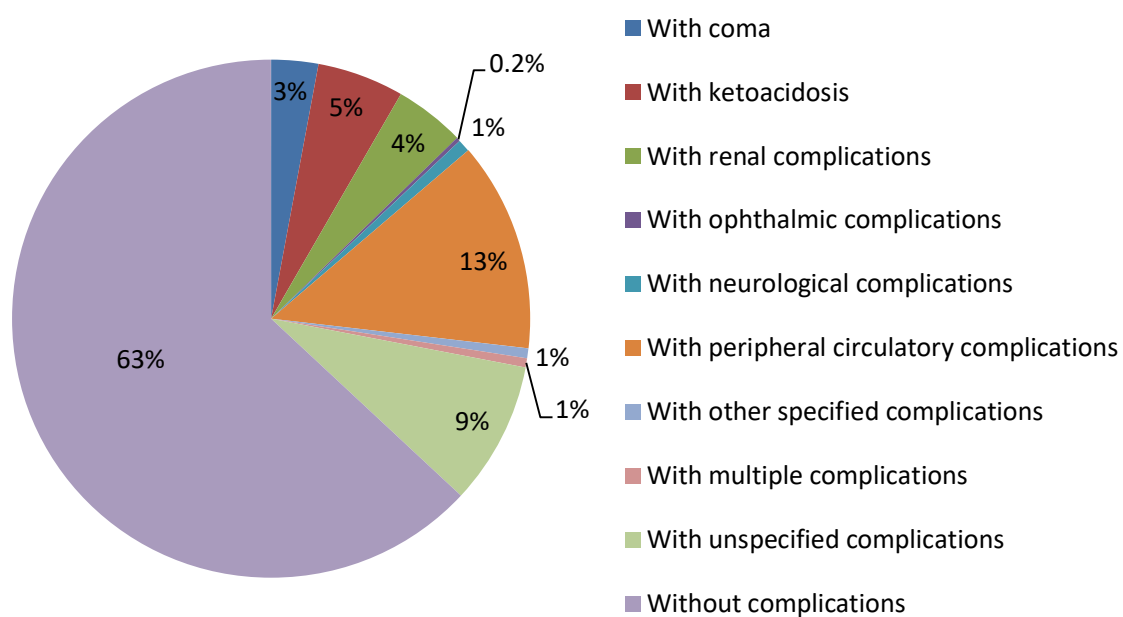


Figure (63) Diabetes Mellitus with various complications or without complications (2018)



4. Chronic Respiratory Diseases (J30-J98)

Figure (64) Trend of Proportion Percent with Diseases of Respiratory System in total inpatients (1999-2018)

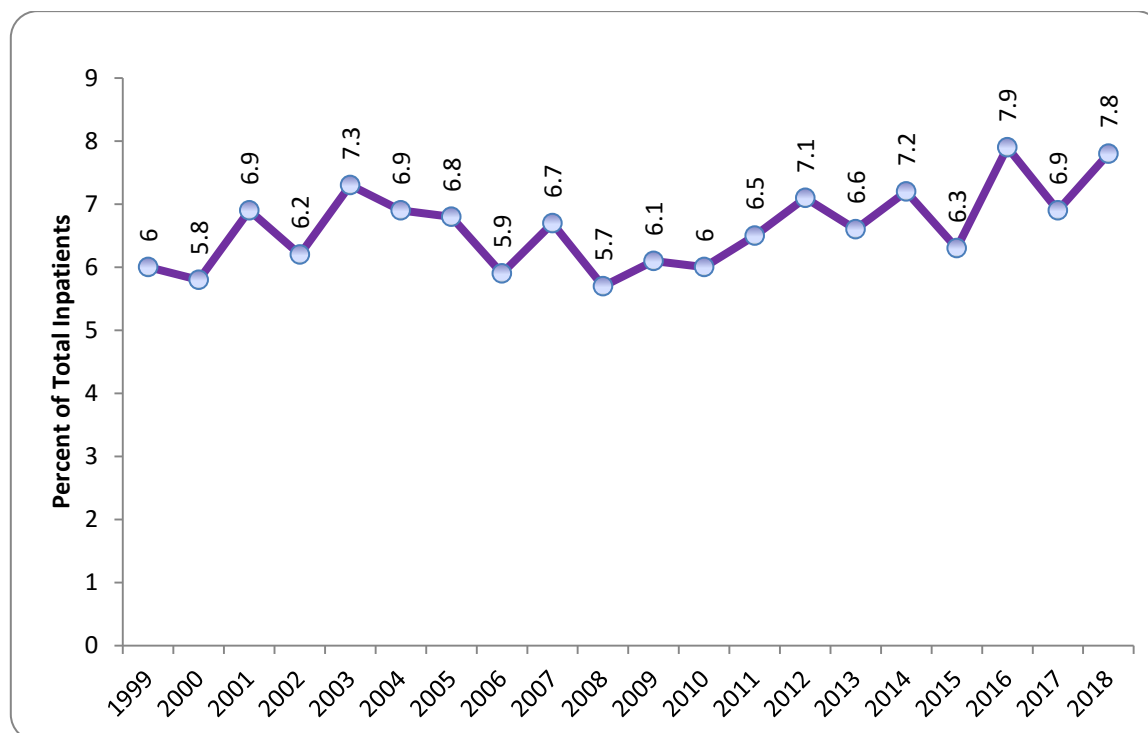


Table (41) Leading causes of Morbidity among Chronic Respiratory Diseases in Male Patients (2017&2018)

2017		2018	
Causes	%	Causes	%
1 Other chronic obstructive pulmonary disease	35.23	Other chronic obstructive pulmonary disease	33.20
2 Asthma	14.95	Asthma	14.26
3 Status asthmaticus	12.63	Status asthmaticus	10.60
4 Pleural effusion, not elsewhere classified	8.79	Other respiratory disorders	9.94
5 Other respiratory disorders	4.93	Pleural effusion, not elsewhere classified	8.04
6 Bronchitis, not specified as acute or chronic	3.02	Bronchitis, not specified as acute or chronic	3.02
7 Pyothorax	2.47	Pneumonitis due to solids and liquids	2.43
8 Pneumothorax	2.20	Pyothorax	2.39
9 Pneumonitis due to solids and liquids	2.11	Pulmonary oedema	2.11
10 Nasal polyp	1.95	Pneumothorax	2.02

Table (42) Leading causes of Morbidity among Chronic Respiratory Diseases in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other chronic obstructive pulmonary disease	38.55	Other chronic obstructive pulmonary disease	37.38
2	Asthma	19.07	Asthma	16.47
3	Status asthmaticus	15.55	Status asthmaticus	13.46
4	Pleural effusion, not elsewhere classified	5.58	Other respiratory disorders	10.18
5	Other respiratory disorders	4.84	Pleural effusion, not elsewhere classified	5.04
6	Bronchitis, not specified as acute or chronic	2.55	Bronchitis, not specified as acute or chronic	2.97
7	Pulmonary oedema	2.04	Pulmonary oedema	2.37
8	Nasal polyp	1.40	Pneumonitis due to solids and liquids	1.36
9	Peritonsillar abscess	1.18	Nasal polyp	1.20
10	Pneumonitis due to solids and liquids	1.13	Respiratory failure, not elsewhere classified	1.10

Table (43) Leading causes of Mortality among Chronic Respiratory Diseases in Male Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other chronic obstructive pulmonary disease	29.85	Other chronic obstructive pulmonary disease	22.27
2	Pneumonitis due to solids and liquids	16.41	Pneumonitis due to solids and liquids	18.51
3	Respiratory failure, not elsewhere classified	11.10	Respiratory failure, not elsewhere classified	18.17
4	Pulmonary oedema	8.29	Other respiratory disorders	10.16
5	Adult respiratory distress syndrome	7.08	Pulmonary oedema	9.83
6	Other respiratory disorders	6.19	Adult respiratory distress syndrome	5.72
7	Asthma	5.47	Pleural effusion, not elsewhere classified	2.76
8	Pleural effusion, not elsewhere classified	5.39	Asthma	2.56
9	Pyothorax	3.06	Pyothorax	2.15
10	Status asthmaticus	1.77	Status asthmaticus	1.88

Table (44) Leading causes of Mortality among Chronic Respiratory Diseases in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other chronic obstructive pulmonary disease	38.02	Other chronic obstructive pulmonary disease	32.94
2	Pneumonitis due to solids and liquids	12.60	Respiratory failure, not elsewhere classified	16.67
3	Pulmonary oedema	10.33	Pneumonitis due to solids and liquids	12.84
4	Respiratory failure, not elsewhere classified	8.74	Pulmonary oedema	12.35
5	Other respiratory disorders	7.60	Other respiratory disorders	9.51
6	Pleural effusion, not elsewhere classified	6.47	Adult respiratory distress syndrome	3.43
7	Adult respiratory distress syndrome	5.68	Status asthmaticus	3.04
8	Status asthmaticus	4.20	Asthma	2.55
9	Abscess of lung and mediastinum	1.36	Pleural effusion, not elsewhere classified	1.67
10	Pyothorax	1.25	Abscess of lung and mediastinum	1.18

III. Injury, Poisoning and certain other consequences of external causes (S00-T98)

Figure (65) Trend of Proportion Percent with Injury, Poisoning and certain other consequences of external causes in total inpatients (1999-2018)

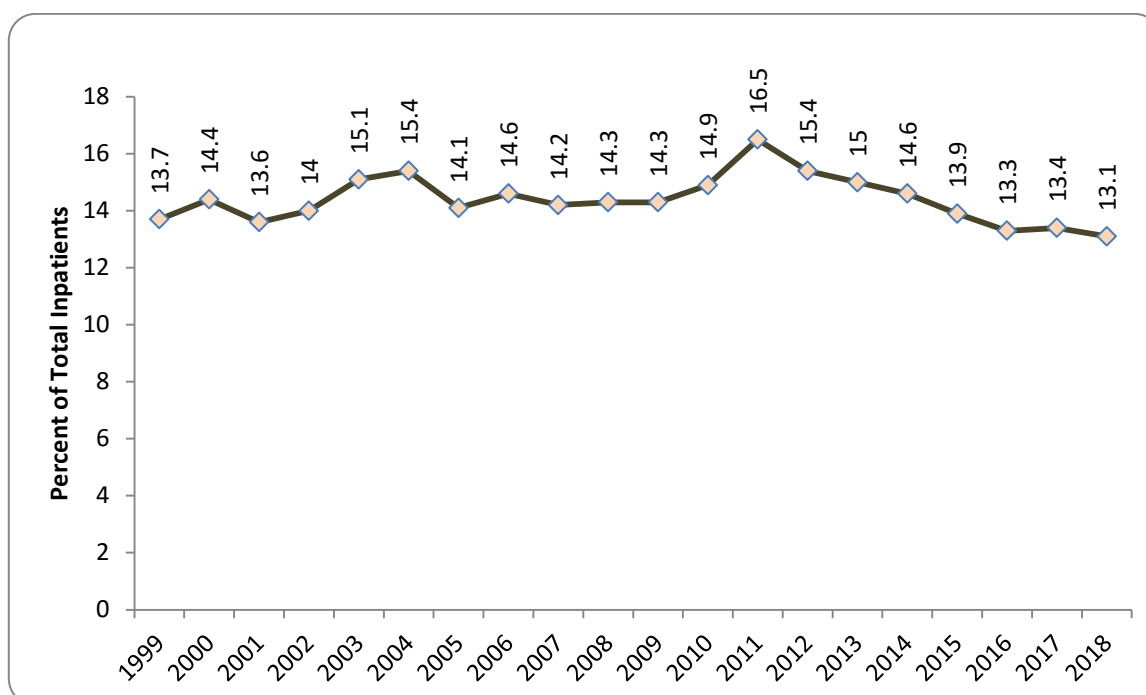


Table (45) Leading causes of Morbidity among Injury, poisoning and other consequences of external causes in Male Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other and unspecified injuries of head	26.12	Other and unspecified injuries of head	24.31
2	Injury of unspecified body region	7.88	Injury of unspecified body region	6.51
3	Toxic effect of contact with venomous animals	5.35	Toxic effect of contact with venomous animals	5.78
4	Unspecified multiple injuries	4.42	Fracture of forearm	4.29
5	Fracture of forearm	3.74	Fracture of lower leg, including ankle	3.82
6	Fracture of lower leg, including ankle	3.43	Unspecified multiple injuries	3.31
7	Fracture of femur	2.87	Other and unspecified injuries of abdomen, lower back and pelvis	2.98
8	Fracture of shoulder and upper arm	2.72	Fracture of femur	2.91
9	Other and unspecified injuries of wrist and hand	2.62	Fracture of shoulder and upper arm	2.90
10	Other and unspecified injuries of abdomen, lower back and pelvis	2.60	Other and unspecified injuries of wrist and hand	2.55

Table (46) Leading causes of Morbidity among Injury, poisoning and other consequences of external causes in Female Patients (2017&2018)

	2017		2018	
	Causes	%	Causes	%
1	Other and unspecified injuries of head	22.55	Other and unspecified injuries of head	21.03
2	Injury of unspecified body region	10.72	Injury of unspecified body region	8.99
3	Toxic effect of contact with venomous animals	6.36	Toxic effect of contact with venomous animals	7.32
4	Fracture of forearm	4.71	Fracture of forearm	5.52
5	Fracture of femur	4.70	Fracture of femur	4.72
6	Other and unspecified injuries of abdomen, lower back and pelvis	3.37	Other and unspecified injuries of abdomen, lower back and pelvis	3.42
7	Fracture of lower leg, including ankle	3.01	Fracture of shoulder and upper arm	3.04
8	Unspecified multiple injuries	2.96	Fracture of lower leg, including ankle	3.02
9	Fracture of shoulder and upper arm	2.85	Toxic effect of pesticides	2.83
10	Toxic effect of pesticides	2.78	Toxic effect of other noxious substances eaten as food	2.44

(D) Distribution of Disease Groups by Region/State (2018)

Figure (66) Proportion of Inpatients with Certain Infectious and Parasitic Diseases by Region/State (2018)

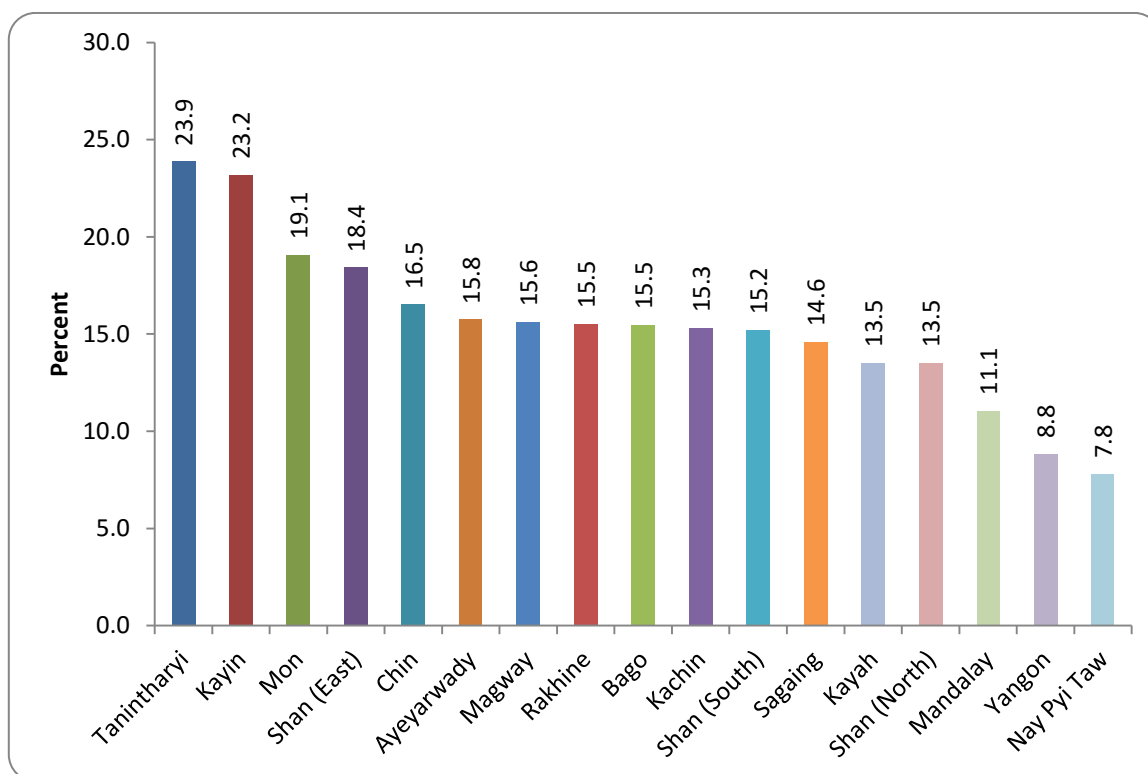


Figure (67) Proportion of Inpatients with Neoplasms by Region/State (2018)

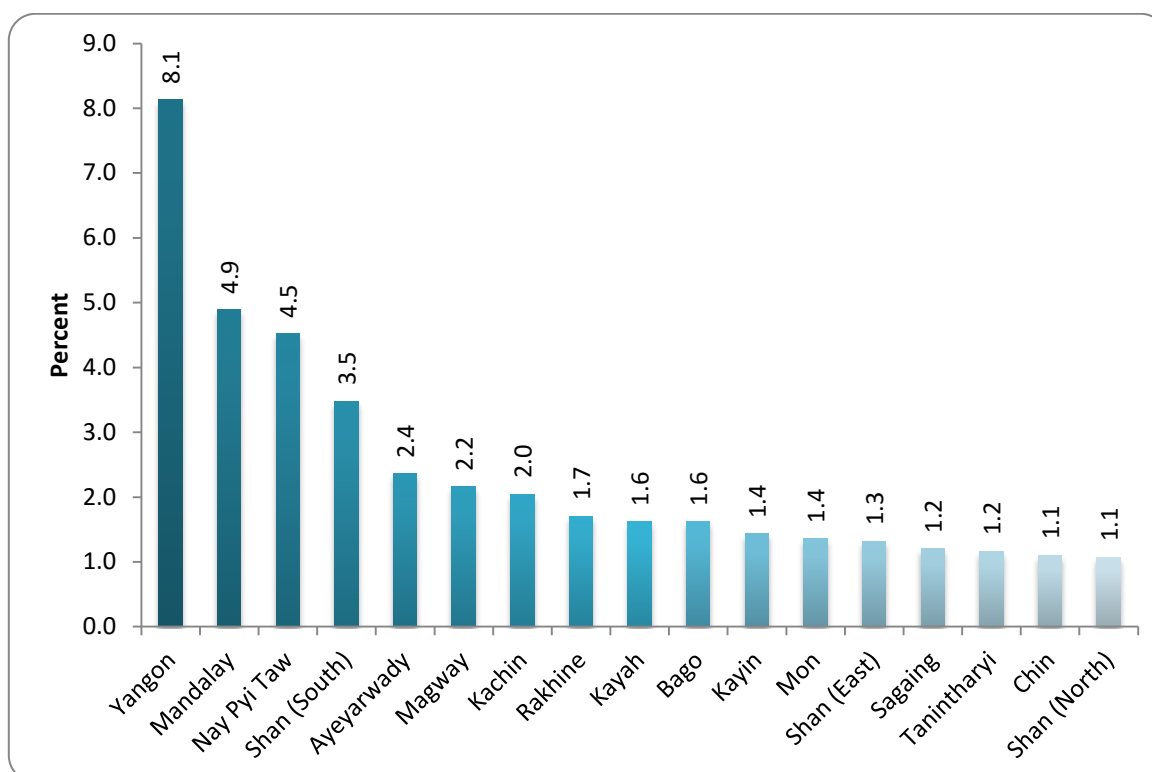


Figure (68) Proportion of Inpatients with Diseases of Circulatory System by Region/State (2018)

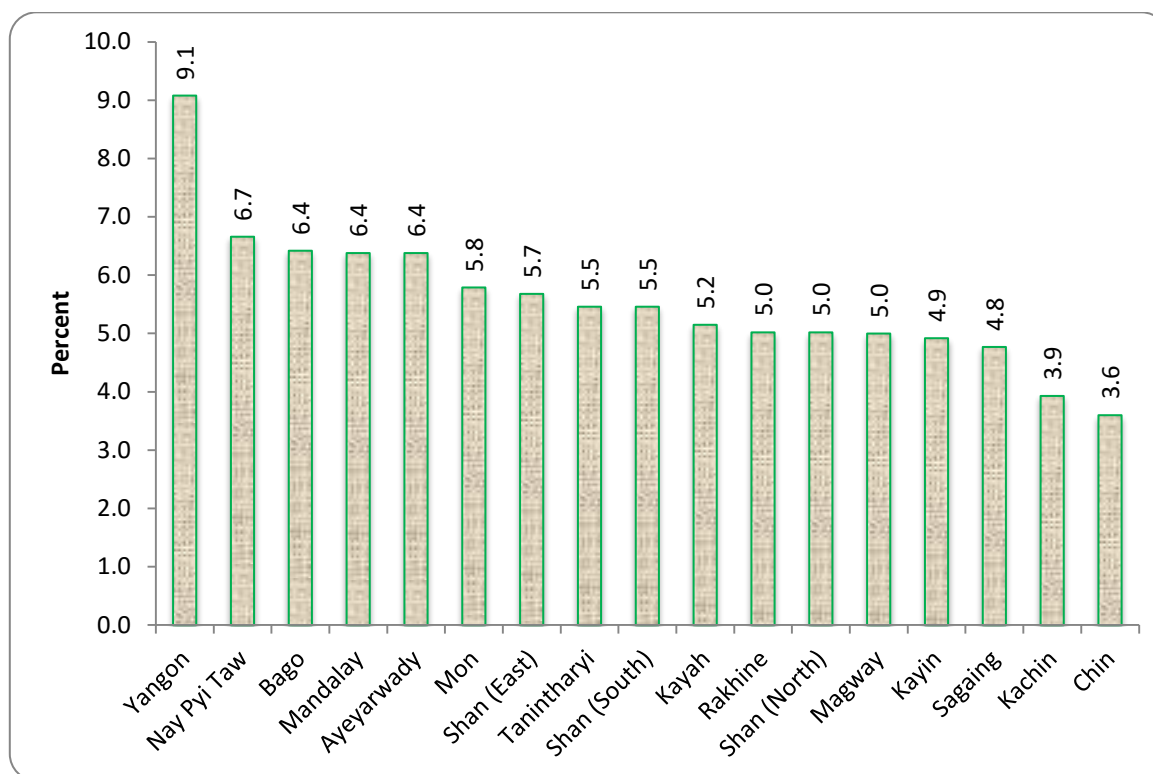


Figure (69) Proportion of Inpatients with Diseases of Respiratory System by Region/State (2018)

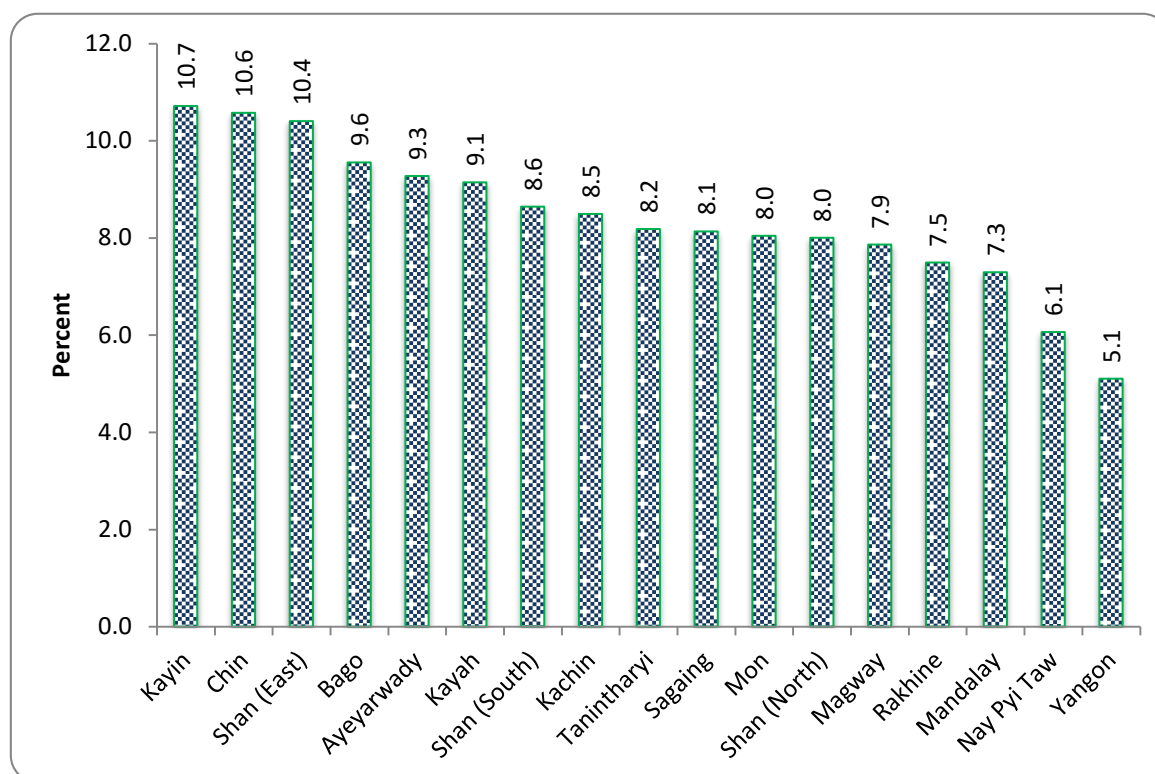


Figure (70) Proportion of Inpatients with Diseases of Digestive System by Region/State (2018)

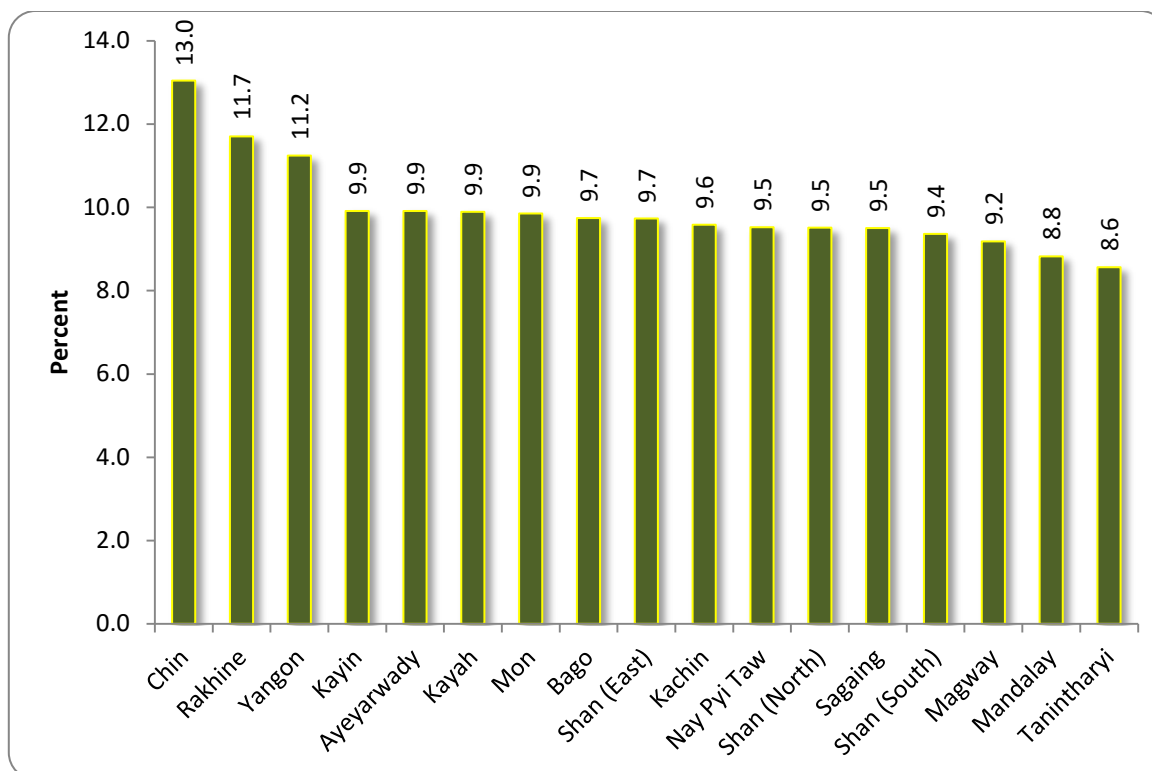


Figure (71) Proportion of Inpatients with Endocrine, nutritional and metabolic diseases by Region/State (2018)

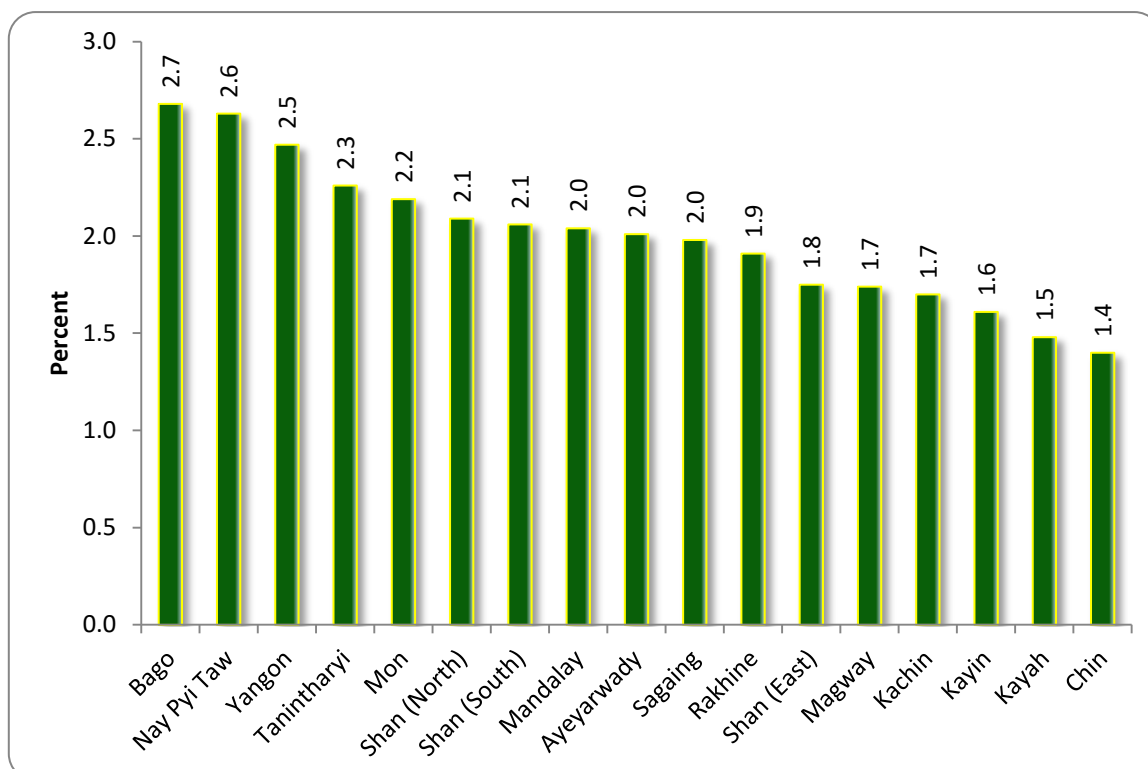


Figure (72) Proportion of Inpatients with Pregnancy, childbirth and puerperium by Region/State (2018)

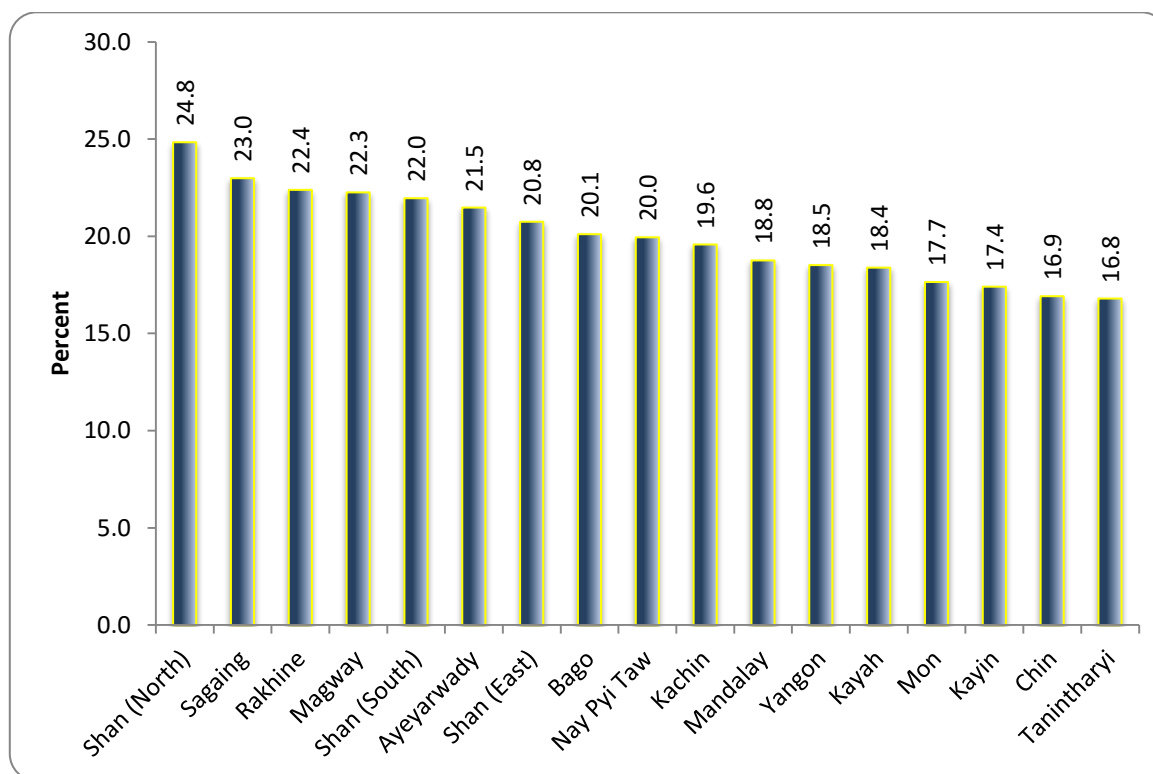


Figure (73) Proportion of Inpatients with Certain conditions originating in the perinatal period by Region/State (2018)

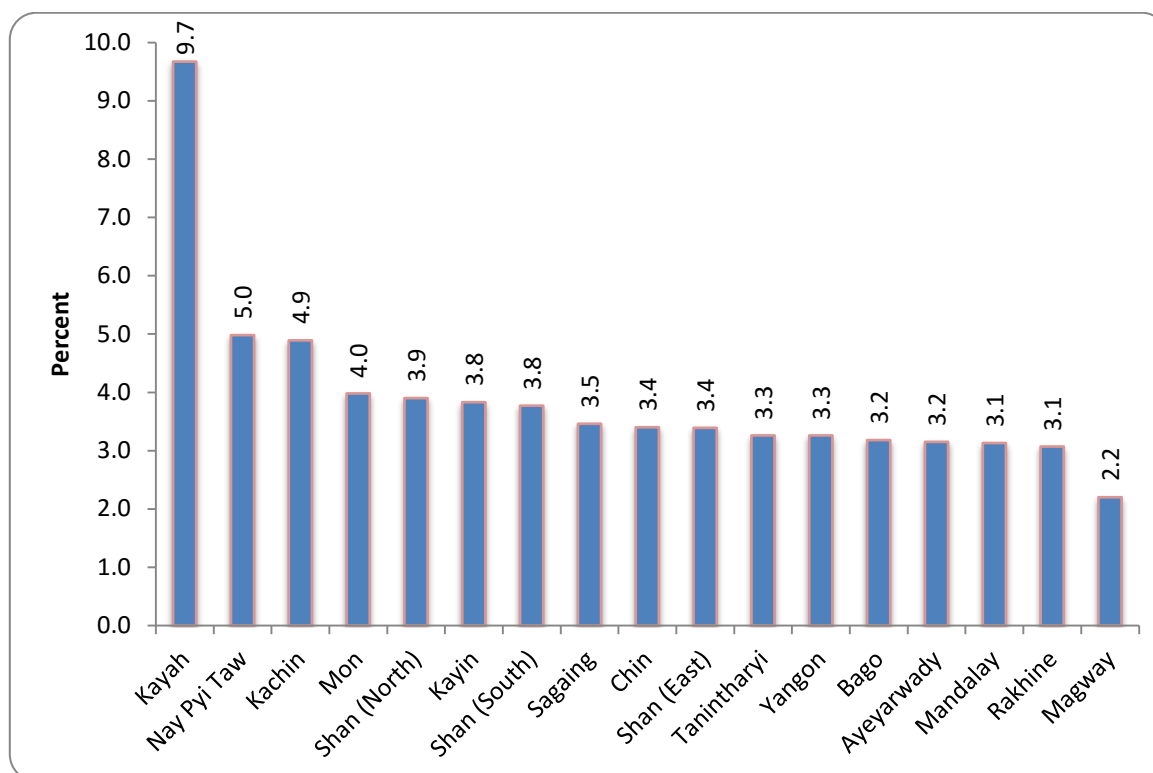


Figure (74) Proportion of Inpatients with Congenital malformation, deformation and chromosomal abnormalities by Region/State (2018)

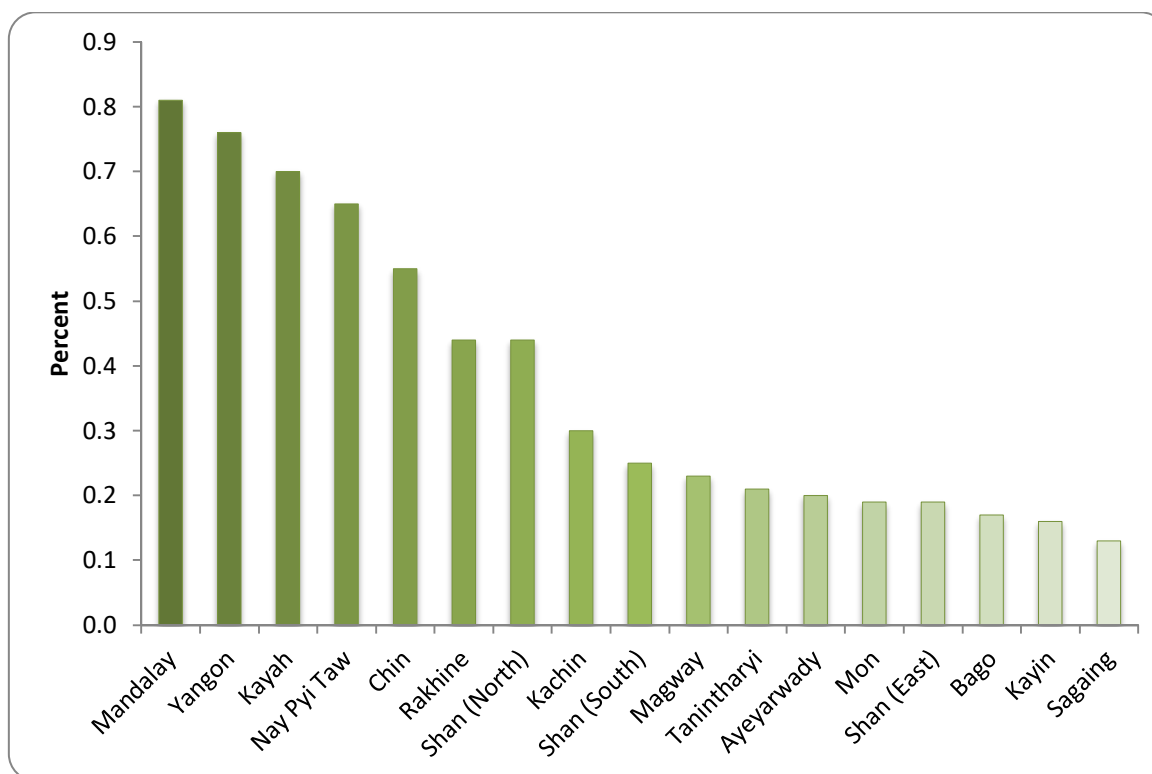


Figure (75) Proportion of Inpatients with Diseases of Genitourinary System by Region/State (2018)

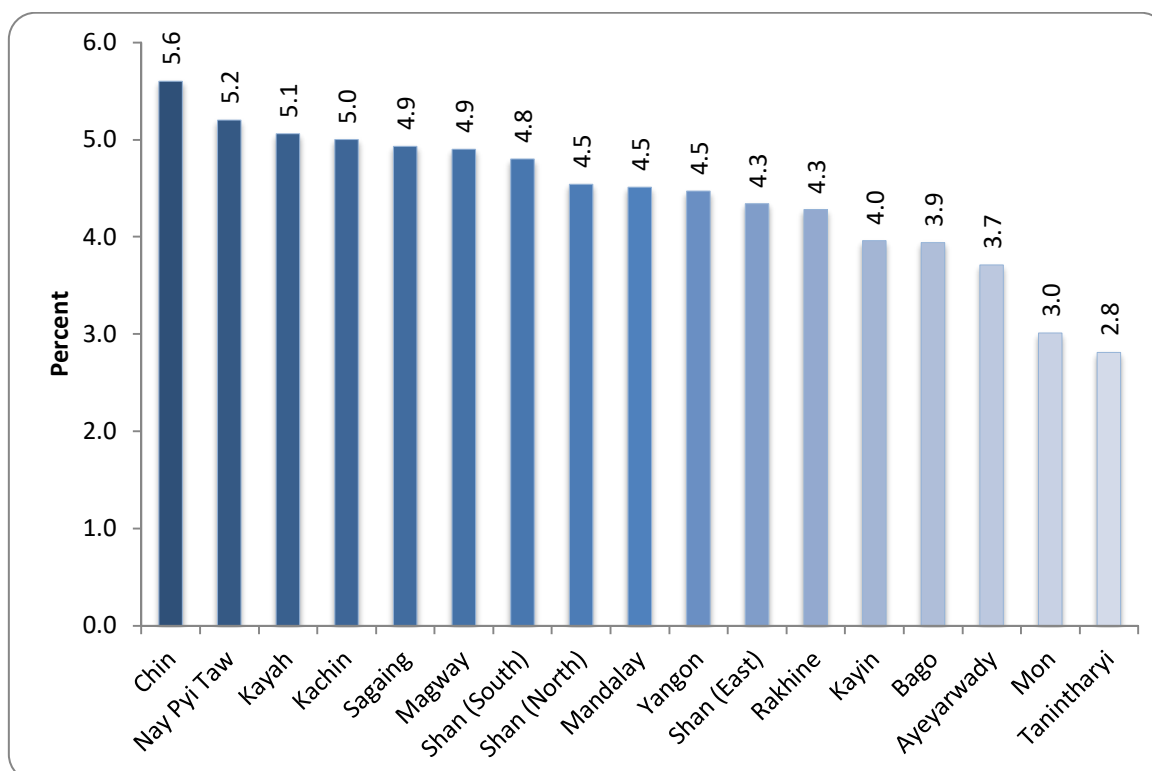
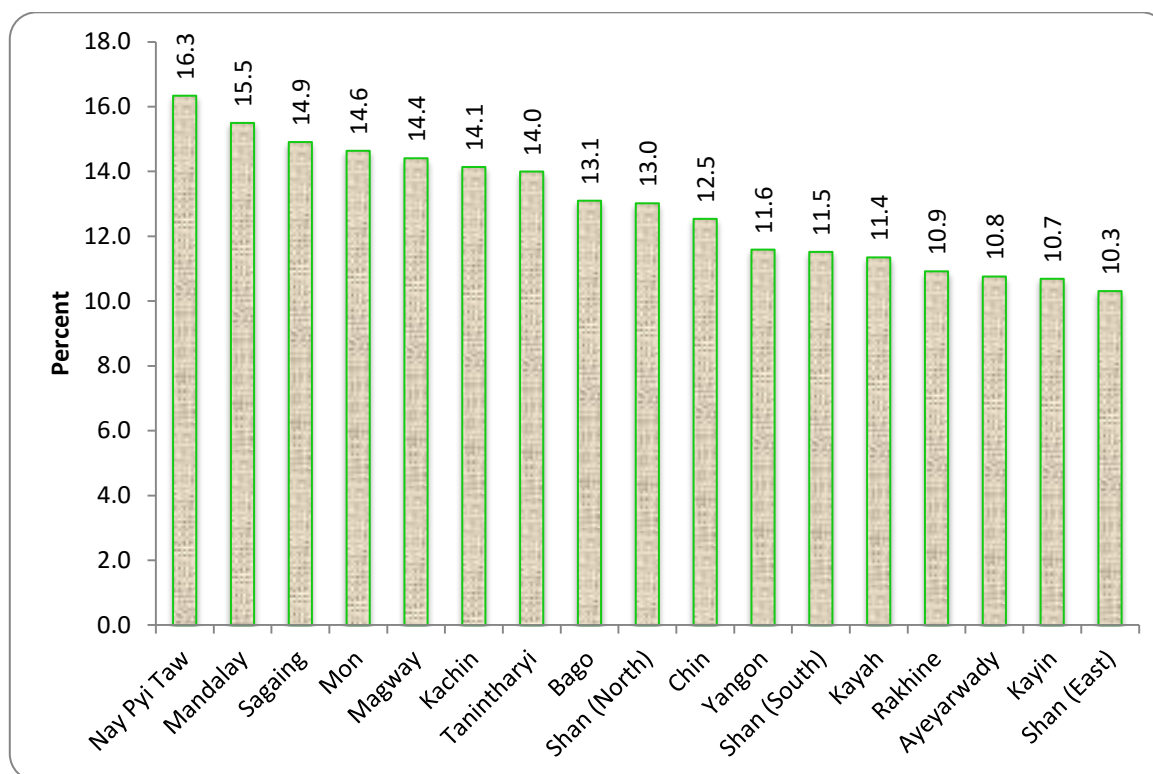


Figure (76) Proportion of Inpatients with Injury, Poisoning and certain other consequences of external causes by Region/State (2018)



(E) SINGLE LEADING CAUSES OF HOSPITALIZATION BY REGIONS AND STATES

Table (47-1) Single Leading Causes of Hospitalization by Sex in Kachin State (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	B34	Viral infection of unspecified site	3987	8.8	3993	7.9	7980	8.3	3.7
2	O80	Single spontaneous delivery	0	0.0	7928	15.7	7928	8.2	4.3
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2573	5.6	2188	4.3	4761	5.0	3.8
4	A91	Dengue haemorrhagic fever	2473	5.4	2286	4.5	4759	4.9	3.8
5	O82	Single delivery by caesarean section	0	0.0	4522	8.9	4522	4.7	7.6
6	S09	Other and unspecified injuries of head	2735	6.0	1137	2.2	3872	4.0	2.9
7	K29	Gastritis and duodenitis	1362	3.0	1362	2.7	2724	2.8	3.9
8	J06	Acute upper respiratory infections of multiple and unspecified sites	1416	3.1	1159	2.3	2575	2.7	4.7
9	O06	Unspecified abortion	0	0.0	1696	3.4	1696	1.8	2.8
10	J22	Unspecified acute lower respiratory infection	813	1.8	817	1.6	1630	1.7	5.0
11	B20	Human immunodeficiency virus [HIV] disease resulting in infectious and parasitic diseases	1303	2.9	295	0.6	1598	1.7	8.2
12	F11	Mental and behavioural disorders due to use of opioids	1516	3.3	22	0.0	1538	1.6	16.6
13	P59	Neonatal jaundice from other and unspecified causes	700	1.5	673	1.3	1373	1.4	3.9
14	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	919	2.0	372	0.7	1291	1.3	6.4
15	I10	Essential (primary) hypertension	473	1.0	755	1.5	1228	1.3	3.4
	...	All other causes	25283	56	21402	42	46685	49	6.2
		Total	45553	100	50607	100	96160	100	5.1

Table (47-2) Single Leading Causes of Hospitalization by Sex in Kachin State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	7496	15.5	7496	8.2	4.5
2	S09	Other and unspecified injuries of head	3143	7.2	1225	2.5	4368	4.8	2.7
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2113	4.9	1884	3.9	3997	4.4	3.5
4	O82	Single delivery by caesarean section	0	0.0	3942	8.2	3942	4.3	7.3
5	B34	Viral infection of unspecified site	2093	4.8	1806	3.7	3899	4.3	3.5
6	K29	Gastritis and duodenitis	1207	2.8	1057	2.2	2264	2.5	3.3
7	J22	Unspecified acute lower respiratory infection	1072	2.5	853	1.8	1925	2.1	5.3
8	J06	Acute upper respiratory infections of multiple and unspecified sites	1123	2.6	793	1.6	1916	2.1	4.7
9	P36	Bacterial sepsis of newborn	950	2.2	809	1.7	1759	1.9	4.0
10	F11	Mental and behavioural disorders due to use of opioids	1733	4.0	9	0.0	1742	1.9	16.4
11	O06	Unspecified abortion	0	0.0	1686	3.5	1686	1.8	2.9
12	K35	Acute appendicitis	708	1.6	873	1.8	1581	1.7	4.9
13	J18	Pneumonia, organism unspecified	803	1.9	532	1.1	1335	1.5	4.9
14	B24	Unspecified human immunodeficiency virus [HIV] disease	928	2.1	321	0.7	1249	1.4	7.3
15	P59	Neonatal jaundice from other and unspecified causes	598	1.4	485	1.0	1083	1.2	3.7
	...	All other causes	26899	62.0	24469	50.7	51368	56.1	5.6
		Total	43370	100	48240	100	91610	100	5.0

Table (48-1) Single Leading Causes of Hospitalization by Sex in Kayah State (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1332	10.1	1199	7.9	2531	8.9	3.6
2	O80	Single spontaneous delivery	0	0.0	2129	14.1	2129	7.5	3.3
3	B34	Viral infection of unspecified site	1032	7.8	688	4.5	1720	6.1	3.9
4	P59	Neonatal jaundice from other and unspecified causes	671	5.1	587	3.9	1258	4.4	3.8
5	A91	Dengue haemorrhagic fever	631	4.8	576	3.8	1207	4.3	4.1
6	S09	Other and unspecified injuries of head	783	5.9	207	1.4	990	3.5	3.3
7	J22	Unspecified acute lower respiratory infection	546	4.1	417	2.8	963	3.4	4.8
8	O82	Single delivery by caesarean section	0	0.0	831	5.5	831	2.9	6.5
9	K29	Gastritis and duodenitis	367	2.8	251	1.7	618	2.2	3.6
10	P36	Bacterial sepsis of newborn	283	2.1	202	1.3	485	1.7	5.7
11	O06	Unspecified abortion	0	0.0	463	3.1	463	1.6	3.0
12	I10	Essential (primary) hypertension	252	1.9	189	1.3	441	1.6	3.8
13	N23	Unspecified renal colic	259	2.0	182	1.2	441	1.6	2.6
14	N39	Other disorders of urinary system	143	1.1	288	1.9	431	1.5	4.5
15	F10	Mental and behavioural disorders due to use of alcohol	370	2.8	18	0.1	388	1.4	4.4
	...	All other causes	6529	49	6889	45.6	13418	47.4	6.5
		Total	13198	100	15116	100	28314	100	5.0

Table (48-2) Single Leading Causes of Hospitalization by Sex in Kayah State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	1919	13.6	1919	7.3	3.3
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1022	8.4	802	5.7	1824	7.0	3.6
3	P59	Neonatal jaundice from other and unspecified causes	885	7.3	691	4.9	1576	6.0	3.9
4	B34	Viral infection of unspecified site	443	3.6	379	2.7	822	3.1	3.8
5	S09	Other and unspecified injuries of head	550	4.5	258	1.8	808	3.1	2.6
6	K29	Gastritis and duodenitis	301	2.5	347	2.5	648	2.5	3.6
7	O82	Single delivery by caesarean section	0	0.0	593	4.2	593	2.3	6.6
8	J06	Acute upper respiratory infections of multiple and unspecified sites	332	2.7	205	1.5	537	2.0	5.1
9	J18	Pneumonia, organism unspecified	286	2.4	222	1.6	508	1.9	5.0
10	I10	Essential (primary) hypertension	215	1.8	240	1.7	455	1.7	4.1
11	K35	Acute appendicitis	222	1.8	226	1.6	448	1.7	5.5
12	F10	Mental and behavioural disorders due to use of alcohol	337	2.8	20	0.1	357	1.4	4.1
13	P36	Bacterial sepsis of newborn	200	1.6	157	1.1	357	1.4	6.3
14	O06	Unspecified abortion	0	0.0	348	2.5	348	1.3	2.5
15	J22	Unspecified acute lower respiratory infection	168	1.4	153	1.1	321	1.2	4.8
	...	All other causes	7188	59.2	7518	53.4	14706	56.1	5.9
		Total	12149	100	14078	100	26227	100	4.9

Table (49-1) Single Leading Causes of Hospitalization by Sex in Kayin State (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4230	11.4	4140	9.0	8370	10.1	3.2
2	B34	Viral infection of unspecified site	3806	10.3	3482	7.6	7288	8.8	3.5
3	O80	Single spontaneous delivery	0	0.0	6781	14.7	6781	8.2	3.3
4	S09	Other and unspecified injuries of head	2642	7.1	1032	2.2	3674	4.4	2.8
5	O82	Single delivery by caesarean section	0	0.0	3107	6.8	3107	3.7	6.5
6	K29	Gastritis and duodenitis	1387	3.7	1528	3.3	2915	3.5	3.5
7	A91	Dengue haemorrhagic fever	1153	3.1	1225	2.7	2378	2.9	3.1
8	J18	Pneumonia, organism unspecified	972	2.6	972	2.1	1944	2.3	4.8
9	J22	Unspecified acute lower respiratory infection	860	2.3	840	1.8	1700	2.0	3.9
10	O06	Unspecified abortion	0	0.0	1387	3.0	1387	1.7	2.1
11	I10	Essential (primary) hypertension	395	1.1	749	1.6	1144	1.4	3.0
12	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	648	1.8	475	1.0	1123	1.4	5.7
13	J06	Acute upper respiratory infections of multiple and unspecified sites	496	1.3	597	1.3	1093	1.3	4.0
14	P59	Neonatal jaundice from other and unspecified causes	577	1.6	455	1.0	1032	1.2	4.4
15	O81	Single delivery by forceps and vacuum extractor	0	0.0	1012	2.2	1012	1.2	3.9
	...	All other causes	19817	54	18198	39.6	38015	45.8	4.4
		Total	36983	100	45980	100	82963	100	3.9

Table (49-2) Single Leading Causes of Hospitalization by Sex in Kayin State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	B34	Viral infection of unspecified site	3969	10.6	3830	8.1	7799	9.2	3.3
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	3932	10.5	3433	7.3	7365	8.7	3.1
3	O80	Single spontaneous delivery	0	0.0	6764	14.3	6764	8.0	3.4
4	S09	Other and unspecified injuries of head	2659	7.1	1070	2.3	3729	4.4	2.7
5	J18	Pneumonia, organism unspecified	1804	4.8	1373	2.9	3177	3.7	4.2
6	O82	Single delivery by caesarean section	0	0.0	3012	6.4	3012	3.6	6.7
7	K29	Gastritis and duodenitis	1280	3.4	1713	3.6	2993	3.5	3.5
8	J22	Unspecified acute lower respiratory infection	610	1.6	818	1.7	1428	1.7	4.1
9	O06	Unspecified abortion	0	0.0	1357	2.9	1357	1.6	2.2
10	I10	Essential (primary) hypertension	585	1.6	744	1.6	1329	1.6	3.0
11	J06	Acute upper respiratory infections of multiple and unspecified sites	689	1.8	509	1.1	1198	1.4	4.1
12	A91	Dengue haemorrhagic fever	607	1.6	506	1.1	1113	1.3	3.3
13	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	677	1.8	400	0.8	1077	1.3	6.4
14	K92	Other diseases of digestive system	734	2.0	237	0.5	971	1.1	4.4
15	P36	Bacterial sepsis of newborn	448	1.2	479	1.0	927	1.1	4.0
	...	All other causes	19486	52.0	21061	44.5	40547	47.8	4.6
		Total	37480	100	47306	100	84786	100	3.9

Table (50-1) Single Leading Causes of Hospitalization by Sex in Chin State (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1479	10.8	1349	8.2	2828	9.4	4.0
2	O80	Single spontaneous delivery	0	0.0	2185	13.3	2185	7.3	4.9
3	B34	Viral infection of unspecified site	854	6.3	850	5.2	1704	5.7	3.6
4	K29	Gastritis and duodenitis	679	5.0	710	4.3	1389	4.6	4.0
5	K35	Acute appendicitis	332	2.4	622	3.8	954	3.2	4.5
6	S09	Other and unspecified injuries of head	696	5.1	236	1.4	932	3.1	2.9
7	O82	Single delivery by caesarean section	0	0.0	920	5.6	920	3.1	8.1
8	J18	Pneumonia, organism unspecified	434	3.2	257	1.6	691	2.3	4.8
9	N39	Other disorders of urinary system	216	1.6	447	2.7	663	2.2	4.3
10	J22	Unspecified acute lower respiratory infection	312	2.3	288	1.7	600	2.0	5.5
11	F10	Mental and behavioural disorders due to use of alcohol	460	3.4	64	0.4	524	1.7	4.2
12	K37	Unspecified appendicitis	143	1.0	289	1.8	432	1.4	5.4
13	O06	Unspecified abortion	0	0.0	430	2.6	430	1.4	3.7
14	J06	Acute upper respiratory infections of multiple and unspecified sites	226	1.7	192	1.2	418	1.4	4.3
15	L02	Cutaneous abscess, furuncle and carbuncle	258	1.9	125	0.8	383	1.3	6.7
	...	All other causes	7566	55	7499	45.6	15065	50.0	6.0
		Total	13655	100	16463	100	30118	100	5.0

Table (50-2) Single Leading Causes of Hospitalization by Sex in Chin State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1111	8.3	1075	6.7	2186	7.4	4.3
2	O80	Single spontaneous delivery	0	0.0	1896	11.8	1896	6.4	4.2
3	K29	Gastritis and duodenitis	713	5.3	651	4.1	1364	4.6	4.4
4	B34	Viral infection of unspecified site	709	5.3	590	3.7	1299	4.4	4.0
5	J22	Unspecified acute lower respiratory infection	602	4.5	435	2.7	1037	3.5	5.2
6	K35	Acute appendicitis	284	2.1	589	3.7	873	3.0	5.8
7	O82	Single delivery by caesarean section	0	0.0	829	5.2	829	2.8	7.8
8	S09	Other and unspecified injuries of head	571	4.3	205	1.3	776	2.6	3.4
9	J18	Pneumonia, organism unspecified	398	3.0	302	1.9	700	2.4	5.8
10	O06	Unspecified abortion	0	0.0	525	3.3	525	1.8	3.2
11	N39	Other disorders of urinary system	138	1.0	342	2.1	480	1.6	5.2
12	F10	Mental and behavioural disorders due to use of alcohol	420	3.1	16	0.1	436	1.5	6.1
13	L02	Cutaneous abscess, furuncle and carbuncle	233	1.7	127	0.8	360	1.2	8.0
14	I10	Essential (primary) hypertension	188	1.4	165	1.0	353	1.2	4.9
15	P36	Bacterial sepsis of newborn	193	1.4	132	0.8	325	1.1	5.5
	...	All other causes	7872	58.6	8192	51.0	16064	54.4	6.1
		Total	13432	100	16071	100	29503	100	5.3

Table (51-1) Single Leading Causes of Hospitalization by Sex in Sagaing Region (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	25360	16.3	25360	9.4	3.8
2	O82	Single delivery by caesarean section	0	0.0	19032	12.2	19032	7.1	6.9
3	B34	Viral infection of unspecified site	8102	7.2	8525	5.5	16627	6.2	3.6
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	6492	5.8	6005	3.8	12497	4.7	3.7
5	S09	Other and unspecified injuries of head	8106	7.2	3235	2.1	11341	4.2	2.6
6	J06	Acute upper respiratory infections of multiple and unspecified sites	4990	4.4	4178	2.7	9168	3.4	4.7
7	K29	Gastritis and duodenitis	4168	3.7	4646	3.0	8814	3.3	3.8
8	T14	Injury of unspecified body region	2857	2.5	2210	1.4	5067	1.9	2.3
9	O06	Unspecified abortion	0	0.0	4406	2.8	4406	1.6	2.9
10	P59	Neonatal jaundice from other and unspecified causes	2233	2.0	1833	1.2	4066	1.5	5.0
11	K35	Acute appendicitis	1470	1.3	2557	1.6	4027	1.5	5.4
12	A91	Dengue haemorrhagic fever	1921	1.7	1862	1.2	3783	1.4	4.0
13	F10	Mental and behavioural disorders due to use of alcohol	3670	3.3	46	0.0	3716	1.4	4.4
14	O81	Single delivery by forceps and vacuum extractor	0	0.0	3669	2.4	3669	1.4	4.3
15	T63	Toxic effect of contact with venomous animals	2078	1.8	1305	0.8	3383	1.3	3.0
	...	All other causes	66478	59	67110	43.0	133588	49.7	5.4
		Total	112565	100	155979	100	268544	100	4.5

Table (51-2) Single Leading Causes of Hospitalization by Sex in Sagaing Region (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	23622	14.6	23622	8.5	3.6
2	O82	Single delivery by caesarean section	0	0.0	20830	12.8	20830	7.5	6.8
3	B34	Viral infection of unspecified site	7316	6.3	7132	4.4	14448	5.2	3.9
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	6161	5.3	5423	3.3	11584	4.2	3.6
5	S09	Other and unspecified injuries of head	7892	6.8	3090	1.9	10982	3.9	2.7
6	J06	Acute upper respiratory infections of multiple and unspecified sites	5650	4.8	4036	2.5	9686	3.5	4.6
7	K29	Gastritis and duodenitis	4196	3.6	4515	2.8	8711	3.1	3.9
8	T14	Injury of unspecified body region	3044	2.6	2107	1.3	5151	1.8	2.8
9	A91	Dengue haemorrhagic fever	2405	2.1	2345	1.4	4750	1.7	4.0
10	I10	Essential (primary) hypertension	1837	1.6	2905	1.8	4742	1.7	3.8
11	O06	Unspecified abortion	0	0.0	4369	2.7	4369	1.6	2.8
12	F10	Mental and behavioural disorders due to use of alcohol	4006	3.4	68	0.0	4074	1.5	4.4
13	K35	Acute appendicitis	1546	1.3	2190	1.4	3736	1.3	5.3
14	J22	Unspecified acute lower respiratory infection	1863	1.6	1867	1.2	3730	1.3	4.8
15	O81	Single delivery by forceps and vacuum extractor	0	0.0	3320	2.0	3320	1.2	4.3
	...	All other causes	70972	60.7	74316	45.8	145288	52.1	5.1
		Total	116888	100	162135	100	279023	100	4.5

**Table (52-1) Single Leading Causes of Hospitalization by Sex in Tanintharyi Region
(2017)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4298	11.1	4278	9.2	8576	10.1	3.2
2	O80	Single spontaneous delivery	0	0.0	7757	16.7	7757	9.1	4.1
3	B34	Viral infection of unspecified site	4238	10.9	3159	6.8	7397	8.7	3.4
4	S09	Other and unspecified injuries of head	4378	11.3	1759	3.8	6137	7.2	3.2
5	K29	Gastritis and duodenitis	1479	3.8	1479	3.2	2958	3.5	3.6
6	O82	Single delivery by caesarean section	0	0.0	2839	6.1	2839	3.3	7.7
7	I10	Essential (primary) hypertension	940	2.4	1319	2.8	2259	2.6	3.4
8	O06	Unspecified abortion	0	0.0	2239	4.8	2239	2.6	3.0
9	T14	Injury of unspecified body region	1239	3.2	720	1.5	1959	2.3	4.4
10	J22	Unspecified acute lower respiratory infection	940	2.4	839	1.8	1779	2.1	4.9
11	J18	Pneumonia, organism unspecified	1080	2.8	640	1.4	1720	2.0	5.0
12	J06	Acute upper respiratory infections of multiple and unspecified sites	700	1.8	360	0.8	1060	1.2	4.4
13	O81	Single delivery by forceps and vacuum extractor	0	0.0	1000	2.1	1000	1.2	4.5
14	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	480	1.2	500	1.1	980	1.1	6.5
15	E14	Unspecified diabetes mellitus	160	0.4	820	1.8	980	1.1	6.2
	...	All other causes	18812	49	16813	36.1	35625	41.8	6.0
		Total	38744	100	46521	100	85265	100	4.3

Table (52-2) Single Leading Causes of Hospitalization by Sex in Tanintharyi Region (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	7365	15.2	7365	8.3	4.1
2	B34	Viral infection of unspecified site	3641	9.1	3497	7.2	7138	8.1	3.3
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2688	6.7	2335	4.8	5023	5.7	3.1
4	A91	Dengue haemorrhagic fever	2269	5.7	2267	4.7	4536	5.1	4.1
5	S09	Other and unspecified injuries of head	2819	7.1	1169	2.4	3988	4.5	3.1
6	K29	Gastritis and duodenitis	1353	3.4	1597	3.3	2950	3.3	3.3
7	O82	Single delivery by caesarean section	0	0.0	2469	5.1	2469	2.8	7.7
8	J18	Pneumonia, organism unspecified	1374	3.5	1075	2.2	2449	2.8	4.2
9	I10	Essential (primary) hypertension	652	1.6	1159	2.4	1811	2.1	3.5
10	E14	Unspecified diabetes mellitus	373	0.9	915	1.9	1288	1.5	6.1
11	J44	Other chronic obstructive pulmonary disease	564	1.4	708	1.5	1272	1.4	4.7
12	H26	Other cataract	444	1.1	599	1.2	1043	1.2	3.6
13	T14	Injury of unspecified body region	712	1.8	313	0.6	1025	1.2	3.6
14	R56	Convulsions, not elsewhere classified	560	1.4	370	0.8	930	1.1	4.2
15	P59	Neonatal jaundice from other and unspecified causes	430	1.1	365	0.8	795	0.9	4.1
	...	All other causes	21952	55.1	22307	46.0	44259	50.1	5.1
		Total	39831	100	48510	100	88341	100	4.3

Table (53-1) Single Leading Causes of Hospitalization by Sex in Bago Region (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	B34	Viral infection of unspecified site	11510	9.7	10840	7.0	22350	8.2	3.3
2	O80	Single spontaneous delivery	0	0.0	20878	13.5	20878	7.7	3.3
3	O82	Single delivery by caesarean section	0	0.0	16000	10.3	16000	5.9	7.2
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	7150	6.1	6769	4.4	13919	5.1	3.2
5	K29	Gastritis and duodenitis	5284	4.5	5672	3.7	10956	4.0	3.4
6	S09	Other and unspecified injuries of head	7571	6.4	3276	2.1	10847	4.0	2.8
7	J06	Acute upper respiratory infections of multiple and unspecified sites	2955	2.5	2292	1.5	5247	1.9	4.1
8	I10	Essential (primary) hypertension	2126	1.8	3113	2.0	5239	1.9	3.3
9	F10	Mental and behavioural disorders due to use of alcohol	4783	4.1	113	0.1	4896	1.8	4.1
10	O06	Unspecified abortion	0	0.0	4800	3.1	4800	1.8	2.9
11	A91	Dengue haemorrhagic fever	2260	1.9	2499	1.6	4759	1.7	3.3
12	P59	Neonatal jaundice from other and unspecified causes	2213	1.9	1999	1.3	4212	1.5	3.5
13	O81	Single delivery by forceps and vacuum extractor	0	0.0	3902	2.5	3902	1.4	3.6
14	E14	Unspecified diabetes mellitus	999	0.8	2540	1.6	3539	1.3	6.9
15	J22	Unspecified acute lower respiratory infection	1511	1.3	1883	1.2	3394	1.2	4.5
	...	All other causes	69743	59	68219	44.1	137962	50.6	5.0
		Total	118105	100	154795	100	272900	100	4.2

Table (53-2) Single Leading Causes of Hospitalization by Sex in Bago Region (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	20105	12.3	20105	7.0	3.4
2	B34	Viral infection of unspecified site	9478	7.8	8903	5.4	18381	6.4	3.5
3	O82	Single delivery by caesarean section	0	0.0	17746	10.9	17746	6.2	7.1
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	6663	5.5	6586	4.0	13249	4.6	3.4
5	K29	Gastritis and duodenitis	5410	4.4	5997	3.7	11407	4.0	3.7
6	S09	Other and unspecified injuries of head	6804	5.6	2846	1.7	9650	3.4	2.5
7	J06	Acute upper respiratory infections of multiple and unspecified sites	4042	3.3	3231	2.0	7273	2.5	4.3
8	I10	Essential (primary) hypertension	2348	1.9	3471	2.1	5819	2.0	3.3
9	J22	Unspecified acute lower respiratory infection	2192	1.8	2927	1.8	5119	1.8	4.5
10	F10	Mental and behavioural disorders due to use of alcohol	5002	4.1	95	0.1	5097	1.8	4.0
11	J18	Pneumonia, organism unspecified	2753	2.3	2278	1.4	5031	1.8	4.7
12	O06	Unspecified abortion	0	0.0	4257	2.6	4257	1.5	3.1
13	J44	Other chronic obstructive pulmonary disease	1632	1.3	2209	1.4	3841	1.3	5.6
14	E14	Unspecified diabetes mellitus	942	0.8	2801	1.7	3743	1.3	6.5
15	P59	Neonatal jaundice from other and unspecified causes	1975	1.6	1706	1.0	3681	1.3	4.1
	...	All other causes	72982	59.7	78339	47.9	151321	53.0	4.8
		Total	122223	100	163497	100	285720	100	4.3

Table (54-1) Single Leading Causes of Hospitalization by Sex in Magway Region (2017)

Sr. No .	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	16451	12.5	16451	7.4	3.3
2	O82	Single delivery by caesarean section	0	0.0	14622	11.1	14622	6.6	6.5
3	B34	Viral infection of unspecified site	5209	5.8	5891	4.5	11100	5.0	3.5
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4741	5.2	4773	3.6	9514	4.3	3.5
5	S09	Other and unspecified injuries of head	4918	5.4	2291	1.7	7209	3.2	3.2
6	K29	Gastritis and duodenitis	3359	3.7	3786	2.9	7145	3.2	3.9
7	J06	Acute upper respiratory infections of multiple and unspecified sites	2963	3.3	1959	1.5	4922	2.2	4.2
8	O81	Single delivery by forceps and vacuum extractor	0	0.0	4357	3.3	4357	2.0	4.1
9	T14	Injury of unspecified body region	2606	2.9	1719	1.3	4325	1.9	3.2
10	T63	Toxic effect of contact with venomous animals	2576	2.8	1358	1.0	3934	1.8	4.1
11	O47	False labour	0	0.0	3700	2.8	3700	1.7	4.0
12	K35	Acute appendicitis	1357	1.5	2010	1.5	3367	1.5	5.4
13	F10	Mental and behavioural disorders due to use of alcohol	3135	3.5	148	0.1	3283	1.5	4.4
14	O06	Unspecified abortion	0	0.0	3026	2.3	3026	1.4	2.8
15	A91	Dengue haemorrhagic fever	1462	1.6	1557	1.2	3019	1.4	3.6
	...	All other causes	58085	64	64413	49	122498	55	5.5
		Total	90411	100	132061	100	222472	100	4.6

Table (54-2) Single Leading Causes of Hospitalization by Sex in Magway Region (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	18425	13.7	18425	8.1	3.2
2	O82	Single delivery by caesarean section	0	0.0	17437	13.0	17437	7.6	6.5
3	B34	Viral infection of unspecified site	6565	7.0	6451	4.8	13016	5.7	3.7
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4383	4.6	4085	3.0	8468	3.7	3.3
5	S09	Other and unspecified injuries of head	5643	6.0	2408	1.8	8051	3.5	2.8
6	A91	Dengue haemorrhagic fever	3609	3.8	3783	2.8	7392	3.2	3.4
7	K29	Gastritis and duodenitis	3187	3.4	3276	2.4	6463	2.8	3.7
8	J06	Acute upper respiratory infections of multiple and unspecified sites	3017	3.2	2352	1.8	5369	2.3	3.8
9	T63	Toxic effect of contact with venomous animals	2573	2.7	1820	1.4	4393	1.9	3.3
10	T14	Injury of unspecified body region	2146	2.3	1557	1.2	3703	1.6	2.6
11	J22	Unspecified acute lower respiratory infection	1777	1.9	1855	1.4	3632	1.6	4.5
12	O81	Single delivery by forceps and vacuum extractor	0	0.0	3455	2.6	3455	1.5	3.7
13	O06	Unspecified abortion	0	0.0	3333	2.5	3333	1.5	2.6
14	F10	Mental and behavioural disorders due to use of alcohol	3205	3.4	111	0.1	3316	1.5	4.3
15	K35	Acute appendicitis	1300	1.4	1824	1.4	3124	1.4	4.9
	...	All other causes	56910	60.3	62210	46.3	119120	52.1	5.3
		Total	94315	100	134382	100	228697	100	4.4

Table (55-1) Single Leading Causes of Hospitalization by Sex in Mandalay Region (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	26915	12.8	26915	7.0	3.3
2	O82	Single delivery by caesarean section	0	0.0	20608	9.8	20608	5.4	6.6
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	7680	4.5	7009	3.3	14689	3.8	3.3
4	B34	Viral infection of unspecified site	6739	3.9	6663	3.2	13402	3.5	3.5
5	S09	Other and unspecified injuries of head	7123	4.1	2802	1.3	9925	2.6	2.9
6	J06	Acute upper respiratory infections of multiple and unspecified sites	5269	3.1	3715	1.8	8984	2.4	4.5
7	K29	Gastritis and duodenitis	4216	2.5	3623	1.7	7839	2.1	3.6
8	F10	Mental and behavioural disorders due to use of alcohol	6112	3.6	116	0.1	6228	1.6	5.3
9	A91	Dengue haemorrhagic fever	2849	1.7	3342	1.6	6191	1.6	3.4
10	O06	Unspecified abortion	0	0.0	5513	2.6	5513	1.4	2.8
11	P59	Neonatal jaundice from other and unspecified causes	2961	1.7	2379	1.1	5340	1.4	4.0
12	T14	Injury of unspecified body region	2979	1.7	2141	1.0	5120	1.3	3.3
13	I10	Essential (primary) hypertension	1770	1.0	2780	1.3	4550	1.2	3.6
14	T63	Toxic effect of contact with venomous animals	2528	1.5	1961	0.9	4489	1.2	3.9
15	K35	Acute appendicitis	1862	1.1	2442	1.2	4304	1.1	5.0
	...	All other causes	119750	70	117927	56	237677	62	7.3
		Total	171838	100	209936	100	381774	100	5.6

Table (55-2) Single Leading Causes of Hospitalization by Sex in Mandalay Region (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	27279	12.4	27279	6.8	3.3
2	O82	Single delivery by caesarean section	0	0.0	24622	11.2	24622	6.1	6.4
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	7129	3.9	7022	3.2	14151	3.5	3.2
4	B34	Viral infection of unspecified site	6758	3.7	6330	2.9	13088	3.3	3.7
5	J06	Acute upper respiratory infections of multiple and unspecified sites	5861	3.2	4293	2.0	10154	2.5	4.7
6	S09	Other and unspecified injuries of head	6712	3.7	2941	1.3	9653	2.4	2.8
7	K29	Gastritis and duodenitis	4356	2.4	4051	1.8	8407	2.1	3.8
8	F10	Mental and behavioural disorders due to use of alcohol	6388	3.5	114	0.1	6502	1.6	5.4
9	H26	Other cataract	2408	1.3	3978	1.8	6386	1.6	2.5
10	A91	Dengue haemorrhagic fever	3041	1.7	2940	1.3	5981	1.5	3.6
11	O06	Unspecified abortion	0	0.0	4923	2.2	4923	1.2	2.6
12	T63	Toxic effect of contact with venomous animals	2903	1.6	1924	0.9	4827	1.2	3.7
13	J22	Unspecified acute lower respiratory infection	2187	1.2	2601	1.2	4788	1.2	4.9
14	Z51	Other medical care	1875	1.0	2741	1.2	4616	1.1	6.2
15	I10	Essential (primary) hypertension	1875	1.0	2582	1.2	4457	1.1	3.8
	...	All other causes	130965	71.8	121756	55.3	252721	62.8	7.3
		Total	182458	100	220097	100	402555	100	5.5

Table (56-1) Single Leading Causes of Hospitalization by Sex in Mon State (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	B34	Viral infection of unspecified site	5107	9.3	4791	7.4	9898	8.3	3.6
2	O80	Single spontaneous delivery	0	0.0	9769	15.2	9769	8.2	2.7
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4642	8.5	4167	6.5	8809	7.4	3.4
4	S09	Other and unspecified injuries of head	4642	8.5	1910	3.0	6552	5.5	2.4
5	O82	Single delivery by caesarean section	0	0.0	4503	7.0	4503	3.8	6.8
6	K29	Gastritis and duodenitis	1722	3.1	1752	2.7	3474	2.9	3.3
7	J06	Acute upper respiratory infections of multiple and unspecified sites	1811	3.3	1228	1.9	3039	2.6	4.7
8	A91	Dengue haemorrhagic fever	1277	2.3	1564	2.4	2841	2.4	4.5
9	P59	Neonatal jaundice from other and unspecified causes	1297	2.4	1138	1.8	2435	2.0	4.2
10	I10	Essential (primary) hypertension	614	1.1	1128	1.8	1742	1.5	3.3
11	E14	Unspecified diabetes mellitus	475	0.9	1128	1.8	1603	1.3	6.1
12	J44	Other chronic obstructive pulmonary disease	722	1.3	881	1.4	1603	1.3	4.5
13	O81	Single delivery by forceps and vacuum extractor	0	0.0	1564	2.4	1564	1.3	3.2
14	Z51	Other medical care	574	1.0	841	1.3	1415	1.2	2.8
15	K92	Other diseases of digestive system	990	1.8	356	0.6	1346	1.1	4.1
	...	All other causes	30812	56	27625	42.9	58437	49.1	5.0
		Total	54685	100	64345	100	119030	100	4.0

Table (56-2) Single Leading Causes of Hospitalization by Sex in Mon State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	10033	14.6	10033	8.0	2.6
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4858	8.6	5010	7.3	9868	7.9	3.3
3	B34	Viral infection of unspecified site	3822	6.7	3681	5.4	7503	6.0	3.5
4	S09	Other and unspecified injuries of head	5278	9.3	1819	2.7	7097	5.7	2.4
5	O82	Single delivery by caesarean section	0	0.0	5236	7.6	5236	4.2	7.0
6	K29	Gastritis and duodenitis	2030	3.6	2295	3.3	4325	3.5	3.3
7	A91	Dengue haemorrhagic fever	1644	2.9	1705	2.5	3349	2.7	3.9
8	J06	Acute upper respiratory infections of multiple and unspecified sites	1316	2.3	1159	1.7	2475	2.0	4.8
9	Z51	Other medical care	1010	1.8	1252	1.8	2262	1.8	3.5
10	P59	Neonatal jaundice from other and unspecified causes	1015	1.8	1052	1.5	2067	1.7	3.8
11	O81	Single delivery by forceps and vacuum extractor	0	0.0	1921	2.8	1921	1.5	3.2
12	E14	Unspecified diabetes mellitus	470	0.8	1442	2.1	1912	1.5	6.4
13	I10	Essential (primary) hypertension	704	1.2	1144	1.7	1848	1.5	3.2
14	J44	Other chronic obstructive pulmonary disease	749	1.3	1095	1.6	1844	1.5	4.9
15	J22	Unspecified acute lower respiratory infection	894	1.6	885	1.3	1779	1.4	4.9
	...	All other causes	32926	58.1	28799	42.0	61725	49.3	5.0
		Total	56716	100	68528	100	125244	100	4.0

Table (57-1) Single Leading Causes of Hospitalization by Sex in Rakhine State (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	9195	14.3	9195	8.3	2.9
2	B34	Viral infection of unspecified site	3768	8.1	3725	5.8	7493	6.8	3.0
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	3682	7.9	3404	5.3	7086	6.4	3.0
4	K29	Gastritis and duodenitis	2355	5.1	3329	5.2	5684	5.1	3.1
5	A91	Dengue haemorrhagic fever	2762	6.0	2847	4.4	5609	5.1	3.3
6	O82	Single delivery by caesarean section	0	0.0	5523	8.6	5523	5.0	6.3
7	S09	Other and unspecified injuries of head	2173	4.7	792	1.2	2965	2.7	2.8
8	J18	Pneumonia, organism unspecified	1274	2.7	920	1.4	2194	2.0	4.2
9	J06	Acute upper respiratory infections of multiple and unspecified sites	1006	2.2	985	1.5	1991	1.8	3.5
10	O06	Unspecified abortion	0	0.0	1959	3.0	1959	1.8	2.9
11	J22	Unspecified acute lower respiratory infection	717	1.5	942	1.5	1659	1.5	4.9
12	O81	Single delivery by forceps and vacuum extractor	0	0.0	1659	2.6	1659	1.5	3.3
13	P59	Neonatal jaundice from other and unspecified causes	717	1.5	910	1.4	1627	1.5	2.9
14	I10	Essential (primary) hypertension	503	1.1	867	1.3	1370	1.2	3.2
15	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	739	1.6	610	0.9	1349	1.2	6.4
	...	All other causes	26651	58	26746	42	53397	48	5.5
		Total	46347	100	64413	100	110760	100	4.2

Table (57-2) Single Leading Causes of Hospitalization by Sex in Rakhine State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	10608	16.6	10608	9.7	2.9
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	3478	7.6	3282	5.1	6760	6.2	3.0
3	O82	Single delivery by caesarean section	0	0.0	5257	8.2	5257	4.8	5.9
4	K29	Gastritis and duodenitis	2396	5.2	2574	4.0	4970	4.5	3.4
5	B34	Viral infection of unspecified site	2121	4.6	2068	3.2	4189	3.8	3.3
6	S09	Other and unspecified injuries of head	2312	5.1	899	1.4	3211	2.9	2.9
7	J18	Pneumonia, organism unspecified	1618	3.5	1104	1.7	2722	2.5	4.6
8	O06	Unspecified abortion	0	0.0	2058	3.2	2058	1.9	3.0
9	I10	Essential (primary) hypertension	687	1.5	937	1.5	1624	1.5	3.3
10	P59	Neonatal jaundice from other and unspecified causes	879	1.9	714	1.1	1593	1.5	3.1
11	O81	Single delivery by forceps and vacuum extractor	0	0.0	1434	2.2	1434	1.3	3.6
12	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	806	1.8	567	0.9	1373	1.3	6.4
13	F10	Mental and behavioural disorders due to use of alcohol	1253	2.7	59	0.1	1312	1.2	3.7
14	K35	Acute appendicitis	556	1.2	654	1.0	1210	1.1	5.7
15	F43	Reaction to severe stress, and adjustment disorders	165	0.4	905	1.4	1070	1.0	2.3
	...	All other causes	29410	64.4	30701	48.1	60111	54.9	5.0
		Total	45681	100	63821	100	109502	100	4.2

Table (58-1) Single Leading Causes of Hospitalization by Sex in Yangon Region (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	44393	14.2	44393	8.0	3.5
2	O82	Single delivery by caesarean section	0	0.0	21282	6.8	21282	3.8	6.5
3	S09	Other and unspecified injuries of head	11296	4.6	4464	1.4	15760	2.8	3.1
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	7960	3.3	7608	2.4	15568	2.8	3.1
5	H26	Other cataract	5255	2.2	8441	2.7	13696	2.5	2.3
6	A91	Dengue haemorrhagic fever	6631	2.7	6575	2.1	13206	2.4	3.3
7	B34	Viral infection of unspecified site	6286	2.6	5497	1.8	11783	2.1	2.9
8	K29	Gastritis and duodenitis	5766	2.4	5940	1.9	11706	2.1	3.4
9	F10	Mental and behavioural disorders due to use of alcohol	11179	4.6	159	0.1	11338	2.0	7.2
10	P59	Neonatal jaundice from other and unspecified causes	5597	2.3	5363	1.7	10960	2.0	3.1
11	O06	Unspecified abortion	0	0.0	8346	2.7	8346	1.5	2.7
12	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	4612	1.9	2694	0.9	7306	1.3	7.4
13	I64	Stroke, not specified as haemorrhage or infarction	3939	1.6	2946	0.9	6885	1.2	5.0
14	J18	Pneumonia, organism unspecified	3679	1.5	3130	1.0	6809	1.2	4.8
15	K35	Acute appendicitis	2913	1.2	3768	1.2	6681	1.2	4.8
	...	All other causes	168740	69	182094	58	350834	63	8.2
		Total	243853	100	312700	100	556553	100	6.2

Table (58-2) Single Leading Causes of Hospitalization by Sex in Yangon Region (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	41003	13.0	41003	7.3	3.6
2	O82	Single delivery by caesarean section	0	0.0	24654	7.8	24654	4.4	6.6
3	H26	Other cataract	7716	3.1	12504	4.0	20220	3.6	2.3
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	6763	2.8	6584	2.1	13347	2.4	3.1
5	S09	Other and unspecified injuries of head	8056	3.3	2907	0.9	10963	2.0	3.3
6	K29	Gastritis and duodenitis	5092	2.1	5069	1.6	10161	1.8	3.2
7	O06	Unspecified abortion	0	0.0	8968	2.8	8968	1.6	2.9
8	B34	Viral infection of unspecified site	4560	1.9	4000	1.3	8560	1.5	3.1
9	K35	Acute appendicitis	3367	1.4	4293	1.4	7660	1.4	5.0
10	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	4783	2.0	2458	0.8	7241	1.3	7.7
11	I64	Stroke, not specified as haemorrhage or infarction	3841	1.6	3146	1.0	6987	1.2	5.1
12	I10	Essential (primary) hypertension	3005	1.2	3711	1.2	6716	1.2	3.8
13	P59	Neonatal jaundice from other and unspecified causes	3661	1.5	2943	0.9	6604	1.2	3.3
14	I50	Heart failure	2647	1.1	3934	1.2	6581	1.2	6.3
15	F10	Mental and behavioural disorders due to use of alcohol	6226	2.5	174	0.1	6400	1.1	5.6
	...	All other causes	185480	75.6	189938	60.1	375418	66.9	8.1
		Total	245197	100	316286	100	561483	100	6.0

**Table (59-1) Single Leading Causes of Hospitalization by Sex in Shan Southern State
(2017)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	10879	17.0	10879	9.6	4.9
2	B34	Viral infection of unspecified site	4241	8.7	4857	7.6	9098	8.1	4.3
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	4069	8.3	3400	5.3	7469	6.6	4.3
4	O82	Single delivery by caesarean section	0	0.0	6152	9.6	6152	5.4	6.9
5	K29	Gastritis and duodenitis	2180	4.5	1878	2.9	4058	3.6	4.6
6	S09	Other and unspecified injuries of head	2504	5.1	961	1.5	3465	3.1	3.8
7	J06	Acute upper respiratory infections of multiple and unspecified sites	1705	3.5	1446	2.3	3151	2.8	5.3
8	P59	Neonatal jaundice from other and unspecified causes	1057	2.2	853	1.3	1910	1.7	4.2
9	O06	Unspecified abortion	0	0.0	1889	2.9	1889	1.7	3.1
10	A91	Dengue haemorrhagic fever	950	1.9	896	1.4	1846	1.6	4.7
11	F10	Mental and behavioural disorders due to use of alcohol	1587	3.2	97	0.2	1684	1.5	4.4
12	I10	Essential (primary) hypertension	702	1.4	906	1.4	1608	1.4	3.4
13	N39	Other disorders of urinary system	540	1.1	939	1.5	1479	1.3	4.4
14	J22	Unspecified acute lower respiratory infection	702	1.4	658	1.0	1360	1.2	5.3
15	O81	Single delivery by forceps and vacuum extractor	0	0.0	1349	2.1	1349	1.2	5.1
	...	All other causes	28623	59	26885	42.0	55508	49.2	6.2
		Total	48860	100	64045	100	112905	100	5.3

Table (59-2) Single Leading Causes of Hospitalization by Sex in Shan Southern State (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	11114	18.2	11114	10.3	4.5
2	B34	Viral infection of unspecified site	3181	6.8	3073	5.0	6254	5.8	4.1
3	O82	Single delivery by caesarean section	0	0.0	5862	9.6	5862	5.4	7.1
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2694	5.8	2445	4.0	5139	4.8	3.9
5	K29	Gastritis and duodenitis	1953	4.2	1782	2.9	3735	3.5	3.9
6	S09	Other and unspecified injuries of head	2135	4.6	888	1.5	3023	2.8	3.3
7	J06	Acute upper respiratory infections of multiple and unspecified sites	1244	2.7	904	1.5	2148	2.0	4.7
8	J22	Unspecified acute lower respiratory infection	1171	2.5	941	1.5	2112	2.0	4.9
9	I10	Essential (primary) hypertension	761	1.6	1024	1.7	1785	1.7	4.1
10	F10	Mental and behavioural disorders due to use of alcohol	1661	3.6	101	0.2	1762	1.6	4.6
11	J18	Pneumonia, organism unspecified	873	1.9	728	1.2	1601	1.5	5.3
12	O06	Unspecified abortion	0	0.0	1599	2.6	1599	1.5	2.8
13	N39	Other disorders of urinary system	549	1.2	940	1.5	1489	1.4	4.4
14	P59	Neonatal jaundice from other and unspecified causes	694	1.5	564	0.9	1258	1.2	4.1
15	E14	Unspecified diabetes mellitus	417	0.9	697	1.1	1114	1.0	7.2
	...	All other causes	29289	62.8	28379	46.5	57668	53.6	6.1
		Total	46622	100	61041	100	107663	100	5.1

**Table (60-1) Single Leading Causes of Hospitalization by Sex in Shan Northern State
(2017)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	11576	21.1	11576	12.1	2.9
2	B34	Viral infection of unspecified site	2469	6.1	2806	5.1	5275	5.5	3.9
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2489	6.1	2560	4.7	5049	5.3	3.7
4	O82	Single delivery by caesarean section	0	0.0	3555	6.5	3555	3.7	7.2
5	K29	Gastritis and duodenitis	1534	3.8	1820	3.3	3354	3.5	3.9
6	S09	Other and unspecified injuries of head	2233	5.5	914	1.7	3147	3.3	3.6
7	A91	Dengue haemorrhagic fever	1285	3.2	1489	2.7	2774	2.9	3.8
8	O06	Unspecified abortion	0	0.0	2004	3.7	2004	2.1	2.8
9	J06	Acute upper respiratory infections of multiple and unspecified sites	920	2.3	883	1.6	1803	1.9	4.7
10	P36	Bacterial sepsis of newborn	891	2.2	685	1.3	1576	1.6	4.8
11	J22	Unspecified acute lower respiratory infection	852	2.1	524	1.0	1376	1.4	4.8
12	O81	Single delivery by forceps and vacuum extractor	0	0.0	1258	2.3	1258	1.3	3.8
13	F10	Mental and behavioural disorders due to use of alcohol	1095	2.7	54	0.1	1149	1.2	5.0
14	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	784	1.9	337	0.6	1121	1.2	7.3
15	J18	Pneumonia, organism unspecified	594	1.5	522	1.0	1116	1.2	4.6
	...	All other causes	25590	63	23832	43.5	49422	51.7	6.3
		Total	40736	100	54819	100	95555	100	4.7

**Table (60-2) Single Leading Causes of Hospitalization by Sex in Shan Northern State
(2018)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	12638	23.0	12638	13.1	2.9
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	2662	6.4	2314	4.2	4976	5.2	3.6
3	B34	Viral infection of unspecified site	1635	3.9	1599	2.9	3234	3.4	4.0
4	K29	Gastritis and duodenitis	1637	4.0	1580	2.9	3217	3.3	3.9
5	O82	Single delivery by caesarean section	0	0.0	3163	5.7	3163	3.3	7.0
6	J22	Unspecified acute lower respiratory infection	1621	3.9	1320	2.4	2941	3.0	4.8
7	S09	Other and unspecified injuries of head	1995	4.8	881	1.6	2876	3.0	2.9
8	O06	Unspecified abortion	0	0.0	1883	3.4	1883	2.0	2.6
9	I10	Essential (primary) hypertension	546	1.3	800	1.5	1346	1.4	3.7
10	K35	Acute appendicitis	579	1.4	677	1.2	1256	1.3	5.5
11	P36	Bacterial sepsis of newborn	663	1.6	584	1.1	1247	1.3	5.2
12	J06	Acute upper respiratory infections of multiple and unspecified sites	682	1.6	528	1.0	1210	1.3	4.4
13	F11	Mental and behavioural disorders due to use of opioids	1041	2.5	19	0.0	1060	1.1	8.0
14	F10	Mental and behavioural disorders due to use of alcohol	1028	2.5	26	0.0	1054	1.1	4.4
15	I50	Heart failure	521	1.3	510	0.9	1031	1.1	6.0
	...	All other causes	26821	64.7	26500	48.2	53321	55.3	5.4
		Total	41431	100	55022	100	96453	100	4.5

**Table (61-1) Single Leading Causes of Hospitalization by Sex in Shan Eastern State
(2017)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	4126	17.7	4126	9.8	3.1
2	B34	Viral infection of unspecified site	1672	8.9	1867	8.0	3539	8.4	3.5
3	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1369	7.3	1370	5.9	2739	6.5	3.5
4	A91	Dengue haemorrhagic fever	818	4.4	818	3.5	1636	3.9	3.9
5	K29	Gastritis and duodenitis	747	4.0	836	3.6	1583	3.8	3.8
6	J06	Acute upper respiratory infections of multiple and unspecified sites	765	4.1	640	2.7	1405	3.3	3.8
7	O82	Single delivery by caesarean section	0	0.0	1120	4.8	1120	2.7	5.8
8	S09	Other and unspecified injuries of head	676	3.6	302	1.3	978	2.3	3.0
9	O47	False labour	0	0.0	836	3.6	836	2.0	2.6
10	O81	Single delivery by forceps and vacuum extractor	0	0.0	782	3.4	782	1.9	4.6
11	H26	Other cataract	284	1.5	445	1.9	729	1.7	1.2
12	I10	Essential (primary) hypertension	320	1.7	356	1.5	676	1.6	7.3
13	J18	Pneumonia, organism unspecified	320	1.7	320	1.4	640	1.5	4.9
14	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	427	2.3	160	0.7	587	1.4	7.0
15	J44	Other chronic obstructive pulmonary disease	356	1.9	213	0.9	569	1.4	5.8
	...	All other causes	11007	59	9141	39.2	20148	47.9	5.9
		Total	18761	100	23332	100	42093	100	4.4

**Table (61-2) Single Leading Causes of Hospitalization by Sex in Shan Eastern State
(2018)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	3738	20.7	3738	11.3	3.1
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	968	6.4	919	5.1	1887	5.7	3.2
3	B34	Viral infection of unspecified site	813	5.4	765	4.2	1578	4.8	3.5
4	O82	Single delivery by caesarean section	0	0.0	1332	7.4	1332	4.0	6.0
5	J22	Unspecified acute lower respiratory infection	645	4.3	515	2.9	1160	3.5	4.1
6	K29	Gastritis and duodenitis	593	3.9	549	3.0	1142	3.4	3.5
7	A91	Dengue haemorrhagic fever	579	3.8	542	3.0	1121	3.4	3.2
8	S09	Other and unspecified injuries of head	800	5.3	255	1.4	1055	3.2	3.0
9	H26	Other cataract	319	2.1	407	2.3	726	2.2	1.5
10	I10	Essential (primary) hypertension	323	2.1	309	1.7	632	1.9	4.3
11	J06	Acute upper respiratory infections of multiple and unspecified sites	311	2.1	258	1.4	569	1.7	3.9
12	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	338	2.3	196	1.1	534	1.6	7.1
13	J44	Other chronic obstructive pulmonary disease	337	2.2	141	0.8	478	1.4	5.6
14	K35	Acute appendicitis	187	1.2	247	1.4	434	1.3	6.6
15	K92	Other diseases of digestive system	333	2.2	98	0.5	431	1.3	4.0
	...	All other causes	8492	56.5	7805	43.2	16297	49.2	5.3
		Total	15038	100	18076	100	33114	100	4.4

**Table (62-1) Single Leading Causes of Hospitalization by Sex in Ayeyarwady Region
(2017)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	23334	12.2	23334	7.2	3.6
2	O82	Single delivery by caesarean section	0	0.0	22976	12.0	22976	7.1	7.4
3	B34	Viral infection of unspecified site	10871	8.1	10974	5.8	21845	6.7	3.6
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	8020	6.0	7628	4.0	15648	4.8	3.5
5	K29	Gastritis and duodenitis	4627	3.5	6612	3.5	11239	3.5	3.6
6	S09	Other and unspecified injuries of head	5805	4.3	2446	1.3	8251	2.5	2.8
7	J06	Acute upper respiratory infections of multiple and unspecified sites	4247	3.2	3450	1.8	7697	2.4	4.6
8	A91	Dengue haemorrhagic fever	3462	2.6	3727	2.0	7189	2.2	3.5
9	J18	Pneumonia, organism unspecified	3658	2.7	2539	1.3	6197	1.9	4.8
10	I10	Essential (primary) hypertension	2273	1.7	3508	1.8	5781	1.8	3.6
11	F10	Mental and behavioural disorders due to use of alcohol	4985	3.7	162	0.1	5147	1.6	4.0
12	O06	Unspecified abortion	0	0.0	5066	2.7	5066	1.6	3.2
13	T14	Injury of unspecified body region	3139	2.3	1927	1.0	5066	1.6	2.5
14	J22	Unspecified acute lower respiratory infection	1835	1.4	2135	1.1	3970	1.2	5.1
15	J44	Other chronic obstructive pulmonary disease	1454	1.1	2308	1.2	3762	1.2	5.2
	...	All other causes	79087	59	91423	47.9	170510	52.5	4.6
		Total	133463	100	190215	100	323678	100	4.4

**Table (62-2) Single Leading Causes of Hospitalization by Sex in Ayeyarwady Region
(2018)**

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	23768	12.2	23768	7.2	3.5
2	O82	Single delivery by caesarean section	0	0.0	21522	11.0	21522	6.5	7.0
3	B34	Viral infection of unspecified site	9099	6.7	8564	4.4	17663	5.3	3.6
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	7964	5.8	7752	4.0	15716	4.7	3.5
5	K29	Gastritis and duodenitis	5117	3.7	6853	3.5	11970	3.6	3.7
6	S09	Other and unspecified injuries of head	6285	4.6	2673	1.4	8958	2.7	2.6
7	J22	Unspecified acute lower respiratory infection	3546	2.6	3622	1.9	7168	2.2	4.7
8	J18	Pneumonia, organism unspecified	4014	2.9	3139	1.6	7153	2.2	4.8
9	A91	Dengue haemorrhagic fever	3124	2.3	3359	1.7	6483	2.0	3.7
10	I10	Essential (primary) hypertension	2548	1.9	3803	1.9	6351	1.9	3.6
11	O06	Unspecified abortion	0	0.0	5093	2.6	5093	1.5	3.2
12	F10	Mental and behavioural disorders due to use of alcohol	4600	3.4	161	0.1	4761	1.4	4.0
13	J06	Acute upper respiratory infections of multiple and unspecified sites	2263	1.7	1839	0.9	4102	1.2	4.5
14	J44	Other chronic obstructive pulmonary disease	1581	1.2	2436	1.2	4017	1.2	5.1
15	O81	Single delivery by forceps and vacuum extractor	0	0.0	3787	1.9	3787	1.1	4.0
	...	All other causes	86463	63.3	96933	49.6	183396	55.3	4.7
		Total	136604	100	195304	100	331908	100	4.3

Table (63-1) Single Leading Causes of Hospitalization by Sex in Natpyitaw Union Territory (2017)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	5611	13.4	5611	7.1	3.2
2	O82	Single delivery by caesarean section	0	0.0	3185	7.6	3185	4.0	6.7
3	H26	Other cataract	893	2.4	1480	3.5	2373	3.0	2.6
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1052	2.8	954	2.3	2006	2.5	3.0
5	P36	Bacterial sepsis of newborn	877	2.4	786	1.9	1663	2.1	4.3
6	B34	Viral infection of unspecified site	842	2.3	815	1.9	1657	2.1	2.9
7	K29	Gastritis and duodenitis	696	1.9	643	1.5	1339	1.7	3.6
8	S09	Other and unspecified injuries of head	951	2.6	383	0.9	1334	1.7	2.3
9	E87	Other disorders of fluid, electrolyte and acid-base balance	344	0.9	759	1.8	1103	1.4	3.2
10	A91	Dengue haemorrhagic fever	506	1.4	571	1.4	1077	1.4	3.3
11	F10	Mental and behavioural disorders due to use of alcohol	1040	2.8	20	0.0	1060	1.3	4.0
12	S52	Fracture of forearm	730	2.0	317	0.8	1047	1.3	6.3
13	P59	Neonatal jaundice from other and unspecified causes	568	1.5	459	1.1	1027	1.3	3.3
14	S42	Fracture of shoulder and upper arm	706	1.9	262	0.6	968	1.2	8.1
15	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	593	1.6	341	0.8	934	1.2	5.3
	...	All other causes	27149	73	25279	60.4	52428	66.5	7.2
		Total	36947	100	41865	100	78812	100	5.4

Table (63-2) Single Leading Causes of Hospitalization by Sex in Nay Pyi Taw Union Territory (2018)

Sr. No.	ICD-10 Detail List	Causes	Male		Female		Total		Average Duration of Stay
			Number	%	Number	%	Number	%	
1	O80	Single spontaneous delivery	0	0.0	6940	15.1	6940	8.2	3.0
2	O82	Single delivery by caesarean section	0	0.0	4384	9.5	4384	5.2	6.8
3	H26	Other cataract	748	1.9	1220	2.6	1968	2.3	1.4
4	A09	Diarrhoea and gastroenteritis of presumed infectious origin	1039	2.7	914	2.0	1953	2.3	3.0
5	B34	Viral infection of unspecified site	867	2.3	779	1.7	1646	1.9	3.8
6	P36	Bacterial sepsis of newborn	750	1.9	712	1.5	1462	1.7	4.8
7	K29	Gastritis and duodenitis	775	2.0	640	1.4	1415	1.7	3.7
8	Z51	Other medical care	564	1.5	785	1.7	1349	1.6	5.3
9	S09	Other and unspecified injuries of head	914	2.4	344	0.7	1258	1.5	2.6
10	S06	Intracranial injury	917	2.4	293	0.6	1210	1.4	6.7
11	J22	Unspecified acute lower respiratory infection	618	1.6	553	1.2	1171	1.4	4.2
12	O81	Single delivery by forceps and vacuum extractor	0	0.0	1091	2.4	1091	1.3	3.4
13	F10	Mental and behavioural disorders due to use of alcohol	1022	2.7	24	0.1	1046	1.2	3.8
14	S52	Fracture of forearm	693	1.8	324	0.7	1017	1.2	6.5
15	K35	Acute appendicitis	443	1.2	493	1.1	936	1.1	5.0
	...	All other causes	29162	75.7	26597	57.7	55759	65.9	7.0
		Total	38512	100	46093	100	84605	100	5.5

This section presents outpatient morbidity statistics collected from various outpatient departments all over the country for one day attendance in every season of the year, summer, rainy and winter. Leading causes of outpatient department are described in the following tables.

**Table (64-1) Single leading causes of outpatient morbidity statistics, 2017
[Summer Season]**

Sr. No.	ICD-10 Basic Code	Causes	Male		Female		Total	
			Number	%	Number	%	Number	%
1	270	Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	217	15.5	316	15.0	533	15.2
2	294	Antenatal screening and other supervision of pregnancy	0	0.0	395	18.8	395	11.3
3	145	Essential (primary) hypertension	96	6.9	152	7.2	248	7.1
4	281	Other injuries of specified, unspecified and multiple body regions	151	10.8	90	4.3	241	6.9
5	268	Fever of unknown origin	86	6.2	60	2.9	146	4.2
6	267	Abdominal and pelvic pain	52	3.7	53	2.5	105	3.0
7	167	Other acute upper respiratory infections	37	2.7	50	2.4	87	2.5
8	005	Diarrhoea and gastroenteritis of presumed infectious origin	49	3.5	36	1.7	85	2.4
9	041	Other viral diseases	44	3.2	38	1.8	82	2.3
10	104	Diabetes mellitus	30	2.1	52	2.5	82	2.3
11	293	Contraceptive management	1	0.1	56	2.7	57	1.6
12	184	Gastritis and duodenitis	26	1.9	27	1.3	53	1.5
13	206	Other dorsopathies	28	2.0	25	1.2	53	1.5
14	198	Infections of the skin and subcutaneous tissue	29	2.1	23	1.1	52	1.5
15	207	Soft tissue disorders	28	2.0	21	1.0	49	1.4
	...	All Other Causes	522	37.4	706	33.6	1,228	35.1
		Total	1396	100	2100	100	3496	100

Note: Outpatient morbidity statistics represent 10% of attendance during one day of each season.

Table (64-2) Single leading causes of outpatient morbidity statistics, 2018

[Summer Season]

Sr. No.	ICD-10 Basic Code	Causes	Male		Female		Total	
			Number	%	Number	%	Number	%
1	270	Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	152	14.2	218	13.4	370	13.7
2	294	Antenatal screening and other supervision of pregnancy	0	0.0	317	19.5	317	11.8
3	281	Other injuries of specified, unspecified and multiple body regions	152	14.2	88	5.4	240	8.9
4	145	Essential (primary) hypertension	73	6.8	100	6.2	173	6.4
5	268	Fever of unknown origin	69	6.5	65	4.0	134	5.0
6	041	Other viral diseases	57	5.3	37	2.3	94	3.5
7	104	Diabetes mellitus	22	2.1	62	3.8	84	3.1
8	293	Contraceptive management	6	0.6	73	4.5	79	2.9
9	179	Other diseases of the respiratory system	29	2.7	46	2.8	75	2.8
10	005	Diarrhoea and gastroenteritis of presumed infectious origin	35	3.3	39	2.4	74	2.7
11	167	Other acute upper respiratory infections	42	3.9	26	1.6	68	2.5
12	267	Abdominal and pelvic pain	26	2.4	34	2.1	60	2.2
13	184	Gastritis and duodenitis	25	2.3	35	2.2	60	2.2
14	206	Other dorsopathies	12	1.1	24	1.5	36	1.3
15	203	Other disorders of joints	10	0.9	25	1.5	35	1.3
	...	All Other Causes	359	33.6	436	26.8	795	29.5
		Total	1069	100	1625	100	2694	100

Note: Outpatient morbidity statistics represent 10% of attendance during one day of each season.

**Table (65-1) Single leading causes of outpatient morbidity statistics, 2017
[Rainy Season]**

Sr. No.	ICD-10 Basic Code	Causes	Male		Female		Total	
			Number	%	Number	%	Number	%
1	270	Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	132	12.6	255	16.0	387	14.6
2	294	Antenatal screening and other supervision of pregnancy	0	0.0	250	15.7	250	9.4
3	268	Fever of unknown origin	126	12.0	105	6.6	231	8.7
4	145	Essential (primary) hypertension	80	7.6	104	6.5	184	7.0
5	281	Other injuries of specified, unspecified and multiple body regions	101	9.6	49	3.1	150	5.7
6	041	Other viral diseases	81	7.7	68	4.3	149	5.6
7	167	Other acute upper respiratory infections	66	6.3	69	4.3	135	5.1
8	267	Abdominal and pelvic pain	34	3.2	34	2.1	68	2.6
9	104	Diabetes mellitus	13	1.2	44	2.8	57	2.2
10	293	Contraceptive management	0	0.0	54	3.4	54	2.0
11	184	Gastritis and duodenitis	23	2.2	28	1.8	51	1.9
12	206	Other dorsopathies	12	1.1	36	2.3	48	1.8
13	005	Diarrhoea and gastroenteritis of presumed infectious origin	20	1.9	20	1.3	40	1.5
14	179	Other diseases of the respiratory system	22	2.1	15	0.9	37	1.4
15	198	Infections of the skin and subcutaneous tissue	17	1.6	20	1.3	37	1.4
	...	All Other Causes	323	30.6	446	28.1	769	29.1
		Total	1050	100	1597	100	2647	100

Note: Outpatient morbidity statistics represent 10% of attendance during one day of each season.

**Table (65-2) Single leading causes of outpatient morbidity statistics, 2018
[Rainy Season]**

Sr. No.	ICD-10 Basic Code	Causes	Male		Female		Total	
			Number	%	Number	%	Number	%
1	270	Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	111	9.7	243	13.5	354	12.0
2	294	Antenatal screening and other supervision of pregnancy	0	0.0	273	15.1	273	9.3
3	145	Essential (primary) hypertension	92	8.0	133	7.4	225	7.6
4	268	Fever of unknown origin	96	8.4	73	4.1	169	5.7
5	281	Other injuries of specified, unspecified and multiple body regions	107	9.3	52	2.9	159	5.4
6	041	Other viral diseases	81	7.1	69	3.8	150	5.1
7	104	Diabetes mellitus	32	2.8	94	5.2	126	4.3
8	167	Other acute upper respiratory infections	50	4.4	60	3.3	110	3.7
9	293	Contraceptive management	2	0.2	78	4.3	80	2.7
10	267	Abdominal and pelvic pain	38	3.3	38	2.1	76	2.6
11	206	Other dorsopathies	26	2.3	33	1.8	59	2.0
12	184	Gastritis and duodenitis	24	2.1	25	1.4	49	1.7
13	179	Other diseases of the respiratory system	26	2.3	21	1.2	47	1.6
14	198	Infections of the skin and subcutaneous tissue	26	2.3	16	0.9	42	1.4
15	133	Cataract and other disorders of lens	15	1.3	21	1.2	36	1.2
	...	All Other Causes	419	36.6	573	31.8	992	33.7
		Total	1145	100	1802	100	2947	100

Note: Outpatient morbidity statistics represent 10% of attendance during one day of each season.

**Table (66-1) Single leading causes of outpatient morbidity statistics, 2017
[Winter Season]**

Sr. No.	ICD-10 Basic Code	Causes	Male		Female		Total	
			Number	%	Number	%	Number	%
1	270	Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	79	10.5	135	13.0	214	12.0
2	294	Antenatal screening and other supervision of pregnancy	0	0.0	174	16.8	174	9.7
3	145	Essential (primary) hypertension	51	6.8	70	6.8	121	6.8
4	281	Other injuries of specified, unspecified and multiple body regions	71	9.4	44	4.2	115	6.4
5	268	Fever of unknown origin	63	8.4	49	4.7	112	6.3
6	041	Other viral diseases	53	7.0	31	3.0	84	4.7
7	167	Other acute upper respiratory infections	45	6.0	39	3.8	84	4.7
8	267	Abdominal and pelvic pain	24	3.2	33	3.2	57	3.2
9	005	Diarrhoea and gastroenteritis of presumed infectious origin	31	4.1	24	2.3	55	3.1
10	293	Contraceptive management	0	0.0	46	4.4	46	2.6
11	184	Gastritis and duodenitis	21	2.8	17	1.6	38	2.1
12	179	Other diseases of the respiratory system	20	2.7	17	1.6	37	2.1
13	206	Other dorsopathies	18	2.4	18	1.7	36	2.0
14	104	Diabetes mellitus	8	1.1	21	2.0	29	1.6
15	181	Other disorders of teeth and supporting structures	15	2.0	11	1.1	26	1.5
	...	All Other Causes	255	33.8	307	29.6	562	31.4
		Total	754	100	1036	100	1790	100

Note: Outpatient morbidity statistics represent 10% of attendance during one day of each season.

**Table (66-2) Single leading causes of outpatient morbidity statistics, 2018
[Winter Season]**

Sr. No.	ICD-10 Basic Code	Causes	Male		Female		Total	
			Number	%	Number	%	Number	%
1	270	Other symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified	106	11.5	224	13.9	330	13.0
2	294	Antenatal screening and other supervision of pregnancy	0	0.0	236	14.6	236	9.3
3	145	Essential (primary) hypertension	83	9.0	126	7.8	209	8.3
4	281	Other injuries of specified, unspecified and multiple body regions	101	11.0	53	3.3	154	6.1
5	104	Diabetes mellitus	37	4.0	107	6.6	144	5.7
6	268	Fever of unknown origin	63	6.9	58	3.6	121	4.8
7	267	Abdominal and pelvic pain	34	3.7	41	2.5	75	3.0
8	167	Other acute upper respiratory infections	33	3.6	38	2.4	71	2.8
9	41	Other viral diseases	36	3.9	34	2.1	70	2.8
10	293	Contraceptive management	2	0.2	64	4.0	66	2.6
11	179	Other diseases of the respiratory system	30	3.3	29	1.8	59	2.3
12	194	Other diseases of liver	21	2.3	29	1.8	50	2.0
13	206	Other dorsopathies	13	1.4	33	2.0	46	1.8
14	274	Fractures of other limb bones	24	2.6	13	0.8	37	1.5
15	005	Diarrhoea and gastroenteritis of presumed infectious origin	18	2.0	18	1.1	36	1.4
	...	All Other Causes	317	34.5	512	31.7	829	32.7
		Total	918	100	1615	100	2533	100

Note: Outpatient morbidity statistics represent 10% of attendance during one day of each season.

SECTION III

PRIVATE HOSPITAL STATISTICS

PRIVATE HOSPITAL STATISTICS

During 2018, 225 registered private hospitals from 15 Regions and States are reporting hospital information. The reporting status together with number of registered private hospitals is illustrated in the following figure. One private hospital from Rakhine and Shan (East) is found to have full response rate. Ninety percent of registered hospitals in Kachin State are reporting during 2018. Yangon had the highest number of private hospitals and the reporting status is 75.6%. Shan (North) and Mon have the lowest response rate.

Figure (77) Reporting Status of the Private Hospitals by Regions and States (2018)

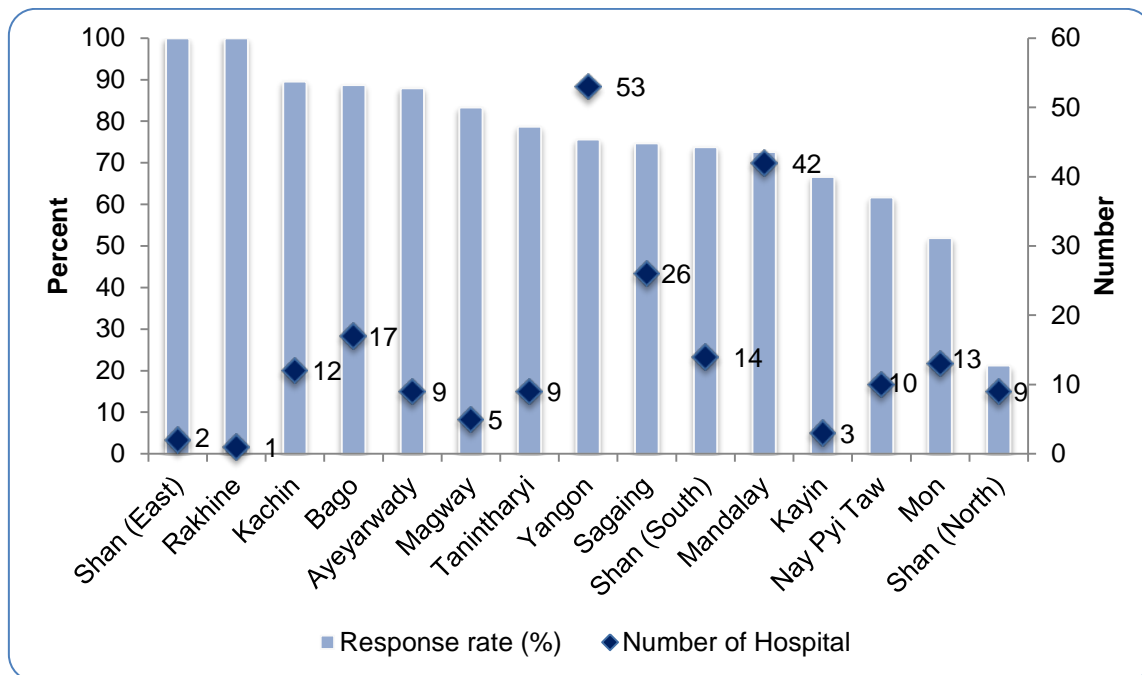
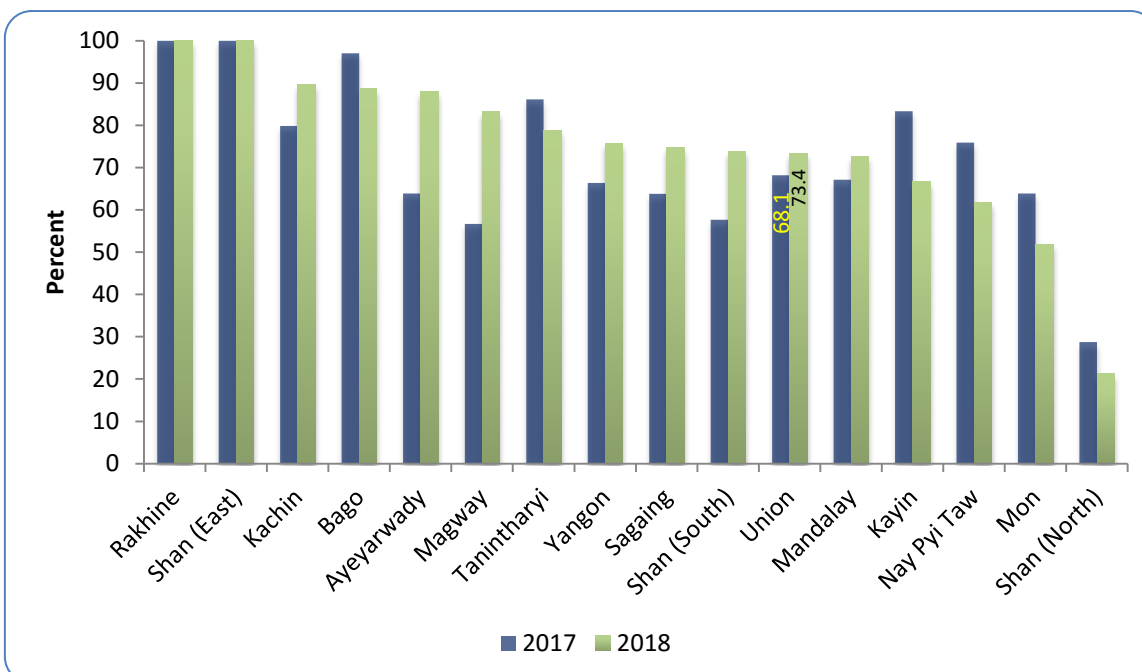


Figure (78) Reporting Rate (%) of Private Hospitals (2017-2018)



According to Figure (78), Rakhine and Shan (East) reported full percent in both 2017 and 2018. Reporting rate of Bago, Tanintharyi, Kayin, Naypyitaw, Mon, Shan (North) is found to have significant fall in reporting status in 2018 compared to 2017. Other Regions/States had high reporting in 2018 than 2017.

Table (67) Reporting Status of the Private Hospitals by the Number of Months Reported (2018)

Region and State	Number of hospitals by months reported								Total hospitals	Response rate (%)
	12 Months		6-11 Months		1-5 Months		0-Month			
	No.	%	No.	%	No.	%	No.	%		
Kachin	8	8.2	3	3.9	0	0.0	1	3.6	12	89.6
Kayin	2	2.0	0	0.0	0	0.0	1	3.6	3	66.7
Sagaing	9	9.2	13	17.1	1	4.3	3	10.7	26	74.7
Tanintharyi	5	5.1	2	2.6	2	8.7	0	0.0	9	78.7
Bago	9	9.2	7	9.2	1	4.3	0	0.0	17	88.7
Magway	2	2.0	3	3.9	0	0.0	0	0.0	5	83.3
Mandalay	19	19.4	14	18.4	4	17.4	5	17.9	42	72.6
Mon	3	3.1	4	5.3	4	17.4	2	7.1	13	51.9
Rakhine	1	1.0	0	0.0	0	0.0	0	0.0	1	100.0
Yangon	23	23.5	18	23.7	7	30.4	5	17.9	53	75.6
Shan (South)	6	6.1	5	6.6	0	0.0	3	10.7	14	73.8
Shan (North)	1	1.0	1	1.3	1	4.3	6	21.4	9	21.3
Shan (East)	2	2.0	0	0.0	0	0.0	0	0.0	2	100.0
Ayeyarwady	4	4.1	4	5.3	1	4.3	0	0.0	9	88.0
Nay Pyi Taw	4	4.1	2	2.6	2	8.7	2	7.1	10	61.7
Total	98	100	76	100	23	100	28	100	225	73.4

Table (67) describes the complete reported months of private hospitals by Region and State in 2018. Twelve months full report was submitted by 98 private hospitals out of 225 (43.5 %). Hospital with 6 to 11 months report sent by 76 private hospitals (33.8 %) and No report in 2018 was 28 private hospitals (12.4%).

Table (68-1) Single Leading Causes of Morbidity by Sex, 2017
(Private Hospitals)

Sr. No.	ICD-10 Code	Causes	Male		Female		Total	
			No.	%	No.	%	No.	%
1	O82	Single delivery by caesarean section	0	0.0	43620	16.3	43620	10.0
2	A09	Diarrhoea and gastroenteritis of presumed infectious origin	6047	3.6	7203	2.7	13250	3.0
3	O80	Single spontaneous delivery	0	0.0	13177	4.9	13177	3.0
4	K35	Acute appendicitis	4017	2.4	5686	2.1	9703	2.2
5	N20	Calculus of kidney and ureter	5187	3.1	4291	1.6	9478	2.2
6	E14	Unspecified diabetes mellitus	3692	2.2	5671	2.1	9363	2.1
7	A91	Dengue haemorrhagic fever	4811	2.9	4212	1.6	9023	2.1
8	B34	Viral infection of unspecified site	3540	2.1	3497	1.3	7037	1.6
9	I25	Chronic ischaemic heart disease	2398	1.4	4233	1.6	6631	1.5
10	C50	Malignant neoplasm of breast	0	0.0	6574	2.5	6574	1.5
11	K29	Gastritis and duodenitis	2680	1.6	3497	1.3	6177	1.4
12	J22	Unspecified acute lower respiratory infection	2659	1.6	3265	1.2	5924	1.4
13	J44	Other chronic obstructive pulmonary disease	2955	1.8	2514	0.9	5469	1.3
14	K40	Inguinal hernia	4963	2.9	462	0.2	5425	1.2
15	N39	Other disorders of urinary system	1604	1.0	3721	1.4	5325	1.2
	...	All Other Causes	124107	73.5	155474	58.2	279581	64.2
		Total	168660	100	267097	100	435757	100

Table (68-2) Single Leading Causes of Morbidity by Sex, 2018
(Private Hospitals)

ICD-10 Code	Causes	Male		Female		Total	
		No.	%	No.	%	No.	%
O82	Single delivery by caesarean section	0	0.0	46524	15.6	46524	9.5
H26	Other cataract	5060	2.7	8263	2.8	13323	2.7
A09	Diarrhoea and gastroenteritis of presumed infectious origin	5485	2.9	6785	2.3	12270	2.5
O80	Single spontaneous delivery	0	0.0	10600	3.5	10600	2.2
K35	Acute appendicitis	4298	2.3	5844	2.0	10142	2.1
N18	Chronic renal failure	5220	2.7	4507	1.5	9727	2.0
N20	Calculus of kidney and ureter	4857	2.6	4618	1.5	9475	1.9
K29	Gastritis and duodenitis	3360	1.8	4256	1.4	7616	1.6
E14	Unspecified diabetes mellitus	2657	1.4	4762	1.6	7419	1.5
J06	Acute upper respiratory infections of multiple and unspecified sites	3919	2.1	3027	1.0	6946	1.4
B34	Viral infection of unspecified site	3412	1.8	3144	1.1	6556	1.3
J44	Other chronic obstructive pulmonary disease	3033	1.6	3072	1.0	6105	1.2
C50	Malignant neoplasm of breast	0	0.0	6086	2.0	6086	1.2
N39	Other disorders of urinary system	1657	0.9	4334	1.4	5991	1.2
D25	Leiomyoma of uterus	0	0.0	5929	2.0	5929	1.2
	All Other Causes	146922	77.3	177382	59.3	324304	66.3
	Total	189880	100	299133	100	489013	100

Table (69-1) Single Leading Causes of Mortality by Sex, 2017
(Private Hospitals)

Sr. No.	ICD-10 Code	Causes	Male		Female		Total	
			No.	%	No.	%	No.	%
1	A41	Other septicaemia	87	4.7	116	6.5	203	5.6
2	C34	Malignant neoplasm of bronchus and lung	115	6.2	87	4.9	202	5.6
3	C22	Malignant neoplasm of liver and intrahepatic bile ducts	101	5.4	72	4.1	173	4.8
4	I25	Chronic ischaemic heart disease	43	2.3	130	7.3	173	4.8
5	J44	Other chronic obstructive pulmonary disease	87	4.7	72	4.1	159	4.4
6	K74	Fibrosis and cirrhosis of liver	87	4.7	43	2.4	130	3.6
7	N18	Chronic renal failure	101	5.4	29	1.6	130	3.6
8	C16	Malignant neoplasm of stomach	29	1.6	87	4.9	116	3.2
9	C18	Malignant neoplasm of colon	58	3.1	58	3.3	116	3.2
10	J18	Pneumonia, organism unspecified	87	4.7	29	1.6	116	3.2
11	E14	Unspecified diabetes mellitus	58	3.1	29	1.6	87	2.4
12	J22	Unspecified acute lower respiratory infection	29	1.6	58	3.3	87	2.4
13	A16	Respiratory tuberculosis, not confirmed bacteriologically or histologically	72	3.9	14	0.8	86	2.4
14	B17	Other acute viral hepatitis	29	1.6	43	2.4	72	2.0
15	B24	Unspecified human immunodeficiency virus [HIV] disease	72	3.9	0	0.0	72	2.0
	...	All Other Causes	809	43.4	911	51.2	1720	47.2
		Total	1864	100	1778	100	3642	100

Table (69-2) Single Leading Causes of Mortality by Sex, 2018
(Private Hospitals)

ICD-10 Code	Causes	Male		Female		Total	
		No.	%	No.	%	No.	%
A41	Other septicaemia	169	6.8	189	7.8	358	7.3
C34	Malignant neoplasm of bronchus and lung	126	5.0	79	3.3	205	4.2
J18	Pneumonia, organism unspecified	94	3.8	106	4.4	200	4.1
C22	Malignant neoplasm of liver and intrahepatic bile ducts	158	6.3	39	1.6	197	4.0
I21	Acute myocardial infarction	83	3.3	59	2.4	142	2.9
I50	Heart failure	55	2.2	79	3.3	134	2.7
R57	Shock, not elsewhere classified	71	2.8	63	2.6	134	2.7
I61	Intracerebral haemorrhage	67	2.7	63	2.6	130	2.6
N18	Chronic renal failure	67	2.7	59	2.4	126	2.6
I25	Chronic ischaemic heart disease	51	2	71	2.9	122	2.5
J44	Other chronic obstructive pulmonary disease	63	2.5	59	2.4	122	2.5
I63	Cerebral infarction	47	1.9	55	2.3	102	2.1
J96	Respiratory failure, not elsewhere classified	47	1.9	55	2.3	102	2.1
J69	Pneumonitis due to solids and liquids	39	1.6	48	2	87	1.8
J81	Pulmonary oedema	24	0.9	63	2.6	87	1.8
...	All Other Causes	1346	53.7	1330	55	2676	54.4
	Total	2507	100	2417	100	4924	100

SECTION IV

PROPOSED ACTIONS FOR THE FUTURE

PROPOSED ACTIONS FOR THE FUTURE

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- Hospital superintendents and all the Professors and heads of every ward should monitor the complete and good medical record documentation
- Principal diagnosis must be confirmed by a responsible person or supervisor and write according to the terminology of International Statistical Classification of Diseases and Related Health Problems version 10 (ICD-10)
- Complete the documentation of discharge portion of Medical Record Form I (MR1 form)
- Establish electronic medical record system and use a single uniform or standard software by all hospitals
- Use unique health identifier or patient master index for the identification of patients in order to avoid double-counting of patients
- Develop and distribute standard operating procedures and guidelines for data management including data collection, storage, analysis, sharing and use of information
- Strengthen medical record department or health information department at the hospitals in terms of resources such as manpower, materials and also budget
- Regular assessment of data quality like ICD-10 coding audit, completeness and quality of medical record documentation audit
- Address of patients must be collected for epidemiological study of diseases and appropriate actions
- Take appropriate actions to public hospitals those did not report to the next level including Central Health Information Section
- Review and revise of private health laws and by laws for sharing of their health information
- Strengthening management of sharing private hospital information to the Central Health Information Section
- Arrange replenishment of infrastructure every four years for the sustainability of electronic health information system

- Quality of cause of death must be improved by giving training and supervised by the experts in Forensic Medicine.
- Consider increase sanction bed for hospitals that were more than 90 % of bed occupancy rate in three years continuously and some incentives should be given.
- Consider appropriate actions for not efficient hospitals those in the quadrant I in Pabón Lasso analysis (low occupancy, low turnover and long stay)
- Resource allocation should be made based on evidence-based from hospital report
- Estimation and distribution of procurement drugs and materials based on caseloads of common diseases if they use standard treatment guidelines.
- Promote utilization of data and information for effective, efficient and equitable management of hospitals by all levels
- Diarrhoea is still the leading cause of hospitalization and sanitation facilities including sanitary latrine, water supply, and handwashing facility should be model in hospitals
- NCDs is increasing trend and health literacy promotion should be accelerated in hospitals
- Central Health Information Section should be included in formal organization set up. Otherwise, data governance can not be controlled and SOP and guidelines could not be created and defined.

SECTION V

ANNEXES

HOSPITAL ADMINISTRATIVE INDICATORS

1. Average number of out-patients per day	$= \frac{\text{Total number of outpatient attendances}}{\text{Number of working days in year}}$
2. Average number of Inpatients per day	$= \frac{\text{Total number of patient days}}{365 \text{ (Number of days in year)}}$
3. Average duration of stay (in days)	$= \frac{\text{Total number of patient days}}{\text{Number of discharges \& deaths}}$
4. Percentage of occupancy based on available beds	$= \frac{\text{Average number of inpatients per day} \times 100}{\text{Number of available beds}}$
5. Percentage of occupancy based on sanctioned beds	$= \frac{\text{Average number of inpatients per day} \times 100}{\text{Number of sanctioned beds}}$
6. Average turnover of patients per bed per year	$= \frac{\text{Number of discharges \& deaths}}{\text{Number of available beds}}$
7. Average turnover interval [in days]	$= \frac{[(\text{Available beds} \times 365) - \text{patient days}]}{\text{Number of discharges \& deaths}}$
8. Hospital Death Rate	$= \frac{\text{Number of deaths} \times 100}{\text{Number of discharges \& deaths}}$

DESCRIPTION OF CHAPTERS OF ICD-10

Chapter I	Certain infectious and parasitic diseases (A00- B99)
Chapter II	Neoplasms (C00-D48)
Chapter III	Diseases of the blood and blood-forming organs and certain disorders involving the immune mechanism (D50-D89)
Chapter IV	Endocrine, nutritional and metabolic diseases (E00-E90)
Chapter V	Mental and behavioural disorders (F00-F99)
Chapter VI	Diseases of the nervous system (G00-G99)
Chapter VII	Diseases of the eye and adnexa (H00-H59)
Chapter VIII	Diseases of the ear and mastoid process (H60-H95)
Chapter IX	Diseases of the circulatory system (I00- I99)
Chapter X	Diseases of the respiratory system (J00-J99)
Chapter XI	Diseases of the digestive system (K00-K93)
Chapter XII	Diseases of the skin and subcutaneous tissue (L00-L99)
Chapter XIII	Diseases of the musculoskeletal system and connective tissue (M00-M99)
Chapter XIV	Diseases of the genitourinary system (N00-N99)
Chapter XV	Pregnancy, childbirth and the puerperium (O00-O99)
Chapter XVI	Certain conditions originating in the perinatal period (P00-P96)
Chapter XVII	Congenital malformations, deformations and chromosomal abnormalities (Q00-Q99)
Chapter XVIII	Symptoms, signs and abnormal clinical and laboratory findings, not elsewhere classified (R00-R99)
Chapter XIX	Injury, poisoning and certain other consequences of external causes (S00-T98)
Chapter XX	External causes of morbidity and mortality (V01-Y98)
Chapter XXI	Factors influencing health status and contact with health services (Z00-Z99)
Chapter XXII	Codes for special purposes