Ministry of Health
The Republic of the Union of Myanmar

Annual Public Health Statistics
2013

Department of Public Health

Nay Pyi Taw, Myanmar

www.moh.gov.mm

December 2015

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CONTENTS

PREFACE

This annual public health statistics report 2013 is a valuable and helpful product of newly established Department of Public Health under Ministry of Health for all players within Myanmar's Health System. Moreover, this report is one of the serial products of Health Management Information System (HMIS) which had been developed since 1995.

Although the reporting may be late, it covers many projects such as primary medical care and referral of patient project, family health care project, nutrition project, child health development project, environmental sanitation project, school health project as well as disease control projects: EPI, DUNS, Malaria, TB, STIs/ AIDS, leprosy, trachoma and zoonotic diseases. In addition, injury prevention project, mental health project, health education, prevention of hearing impairment project and prevention of CVD project are also important parts of public health information system.

In order to assess the status of implementing trainings on various topics at township level to improve skill and knowledge of BHS, training information system was developed and integrated into HMIS since 2012. Health financing has been linked to HMIS to convey different sources of funding used at township level. These two areas are also included in the annual report.

The indicators described in this annual report are also shared in different form as Township Health Profiles with the purpose of widespread usage.

This report is not just a book of number because it contains efforts of our frontline players, BHS, who serve the community in urban and rural. Furthermore, this report reflects the continuous endeavor of staff from information division with 2,584,560 data entry for the whole country during one year. Here, we have 177 main indicators in the report and 27 sub-indicators disaggregated by sex calculated from 388 main data items and 504 sub-data items disaggregated by age groups and sex.

Though the report is published annually, the data from family health care project, EPI project and DUNS project are shared monthly and all projects are fed quarterly and biannually.

Like 2012 public health statistics report, the last part of this report is "Township Level Analysis" of maternal and child health service indicators. Seven indicators were used to calculate for each portion to make an index. This can

rule out which township needs more attention on maternal health and which on child health or both.

To improve the data quality, township level trainings on HMIS data dictionary were conducted at 22 townships and Region/ State level trainings at 8 regions/ states supported by UNFPA, German Fund and WHO (COIA catalytic fund) in 2013.

According to "Data Quality Assessment for 2013" conducted in 40 townships by GAVI-HSS, overall data quality of public health information system was 82.7 percent and this should be taken into consideration to balance between reported data and real situation.

In conclusion, I would like to acknowledge to each and every person engaged in embodiment of this report and I believe that this annual report will be a handy data source for all users within our health system and related areas.

Dr. Soe Lwin Nyein
Director General
Department of Public Health

ABBREVIATIONS

AMW	Auxiliary Midwife
AN	Ante-natal
ANC	Ante-natal Care
ARI	Acute Respiratory Infection
BCG	Bacille Calmette-Guerin
BHS	Basic Health Staff
CEU	Central Epidemiological Unit
CHW	Community Health Worker
COIA	Commission on Information and Accountability
CVD	Cardiovascular Disease
DHF	Dengue Hemorrhagic Fever
DPT	Diptheria Pertussis Tetanus
DUNS	Diseases Under National Surveillance
EPI	Expanded Program on Immunization
ES	Environmental Sanitation
GAVI-HSS	Government Alliance for Vaccine and Immunization- Health System Strengthening
HA	Health Assistant
HE	Health Education
HIV/ AIDS	Human Immunodeficiency Virus/ Acquired Immune Deficiency Syndrome
HMIS	Health Management Information System
LB	Live Birth
LHV	Lady Health Visitor
MCH	Maternal and Child Health
MMR	Maternal Mortality Ratio
MO	Medical Officer
MS	Medical Superintendent
MW	Midwife
ORT	Oral Rehydration Therapy
PHS	Public Health Supervisor
SH	School Health
SMO	Station Medical Officer
STIs/ AIDS	Sexually Transmitted Infections/ Acquired Immune Deficiency Syndrome
TB	Tuberculosis
THN	Township Health Nurse
THO	Township Health Officer
TMO	Township Medical Officer
TT	Tetanus Toxoid
TTBA	Trained Traditional Birth Attendance

U5MR	Under 5 Mortality Ratio
UNFPA	United Nations Population Fund
WCHD	Women and Child Health Development
WHO	World Health Organization

Reporting Status of Public Health Report Forms
and Distribution of Basic Health Staff &
Voluntary Health Workers

Fig (1) Reporting Status of Monthly Report Form (1-B)

Fig (2) Reporting Status of Quarterly Report Form (2-B)
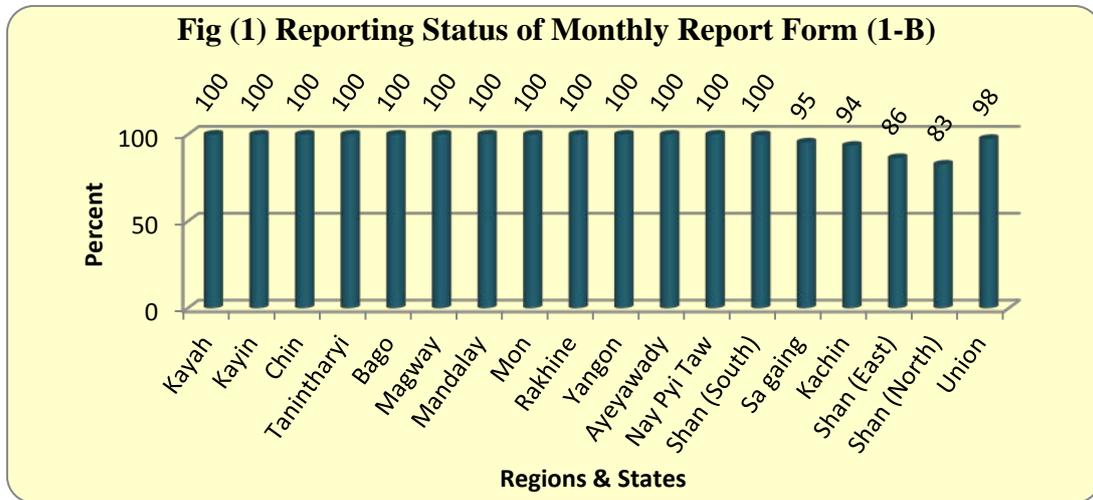
The indicators described in this annual report were calculated with overall reporting rate of 98 percent for monthly report form and 95 percent for quarterly report. For the year 2013, 13 and 10 out of 17 regions and states have hundred percent reporting for monthly form (1-B) and quarterly form (2-B) respectively and illustrated in above figures. Among these regions and states, Shan (East) and Shan (North) possess lowest reporting rate for both forms.

Fig (3) Percent Distribution of Functioning and Non-functioning Trained Voluntary Health Workers

Community Health Workers

40%

60%

■ Functioning ■ Non-functioning

Auxiliary Midwives

29%

71%

■ Functioning ■ Non-functioning

Traditional Birth Attendants

57%

24%

19%

■ Not trained ■ Functioning (Trained) ■ Non-functioning (Trained)
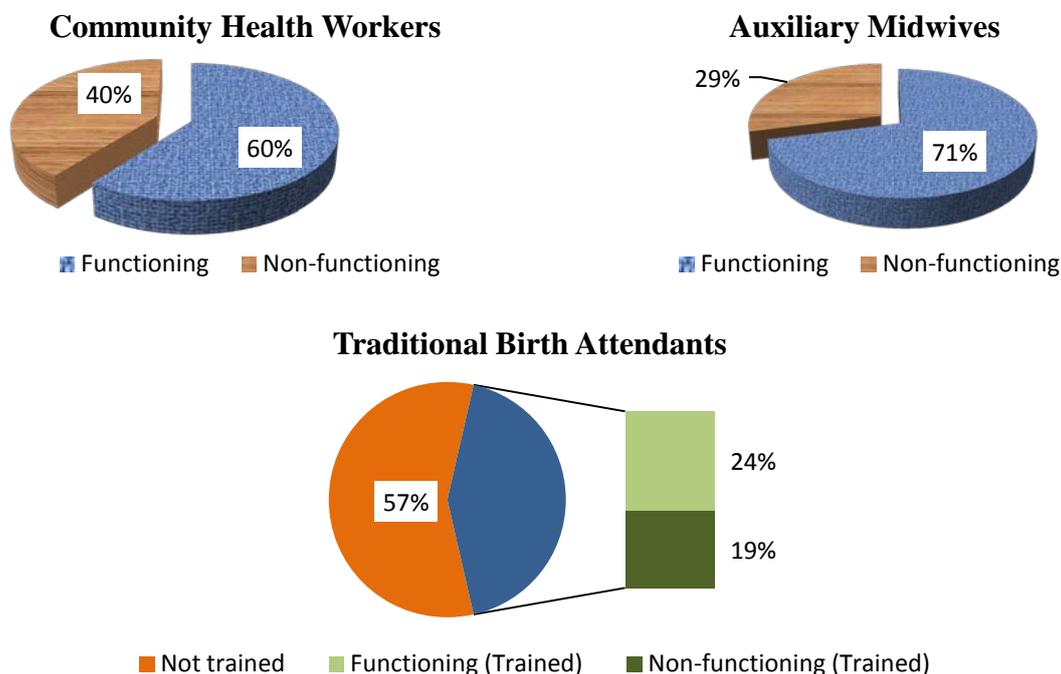
The above figure is about various categories of voluntary health workers and their current functioning status. Among trained voluntary health workers, only 60 percent of community health workers and 71 percent of auxiliary midwives were functioning. According to reported data, more than half (57%) of traditional birth attendants in community were untrained persons and nearly half of trained traditional birth attendants were drop-out.

Table (1) Distribution of appointed Health Manpower at Township Level

No	Title	Appointed Percent
1	MS	54.5
2	TMO/ THO/ SMO	76.2
3	MO	55.7
4	Disease Control MO	79.7
5	Dental Surgeon	76.4
6	THN	96.9
7	HA	89.8
8	LHV	88.1
9	Nurse	63.0
10	Disease Control Staff	70.8
11	MW	95.9
12	PHS I & II	44.8

I. COMMUNITY HEALTH CARE SERVICES
1. Primary Medical Care and Referral of Patients

Fig (4) Percent of New Patients at Clinics
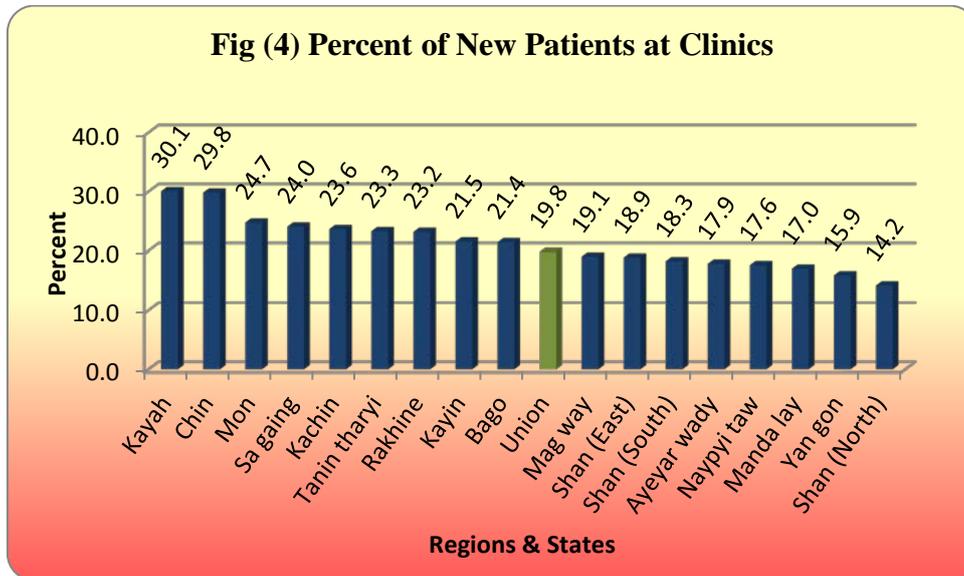
According to above figure, 19.8 percent, i.e. one out of every five persons, in community was using primary medical care services at township hospital, station hospital, urban/ rural health centers as well as sub-rural health centers not only within clinic-hours but also at any time of a day. In 2013, people from Kayah and Chin State enjoyed the services more than other regions and states (30.1 percent and 29.8 percent).

Fig (5) Average Frequency of Field Visits to Villages/ Wards
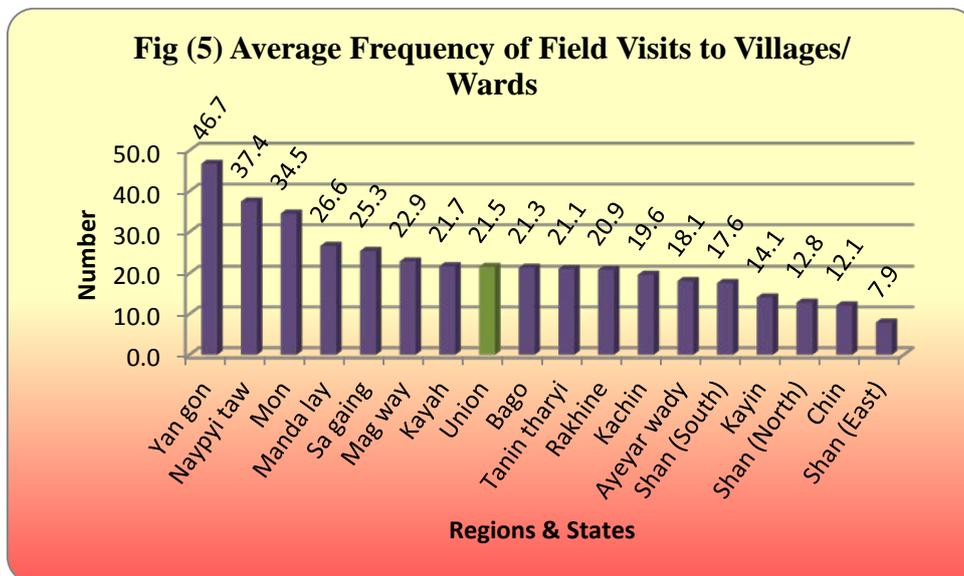
Basic health staffs have to go field visits in their jurisdiction areas to provide health services to public including ante-natal care, immunization, environmental sanitation activities, and health education. Yangon Region was the most active to do so with

highest average frequency of 46.7 times within 2013. The lowest frequency was found in Shan (East) with 7.9 per BHS.

Fig (6) Frequency of Joint Activities of CHW with BHS and Frequency of Activities by CHW only
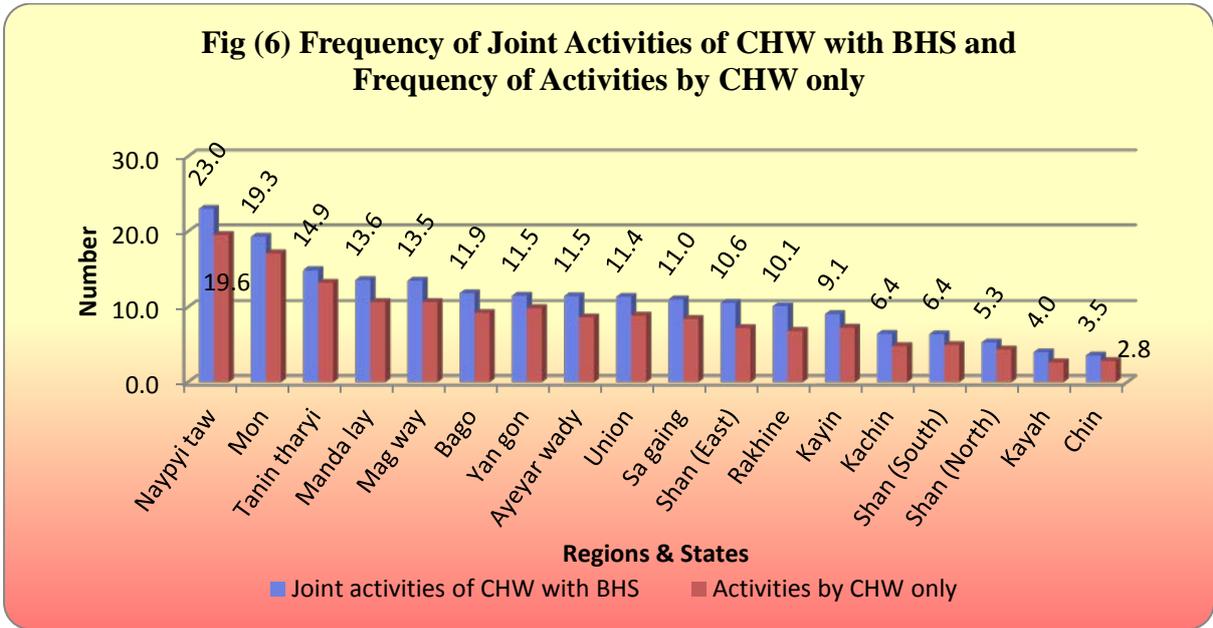
Community health workers were trained to assist basic health staff in providing health care such as field activities, health education activities plus environmental sanitation activities. Their performance on such activities was shown in above figure. Nay Pyi Taw got the maximum frequency on both joint activities of CHW with BHS and activities by CHW only (23.0 and 19.6) while Chin State stood at the opposite end (3.5 and 2.8).

Table (2) Indicators for Primary Medical Care and Referral of Patients

Regions and States	Primary Medical Care & Referral Project						
	Activities of Basic Health Staff					Activities of Community Health Worker	
	% of new patients at the clinic	Avg. number of visits by each patient	Avg. number of field visits to villages/wards	Total number of attendances during field visits	% of patients referred to higher levels	Avg. number of joint activities with BHS (Freq:)	Avg. number of activities carried out by CHW
Kachin	23.6	1.5	19.6	167078	0.7	6.4	4.8
Kayah	30.1	1.7	21.7	47933	0.7	4.0	2.6
Kayin	21.5	1.7	14.1	150978	0.6	9.1	7.3
Chin	29.8	1.7	12.1	70105	0.5	3.5	2.8
Sagaing	24.0	1.8	25.3	898355	0.7	11.0	8.4
Tanintharyi	23.3	1.5	21.1	205123	0.6	14.9	13.3
Bago	21.4	1.8	21.3	888364	0.7	11.9	9.2
Magway	19.1	1.8	22.9	744058	0.6	13.5	10.7
Mandalay	17.0	1.7	26.6	1113098	0.6	13.6	10.7
Mon	24.7	1.6	34.5	286251	0.7	19.3	17.1
Rakhine	23.2	1.4	20.9	494659	0.6	10.1	6.8
Yangon	15.9	1.8	46.7	929631	0.7	11.5	9.9
Shan (S)	18.3	1.6	17.6	359262	0.6	6.4	5.0
Shan (N)	14.2	1.6	12.8	183445	0.9	5.3	4.3
Shan (E)	18.9	1.5	7.9	71185	0.7	10.6	7.2
Ayeyarwaddy	17.9	1.7	18.1	1168212	0.7	11.5	8.6
Naypyitaw	17.6	1.6	37.4	216531	1.0	23.0	19.6
Union	19.8	1.7	21.5	7994268	0.7	11.4	8.9

2. Maternal, Newborn and Child Health Care

Fig (7) Percent of Antenatal Care Coverage by Regions and States
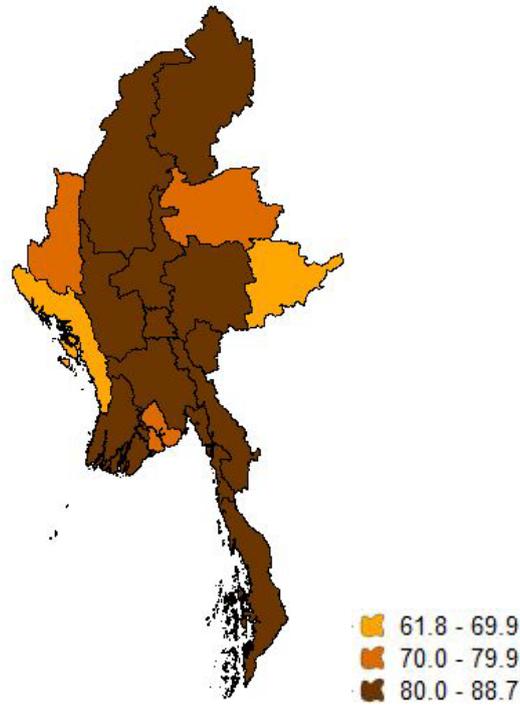
Maternal, newborn and child health care is one of the most important parts of health care delivery system in Myanmar. The above figure represents ante-natal care coverage by basic health staff showing that most of the areas are above 80 percent. Only Rakhine and Shan (East) States fall into the range between 60 and 69.9 percent of coverage.

Fig (8) AN Care Coverage and Proportion of Births Attended by Skilled Health Personnel (1996 - 2013)
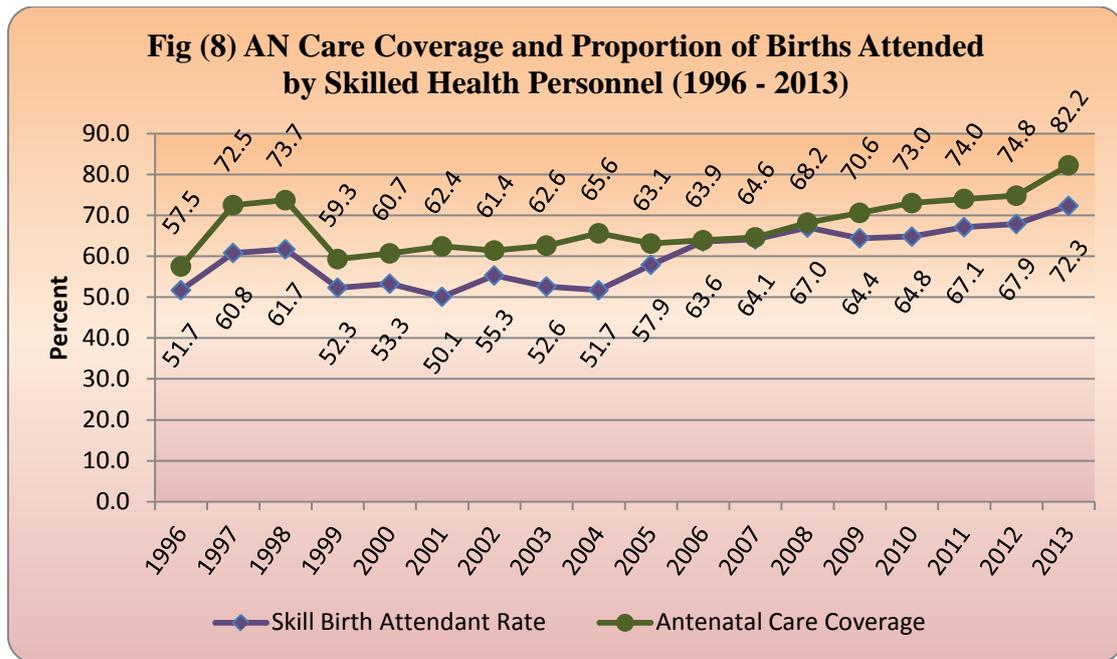
Figure (8) shows the trends in ante-natal care coverage and proportion of births attended by skilled health personnel from 1996 to 2013. Both trends have an abrupt increase in initial phase and then fluctuate from 1999 to 2008. From 2009, the trends increase smoothly and in 2013, proportion of birth attended by skill health personnel was 72.3 percent and ante-natal care coverage was 82.2 percent.

Fig (9) Percent of Postnatal Care Coverage by Regions and States
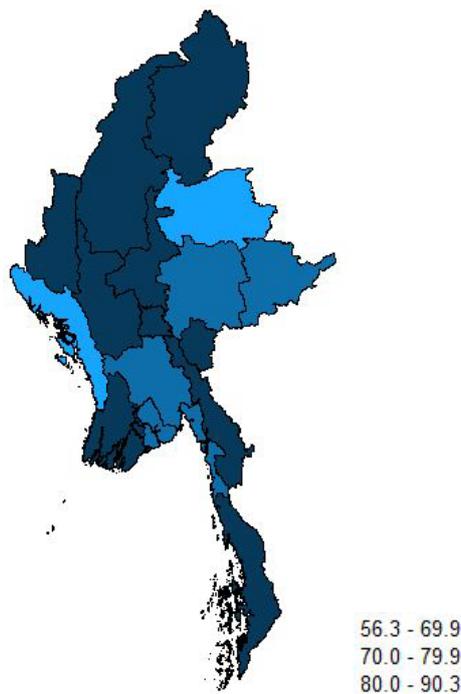
The above figure shows percent of post-natal care coverage by regions and states. Rakhine and Shan (North) States had the lowest coverage percent between 56 and

69.9 percent. At the same time, post-natal care coverage on Shan (South), Shan (East), Yangon, Bago and Mon States were between 70 and 79.9 percent. Overall coverage for union level was found to be 80.3 percent.

Fig (10) Percent of Pregnant Mothers with ANC 4 times or more

36.8 - 49.9
50.0 - 64.9
65.0 - 80.9
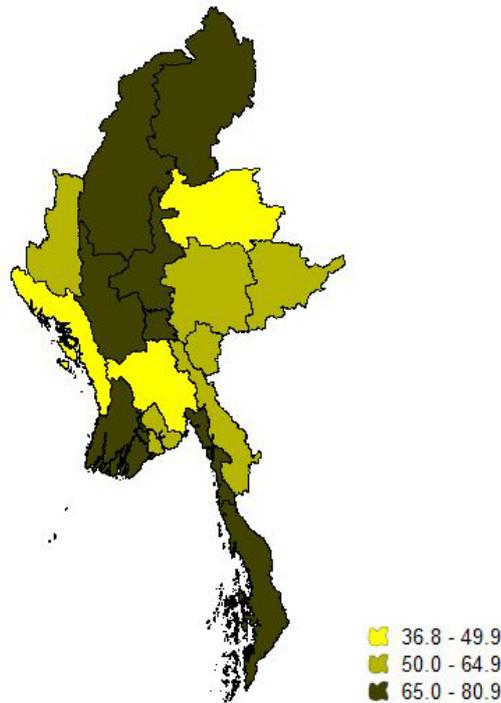
Regarding on percent of pregnant mothers with ANC 4 times or more, Mandalay, Nay Pyi Taw, Kachin, Sagaing, Ayeyarwady, Mon, Tanintharyi and Magway were between 65 and 80.9 percent coverage. (Fig 10) The percent of pregnant mother with ANC 4 times or more for union was 62.6.

Fig (11) Percent of Pregnant Women with Close Birth Interval & Contraceptive Prevalence Rate (CPR) any method
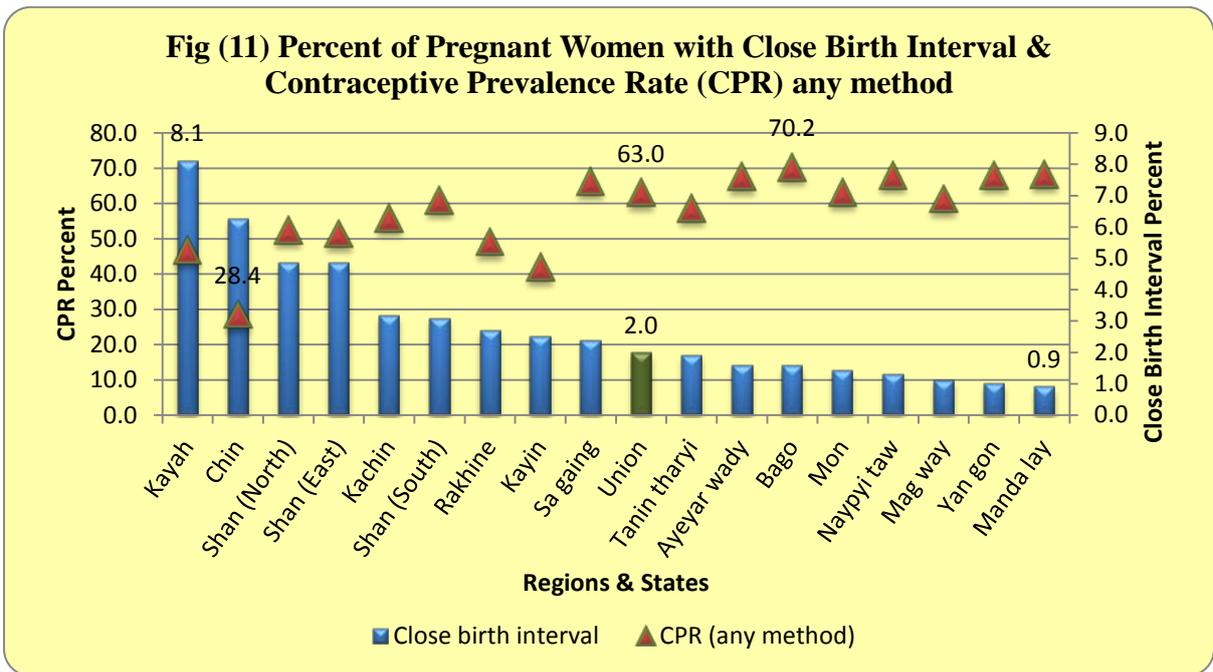
According to figure (11), Kayah State has got highest percent of close birth interval (less than 24 months) (8.1%) among newly registered AN mothers while Mandalay Region has the lowest percent (0.9%). As for contraceptive prevalence rate of any method, Bago Region has highest percent of contraceptive users (70.2%) among eligible women and lowest percent is found at Chin State with 28.4 percent.

Fig (12) Percent of Home Deliveries by BHS

Region/State	Percent
Chin	48.3
Mag way	45.7
Kayah	43.1
Kachin	42.9
Bago	39.1
Sa gaing	37.9
Manda lay	37.8
Mon	36.5
Kayin	35.8
Union	34.1
Naypyi taw	33.7
Ayeyar wady	33.7
Tanin tharyi	33.0
Shan (South)	30.9
Rakhine	28.1
Shan (East)	22.5
Shan (North)	21.8
Yan gon	20.2
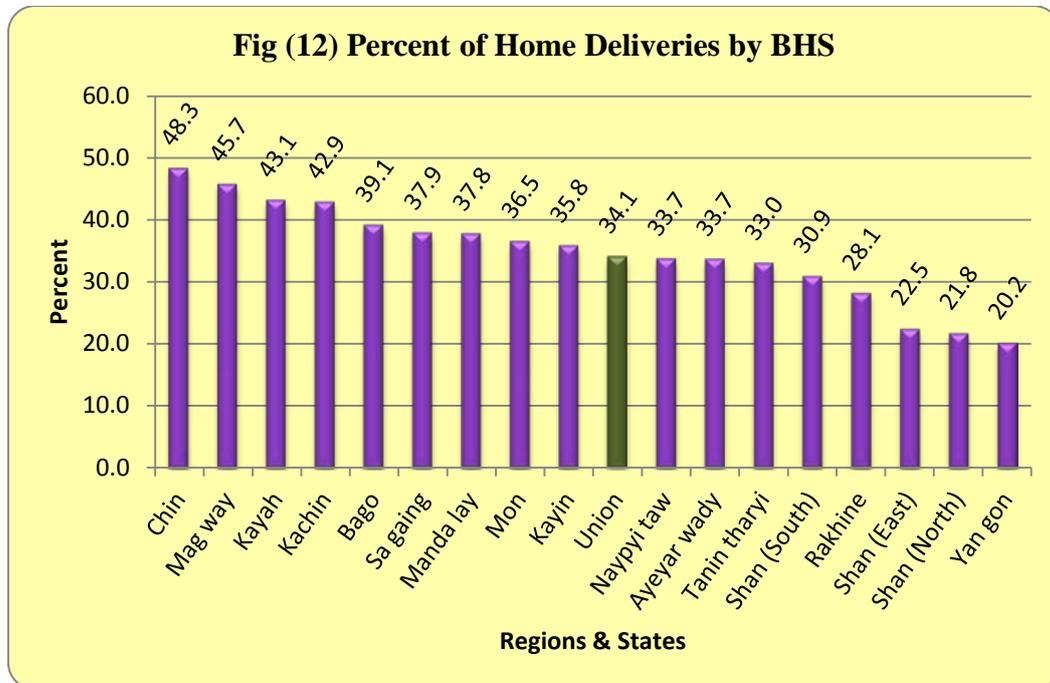
Home deliveries by basic health staff especially midwives are demonstrated in above figure. During 2013, Chin, Magway and Kayah States are standing at first, second and third highest percent of home deliveries by BHS with 48.3, 45.7 and 43.1 percent respectively.

Fig (13) Percent of Deliveries by Different Birth Attendants

Home Deliveries by TTBA 7.7%

Other 8.9%

Institutional Deliveries (private) 9.0%

Home Deliveries by SBA 34.1%

Institutional Deliveries (public) 30.5%

Home Deliveries by AMW 9.7%
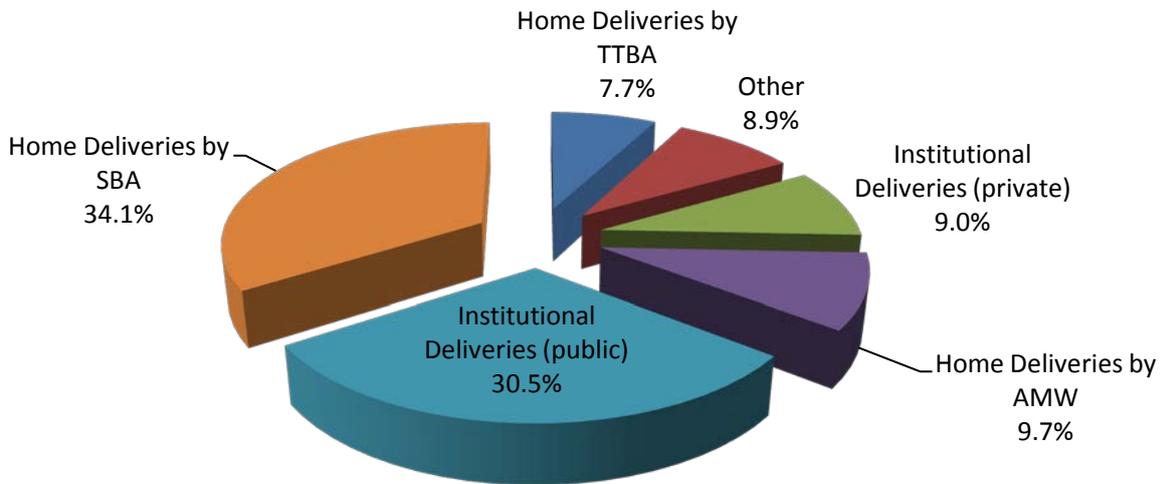
Percent distribution of deliveries by different birth attendants is shown in figure (13) and home deliveries by skill birth attendants among total deliveries occupies the largest portion (34.1%) closely followed by institutional deliveries at public hospitals or clinic (30.5%).

Fig (14) Referral Rate by BHS, AMW & TTBA

	Sag	Npt	Mgy	Mon	Mdy	Bago	Uni	Aye	Kyh	S(N)	Ygn	S(S)	Kyn	Tani	Kch	Rkh	S(E)	Chin
BHS	26.5	25.0	18.2	17.1	16.1	15.2	15.0	14.5	14.4	11.3	11.0	10.9	10.7	10.5	9.0	8.9	8.4	6.2
AMW	10.3	7.5	6.1	11.8	9.7	5.8	7.9	7.3	6.8	6.6	14.5	6.0	5.2	3.7	27.0	3.7	11.1	2.0
TTBA	3.8	2.4	1.3	1.9	2.4	1.4	1.8	1.4	1.7	4.9	1.7	1.2	1.5	1.8	12.4	1.2	6.7	0.4
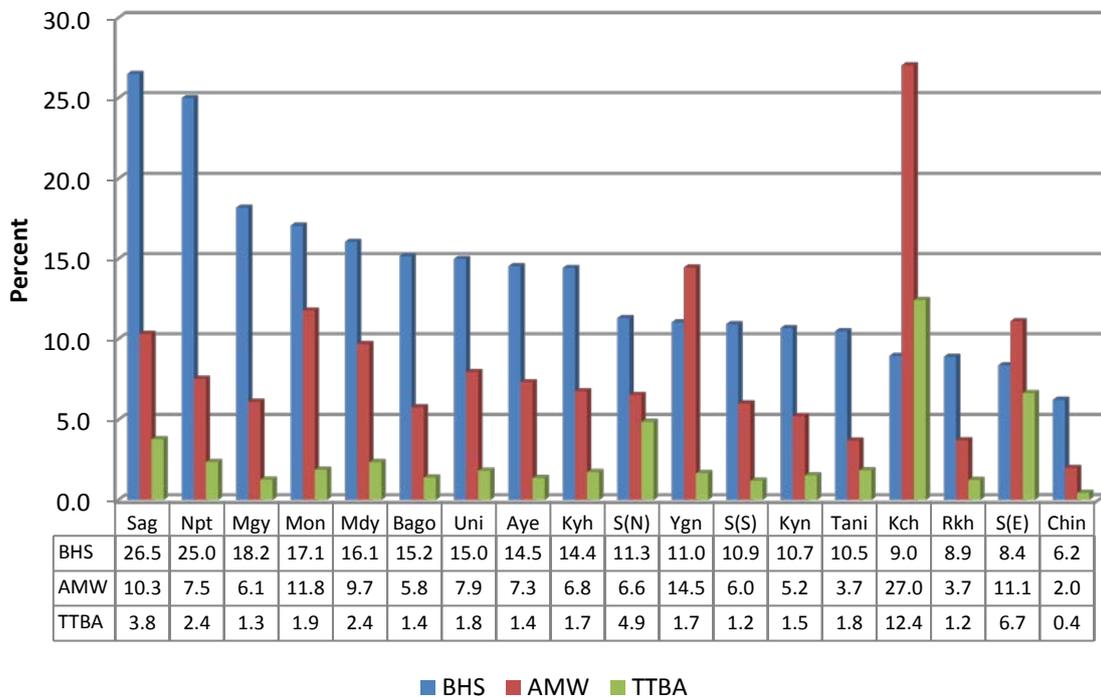
■ BHS ■ AMW ■ TTBA

Referral rate of pregnant mother in ante-natal, intra-natal and post-natal period by BHS, AMW & TTBA is illustrated in figure (14). Referral rate by BHS was found to be highest in Sagaing Region (26.5%) followed by Nay Pyi Taw (25.0%). Likewise,

highest referral rates by AMW as well as TTBA can be seen in Kachin State (27.0% and 12.4%).

Fig (15) Percent of Pregnant Mother with Early Registration
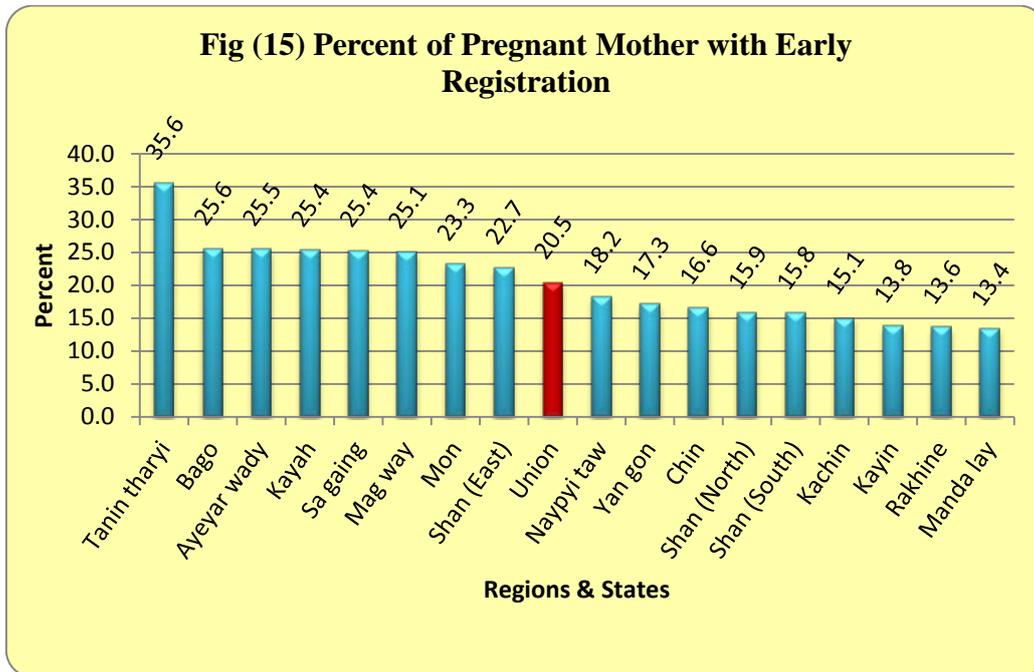
Percent of pregnant mother with early registration to BHS around 12 weeks of gestation is obviously high in Tanintharyi Region (35.6%) and lowest percent is found in Mandalay Region (13.4%).

Fig (16) Percent of Under Five Diarrhoea with Severe Dehydration
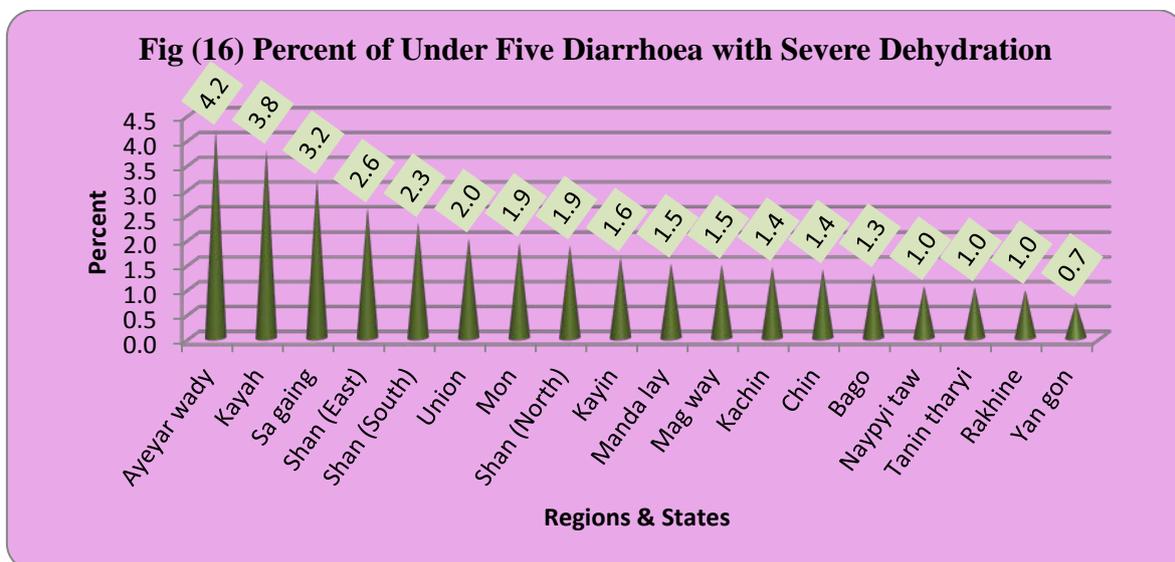
The above figure showed that the percent of under five diarrhea with severe dehydration was highest in Ayeyarwady Region (4.2 %) and lowest in Yangon (0.7%).

Fig (17) Percent of Under 5 Patients with ARI
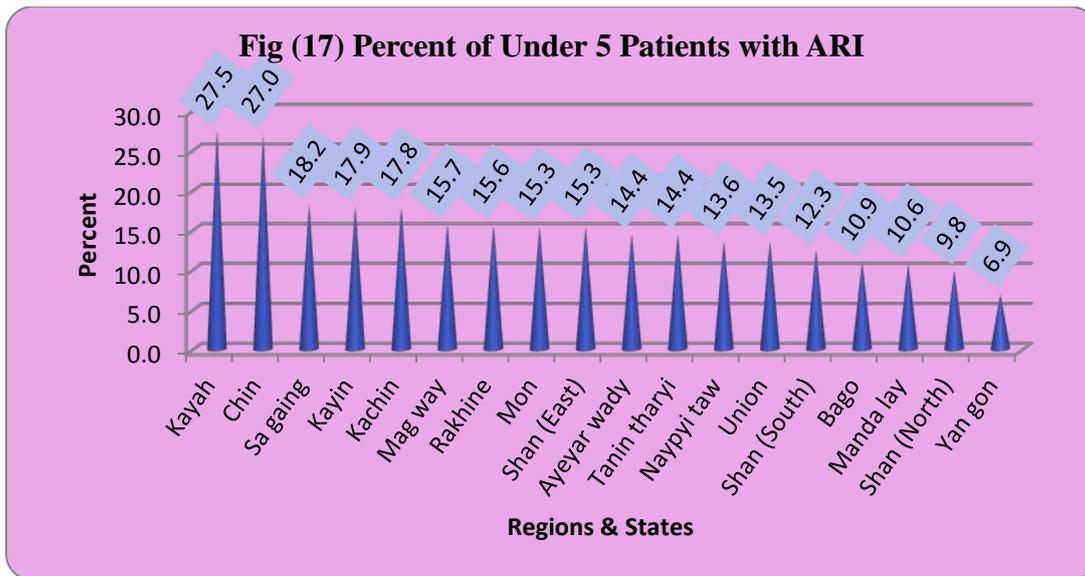
Percent of under five year children with acute respiratory infection including common cold, pneumonia and severe pneumonia is described in above figure and noticeably high percents were seen in Kayah and Chin State with 27.5 and 27 percent.

Fig (18) Percent of Under Five Patients with ORT for Diarrhoea and Antibiotics for Pneumonia
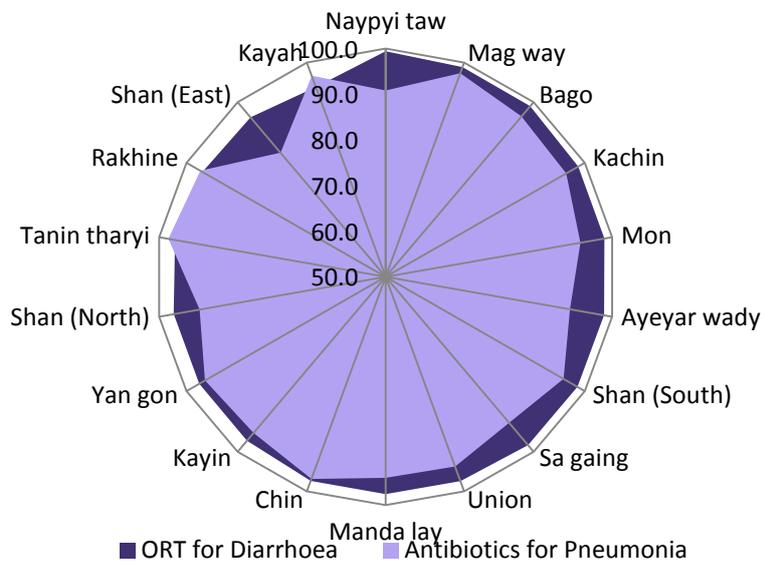
Oral rehydration therapy is essential for treating diarrhea and likewise, antibiotics for pneumonia. In 2013, Nay Pyi Taw had the highest coverage on ORT for diarrhea with 99.4 percent and Tanintharyi on antibiotics for pneumonia with 98 percent.

Fig (19) Percent of Newborn Receiving Breastfeeding within One Hour of Birth

Values (Regions & States): Kachin 87.3, Tanin tharyi 86.8, Manda lay 86.7, Naypyi taw 86.7, Mag way 86.4, Kayin 83.3, Mon 81.6, Chin 80.7, Sa gaing 80.1, Kayah 79.5, Ayeyar wady 78.5, Bago 78.3, Union 76.1, Shan (South) 73.8, Shan (North) 65.5, Shan (East) 64.5, Yan gon 63.4, Rakhine 44.6

Y-axis: Percent (0.0 – 100.0)
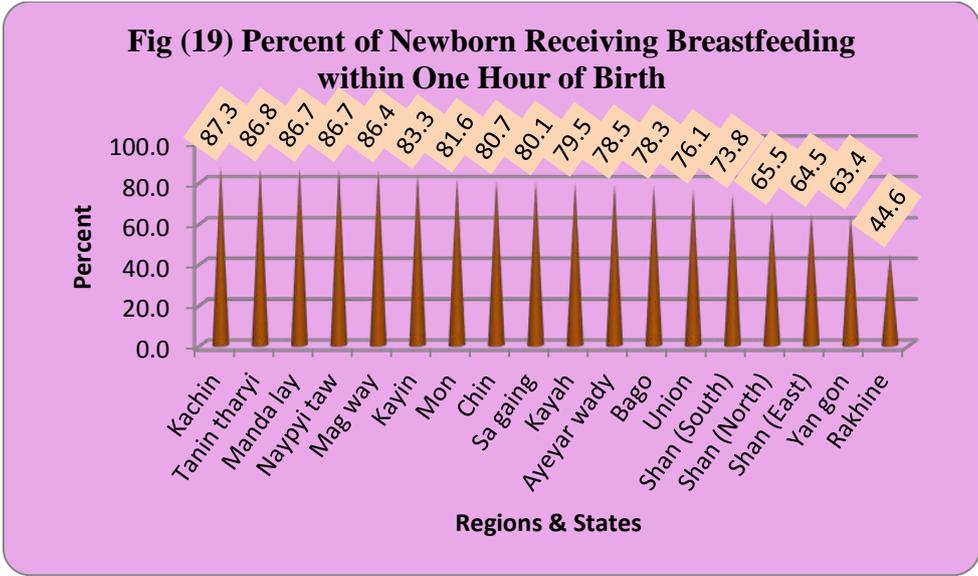
According to above figure, Kachin and Tanintharyi had the highest percent of newborn receiving breastfeeding within one hour of birth with 87.3 and 86.8 percent respectively. Mandalay and Nay Pyi Taw had equal percent (86.7%) standing at the third highest place. Rakhine had only 44.6 percent and stood at the last place.

Fig (20) Newborn Care Coverage

Values (Regions & States): Mag way 86.0, Kachin 85.4, Manda lay 85.3, Tanin tharyi 83.3, Naypyi taw 81.4, Sa gaing 81.2, Mon 79.6, Kayin 78.5, Bago 76.3, Kayah 75.2, Ayeyar wady 74.9, Union 74.1, Chin 69.8, Shan (South) 68.2, Shan (East) 64.7, Yan gon 63.3, Shan (North) 58.4, Rakhine 44.9

Y-axis: Percent (0.0 – 90.0)
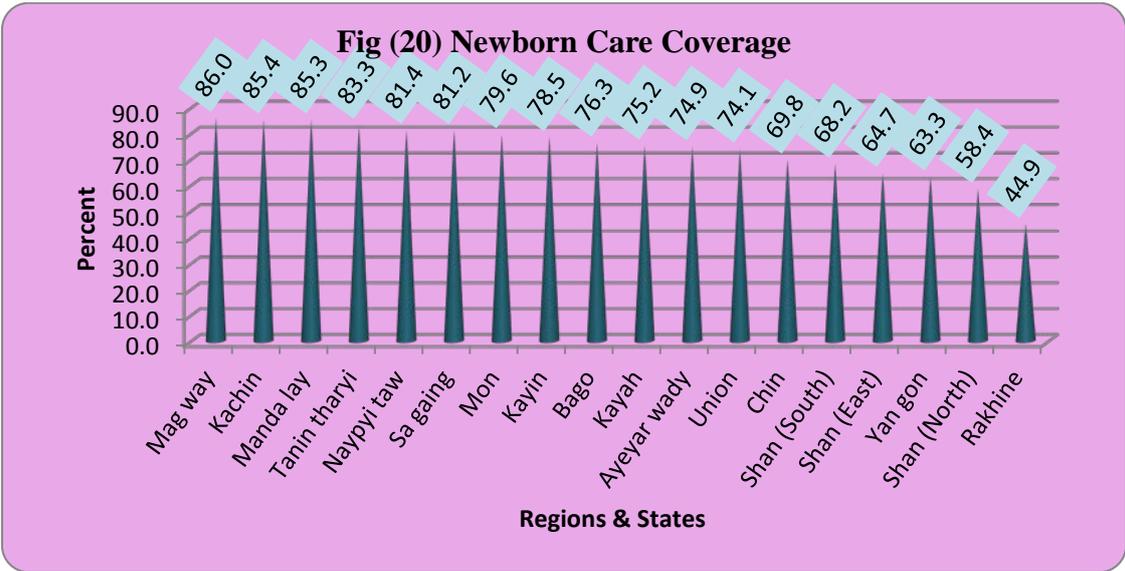
Newborn care coverage was proportion of live birth babies who got health care service within 3 days of delivery. The best coverage of newborn care was seen in Magway with 86 percent and on the opposite end, Rakhine can be found with 44.9 percent coverage.

Table (3) Indicators for Maternal and Child Health Activities by BHS

Regions and States	Maternal, Newborn and Child Health Care								
	Maternal and Child Health Activities by BHS								
	% coverage of antenatal care*	% of pregnant women with close birth interval	Avg. frequency of antenatal visits	Home deliveries by BHS (%)	Proportion of deliveries by BHS at hospitals and delivery rooms	% of those who received ANC 4 times or more**	% coverage of postnatal care	Avg. frequency of visit for postnatal care	% of mothers referred to higher levels (during pregnancy, delivery and postnatal period)
Kachin	86.5	3.2	3.6	42.9	21.3	76.7	89.5	4.2	9.0
Kayah	80.8	8.1	3.9	43.1	7.6	50.9	87.6	3.2	14.4
Kayin	85.4	2.5	3.1	35.8	25.5	62.1	86.9	3.6	10.7
Chin	73.6	6.3	3.6	48.3	9.5	58.4	81.6	3.0	6.2
Sagaing	84.4	2.4	4.2	37.9	26.2	72.9	88.9	4.6	26.5
Tanintharyi	87.1	1.9	3.3	33.0	23.8	67.1	83.9	4.0	10.5
Bago	87.6	1.6	3.4	39.1	23.1	36.8	78.6	3.4	15.2
Magway	80.5	1.1	4.1	45.7	12.7	66.8	89.3	4.1	18.2
Mandalay	87.8	0.9	4.1	37.8	15.7	80.9	90.3	4.4	16.1
Mon	88.7	1.4	4.0	36.5	27.9	68.9	79.3	4.2	17.1
Rakhine	61.8	2.7	3.2	28.1	5.0	41.6	56.3	2.0	8.9
Yangon	78.6	1.0	3.6	20.2	18.1	59.3	74.4	3.5	11.0
Shan (S)	83.8	3.1	3.4	30.9	17.7	56.5	73.4	3.0	10.9
Shan (N)	71.9	4.9	3.2	21.8	33.4	44.6	63.5	2.5	11.3
Shan (E)	68.3	4.9	3.3	22.5	33.4	54.6	73.1	2.7	8.4
Ayeyarwaddy	87.9	1.6	3.4	33.7	22.0	69.7	82.2	3.2	14.5
Naypyitaw	84.0	1.3	3.7	33.7	14.0	79.5	85.9	3.3	25.0
Union	82.2	2.0	3.7	34.1	19.8	62.6	80.3	3.6	15.0

Table (4) Indicators for Maternal and Child Health Activities by AMWs and TTBAs

| Regions and States | Maternal, Newborn and Child Health Care | | | |
| | Activities by AMWs | | Activities by TTBAs | |
	% of home deliveries by AMW	% of mothers referred to higher levels (during pregnancy, delivery and postnatal period)	% of home deliveries by TTBA	% of mothers referred to higher levels (during childbirth)
Kachin	7.9	27.0	4.2	12.4
Kayah	10.4	6.8	9.4	1.7
Kayin	14.9	5.2	15.9	1.5
Chin	18.8	2.0	5.7	0.4
Sagaing	11.5	10.3	3.8	3.8
Tanintharyi	13.8	3.7	4.4	1.8
Bago	9.9	5.8	11.1	1.4
Magway	17.6	6.1	5.7	1.3
Mandalay	8.2	9.7	4.1	2.4
Mon	4.7	11.8	2.8	1.9
Rakhine	6.1	3.7	22.6	1.2
Yangon	4.1	14.5	5.1	1.7
Shan (S)	12.2	6.0	5.1	1.2
Shan (N)	6.9	6.6	2.2	4.9
Shan (E)	0.4	11.1	0.1	6.7
Ayeyarwaddy	12.0	7.3	12.5	1.4
Naypyitaw	10.6	7.5	4.0	2.4
Union	9.7	7.9	7.7	1.8

Table (5) Indicators for Child Health Activities

Regions and States	Total numbers of under 5 children who received treatment from health staff (at clinics/health facilities and during field visits)	% of under 5 children with severe dehydration	% of under-5 children receiving ORT	% of under-5 Patients with ARI	% of under-5 children receiving antibiotics treatment for pneumonia	% of under 5 children who are referred to higher level	% of newborn receiving breastfeeding within one hour of birth	% of newborn care coverage
Kachin	70833	1.4	98.3	17.8	95.3	0.8	87.3	85.4
Kayah	19530	3.8	94.3	27.5	96.9	1.1	79.5	75.2
Kayin	78947	1.6	96.9	17.9	94.6	0.8	83.3	78.5
Chin	38407	1.4	97.6	27.0	97.1	0.9	80.7	69.8
Sagaing	218402	3.2	98.1	18.2	91.8	1.4	80.1	81.2
Tanintharyi	55072	1.0	96.5	14.4	98.0	1.1	86.8	83.3
Bago	149049	1.3	98.8	10.9	95.9	1.0	78.3	76.3
Magway	129378	1.5	98.9	15.7	97.5	1.1	86.4	86.0
Mandalay	158457	1.5	97.6	10.6	94.0	1.5	86.7	85.3
Mon	93614	1.9	98.3	15.3	93.0	1.3	81.6	79.6
Rakhine	116753	1.0	96.0	15.6	96.5	1.2	44.6	44.9
Yangon	114264	0.7	96.8	6.9	95.4	1.4	63.4	63.3
Shan (S)	68951	2.3	98.2	12.3	94.7	1.0	73.8	68.2
Shan (N)	57448	1.9	96.8	9.8	91.1	0.8	65.5	58.4
Shan (E)	25474	2.6	95.6	15.3	85.5	0.9	64.5	64.7
Ayeyarwaddy	208619	4.2	98.2	14.4	90.7	1.3	78.5	74.9
Naypyitaw	35865	1.0	99.4	13.6	90.8	1.6	86.7	81.4
Union	1639063	2.0	97.6	13.5	94.2	1.2	76.1	74.1

3. Nutrition Promotion Program

Fig (21) Percent of Pregnant Mothers with De-worming and Iron Supplement 4 times or more

De-worming drug values (labelled above bars): Mon 77.8, Kayah 76.4, Sa gaing 75.1, Mag way 73.2, Manda lay 71.8, Ayeyar wady 71.8, Bago 71.2, Tanin tharyi 69.2, Kayin 67.9, Naypyi taw 66.4, Union 66.2, Shan (South) 63.4, Kachin 62.9, Yan gon 62.2, Shan (North) 56.9, Chin 51.2, Shan (East) 41.1, Rakhine 35.1

Iron supplement (Union) 54.9

Regions & States

■ De-worming drugs ■ Iron supplement 4 times or more

Some maternal and neonatal morbidity and mortality are very much depends on maternal nutrition and it is worth to be paid attention. Myanmar nutrition promotion program supports mebendazole and ferrous sulphate tablets to pregnant mothers in order to prevent iron deficiency anemia.

According to figure (21), union level coverage on pregnant mothers taking de-worming drug was 66.2 percent and pregnant mothers receiving iron supplement 4 times or more was 54.9 percent.

Fig (22) Percent of Male Low Birth Weight Born in Different Health Facilities

	Kyn	S(E)	Bago	Aye	Sag	Mgy	S(N)	Mon	Rak	Uni	Kch	S(S)	Mdy	Ygn	Kyh	Tanin	Npt	Chin
■ Other Health Centers	1.2	1.6	0.9	1.6	1.2	0.8	1.4	1.0	0.7	1.0	0.7	1.2	0.8	0.9	1.4	0.8	0.8	0.3
■ Township	1.9	3.1	2.0	2.2	2.0	1.1	2.3	2.0	1.3	1.6	1.3	1.5	1.1	1.2	1.5	1.0	1.0	0.5
◆ Hospital	6.9	4.7	4.5	4.4	4.2	4.2	3.9	3.8	3.6	3.3	2.5	2.1	1.8	1.6	1.5	1.4	1.3	0.8
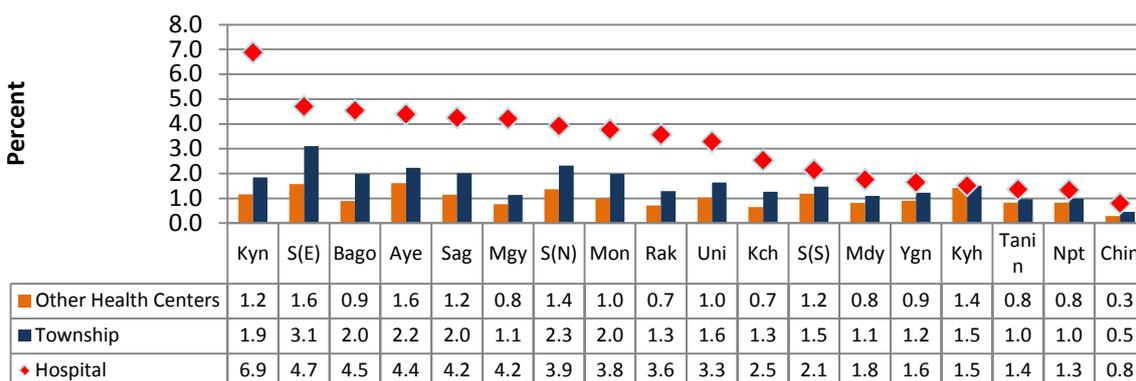
Low birth weight is one of the major causes of infantile mortality, and high prevalence of low birth weight areas should be focused and appropriate intervention should be carried out. In calculating percentage of low birth weight in different health facilities, hospital data were extracted from hospital information system.

17

At township level, Shan (East) had the highest percent (3.1%) of male low birth weight. For those babies born in hospitals, Kayin had the highest percent (6.9%) of male low birth weight. And for those babies born in other health centers, Shan (East) and Ayeyarwady had the high male low birth weight percent (1.6% for both). (Figure 22)

Fig (23) Percent of Female Low Birth Weight Born in Different Health Facilities

	Kyn	S(N)	Bago	Aye	S(E)	Rak	Sag	Mgy	Uni	Mon	Kyh	Kch	S(S)	Mdy	Chin	Ygn	Npt	Tanin
Other Health Centers	1.0	1.3	0.9	1.6	2.3	0.8	1.1	0.8	1.0	0.9	2.2	1.0	1.3	0.7	0.6	0.7	1.4	0.8
Township	1.9	0.0	2.2	2.4	3.7	1.6	2.0	1.2	1.6	1.7	2.0	1.4	1.6	1.1	0.9	1.0	1.4	0.8
Hospital	9.0	5.3	5.3	5.2	5.0	4.5	4.4	4.3	3.6	3.5	2.8	2.7	2.2	1.9	1.6	1.5	1.3	1.0
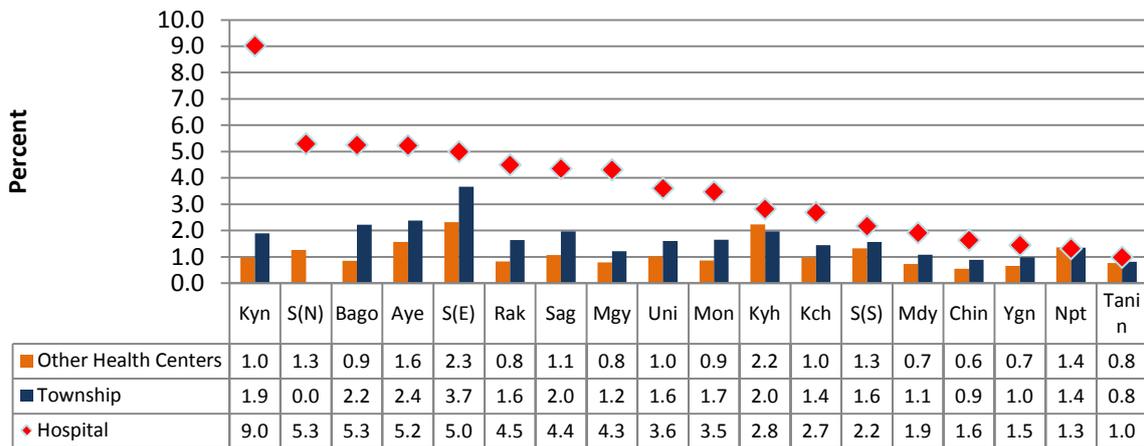
Like male low birth weight, highest percent of female low birth weight born in hospital was also seen in Kayin State (9.0 percent) and those born in other health centers and the whole township was seen in Shan (East) (2.3 and 3.7 percent). (Fig 23)

Fig (24) Percent of Under 5 with Moderate and Severe Underweight
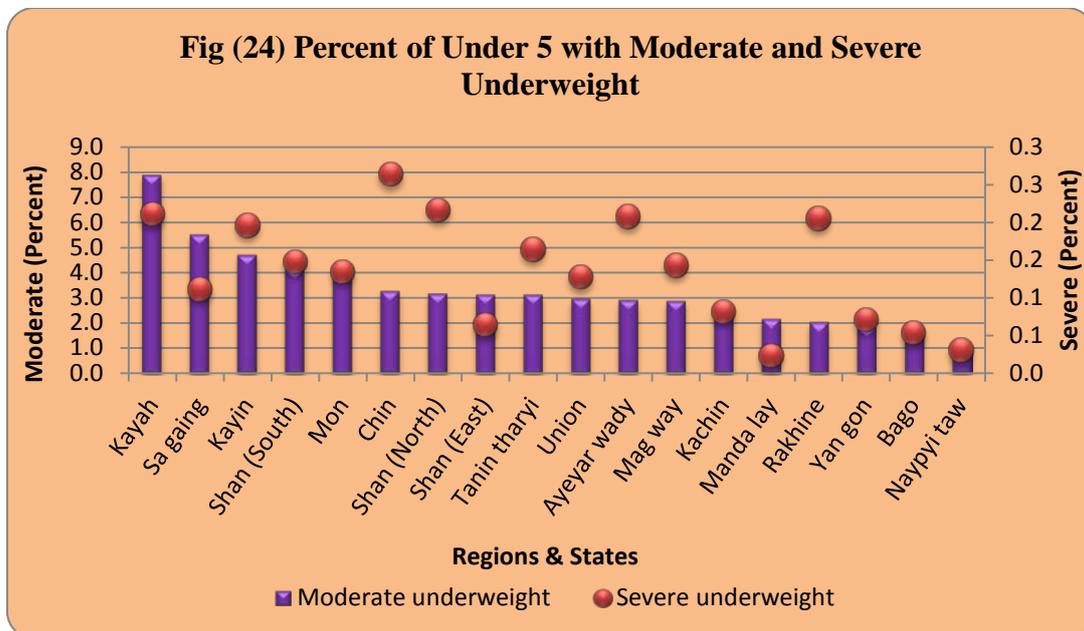
Growth monitoring of under five years old children is a vital process and underweight children must be cared, treated and monitored regularly until they gain their normal growth. Kayah State had the highest percent of under five children falling in

yellow zone of weight chart and Chin State had the highest percent of under five children with severe underweight in red zone of weight chart.

Fig (25) Percent of Villages/ Wards with Qualified Consumption of Adequately Iodized Salt
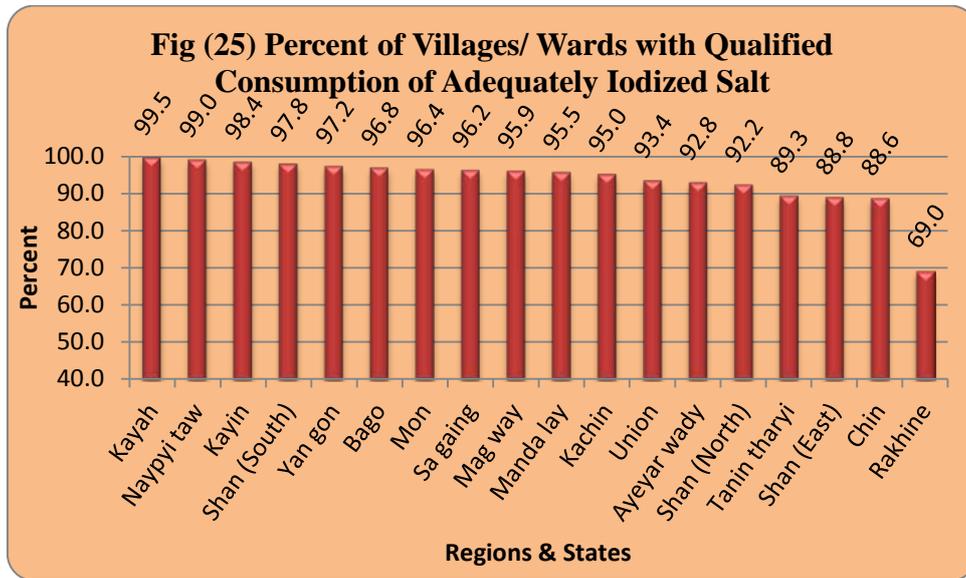
Iodine deficiency seems to be less common in Myanmar though consumption of qualified iodized salt is regularly assessed by the health workers in households, markets, warehouse and salt-production factries. Figure (25) reveals the percentage of villages/ wards where iodine content in consumed salt is 15 ppm and above, which is qualified. According to above figure, iodine consumption for union level was found as 93.4 percent where visibly low consumption was found in Rakhine State with 69 percent.

Fig (26) Infantile Beri Beri per 1000 LBs
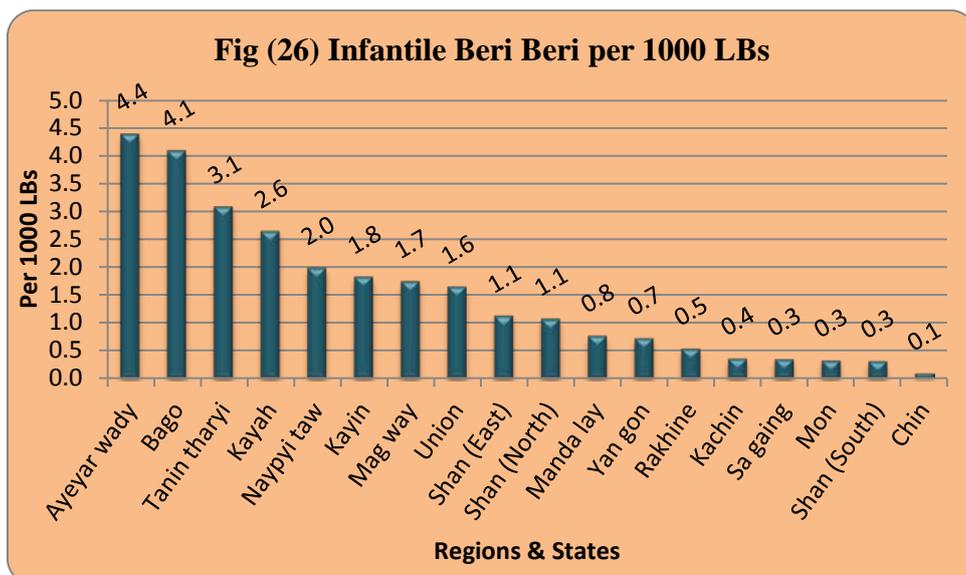
Infantile beri beri is a very common cause of death in our country but also a preventable disease. Attention should be focused on areas like Ayeyarwady, Bago and Tanintharyi Regions where infantile beri beri is high compared to other regions and states.

Table (6) Indicators for Growth Monitoring

Regions and States	Nutrition Development Services									
	% of newborns with LBW (hospital) (M)	% of newborns with LBW (hospital) (F)	% of newborns with LBW (other health centre) (M)	% of newborns with LBW (other health centre) (F)	% of newborns with LBW (township) (M)	% of newborns with LBW (township) (F)	Infants with beriberi (per 1000 LBs)	% of pregnant women receiving de-worming drugs	% of post-natal mothers who received iron supplements 3 times or below during pregnancy	% of post-natal mothers who received iron supplements 4 times or more during pregnancy
Kachin	2.5	2.7	0.7	1.0	1.3	1.4	0.4	62.9	12.2	60.1
Kayah	1.5	2.8	1.4	2.2	1.5	2.0	2.6	76.4	22.9	54.0
Kayin	6.9	9.0	1.2	1.0	1.9	1.9	1.8	67.9	19.8	51.3
Chin	0.8	1.6	0.3	0.6	0.5	0.9	0.1	51.2	20.3	47.9
Sagaing	4.2	4.4	1.2	1.1	2.0	2.0	0.3	75.1	12.5	67.1
Tanintharyi	1.4	1.0	0.8	0.8	1.0	0.8	3.1	69.2	15.9	52.8
Bago	4.5	5.3	0.9	0.9	2.0	2.2	4.1	71.2	23.3	49.6
Magway	4.2	4.3	0.8	0.8	1.1	1.2	1.7	73.2	11.6	58.3
Mandalay	1.8	1.9	0.8	0.7	1.1	1.1	0.8	71.8	8.9	70.9
Mon	3.8	3.5	1.0	0.9	2.0	1.7	0.3	77.8	13.2	61.9
Rakhine	3.6	4.5	0.7	0.8	1.3	1.6	0.5	35.1	19.8	31.0
Yangon	1.6	1.5	0.9	0.7	1.2	1.0	0.7	62.2	9.3	50.7
Shan (S)	2.1	2.2	1.2	1.3	1.5	1.6	0.3	63.4	23.7	46.7
Shan (N)	3.9	5.3	1.4	1.3	2.3	0.0	1.1	56.9	18.1	36.0
Shan (E)	4.7	5.0	1.6	2.3	3.1	3.7	1.1	41.1	15.6	35.4
Ayeyarwaddy	4.4	5.2	1.6	1.6	2.2	2.4	4.4	71.8	13.8	59.7
Naypyitaw	1.3	1.3	0.8	1.4	1.0	1.4	2.0	66.4	12.2	64.4
Union	3.3	3.6	1.0	1.0	1.6	1.6	1.6	66.2	14.7	54.9

Table (6) Indicators for Growth Monitoring

ii	Nutrition Development Services										
Regions and States	% of pregnant mothers who received B1 supplements	% of post-natal mothers who received B1 supplements	% of breastfeeding mothers who received B1 supplements	% of post-natal mothers who received vitamin A supplements	% of under-5 children with moderate underweight	% of under-5 children with severe underweight	% of under-5 children with underweight	Avg number of under-nourished children receiving Growth Monitoring and Promotion per month	% of under-nourished children receiving Growth Monitoring and Promotion per month	% of villages/ wards with qualified consumption of adequately iodized salt (township review)	% of village/wards with unqualified consumption of adequately iodized salt (township review)
Kachin	55.7	69.5	67.7	70.9	2.3	0.1	2.4	185	5.5	95.0	5.0
Kayah	48.0	71.5	65.2	73.9	7.9	0.2	8.1	192	7.7	99.5	0.5
Kayin	49.4	64.1	66.5	66.4	4.7	0.2	4.9	421	5.5	98.4	1.6
Chin	52.8	53.6	50.6	50.0	3.3	0.3	3.5	125	4.2	88.6	11.4
Sagaing	67.2	78.9	77.7	79.5	5.5	0.1	5.6	3421	14.9	96.2	3.8
Tanintharyi	65.8	65.7	69.8	65.6	3.1	0.2	3.3	288	5.9	89.3	10.7
Bago	55.2	69.4	71.8	70.3	1.7	0.1	1.8	396	5.3	96.8	3.2
Magway	57.9	69.9	71.2	71.4	2.9	0.1	3.0	981	8.4	95.9	4.1
Mandalay	60.5	71.7	71.3	78.5	2.2	0.0	2.2	490	6.1	95.5	4.5
Mon	59.6	72.3	71.4	70.1	4.0	0.1	4.1	629	7.8	96.4	3.6
Rakhine	35.5	42.0	37.9	40.9	2.0	0.2	2.2	257	4.1	69.0	31.0
Yangon	48.0	52.7	54.1	54.5	1.9	0.1	1.9	569	5.6	97.2	2.8
Shan (S)	47.5	60.5	58.9	66.0	4.1	0.1	4.3	502	5.4	97.8	2.2
Shan (N)	36.8	45.0	43.4	46.8	3.2	0.2	3.4	217	3.7	92.2	7.8
Shan (E)	40.0	45.5	35.7	42.8	3.1	0.1	3.2	86	4.4	88.8	11.2
Ayeyarwaddy	61.3	67.7	73.4	70.2	2.9	0.2	3.1	884	4.8	92.8	7.2
Naypyitaw	58.0	68.3	77.9	70.4	0.9	0.0	0.9	23	2.7	99.0	1.0
Union	54.5	64.1	64.8	65.9	3.0	0.1	3.1	9665	7.3	93.4	6.6

4. School Health Services

Fig (27) Percent of Schools and Primary School Children Examined
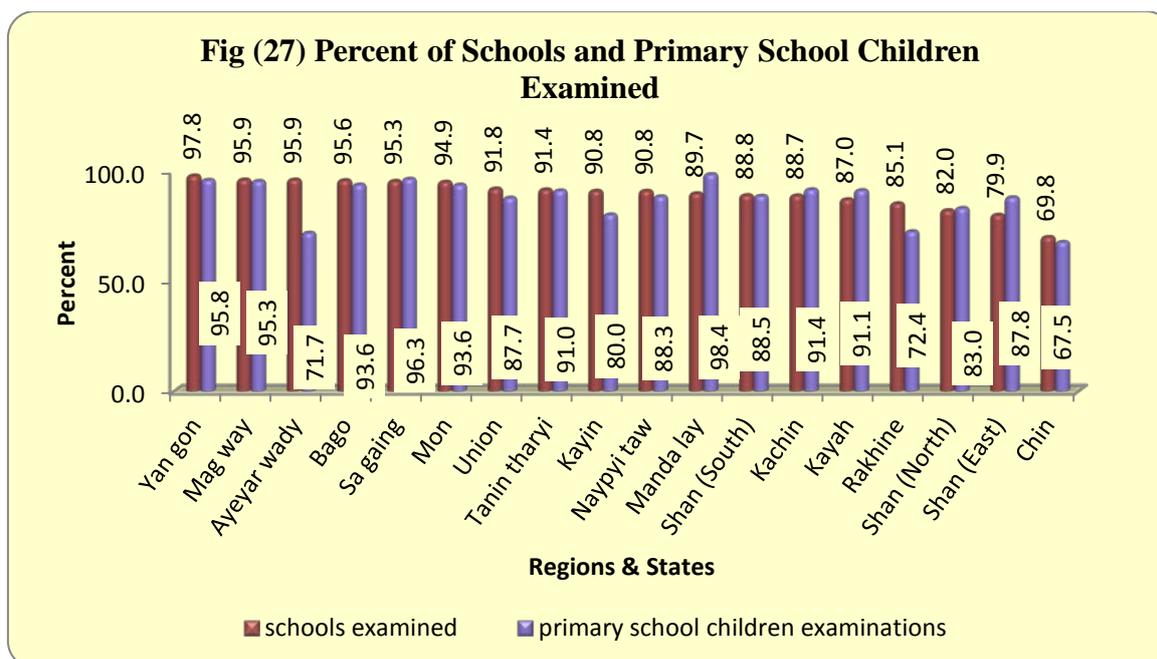
The indicators illustrated in the above figure show the activities of school health teams and basic health staff in school health services. They visit schools in their areas at least once a year for school medical examination including monitoring of nutritional status. Percent of schools examined in 2013 was highest in Yangon Region with 97.8 and percent of primary school children examined was greatest in Mandalay Region with 98.4. (Fig 27)

Fig (28) Percent of School with Improved Water & Sanitation Facilities
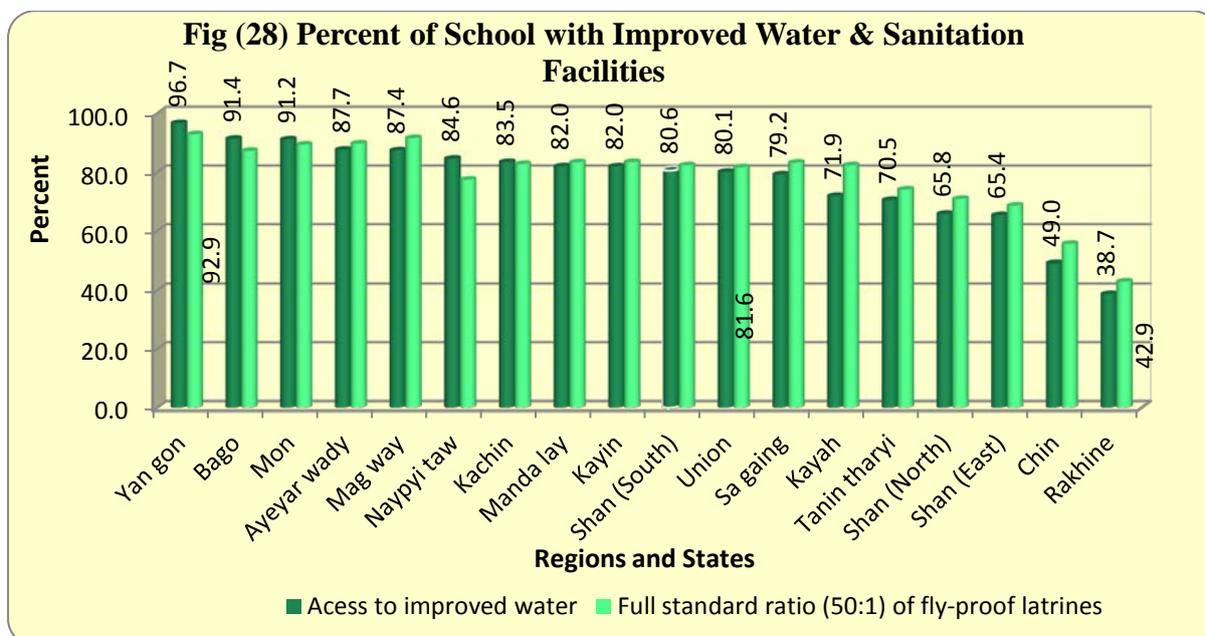
Percents of schools with access to improved water source in their compounds and full standard ratio of school children and fly-proof latrines (50:1) are shown in figure (28). Regarding on both indicators, the greatest percent was found in Yangon and the

lowest percent in Rakhine where union level for former was 80.1 percent and the latter was 81.6 percent.

Fig (29) Percent of Schools with Nutrition Promotion and Health Promoting School Activities
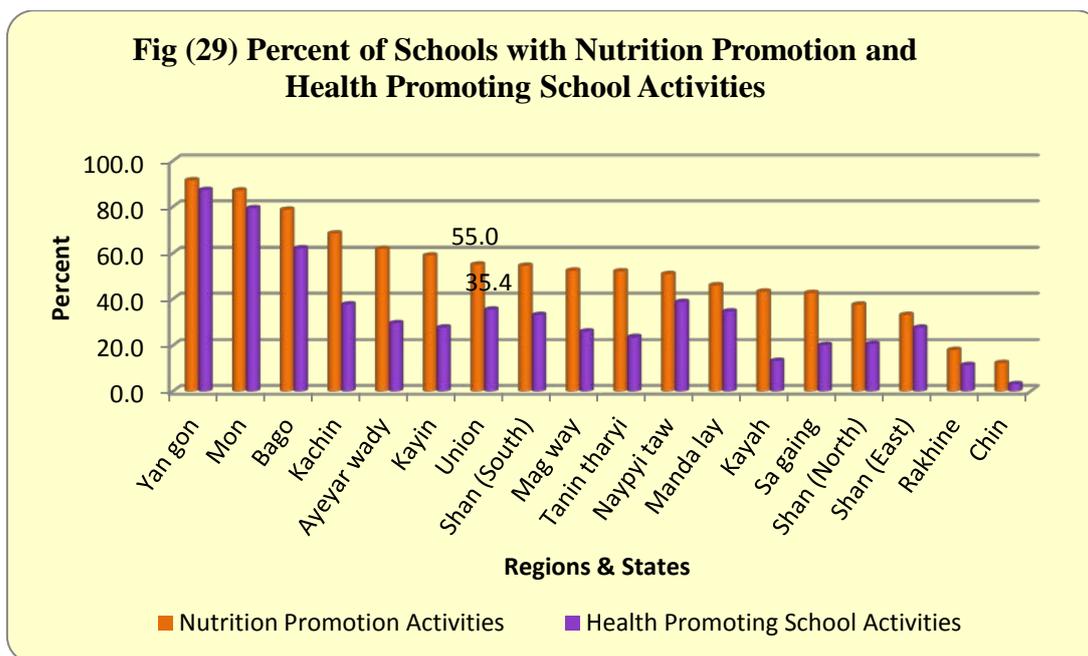
School nutrition promotion activities include health education on nutrition at least once a week or feeding primary school children with school nutrition program and more than half of schools (55 percent) carried out that activity in 2013. Health promoting school activities are school health education, school environmental sanitation, prevention of communicable diseases, nutrition promotion and food safety, transmission of healthy lifestyles from school to the community and physical fitness and sports. Only 35.4 percent of schools had been implemented such activities in 2013. Here, Yangon is at the first place and Chin is at the opposite end in comparing both indicators (Fig 29).

Fig (30) Percent of Schools with Nutrition Promotion (1997 - 2013)
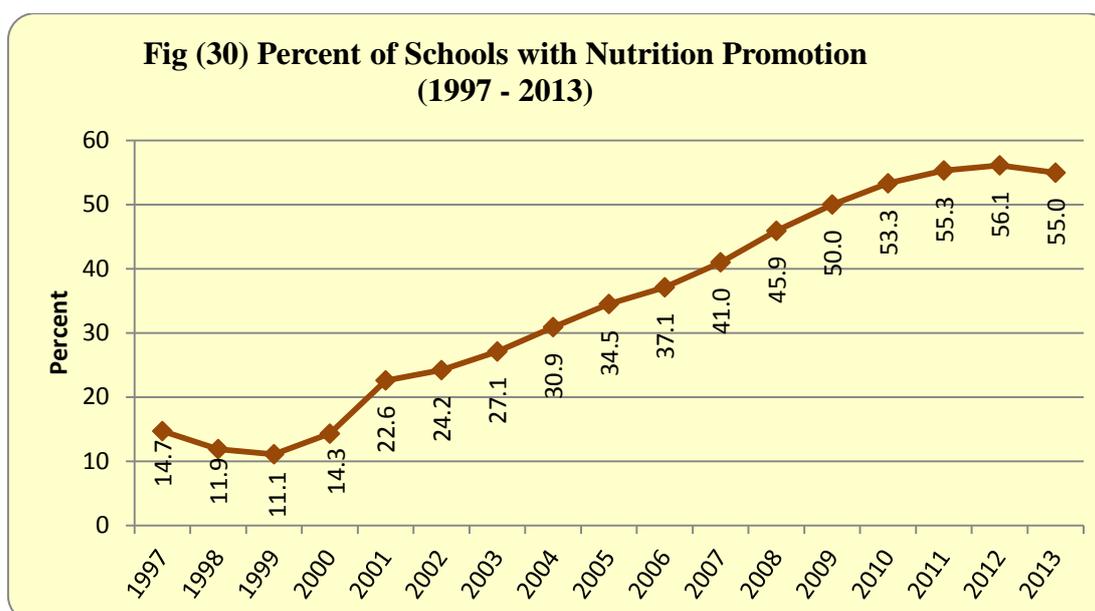
Figure (30) shows the coverage of schools with nutrition promotion activities from 1997 to 2013 and the trend slightly decreases in 2013 (55.0 percent) as compared to previous year (56.1 percent).

Table (7) Indicators for School Health Activities

Regions and States	School Health					
	% of schools examined for school health care	% of schools with the full standard ratio (50:1) of fly-proof latrines	% of schools with access to clean water	% of schools with nutritional promotion activities	% of primary school children receiving school medical examinations	% of schools with health promoting school activities
Kachin	88.7	82.8	83.5	68.6	91.4	37.6
Kayah	87.0	82.4	71.9	43.2	91.1	13.3
Kayin	90.8	83.5	82.0	59.0	80.0	27.6
Chin	69.8	55.6	49.0	12.3	67.5	3.1
Sagaing	95.3	83.2	79.2	42.6	96.3	20.2
Tanintharyi	91.4	74.1	70.5	52.1	91.0	23.4
Bago	95.6	87.3	91.4	78.7	93.6	62.1
Magway	95.9	91.6	87.4	52.4	95.3	25.8
Mandalay	89.7	83.4	82.0	46.0	98.4	34.6
Mon	94.9	89.4	91.2	87.0	93.6	79.4
Rakhine	85.1	42.9	38.7	18.0	72.4	11.5
Yangon	97.8	92.9	96.7	91.5	95.8	87.3
Shan (S)	88.8	82.3	80.6	54.5	88.5	33.0
Shan (N)	82.0	70.9	65.8	37.5	83.0	20.7
Shan (E)	79.9	68.6	65.4	33.0	87.8	27.5
Ayeyarwaddy	95.9	89.8	87.7	61.9	71.7	29.4
Naypyitaw	90.8	77.4	84.6	50.9	88.3	38.7
Union	91.8	81.6	80.1	55.0	87.7	35.4

II. DISEASE CONTROL SERVICES

1. **Diseases Under National Surveillance**

Fig (31) Morbidity of ARI (Pneumonia)

Regions & States	Per 100,000 U5 Population
Yangon	1949
Naypyitaw	2257
Mon	2344
Bago	2420
Kayin	3745
Mandalay	3966
Ayeyarwady	3996
Union	4318
Shan (South)	4359
Shan (East)	4400
Shan (North)	4471
Kachin	4910
Magway	5424
Sagaing	5853
Kayah	6311
Tanintharyi	6947
Rakhine	7221
Chin	11558

Fig (32) Mortality of ARI (pneumonia)

Regions & States	Per 100,000 U5 Population
Mon	3.1
Kayah	3.4
Yangon	3.5
Shan (East)	5.1
Tanintharyi	5.8
Mandalay	6.3
Ayeyarwady	7.0
Naypyitaw	7.1
Bago	8.0
Shan (North)	8.9
Kayin	9.9
Rakhine	11.2
Union	11.3
Shan (South)	14.8
Kachin	14.8
Sagaing	26.5
Magway	27.9
Chin	40.5

BHS are being alert to report (17) diseases under national surveillance even if they did not treat the patient in clinic or field visit. The above two figures shows morbidity and mortality of pneumonia in under five years population and Chin State has got highest cases as well as deaths per 100,000 under five years population.

Fig (33) Morbidity of Smear Positive and Negative TB
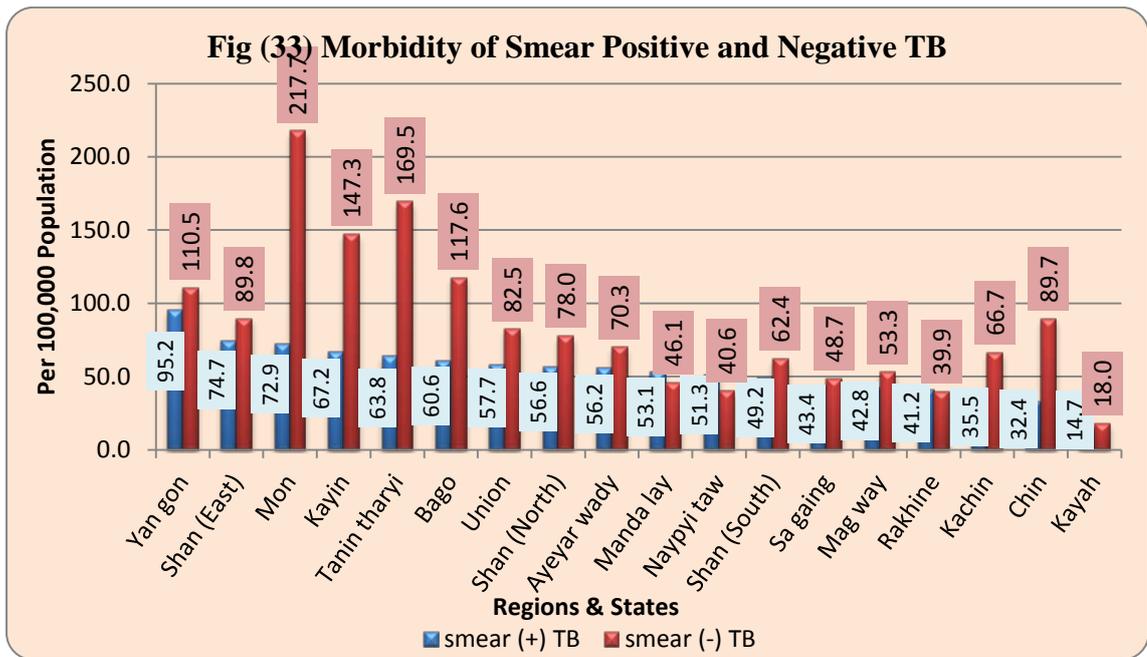
Tuberculosis is one of the seventeen diseases under national surveillance in Myanmar and as for 2013, Yangon had the highest proportion of smear positive TB cases (95.2) while Mon had highest in smear negative TB cases (217.7) per 100,000 population. Kayah State had low proportion in both smear positive and negative cases (14.7 and 18).

Table (8) Indicators for Morbidity and Mortality of Diseases Under National Surveillance

i	Epidemiological Surveillance and Response											
Regions and States	**Diarrhoea**		**Dysentery**		**Food poisoning**		**Enteric Fever**		**Measles**		**Diphtheria**	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(3)**	**(2)***	**(3)**	**(2)***
Kachin	1066.9	0.3	309.6	0.0	38.7	0.1	14.7	0.00	0.0	0.0	0.0	0.0
Kayah	1424.3	2.2	543.7	0.0	17.6	2.2	3.3	0.00	0.0	0.0	0.0	0.0
Kayin	1133.5	0.1	233.0	0.0	23.1	0.4	1.4	0.00	0.7	0.0	0.0	0.0
Chin	2762.0	3.3	766.8	0.2	14.4	0.4	13.1	0.41	3.2	0.0	0.0	0.0
Sagaing	783.3	0.4	296.3	0.0	10.0	0.2	12.5	0.02	10.5	0.9	3.9	0.9
Tanintharyi	1163.4	0.7	406.1	0.0	51.1	0.2	5.4	0.00	5.2	0.0	0.0	0.0
Bago	548.1	0.1	229.4	0.0	11.1	0.1	11.3	0.00	0.7	0.0	0.0	0.0
Magway	744.1	0.3	351.3	0.0	5.8	0.0	6.1	0.00	0.0	0.0	0.0	0.0
Mandalay	556.4	0.1	232.2	0.0	13.7	0.1	15.9	0.00	1.0	0.0	0.0	0.0
Mon	773.2	0.1	193.8	0.0	11.1	0.1	11.4	0.00	0.0	0.0	0.0	0.0
Rakhine	1318.4	0.1	531.8	0.0	12.6	0.2	13.0	0.00	0.0	0.0	0.0	0.0
Yangon	226.6	0.1	95.1	0.0	5.5	0.1	1.0	0.00	0.0	0.0	0.5	0.4
Shan (S)	694.6	0.9	245.2	0.0	17.3	0.8	12.3	0.00	0.0	0.0	0.0	0.0
Shan (N)	747.0	0.6	177.7	1.6	14.8	0.6	10.2	0.00	21.9	3.3	0.0	0.0
Shan (E)	1049.8	0.2	301.3	0.0	19.4	0.3	4.6	0.00	6.8	0.0	0.0	0.0
Ayeyarwaddy	590.5	0.2	280.6	0.0	15.2	0.1	9.7	0.02	0.2	0.0	0.0	0.0
Naypyitaw	551.5	0.0	188.1	0.0	35.5	0.3	1.8	0.00	0.0	0.0	0.0	0.0
Union	715.3	0.3	268.9	0.1	14.1	0.2	9.5	0.01	2.6	0.2	0.4	0.1

(1)   **Number of cases per 100,000 Population**
(2)   **Number of deaths per 100,000 Population**
(2)*   **Number of deaths per 100,000 Population under five years children**
(3)   **For vaccine preventable diseases and ARI, number of cases per 100,000 under five years children are mentioned in the table**

ii	Epidemiological Surveillance and Response											
	Whooping cough		Neonatal tetanus		Tetanus		Meningitis		ARI		Viral Hepatitis	
Regions and States	(3)	(2)*	(4)	(4)*	(1)	(2)	(1)	(2)	(3)	(2) *	(1)	(2)
Kachin	0.0	0.0	7.2	3.6	0.2	0.1	5.5	0.1	4909.7	14.8	16.6	0.1
Kayah	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.4	6310.8	3.4	16.2	0.0
Kayin	0.0	0.0	0.0	0.0	0.1	0.1	4.1	0.1	3745.5	9.9	18.5	0.1
Chin	0.0	0.0	0.0	0.0	0.6	0.2	2.5	0.4	11557.9	40.5	50.5	0.4
Sagaing	0.0	0.0	2.2	0.0	0.4	0.1	3.6	0.3	5853.2	26.5	24.5	0.2
Tanintharyi	0.0	0.0	4.1	0.0	0.1	0.0	4.8	0.1	6946.5	5.8	16.5	0.4
Bago	0.0	0.0	1.2	0.0	0.4	0.1	6.1	0.3	2419.8	8.0	17.0	0.1
Magway	0.0	0.0	0.0	0.0	0.3	0.1	0.5	0.0	5424.3	27.9	9.9	0.2
Mandalay	0.4	0.0	5.0	5.0	0.4	0.1	2.5	0.0	3966.4	6.3	20.4	0.1
Mon	0.0	0.0	0.0	0.0	0.4	0.0	0.8	0.0	2344.1	3.1	8.2	0.2
Rakhine	0.0	0.0	1.6	0.0	0.7	0.1	4.2	0.2	7220.6	11.2	14.2	0.1
Yangon	0.2	0.0	3.1	0.0	0.1	0.0	0.5	0.0	1949.0	3.5	4.0	0.0
Shan (S)	0.0	0.0	5.1	5.1	0.1	0.0	2.4	0.2	4359.1	14.8	17.9	0.4
Shan (N)	0.0	0.0	12.2	6.1	0.7	0.1	2.5	0.2	4470.9	8.9	22.7	0.2
Shan (E)	0.0	0.0	10.2	0.0	0.5	0.0	7.2	0.3	4400.5	5.1	8.2	0.3
Ayeyarwaddy	0.0	0.0	1.9	1.0	0.6	0.1	2.8	0.1	3996.3	7.0	14.7	0.1
Naypyitaw	0.0	0.0	0.0	0.0	0.3	0.0	3.8	0.2	2256.9	7.1	6.2	0.1
Union	0.1	0.0	2.9	1.3	0.4	0.1	2.9	0.1	4317.7	11.3	15.4	0.1

(1) Number of cases per 100,000 Population

(2) Number of deaths per 100,000 Population

(2) * Number of deaths per 100,000 Population under five years children

(3) For vaccine preventable diseases and ARI, number of cases per 100,000 under five years children are mentioned in the table

(4) For Neonatal Tetanus, number of cases per 100,000 live birth are mentioned in the table

(4)* Number of Deaths per 100,000 livebirths

iii	Epidemiological Surveillance and Response															
Regions and States	**Rabies**		**Malaria**		**Snake bite poisonous**		**TB: Sputum +ve**		**Retreated TB Patients**		**TB: Sputum -ve**		**TB: Extra-pulmonary**		**Anthrax**	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
Kachin	0.2	0.2	1691.6	2.6	5.7	0.1	35.5	0.5	7.7	0.1	66.7	0.5	49.1	0.3	1.61	0.0
Kayah	0.4	0.4	1068.2	0.0	19.8	0.0	14.7	0.0	0.7	0.0	18.0	0.0	9.2	0.0	0.00	0.0
Kayin	0.4	0.4	869.4	2.2	10.9	0.9	67.2	0.7	5.2	0.1	147.3	0.6	7.0	0.1	0.00	0.0
Chin	1.4	1.4	1583.7	0.8	13.6	0.0	32.4	0.0	4.9	0.0	89.7	0.2	122.2	0.0	0.00	0.0
Sagaing	0.5	0.5	755.1	1.1	27.1	0.9	43.4	0.1	5.3	0.0	48.7	0.3	19.6	0.0	0.00	0.0
Tanintharyi	0.0	0.0	1291.4	0.4	8.3	0.1	63.8	0.8	12.7	0.6	169.5	2.2	88.4	0.7	0.07	0.0
Bago	0.7	0.7	246.6	0.3	29.0	1.6	60.6	0.7	11.2	0.3	117.6	0.6	20.2	0.0	0.00	0.0
Magway	1.0	1.0	161.8	0.2	36.9	2.6	42.8	0.3	5.4	0.0	53.3	0.7	24.8	0.1	0.00	0.0
Mandalay	0.7	0.7	147.7	0.1	26.2	1.2	53.1	0.2	10.8	0.1	46.1	0.3	34.4	0.1	0.00	0.0
Mon	0.2	0.2	175.7	0.4	13.6	1.1	72.9	0.8	10.0	0.3	217.7	2.3	16.0	0.0	0.00	0.0
Rakhine	0.3	0.3	877.8	0.3	1.2	0.1	41.2	0.2	6.7	0.1	39.9	0.2	16.0	0.1	0.00	0.0
Yangon	0.1	0.1	12.0	0.0	8.0	0.8	95.2	0.5	25.1	0.2	110.5	0.4	26.6	0.1	0.00	0.0
Shan (S)	0.0	0.0	731.9	1.3	5.2	0.1	49.2	0.6	7.8	0.0	62.4	1.1	25.5	0.2	0.00	0.0
Shan (N)	0.1	0.1	495.3	0.5	1.4	0.0	56.6	0.5	16.1	0.4	78.0	0.4	66.1	0.1	0.00	0.0
Shan (E)	0.0	0.0	395.6	0.7	2.3	0.0	74.7	0.2	15.0	0.0	89.8	0.0	29.6	0.0	0.00	0.0
Ayeyarwaddy	0.2	0.2	298.3	0.2	15.0	2.8	56.2	0.4	9.7	0.0	70.3	0.5	24.6	0.1	0.00	0.0
Naypyitaw	0.5	0.5	147.8	0.3	16.6	1.1	51.3	0.1	5.4	0.0	40.6	0.3	29.9	0.2	0.00	0.0
Union	0.4	0.4	438.3	0.5	17.4	1.2	57.7	0.4	10.8	0.1	82.5	0.6	28.9	0.1	0.05	0.0

(1)   **Number of cases per 100,000 Population**

(2)   **Number of deaths per 100,000 Population**

2. Expanded Programme on Immunization

Fig (34) TT Immunization Coverage (1st & 2nd) in Pregnant Women
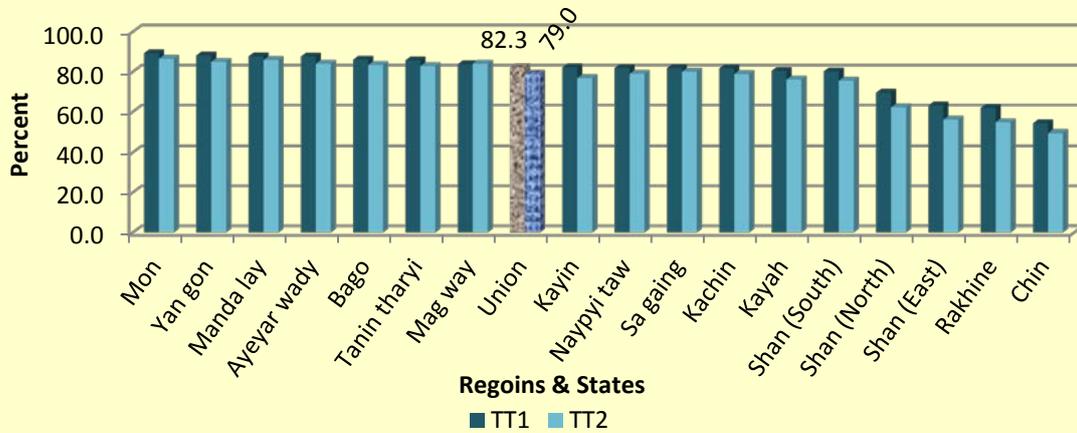
In figure (34), TT immunization of pregnant women is shown by regions and states. The best coverage was found in Mon, Yangon and Mandalay and low coverage was found in Chin, Rakhine, Shan (East) and Shan (North). Union level for TT1 was 82.3 percent and TT2 was 79 percent of total pregnant women.

Fig (35) Coverage of BCG (TB) Immunization by Regions & States
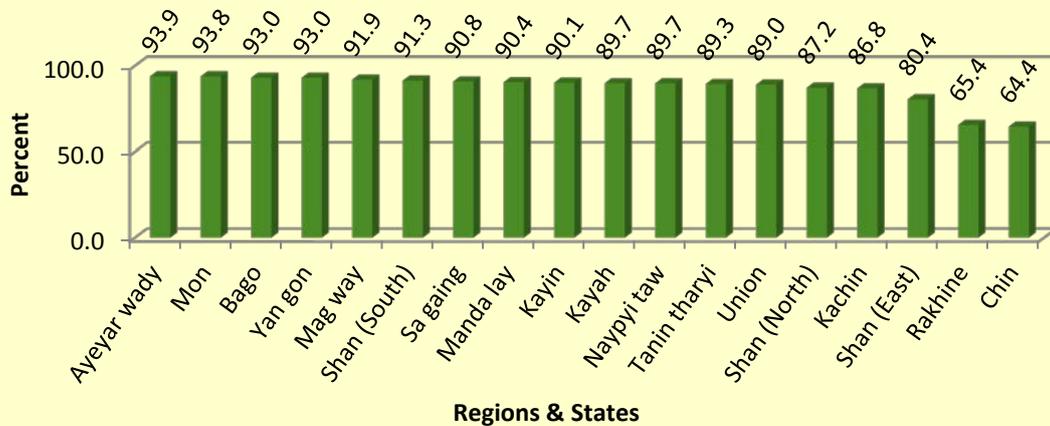
BCG vaccine is given to infant at birth or at two months of age in order to prevent severe form of childhood extra-pulmonary TB in community. Coverage percent for union was quite satisfactory with 89 percent but coverage should be expanded in Chin and Rakhine State. (Fig 35)

Fig (36) Coverage of Pentavalent 3rd and Polio 3rd Doses by Regions and States

	Kyh	Mon	Mgy	Mdy	Ygn	Bago	Sag	Tanin	Kyn	Npt	Kch	S(S)	Aye	S(E)	S(N)	Chin	Rkh	Uni
Penta 3	78.6	78.4	78.1	77.4	76.3	76.2	76.1	74.9	74.1	73.1	69.7	62.7	59.5	56.4	50.9	46.6	39.6	68.8
Polio 3	81.0	83.0	79.6	80.1	82.9	80.3	78.0	75.5	76.2	76.9	71.8	74.0	77.4	61.5	65.7	53.7	44.4	75.1

Regions & States
■ Penta 3 ■ Polio 3
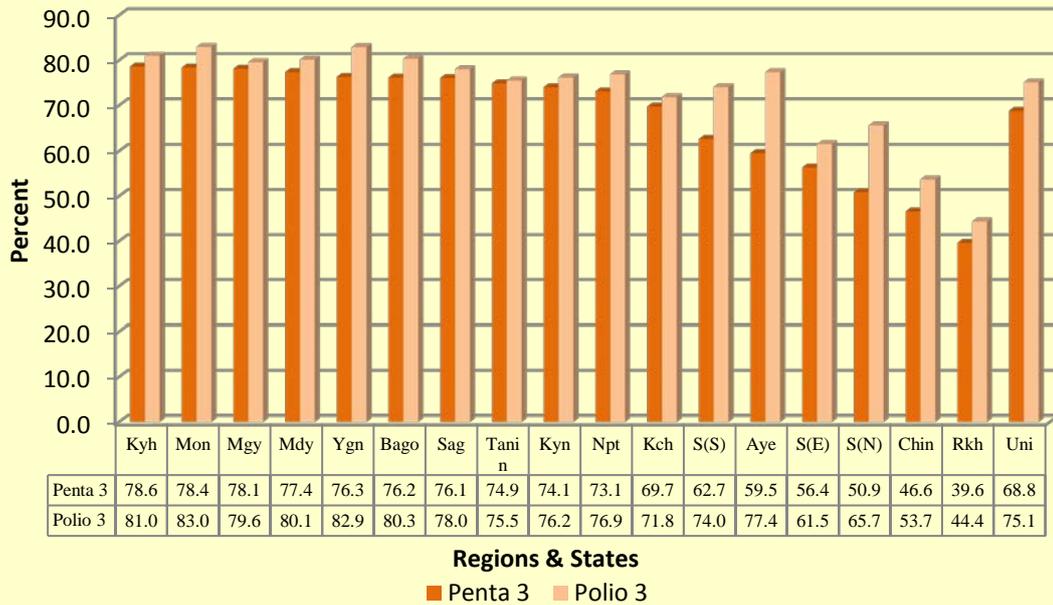
Pentavalent vaccine had been introduced in Myanmar since 2012 to prevent five vaccine preventable childhood diseases such as diphtheria, pertussis, tetanus, hepatitis B as well as ARI (*haemophilus* influenza type B viruse) and nation-wide coverage was got in 2013. At union level, 68.8 percent of under one year old children successfully completed third dose of penta-valent vaccine and 75.1 percent completed polio third dose. During this transitional period from DPT to penta-valent vaccine, less than half of under one year population received completed Penta vaccine in Rakhine (39.6%) and Chin (46.6%) states. Completed Polio vaccine in Rakhine State was 44.4 percent. (Fig 36)

Fig (37) Coverage of Measles 1st and 2nd Doses by Regions and States

	Mgy	Mon	Bago	Aye	Ygn	Mdy	Npt	Sag	Kyh	Tanin	Kyn	S(S)	Kch	S(N)	S(E)	Rkh	Chin	Uni
Measles1	92.5	92.2	91.0	90.9	90.1	89.4	87.5	87.3	87.3	87.2	86.8	83.1	82.7	69.6	69.0	56.7	56.5	85.1
Measles2	89.1	89.9	87.4	82.0	83.4	85.8	81.7	84.6	70.7	82.0	76.6	70.7	72.7	53.1	56.4	44.7	44.0	78.1

Regions & States
■ Measles1 ■ Measles2
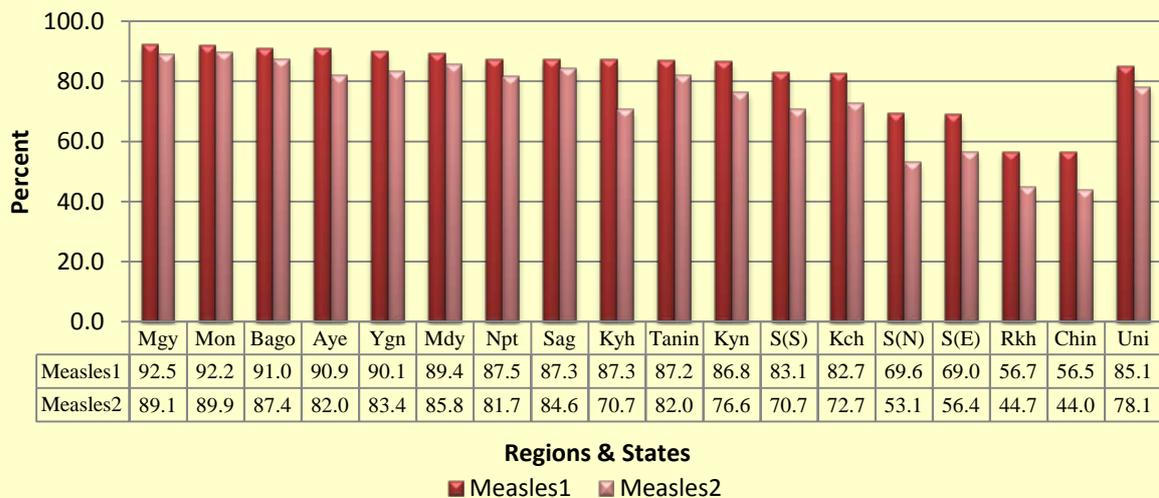
Measles vaccination schedule had been reinforced with booster second dose on 18 months of age since 2012. Although overall measles coverage on both first and second doses were high

(85.1 and 78.1 percent), attention should be paid on high drop-out (more than 10 percent) areas like Kayah, Shan (N), Shan (E), Chin, Shan (S), Rakhine and Kayin as well as on low baseline (first dose) coverage areas like Chin, Rakhine, Shan (N) and Shan (E).

Fig (38) Measles Immunization Coverage (1997 - 2013)
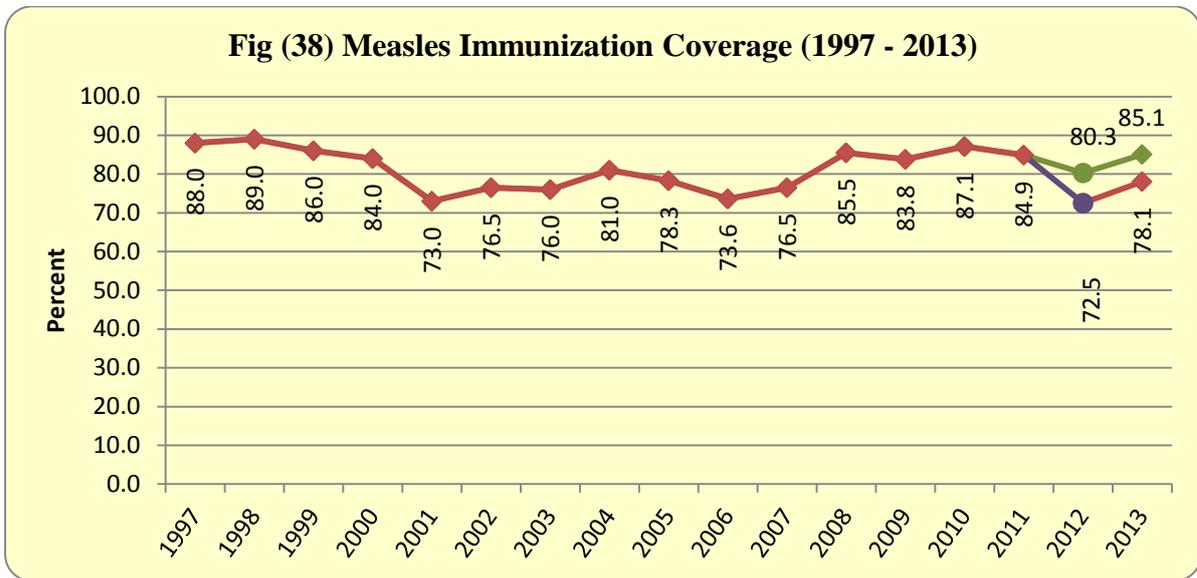
The above figure reveals trend in measles immunization for a long period (1997 – 2013). Measles coverage increases in 2013 as compared to 2012 in both first and second doses.

Table (9) Indicators for Immunization Coverage

Regions and States	BCG Coverage (%)	DPT Coverage (%)			Polio Coverage (%)			Measles Coverage (%)		Pentavalent coverage (%)*			TT Coverage (%)	
	TB	1st Dose	2nd Dose	3rd Dose	1st Dose	2nd Dose	3rd Dose	9 Months	18 Months	1st Dose	2nd Dose	3rd Dose	1st Dose	2nd Dose
Kachin	86.8	0.7	0.6	1.2	86.7	83.2	71.8	82.7	72.7	84.4	82.0	69.7	81.8	78.8
Kayah	89.7	1.8	0.5	3.0	91.4	92.6	81.0	87.3	70.7	91.2	92.1	78.6	80.4	76.1
Kayin	90.1	0.2	0.7	1.6	90.6	88.3	76.2	86.8	76.6	89.5	87.0	74.1	82.2	76.9
Chin	64.4	0.0	6.0	6.0	65.0	59.2	53.7	56.5	44.0	64.1	53.6	46.6	54.2	49.4
Sagaing	90.8	0.7	0.6	0.5	90.7	91.5	78.0	87.3	84.6	89.8	90.6	76.1	81.9	80.0
Tanintharyi	89.3	0.2	0.3	0.7	89.3	86.9	75.5	87.2	82.0	89.1	86.1	74.9	85.7	82.8
Bago	93.0	1.8	2.3	3.9	92.8	91.6	80.3	91.0	87.4	90.8	89.3	76.2	86.0	83.3
Magway	91.9	0.2	0.6	0.6	92.0	91.5	79.6	92.5	89.1	91.4	91.3	78.1	83.8	84.0
Mandalay	90.4	1.1	1.4	2.9	90.3	92.4	80.1	89.4	85.8	90.2	91.2	77.4	87.7	85.9
Mon	93.8	1.2	2.4	5.3	93.0	94.3	83.0	92.2	89.9	92.6	91.8	78.4	89.2	86.5
Rakhine	65.4	0.2	0.2	0.2	63.9	55.2	44.4	56.7	44.7	58.8	51.0	39.6	62.0	54.7
Yangon	93.0	1.7	3.6	7.0	92.6	91.9	82.9	90.1	83.4	90.9	89.6	76.3	88.1	85.0
Shan (S)	91.3	7.6	9.1	10.2	91.6	87.1	74.0	83.1	70.7	83.7	78.1	62.7	80.2	75.5
Shan (N)	87.2	15.6	14.0	12.8	85.5	80.1	65.7	69.6	53.1	70.0	63.5	50.9	69.6	62.2
Shan (E)	80.4	5.7	4.9	3.0	81.8	76.3	61.5	69.0	56.4	74.7	69.6	56.4	63.1	56.1
Ayeyarwaddy	93.9	0.4	0.4	1.2	94.2	89.9	77.4	90.9	82.0	80.7	75.4	59.5	87.6	84.0
Naypyitaw	89.7	0.4	1.3	2.5	89.6	89.8	76.9	87.5	81.7	87.6	87.2	73.1	81.9	79.0
Union	89.0	2.0	2.4	3.5	88.8	86.9	75.1	85.1	78.1	84.8	82.3	68.8	82.3	79.0

*Pentavalent Immunization was introduced since November 2012

3. Zoonotic Diseases Control

Fig (39) Reported cases of Dog bites
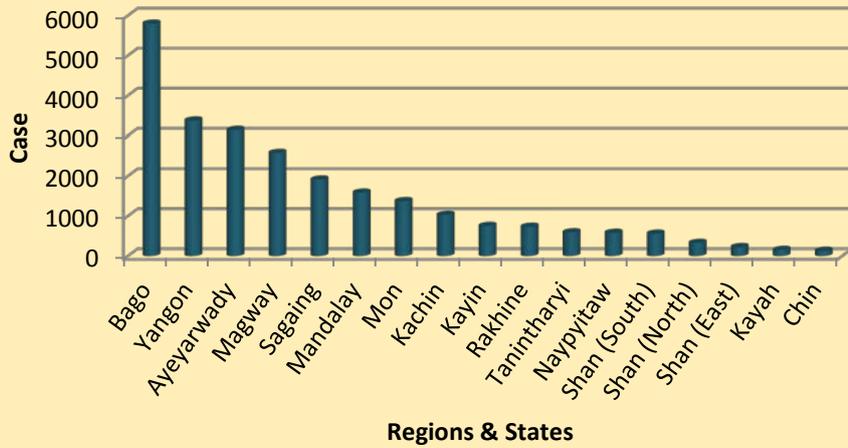
Fig (40) Reported cases of Rabies
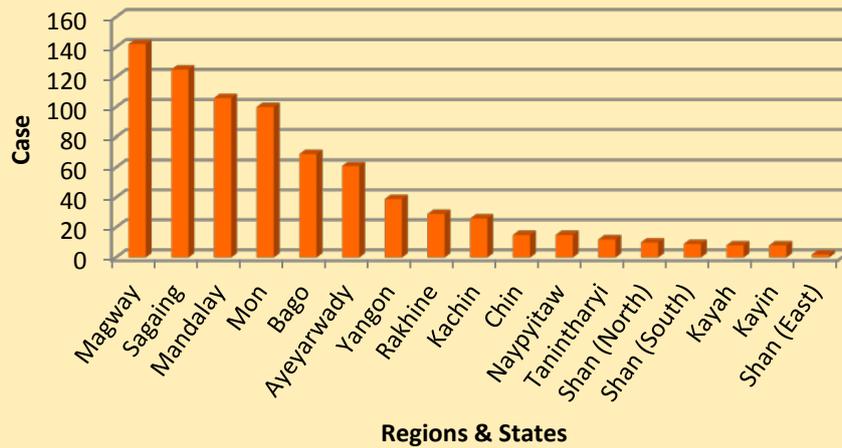
According to above figures (39) and (40), reported numbers of dog bite cases were high in Bago, Yangon and Ayeyarwady but reported numbers of rabies cases were high in Magway, Sagaing and Mandalay.

Table (10) Indicators for Zoonotic Diseases

	Zoonotic Diseases Control			
Regions and States	Number of dog bite patients	Number of rabid dog bite patients	Number of persons received for rabies vaccines	Number of leptospirosis patients
Kachin	1031	26	450	0
Kayah	155	8	66	0
Kayin	753	8	414	0
Chin	133	15	60	0
Sagaing	1914	125	733	0
Tanintharyi	594	12	184	1
Bago	5799	69	2260	0
Magway	2579	142	839	3
Mandalay	1586	106	426	2
Mon	1374	100	898	0
Rakhine	733	29	181	0
Yangon	3376	39	2280	0
Shan (S)	559	9	171	0
Shan (N)	328	10	73	6
Shan (E)	224	2	22	0
Ayeyarwaddy	3142	61	639	1
Naypyitaw	582	15	68	0
Union	24862	776	9764	13

4. Tuberculosis Control Programme

Fig (41) Percent Distribution of New Smear Positive TB Cases by Age Groups
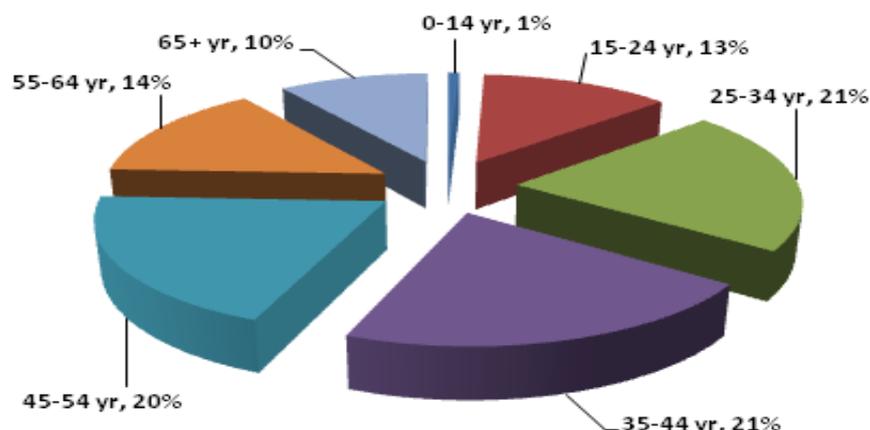
Fig (42) Percent Distribution of total TB Cases by Gender
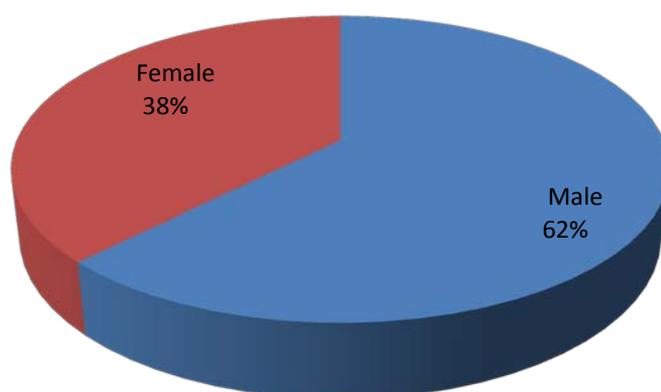
Percent distributions of New Smear Positive TB cases by age group and percent distribution of total TB cases by gender were illustrated in above figures (41) and (42). Age between (25 – 34) and (35 - 44) years group occupied largest portion (21%) and (0 - 14) for smallest portion (1%). Nearly twice of male population were more infected than female population.

Fig (43) Percent of Different Categories of TB Cases
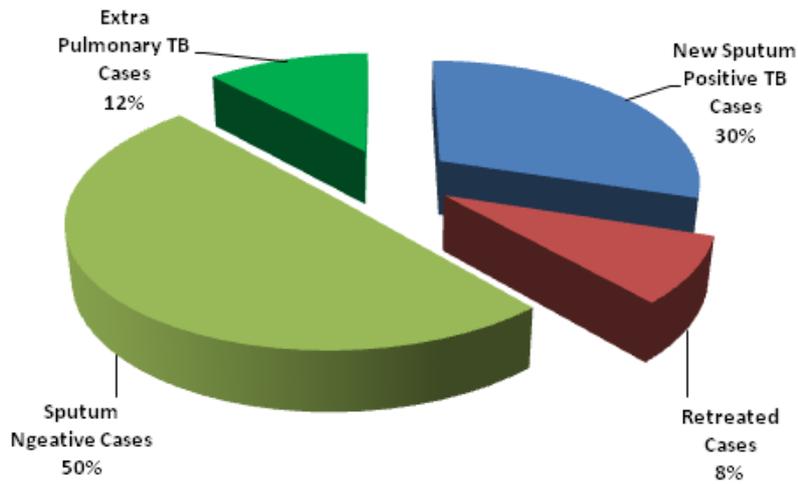
Regarding different categories of TB, most cases were sputum negative TB (50%) and second highest cases were sputum positive TB (30%).

Fig (44) Percent of TB Deaths among Cases
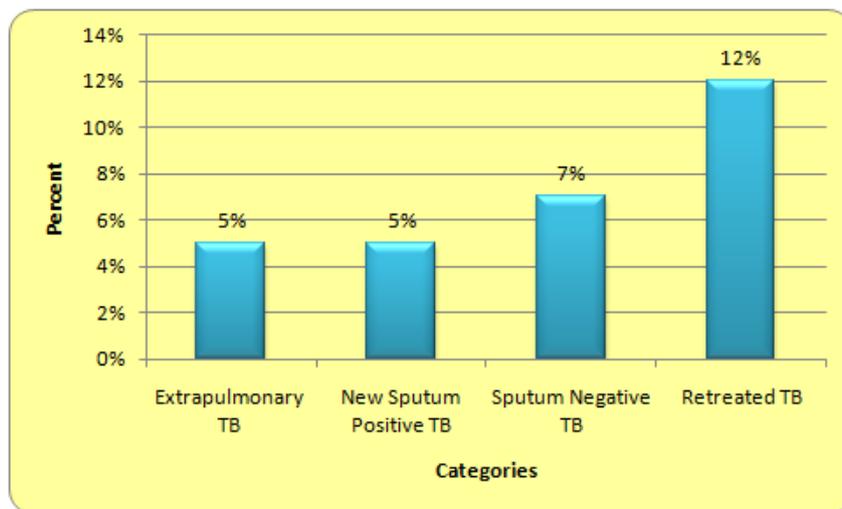
Figure (44) expresses percent of deaths of different TB categories among cases. The highest mortality was found in retreated TB category; 12 out of 100 cases died and second highest mortality was sputum negative TB category with 7 percent.

5. Leprosy Elimination Activities

Fig (45) New Case Detection Rate of Leprosy

Regions & States	Per 100,000 Population
Shan (South)	8.9
Bago	8.7
Sa gaing	6.8
Mag way	6.7
Naypyi taw	5.2
Ayeyar wady	4.9
Union	4.4
Manda lay	4.4
Kayah	2.9
Kayin	2.7
Shan (North)	2.6
Shan (East)	1.6
Tanin tharyi	1.6
Rakhine	1.5
Mon	1.2
Chin	1.0
Yan gon	1.0
Kachin	0.7
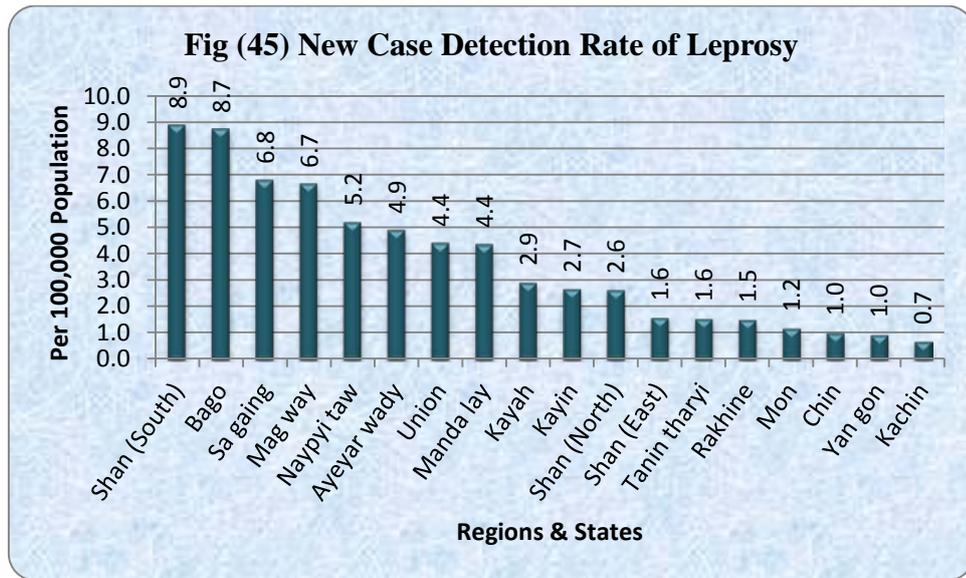
To eliminate leprosy in Myanmar, new cases must be found out and treated properly. Shan (S) and Bago had high new case detection rate in 2013 and low detection rate could be seen in Kachin, Yangon and Chin.

Fig (46) Leprosy Prevalence per 10,000 Population (1997 - 2013)

Year	Per 10,000 Pop:
1997	2.9
1998	2.5
1999	5.9
2000	2.2
2001	1.6
2002	1.0
2003	0.5
2004	0.5
2005	0.5
2006	0.4
2007	0.5
2008	0.5
2009	0.5
2010	0.4
2011	0.5
2012	0.4
2013	0.4
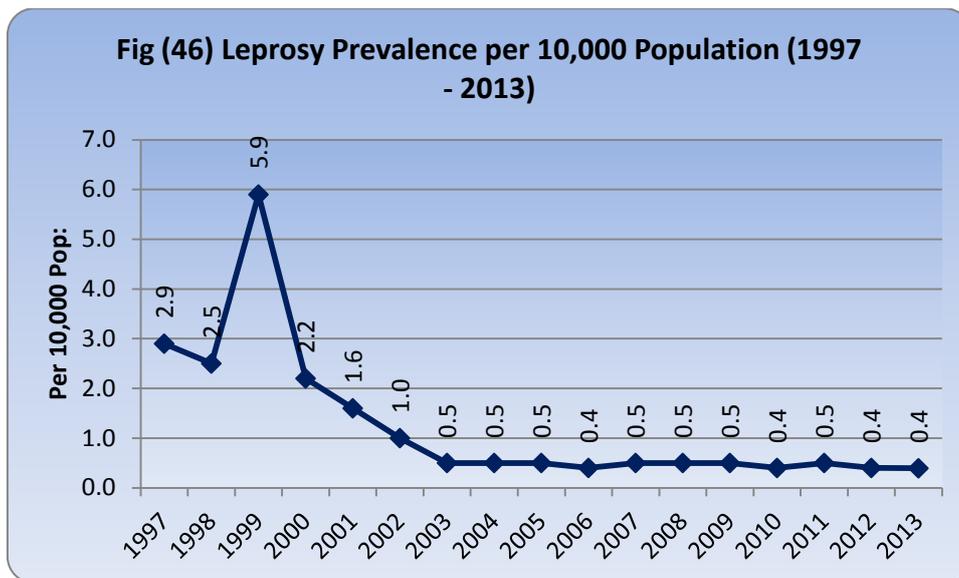
Figure (46) shows trend in leprosy prevalence per 10,000 population from 1997 to 2013. Since 2003, the prevalence rate seems to be the same with little fluctuation between 0.4 and 0.5 per 10,000 population.

Table (11) Indicators for Leprosy Elimination Activities

Regions and States	Leprosy Elimination Activities						
	New case detection rate (per 100000 pop)	% of new patients (under-15)	% of new female patients	% of new patients with disability grade 2	No. of those who released from treatment after completing the standard therapy (RFT case)	Number of defaulters	Leprosy Prevalence Rate per 10000 pop
Kachin	0.7	0.0	50.0	10.0	2	0	0.1
Kayah	2.9	0.0	25.0	12.5	6	0	0.3
Kayin	2.7	2.7	21.6	21.6	23	1	0.3
Chin	1.0	0.0	20.0	0.0	0	2	0.1
Sagaing	6.8	6.1	35.4	5.0	311	3	0.7
Tanintharyi	1.6	4.8	14.3	0.0	15	0	0.1
Bago	8.7	6.6	37.2	12.9	373	8	0.7
Magway	6.7	8.5	37.9	5.5	261	2	0.6
Mandalay	4.4	6.8	41.0	6.4	229	7	0.4
Mon	1.2	3.8	26.9	19.2	13	0	0.1
Rakhine	1.5	2.0	38.8	2.0	5	0	0.1
Yangon	1.0	6.9	29.3	15.5	65	4	0.1
Shan (S)	8.9	2.2	33.3	11.3	126	1	0.7
Shan (N)	2.6	1.9	46.2	13.5	48	1	0.3
Shan (E)	1.6	0.0	0.0	10.0	3	0	0.1
Ayeyarwaddy	4.9	2.9	27.4	15.0	260	3	0.4
Naypyitaw	5.2	0.0	17.6	11.8	43	0	0.3
Union	4.4	5.3	34.4	9.9	1783	32	0.4

6. STI/ AIDS Prevention and Control Services

Fig (47) Genital Ulcer Detection Rate by Regions & States

Per 100,000 Population

11.8, 6.5, 3.5, 3.1, 2.9, 2.9, 2.4, 2.4, 2.2, 1.3, 1.3, 1.1, 1.0, 1.0, 0.7, 0.7, 0.6, 0.3

Shan (East), Tanin tharyi, Ayeyar wady, Rakhine, Kachin, Bago, Shan (North), Manda lay, Union, Sa gaing, Mon, Shan (South), Chin, Yan gon, Kayah, Kayin, Mag way, Naypyi taw

Regions & States

Fig (48) Genital Discharge Rate by Regions & States

Per 100,000 Male Pop:

10.9, 7.8, 7.2, 3.5, 2.5, 2.3, 2.2, 2.1, 2.1, 2.0, 1.7, 1.1, 1.0, 0.8, 0.6, 0.6, 0.3, 0.2

Kayin, Shan (East), Tanin tharyi, Ayeyar wady, Rakhine, Shan (North), Bago, Union, Kachin, Naypyi taw, Sa gaing, Kayah, Yan gon, Manda lay, Chin, Mon, Shan (South), Mag way

Regions & States
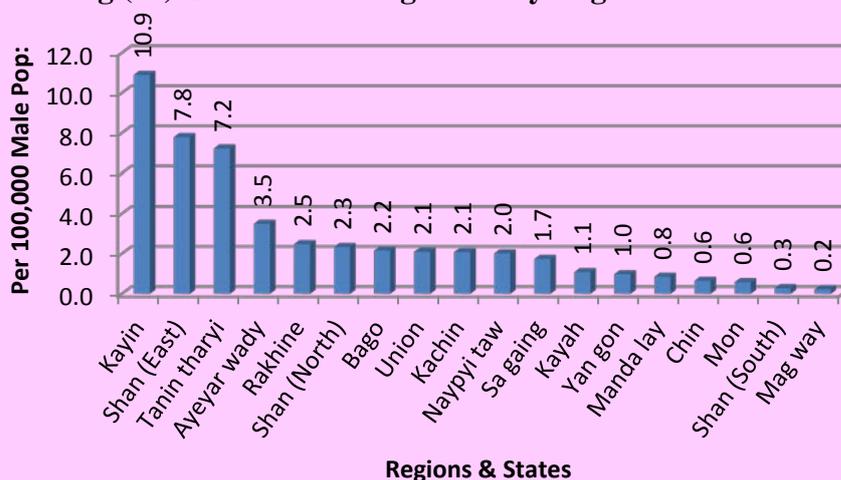
Patients seeking care for genital ulcers due to sexually transmitted infections were compiled and reported quarterly and its detection rate per 100,000 population was found to be high in Shan (E) and Tanintharyi. At the same time, male patients with genital discharge due to STIs were also reported every three months and high in Kayin, Shan (E) and Tanintharyi.

Table (12) Indicators for Sexually Transmitted Infection Control Activities

Regions and States	VDRL test positive rate in primigravida	Genital ulcer detection rate	Genital discharge rate (male)	Percentage of STI among outpatients
AIDS/ STI Prevention and Control				
Kachin	0.1	2.9	4.2	0.02
Kayah	0.0	0.7	2.2	0.00
Kayin	0.2	0.7	22.5	0.09
Chin	2.0	1.0	1.3	0.01
Sagaing	0.1	1.3	3.7	0.01
Tanintharyi	1.2	6.5	14.8	0.15
Bago	0.6	2.9	4.5	0.08
Magway	0.1	0.6	0.5	0.00
Mandalay	0.2	2.4	1.8	0.05
Mon	0.2	1.3	1.2	0.01
Rakhine	1.2	3.1	5.1	0.02
Yangon	1.4	1.0	2.0	0.22
Shan (S)	0.1	1.1	0.6	0.02
Shan (N)	0.3	2.4	4.8	0.03
Shan (E)	0.3	11.8	16.4	0.20
Ayeyarwaddy	0.6	3.5	7.2	0.07
Naypyitaw	0.1	0.3	4.2	0.02
Union	0.7	2.2	4.4	0.06

7. Malaria Control Services

Fig (49) Percent of Malaria among Out-patients and In-patients

Fig (50) Case Fatality Rate of Malaria by Regions & States
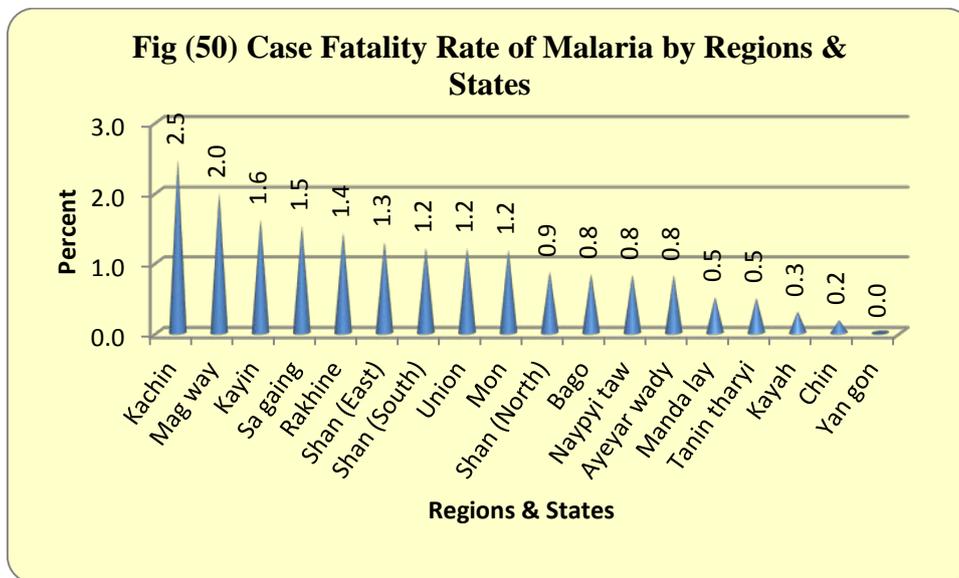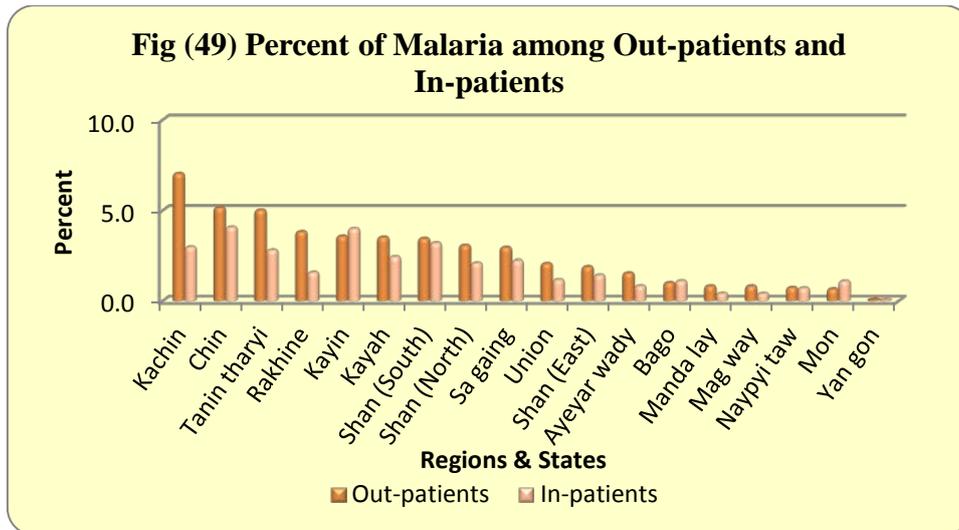
Figure (49) represents percent of malaria cases in out-patient service and in-patient service. Highest out-patient malaria cases were seen in Kachin State and highest in-patient cases in Chin and Kayin States. Case fatality rate of malaria was found greatest in Kachin State with 2.5 percent of total malaria in-patients.

Table (13) Indicators for Malaria

	Institutional based Malaria		
Regions and States	% of malaria among outpatients	% of hospitalized patients with malaria	% of in-patients deaths among those with malaria (Case Fatality Rate)
Kachin	7.0	2.9	2.5
Kayah	3.5	2.4	0.3
Kayin	3.5	4.0	1.6
Chin	5.1	4.0	0.2
Sagaing	2.9	2.2	1.5
Tanintharyi	5.0	2.8	0.5
Bago	1.0	1.1	0.8
Magway	0.8	0.4	2.0
Mandalay	0.8	0.4	0.5
Mon	0.6	1.1	1.2
Rakhine	3.8	1.6	1.4
Yangon	0.1	0.1	0.0
Shan (S)	3.4	3.2	1.2
Shan (N)	3.0	2.1	0.9
Shan (E)	1.9	1.4	1.3
Ayeyarwaddy	1.5	0.8	0.8
Naypyitaw	0.7	0.7	0.8
Union	2.1	1.2	1.2

8. Trachoma Control and Prevention of Blindness

Fig (51) Morbidity Rate of New Eye Diseases

Region & State	Per 100,000 Population
Manda lay	559.4
Kayah	392.4
Sa gaing	304.4
Bago	288.0
Union	197.6
Kayin	195.7
Tanin tharyi	171.7
Chin	161.6
Mon	141.4
Mag way	139.3
Shan (South)	115.8
Naypyi taw	101.4
Ayeyar wady	94.0
Kachin	94.0
Shan (East)	86.5
Rakhine	77.2
Shan (North)	65.3
Yan gon	41.9
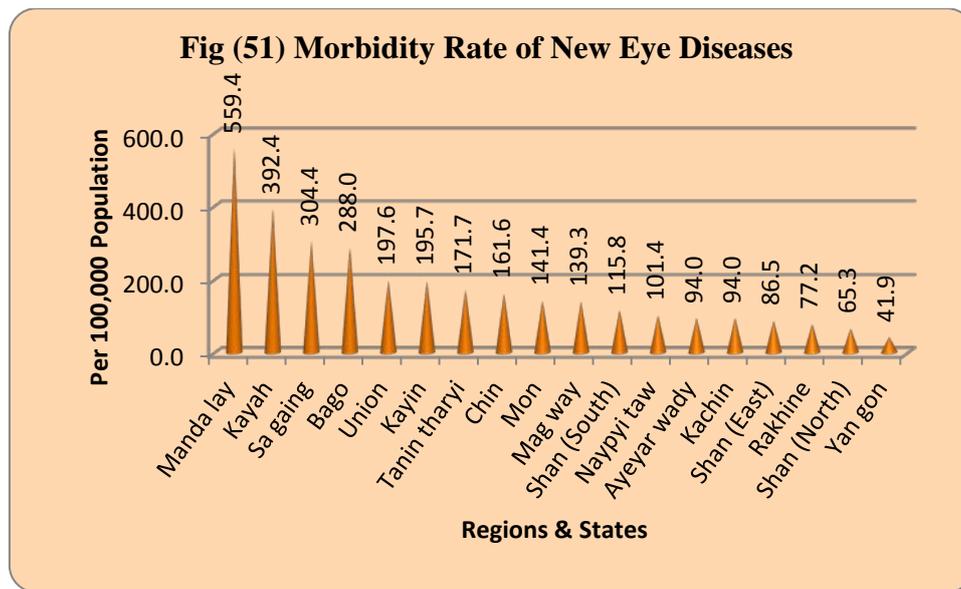
The above figure shows morbidity of new eye diseases which include all eye diseases such as conjunctivitis, chalazion, low vision, eye injury, cataracts and so on. Mandalay had highest cases and Yangon had lowest cases of eye diseases in 2013.

Table (14) Indicators for Prevention of Blindness

Regions and States	Trachoma Control and Prevention of Blindness			
	Morbidity rate of new eye diseases (per 100,000 population)	Percent of infectious trachoma (under-10 year population)	Percent of blindness or loss of eyesight (general population)	Morbidity rate of ophthalmia neonatorum in newborn infants (per 1000 livebirths)
Kachin	94.0	0.0025	0.0034	0.04
Kayah	392.4	0.0000	0.0162	0.33
Kayin	195.7	0.0000	0.0011	0.00
Chin	161.6	0.0098	0.0012	0.17
Sagaing	304.4	0.0035	0.0028	0.07
Tanintharyi	171.7	0.0021	0.0030	0.08
Bago	288.0	0.0006	0.0161	0.14
Magway	139.3	0.0022	0.0027	0.00
Mandalay	559.4	0.0042	0.0123	0.04
Mon	141.4	0.0008	0.0009	0.07
Rakhine	77.2	0.0127	0.0029	0.09
Yangon	41.9	0.0017	0.0006	0.04
Shan (S)	115.8	0.0035	0.0022	0.15
Shan (N)	65.3	0.0042	0.0015	0.12
Shan (E)	86.5	0.0000	0.0000	0.20
Ayeyarwaddy	94.0	0.0004	0.0023	0.12
Naypyitaw	101.4	0.0000	0.0005	0.00
Union	197.5	0.0029	0.0047	0.08

III. NON-COMMUNICABLE DISEASES

1. Prevention of Cardiovascular Diseases

Fig (52) Proportion of Hypertension among Clinic Attendances
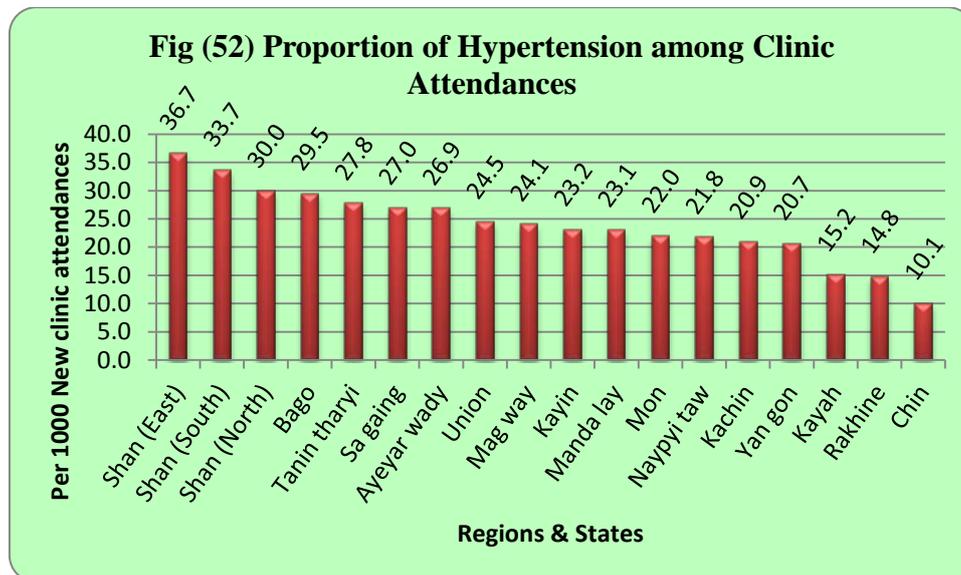
The above figure is proportion of hypertension cases among new clinic attendances for the year 2013. In Shan (E), Shan (S) and Shan (N), patients with hypertension more frequently come to get treatment at out-patient departments or clinics than other areas.

Table (15) Indicators for Prevention of Cardiovascular Disease

Detection of Cardiovascular Diseases and risk behaviors		
Regions and States	Proportion of hypertension per 1000 above 15 years population	Prevalence of current smoker per 1000 above 15 years population
Kachin	7.0	154.9
Kayah	6.7	150.8
Kayin	7.3	137.1
Chin	4.8	213.0
Sagaing	8.7	135.4
Tanintharyi	9.4	182.1
Bago	8.6	146.1
Magway	6.1	130.5
Mandalay	5.3	120.0
Mon	7.5	137.1
Rakhine	5.0	206.3
Yangon	4.4	143.7
Shan (S)	8.9	219.3
Shan (N)	6.1	157.1
Shan (E)	9.7	238.4
Ayeyarwaddy	6.6	197.0
Naypyitaw	5.4	154.0
Union	6.7	156.4

2. Accident and Injury Prevention

Fig (53) Morbidity Rate of Accidents and Injuries

Per 1000 Population

Type of Injuries	Value
Traffic accident	2.20
Farm injury	1.31
Assaults	0.81
Falls	0.43
Burns	0.40
Poisoning	0.07
Drowning	0.07
Suicides	0.04
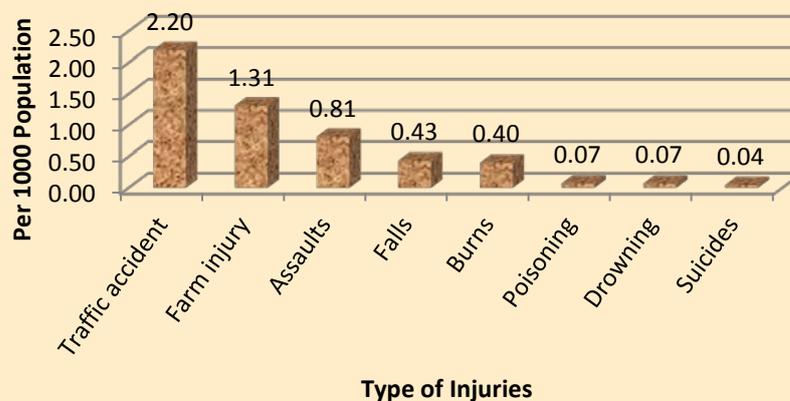
Fig (54) Mortality Rate of Accidents and Injuries

Per 100,000 Population

Type of Injuries	Value
Traffic accident	6.60
Drowning	4.93
Suicides	2.19
Falls	1.49
Assaults	1.34
Poisoning	0.73
Farm injury	0.72
Burns	0.52
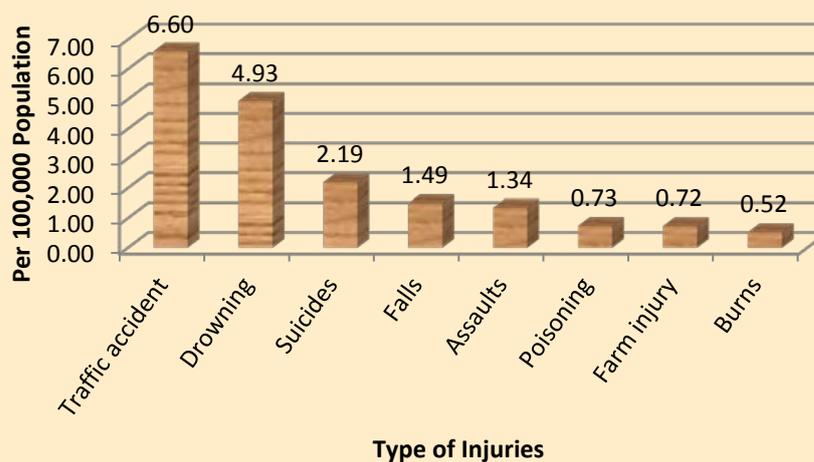
Figures (53) and (54) show morbidity of accidents and injuries per 1000 population and mortality per 100,000 population in 2013. Morbidity and mortality due to traffic accidents are leading causes among different types of injuries in Myanmar. Although drowning and suicide were low in morbidity figure, their mortality rates were high.

Table (16) Indicators for Prevention of Accidents and Injuries

| i	Prevention of Accident and Injury							
Regions and States	Road Traffic Accident		Farm injuries		Poisoning		Fall from height	
	(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
Kachin	4.7	11.0	2.0	1.5	0.1	0.8	0.5	1.9
Kayah	2.2	5.1	1.4	1.8	0.1	1.8	0.6	2.9
Kayin	3.8	9.7	2.0	1.4	0.1	0.8	1.0	2.4
Chin	2.4	7.0	1.8	1.8	0.1	0.2	1.1	3.7
Sagaing	2.8	8.8	2.2	0.9	0.1	0.6	0.5	2.0
Tanintharyi	3.6	5.5	1.9	1.6	0.1	0.7	0.6	2.0
Bago	2.2	9.0	1.3	0.5	0.1	1.0	0.6	1.8
Magway	1.6	6.4	1.7	0.5	0.0	0.5	0.5	2.1
Mandalay	2.4	8.9	1.0	0.7	0.1	0.6	0.4	1.9
Mon	3.4	10.9	1.1	0.3	0.1	0.6	0.5	2.0
Rakhine	0.8	1.8	1.1	0.7	0.1	0.7	0.4	0.7
Yangon	0.9	3.2	0.4	0.4	0.0	0.6	0.2	0.3
Shan (S)	3.2	6.0	1.8	0.8	0.1	2.0	0.7	1.6
Shan (N)	4.3	7.1	1.2	1.6	0.1	0.8	0.4	1.1
Shan (E)	3.3	6.1	2.0	0.3	0.1	1.6	0.5	0.7
Ayeyarwaddy	1.1	3.3	0.9	0.6	0.0	0.6	0.2	0.9
Naypyitaw	2.3	10.3	1.6	0.7	0.1	0.2	0.6	1.2
Union (3)	2.2	6.6	1.3	0.7	0.1	0.7	0.4	1.5
Union (4)	105931	3183	63228	349	3342	352	20961	718

(1)   Morbidity rate per 1000 Population
(2)   Mortality rate per 100,000 Population
(3)   Rate for Union
(4)   Actual number for Union

ii		Prevention of Accident and Injury							
Regions and States		Burns/ Scalds		Drowning		Suicide		Assault	
		(1)	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**	**(1)**	**(2)**
Kachin		0.5	1.0	0.1	5.8	0.0	2.4	0.7	1.7
Kayah		0.5	2.9	0.1	7.7	0.0	3.3	0.2	1.5
Kayin		0.6	1.2	0.1	7.7	0.1	6.5	0.7	1.2
Chin		0.6	0.4	0.1	4.9	0.0	1.4	0.5	0.8
Sagaing		0.6	0.4	0.0	3.5	0.0	2.0	0.7	1.7
Tanintharyi		0.4	0.6	0.1	8.7	0.1	2.4	0.7	1.5
Bago		0.5	0.4	0.1	6.6	0.1	3.2	1.2	1.8
Magway		0.4	0.5	0.1	3.7	0.0	2.0	0.6	1.4
Mandalay		0.3	0.6	0.0	3.7	0.1	2.5	1.0	1.7
Mon		0.5	0.4	0.1	8.1	0.0	2.3	0.6	0.6
Rakhine		0.4	0.4	0.1	7.1	0.0	2.2	0.6	2.2
Yangon		0.1	0.2	0.0	3.1	0.0	0.7	1.0	0.5
Shan (S)		0.6	1.0	0.1	3.8	0.1	2.7	0.5	1.3
Shan (N)		0.4	0.9	0.0	2.1	0.1	2.5	0.5	0.6
Shan (E)		0.4	0.5	0.1	3.5	0.1	3.3	0.5	0.7
Ayeyarwaddy		0.4	0.4	0.1	6.1	0.0	1.2	0.7	1.2
Naypyitaw		0.4	0.2	0.1	4.4	0.0	2.4	1.2	1.7
Union	(3)	0.4	0.5	0.1	4.9	0.0	2.2	0.8	1.3
	(4)	19371	249	3248	2381	2081	1056	39051	647

(1)   Morbidity rate per 1000 Population
(2)   Mortality rate per 100,000 Population
(3)   Rate for Union
(4)   Actual number for Union

3. Mental Health

**Fig (55) Percent Distribution of Mental Disorders**
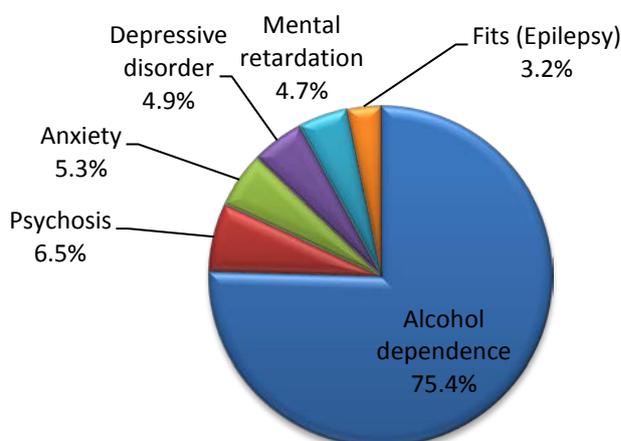
Mental health project separates six different types of mental disorders to be collected and reported by BHS. Alcohol dependency was the most common mental disorder with 75.4 percent of total mental disorders and the rest five categories were more or less the same in percent distribution.

Table (17) Indicators for Mental Health

Regions and States	Mental Health					
	Per 1000 Population					
	Psychosis	Depression	Anxiety Neurosis	Alcoholic Dependence	Epilepsy	Mental retardation
Kachin	0.06	0.01	0.02	2.35	0.03	0.04
Kayah	0.18	0.01	0.02	2.15	0.10	0.28
Kayin	0.07	0.05	0.12	1.34	0.04	0.06
Chin	0.08	0.01	0.10	0.21	0.08	0.08
Sagaing	0.06	0.02	0.04	0.45	0.02	0.04
Tanintharyi	0.18	0.33	0.04	0.92	0.12	0.08
Bago	0.07	0.05	0.08	0.66	0.04	0.06
Magway	0.08	0.08	0.08	0.75	0.03	0.07
Mandalay	0.04	0.02	0.03	1.28	0.01	0.03
Mon	0.05	0.01	0.03	0.23	0.02	0.02
Rakhine	0.19	0.17	0.17	0.94	0.06	0.06
Yangon	0.03	0.05	0.04	0.61	0.02	0.04
Shan (S)	0.07	0.06	0.09	1.15	0.05	0.06
Shan (N)	0.04	0.04	0.04	0.13	0.03	0.02
Shan (E)	0.05	0.07	0.11	2.45	0.06	0.03
Ayeyarwaddy	0.05	0.02	0.01	0.47	0.03	0.05
Naypyitaw	0.03	0.01	0.02	0.37	0.01	0.01
Union	0.07	0.05	0.05	0.78	0.03	0.05

4. Prevention of Hearing Impairment

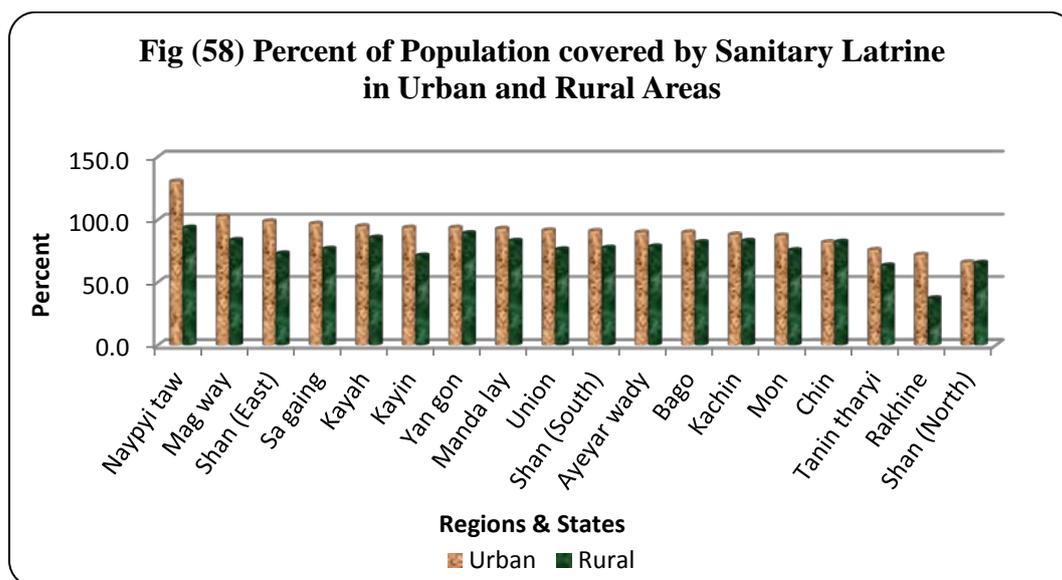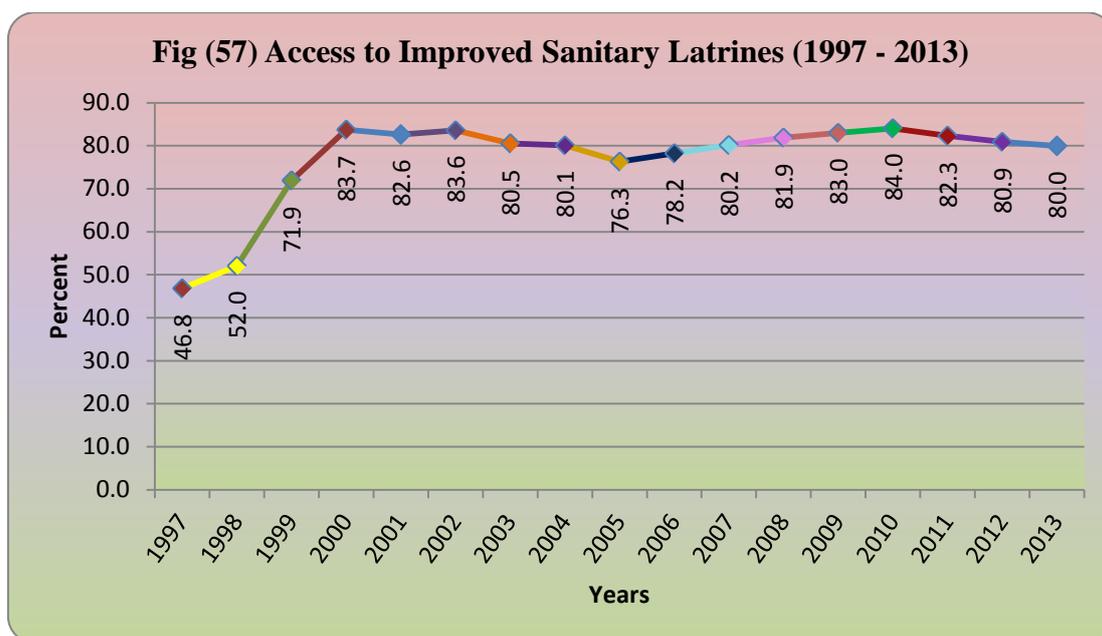Fig (56) Morbidity Rate of Hearing Impairment
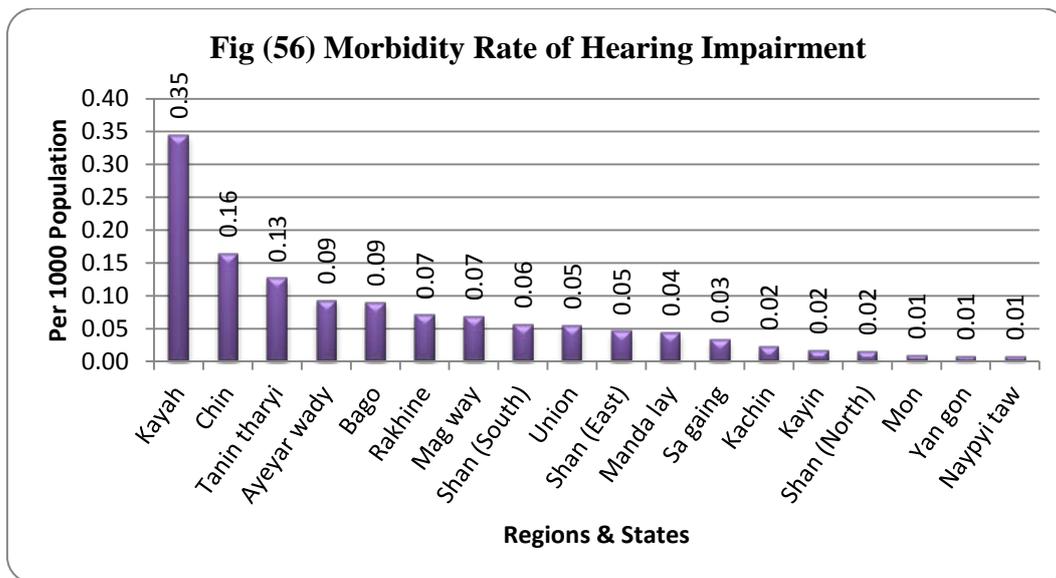
Morbidity rate of hearing impairment regardless of age of patients was shown in above and Nay Pyi Taw, Yangon and Mon had low morbidity and more than 30 folds rise of cases were found in Kayah State.

Table (18) Indicators for Prevention and Control of Hearing Impairment

Regions and States	Morbidity rate of congenital hearing defect (per 1000 livebirths)	Morbidity rate of chronic ear discharges (per 1000 population)	Morbidity rate of hearing impairment (per 1000 population)
Kachin	5.37	0.02	0.02
Kayah	0.33	0.18	0.35
Kayin	0.04	0.02	0.02
Chin	0.34	0.11	0.16
Sagaing	0.13	0.01	0.03
Tanintharyi	0.08	0.02	0.13
Bago	0.12	0.03	0.09
Magway	0.03	0.03	0.07
Mandalay	0.09	0.05	0.05
Mon	0.05	0.01	0.01
Rakhine	0.32	0.03	0.07
Yangon	0.02	0.01	0.01
Shan (S)	0.03	0.04	0.06
Shan (N)	0.06	0.02	0.02
Shan (E)	0.10	0.01	0.04
Ayeyarwaddy	0.23	0.02	0.09
Naypyitaw	0.00	0.00	0.01
Union	0.29	0.03	0.05

IV. ENVIRONMENTAL HEALTH SERVICES

Fig (57) Access to Improved Sanitary Latrines (1997 - 2013)

Fig (58) Percent of Population covered by Sanitary Latrine in Urban and Rural Areas

$$\frac{\text{Total no. of fly proof latrines built in an area x 6}}{\text{Total population in that area}} \times 100$$

Percents of population covered by sanitary latrine in urban and rural areas by regions and states were described in figure (58). Sanitary latrine coverage in urban area of Nay Pyi Taw and Magway was more than 100 percent and the reason was lesser household size than estimated household size of 6 family members.

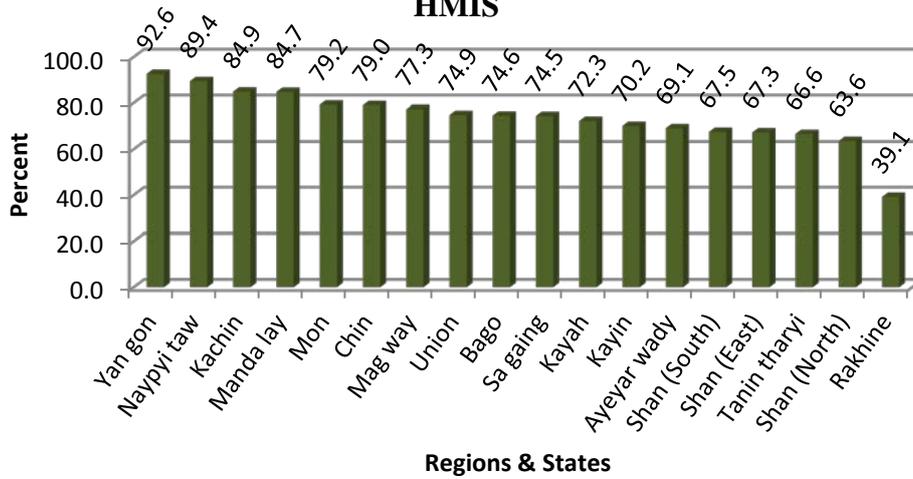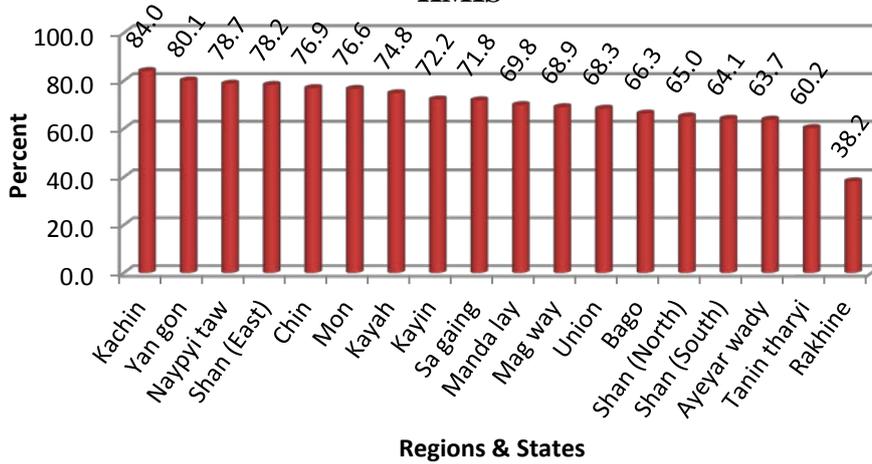**Fig (59) Percent of Population with Sanitary Latrine, HMIS**

Percent values by Region & State:
Yan gon: 92.6, Naypyi taw: 89.4, Kachin: 84.9, Manda lay: 84.7, Mon: 79.2, Chin: 79.0, Mag way: 77.3, Union: 74.9, Bago: 74.6, Sa gaing: 74.5, Kayah: 72.3, Kayin: 70.2, Ayeyar wady: 69.1, Shan (South): 67.5, Shan (East): 67.3, Tanin tharyi: 66.6, Shan (North): 63.6, Rakhine: 39.1

X-axis: Regions & States; Y-axis: Percent

Fig (60) Percent of Household with Sanitary Latrine, HMIS

Percent values by Region & State:
Kachin: 84.0, Yan gon: 80.1, Naypyi taw: 78.7, Shan (East): 78.2, Chin: 76.9, Mon: 76.6, Kayah: 74.8, Kayin: 72.2, Sa gaing: 71.8, Manda lay: 69.8, Mag way: 68.9, Union: 68.3, Bago: 66.3, Shan (North): 65.0, Shan (South): 64.1, Ayeyar wady: 63.7, Tanin tharyi: 60.2, Rakhine: 38.2

X-axis: Regions & States; Y-axis: Percent

$$\frac{\text{Total no. of fly proof latrines built in an area}}{\text{Total no. of households/ population in that area}} \times 100$$

In order to remove the effect of multiplier, population coverage and household coverage of sanitary latrine was calculated with above formula and illustrated in figure (59) and (60) representing a different view in computing the coverage. In 2013, 74.9 percent of total population and 68.3 percent of total households in Myanmar had easy access to sanitary latrines.

54

Fig (61) Percent of Population with improved Drinking Water
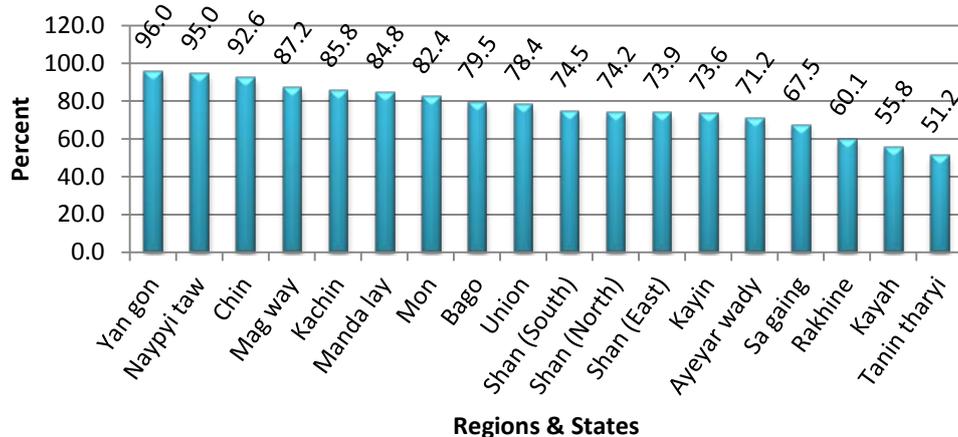
In above figure, Yangon, Nay Pyi Taw and Chin had 96, 95 and 92.6 percent of population with improved drinking water and Tanintharyi, Kayah and Rakhine had 51.2, 55.8 and 60.1 percent only.

Table (19) Indicators for Environmental Sanitation

Environmental Sanitation			
Regions and States	Access to improved sanitary latrines (%)		
	Union	Urban	Rural
Kachin	84.2	88.1	83.1
Kayah	88.4	94.7	85.7
Kayin	74.2	93.6	71.4
Chin	82.3	81.9	82.4
Sagaing	79.9	96.8	76.8
Tanintharyi	66.1	75.8	63.4
Bago	83.3	89.8	82.1
Magway	86.2	102.8	83.8
Mandalay	85.9	92.8	83.1
Mon	78.3	87.3	75.6
Rakhine	41.9	71.9	37.1
Yangon	92.1	93.6	89.3
Shan (S)	80.9	90.9	77.6
Shan (N)	65.6	65.8	65.5
Shan (E)	79.5	98.7	73.1
Ayeyarwaddy	80.1	89.9	78.7
Naypyitaw	102.9	130.1	93.7
Union	80.0	91.4	76.3

V. HEALTH EDUCATION ACTIVITIES

Fig (62) Advocacy per Township per Month and per BHS per Year
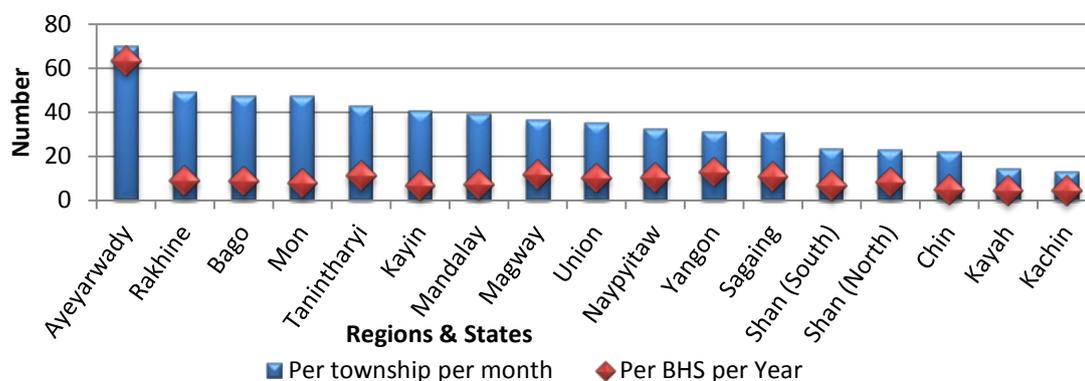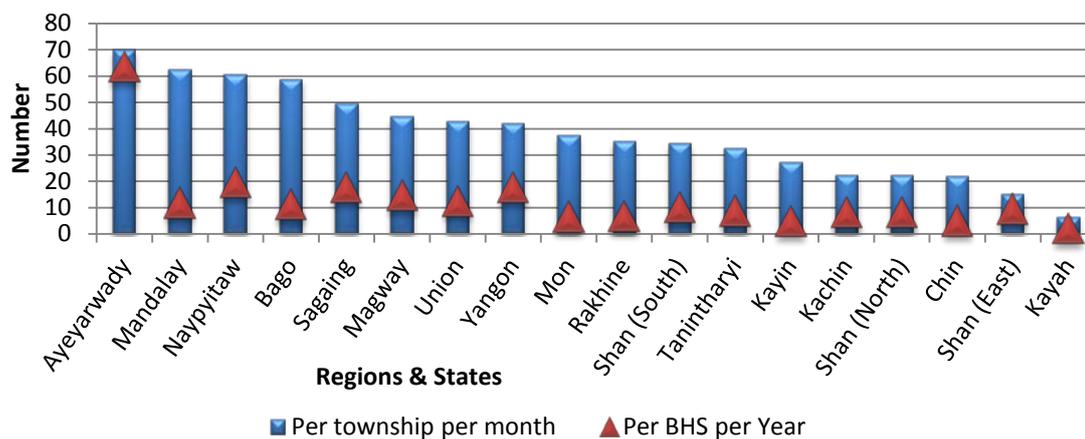

Fig (63) Public Talks per Township per Month and per BHS per Year

Health education activities by BHS were described in figure (62) and (63). Both advocacy and public talk activities per township per month as well as per BHS per year were high in Ayeyarwady Region.
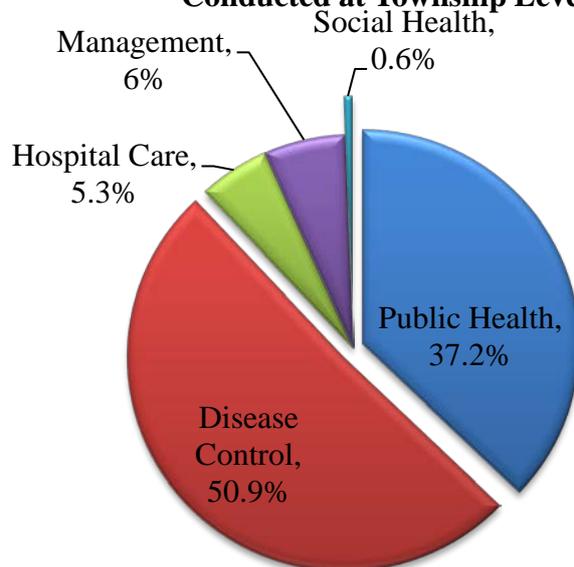
Table (20) Indicators for Health Education

Regions and States	Health Education Services							
	Advocacy Meeting		Exhibitions and Contests		Public Talks		Production/Distribution of IEC materials	
	Average number of monthly health education activities in the township	Average number of health education activities conducted by a basic health staff per year	Average number of monthly health education activities in the township	Average number of health education activities conducted by a basic health staff per year	Average number of monthly health education activities in the township	Average number of health education activities conducted by a basic health staff per year	Average number of monthly health education activities in the township	Average number of health education activities conducted by a basic health staff per year
Kachin	13	5	0.0	0.0	23	8	6	2
Kayah	14	4	0.4	0.1	6	2	1	0
Kayin	41	7	0.2	0.0	27	5	5	1
Chin	22	5	0.2	0.0	22	5	3	1
Sagaing	31	11	0.2	0.1	50	17	4	2
Tanintharyi	43	11	0.7	0.2	33	9	16	4
Bago	47	9	0.4	0.1	59	11	16	3
Magway	37	12	0.2	0.1	45	14	7	2
Mandalay	39	7	0.4	0.1	62	12	6	1
Mon	47	8	0.4	0.1	38	6	17	3
Rakhine	49	9	0.4	0.1	35	6	6	1
Yangon	31	13	0.3	0.1	42	17	10	4
Shan (S)	24	7	0.2	0.1	35	10	5	1
Shan (N)	22	8	0.2	0.1	21	8	3	1
Shan (E)	6	4	0.2	0.1	15	9	2	1
Ayeyarwaddy	70	10	0.6	0.1	70	10	11	2
Naypyitaw	33	11	0.1	0.0	61	19	5	2
Union	35	10	0.3	0.1	43	12	8	2

VI. TRAINING INFORMATION

Table (21) Training Implementation at Township Level in 2013

Region and State	No. of Township	Training Conducting Township	Percent
Kachin	18	9	50.0
Kayah	7	5	71.4
Kayin	7	7	100.0
Chin	9	4	44.4
Sagaing	37	12	32.4
Tanintharyi	10	2	20.0
Bago	28	26	92.9
Magway	25	13	52.0
Mandalay	28	12	42.9
Mon	10	4	40.0
Rakhine	17	10	58.8
Yangon	45	32	71.1
Shan South	21	17	81.0
Shan North	23	2	8.7
Shan East	11	6	54.5
Ayeyarwady	26	12	46.2
NayPyiTaw	8	2	25.0
Union	**330**	**175**	**53.0**

Fig (64) Percent Distribution of Different Training Topics Conducted at Township Level

Management, 6%

Social Health, 0.6%

Hospital Care, 5.3%

Public Health, 37.2%

Disease Control, 50.9%

According to above figure, trainings on disease control and public health were the most at township level in 2013.

Fig (65) Percent Distribution of Different Sections in Disease Control Training
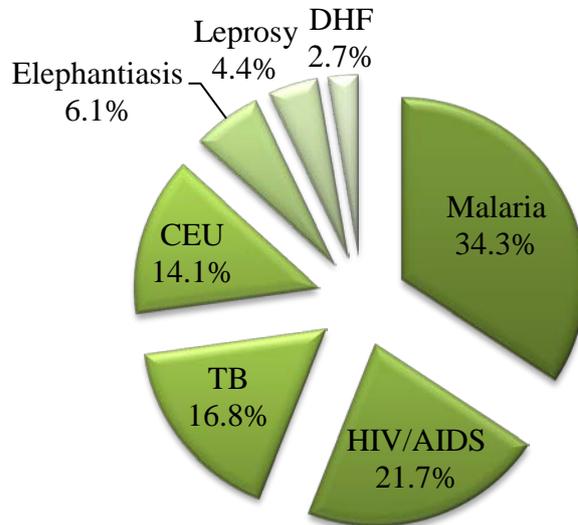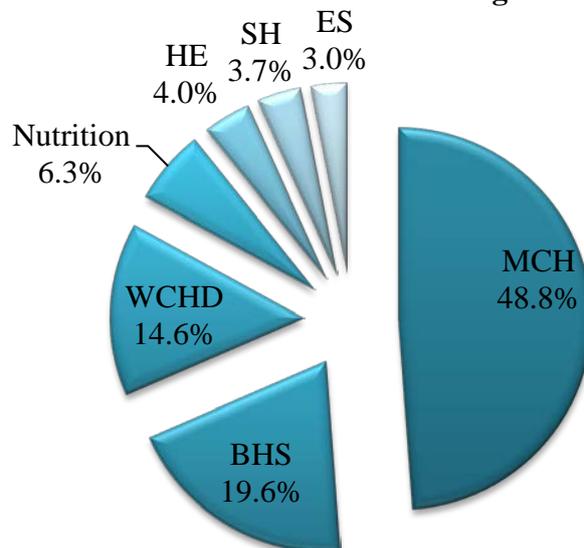

Fig (66) Percent Distribution of Different Sections in Public Health Training

Figures (65) and (66) show percent distribution of different sections in disease control and public health trainings in 2013. For disease control, trainings on malaria, HIV/AIDS and TB were more conducted than others and for public health, numbers of trainings on MCH, BHS and WCHD were high.

VII. HEALTH CARE FINANCING

Table (22) Different Sources of Health Care Financing

No.	Sources of Health Care Financing	Kyats in million
1	Government Recurrent Expenditures	78416.1
2	Government Capital Expenditures	2654.9
3	Funding from Project (External source of financing)	191.0
4	Revenue from Community Cost-Sharing Scheme	361.2
5	Trust Funds (Total)	3328.5
6	Trust Funds (Interest)	698.9
7	Revolving Drug Funds	987.5
8	Community Contributions (in-cash)	320.8
9	Community Contributions (in-kind)	1397.6

Different sources of health care financing used in 2012-13 fiscal year were described in table (22) and government recurrent expenditures was the main source of financing with 78416.1 million kyat including salaries, travel allowance, maintenance cost and so on.

VIII. TOWNSHIP LEVEL ANALYSIS

Maternal Health Services

To get better measurement of health status of pregnant mothers as well as lactating mothers, many indicators from family health care project, immunization project and vital statistics play different roles. Maternal health index is calculated by using the following seven important indicators for assessment of the status of health services at township level. Table (23) explains how the index is calculated by rating the indicators. The first four are health service coverage indicators which supposed to be high and the last three indicators are supposed to be low. An assumption applied in rating is that if MMR was zero for a township, it was rated as low level because of under reporting on vital statistics.

Table (23) Level of Measures for Maternal Health Service Indicators

Indicators	High level	Middle level	Low level
Antenatal Care Coverage (%)	>75%	50-75%	<50%
Proportion of births attended by Skilled Health Personnel (%)	>75%	50-75%	<50%
Postnatal Care Coverage (%)	>75%	50-75%	<50%
TT2 Coverage (%)	>75%	50-75%	<50%
Still-birth ratio(per 1000 LBs)	< 10	10-20	>20
Abortion rate (%)	<2	2-4	>4
Reported Maternal mortality ratio (per 1000 LBs)	0.1-0.99999	1-1.5	Zero, >1.5

Figure (67) shows summary measures of maternal health services and 79 out of 330 townships were below index value of 0.7 needing more attention on maternal health services. In addition, the figure describes the name of townships with best index score by regions and states.

Fig (67) Summary Measures of Maternal Health Services
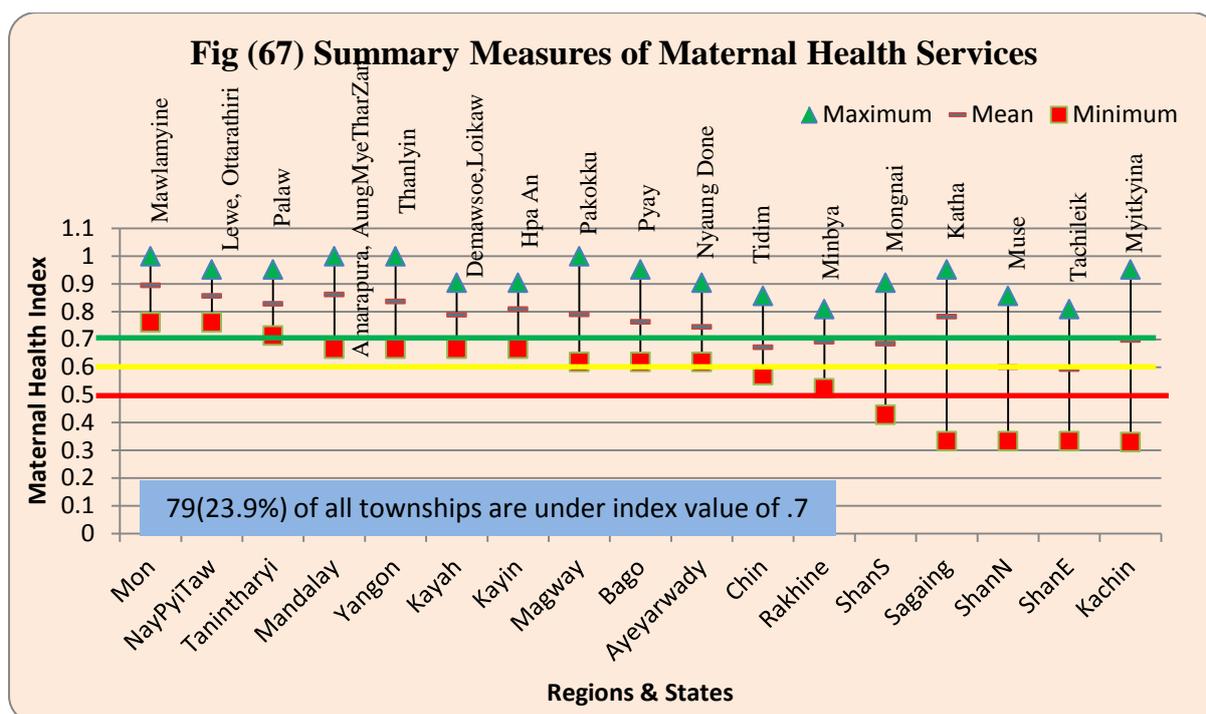
Child Health Services

The same assumption of calculating maternal health services index is used in computing child health services index. Child health development project, immunization project, nutrition project and vital statistics project are integrated and seven indicators are selected for child health services analysis at township level. Low birth weight percent, early neonatal death rate and U5MR are rated as low level if the reporting value is found as zero assuming as bad reporting system.

Table (24) Level of Measures for Child Health Service Indicators

Indicators	High level	Middle level	Low level
Neonatal Care Coverage (%)	>75%	50-75%	<50%
ORT utilization rate (%)	>75%	50-75%	<50%
Antibiotics treatment coverage in ARI case (%)	>75%	50-75%	<50%
Measles Immunization Coverage (%)	>75%	50-75%	<50%
Low Birth Weight (%)	Up to 1%	1.01-2%	Zero reporting,>2%
Early Neonatal Death Rate (per 1000 LBs)	Up to 3	3.01-6	Zero reporting, >6
Under Five Mortality Rate(per 1000 LBs)	Up to 10	10.01-20	Zero reporting, >20

Fig (68) Distribution of Measures of Child Health Services
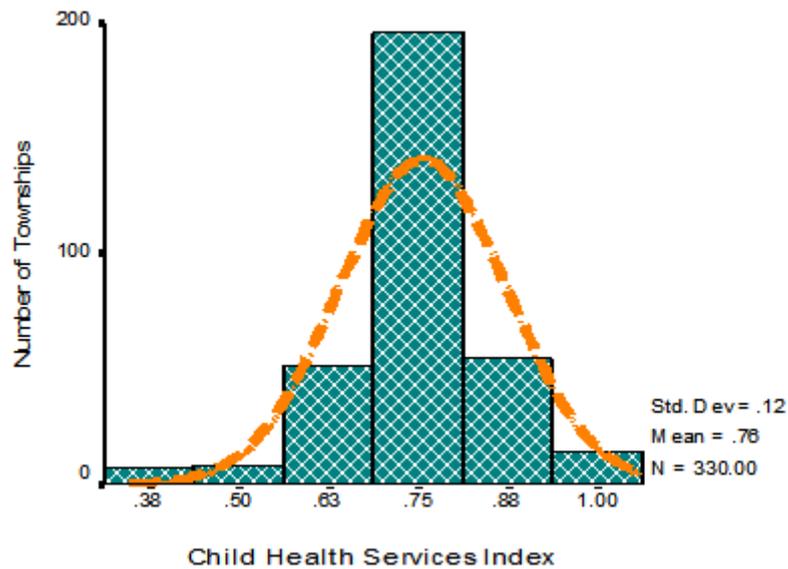
Fig (69) Summary Measures of Child Health Services
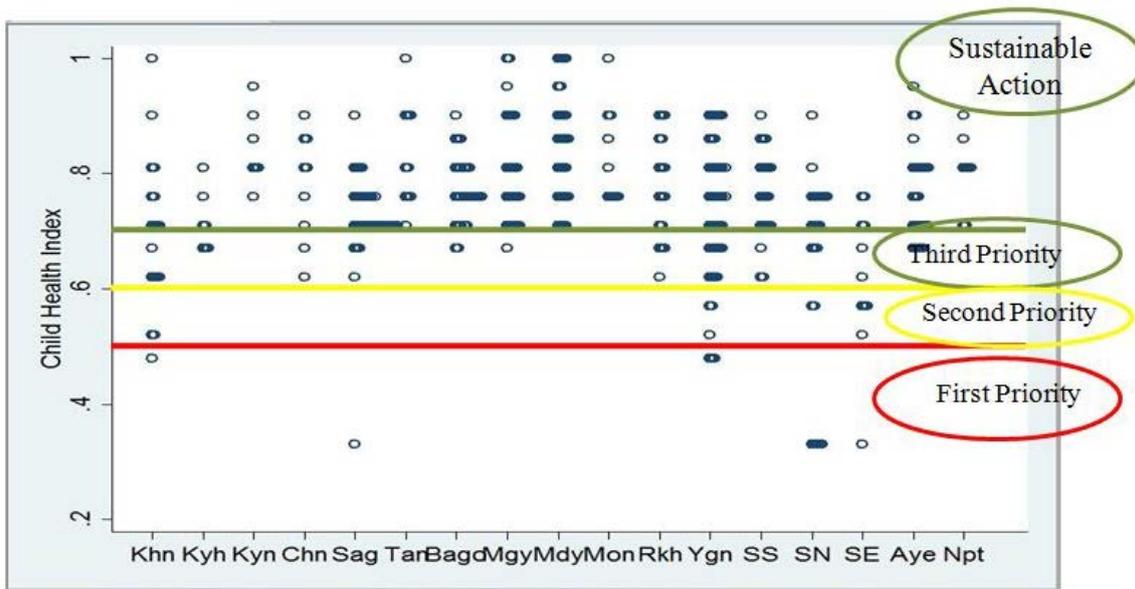
The above two figures show distribution of quality of child health services with mean score 0.76 and standard deviation 0.12 and summary measures of child health services with 66 townships (20 percent) to be prioritized and accelerated in order to promoting health and reducing morbidity and mortality of children in Myanmar. The remaining 80 percent of townships needed to sustain the velocity of action. Numbers as well as names of priority townships for maternal health, child health and both are shown in following tables.

Table (25) Number of Priority Townships for Maternal Health and Child Health

Priority Level	Maternal Health	Child Health
First (less than Index 0.5)	11	11
Second (between 0.5 and 0.6)	15	11
Third (between 0.6 and 0.7)	53	44
Total	79	66

Table (26) Number of Priority Townships for Both Maternal and Child Health by Regions and States

Regions and States	Number of Priority Townships for Both Maternal and Child Health
Kachin	6
Kayah	1
Chin	2
Sagaing	1
Bago	1
Rakhine	3
Yangon	1
Shan (S)	3
Shan (N)	9
Shan (E)	2
Ayeyarwady	1
Total	**30**

Table (27) Name of Priority Townships for Maternal and Child Health by Regions and States

Kachin State

Priority Level	Maternal Health	Child Health
First	TsawLaw	SumPara Bum
Second	Chipwe	InJangyang
	SumPara Bum	TsawLaw
Third	InJangyang	Chipwe
	Machanbaw	Machanbaw
	Mansi	Momauk
	Nogmung	Nogmung
	Waing maw	Tanai
No. of Township	8	8

Kayah State

Priority Level	Maternal Health	Child Health
First		
Second		
Third	Hphasaung	HPrusoe
	HPrusoe	Bawlake
		Shadaw
No. of Township	2	3

Kayin State

Priority Level	Maternal Health	Child Health
First		
Second		
Third	HPhapun	
No. of Township	1	

Chin State

Priority Level	Maternal Health	Child Health
First		
Second	Kanpetlet	
Third	Falam	Mindat
	Htantlang	Tonzang
	Matupi	
	Mindat	
	Paletwa	
	Tonzang	
No. of Township	7	2

Sagaing Region

Priority Level	Maternal Health	Child Health
First	Lahe	Lashi
	Lashi	
Second		
Third	Nam-yun	Aya-daw
	Taze	Kale
		Mon-ywa
		Taba -yin
No. of Township	4	5

Bago Region

Priority Level	Maternal Health	Child Health
First		
Second		
Third	Kyaukkyi	Kyaukkyi
	Kyauktaga	Thanatpin
	Minhla	
	Monyo	
	Oktwin	
	Tharrawaddy	
No. of Township	6	2

Magway Region

Priority Level	Maternal Health	Child Health
First		
Second		
Third	Aunglan	Natmauk
	Saw	
	Seikpyu	
	Sidoktaya	
No. of Township	4	1

Mandalay Region

Priority Level	Maternal Health	Child Health
First		
Second		
Third	Thabeikkyin	
No. of Township	1	

Rakhine State

Priority Level	Maternal Health	Child Health
First		
Second	Ramree	
	Sittwe	
Third	Ann	Ann
	Buthidaung	Sittwe
	Gwa	Thandwe
	Kyaukpyu	Toungup
	Maungdaw	
	Toungup	
No. of Township	8	4

Yangon Region

Priority Level	Maternal Health	Child Health
First		Coco Island
		Dagon
		Seikkan
Second		Dagon Myothit(North)
		Dagon Myothit(seikkan)
		Lanma daw
Third	Dagon Myothit(seikkan)	Dagon Myothit(East)
		Daw bon
		Insein
		Kama yut
		Kyauk tada
		Kyimyin dine
		Mayan gone
		N/Ok kala
		Pabe dan
		Thin gan gyun
No. of Township	1	16

Shan (South)

Priority Level	Maternal Health	Child Health
First	Mongkung	
Second	Kyethi	
	Loilem	
	Maukmai	
Third	Hopone	Hsiseng
	Hsiseng	Kyethi
	Langkho	Maukmai
	Monghshu	
	Mongpan	
	Nam- sang(S)	
	YwaNgan	
No. of Township	11	3

Shan (North)

Priority Level	Maternal Health	Child Health
First	Konkyan	Konkyan
	Mongmao	Mongmao
	Namphan	Namphan
	Pangsan	Pangsan
	Pangwine	Pangwine
Second	Kutkai	Mongmit
	Manton	Manton
	Mongmit	
Third	Kung-long	Hsipaw
	Kyauk-me	Lashio
	Lashio	Tang-yan
	Laukkaing	
	Nanhkam	
	Nawnghkio	
	Tang-yan	
No. of Township	15	10

Shan (East)

Priority Level	Maternal Health	Child Health
First	Matman	Monglar
	Monglar	
Second	Mongkhat	Matman
	Mongpying	Mongkhat
	Mongton	Mongpying
	Mongyan	Mongyan
Third	Monghpyak	Monghpyak
		Mongyaung
No. of Township	7	7

Ayeyarwady Region

Priority Level	Maternal Health	Child Health
First		
Second		
Third	Eimme	Bogale
	Pantanaw	Dedaye
	Thabaung	Maw'kyun
	Yegyi	Pathein
		Yegyi
No. of Township	4	5