Ministry of Health

The Republic of the Union of Myanmar

HEALTH IN MYANMAR

2013

Foreword by H.E. Professor Pe Thet Khin,
Union Minister for Health

Myanmar has entered into the new era for building a modern and developed democratic nation. The Government of the Republic of the Union of Myanmar is undertaking series of reforms for development of the country in line with democratic practice.

The Ministry of Health is providing comprehensive health care services, covering activities for promoting health, preventing diseases, providing effective treatment and rehabilitation.

Expenditures for health have raised considerably, equity and access to health services have been ensured all over the country. There have been a lot of improvements in health services both structurally and functionally. Free services for the emergency treatments, hospital deliveries and some specialist care are being provided. Regarding quality of care, more grass-root level health facilities such as Station Hospitals, Rural Health Centers and Sub-Rural Health Centers are established, renovated and upgraded. Medicines and medical equipment are also increasingly provided to all health facilities.

However, there is a lot more to be done to achieve the MDGs and maintain the momentum beyond 2015.

Ministry of Health will keep on honouring its commitments by continuing its involvement in the collective efforts of all stakeholders to ensure the highest level of health for the people.

Professor Pe Thet Khin

Union Minister for Health

COUNTRY PROFILE

Location

The Republic of the Union of Myanmar, is the westernmost country in South-East Asia, located on the Bay of Bengal and Andaman Sea. It is bordered on the east and north-east by the Lao People's Democratic Republic and the Kingdom of Thailand, on the north and north-east by People's Republic of China, on the north-west by the Republic of India and on the west by the People's Republic of Bangladesh. Myanmar covers an area of (676,578) square kilometers of Indo-China peninsular. It lies between 09°32' N and 28°31'N latitudes and 92°10' E and 101°11' E longitudes. It stretches 2200 kilometers from north to south and 925 kilometers from east-west at its widest point. It is approximately the size of France and England combined.

Myanmar is bounded by Bangladesh, India, China, Laos and Thailand on the landward side, 1760 miles of the coast line is bounded on the west by the Bay of Bengal and on the south by the Andaman Sea.

Geography

The country is divided administratively, into Nay Pyi Taw Union Territory and (14) States and Regions. It consists of (70) Districts, (330) Townships, (84) Sub-townships, (398) Towns, (3063) Wards, (13,618) Village tracts and (64,134) Villages. Myanmar falls into three well marked natural divisions, the western hills, the central belt and the Shan plateau on the east, with a continuation of this high land in the Tanintharyi. Three parallel chains of mountain ranges from north to south divide the country into three river systems, the Ayeyarwady, Sittaung and Thanlwin.

Myanmar has abundant natural resources including land, water, forest, coal, mineral and marine resources, and natural gas and petroleum. Great diversity exists between the regions due to the rugged terrain in the hilly north which makes communication extremely difficult. In the southern plains and swampy marshlands there are numerous rivers and tributaries of these rivers criss-cross the land in many places.

Climate

Myanmar enjoys a tropical climate with three distinct seasons, the rainy, the cold and the hot season. The rainy season comes with the southwest monsoon, which lasts from mid-May to mid-October. Then the cold season follows from mid-October to mid-February. The hot season precedes rainy season and lasts from mid-February to mid-May.

During the 10 years period covering 2001-2010, the average rainfall in the coastal area of the Rakhine and Tanintharyi was around 5000 mm annually. The Ayeyarwady delta had a rainfall of 3113 mm, the mountains in the extreme north had 1500 to 2400 mm and the hills of the east over 1000 mm. The dry zone had between 700 and 1000 mm due to the Rakhine Yomas (hills) cutting off the monsoon. The average temperature experienced in the delta ranged between 22.3°C to 33.1°C, while in the dry zone, it was between 20°C and 34°C. The temperature was between 17°C and 30°C in hilly regions and even lower in Chin state ranging between 9.9°C and 24.2°C.

Demography

The population of Myanmar in 2011-2012 is estimated at 60.38 million with the growth rate of 1.01 percent. About 70 percent of the population resides in the rural areas, whereas the remaining are urban dwellers. The population density for the whole country is 89 per square kilometers.

Estimates of population and it's structure (1980-2011)

(in million)

Population Structure	1980-81		1990-91		2000-01		2010-2011		2011-2012	
	Estimate	%	Estimate	%	Estimate	%	Estimate	%	Estimate	%
0-14 years	13.03	38.77	14.70	36.05	16.43	32.77	17.60	29.44	17.62	29.19
15-59 years	18.44	54.86	23.47	57.55	29.72	59.29	36.94	61.79	37.45	62.01
60 years and above	2.14	6.37	2.61	6.4	3.98	7.94	5.24	8.77	5.31	8.80
Total	33.61	100	40.78	100	50.13	100	59.78	100	60.38	100
Female	16.93	50.37	20.57	50.28	25.22	50.31	30.06	50.28	30.53	50.56
Male	16.68	49.63	20.21	49.72	24.91	49.69	29.72	49.72	29.85	49.44
Sex Ratio (M /100F)	98.52		98.25		98.77		98.87		97.77	

Source: Population Department, Ministry of Immigration and Population, 2013

People and Religion

The Republic of the Union of Myanmar is made up of (135) national races speaking over 100 languages and dialects. The major ethnic groups are Kachin (12 races), Kayah (9 races), Kayin (11 races), Chin (53 races), Bamar (9 races), Mon (1 race), Rakhine (7 races), Shan (33 races). Based on 1983 population census, about (89.4%) of the population mainly Bamar, Shan, Mon, Rakhine and some Kayin are Buddhists. The rest are Christians (4.9 %), Muslims (3.9%), Hindus (0.5 %) and Animists (1.2 %).

Economy

With abundant natural resources, a strategic location in Southeast Asia, and a large and young population, Myanmar has a unique opportunity to lay the foundation for a brighter, more prosperous future. The country is opening up to trade, encouraging foreign investment, and deepening its financial sector.

Following the adoption of market oriented economy from centralized economy the government has carried out liberal economic reforms to ensure participation of private sector in every sphere of economic activities. The country comes into the new era for building a modern and developed democratic nation and the nation is on the threshold of new system and new era. Priority is to be given to progress of agriculture sector for sufficiency of people in food and clothing sectors. Agriculture sector is to be modernized to establish agricultural production syndicates with the shares through manual production. Utmost efforts are to be made for boosting production of agricultural produce with the use of modern machinery and technology. With expanding job opportunities in the market economy system and every citizen being able to work, increasing individual income will contribute to the growth of GDP.

Gross Domestic Product (kyat in millions)

GDP	2005-06	2006-07	2007-08	2008-09	2009-2010	2010-2011*
Current Producers' Prices	2,286,765	16,852,758	23,336,113	29,233,288	33,894,039	39,846,694
Constant Producers' Prices	4,675,220▲	13,893,395▲	15,559,413▲	17,155,078▲	18,964,940▲	20,891,324▲
Growth (%)	13.6	13.1	12.0	10.3	10.6	10.2

Source: Statistical Yearbook 2011, Central Statistical Organization, Ministry of National Planning and Economic Development

▲ 2000-01 Constant Producers' Prices ▲ 2005-06 Constant Producers' Prices ****Provisional Actual*

Social Development

Development of social sector has kept pace with economic development. Expansion of schools and institutes of higher education has been considerable especially in the Regions and States. Expenditures for health and education have raised considerably, equity and access to education and health and social services have been ensured all over the country.

With prevalence of tranquility, law and order in the border regions, social sector development can be expanded throughout the country. Twenty four special development regions have been designated in the whole country where health and education facilities are developed or upgraded along with other development activities. Some towns or villages in these regions have also been upgraded to sub-township level with development of infrastructure to ensure proper execution of administrative, economic and social functions.

Poverty Lines and Poverty Incidence

Poverty Incidence is defined as the proportion of population of households with insufficient consumption expenditure to cover their food and non-food needs. It reduced during the year 2005 to 2010 which was shown in the following table.

Poverty Incidence by Strata, 2005-2010 (%)

	Urban	Rural	Union
2010	15.7	29.2	25.6
2005	21.5	35.8	32.1

Source: IHLCA Survey 2004-2005, IHLCA Survey 2009-2010

MYANMAR HEALTH CARE SYSTEM

Myanmar health care system evolves with changing political and administrative system and relative roles played by the key providers are also changing although the Ministry of Health remains the major provider of comprehensive health care. It has a pluralistic mix of public and private system both in the financing and provision. Health care is organized and provided by public and private providers.

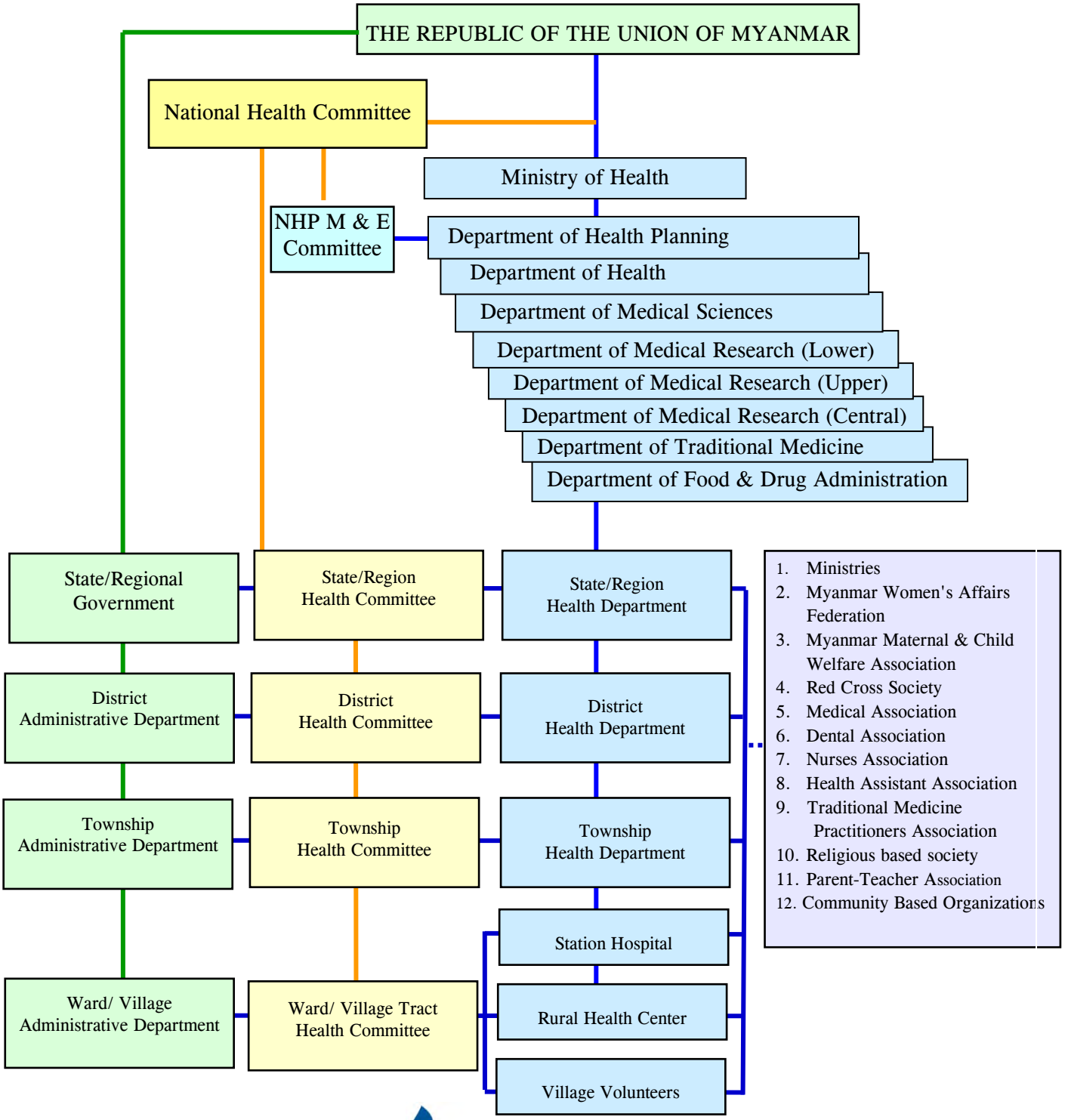
In implementing the objective of uplifting the health status of the entire nation, the Ministry of Health is taking the responsibility of providing comprehensive health care services covering activities for promoting health, preventing diseases, providing effective treatment and rehabilitation to raise the health status of the population. The Department of Health one of (7) departments under the Ministry of Health plays a major role in providing comprehensive health care throughout the country including remote and hard to reach border areas. Some ministries are also providing health care for their employees and their families. They include Ministries of Defense, Railways, Mines, Industry, Energy, Home and Transport. Ministry of Labour has set up three general hospitals, two in Yangon and the other in Mandalay to render services to those entitled under the social security scheme. Ministry of Industry is running a Myanmar Pharmaceutical Factory and producing medicines and therapeutic agents to meet the domestic needs.

The private, for profit, sector is mainly providing ambulatory care though some providing institutional care has developed in Nay Pyi Taw, Yangon, Mandalay and some large cities in recent years. Funding and provision of care is fragmented. They are regulated in conformity with the provisions of the law relating to Private Health Care Services. General Practitioners' Section of the Myanmar Medical Association with its branches in townships provide these practitioners the opportunities to update and exchange their knowledge and experiences by holding seminars, talks and symposia on currently emerging issues and updated diagnostic and therapeutic measures. The Medical Association and its branches also provide a link between them and their counterparts in public sector so that private practitioners can also participate in public health care activities. The private, for non-profit, run by Community Based Organizations(CBOs) and Religious based society also providing ambulatory care though some providing institutional care and social health protection has developed in large cities and some townships.

One unique and important feature of Myanmar health system is the existence of traditional medicine along with allopathic medicine. Traditional medicine has been in existence since time immemorial and except for its waning period during colonial administration when allopathic medical practices had been introduced and flourishing it is well accepted and utilized by the people throughout the history. With encouragement of the State scientific ways of assessing the efficacy of therapeutic agents, nurturing of famous and rare medicinal plants, exploring, sustaining and propagation of treatises and practices can be accomplished. There are a total of 14 traditional hospitals run by the State in the country. Traditional medical practitioners have been trained at an Institute of Traditional Medicine and with the establishment of a new University of Traditional Medicine conferring a bachelor degree more competent practitioners can now be trained and utilized. As in the allopathic medicine there are quite a number of private traditional practitioners and they are licensed and regulated in accordance with the provisions of related laws.

In line with the National Health Policy NGOs such as Myanmar Maternal and Child Welfare Association, Myanmar Red Cross Society are also taking some share of service provision and their roles are also becoming important as the needs for collaboration in health become more prominent. Recognizing the growing importance of the needs to involve all relevant sectors at all administrative levels and to mobilize the community more effectively in health activities health committees had been established in various administrative levels down to the wards and village tracts.

Organization of Health Service Delivery



Health in Transition

The Government has embarked on a far reaching reform programme to transform the country into a modern, developed and democratic nation that improves the livelihood of its people. The Government has aspired for *people-centered development* while staying focused on achievable results. It shall start modestly, but move decisively with international assistance to enlarge capacity and skill development to reduce incidence of poverty and achieve the Millennium Development Goals by 2015.

Health sector change in transitional economies is a hybrid of two issues that are normally separate but that coalesce in these cases. The first issue is that of reform in the health sector in general. The precise agenda for reform is defined by reviewing how well existing policies, institutions, structures, and systems deal with issues of efficiency and equity. The second issue underlying health sector change in transitional economies is more macroeconomic in nature and much less voluntary.

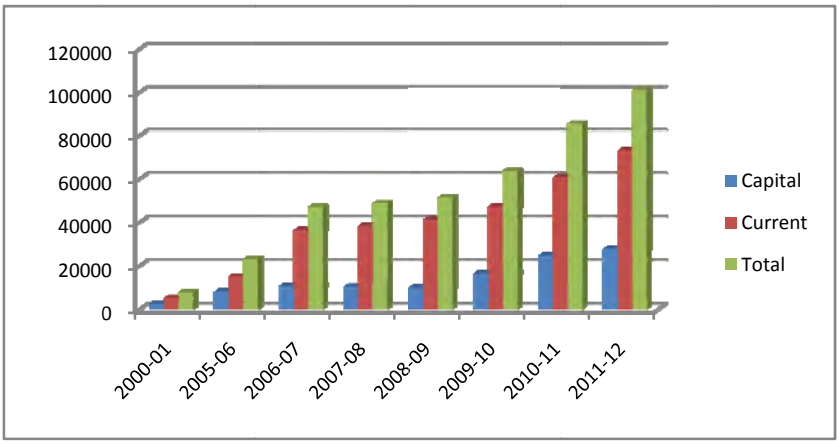
Development of the country-based reports that provides detailed description of health systems and policy initiatives using a standard format is required. The Technical Consultation meeting on the Development of Myanmar HiTs was held in Nay Pyi Taw on 3 October 2012.

Union Minister for Health, H.E. Professor Pe Thet Khin, delivered an Opening Speech at the Technical Consultation Meeting on Myanmar Health Systems in Transition Series (Myanmar HiTS)

Health Financing in Myanmar

The sources of finance for health care services are the government, private households, social security system, community contributions and external aid. Government has increased health spending on both current and capital yearly. Total government health expenditure increased from kyat (7,688) million in 2000-01 to kyat (100,825) million in 2011-2012.

Government Health Expenditures (2000-01 to 2011-12)



Financial allocation to the health and education sector was increased in the fiscal year 2012-2013. The government share to the health sector as a percentage of general government expenditures for last three financial years were indicated in the following table.

Government Health Expenditures as percentage of GDP and as percentage of General Government Expenditures

Financial Year	Government Health Expenditures as % of Gross Domestic Product	Government Health Expenditures as % of General Government Expenditures
2010-11	0.20	1.03
2011-12	0.21	1.05
2012-13	0.76	3.14

Source: Financial Allocation to Social Budget, Social Protection Conferenc, 25th and 26th June 2012, Nay Pyi Taw

Social security scheme was implemented in accordance with 1954 Social Security Act by the Ministry of Labour. According to the law factories, workshops and enterprises that have over 5 employees whether State owned, private, foreign or joint ventures, must provide the employees with social security coverage. The contribution is tri-partite with 2.5% by the employer 1.5% by the employee of the designated rate while the government contribution is in the form of capital investment. Insured workers under the scheme are provided free medical treatment, cash benefits and occupational injury benefit. To effectively implement the scheme branch offices, workers' hospitals, dispensaries and mobile medical units have been established nation-wide. Social Security Board is now preparing the Social Security Law (2012) for increasing the coverage by compulsory contributions from the formal sector as well as voluntary contributions from the informal sector and the community.

HEALTH POLICY, LEGISLATION AND PLANS

Health Policy

Policy guidelines for health service provision and development have also been provided in the Constitutions of different administrative period. The following are the policy guidelines related to health sector included the Constitution of the Republic of the Union of Myanmar (2008).

The Constitution of the Republic of the Union of Myanmar 2008

Article 28

The Union shall :

(a) earnestly strive to improve education and health of the people;

(b) enact the necessary law to enable National people to participate in matters of their education and health;

Article 32

The Union shall :

(a) care for mothers and children, orphans, fallen Defence Services personnel's children, the aged and the disabled;

Article 351

Mothers, children and expectant women shall enjoy equal rights as prescribed by law.

Article 367

Every citizen shall, in accord with the health policy laid down by the Union, have the right to health care.

National Health Policy 1993

The National Health Policy was developed with the initiation and guidance of the National Health Committee in 1993. The National Health Policy has placed the *Health For All* goal as a prime objective using Primary Health Care approach. The National Health Policy is designated as follows:

1	To raise the level of health of the country and promote the physical and mental well-being of the people with the objective of achieving "Health for all" goal, using primary health care approach.
2	To follow the guidelines of the population policy formulated in the country.
3	To produce sufficient as well as efficient human resource for health locally in the context of broad frame work of long term health development plan.
4	To strictly abide by the rules and regulations mentioned in the drug laws and by-laws which are promulgated in the country.
5	To augment the role of co-operative, joint ventures, private sectors and non-governmental organizations in delivering of health care in view of the changing economic system.
6	To explore and develop alternative health care financing system.
7	To implement health activities in close collaboration and also in an integrated manner with related ministries.
8	To promulgate new rules and regulations in accord with the prevailing health and health related conditions as and when necessary.
9	To intensify and expand environmental health activities including prevention and control of air and water pollution.
10	To promote national physical fitness through the expansion of sports and physical education activities by encouraging community participation, supporting outstanding athletes and reviving traditional sports.
11	To encourage conduct of medical research activities not only on prevailing health problems but also giving due attention in conducting health system research.
12	To expand the health service activities not only to rural but also to border areas so as to meet the overall health needs of the country.
13	To foresee any emerging health problem that poses a threat to the health and well-being of the people of Myanmar, so that preventive and curative measures can be initiated.
14	To reinforce the service and research activities of indigenous medicine to international level and to involve in community health care activities.
15	To strengthen collaboration with other countries for national health development.

Health Legislation

Both nationally and internationally the field of public health and the execution of public health powers and services depend on public health law. In its early history public health and its legal regulations covered communicable disease prevention and environmental sanitation. It included some limited control of the disposal of human and other wastes, some concerns for water purity and the hygiene of housing, a limited interest in food and milk sanitation, some incipient school health controls, and very little else.

To protect health government told industry, business and people generally what to do and what not to do. Public health programmes seek to enhance public health not only by prohibiting harmful activities or conditions, but also by providing preventive and rehabilitative services to advance the health of the people. Instead of regulating, policing, and prohibiting unwholesome conduct or conditions, public health laws establishes services to create a more healthful environment and provides the facilities and trained professionals to prevent and treat disease, to educate people to protect themselves, and to improve their conditions.

As part of fulfilling the responsibility to improve and protect health of the citizens the government has enacted some health laws. Majority of current health laws are found to be related to the public health law promulgated in 1972. Existing health laws may be categorized as; health laws for promoting or protecting health of the people, health laws concerned with standard, quality and safety of care and laws relating to social organization.

Health laws for promoting or protecting health of the people

Public Health Law (1972)	It is concerned with protection of people's health by controlling the quality and cleanliness of food, drugs, environmental sanitation, epidemic diseases and regulation of private clinics.
Dental and Oral Medicine Council Law (1989) (Revised in 2011)	Provides basis for licensing and regulation in relation to practices of dental and oral medicine. Describes structure, duties and powers of oral medical council in dealing with regulatory measures.
Law relating to the Nurse and Midwife (1990) (Revised in 2002)	Provides basis for registration, licensing and regulation of nursing and midwifery practices and describes organization, duties and powers of the nurse and midwife council.
Myanmar Maternal and Child Welfare Association Law (1990) (Revised in 2010)	Describes structure, objectives, membership and formation, duties and powers of Central Council and its Executive Committee.
Nation Drug Law (1992)	Enacted to ensure access by the people safe and efficacious drugs. Describes requirement for licensing in relation to manufacturing, storage, distribution and sale of drugs. It also includes provisions on formation and authorization of Myanmar Food and Drug Board of Authority.
Narcotic Drugs and Psychotropic Substances Law (1993)	Related to control of drug abuse and describes measures to be taken against those breaking the law. Enacted to prevent danger of narcotic and psychotropic substances and to implement the provisions of United Nations Convention Against Illicit Traffic in Narcotic Drugs and Psychotropic Substances. Other objectives are to cooperate with state parties to the United Nations Convention, international and regional organizations in respect to the prevention of the danger of narcotic drugs and psychotropic substances. According to that law Central Committee for Drug Abuse Control (CCADC),

	Working Committees, Sectors and Regional Committees were formed to carry out the designated tasks in accordance with provisions of the law. The law also describes procedures relating to registration, medication and deregistration of drug users.
Prevention and Control of communicable Diseases Law (1995) (Revised in 2011)	Describes functions and responsibilities of health personnel and citizens in relation to prevention and control of communicable diseases. It also describes measures to be taken in relation to environmental sanitation, reporting and control of outbreaks of epidemics and penalties for those failing to comply. The law also authorizes the Ministry of Health to issue rules and procedures when necessary with approval of the government.
Traditional Drug Law (1996)	Concerned with labeling, licensing and advertisement of traditional drugs to promote traditional medicine and drugs. It also aims to enable public to consume genuine quality, safe and efficacious drugs. The law also deals with registration and control of traditional drugs and formation of Board of Authority and its functions.
Eye Donation Law (1996)	Enacted to give extensive treatment to persons suffering from eye diseases who may regain sight by corneal transplantation. Describes establishment of National Eye Bank Committee and its functions and duties, and measures to be taken in the process of donation and transplantation.
National Food Law (1997)	Enacted to enable public to consume food of genuine quality, free from danger, to prevent public from consuming food that may cause danger or are injurious to health, to supervise production of controlled food systematically and to control and regulate the production, import, export, storage, distribution and sale of food systematically. The law also describes formation of Board of Authority and its functions and duties.

Myanmar Medical Council Law (2000)	Enacted to enable public to enjoy qualified and effective health care assistance, to maintain and upgrade the qualification and standard of the health care assistance of medical practitioner, to enable studying and learning of the medical science of a high standard abreast of the times, to enable a continuous study of the development of the medical practitioners, to maintain and promote the dignity of the practitioners, to supervise the abiding and observing in conformity with the moral conduct and ethics of the medical practitioners. The law describes the formation, duties and powers of the Myanmar Medical Council and the rights of the members and that of executive committee, registration certificate of medical practitioners, medical practitioner license, duties and rights of registered medical practitioners and the medical practitioner license holders.
Traditional Medicine Council Law (2000)	Enacted to protect public health by applying any type of traditional medicine by the traditional medical practitioners collectively, to supervise traditional medical practitioners for causing abidance by their rules of conduct and discipline, to carry out modernization of traditional medicine in conformity with scientific method, to cooperate with the relevant government departments, organizations and international organization of traditional medicine. The law describes formation, duties and powers of the traditional medical council, registration as the traditional medical practitioners and duties and registration of the traditional medical practitioners.
Blood and Blood Products Law (2003)	Enacted to ensure availability of safe blood and blood products by the public. Describes measures to be taken in the process of collection and administration of blood and blood products and designation and authorization of personnel to oversee and undertake these procedures.

Body Organ Donation Law (2004)	Enacted to enable saving the life of the person who is required to undergo body organ transplant by application of body organ transplant extensively, to cause rehabilitation of disabled persons due to dysfunction of body organ through body organ donors, to enable to carry out research and educational measures relating to body organ transplant and to enable to increase the numbers of body organ donors and to cooperate and obtain assistance from government departments and organizations, international organizations, local and international NGOs and individuals in body organ transplant.
The Control of Smoking and Consumption of Tobacco Product Law (2006)	Enacted to convince the public that smoking and consumption of tobacco product can adversely affect health, to make them refrain from the use, to protect the public by creating tobacco smoke free environment, to make the public, including children and youth, lead a healthy life style by preventing them from smoking and consuming tobacco product, to raise the health status of the people through control of smoking and consumption of tobacco product and to implement measures in conformity with the international convention ratified to control smoking and consumption of tobacco product.
The Law Relating to Private Health Care Services (2007)	Enacted to develop private health care services in accordance with the national health policy, to enable private health care services to be carried out systematically as and integrated part in the national health care system, to enable utilizing the resources of private sector in providing health care to the public effectively, to provide choice of health care provider for the public by establishing public health care services and to ensure quality services are provided at fair cost with assurance of responsibility.

National Health Committee (NHC)

The National Health Committee (NHC) was formed on 28 December 1989 as part of the policy reforms. It is a high level inter-ministerial and policy making body concerning health matters. The National Health Committee takes the leadership role and gives guidance in implementing the health programmes systematically and efficiently. The high level policy making body is instrumental in providing the mechanism for intersectoral collaboration and co-ordination. It also provides guidance and direction for all health activities. The NHC is reorganized in April 2011.

Composition of National Health Committee

1.	Union Minister, Ministry of Health	Chairman
2.	Union Minister, Ministry of Labour, Employment and Social Security	Vice-Chairman
3.	Deputy Minister, Ministry of Home Affairs	Member
4.	Deputy Minister, Ministry of Border Affairs	Member
5.	Deputy Minister, Ministry of Information	Member
6.	Deputy Minister, Ministry of National Planning and Economic Development	Member
7.	Deputy Minister, Ministry of Social Welfare, Relief and Resettlement	Member
8.	Deputy Minister, Ministry of Labour, Employment and Social Security	Member
9.	Deputy Minister, Ministry of Education	Member
10.	Deputy Minister, Ministry of Health	Member
11.	Deputy Minister, Ministry of Science and Technology	Member
12.	Deputy Minister, Ministry of Immigration and Population	Member
13.	Deputy Minister, Ministry of Sports	Member
14.	Council Member, Nay Pyi Taw Council	Member
15.	President, Myanmar Red Cross Society	Member
16.	President, Myanmar Maternal and Child Welfare Association	Member
17.	Deputy Minister, Ministry of Health	Secretary
18.	Director General, Department of Health Planning, Ministry of Health	Joint Secretary

Health Development Plans

Aiming towards the "Health for All Goal", series of National Health Plans based on primary health care services have been systematically developed and implemented. The Ministry of Health has formulated four yearly People's Health Plans starting from 1978. From 1991 onwards, successive National Health Plans have been formulated and implemented.

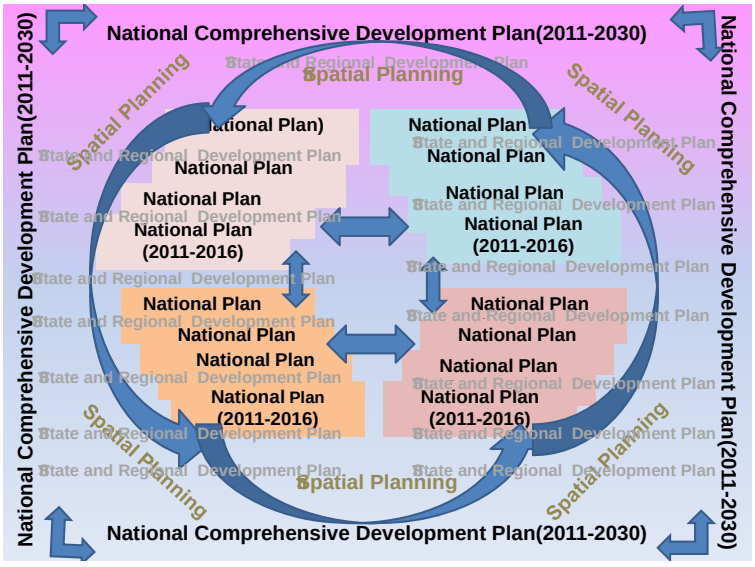
Considering the rapid changes in demographic, epidemiological and economic trends both nationally and globally, a long-term (30) years health development plan had been drawn up to meet the future health challenges. Myanmar Health Vision 2030 (2000-2001 to 2030-2031) was formulated during last decade and composed of (9) main areas: health policy and law; health promotion; health service provision; development of human resources for health; promotion of traditional medicine; development of health research; role of co-operative, joint ventures, private sectors and NGOs; partnership for health system development; and international collaboration. The expected benefits for the long-term visionary plan are as follows:

Expected Benefits

Indicator	Existing (2001-2002)	2011	2021	2031
Life expectancy at birth	60 - 64	-	-	75 - 80
Infant Mortality Rate/1000 LB	59.7	40	30	22
Under five Mortality Rate/1000 LB	77.77	52	39	29
Maternal Mortality Ratio/1000 LB	2.55	1.7	1.3	0.9

National Comprehensive Development Plan - Health Sector (2010-11 to 2030-31)

As an integral component of the long-term visionary plan, the National Comprehensive Development Plan (NCDP) - Health Sector (2010-2011 to 2030-2031) has been formulated based on changing situation. The formulation of the NCDP must link with related sectors as well as also link with the States and Regional Comprehensive Development Plans. This long term visionary plan with it objectives will be a guide on which further short-term national health plans are to be developed. So also it links with the Spatial Planning.



National Health Plan (2011-12 to 2015-2016)

Based on Primary Health Care approaches the Ministry of Health had formulated four yearly People's Health Plans from 1978 to 1990 followed by the National Health Plans from 1991-1992 to 2006-2011. These plans have been formulated within the frame work of National Development Plans for the corresponding period.

National Health Plan (2011-2016) in the same vein is to be formulated in relation to the fifth five year National Development Plan. It is also developed within the objective frame of the short term first five year period of the National Comprehensive Development Plan (NCDP) – Health Sector, a 20 year long term visionary plan.

With the ultimate aim of ensuring health and longevity for the citizens the following objectives have been adopted for developing programs for the health sector in ensuing five years covering the fiscal year 2011-2012 to 2015-2016.

- To ensure quality health services are accessible equitably to all citizens
- To enable the people to be aware and follow behaviors conducive to health
- To prevent and alleviate public health problems through measures encompassing preparedness and control activities
- To ensure quality health care for citizens by improving quality of curative services as a priority measure and strengthening measures for disability prevention and rehabilitation
- To provide valid and complete health information to end users using modern information and communication technologies
- To plan and train human resources for health as required according to types of health care services, in such a way to ensure balance and harmony between production and utilization
- To intensify measures for development of Traditional Medicine
- To make quality basic/essential medicines, vaccines and traditional medicine available adequately
- To take supervisory and control measures to ensure public can consume and use food, water and drink, medicines, cosmetics and household materials safely
- To promote in balance and harmoniously, basic research, applied research and health policy and health systems research and to ensure utilization as a priority measure
- To continuously review, assess and provide advice with a view to see existing health laws are practical, to making them relevant to changing situations and to developing new laws as required

- In addition to providing health services, to promote collaboration with local and international partners including health related organizations and private sector in accordance with policy, law and rules existing in the country for raising the health status of the people

Consequently, to achieve these objectives current National Health Plan (2011-2016) is developed around the following 11 program areas, taken into account prevailing health problems in the country, the need to realize the health related goals articulated in the UN Millennium Declaration, significance of strengthening the health systems and the growing importance of social, economic and environmental determinants of health. For each program area, objective and priority actions to be undertaken have also been identified.

Program Areas

(1) Controlling Communicable Diseases
(2) Preventing, Controlling and Care of Non-Communicable Diseases and Conditions
(3) Improving Health for Mothers, Neonates, Children, Adolescent and Elderly as a Life Cycle Approach
(4) Improving Hospital Care
(5) Traditional Medicine
(6) Human Resources for Health
(7) Promoting Health Research
(8) Determinants of Health
(9) Nutrition Promotion
(10) Strengthening Health System
(11) Expanding Health Care Coverage in Rural, Peri-Urban and Border Areas

HEALTH INFRASTRUCTURE

Objectives and Strategies

To realize one of the social objectives of "Uplifting health, fitness and education standards of the entire nation", the Ministry of Health has laid down the following **objectives**.

1. To enable every citizen to attain full life expectancy and enjoy longevity of life.
2. To ensure that every citizen is free from diseases.

To realize these objectives, all health activities are implemented in conformity with the following **strategies.**

1. Widespread disseminations of health information and education to reach the rural areas.
2. Enhancing disease prevention activities.
3. Providing effective treatment of prevailing diseases.

Ministry of Health

The Ministry of Health is the major organization responsible for raising the health status of the people and accomplishes this through provision of comprehensive health services: promotive, preventive, curative and rehabilitative measures.

The Ministry of Health is headed by the Union Minister who is assisted by two Union Deputy Ministers. The Ministry has eight functioning departments, each under a Director General. They are Department of Health Planning, Department of Health, Department of Medical Science, Department of Medical Research (Lower Myanmar), Department of Medical Research (Upper Myanmar), Department of Medical Research (Central Myanmar), Department of Traditional Medicine and Department of Food and Drug Administration. All these departments are further divided according to their functions and responsibilities. Maximum community participation in health activities is encouraged. Collaboration with related departments and social organizations has been promoted by the ministry. Considering health sector as a whole the MoH is strengthening the Public private partnership for health development. The ministry also has a close collaboration with other sectors to take into account issues that are beyond the scope and capacity of the health sector.

Department of Health Planning

The Department of Health Planning comprises of (5) divisions: Planning Division; Health Information Division; Research and Development Division; E-Health Division; and Administration Division.

For optimum utilization of human, monetary and material resources, in the context of the National Health Policy and with the need to provide comprehensive health services, it is necessary to systematically develop health plans. In accordance with the changing situation, reviewing and revising the health policy has been undertaken. Documenting Myanmar Health Systems in Transition Series (HiTS) is in progress for proper recording of the reforms. The availability of reliable statistics and information is a vital prerequisite in such an effort. The Department also compiles health data and disseminates health information. Health systems research has been conducted to facilitate in making health policy and formulation of the plans and programmes. e-Health data center has been supporting the implementation of health services by using information and communication technology.

Department of Health

The Department of Health is responsible for providing comprehensive health care services to the entire population in the country. Under the supervision of the Director General and Deputy Directors General, the following divisions are in operation.

- Administration
- Planning
- Public Health
- Medical Care
- Disease Control
- Epidemiology
- Law and Legislation
- National Health Laboratory
- Occupational Health
- Nursing
- Budget

Among these divisions, the public health division is responsible for primary health care and basic health services, nutrition promotion and research, environmental sanitation, maternal and child health services, school health services and health education. The medical care division is responsible for setting hospitals' specific goals and management of hospital services. The division also undertakes procurement, storage and distribution of medicines, medical instruments and equipment for all health institutions. Functions of the disease control division and Central Epidemiology Unit cover prevention and control of infectious diseases, disease surveillance, outbreak investigations and response and capacity building. Health education bureau is responsible for wide spread dissemination of health information and education. The National Health Laboratory is responsible for routine laboratory investigation, special lab-taskforce and public health work, training, research and quality assurance. Occupational health division takes the responsibility for health promotion in work places, environmental monitoring of work places and biological monitoring of exposed workers. The division is also providing health education on occupational hazards. Planning division is taking care of the organizational development of the health institutions under the Department of Health, either upgrading or setting new hospitals or rural health centers in align with the 5 years National Plans. Apart from this the planning division takes the role of capacity building of all levels of health staff under the Department of Health.

Department of Medical Science

Human Resources for Health are the most important resources for successful implementation of National Health vision and mission. The Department of Medical Science is responsible for carrying out this duty of training & production of all categories of health personnel with the objective to appropriate mix of competent human resources for delivering the Quality Health services.

The Department has seven divisions which are Graduate Training Division, Postgraduate Training Division, Nursing training Division, Planning and Statistics Division, Foreign Relation Division, Administrative & Budget Division and Medical Education Centre. The Department also has one community field Training centre for practicing the community Medicine and Field Training.

Reviewing, revising and updating of educational programmes and supervision of training processes for Quality assurance, management of faculty development and infrastructure development are the major activities of the Department.

Department of Traditional Medicine

Myanmar Traditional Medicine is truly an inherited profession whose development has interrelations with the natural and climate conditions, thoughts, convictions and the socio-cultural system in Myanmar. Traditional Medicine has been practiced in Myanmar since time immemorial. Over 2000 years ago Myanmar has possessed and nurtured a civilization, high enough to set up city states and Traditional medicine had flourished significantly by a major part of Myanmar culture. It was chronicled that Myanmar traditional medicine has been considered to be prestigious in the earliest history of Myanmar such as Tagaung, Srikittra and Bagan periods which was about 600 BC. Myanmar Traditional Medicine is a broad, deep and delicate branch of science covering various basic medical knowledge, different treaties, a diverse array of therapies and potent medicines.

Traditional Medicine promotion office was established under the Department of Health in 1953. It was organized as a division in 1972 managed by an Assistant Director who was responsible for the development of the services under the technical guidance of the State Traditional Medicine Council. It became the focal point for all the activities related to traditional medicine. The Government upgraded the division to a separate Department in August 1989. It was reorganized and expanded in 1998, to provide comprehensive traditional medicine services through existing health care system in line with the National Health Plan. The other objectives of the department are to review and explore means to develop safe and efficacious new therapeutic agents and medicine and to produce competent traditional medicine practitioners.

Department of Medical Research (Lower Myanmar)

The Department of Medical Research (Lower Myanmar) was established in 1963 and will be celebrating its golden anniversary this year. The Department is made up of 25 research divisions, 10 supporting divisions and 11 clinical research units which strive towards a common vision, to achieve a healthier nation through application of research findings. With an aim to conduct research and development of new vaccines, biological products and diagnostic test devices by using advanced technology, the Vaccine Research centre was recently established in the Department of Medical Research (Lower Myanmar) on 24 April 2012. In the field of Molecular Biology, with the support from the Ministry of Health and various international organizations, the Department established an advanced molecular laboratory equipped for detection and characterization of communicable as well as non-communicable diseases.

Department of Medical Research (Upper Myanmar)

Under the umbrella of Ministry of Health, the Department of Medical Research (Upper Myanmar) was founded on 16th November 1999 in Mandalay and moved to the present location of Ward No. (16), Pyin Oo Lwin township in March, 2001. While conducting overall health related research studies, the department has special assignment to identify novel plants and herbal products for treating six major prevailing diseases, namely: tuberculosis, malaria, hypertension, diabetes mellitus, dysentery and diarrhea. Strenuous efforts has been made for collection of medicinal plants from all over the country which are grown and regularly nurtured in the herbal gardens.

Currently ten research divisions and seven supportive divisions are functioning in the department. Research areas covered are: reproductive health, monitoring therapeutic efficacy of antimalaria drugs and assessment of artemisinin resistance, operational research on various categories of health staff including voluntary workers, study on acute and sub-acute toxicity of herbal products, efficacy of commercially available traditional drugs, vector bionomics and maternal and child health services in different areas of Upper Myanmar.

Department of Medical Research (Central Myanmar)

The Department of Medical Research (Central Myanmar) is organized with 10 Research Units and has equipped with the facilities to perform biomedical techniques composed of pathological, immunological, parasitological, bacteriological, virological, biochemical and molecular biological techniques up to genetic DNA sequencing. Currently altogether twenty five research activities are ongoing which involves Malaria, HIV/TB, Communicable Diseases, Non-communicable Diseases, Traditional Medicine, Socio- behavioral and Cultural Determinants, Reproductive Health, Environmental Health and Health Systems Research.

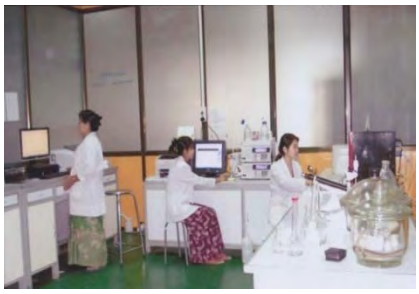
Department of Food and Drug Administration

The Food and Drug Administration (FDA) established since 1995, takes care of the safety and quality of Food, Drugs, Medical Devices and Cosmetics. Food and drug control activities expanded with establishment of branches in Nay Pyi Taw, Yangon and Mandalay. The FDA division has been upgraded to a separate Department in April 2013.

FDA is responsible for issuing Heath Recommendation for local food manufacturing businesses, import and export recommendation, import and export health certification.

Drug Control Activities have been conducting for marketing authorization for new products, variation of existing authorization, quality control laboratory testing, adverse drug reaction monitoring, Good Manufacturing Practice inspection and licensing of manufacturers, wholesalers, enforcement activities, drug promotion and advertisements. FDA issues notification and import recommendation of medical devices and notification of cosmetics.






HEALTH SERVICES IN MYANMAR

Promoting health, preventing diseases, providing effective treatment and rehabilitating are the comprehensive health services providing by the Ministry of Health for health development of a country. Health plans had been formulated and implemented systematically both at the national and regional levels to see that available human, financial and material resources are most effectively and efficiently utilized to implement these services.

With the ultimate aim of ensuring health and longevity for the citizens, the basic health staff (BHS) down to the grassroots level are providing promotive, preventive, curative and rehabilitative services through Primary Health Care approach. Infrastructure for service delivery is based upon sub-rural health centre and rural health centre where Midwives, Lady Health Visitor and Health Assistant are assigned to provide primary health care services to the rural community.

Those who need special care are referred to Station Hospital, Township Hospital, District Hospital and to Specialist Hospital successively. At the State/Regional level, the State/Regional Health Department is responsible for State/Regional planning, coordination, training and technical support, close supervision, monitoring and evaluation of health services. At the peripheral level, i.e. the township level actual provision of health services to the community is undertaken.

The main areas of service delivery and support activities are presented here:

1. Health Service Delivery using Primary Health Care Strategy
2. Services for the Target Population Group
3. Promoting and Protecting Healthy Communities
4. Prevention, Control and Management of Communicable Diseases and Non-communicable Diseases

Basic Health Services

In Myanmar, Township Health System was established in 1964 and is the backbone of the Myanmar Health System. Township Health Department provides the primary and secondary health care services down to the grassroots level. It has to cover 100,000 to 200,000 population. Under the Township Health Department, there are Urban Health Center, School Health Team, Maternal and Child Health Team, one to three Station Health Units and four to five Rural Health Centers (RHCs). In urban areas, health care service delivery is undertaken by Urban Health Center. For rural people, Rural Health Centers are main health care service centers and the functions of the RHC are basically the same as the elements of primary health care.

In Township Health Department, Township Medical Officer (TMO) is the key person for managing all processes of health care delivery for township health department and responsible for administration as well as implementation of all health care activities. Under the proper guidance of TMO, basic health personnel (Community Health Workforce) play a vital role in providing comprehensive health services to the community. For rural health care, each township has four to seven Rural Health Centers and each RHC has "4" sub-RHCs. Each RHC is staffed by one Health Assistant (HA), one Lady Health Visitor (LHV), five Public Health Supervisor Grade II (PHS II) and five Midwives (MWs). As over 70% of the population resides in the rural area, basic health personnel are providing health services close to the rural people. They are not only responsible for providing public health, disease control and curative health services but also have administrative and managerial functions. All basic health personnel called Basic Health Staff are trained for improving technical skills as well as managerial skills. With the aim to increase health care coverage and improve access to health services, RHCs and sub-RHCs are expanded yearly but there are still many rural areas not having direct access to basic health services. For this purpose, community health workers are recruited yearly at township level.

Strengthening community health workforce is necessary in accordance with the changing context of health care system. In 2012, a total of 1223 Public Health Supervisors Grade II were trained and all vacant posts were filled at townships. For improving the service delivery at township level, capacity development, continuous monitoring, supportive supervision and regular evaluation are crucial so that Basic Health Section from Public Health Division mainly support these activities through State/Regional Health Departments. In order to develop the management capacity, Management Effectiveness Programme has been implemented at township levels since 2004-2005.

For motivation of community based health workforce, group observation visits are arranged for outstanding BHS and Voluntary Health Workers (VHWs) within the country and study tour for primary health care system within SEARO region are done for HA (1) and THA biannually.

Development of infrastructure is one of the important activities for rural retention of health workforce. Therefore, need assessment of rural health center was done in 2012. Upgrading of health facilities will be provided at Magway Region with the support of JICA.

Conducting Assessment at Rural Health Center

Needs Assessment at Community Level

Curative Services

Curative services are provided by various categories of health institutions. There are General hospitals, Specialist hospitals, Teaching hospitals, Region/State hospitals, District hospitals, Township hospitals in urban area. Sub-township hospitals, Station hospitals, Rural Health Centres and Sub-Rural Health Centres are providing comprehensive health care services for rural people.

Station Hospitals including Sub-township Hospitals are primary health care units providing general medical services and general surgical services. Township Hospitals are providing health care services including laboratory services, dental services and they are also acting as the first referral health institutions for those who require better care. Specialist services are well accessed at District and some 50 bedded Township Hospitals where intensive care units with life saving facilities are available. More advanced secondary and tertiary health care services are provided at the Region /State Level hospitals, Central and Teaching hospitals.

To ensure adequate coverage of hospital services, hospital upgrading projects are being planned and implemented. New hospitals are established in some remote area and hospital beds are increased in hospitals with high population density. By the end of March 2013, total government hospitals are 944 with total 44120 beds under Ministry of Health.

Nowadays, for every Region/State Level hospitals, computed tomography scans (CT scan) are to be provided to meet the need of the community. As a result of strengthening the hospitals by deployment of competent human resources and installation of modern diagnostic and therapeutic equipment, various sophisticated surgical and medical interventions like renal transplant, open heart surgery, cardiac catheterization, angiogram and plastic surgery of traumatically amputee limbs could be performed.

In addition to structural coverage and functional quality, more patient centered, responsive and accountable curative services are provided by health staff. Regarding equity in health care, more grass root level centers such as RHCs, Sub-centers and Station hospitals are established, renovated and upgraded either for rural areas and border areas.

Although curative service used most of the health care budget, transparent and efficient use of these resources will provide not only community needs but also improve country's health system image. This can earn the trust of community and serve as stepping stone for health promotion at this time.

In the most populated and economic city of Myanmar, Yangon, Yangon General Hospital (YGH) renovation and upgrading is being planned and started with the cooperation from national and international stakeholders. It can point out current health sector reform as YGH is not only our nation's image but also may be placed ideal or standard hospital for all of hospitals in Myanmar.

Supervisory team from Medical care division with hospital staff of Myainggyingu station hospital

Supervisory team from Medical care division with hospital staff of Tarlay Sub-township hospital

Since (2012-2013) Budget for Ministry of Health has been increased, there have been a lot of improvements in curative services both structurally and functionally. During the year 2012, 23 new hospitals, 70 new RHCs and 282 new Sub-centres have been opened and 17 hospitals have been upgraded. While community cost sharing system is still in place, free services for emergency treatments, hospital deliveries and some specialist care are being provided.

Medicines and medical equipment are also increasingly provided to each and every health facility. Increased budget are allocated by three mechanisms such as directly to central hospitals or over 200 bedded hospitals, indirectly to 16-150 bedded hospitals through respective State and Divisional Health departments, renovation and increasing supply of CMSD drugs and equipment. These mechanisms will also be necessary initial basics for Decentralization.

As a complementary approach, public hospitals throughout the country are also stipulated to raise and establish trust fund and interest earned from these funds are used for supporting poor in accessing needed medicinal supply and diagnostic services where user charges are practiced.

The health development and provision of medical care services for border area have been implemented since 1989 and up to March of 2013, 100 hospitals, 97 dispensaries, 123 rural health centres and 314 sub-rural health centres have been established and are now well functioning in co-operation with other related departments and ministries, particularly the Ministry for Progress of Border Areas and National Races and Development Affairs.

Private Hospital and Private Health Care Services have been legally allowed to be registered for holding license during 2010 according to the Law relating to Private Health Care Services adopted in 2007. This is aiming to strengthen the Myanmar Health Care System by augmenting the role of private health sector to fulfill the public needs under the relevant National Health Policy.

As the 27th SEA GAMEs will be held in December 2013 at Nay Pyi Taw, Yangon, Mandalay and NgweSaung, preparations for SEA GAMEs are done by organizing health and medical committee, which is further sub-divided into four working sub-committees as medical care, water sanitation and food hygiene, environmental sanitation, infectious diseases surveillance and control. Preparations for human resource and management include and have been carried out by various seminars, workshops, meetings, training courses including Primary Trauma Care, Doping Control Officer training, Sport Medicine Intensive training, Sport Clinic Physiotherapist training, Surveillance Team training, AFC Football Medicine training, Major Incident Medical Management & Support training. In addition to these, establishing Accident and Emergency Department including modernized Ambulance System which is vital need for Myanmar is implementing regarding SEA GAMEs as a starting point conducting Emergency Medicine Diploma courses and Basic Life Support Ambulance trainings.

Rational Use of Medicine

Training on Promoting Rational Use of Medicine

The Rational Use of Medicines requires that "patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, and at the lowest cost to them and their community". (WHO Conference of Experts Nairobi 1985)

Irrational use of medicines is very prevalent and poses a serious public health problem that causes significant patient harm in terms of antimicrobial resistance, unnecessary adverse drug reactions, medication errors, poor patient outcomes, and waste of resources. This contributes to enormous health losses and economic waste both at a personal and national level.

After covering the primary health care areas under the first referral level of the country, the project has planned to extend its activities to the secondary and tertiary referral level for identification of their Intermediate List of Essential Medicines together with development of their Hospital Formularies and Standard Treatment Guidelines under the guidance and supervision of the Hospital Therapeutic Committees.

It has also extended its activities to the health care facilities under other related Ministries and to the General Practitioners through the good offices of the Myanmar Medical Association by advocating them to promote rational use of medicines.

The following are the important aspects of rational use of medicines.

- Correct Medicine
- Appropriate indication
- Appropriate medicine considering efficacy, safety, suitability for the patient, and cost
- Appropriate dosage, administration, duration
- No contraindications
- Correct dispensing, including appropriate information for patients
- Patient adherence to treatment

Improving the use of medicines by health workers and general public is crucial both to reducing morbidity and mortality from communicable and non-communicable diseases, and to containing medicines expenditure.

Health System Strengthening

GAVI Board had accepted the Myanmar HSS proposal by 2008 July. From that time onwards fund flows mechanisms were being scrutinized between GAVI and the Ministry of Health and finally after the new system of Financial Management Assessment in 2010, an Aide Memoire has been signed between CEO GAVI & Minister for Health in February 2011.

The Goal of the Health System Strengthening Program in Myanmar is to achieve improved service delivery of essential components of Immunization, MCH, Nutrition, & Environmental

Health by strengthening programme coordination, health planning systems, and human resources management and development in support of MDG goal 2/3 reduction in under 5 child mortality between 1990 and 2015. This goal directly addresses the 3 main health system barriers, and responds to National Health Policy of Myanmar, whose main goals include health for all using a primary health care approach, production of sufficient as well as efficient human resources for health, and the expansion of health services to rural and to border areas so as to meet overall health needs of the population.

In 2012, implementation of Health System Strengthening activities in first 20 townships such as annual planning, quarterly review meetings, support daily allowance and travel allowance for service package tours especially for hard to reach areas, support drugs and equipments and also support hospital equity fund for poor pregnant mother and under five children at township hospitals.

In April 2012, TOT for AMW and CHW training was conducted in Nay Pyi Taw and New AMW and CHW training and refresher trainings for AMW and CHW trainings were conducted at first 20 townships. In May 2012, the Third National Health Sector Coordinating Body for Health Systems Strengthening and technical working group meeting at Nay Pyi Taw. Health Systems Research Methodology Training was conducted in June 2012 and three research activities were conducted concerning EPI, MCH and Environmental Sanitation in 11 townships.

In August 2012, Dissemination on Implementation of HSS Imple-mentation in Myanmar and Situation Analysis of National Strategic Plan for HRH was conducted at Nay Pyi Taw. In November 2012, Consultation on Health System Assessment for Universal Health Care Coverage and Consultation meeting on 1st Draft Strategic Plan for Human Resource for Health were conducted. At the end of 2012, Assessment on Performance of GAVI HSS Townships for year one was conducted in Nay Pyi Taw.

Training of Surveyors was conducted to perform Health System Assessment and Coordinated Township Health Plan for second year 40 townships. In October 2011, Workshop on Sensitization of Coordinated Township Health Plan to State and Regional personnel from all State/ Regions and 20 Township Medical Officers from the first 20 townships.

At the February of 2013, Health System Assessment and Training of Coordinated Township Health Plan were conducted in second 40 townships. Health System Assessment conducted annually and updated health system assessment based on HSS assessment guidelines such as

- Planning & Management
- Hard to Reach Mapping
- Human Resources
- Community Participation
- Infrastructure & Transport
- Essential Drugs & Logistics System
- Finance and Financial Management
- Data Quality Audit (DQA) & Service Quality Assessment (SQA)

RHC and Station Health Unit Coordinated Health Plan include health system assessment, M&E baseline, annual activity plan and costing. It includes data from sub centre level. Township Coordinated Health Plan includes health system assessment, M&E baseline, annual plan and costing for township level and RHCs as well as source of finance.

Dissemination on Implementation of HSS in Myanmar

Training of Trainer on Auxiliary Midwives and Community Health Workers

Strengthening Capacity of Training Team

Human resource development for health is important for achieving the goals of Ministry of Health. Basic health staffs are the actual implementers in the field activities, building of their capacity for delivering the quality health care services is very important for achieving our goals. In-service training is fundamental for improving capacity of Basic health staff.

In Myanmar health system, the training members with their roles and responsibilities were already organized and established at all level. The training teams at all levels are responsible for conducting quality in-service training by using effective training management, methodology and training assessment activities in more innovative approach.

For the purpose of strengthening the capacity of training teams at different levels, Ministry of Health has already developed Handbook for training and established training information system in collaboration with JICA. This handbook includes organization with roles and responsibilities of training team members, effective training management, supportive supervision on training performance and reporting and recording mechanism. Training Information System (TIS) is introduced with the aim of improving human resource development in health through equal chance of in-service training to all of the Basic health staff as nation-wide. All of the in-service training information is being analysed, mapped and feedback information provided to all level especially to decision making level for planning of effective training program.

Capacity Building of Training Team in Kayin State & Ayeyarwady Region

Maternal and Child Health

In Myanmar, emphasis has been placed and a lot of inputs have been invested for improving maternal and child health services. Under the leadership and guidance of the National Health Committee, the Ministry of Health has been planning and implementing the interventions to improve the health status of mothers, newborns and children. Recognizing the importance of universal access to reproductive health in achieving the Millennium Development Goals, the National Reproductive Health Policy was developed in 2002 supported by two consecutive Reproductive Health Strategic Plans.

For fulfillment of the objective - to improve the health status of mother and children including newborn by reducing maternal, neonatal and child mortality and morbidity, the following core strategies were laid down.

- Setting enabling environment;
- Improving information base for decision making;
- Strengthening health systems and capacity for delivery of reproductive health services;
- Improving community and family practices

The following activities were needed to be strengthened in order to achieve the Millennium Development Goals 4 and 5 regarding maternal, newborn and child health.

- Providing proper antenatal care
- Promoting skilled and institutional delivery and post natal care
- Expansion of post-abortion care and quality birth spacing services
- Ensuring Emergency Obstetric Care
- Providing Essential Newborn Care
- Strengthening adolescent reproductive health
- Promoting male involvement in reproductive health
- Focusing cervical cancer screening, early diagnosis and treatment
- Promoting referral system and community volunteers

As 70% of the country total populations reside in rural area, resources and interventions need to be centered to rural residing beneficiaries, who are mothers, newborn babies and under five children in rural area.

1. Providing proper antenatal care

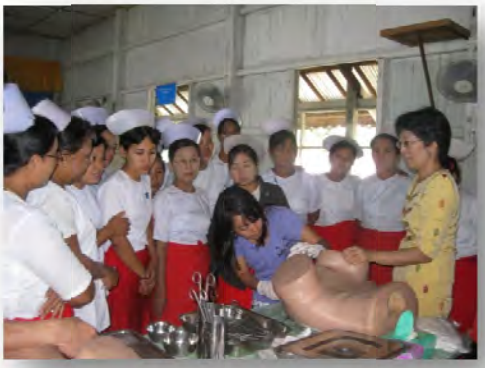
   Standard frequency of antenatal care for all pregnant mothers is at least four visits with quality care by skilled birth attendants and targeted antenatal care interventions need to be strengthened.

2. Promoting skilled and institutional delivery and post natal care

   Immediate and effective skilled care before, during and after delivery can make the difference between life and death for both mother and newborn. The standard skill and attitude towards good postnatal care is mandatory in both facility-based and primary health care setting.

3. Expansion of post-abortion care and quality birth spacing services

   To prevent unsafe abortion, quality birth spacing services plays a major important role and it needs to be expanded in all townships.



4. Ensuring Emergency Obstetric and Newborn Care

   The majority of maternal mortality is found to be preventable. It points out that Emergency Obstetric Care facilities and activities including Comprehensive and Basic Emergency Obstetrics Care (CEmOC and BEmOC) are needed to be strengthened.

5. Providing Essential Newborn Care

   Most of the under one deaths occur during newborn period. Essential newborn care is crucial requirement in reducing neonatal mortality.

6. Strengthening Adolescent Reproductive Health

   In accordance with the changing social and economic policies, it calls for provision of special attention to 'young people' segment

of the community, focusing on reproductive health within the present demographic and socio-economic context.

7. Male Involvement in Reproductive Health

Workshops on men's role in reproductive health, and information materials on men's role in the family and reproductive health have been developed and utilized.

8. Focusing Cervical Cancer screening, early diagnosis and treatment

Cervical cancer is one of the leading causes of all cancer related deaths in women between 40 to 60 years age group and it is the time to focus on screening and early diagnosis followed by treatment for cervical cancer.

9. Establishing Community Health Volunteer

Maternal and Child Health care will be improved by giving the trainings, refresher trainings, provision of supply, monitoring and supervision of health volunteer under the guidance and coordination of Township Medical Officer.

10. Promoting Referral System and Community Volunteers for mothers and children

It is a real challenge that limited access of the people to the Maternal and Child Health (MCH) services and information especially in rural remote areas. Delay referral of mothers and newborn need to be overcome by community based or innovative interventions. Volunteers namely: Maternal and Child Health Promoters (MCHPs) were developed at the community level to enhance community initiative for the maternal and child health promotion with defining their roles as "Bridging mothers to health care providers".

Challenges

- Inadequate Health Work Force at different levels
- Over workload of BHS especially Midwives
- Infrastructure development (ambulance, communication tools, facilities)
- Regular and systematic Monitoring and supervision mechanism
- Reporting status
- Harmonization of data and activities
- Linkage of health service provision
- Less health expenditure
- Geographical and coverage gaps

Maternal Health related Indicators

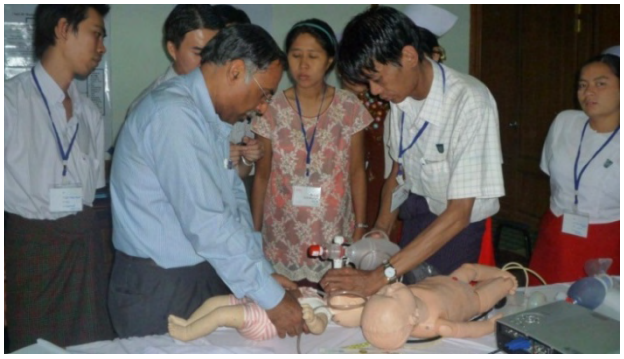
Indicators	1990	1995	2000	2001	2005	2006	2007	2008	2009	2010	2011	2015
Maternal Mortality Ratio (per 100,000 LB) Source: UN Estimation	520	380	300		230					200		130
Proportion of Skilled Birth Attendant (%) Source: HMIS MICS, IHLCA					57.9	63.5	64.1	67.0	64.4 70.6	64.8 77.9	67.1	80
Contraceptive Prevalence Rate (%) Source: FRHS MICS, IHLCA				37			41 (all) 38 (modern)		46	39.5		50
Adolescent Birth Rate(%) Source: FRHS				17.4			16.9					15
Antenatal Care Coverage (%) Source: HMIS, MICS, IHLCA					63.1	63.9	64.6	68.2	70.6 83.1	73 83.3	74.3	80
Unmet Need for Family Planning (%) Source: FRHS, IHLCA				19.1			17.7			24.2		10

HMIS - Health Management Information System
FRHS - Fertility and Reproductive Health Survey
MICS - Multiple Indicator Cluster Survey
IHLCA - Integrated Household Living Conditions Survey in Myanmar

Women and Child Health Development

Women and Child Health Development (WCHD) section is one of the sections under Ministry of Health that has been taking responsibility for maternal, newborn and child health care in Myanmar.

To be provision of quality health care services for mothers, newborn and children, there is a need to improve skill of health care providers at each levels of health system. Every year, not only hospital staffs such as doctors and nurses but also Basic Health Staff (BHS) have been trained. The capacity building of professionals for providing optimum care for sick children in first referral units is an obvious path to optimize the benefits of IMNCI on child survival. Facility-based integrated Management of Neonatal and Childhood illness (F-IMNCI) is a care package to train health care providers in managing newborn and childhood illnesses at the facility level/inpatient care, providing the important link for care of the sick neonates and children reaching these facilities from primary health care level and the community. F-IMNCI has been initiated in Myanmar and four international consultants were provided by WHO as technical support in collaboration with national neonatologists and paediatricians for F-IMNCI.



Facility based Integrated Management of Newborn and Childhood Illnesses in Yangon General Hospital

For health care providers at primary health care level, workshop on integrated management of newborn and childhood illnesses has been conducted to improve their capacity.

Integrated Management of Newborn and Childhood Illnesses for BHS in Nay Pyi Taw General Hospital

Achieving MDG is aim of the country and reaching MDG 4 target, an effective child health programme focus on achieving a high level of coverage with the interventions that have the greatest potential to reduce child mortality. At the national level, the most important child health interventions has been implemented based on consideration of the primary causes of morbidity and mortality in the country and the feasibility of implementing different interventions there. Workshop on managing child health program was conducted as first course in Myanmar this year with the aim of having the knowledge and skills of the focal persons on child health development from different level of health system and applying the knowledge and skill learned from workshop into taking actions and focal persons from all states and regional health departments attended.

Dissemination workshop on national implementation guideline on community case management of pneumonia and diarrhea through health volunteers was done to provide implementing partners with a common understanding on the implementation process of Community Case Management (CCM) of pneumonia and diarrhea among under-five through health volunteers, to provide a document that serves as a reference document for implementing partners at different stages of implementation, to familiarize implementing partners with the tools used in CCM and to encourage all implementing partners at all levels to apply it in order to standardize all aspects of implementation of CCM of Pneumonia and Diarrhea.

Dissemination Workshop on National Implementation Guideline on Community Case Management of Pneumonia and Diarrhoea

Gender and Women's Health

During 2012, the ongoing trainings have been provided to basic health staff on concepts and related framework of gender and equity. The BHS from these townships were encouraged to use gender analysis tools and find out the gender differences existing in their communities. Monitoring of BHS had been conducted after TOTs at the townships so as to keep track on their training to the community and to know how they are applying gender modules in their daily life activities of service provision.

In January 2013, refresher training and evaluation of gender mainstreaming and gender analysis tools was given to TMOs from previously trained 32 townships and also given to State/ Regional training team members. Updated gender and health knowledge was freshening up and understand more on gender mainstreaming in health care provision. Newly appointed TMOs/BHS at the project township also re-orientated upon the subject of gender and health. BHS and training team members from project townships can analyze their situation about the understanding of gender, gender equity issues and strength and weaknesses can also be assessed. BHS able to look at any health care programmes in terms of gender equity issues and encourages fairness between men and women in obtaining health services. There is a need at the State/Regional health managers' level to be aware of gender sensitive policies and to apply and consider gender sensitive data and issues in programme implementation and evaluation. Experience sharing relating to gender was done amongst the townships. Effective methods of PLA were given for gender analysis and gender mainstreaming. It is also effective for further training and disseminating knowledge on gender and gender mainstreaming in health in the communities.

Refresher training and evaluation of gender mainstreaming

Gender and Health Training at Townships

School Health and Youth Health

School Health Programme has been implemented with the objective of promoting the health standard of entire student through health promoting school programme. All schools are covered with health promoting school programme since 2006. The Education sector plays the ownership role and the Health sector is mainly providing the technical support for implementation of the (9) components of Health Promoting Schools: Comprehensive School Health Education, Healthy School Environment, Nutrition Promotion and Food Safety, Prevention of Diseases, School Health Services, Sports and Physical Activities, School to Community Outreach, Counseling and Social Support, Training and Research. This ongoing process was found to have some progress from year to year.

Integrating helminth reduction intervention within relevant health promoting school programme components is the main strategy of Myamnar School-based soil transmitted helminthiasis (STH) control programme. During 2012, 5 million school age children and 2 million preschool age children from all States and Regions were dewormed as an integrated approach with the support of WHO and UNICEF after advocacy meetings on integrated deworming programme. New IEC materials (pamphlets, posters and guidebook) were developed and distributed to all schools.

Myanmar School-based STH control programme are gaining momentum with active involvement of related health projects such as School Health Project, Nutrition project, Maternal and Child Health Project and Lymphatic Filariasis elimination programme and Ministry of Education as well as WHO and UNICEF. Ministry of Health has already developed Integrated Neglected Tropical Diseases Control Programme (2011-2016) including school-based soil-transmitted helminthiasis (STH) programme, Lymphatic Filariasis elimination programme and Trachoma program in Myanmar in collaboration with WHO. Myanmar is one of the six pilot countries for joint request and reporting system for Neglected Tropical Diseases (NTDs).

With technical assistance from WHO, a follow-up survey was conducted in the four major ecological zones in the country. The stool examination with Kato-katz method and the haemoglobin assessment using Haemocue were done in 1000 students from 20 Basic Education Schools. The result showed the decrease in prevalence of soil-transmitted helminthiasis (STH) among the school aged children. The National Workshop on Neglected Tropical Diseases Control Programme was held on November 2012 at Nay Pyi Taw.

Adolescent and Youth Health

The Ministry of Health is committed to promoting and maintaining the health status of youth through Youth Health Project in collaboration with related sectors. Improving access of youth to information and skills, improving the physical and social environment of youth and improving youth access to and use of services are set as main strategies. Youth friendly health services has been implementing in 28 townships including 10 new townships in 2012.

Advocacy Meeting on Adolescent Health at Maha Aung Mye Towhship, Mandalay

Active and Healthy Ageing

With the objectives to promote health of the older people and increase the accessibility of geriatric care services for them, Elderly Health Care Project has been formulated the following strategies ;

- Promotion of effective geriatric health care services through proper training of basic health staff and volunteers.
- Establishing geriatric clinics in the existing health facilities.
- Increasing awareness of healthy ageing among the family and community through various media.
- Promoting community participation through social mobilization .
- Promoting healthy living in older people focusing on behavioral aspect (life styles modification) such as nutrition, physical exercise, cessation of tobacco and alcohol consumption.
- Strengthening the cooperation and collaboration with related sectors, NGOs and INGOs in well- being of older people

Elderly Health Care Programme is under the Improving Health for Mothers, Neonates, Children, Adolescent and Elderly as a Life Cycle Approach Programme Area of National Health Plan (2011-2016). This programme is based on comprehensive health care; promotive, preventive, curative and rehabilitative care. Health personnel from both clinical side and public health side are jointly implementing the activities of this programme. Department of Health takes part in leading role for healthy ageing programme and it is also responsible for coordination and partnership with related ministries, UN agencies, INGOs, NGOs and CBOs.

Raising awareness on active and healthy ageing among stakeholders is an important issue, therefore World Health Day talks on "Good health add life to years", workshop on "Promoting Active and Healthy Ageing through health care professional", symposium on "Challenges of Active and Healthy Ageing in Myanmar" in 41st Myanmar Health Congress were conducted in 2012-2013.

At present dementia is one of the commonest health problem in older people but awareness on dementia is very low even among health care professionals especially psychosocial support for dementia. Symposium on Dementia in Myanmar organized by Health Care for the Elderly Programme in Myanmar was held in 2012. Professor Mary S mittleman, Director, Psychosocial Support Programme (NYU Comprehensive Center of Brain Aging) presented "Psychosocial support for Dementia". At this symposium, neuro physicians, psychiatrics and general physicians attended and participated in group works and discussion.

Symposium on Dementia in Myanmar

National policy and legislation on social, economic and health actions for aging population in Myanmar is the important addressing issue and formulation of national policy and legislation will be come out with the collaborative effort of all stakeholders.

Healthy Work Places

Occupational Health Division under the Department of Health provided training on occupational health and safety and occupational first aid to employers & factory workers of factories under Ministry of Industry and private factories during 2012.

Occupational Health Division (OHD) has performed factory visit, inspection, ambient air quality monitoring and medical check-up to factory workers during 2012. OHD also investigated the industrial accidents in various states and regions to prevent the occurrence of similar episodes.

Monitoring and Controlling Environment Health

Occupational Health Division involved in assessing the environmental impacts and health consequences.

Air quality monitoring of Nay Pyi Taw and Yangon at administrative areas had been implemented during 2012. The Division performed surveillance on acute poisoning cases and investigated heavy metal poisoning all over the country.

In collaboration with UNICEF, Occupational Health Division performed assessment of lead content in 617 drinking water sources and 32 soil samples in Myeik Township, Thanintharyi Region in September, 2012 and assessment of urinary delta-aminolevulinic acid level, Urinary Copoporphyrin level in 904 under five children and blood lead level in 323 under five children at five wards in Myeik Township, Thanintharyi Region in October, 2012.

In collaboration with Oral Health Unit from DOH and UNICEF, Occupational Health Division conducted "A Survey on Fluoride Content in Drinking Water Sources and the Prevalence of Dental Fluorosis" in October, 2012 at Wet-Let Township, Saging Region. Fluoride contents of 1123 water samples from twenty villages were tested. Total of 702 students from five high schools were also examined for dental fluorosis status.

To promote drinking water standard, in collaboration with UNICEF, Occupational Health Division conducted "Technical Workshop on Standardization of Pesticides Residues in Drinking Water Quality of Myanmar" in Yangon, in May, 2012,"Technical Workshop on Laboratory Procedure for Physical, Chemical and Bacteriological Parameters of Drinking

Water Quality Standard in Myanmar" in Yangon, in November, 2012 and "Advocacy Workshop for Arsenic Mitigation, Provision of Safe Water Option and Township Level Planning in Ayeyarwaddy Region" in Pathein, in January, 2013.

Technical Workshop on Laboratory Procedures for Physical, Chemical and Bacteriological Parameters of Drinking Water Quality Standards in Myanmar

Taking Water Sample for Testing of Lead Content in Drinking Water Source

Nutrition Promotion

A healthy and well-nourished population is not only the best and basic pillar for promoting health but also input to the national development. Meanwhile, it is substantially important for the outcome of the national development. The National Nutrition Centre (NNC) of the Department of Health has developed the strategic plan, which could be able to assist in attainment of a state of nutrition conducive to health and longevity. Nutrition program area under National Health Plan covers two programmes namely: Nutrition and Household Food Security.

The ultimate aim of the nutrition program is "Attainment of nutritional well-being of all citizens as part of the overall social-economic development by means of health and nutrition activities together with the cooperative efforts by the food production sector".

To ensure that all citizens enjoy the nutritional state conducive to longevity and health by means of improving nutrient intake and household food security, NNC is implementing five major Nutritional problems with following specific objectives throughout the country:

1. To improve household food security
2. To promote nutritional status of the population by educating and practicing balanced diet
3. To prevent and manage properly under-nutrition, over-nutrition and diet-related chronic diseases
4. To observe periodically nutritional status under nutritional surveillance system
5. To strengthen nutritional infrastructure

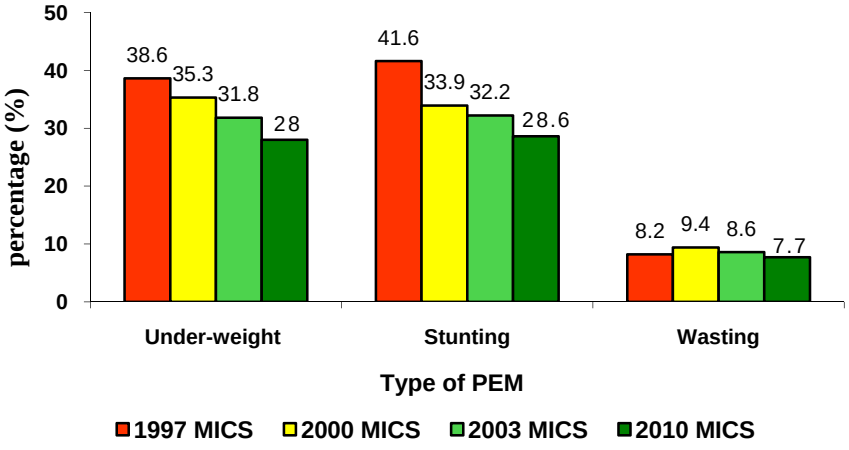
Myanmar has identified five nutrient deficiency states as its major nutritional problems. They include Protein Energy Malnutrition (PEM) and four micronutrient deficiencies, namely, Iodine Deficiency Disorders (IDD), Vitamin A Deficiency (VAD), Iron Deficiency Anaemia (IDA) and Vitamin B1 Deficiency (VBD). Most of the nutrition interventions are implemented in all townships throughout the country.

Present Status, Activities and Interventions

1. Control of Protein Energy Malnutrition (PEM)

According to Multiple Indicator Cluster Surveys (MICS), prevalence of under-weight among under-five children in 2010 was 28.0%; meanwhile, MDG goal for under-weight prevalence is 20.0% by 2015. Prevalence of stunting was 28.6% in 2010, and that of wasting was 7.7% in 2010.

The rate of Low Birth Weight was 24 % in 1994 (hospital based study) while 10% in 2004 and 7.9 % in 2010 by community surveys (NNC, DOH) comparing to 8.6% in 2010 (MICS). Exclusive breast feeding rate was increased from 16% in 2000 (IYCF survey, NNC) to 23.6% in 2010 (MICS).



Prevalence of PEM among Under-5 children

The National Nutrition Centre has been implementing following projects in order to control Protein Energy Malnutrition among children.

1. Growth Monitoring and Promotion for children under five years (GMP).
2. Community Nutrition Centre (CNC) for moderately malnourished children in urban areas.
3. Hospital Nutrition Unit for severely malnourished children (HNU)
4. Community based Nutrition program comprising GMP, CNC and Village Food Bank (VFB) for malnourished children in rural areas.

5. Strategy on Infant and Young Child Feeding in Myanmar was developed in 2003 and revised. Coordination meeting for review and revise of 5 year strategy for Infant and Young Child Feeding (2011-2016) was conducted in 2011 and has endorsed.
6. Training workshops for pediatricians on management of severely malnourished children were conducted in 2004, 2007, 2010, 2011 and 2012.

2. Iodine Deficiency Disorders (IDD) Elimination

According to surveys conducted by NNC the proportion of household consuming iodated salt was 18.5% in 1994, 79.9% in 2000, 86% in 2003 and 87% in 2007. Percentage of household consuming adequately iodized salt was 65% in 2003, 73% in 2005. But it was declined in 2006 to 47% in 2008. However, assessment of iodine status by clinical examination (visible goitre rate) and biochemical examination (median urinary iodine excretion) cannot be performed again after 2006.

Universal Salt Iodization (USI) has been adopted as the single, long-term strategy for eliminating iodine deficiency disorders since 1997. Accordingly, the Ministry of Mines, in 1999, issued a regulation, which required that all factories licensed for production of salt for human and animal consumption only produced iodized salt with iodine level between 40 ppm and 60 ppm. In collaboration with the Ministry of Mines, the Ministry of Health is striving for virtual elimination of Iodine Deficiency Disorders; though still need to make more commitments.

3. Control of Iron Deficiency Anemia (IDA)

According to community surveys by NNC-DOH, the prevalence of anaemia was 45% among non pregnant women (2001), 26% among adolescence school girls (2002), 71% among pregnant women (2003) and 75% among under-five children (2005). The survey results by NNC (2003) indicated the prevalence of worm infestation as 30.8% among under-five children and 44.3% among pregnant. The prevalence was more common in delta region and coastal region.

Iron supplementation, integrated de-worming and nutrition education are main strategies for anemia control in Myanmar. Iron folate tablets are distributed once a day for six months for pregnant women throughout the country (180 tablets in total per pregnant woman), biweekly iron supplementation for adolescent school girls in (20) townships. Starting from January 2006, integrated de-worming is implemented all over the country twice a year for all children aged 2-9 years and once during pregnancy period after 1st trimester.

According to scientifically proven findings and its remarkable effect, since 2012, micronutrient sprinkle supplementation has been started for under-three children, giving daily for total 4 months per year in 11 townships and will expand up to 25 townships in coming years.

4. Vitamin A Deficiency (VAD) Elimination

Vitamin A deficiency used to be a public health problem among Myanmar children during the early 1990s. Although clinically deficient children are hard to be found, sub-clinically deficient ones are still common. Assessment of serum vitamin A status in children from the survey conducted in 2000 indicated that all children in the rural community and 96% of urban children had normal serum vitamin A status while only 4% of the urban children had mild sub-clinical deficiency. In 2012, NNC in collaboration with Department of Medical Research (Lower Myanmar) has assessed the status of vitamin A among under-five children in 15 townships countrywide. The result has been still processing to declare out.

Biannual supplementation with high potency Vitamin A capsule is the main strategy against vitamin A deficiency among under-five children to reduced morbidity and mortality rate and to enhance the growth of children. One dose of vitamin A (200,000 IU) is distributed for all lactating mothers within 42 days after delivery. At the same time, age specific dose of vitamin A capsules are distributed every six months for under-five children.

5. Control of Vitamin B1 deficiency

According to cause specific under five mortality survey (2003), infantile Beriberi is the fifth leading cause of death among children between 1-12 months (7.12%) in Myanmar. For children under-six months, deaths due to Beriberi were nearly 9%. The prevalence of Vitamin B1 deficiency was 6.8% among pregnant women and 4.4 % among lactating women (NNC, 2009).

Infantile BeriBeri surveillance was started from May 2005 and control of Infantile Beriberi project was initiated in June 2006. Vitamin B1 supplementation is distributed to all pregnant women starting from last month of pregnancy till 3 months after delivery. Injection B1 ampoules are distributed to hospitals for treatment of BeriBeri cases.

6. Nutrition Promotion Month (NPM) campaign

By concerning public motivation and improving nutrition activities with integrated approach, 10th Anniversary of Nutrition Promotion Week Campaign (since 2003) has been celebrated as Nutrition Promotion Month in August 2012 as a whole month since 2009. Varieties of nutrition promotion activities and all categories of nutrition interventions are conducted as a mass campaign all over the country.

Union Minister for Health, H.E. Professor Pe Thet Khin,
delivered an Opening Speech at Nutrition Month Launching Ceremony 2012

7. Household Food Security (HHFS)

Myanmar is self-sufficient in food production at national level. However, food is not secured at household level in some area in terms of low income, constraints in food production, transportation, poor knowledge in feeding practices and poor care-giving. Food and nutrition survey were done in Kachin, Chin and Magway States/Regions in 2012, and the data analysis is still ongoing.

8. Nutrition Laboratory

Nutrition laboratory is concerned mainly for (1) Dietary and food analysis for Nutrient content and (2) Biochemical analysis of nutritional assessment such as urinary iodine content.

9. Training

Regarding Exclusive Breast Feeding, Infant and Young Child Feeding Practices, timely warning (one component in Nutrition Surveillance System) and nutrition component in HMIS, central NNC and State/Regions Nutrition Teams have conducted monthly trainings in many townships. Collaborating with the Department of Medical Science, NNC has developed the Nutrition Manual for Midwifery School and Nursing Diploma, which can also be applied for all basic health staffs.

10. National Nutrition Surveillance System

National Nutrition Surveillance System are composed of monthly food price and cost assessment, hospital nutritional deficiency cases, regular health management information system data collection, sentinel townships including timely warming surveillance and intervention system, yearly anthropometry and household food intake assessment in Region and State capital cities, regular food and nutrition survey and infantile Beri Beri surveillance systems. Since 2011-2012, National Nutrition Surveillance System has been strengthening year by year to cover all age groups and all geographical areas.

11. Over-nutrition and obesity

National Nutrition Centre examined the body mass index (BMI) of 3828 fathers and 5504 mothers of under-5 children in the year 2000. It was found that 4.5% of mothers and 7.5% of fathers were over-weight (BMI 25-29.9), while 0.7% of fathers and 1.8% of mothers were obese (BMI $\geq$ 30). A more recent study done in 2009 (STEPS, 2009) revealed that among 7429 aged of 15-64, 25.4% were found to be overweight or obese, more female were overweight (30.3%; BMI>25kg/m2) and obese (8.4%; BMI>30kg/m2) than males.

Major achievements during 2012

- Growth Monitoring and Promotion activities are extended to under-five children (previously, only under-three children).
- Since January 2012, BHS training for nutrition information of HMIS was monthly conducted by central NNC and State/Regions Nutrition Teams.
- In February 2012, the Finalization Workshop on Strategy for Infant and Young Child Feeding (IYCF) was successfully conducted.
- Co-ordination meetings on Scaling up nutrition (2012).
- Co-ordination meetings on Sports Nutrition dedicated to 27th SEA Games.
- Coordination meeting including nutrition programs for mid level managers was held at central level, attended by Directors of State and Regions specifically Rakhine and Kayin.
- National Plan of Action for Food and Nutrition (2011-2015) was reviewed and revised by collaboration with multi-sectors. The draft could be able to finalize in 2013.

Tobacco Control Measures

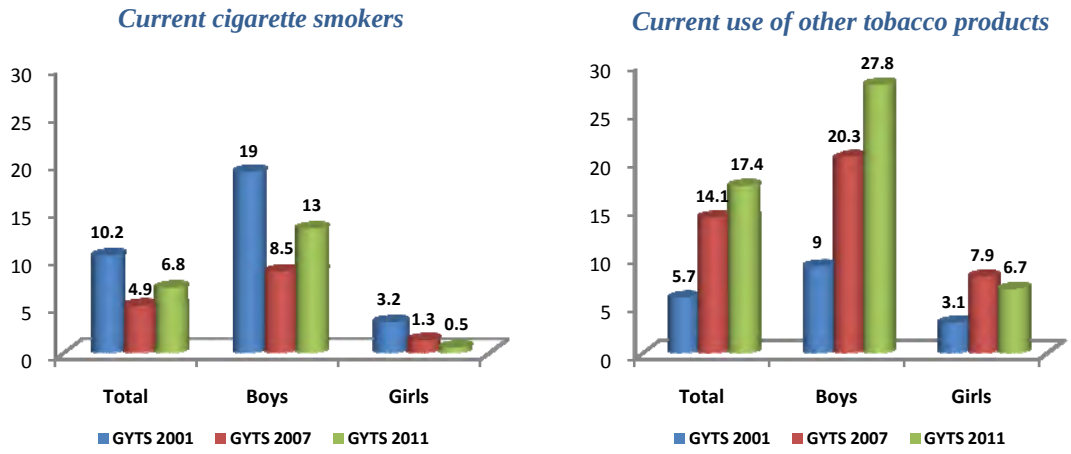
Recognizing the enormous premature mortality caused by tobacco use and adverse effects of tobacco on social, economic and environmental aspects, the Member States of the World Health Organization unanimously adopted the WHO Framework Convention on Tobacco Control (WHO FCTC) at the Fifty-Sixth World Health Assembly in May 2003. Myanmar had signed the WHO FCTC in October, 2003 and ratified in April, 2004. Myanmar is the 11th member country of the WHO FCTC.

Being the member country of the WHO FCTC, Myanmar has the responsibility to implement according to its' provisions. With the objectives of protecting and reducing the dangers of tobacco among the community and based on the provisions of the WHO FCTC, "The Control of Smoking and Consumption of Tobacco Product Law" was enacted in May, 2006 and it came into effect in May, 2007.

For effective implementation of the WHO FCTC by the member States, WHO recommended the six MPOWER policies in the "WHO Report on the Global Tobacco Epidemic, 2008".The Myanmar Tobacco Control Programme has also been implementing its activities in line with those six policies, namely:

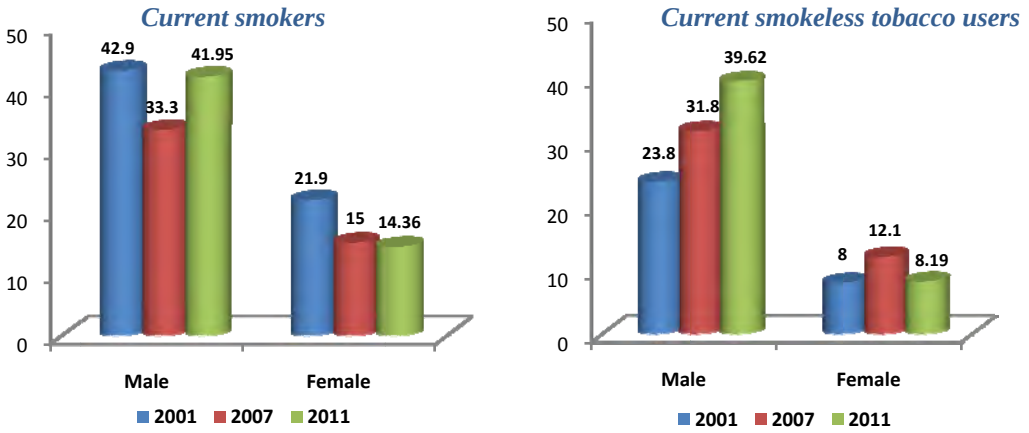
- Monitor tobacco use and prevention policies (M)
- Protect people from tobacco smoke (P)
- Offer help to quit tobacco (O)
- Warn about the dangers of tobacco (W)
- Enforce bans on tobacco advertising, promotion and sponsorship (E)
- Raise taxes on tobacco (R)

Myanmar has been participating in the Global Tobacco Surveillance System since 2001. The prevalence of tobacco use has been monitored through sentinel prevalence surveys, Global Youth Tobacco Surveys (GYTS), Global School Personnel Surveys (GSPS) and Global Health Profession Students Surveys (GHPSS) periodically. Comparing the surveys done in 2001, 2007 and 2011, the smoking prevalence became increased among school boys and adult males in 2011 than 2007, and the smokeless tobacco use was also continuously increased among them. Myanmar men were found alarmingly as the most smokeless tobacco users among the countries of South East Asia Region.



Prevalence of tobacco use among school youths

Source: Global Youth Tobacco Surveys 2001, 2007 and 2011



Prevalence of tobacco use in population above 15 years of age

Source: Sentinel Prevalence Surveys 2001, 2007, 2011

Compliance and enforcement on prevention policies are also monitored through collection of data and reporting instruments such as "WHO Report on the Global Tobacco Epidemic". In order to protect the community from exposure to second-hand smoke, the Law designated the non-smoking areas including public places, public transport, health facilities and educational institutions. In 2011, the President also made the direction that all governmental office buildings and compounds must be tobacco free.

For preventing the community especially the children and the youths from testing and starting the habit of smoking, which is one of the important unhealthy life style, the Law prohibits: sale of tobacco to and by minors, sale of tobacco products within the school compound and within 100 feet from the compound of the school, sale of cigarettes in loose forms and sale by vending machine. It also bans all forms of tobacco advertisements and requires mentioning the health warnings in local language on tobacco products.

For publishing the "WHO Report on the Global Tobacco Epidemic, 2013" WHO has done the assessment in all member countries in 2012. According to the experts' views, there was only medium to low compliance in Myanmar regarding the smoke-free law and banning on tobacco advertising, promotion and sponsorship.

Giving guidance by H.E. Professor Dr. Pe Thet Khin, Union Minister for Health, at the 1st Meeting of Central Tobacco Control Committee

According to the provision of the National law, the Government has formed the "Central Tobacco Control Committee" in January, 2011. It is chaired by the Union Minister for Health and includes the Deputy Minster and Head of the Departments from Ministry of Health and related Ministries as the members. The 1st meeting of the Central Tobacco Control Committee was held in June, 2012 and made the guidance to establish the working committee for developing the necessary bi-laws and pictorial health warnings. So, the relevant photos were collected from Medical Universities, Yangon General Hospital and also from WHO resource

centre, and it is underway for testing and assessing the effectiveness of the selected pictures.

With the purpose of advocating and raising awareness of all stakeholders including the community regarding the tobacco-related health problems and control measures, Myanmar has been celebrating the World No-Tobacco Day, both at Central and State and Regional level every year since 2000. The World No-Tobacco Day 2012 was also celebrated on 31st of May, 2012 with the theme: "Tobacco Industry Interference", alerting the government and all stakeholders to be aware of and protected from the tobacco industries' interference in the tobacco control.

As various kinds of tobacco advertising, promotion and sponsorship are the tactics of the tobacco industries/ companies for attracting the people especially youths to become tested and started the tobacco use, and the Corporate Social Responsibility (CSR) activity is also one of the tobacco industry interference to tobacco control, those messages were given at the World No-Tobacco Day ceremony to become the government and all stakeholders to be aware of and de-normalize those activities.

Since illicit trade in tobacco products is a global problem and it increases the accessibility and affordability for tobacco products, undermines the tobacco control policies and severely burdens health systems, the control of illicit trade in tobacco products is one of the important obligations in WHO FCTC. The Protocol to eliminate illicit trade in tobacco products was adopted at the fifth Conference of the Parties (COP 5) to the WHO FCTC on 12 November, 2012 in Seoul, Republic of Korea. It is aimed at combating illegal trade in tobacco products through control of the supply chain and international cooperation. Myanmar has signed the protocol in January, 2013 as one of the 1st 12 signatories to the protocol.

Since collaboration and cooperation of all stakeholders concerned is vital for the effective implementation of the tobacco control policies, multisectoral advocacy workshops were conducted yearly expanding to all States and Regions.

Food and Drug Control Activity

The Food and Drug Administration (FDA) established since 1995, takes care of the safety and quality of Food, Drugs, Medical Devices and Cosmetics. Food and drug control activities have been expanded with establishment of Food and Drug Administration Branch Nay Pyi Taw, Yangon and Mandalay. FDA division has been upgraded to a separate Department in April 2013.

To enable the public to have quality and safety of food, drugs, medical devices and cosmetics, Food and Drug Administration is implementing the tasks complying with guidance from the National Health Committee, Ministry of Health and Myanmar Food and Drug Board of Authority according to National Drug Law 1992 and its provisions, National Food Law 1997 and Public Health Law 1972.

Expanded branches in Muse (105) miles Border Trade Zone (near the China border) and Myawaddy Border Trade Zone (near the Thailand border) have been set up during September 2012.

FDA is responsible for issuing Heath Recommendation for local food manufacturing businesses, import and export recommendation, import and export health certification. FDA has issued Health Recommendation for drinking water factories (621) and food production establishments (342) which comply with Good Manufacturing Practice (GMP) and small traditional food production facilities (65) which comply with Good Hygienic Practice (GHP) so far.

In 2012, post market survey was done for non permitted coloring in chili powder, lentil, colored drinks, fish paste, chili sauce and meat sausage etc. (1806) samples were tested and (195) samples were found to be dyed with non permitted color and destroyed accordingly.

Drug Control Activities have been conducting for marketing authorization for new products, variation of existing authorization, quality control laboratory testing, adverse drug reaction monitoring, Good Manufacturing Practice inspection and licensing of manufacturers, wholesalers, enforcement activities, drug promotion and advertisements. Sustainable financing is essential to promote effective drug regulation. FDA issues notification and import recommendation of medical devices and notification of cosmetics. During 2012, under the guidance of Drug Advisory Committee and Central Food & Drug Supervisory Committee, Food & Drug Administration issued 2690 Drug Registration Certificates (DRC), 56 Drug

Importation Approval Certificates (DIAC) and also rejected 69 drugs for registration from the aspect of quality, safety and efficacy. The number of Pre/ Post Market Drug Samples was 1799 and these samples had been tested in Drug Quality Control Laboratory in 2012. FDA also issued 711 cosmetic notification certificates. Under guidance of Ministry of Health, FDA regularly notifies the public as well as State/ Regional Food Drug Supervisory Committees about alert news of counterfeit and illegal medicines.

Food and Drug Administration takes necessary measures to ensure that only drugs that are registered are imported. Food and Drug Administration is closely cooperated with Custom Department, Directorate of Trade and Myanmar Police Force.

Drug Quality Control Test in FDA Labotary

Destroyed Unregistered, Expired Drug and Expired Food Items

Controlling Communicable Diseases

Communicable diseases prevention and control is one of the priority tasks of Ministry of Health in achieving its objectives of enabling every citizen to attain full life expectancy and enjoy longevity of life and ensuring that every citizen is free from diseases.

The ultimate aim of the Communicable Disease Control Programme is to minimize prevalence and entrenchment of communicable diseases, mortality and social and economic sufferings consequent to these and to provide rehabilitation.

As emphasis has been given for control of communicable diseases, plans have been developed systematically for preventing and controlling diseases like malaria, tuberculosis, leprosy, filariasis, dengue haemorrhagic fever, water borne epidemic diseases - diarrhoea, dysentery, viral hepatitis- and other preventable diseases.

As in many other countries, AIDS, TB and Malaria primarily affect the working age. These three diseases are considered as a national concern and treated as a priority. The ministry has determined to tackle these diseases with the main objectives of reducing the morbidity and mortality related to them, of being no longer a public health problem, and of meeting the Millennium Development Goals.

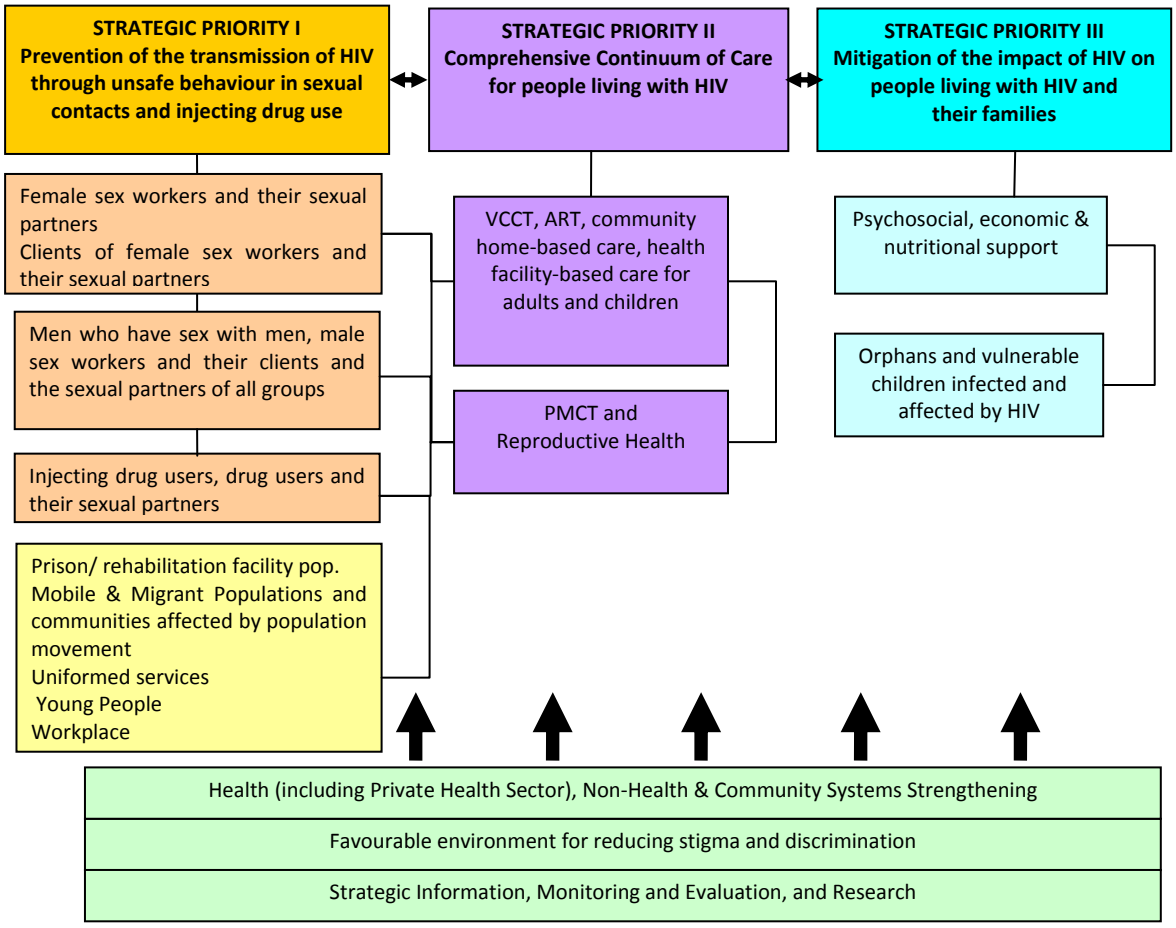
Other communicable diseases and emerging communicable diseases that have regional importance are also tackled through activities encompassing surveillance and control.

Under the Disease Control Division and with the support of Central Epidemiological Unit, supervision, monitoring and technical support are provided by disease control teams at central level and state/regional levels.

Diseases of National Concern

HIV/AIDS

HIV/AIDS prevention and care activities are being implemented in Myanmar as a national concern since 1989 with high political commitment. In accordance with **Three ones principle: "One HIV/AIDS Action Framework, One National Coordinating Authority and One Monitoring and Evaluation System"**, national response to HIV and AIDS is being implemented in the context of National Strategic Plan (2011-2015) developed with the participatory inputs from all stakeholders, under the guidelines given by the multi-sectoral National AIDS Committee which has been formed since 1989, and is monitored according to the National Monitoring and Evaluation Plan.



National Strategic Framework

The National Strategic Plan (2011-2015) has a vision of achieving the HIV related MDG targets

The National Strategic Plan (2011-2015) has a vision of achieving the HIV related MDG targets by 2015. It's main aims are to cut new infections by half of the estimated level of 2010; and to reduce HIV transmission and HIV-related morbidity, mortality, disability and social and economic impact. National level dissemination workshop on NSP (2011-2015) was conducted in Nay Pyi Taw during June 2011 followed by State and Regional level dissemination workshops.

The following major activities are being implemented in accordance with 3 Strategic Priorities:

- Advocacy
- Awareness Raising on HIV/AIDS for various population groups
- Prevention of sexual transmission of HIV and AIDS
- Prevention of HIV transmission through injecting drug use
- Prevention of mother to child transmission of HIV
- Provision of safe blood supply
- Provision of care and support
- Enhancing the multi-sectoral collaboration and cooperation
- Special intervention programmes
    - cross border programme
    - TB/HIV programme
- Supervision, monitoring and evaluation are being implemented by National AIDS Programme

Achievement in Strategic Priority I

As evidences have provided that the main mode of HIV transmission in the country is through heterosexual route, Myanmar has scaled up the implementation of 100% TCP programme which has been implemented since 2000 and has covered 170 townships. Coordination meetings, advocacy meetings, Syndromic Management Training on STIs for BHS, Peer Education and Awareness Raising activities are being conducted. Through distribution of condoms over 35 million in 2011, increase access to condom with high condom use among risk groups has been achieved.

For IDUs, Harm Reduction strategies are being implemented in (21) townships and Methadone Maintenance Therapy which has started since 2005 has covered (18) Drug Dependence Treatment and Rehabilitation Centres in 2012 and 2909 are currently providing MMT. Needles

Syringes Exchange Programme has been implemented with some international NGOs in Kachin and Shan State with distribution more than 9 million needles in 2011.

HIV/AIDS awareness for vulnerable population in workplaces and for mobile and migrant population, uniform services, institutionalized population are being conducted through multisectoral approach with related ministries.

In order to reduce new infections among young people, HIV/AIDS prevention activities are being conducted with Ministry of Education and related programme under Ministry of Health and NGOs both national and international. Workshop on development of communication messages and channels for HIV has been conducted with the aim to develop Myanmar HIV PMCT communication strategy and plan (2012-2015).

Achievements in Strategic Priority II

In order to enhance access to comprehensive continuum of care for people living with HIV, special emphasis is given to scaling up of HIV Counseling and Testing (HCT) services including Voluntary Counseling and Confidential Testing(VCCT) which is one of the most important public health interventions. Workshop on reviewing and revising HCT including VCCT guideline was conducted in Nay Pyi Taw followed by training of trainer and multiplier training courses to all health care providers.

In Myanmar ART started since 2005 and has covered 48 hospitals for adult and 28 hospitals for pediatrics in 2012. Through coordinated efforts of (15) implementing partners, about 50,000 AIDS patients have been treated for ART in 2012.Based on updated revised HIV treatment guideline by WHO (2010), the third edition of National guidelines for the clinical management of HIV infection in adults and children, prevention of mother to child transmission of HIV (2011) was developed and approved by Ministry of Health. According to the eligible criteria (CD4 count <350) in the new guideline, the need for ART in Myanmar is estimated to be more than 125,000 in 2012. At the end of December 2012, 53709 patients are provided ART. The gap between the need for ART and availability of resources remain wide. In order to decentralized ART services, integrated management of AIDS & related illnesses (IMAI) trainings are being conducted during 2011 and 2012 in various states and regions.

For achievement of Comprehensive Continuum of Care (CoC), framework has been developed since 2009 and nationwide comprehensive HIV/AIDS prevention and care activities including Community home based care for AIDS patients and their families are being implemented with involvement of Basic Health Staff, National NGOs, and communities including PLHIVs.

Since 2005, TB/HIV joint program has been initiated in coordination with National TB Programme covering (25) townships; and Integrated HIV care (IHC) programme with UNION

has been started covering (18) sites. Through IHC programme, ART has been provided in public hospitals both AIDS patients with and without TB infection.

With prevailing Intimate Partner Transmission and Feminization of epidemic, HIV transmission now seen more in low risk population groups globally, and Myanmar is no exception. Thus, 4 prongs of prevention of mother to child transmission of HIV (PMCT) are being initiated since 2001 and have covered 253 townships and 38 hospitals including State and Regional hospitals in 2012. Multidisciplinary State/Regional PMTCT Training teams were formed and conducted Advocacy meetings, Township trainings, community mobilization at township level. In order to achieve the global target of eliminating HIV transmission to new born and congenital syphilis, 4 prongs of PMCT has been conducted through coordinated efforts of National AIDS Programme and related programmes under Department of Health such as Reproductive Health, Women and Child Health Development Programmes, National NGOs, International NGOs and related Ministries.

In order to minimize stigma and discrimination attitudes towards PLHIV (people living with HIV) and their families as well as to provide basic and correct information on HIV/AIDS, prevention, treatment, care and support activities are being implemented systematically for the community with special emphasis on men and women of reproductive age.

Achievements in Strategic Priority III

For mitigation of the impact of HIV on people living with HIV and their families, formation of PLHIV networks are being made so as to coordinate in HIV/AIDS prevention, treatment and care activities as peer counselors for ART adherence in ART and to strengthen the pre-test, post-test, couple counseling and follow up of mother-baby pairs in PMCT hospitals. In the community psychosocial, economic and nutritional supports are being provided to PLHIVs and their families.

After conducting baseline situational analysis on orphans and vulnerable children (OVC) infected and affected by HIV in 3 selected townships, dissemination workshops on findings were done followed by counseling training to service providers and OVC working group was formed with implementing partners such as Department of Social Welfare, Department of Education, Planning and Training, Child Protection and HIV & Children Section of UNICEF.

For Cross Cutting issues, such as Health System Strengthening, Donor deferral system for Blood Safety Programme has been introduced with JICA support and National External Quality Assessment Scheme (NEQAS) of HIV testing has been established.

For Favorable Environment for reducing stigma and discrimination, strengthening of multi-sectoral coordination has been made and legal reform workshops with related ministries, such

as Ministry of Home Affairs, Central Committee for Drug Abuse Control, Attorney General's Office and other related sectors has been conducted.

In order to enhance Regional Coordination, Cross Border HIV and AIDS prevention, treatment, care and support activities are being conducted with the neighboring countries as well as participating in ASEAN HIV/AIDS Work plan activities as a member country of ASEAN task force on AIDS.

Strategic Information, Monitoring and Evaluation, and Research

In order to provide strategic information to Technical and Strategy Group on HIV and Myanmar Country Coordinating Mechanism for planning and decision making, Strategic Information and Monitoring & Evaluation (SI M&E) working group chaired by National AIDS Programme with members comprising of representatives from Department of Health Planning, Department of Medical Research, UN agencies, and INGOs has been formed in early 2011. National M&E plan, finalized with inputs of the working group was approved by Ministry of Health.

Township Working Group Meeting for 100% TCP at Pathien

PMCT Training at Shan (North)

Trends of HIV/AIDS in Myanmar

The active surveillance of HIV/AIDS has begun in Myanmar since 1985. The first comprehensive surveillance system was developed in 1992 and HIV sentinel sero-surveillance survey among target groups has been carried out since then. Trends analysis of the HIV sentinel surveillance data revealed that HIV prevalence levels among low risk populations in 2012 continued the general decline observed since their peak in the late 1990s.

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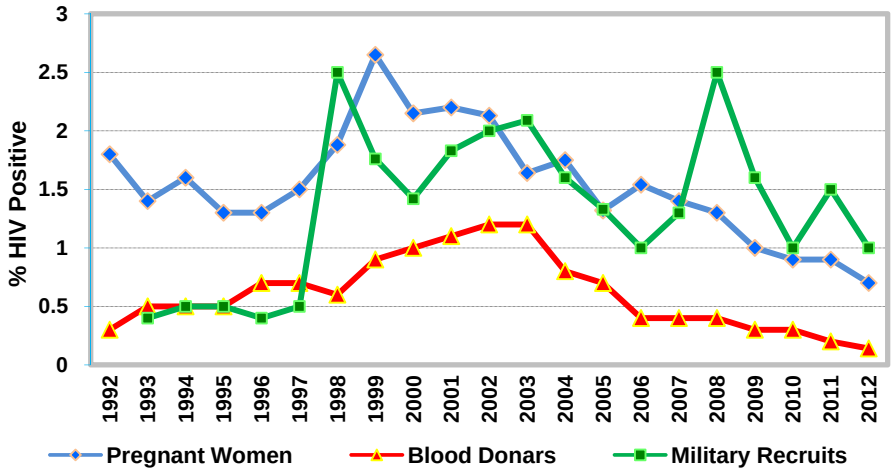
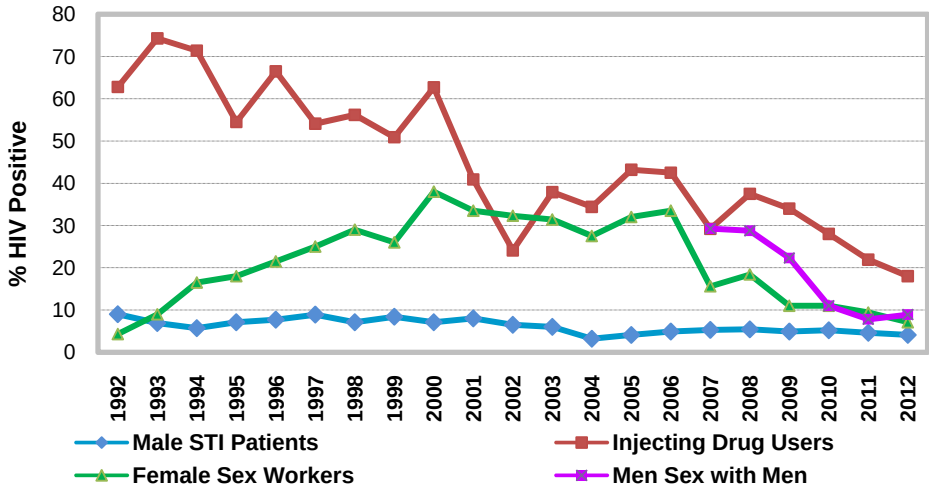


Trends of HIV prevalence among low risk groups

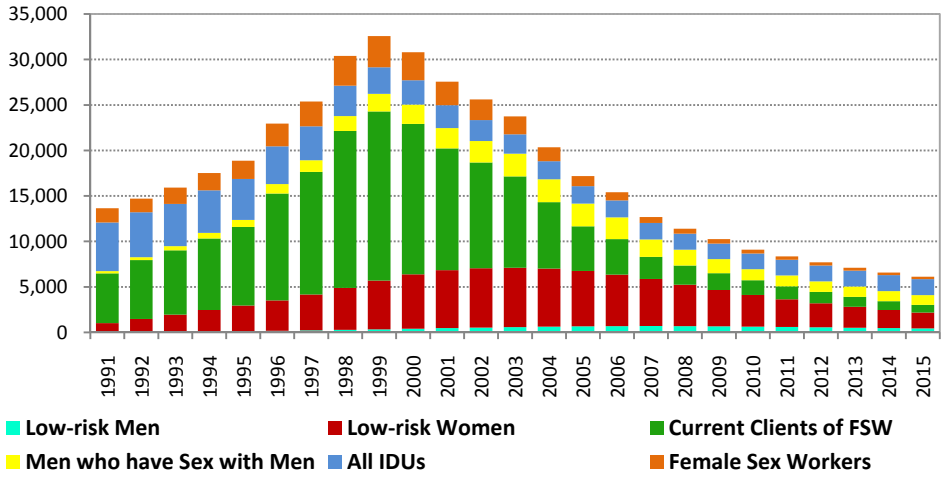
Newly diagnosed TB patients has begun one of the sentinel groups since 2005, and the HIV prevalence has been fluctuating round about 1% above and below the 10% level since 2011.

Among high risk populations, a significant decline was observed among Men who have sex with Men, Female Sex Workers and Injecting Drug Users in 2012 round of HSS; while the decline for male STI patients was very slightly.



Trends of HIV prevalence among high risk sentinel population groups

Since early 2010, NAP with the technical support from Strategic Information and M&E working group and inputs from implementing partners has developed Asia Epidemic Model spreadsheet for Myanmar. With the model, the distribution of new cases (incidence) of HIV among populations was estimated and projected. Myanmar has gained the advantages of the concerted efforts of all implementing partners; the incidence of HIV has been declined yearly following its peak in late 1990s. However, the new infection is leveling out after 2011 indicating the need to intensify the momentum of prevention and control measures as well as to provide interventions tailored to MSM, IDU and female partners of these Most at Risk Populations (MARPs).



Distribution of incidence of HIV cases among population groups

Globally 30 years has passed since AIDS was first reported and ten years since the landmark adoption of the 2001 declaration of commitment on HIV/AIDS at the United Nations Special Section on HIV/AIDS (UNGASS). In Myanmar, over 20 years has passed since the first reported case of HIV in 1988, but with limited resources various achievements have been gained with high political commitments also towards 2001 UNGASS declarations. Although Myanmar has successfully gained Global Fund Round 9 Grant for scaling up of activities in the coming years, the next NSP (2011-2015) need to be fully funded by both international and domestic sources for achievements of MDGs, Universal Access and getting to Three Zeros; Zero New HIV infections, Zero Stigma & Discrimination, and Zero Death.

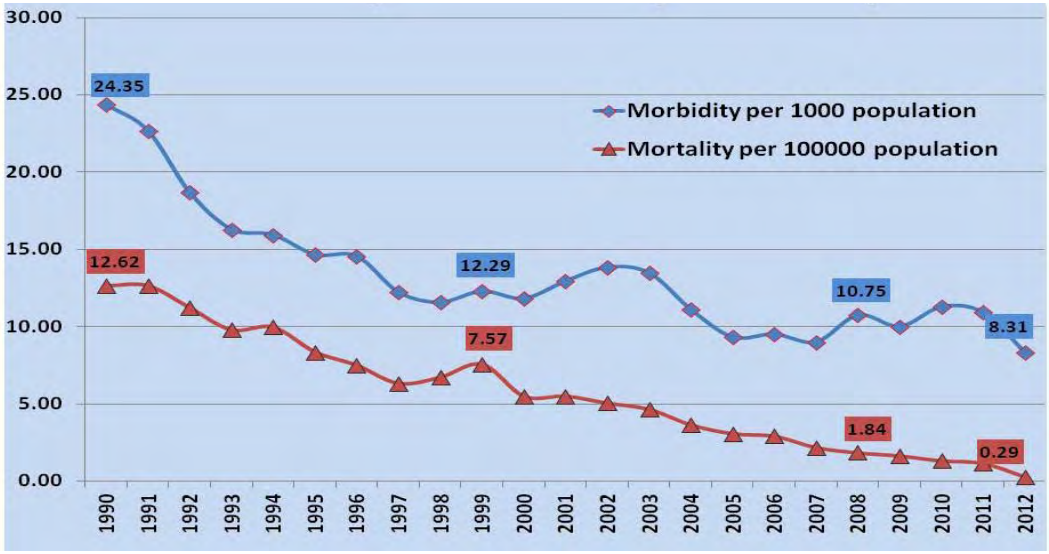
Malaria

Malaria is now a re-emerging public health problem due to climatic and ecological changes, population migration, development of multi-drug resistant *P.falciparum* parasite, development of insecticide resistant vectors and changes in behavior of malaria vectors. At present, National Malaria Control Programme is carrying out malaria control activities in line with the Global and National Malaria Control Strategies.

Since the last decade, the malaria situation has shown some improvement as a result of scaling up of preventive and curative tools including distribution of Long Lasting Insecticidal Nets, impregnation of existing mosquito nets with insecticidal tablets and increased access of artemisinin-based anti-malarial medicines to the communities through health facilities and volunteers in both public and private sectors.

Although long-term trend shows decreasing malaria morbidity and mortality in Myanmar but still remains one of the leading causes of morbidity and mortality.

Trend of Malaria Morbidity and Mortality Rate in Myanmar (1990-2012)



The two major vectors for malaria transmission are *An.minimus* and *An.dirus*. In Rakhine state, in addition to these two major vectors, *An.annularis* is responsible for local transmission. *An.sundaicus* is responsible vector for malaria transmission in coastal regions.

Malaria is also a major health problem in **high risk groups** especially non-immune internal migrants including laborers in development projects and people who resettled in endemic areas, subsistence farmers in the forest and forest fringes, wood and bamboo cutters and other forest related workers.

The **mobile populations** are well known, yet very difficult to quantify due to their high mobility, seasonality of their work, lack of organization and coordination among themselves and inadequate coordination between the health sector and the agencies responsible for development projects. Pregnant women and under 5 year children residing in high risk areas are the most vulnerable groups.

Drug resistant malaria has been detected along the international border areas particularly Myanmar Thai border and in some pocket areas in other parts of the country. The Myanmar Artemisinin Containment (MARC) framework was endorsed in April 2011 and the National Malaria Control Programme (NMCP) together with implementing partners initiated immediate containment actions in July 2011.

It is also essential to have collaborative effort by the different ministries such as Ministry of Construction, Ministry of Agriculture, Ministry of Mining, Ministry of Forest and Companies working in development projects in the regions which are enormously important and without their awareness and collaboration the goal cannot be achieved.

Myanmar is on track to achieve the malaria-related Millennium Development Goals. Objectives of National Malaria Control Program are reduction of malaria 50% in 2016 (baseline 2009) and to contribute socioeconomic development and achievement of health related MDG in 2015.

National Malaria Control strategies:

- Prevention and control of malaria by providing information, education and communication up to the grass root level
- Prevention and control of malaria by promoting personal protective measures and/or by introducing environmental measures as principle methods and application of chemical and biological methods in selected areas depending on local epidemiological condition and available resources
- Prevention, early detection and containment of epidemics

- Provision of early diagnosis and appropriate treatment
- To promote capacity building and programme management of malaria control programme (human, financial and technical)
- To strengthen the partnership by means of intrasectoral and intersectoral cooperation and collaboration with public sector, private sector, local and international non-governmental organizations, UN agencies and neighboring countries
- To intensify community participation, involvement and empowerment
- To promote basic and applied field research

For the time being, National Malaria Control Program has accelerated its efforts to perform control and preventive activities under the guidance of MOH and technical support of Technical Strategic Group on Malaria.

Activities of Malaria Control Programme

1. Information, Education and Communication

Dissemination of messages on malaria is carried out through various media channels with the emphasis on regular use of bed nets (if possible appropriate use of insecticide treated nets) and early seeking of quality diagnosis and appropriate treatment (if possible within 24 hours after onset of fever). Production and distribution of IEC materials is also carried out in different local languages for various ethnic groups and different target groups such as forest related travelers, pregnant women and general population. Advocacy activities are conducted to public and private sectors, NGOs, religious organizations and local authorities at different levels.

Health Education at Rural Area

2. Preventive activities

Stratification of Areas for Malaria Control

Risk area stratification was carried out in 80 endemic townships in 2007, 50 townships in 2011 and 50 townships in 2012. Up to end of 2012, risk area stratification has been carried out in total 180 townships. About 61.7 % of population (30,196,214) and 38.3 % of population (18,744,165) was residing in malarious areas and non-malarious areas respectively. In

malarious areas, 21.4% of population (10,473,241) was residing in high risk areas, 17.9 % of population (8,760,328) was residing in moderate risk areas and 22.4 % of population (10,962,645) was residing in low risk areas. Package of malaria control activity has been given according to the result of risk area stratification that ensures the effective resource allocation. Validation on micro-stratification process was done by malariometric survey in some targeted townships.

Insecticide Treated Mosquito Nets

Selective and sustainable preventive measures are carried out emphasizing on personal protection and environmental management. With limited resources, areas were prioritized for ITN Program either distribution of Long Lasting Insecticidal Nets (LLIN) or impregnation of existing nets.

During 2011, the total numbers of 800,000 LLINs were distributed and 1,062,723 existing bed nets were impregnated. During 2012, the total numbers of 1,450,978 LLINs were distributed. And 1,829,631 existing bed nets were impregnated. These LLIN/ITN activities covered 5,627,445 population at malaria high risk areas.

Epidemic preparedness and response

Number of epidemics became reduced during last five years. Ecological surveillance and community based surveillance were implemented together with early case detection and management and preventive measures like Indoor Residual Spray (IRS) in development projects and impregnation of existing bed nets in epidemic prone areas. There is no reported malaria epidemic in 2012.

3.

Early diagnosis and Appropriate treatment

According to the new anti-malarial treatment policy, case management with ACT (Artemisinin based combination therapy) was practiced in all 330 townships. For malaria diagnosis, since 2005, 700 microscopes were distributed up to rural health center level and RDT (Rapid Diagnostic Test) were also distributed up to sub-centers as well as community level. There were 887,969 fever cases were tested by RDT, out of which 294,173 confirmed P.f cases were treated with ACT (Coartem) and 159,482 P.v cases were treated with Chloroquine in 2012.

Assessment and quality control of malaria microscopy was done in 193 malaria microscopic centers by laboratory technicians from Central and State/Regional VBDC team in 2012. Monitoring therapeutic efficacy of anti-malarial drugs particularly ACTs in collaboration with

DMR (Lower Myanmar) and DMR (Upper Myanmar). Quality assurances of RDT (Paracheck) were also done in collaboration with DMR (Lower Myanmar). Malaria mobile teams reached up to rural areas and hard-to reach border areas for improving access to quality diagnosis and effective treatment.

Community based Malaria Control Program has been introduced and implemented in some selected townships of Eastern Shan State since 2006-2007 and expanded in total 131 townships and 3280 volunteers were trained in 2012.

Early Detection and Appropriate Treatment

4. Capacity building

Different categories of health staff were trained on different technical areas.

- Training on malaria microscopy was conducted for 141 malaria microscopists.
- Different categories of 13079 health care providers were trained on especially on skill development of malaria cases management.
- 530 VBDC Staffs were trained on malaria prevention and control emphasize on preventive measures, vector control, case management (diagnosis and treatment), recording and reporting.

Tuberculosis

Tuberculosis (TB) is still a major health problem in Myanmar. Although Myanmar has achieved the global TB targets, case notification rates vary significantly between regions & states.

Prevalence of HIV sero-positive among new TB patients was 9.7% according to the sentinel surveillance done at 25 sites in 2012. Prevalence of multi-drug resistant TB (MDR-TB) was 4.2% among new TB patients and 10% among previously treated patients based on the results of second nationwide drug-resistant survey completed in 2008. Third nationwide drug-resistant survey was started in 2012, and it will be finished during 2013.

National Tuberculosis Programme (NTP) was organized in 1966. NTP is currently running with 14 Regional & State TB centres with 101 TB teams at district and township levels. Since 2003, all townships in Myanmar could have been covered with DOTS strategy.

The overall goal of the National Tuberculosis Programme (NTP) is to reduce morbidity, mortality and transmission of TB until it is no longer a public health problem, to prevent the development of drug resistant TB and to have halted by 2015 and begun to reverse incidence of TB.

Specific objectives are set towards achieving the Millennium Development Goals (MDGs) by 2015 as follows:

- To reach and thereafter sustain the targets- achieving at least 70% case detection and successfully treat at least 85% of detected TB cases under DOTS,
- To reach the interim targets of halving TB deaths and prevalence by 2015 from the 1990 situation.

Totally 143,164 TB patients (all forms) were notified in Myanmar (Case Notification Rate of 294/100,000 population) in which 42,335 patients were new smear positive cases. NTP achieved case detection rate (CDR) of 77% and treatment success rate (TSR) of 85.4%for 2011.

According to the Global TB Control Report by WHO, incidence of TB was 381/100,000 population, prevalence was 506/ 100,000 population, and mortality was 48/100,000 population. Regarding MDG to halve TB deaths and prevalence from the 1990 situation, mortality rate has already reached the target since 2010 although prevalence rate is still on trial.

On the other hand, NTP is implementing TB control activities in line with the National Strategic Plan (2011-2015). This strategy covers the following six principal components:

1. Pursue high quality DOTS expansion and enhancement
2. Address TB/HIV, MDR-TB and the needs of poor and vulnerable population
3. Contribute to health system strengthening based on primary health care
4. Engage all health care providers
5. Empower people with TB and communities through partnership
6. Enable and promote research

The government increased the budget for TB control gradually, especially for anti-TB drug procurement. Active case finding strategies have been improved by conducting initial home visits & contact tracing, by setting up sputum collection centres in hard to reach areas and by performing mobile team activities. The External Quality Assessment System (EQAS) was introduced in 2006 and 415 laboratories are under EQAS at the moment.

TB patients have been treated with WHO recommended regimens using Fixed Dose Combination of first line anti-TB drugs (FDC) since 2004. NTP started to use patient kits in April, 2010 and also changed Category III regimen to be used the same as Category I regimen in 2011. NTP will use Global Fund Round 9 Grant for secure first line anti-TB drugs until 2015.

Advocacy and workshop on childhood TB Management was conducted at Nay Pyi Taw in December, 2011 with all Professors/Heads of the Universities of Medicine and consultant paediatricians. Paediatricians agreed to follow WHO Rapid Advice on TB Treatment in Children (to use high dose Isoniazid and 4 drugs regimen). However, children under 8 years of age (not HIV sero positive and/or not suffering from severe forms of TB) will be treated using 3 drugs regimen not including Ethambutol. Then in 2012, altogether 17 refresher trainings on childhood TB management had been conducted at State and Regional levels.

Myanmar NTP received Global Fund Round 9 Grant (2011-2015); Phase I covering 289 out of 330 townships has been finished and Phase II which covers 304 townships was started in 1st quarter of 2013. Quarterly work plans in detail were developed, and activities were carried out in line with those plans. Quarterly evaluation meetings were also conducted at all levels.

National TB/HIV coordinating body has been formed since 2005 and reformed in 2011. Collaborative TB/HIV activities are carried out in the areas where NAP could provide ART and technical assistance was provided by WHO. Totally 28 townships are implementing TB/HIV collaborative activities. Nationwide TB/HIV scale up plan is developed, and almost all townships will be covered with collaborative TB/HIV activities by 2015.

Isoniazid Preventive Therapy (IPT) project was started in June, 2009 at 9 townships and expanded to 15 townships in 2012. NTP has planned to conduct national level IPT workshop in 2013 for objectives of IPT project to be part of the national policies. TB/HIV sentinel surveillance is expanded to 3 more townships (Myawaddy, Kawthaung, Kalay) in 2013 and it will be expanded up to 40 sites in 2015.

Programmatic Management of Drug Resistant TB PMDT) is one of the integral parts of Five Year National Strategic Plan (2011-2015). National Drug Resistant TB committee was formed in 2006. Standard Operation Procedure (SOP) for management of MDR-TB was finalized in 2009. National DR-TB Expert Committee is still updating that SOP to be transformed as a national guideline. DOTS-Plus Pilot Project was started in 2009, and concluded in 2011. MDR-TB pilot project could cover 10 townships (5 townships each from Yangon & Mandalay Regions). A total of 307 MDR-TB cases were enrolled. A scaling up towards 1800 MDR-TB patients is envisaged under the Global Fund Round 9 TB component (2011-2015), for which 492 patients could be put on treatment during Phase I (2011-12) in 22 townships (11 townships each from Yangon & Mandalay Regions). Now, Myanmar PMDT is applying community based model for uncomplicated cases. In 2013, altogether 38 townships are expanded for treating MDR-TB patients.

In area of Health System Strengthening, two MDR-TB pilot hospitals are following infection control measures recommended by infection control mission. Health personnel from MDRTB project townships were also trained for infection control measures, equipments in need were installed and infrastructures were renovated. Bio-safety Level-3 Laboratories in Yangon and Mandalay are also functioning under proper maintenance.

For the capacity building, NTP is carrying out various kinds of trainings at different levels covering laboratory aspect, data management, MDR-TB management and TB/HIV collaborative activities. NTP co-ordinates with national NGOs such as Myanmar Womens' Affairs Federation (MWAF), Myanmar Maternal and Child Welfare Association (MMCWA), Myanmar Medical Association (MMA), Myanmar Red Cross Society (MRCS) and Myanmar Health Assistant Association (MHAA) in DOTS implementation.

International NGOs and Bilateral Agency co-operating with NTP are the UNION, Population Services International (PSI), International Organization for Migration (IOM), Pact Myanmar, Malteser, World Vision, Merlin, Asian Harm Reduction Network (AHRN), MSF (Holland), MSF (Switzerland), Cesvi, FHI-360, Japan Anti-TB Association (JATA) and JICA (Major Infectious Disease Control Project; MIDCP).

As an activity to know disease burden in hard to reach areas, NTP went to Wa Special Region in 2012. Health care services were provided by using mobile team activities aiming to detect hidden TB cases, to provide proper treatment, to increase community awareness about TB.

Sharing Health Education to the local people at Wa Special Region

Public-Private Mix (PPM) DOTS is implemented with MMA, PSI and JICA. Some Private Practitioners (PPs) use scheme (I) in which they educate about TB and refer TB suspects to TB centers. Some PPs prefer to use Scheme (II) acting as DOT providers. PSI has organized the PPs and run the Sun Quality Clinics as DOT units, which is Scheme (III). In 2012, PSI implemented PPM-DOTS by scheme III in 186 townships with 893 active PPs. PSI also trained 2333 Sun primary health volunteers of which 1166 actively participated. MMA implemented PPM-DOTS in 116 townships with 1266 active PPs. Number of volunteers trained under MMA was 77 of which 67 were actively involved in 2012.

Public-Public Mix DOTS was initiated at 4 general hospitals (New Yangon General Hospital, East Yangon General Hospital, West Yangon General Hospital and Thingungyun Sanpya General Hospital) during second quarter 2007, and expanded year by year. On reaching 2012, NTP could work in collaboration with altogether 20 hospitals.

Advocacy, communication and social mobilization (ACSM) activities play a role in TB control. With the guidance of Ministry of Health, ceremonies commemorating World TB Day are held on 24th March every year. According to ACSM workshop held in 2011, ACSM packages were developed and new IEC materials were produced. Besides, public service announcement, air campaign of TV spot, communication materials and production of video clips were on the process with Global Fund support. Targeted media campaigns were also organized in Yangon and Mandalay with media and journalists. Old TB patients were advocated to be involved in TB control, and patient empowerment workshops were conducted in all Regions and States.

Community-based TB care activity was introduced in 2011. Implementation of community-based TB care is under the guidance and support of NTP. All local NGOs and some INGOs take part in community TB care. Workshop on evaluation of partners' contribution on CBTC was conducted in February 2013. Guideline for community based TB care (CBTC) is being developed by CBTC working committee currently.

NTP is conducting 3rd nationwide Drug Resistant Survey which will be finished during 2013. Moreover, Tuberculosis Mortality Survey was just started, and it will be finished during 2013 as well. Other operational research studies concerning accelerated case finding, using new diagnostic tools such as GeneXpert machine and community contribution to TB control are conducted and will be conducted in collaboration with Department of Medical Research and other academics.

Progress of National Tuberculosis Control Programme (Myanmar)

Indicators	2001	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
DOTS Covered Population (%)	90	95	95	95	95	95	95	95	95	95	95	95
DOTS Covered Township (%)	80	95	100	100	100	100	100	100	100	100	100	100
Case Detection Rate (%)	61	70	73	81	95	86	89	90	95	76#	77	*
Treatment Success Rate (%)	82	82	81	84	85	85	85	85	85	85	85	*

Based on results of National TB Prevalence Survey, estimated new smear positive cases were changed to 170/100,000 for Yangon Region, and 105/100,000 for other States and Regions.

* Result will be available in 2nd Quarter, 2013

Communicable Disease Surveillance and Response

The Central Epidemiology Unit (CEU), acts as the National Focal Point for the Communicable Disease Surveillance and Response, is functioning well in collaboration with related ministries, departments and organizations. National Surveillance System targets epidemic prone communicable diseases, Diseases under National Surveillance (DUNS), emerging infectious diseases, climate related communicable diseases and vaccine preventable diseases. The eventual intend of communicable disease control is the reduction of morbidity and mortality while some of the diseases like poliomyelitis, measles and neonatal tetanus (NNT) are targeted for eradication and elimination goal.

The national surveillance system is sensitive enough to detect the outbreaks even in the small scale. Most of the outbreaks are reported through the event based reporting system. On the other hand, media surveillance and rumour surveillance has been strengthening by active and prompt verification of news and rumours on the media including electronic media. That improvement enhances the flexibility of the surveillance system and enables the system to be in line with the developing social and economic system of the country.

Similar to other part of the world, the epidemiology of communicable diseases and the emergence and re-emergence of infectious diseases in Myanmar are also greatly affected by climate change. Thus, expanding the "One World One Health Approach", enhancing the international networking and capacity building of the health staff are essential for strengthening of National Surveillance System in the modern era. For this reason, more and more collaboration with animal health sector, international and regional organizations such as ASEAN(Association of South East Asia Nations), ACMECS (The Ayeyawady - Chao Phraya - Mekong Economic Cooperation Strategy), MBDS (Mekong Basin Disease Surveillance Network), GMS (Greater Mekong Sub-region) are also intended for information sharing and human resources development of the surveillance system.

Among the communicable diseases, Vaccine Preventable Diseases are of the national concern. Myanmar is striving to attain the polio eradication goal at the national level by strengthening Acute Flaccid Paralysis (AFP) surveillance system and routine immunization activities. National certification ensured by accomplishment of the standard surveillance indicators brings Myanmar to a closer step in realizing the Regional Polio Eradication Goal of South East Asia Region in 2014. Measles Elimination is also aimed to achieve in 2014 through strengthening of case based measles surveillance. In the mean time, the elimination status of maternal and neonatal tetanus accomplished in 2010 has been sustaining through the effective strategies.

Response to Public Health Events

Emergency Health Care and Restoration of Health Services during Communal Conflict in the Rakhine State

Some of the areas in the Rakhine State were affected by the social conflict in June and October 2012. These events displaced about hundred thousand population to IDPs camps and disrupted the primary health care including diseases surveillance and immunization activities in some part of the Rakhine State.

Responding the health emergency, mobile health teams composed of the physician, surgeons, psychiatrists, doctors and nurses from other States and Regions and Rapid Response Teams were dispatched to the affected Rakhine State for providing health care services and restoring public health and diseases control activities.

Under the guidance of the Ministry of Health, the Central Rapid Response Team led by the Director General of the Department of Health, was one of the first teams arrived in the Rakhine State and performed the relief activities effectively and efficiently by application of crisis management in unique setting as short terms and long terms measures.

Health Services to population affected by the social conflict in Rakhine State

All the health partners, under the stewardship of the Ministry of Health has been providing health services in the affected areas with the coordinated efforts on sharing information, supporting and synchronizing the activities. The Comprehensive Health Plan has been formulating by participation of all stakeholders which is focused on providing need based health services such as MCH, nutrition, curative and referral services, communicable diseases control and surveillance and immunization in short, medium and long term basis.

Daily surveillance with effective control measures such as hand washing and nail cutting campaign dramatically reduced the morbidity and mortality of diarrhea diseases including severe diarrhea. In addition, polio mopping up campaign was carried out in the Rakhine State, being the strategic area where there was the record of importation of wild virus in the past decade. This campaign will definitely facilitate the regional certification of polio eradication in February 2014.

Health Response to the Shwebo Earthquake

Impact of the powerful earthquake of 6.8 Richter Scale epi-centred at 45 miles North of Shwebo Town, Sagaing Region was noticed on townships in Sagaing Region and Manadaly Region on 11th November 2012 and the most affected townships were Tabaitkyin, Sintku and Kantbalu townships. The official death toll was 15 death and 121 people were injured by that powerful earthquake. Total of 30 health facilities comprising 1 Tetriary Hospital, 3 Township Hospitals, 6 Station Hospitals, 5 Rural Health Centres and 15 Sub Rural Health Centres were damaged partially or totally. The Ministry of Health provided emergency health services to affected population since in acute phase.

Public health and disease control measures including emergency logistic supply, environmental sanitation, food and water safety, referral of patients, immunization were undertaken in the

affected areas. Effective daily surveillance with rapid control measures led to no outbreaks in these areas and the rapid restoration of routine health services by health staff was the obvious success out of tragedy.


Provision of curative care by the specialists at temporary hospital in the earthquake hit areas

Response to Mass Causalities

On 9th November 2012, 29 deaths and 94 injuries were caused by the fire outbreak of the derailed freight train near Chatthin Village, Kantbalu Township, Sagaing Region. Another mass causality resulting burn cases after the accident in controlling riot was happened at the Debeyin Township on 28th November 2012. The Specialist Teams composed of surgeons and those who specialized in wound management took emergency actions according to Hospital Mass Causality Management Plan; triage of the patients, providing intensive treatment and referral of the critically injured patients to the tertiary hospitals in Yangon, Mandalay and Mongywa. These events show that Mass Causality Management Training is essential for rapid and prompt response to the Mass Causality Events by health professionals.

ASEAN Plus 3 FETN network and Field Epidemiology Training Program

Epidemiology skills, knowledge, principle and cooperation at regional level is fundamental in responding to international public health events and ASEAN Plus 3 FETN network which include ASEAN countries along with China, Japan and South Korea is founded for improvement of field epidemiology training institutions in Continent of Asia. Myanmar acts as chairmanship for ASEAN Plus 3 FETN network due to frontrunner in field epidemiology experiences.

Field Epidemiology Training Program has been conducting by Cnetral Epidemiology Unit, Deparment of Health since 2008 and total of 243 participants including doctors and BHS from the Ministry of Health and Veterinarian from Department of Livestock Breeding and Veterinary have been trained in Field Epidemiology during the period. This prgramme built up the capacity especially epidemiological skills and knowledge of the BHS on the application of field epidemiology in disease surveillance, outbreak investigation and epidemiology research in field.

Opening Ceremony of Short Course FETP (29.12.2012)

Simulation Exercise on Food Poisoning during FETP (December 2012)

Two courses of FETP were organized in year 2012. The first course, the regular course was conducted in May 2012 at Training School in Sin Ywar Gyi, PatheinGyi Township, Mandalay and the second course, the special course for the Health Assistant who will be the members of the Rapid Response Teams for 27th SEA Games was conducted in December 2012 in Lawe Township, Nay Pyi Taw. That second course focused on the surveillance and outbreak investigation for the period of the SEA Games. During the course, the simulation exercise on food poisoning outbreaks was also conducted to enhance the outbreak management skill of RRT.

Enhancing Capacity in Emerging Infectious Diseases

Avian Influenza is reported in neighboring countries in early 2013 and Ministry of Health has been alerted for diseases surveillance in point of entries and active surveillance sites as the preparation for the best with the worst scenario. The preparedness is undertaken in accordance with existing Strategic Plan for Prevention and Control of Avian Influenza and Human Influenza Pandemic Preparedness and Response endorsed by the National Health Committee in 2006. The table top exercise and simulation exercise on pandemic preparedness and response, updating of National Influenza Preparedness Plan and Pandemic Vaccine Deployment Plan and Business Continuity Plan were already endorsed and exercised by related Ministries and agencies.

Implementation of International Health Regulation (IHR 2005)

There is needed to be fulfilled International Health Regulation (2005) to prevent the international spread of Public Health Emergency of International Concern (PHEIC) including communicable diseases and the Central Epidemiological Unit works closely in collaboration with the International Health Division of the Ministry of Health which take as National Focal Point. National IHR core capacity was assessed in 2012 and based on that IHR Action Plan was developed to meet the timeline challenges of IHR. The assessment of core capacity at Points of Entry including airports, seaport and ground cross points were also conducted in 2012 and Department of Health has been putting its efforts in following recommendations of the regional assessment team.

Myanmar has enhancing the collaboration with neighbouring countries in the implementation of IHR. Recently, Myanmar-Thailand Collaborative Workshop on Disease Surveillance & Control at Border Areas was conducted in Yangon in April 2012.

Myanmar-Thailand Collaborative Workshop on Disease Surveillance & Control at Border Areas, Yangon (29-30 April 2012)

Moreover, Myanmar-Thailand Local Joint Coordination Meetings were organized at the three ground cross points at border areas; Myawaddy-Tak (24-25 October 2012), Tachileik- Chaiang Rai (25-26 October 2012), Kawthaung - Ranong (21-22 November 2012) respectively.

International Coordination in the Context of GMS

Being the focal point for Working Group on Human Resource Development (WGHRD), Department of Health actively participates in the regional collaboration with GMS countries. The Department of Health hosted the WGHRD and related meeting in the recent years.

WGHRD 11 in Yangon, Myanmar (1-2 Nov 2012)

On 1-2 November 2012, 11th Meeting of the GMS Working Group on Human Resource Development (WGHRD-11) was held in Yangon, Myanmar and the GMS HRD Strategic Framework and Action Plan (SFAP) 2013-2017 was discussed and endorsed at that meeting. The SFAP was subsequently endorsed by the 18th GMS Ministerial Meeting held in Nanning, People Republic of China on 12 December 2012. National Working Group on HRD (Myanmar) has conducted the National Consultation Meeting in 7-8 March 2013 for prioritization of the technical and investment projects in the Regional Investment Framework.

Expanded Programme on Immunization

Expanded Programme on Immunization has adopted Global Vaccine Action Plan (2011-2020) (GVAP), which is the framework approved by World Health Assembly in May 2012. The mission of GVAP is to improve health by extending by 2020 and beyond. All people achieve the full benefits of immunization regardless of where they are born, who they are, or where they live thereby accomplishing the vision of Decade of Vaccine by delivering universal access to immunization.

Adopting the GVAP (2011-2020), the objectives of National Immunization Programme are:

(1) To achieve the country free of poliomyelitis
(2) To reach global and regional elimination targets for Vaccine Preventable Diseases
(3) To get vaccination coverage targets in every district and community
(4) To develop and introduce new vaccines and technologies
(5) To achieve and exceed the Millennium Development Goal 4 target for reducing child mortality

There are (5) principles which are guiding the elaboration of Global Vaccine Action Plan (GVAP) (2011-2020). They are country ownership, shared responsibility and partnership, equity, integration, sustainability and innovation. The costed multiyear plan of EPI, Comprehensive Multiyear Plan (cMYP 2012-2016) is going to be amended accordingly.

EPI Comprehensive Multiyear Plan
cMYP (2012-2016)

Milestones in 2012-2013

1. New vaccines introduction in Myanmar

In November 2012, Myanmar launched two new vaccines *Haemophilus Influenzae* type b (Hib) as Pentavalent vaccine (DPT, Hepatitis B and Hib) and second dose of Measles vaccines into National Immunization schedule. An official launch of introduction of these new vaccines was held at Nay Pyi Taw on 6thNovember 2012. Union Minister for Health H.E. Professor PeThet Khin inaugurated the launching ceremony. Union Minister for Health expressed that "In 5 years co-financing plan with GAVI, Government spends 5.35 millions of US Dollars for introduction of Hib containing Pentavalent vaccine.

Union Minister for Health, H.E. Professor Pe Thet Khin, delivered an Inaugural Speech at the Launching Ceremony of New Vaccines

At this historic launching ceremony, National Health Committee, a high level delegation of GAVI and parliamentarians from Australia and New Zealand, Non-governmental Organization such as Myanmar Maternal and Child Welfare Association (MMCWA) and Myanmar Women Affairs Federation (MWAF) and International Non-governmental Organization were also present to be grateful for the Government of Myanmar which has co-financed Pentavalent vaccine. *Haemophilus Influenzae* type b (Hib) is the leading cause of childhood bacterial meningitis, pneumonia and other serious infections among children in Myanmar.

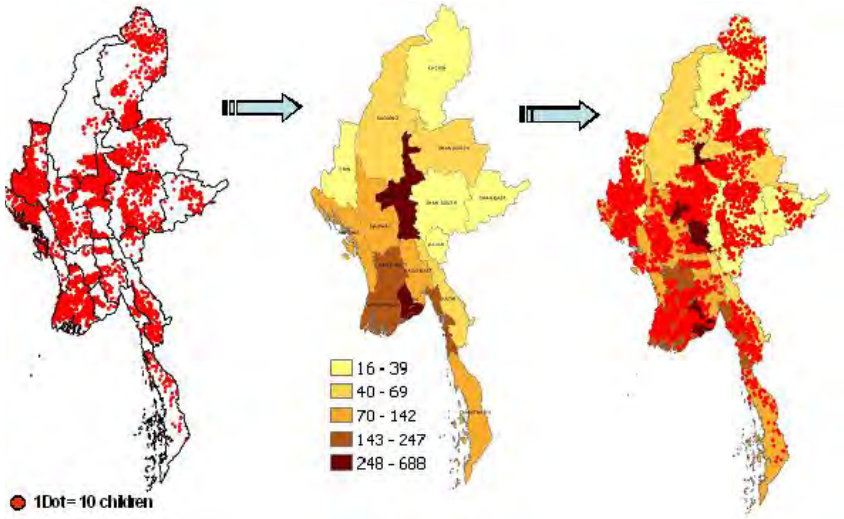
GAVI Board Chairperson delivered an Opening Address at the Launching Ceremony of New Vaccines

2. Intensification of Routine Immunization (IRI) in Myanmar (2012)

In Myanmar, out of 330 townships, there were altogether 36 townships in 2009, 42 townships in 2010 and 78 townships in 2011 which had achieved DPT3 coverage less than 80%. Therefore, it indicated that the immunization coverage gap for DPT3 has been increased year after year.

Spot Map of Unvaccinated Children against DPT3 in 2011

Population Density vs Vaccinated Children



Source : Central Expanded Programme on Immunization, CEU, DOH, MOH, Myanmar

After more stratification by RHC which have coverage of DPT3 less than 80%, it was found out that the townships having RHCs with 80% DPT3 became total to (172) townships.

On 12th September 2012, IRI had been launched in Nay Pyi Taw by Union Minister for Health, H.E. Professor Dr. Pe Thet Khin with the declaration on "equitable and universal access to routine immunization reaching the unreached, decreasing the gap, ensuring no one is left behind or excluded". At IRI Launching Ceremony, the children were vaccinated against all antigens which had been left out to complete routine schedule. The children are under 3 years of age who had been found out from mobile workplaces at 8 Townships in Nay Pyi Taw.

Deputy Minister for Health, H.E. Dr. Win Myint vaccinating a child to get complete dose at IRI 2012 Campaign

IRI in Myanmar had been deliberated as the revisit of immunization services to the wards and villages in RHCs which DPT3 coverage was less than 80% in 2011 and the children who were staying there and who had been left out for the vaccination will be vaccinated 3 rounds accordingly. Visiting to those targeted wards and villages, the reason is not only to find out those under one children, but also under three children who were also left out for any vaccine, will be provided with full immunization according to schedule. IRI in Myanmar started in November 2012 and onwards. Among the children to be vaccinated in IRI, the children under one year of age are about (70,124).

3. Revised National Policy and Strategy on Routine Immunization and Vaccine Preventable Diseases (2012)

In August 2012, a National Workshop on "Review and Revision of National Policy and Strategy on Routine Immunization and Vaccine Preventable Diseases" had been conducted in order to review the existing policy and strategy of EPI and to revise it according to revolution of the programme including new vaccine introduction and transformation of Government administration and policy. The recommendations from the workshop approved by Ministry of Health had been disseminated as **"Revised National Policy and Strategy on Routine Immunization and Vaccine Preventable Diseases (2012)"** on 18th October 2012.

The areas of revised policy are (1) Immunization service delivery policy, (2) Vaccine policy, (3) Cold chain logistics policy and (4) Programme related policy where the strategies are revised accordingly.

Revised National Policy and Strategy on Routine Immunization and Vaccine Preventable Diseases (2012)

4. National Committee for Immunization Practices (NCIP)

The NCIP of Myanmar was established in 2007. Currently it has 25 members and is chaired by the Director General of Department of Health. These members provide diverse representation to include Epidemiologists/ Public Health experts, professionals from Child Health, experts from the Food and Drug Administration, the National Health Laboratory, Department of Medical Research and Myanmar Pediatric Society and the EPI team.

In July 2012, a set of terms of reference were identified to reflect Myanmar's NCIP current needs together with next steps to develop NCIP charter which included the reform of NCIP. The NCIP recognized the value of being an advisory body in making independent recommendations to the Government, Ministry of Health. The composition of NCIP has been arranged in 2013 with the development of NCIP charter.

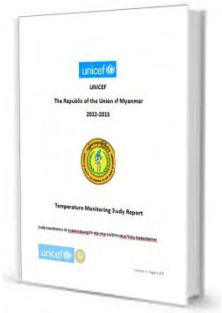
5. Cold Chain Logistics Strategic Planning

Cold chain is regarded as the vital part of Expanded Programme on Immunization. To strengthen the system concerning cold chain logistics, EPI had conducted a series of assessment and studies in 2011 and 2012. The findings and recommendations were disseminated in Cold Chain Logistics Strategic Planning Workshop at Nay Pyi Taw, 1 to 5 April 2013. From the recommendations of the Workshop, made on (8) areas of Strategic Objectives, the cold chain logistics system of EPI is planned to be established as an international standardized system.

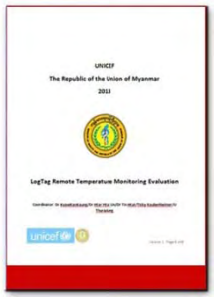
Deputy Minister for Health, H.E. Dr. Thein Thein Htay
delivered an Inaugural Speech at the Cold Chain Logistics Strategic Planning Workshop

Effective Vaccine Management (EVM) Assessment (2011)

Temperature Mapping Study (2012)



Temperature Monitoring Study (2012)



Log Tag Remote Temperature Monitoring Evaluation (2013)

6. Supplementary Immunization Activities (SIA)

(1) Mopping up Polio Immunization in Northern Shan State

After a comprehensive risk assessment and analysis of the immunity profile in Northern Shan State where there are some special regions which are self-administrative area since 1989, house to house immunization (Mopping up immunization) had been conducted in the entire health centers, vaccinating all children 0-5 years. Altogether (281,026) children were vaccinated against polio by two rounds of Mopping up in October and November 2012.

(2) Polio Catch up Campaign in Rakhine

A Polio catch-up campaign was planned to be conducted in (12) Townships in Rakhine State with the following background and rationale:

(1) Rakhine State has the history of wild polio virus importation and transmission in 2006-2007.
(2) Populous Townships in Northern border have weak population immunity.
(3) Myanmar has set the target to eradicate Polio in February 2014 along with South East Asia Regional countries.
(4) Immunity gap becomes wider in (12) Townships in Rakhine State after Riots.

Polio Catch up campaign in (12) Townships in Rakhine State got 97.01% coverage where (325,826) children between 0-5 years of age were vaccinated.

< 80% **80%-89%** **=>90%**

The Polio Catch up campaign tends to be followed by revitalization of routine immunization services with all antigens.

7. Reaching Hard to reach population

In 2012, the areas previously uncovered by routine immunization services and the areas where there was unstable population due to displacement and conflicts, were paid attention by Central EPI.

After intensive advocacy to the local authority, the self-administrative areas in Eastern Shan State had been visited by Central EPI and State Health Department to cover routine immunization services with all antigens in (3) consecutive months.

The temporary camps for Internally Displaced Person in Kachin State were covered by Measles catch-up immunization which was followed by monthly routine immunization services with all antigens.

8. Newly developed IEC materials in new era of EPI

Starting from November 2012, that has been the time of new vaccine introduction, all IEC materials, immunization cards, forms and formats using in EPI have been changed into new ones.

Sustaining Achievements

Leprosy

Myanmar Leprosy Control Programme was launched in 1952. Partial integration with People's Health Plan started in 1977. In 1988, WHO recommended MDT service was started in six hyper-endemic regions (Yangon, Mandalay, Upper Sagaing, Magway. Ayeyawady and Bago) and it was fully integrated into Basic Health Services in 1991. MDT services covered the whole country in 1995. Myanmar has achieved Leprosy Elimination Goal at the end of January 2003. It means that the registered prevalence rate per 10,000 population was less than one. It also means that leprosy was eliminated as a public health problem.

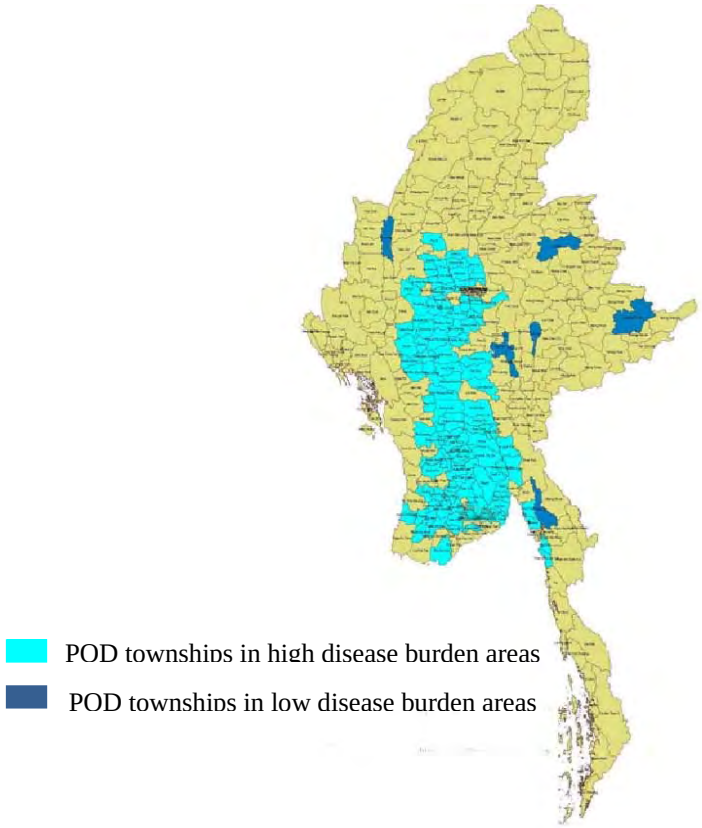
Before introduction of MDT services, registered prevalence rate was 54.3/10,000 in 1987. Prevalence rate was obviously reduced at the end of 2012 (0.43/10,000). Total registered cases at the end of 1987 were 204282 and it reduced significantly to 2680 at the end of 2012. A total of 286,718 leprosy cases have been treated with MDT and cured since 1988.

After achieving elimination of leprosy, leprosy control activities have being sustained to reduce the burden due to leprosy. In 2010, National strategies for leprosy control were developed based on "Enhanced Global Strategy for Reducing the Disease Burden due to Leprosy (2011-2015) and National Guidelines (2011-2015) was also developed based on WHO Operational Guidelines (Updated).

Case finding activities and treatment with MDT are being carried out by Basic Health Staff with technical support of leprosy control staff. In 2012, dissemination of knowledge on leprosy is carried out through various medias with emphasis on early signs and symptoms, curability, availability of free-of-charge MDT drugs and prevention of disability by early diagnosis and treatment. Training on Leprosy Control for Newly Promoted Leprosy Inspectors was conducted in Nay Pyi Taw. Capacity buildings of Township Focal Persons for Leprosy Control were conducted in Kayin, Kayah, Shan (south) states and Tanintharyi region. Leprosy awareness campaign activities participated by leprosy affected persons were conducted in five selected townships (Pyinmana, Wetlet, Nyaungdone, Minhla (Bago Region) and Moenyo) where case detection was high within 5 years.

Since achieving the leprosy elimination goal, the programme emphasized more on prevention of disability and rehabilitation. At the end of the year 2012, prevention of disability activities (POD) are being carried out in 137 townships with regular follow up case assessment, self-care training and provision of necessary drugs, aids and services. Out of 184 previously hyper-endemic townships, POD project are being implemented in 130 townships. The area coverage in these areas was 70.65 percent. Leprosy Control Programme has planned to expand POD activities in the remaining townships. In 2012, training on Prevention of Disability due to leprosy were conducted in 10 townships in Yangon urban area and 10 town ships in low disease burden areas (Tanintharyi , Sagaing (upper) Regions, Kachin , Kayin ,Kayah , Chin and Shan States).

Map showing Prevention of Disability Project Townships



Activities implemented in 2012 are:

- Sustaining political commitment
- Case finding and MDT services throughout the country
- Community awareness raising activities including printed and electronic medias
- Strengthening of Leprosy Affected Persons in leprosy control
- Activities in 5 selected pocket townships
- Strengthening, monitoring and supervision
- Meetings for planning, implementation and evaluation for Leprosy Control Activities
- Capacity building of Focal Persons for Leprosy Control
- Training on Leprosy Control for Newly Promoted Leprosy Inspectors
- Expansion of Prevention of Disability project in 10 townships
- Training on Prevention of Disability and self-care for BHS and baseline POD assessment in 10 expanded townships.
- Training on Prevention of Disability for BHS in 10 urban townships
- Training on Prevention of Disability for BHS in 10 townships in Low disease burden areas
- Follow up assessments in previous POD townships
- Research activities mainly focused on sustaining leprosy control activities and prevention of disability

Community Awareness for Leprosy given by leprosy affected person
Natthaye Health Center, Mandalay Region

Control Programme

Indicators	2010	2011	2012
Registered cases	2558	2542	2680
Prevalence rate/ 10,000 population	0.42	0.41	0.43
New cases detected and treated	2947	3043	3013
Cases release from treatment (during the year)	3155	2638	3006
Cases of released from treatment (cumulative)	280,556	283,194	286,718

Capacity Building of Focal Persons for Leprosy Control Training at Hakha Township, Chin State

Peer education on Leprosy Control Programme at Yekin Health Center, Ayeyarwady Region

Trachoma Control and Prevention of Blindness

Trachoma Control and Prevention of Blindness project was launched in 1964. At that time trachoma was one of the major cause of blindness in Myanmar. With the concerted effort of the program and support of Government, WHO, UNICEF and INGOs, active trachoma rate was reduced from 43% in1964 to to under 1% in 2000. As trachoma blindness is greatly reduced, cataract becomes main cause of blindness in the country.

Blindness rate in all ages is 0.52 % and main causes of blindness are -

- Cataract 61 %
- Glaucoma 19 %
- Posterior segment diseases 8 %
- Trachoma 1.9 %
- Corneal opacity 1.3 %
- Trauma 2 %
- Others 6.8 %

Myanmar Prevention of Blindness project is trying the best to fight against avoidable blindness in line with the strategy laid down by WHO "Vision 2020, The Right to Sight : Elimination of avoidable blindness by the year 2020."

There are 20 secondary eye centers in Prevention of Blindness program at Mandalay, Magway, Sagging (lower part), Bago (east) and Ayarwaddy regions headed by ophthalmologists. The program is covering 20.85 million people in 81 townships of those regions and promoting to increase the Cataract Surgical Rate in Myanmar.

National objective

- To reduce the blindness rate of all ages to less than 0.5%.
- Improving cataract surgical rate and quality of surgery.
- Making Primary Eye Care available to all BHS and to eliminate avoidable blindness.
- Promoting community participation in prevention of blindness.
- Provision of cataract surgical services at affordable price and free services to poor patients.
- Provision of outreach eye care services down to grass root level.

Activities

Type	Activities
Promotive activities to eliminate Trachoma and avoidable blindness (by Government)	• Greening of Central Myanmar • Improving water supply • Primary Eye Care service is available for all level of community
Preventive	• Village and school eye health services by ophthalmologist and field staff for early diagnosis of eye diseases and timely referral • Tetracycline eye ointments for trachoma patients, trichiasis surgery at fields and secondary centers
Curative	• Medical and surgical eye care services at secondary eye centres and Fields and referral to tertiary center if necessary • Outreach cataract surgery
Training	• Primary Eye Care Training to basic and voluntary health workers and National NGOs • Training of Primary Eye Care and Ocular Emergency to medical doctors
National Eye banks (Yangon and Mandalay)	• Collection of donated cornea, quality control and distribution of corneal tissue
Operational Research	• Rapid assessments of avoidable blindness has been conducted in three districts (Meikhtila, Myingyan and Pyinmana) in 2012 for detection and management of eye problems
Low cost Eye drop Production	• Low cost eye drop production unit at Prevention of Blindness Programme Region (2) Meikhtila, supported by Christoffel-Blinden Mission

In the year 2012, there were 21 mass outreach cataract surgeries in Township and rural areas with the partnership activities of many stakeholders, local NGOs, INGOs, and local donors.

Cataract surgery	42,807
Outreach mass cataract	3,983
Glaucoma surgery	980
Other major surgery	2,180
Other minor surgery	5,222
Trichiasis surgery	1,188
No. of villages examined	2,013
No. of population examined	11,07,768
No. of schools examined	1,587
No. of students examined	2,25,526

Major expected results are reduction of blindness rate less than 0.5 % and to control the prevalence rate of active trachoma (under 10 year of age) is less than 5 %. Finally the activities will support to achieve the goal of Vision 2020: The Right to sight, to eliminate the avoidable blindness by the year 2020.

Primary School Vision Screening

Village Eye Care Examination

Prevention and Control of Non-communicable Diseases

As Myanmar moves on the path of socioeconomic development and changing lifestyle, there is a shift in epidemiological transition towards non-communicable diseases. Myanmar is now facing double burden of diseases - Communicable Diseases & Non-Communicable Diseases.

In National Health Plan (2011-2016), priorities actions has been developed with the aim to prevent, control and reduce disease, disability and premature deaths from chronic non-communicable diseases and conditions.

- Chronic non-communicable diseases/conditions with shared modifiable risk factors-tobacco use, unhealthy diet, physical inactivity, harmful use of alcohol
    - Cardiovascular disease
    - Diabetes Mellitus
    - Cancer
    - Chronic respiratory disorders
- Non-communicable diseases/conditions of public health importance
    - Accidents and injuries
    - Disabling conditions (Blindness, Deafness, Community based rehabilitation)
    - Mental Health
    - Substance abuse
    - Snake bite

The priority actions were as follows:

- Developing comprehensive national policy and plan for the prevention and control of major NCDs
- Establishing high level national multi-sectoral mechanisms for planning, guiding and monitoring
- Implementing cost-effectiveness approaches for the early detection of major NCDs
- Strengthen capacity of HRH for better case management and to help people to manage their own conditions better.

National STEPS Survey (2009) reported that the prevalence of currently smoke was 33.6% in males and 6.1% in females, the prevalence of hypertension was 31% in males and 29.3% in females, and prevalence of overweight (BMI $\geq$ 25 kg/m^2) was 21.85% in males and 23.07% in females and obesity (BMI $\geq$ 30 kg/m^2) was 4.3% in males and 8.4% in females among the sample population.

Surveillance System

- STEP Surveys (2003-2004 Yangon Region, 2009-2010 National)
- Global Youth Tobacco Survey (GYTS) 2001, 2004, 2007
- Global School Personnel Survey (GSPS) 2001, 2007
- Global Health Professional Students Survey (GHPSS) 2006, 2009
- Myanmar Surveillance System for NCD still need to be established

National Response to the NCD epidemic

- Multisectoral Meeting to Finalize National Policy on NCDs
- Workshop for Package of Essential NCDs (PEN) intervention for Primary Health Care
- Regional Meeting on NCDs including Mental Health and Neurological Disorders
- Country Level Multisectoral Meeting on NCDs
- National Strategic Plan on DPAS (Draft)
- National Policy on Tobacco Control
- Control of Smoking and Consumption of Tobacco Product Law (2006)
- Specific Programme on Prevention and Control of NCDs in National Health Plan (2011-2016)

Of the two strategic pathways that are employed for prevention and control of NCDs, the "population approach" rather than the "high risk approach", has been advocated. This particular approach aims at reducing the risk factor levels in the population as a whole through community action, in order to achieve mass benefit across a wide range of risks and cumulative societal benefits.

The theme of World Health Day in 2013 is high blood pressure, focus on the causes and consequences of hypertension.

H.E. Dr. Daw Thein Thein Htay, Deputy Minister for Health, viewing the Exhibition at the World Health Day 2013

MANAGING HEALTH WORK FORCE

Quality Improvement for Medical Education

Under the leadership of the Ministry of Health, the Department of Medical Science is carrying out the responsible duty of training and production of all categories of health personnel with the objective to attain appropriate mix of competent human resources for delivering the quality health services. Human Resources for Health are the most important resources for successful implementation of National Health Vision and Mission.

Considering the changes on demographic, epidemiological and socioeconomic trends both nationally and globally, it is imperative to produce efficient human resources for health for providing quality health care services to the entire population in the country. In addition, it is also crucial to produce competent human resources for health who are capable to keep abreast with the advanced global health standards. The appropriate mix of different categories of health professional is being produced from the 14 medical and allied universities and 46 nursing and midwifery training schools under the Department of Medical Science.

In addition, postgraduate training courses are being conducted for higher learning. Currently, 36 doctorate courses, 8 PhD courses, 29 Master courses and 7 diploma courses are being conducted in universities under the Department of Medical Science. For capacity building oversea training are also important and in order to train and produce qualified human resources for health, Post graduate Medical Education Seminar was held in June 2012. During this seminar, revitalization of Postgraduate rules and regulation and updating, reviewing, and revising of curricula of all Postgraduate courses have been done.

For producing skillful midwives two year diploma midwifery curriculum had been developed and curriculum orientation workshops for trainers had done during 2012. New midwifery curriculum has been started since November 2012.

Special chances for admission to Medical universities for, candidates, passing the matriculation examination from recent and remote areas and self administered regions has been introduced since 2012 academic year.

According to the recommendation of Nursing and Midwifery Education Seminar, previously 18 month Midwifery certificate course was up graded to Midwifery 2 year Diploma course. The new course has been started in November, 2012.

To improve the capacity building of all faculty members of Nursing and Midwifery training schools, the TOT workshop on implementation of New Midwifery curriculum (Emphasis on HMIS, teaching/ leaning methodology) was done in 2012.

With the assistance of WHO (Australia Aid), the workshops on capacity Building of Midwifery Tutors for Competency–Based Trainings on Pregnancy, Childbirth, Postpartum and Newborn Care (PCPNC) was conducted for 5 times at 1000-Bedded Hospital, Nay Pyi Taw October and November 2012.

With the assistance of UNFPA, TOT workshops on implementation of New Midwifery Curriculum (Emphasis on BEOC, BEmOC & ENC) for (72) faculty members of the Midwifery training schools has been carried out for two times on (20 to 24-8-12) and (27 to 31-8-12). After that 1st time Hands on Training for (12) out of (72) faculty members have been continued at North Okkalapa Teaching & General Hospital, Yangon in 2012. The 2nd time and 3rd time Hands on Training for the next (12) out of (72) faculty members has to be conducted in 2013 continuously.

H.E. Professor Dr Pe The Khin, Union Minister for Health, graced at the opening ceremony of Training Workshop on Implementation of New Nursing and Midwifery Curriculum (Emphasis on BEOC and ENC), Department of Medical Science

Students attending in Universities and Training Schools under Department of Medical Science as of February 2013 are as follows:

Undergraduate

No.	University/ Training Schools	Number of Students
1.	University of Medicine(1), Yangon	3818
2.	University of Medicine, Mandalay	3276
3.	University of Medicine(2), Yangon	3376
4.	University of Medicine, Magway	2371
5.	University of Dental Medicine, Yangon	958
6.	University of Dental Medicine, Mandalay	796
7.	University of Pharmacy, Yangon	626
8.	University of Pharmacy, Mandalay	353
9.	University of Medical Technology, Yangon	597
10.	University of Medical Technology, Mandalay	417
11.	University of Nursing, Yangon	773
12.	University of Nursing, Mandalay	728
13.	University of Community Health, Magway	659
14.	Nursing Training Schools	3833
15.	Midwifery Training Schools	1988
16.	Lady Health Visitor Training School	104

Postgraduate

No.	Courses type	Number of Courses	Candidate attending
1.	Diploma	7	135
2.	Master	29	1142
3.	Ph.D.	8	51
4.	Dr.Med.Sc.	29	167
5.	Dr.D.Sc	7	17

Health Manpower Production as of February 2013 are as follows:

Undergraduate

No.	Degrees/ Certificate	Total Number of Product
1.	M.B,B.S	33013
2.	B.D.S	3233
3.	B.Pharm	2553
4.	B.Med.Tech	2604
5.	B.N.Sc	4463
6.	B.Comm.H	1343
7.	Nursing Diploma	26548
8.	Midwifery	32985
9.	L.H.V	4136

Postgraduate

No.	Courses type	Graduates
1.	Diploma	2179
2.	Master	4889
3.	Ph.D.	125
4.	Dr.Med.Sc.	278
5.	Dr.D.Sc	9

Health Manpower Training Oversea Postgraduate(1988 to 2012)

No.	Courses	Production Training
1.	MRCP	128
2.	MRCPCH	46
3.	MRCOG	44
4.	MRCS / FRCS	187

University of Nursing, Mandalay

University of Medicine, Magway

Human Resource Development in Traditional Medicine

Before 1976, the knowledge of Myanmar Traditional Medicine was handed down from one generation to another. In 1976, with the aim to improve the qualification of traditional medicine practitioners, the Institute of Traditional Medicine was established and systematic training programmes were introduced to train and produce competent Traditional Medicine Practitioners. A three year course including one year internship was conducted and Diploma in Traditional Medicine was conferred to successful candidates. The yearly intake of students is about 100. The institute had already produced (2187) diploma holders.

The University of Traditional Medicine was established in 2001. The curriculum was jointly developed by Myanmar Traditional Medicine Practitioners and medical educationists. It is a five year course including one year internship covering all four major systems (Nayas) of Traditional Medicine, basic sciences and basic medical sciences of western medicine. The degree conferred is Bachelor of Myanmar Traditional Medicine (B.M.T.M). The yearly intake is about 100 candidates. The University had already produced (1023) graduates. In the year 2012, the University opened Master of Myanmar Traditional Medicine course and Bachelor of Myanmar Traditional Medicine bridge course.

Basic concepts of Myanmar Traditional Medicine have been introduced to the curriculum of 3rd year M.B.,B.S medical students since 2003. A module, comprising 36 hours of teaching and learning sessions of traditional medicine was developed and assessment is done after completion of the course. A certificate was presented to all successful candidates and the main aim of the course is to familiarize medical students with Myanmar Traditional Medicine. This is the first of its kind where traditional medicine is integrated into western medicine teaching programme in the world. It gives opportunities for medical students to explore the concepts of traditional medicine and paves a venue for interested student to venture into the realms of Myanmar Traditional Medicine at a deeper level.

EVIDENCE FOR DECISION

Health Information Services

Health Management Information System started since July 1995 and intended for data collection of health care services, data transmission, data management and utilization of data at all levels. Complete, reliable and timely information is essential for decision making process and effective implementation of health care services.

Standardization of operational definition and data collection methods is main theme for receiving quality of data; and calculation methods plays important role in data management process and that's why newly revised data dictionary was distributed to all basic health staffs and to all supervisors at various levels.

In order to improve the capacity of training team members and to conduct multiplier training at township level, training of training team members from all regions/states (TOT on HMIS) was held at Nay Pyi Taw during June and July, 2012.

For the purpose of improving quality of data collection and data compilation, training of Basic Health Staff at township level and data quality assessment was also conducted. Training of Basic Health Staff on HMIS was conducted in 20 townships; and total 1138 BHS had attended. Data quality assessment was done in 9 townships, 36 MCH/RHCs and 36 Sub-RHCs; total clients 756 were met. Percentage of data consistency through the data flow was 82.5%.

Training of BHS on HMIS

Conducting Data Quality Assessment

For the improving capacity of data management, all statistical officers and statisticians from both central and regions/states(total 56 person) was also trained on database and data management of HMIS.

Medical record technicians from hospitals are conscientious for such reporting from their hospitals. It is necessary for the technicians to acquire knowledge and dexterity development of ICD coding. ICD coding is one of the mechanisms for managing health information and retrieval of data about inpatients. Training of medical record technicians from (30) hospitals on data quality, health information sciences, information technology, data analysis and utilization, the very first three month training course for MRT, was held in Nay Pyi Taw from August to November, 2012. Data collection on health care delivery services from private hospitals has been started from January 2013 to fulfill increasing demand of data from private sector.

National Workshop on Formulating Country Roadmaps of the Commission on Information and Accountability for Women's and Children's Health (COIA) has been conducted in Nay Pyi Taw from 13-15 February, 2013; involving all stakeholders from the MOH, health related ministries, local NGOs, INGOS, CBOs, World Bank, WHO and international consultants from WHO-SEARO.

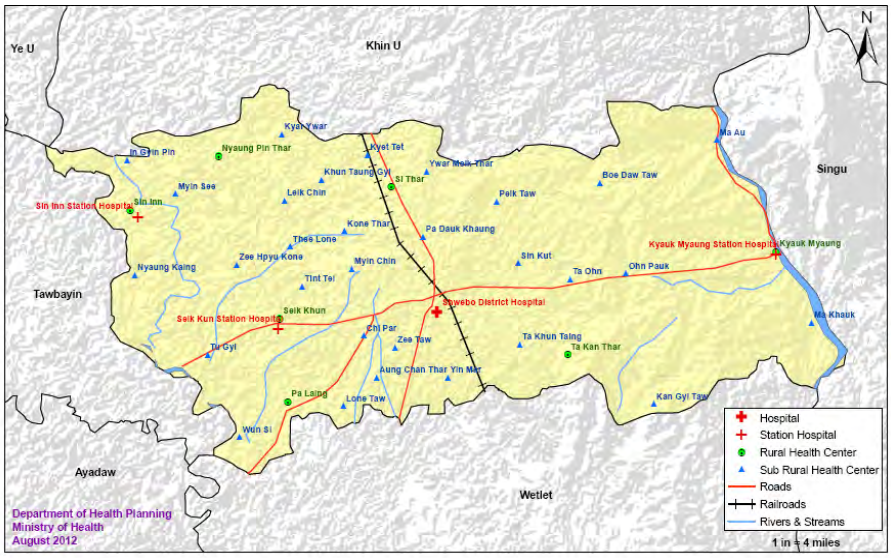
H.E. Professor Dr. Pe Thet Khin, Union Minister for Health, delivered an Inaugural Speech at National COIA Workshop

The country roadmaps were developed in the following 7 thematic areas by using CAF (Country Accountability Framework) assessment and planning tool:

1. Review and planning processes
2. Monitoring of results
3. Tracking resources
4. Birth and death registration
5. Maternal death surveillance and response
6. e-Health and innovation
7. Advocacy for accountability and action

Health Facility Geo-Database

Mapping using Geographical Information System (GIS) database is an effective approach to comprehensive primary health care in relation to identify where geographically hard to reach and uncovered areas exist. It enables to meet the goal of equitable healthcare accessibility for all the people throughout the country. To highlight the availability and accessibility of health care services with emphasis on spatial distribution of health facilities and service providers according to the population density, a systematic mapping of health services availability is needed to develop in Myanmar. In this context, e-Health Division of Department of Health Planning has been implementing GIS mapping with health facility geo-database for all government health facilities. These products could be effectively utilized in formulation of detailed planning in respective state, regional and township level as well as in central level in terms of equity issue. It will assist in visualizing spatial distribution of health facilities and service providers, this is one of the components of information needed for formulating policy, plans and strategies in strengthen health system.



Distribution of Health Facilities in Shwebo Township, Sagaing Region

Health Research

In accordance with National Comprehensive Health Development Plan, the **Department of Medical Research (Lower Myanmar)** focuses research mainly on malaria, HIV/AIDs, and TB. Moreover, research on diarrhea and dysentery, diabetes and hypertension, dengue, influenza, nutrition, cervical cancer, application of traditional medicines and investigating of reputed medicinal plants, toxicology, vaccines and operations research are streamlined under the guidance of Ministry of Health. In the field of Molecular Biology, with the support from the Ministry of Health and various international organizations, the Department established an advanced molecular laboratory equipped for detection and characterization of communicable as well as non-communicable diseases. Molecular characterization of various genotypes of rotaviruses, important causal agents for diarrhea in children under five years of age was done as well as molecular epidemiology studies of mosquito borne viruses such as Japanese encephalitis to detect new emerging strains was implemented. Characterization of enzymes in Russell's viper venom by using an amino acid sequencer was also established. A case study done during March to May 2012 in Kawthaung and Bokepyin mapped out the social and economic diversity within 192 clusters of temporary migrant workers mainly engaged in plantations, fishing and cross-border earning activities. The study highlighted the need for community-based innovative approaches for information channeling related to treated nets, rapid diagnostic tests, artemisinin combination therapy and drug resistance through strong collaboration and coordination of multi-stakeholders, taking into account of eco-social context and health care infrastructure. Also in 2012, with the growing need for promoting Bioethics in research institutions, the Department of Medical Research (Lower Myanmar) expanded its Ethical Review Committee with members from outside the institution and implemented bioethics workshops with international and local speakers and attained Federalwide Assurance (FWA) for protection of Human Subjects.

Promotion of research activities is made by organizing the Myanmar Health Research Congress annually as well as many other workshops, seminars and scientific talks on relevant health issues of current interest. Myanmar Health Sciences Research Journal on quarterly basis and Department of Medical Research (Lower Myanmar) bulletin on monthly basis are also being published.

Research studies are generally conducted by **Department of Medical Research (Upper Myanmar)** in collaboration with other departments under the Ministry of Health as well as with renowned international health institutions. Collaboration among research departments as well as other related institutions has been regularly practiced for escalation of research culture among the medical professionals. The department has been frequently visited by both international and local delegations to observe ongoing research activities. Exchange of ideas and sharing of experiences are done during the visits.

Findings of research studies are disseminated to other departments for better implementation of health services by the national programmes of department of health. Presentations on findings are also made in health seminars, medical conferences, workshops and capacity building trainings. In the vision of research for health, Department of Medical Research (Upper Myanmar) involves actively and constantly making its endeavours to promote the health status of Myanmar by conducting problem solving research studies.

Department of Medical Research (Central Myanmar) delivers technical and scientific knowledge to other departments and public by conducting workshops, seminars and presentations. In order to promote scientific development of Traditional Medicine and search for new drugs, efficacy, toxicity testing and clinical trials of traditional medicinal plants and formulations are also done on Malaria, Diabetes Mellitus and Cancer. Some research activities involving oral cancer research and human influenza research as well as technical collaboration and training activities are carrying out in collaboration with national as well as international departments, organizations, agencies, hospitals and universities including five Japanese universities. Research findings are being disseminated not only to the relevant project managers and policy makers for evidence-based decision making but also to the community by personal contact, presentation and publications in national and international congress, conferences and journals. The department is also promoting research activities by organizing various workshops biannually. In 2013, Molecular Biology

workshop is conducted in order to deliver Molecular Biology Technologies to various departments under Ministry of Health including teaching universities and Directorate of Medical Services, Ministry of Defense. As public services, Cervical Cancer screening has been performed in 200 bedded hospital, Pyinmana and 1000 bedded hospital, Nay Pyi Taw since 2007. Pathologists and laboratory technicians are taking care of laboratory works in Mittar San Yay Clinic of Myanmar Maternal and Child Welfare Association (MMCWA).

Department of Health Planning has been conducting the Workshop on Health Systems Research (HSR) Methodology for Post- Graduate Students for improving the post-graduate students' competency on HSR methodology and upgrading utilization of health systems research in their respective context. In addition, the Baseline Data Collection activity for UNFPA 3rd Country Programme was conducted in (40) townships within seven selected States and Regions. The objective of the Baseline Data Collection Activity is to obtain comprehensive and updated baseline data of all sub-indicators of Country Program.

Department of Traditional Medicine has been conducting research and development works. It has Research and Development (R&D) Division which is responsible for the scientific research works and development tasks. Research section is conducting scientific investigations for traditional and herbal medicines done by basic and applied scientists. Various developmental tasks such as ancient literature surveys and traditional medicine health educations done by traditional medical practitioners are the responsibilities of development section. There is also a research unit with basic laboratory facilities in the University of Traditional Medicine, Mandalay. Scientific research projects were also being conducted as necessary. The general objective is to increase the capabilities of research and development functions of the Department of Traditional Medicine and that of the specific objectives are to increase human resources of scientific researchers and traditional medicine professionals, to upgrade the abilities and skills of mentioned human resources, and to facilitate the laboratory equipment, chemicals and traditional medicine health education aids.

TRADITIONAL MEDICINE

With the aim to extend the scope of health care services for both rural and urban areas, health care by Myanmar Traditional Medicine services is provided through out Myanmar. Myanmar traditional medicine has flourished over thousands of years and has become a distinct entity. With the aim to extend the scope of health care services by traditional medicine, two (100) bedded Traditional Medicine hospitals in Yangon and Mandalay; three (50) beded Traditional Medicine hospitals in Monywar, Myitkyinar and Magway; ten (16) beded Traditional Medicine hospitals in States and Regions; and total number of (237) Traditional Medicine clinics are providing health care services all over the country.

Provision of Traditional Medicine Kits

Provision of Traditional Medicine Kits for emergency use is one of the special achievements of traditional medicine in Primary Health Care with the objectives of making essential traditional medicines easily accessible for rural people especially in hard to reach areas and minimizing the cost of treatment for minor illnesses. The provision of traditional medicine kits is effective and beneficial to the rural dwellers. It also supports and uplifts the health status of the people of Myanmar in context of primary health care. At the end of 2012, 11359 Traditional Medicine Kits were distributed to all States and Regions.

Herbal Gardens and Traditional Medicine Museums

With the aims of perpetuation of medicinal plant species, sustainable development of herbal medicines and provision of quality raw materials for public and private pharmaceutical factories, the department developed eight herbal gardens around the country. The largest one which is designated as the National Herbal Park is situated in Nay Pyi Taw covering 196.4 acres of land since its inception on 4th January 2008. Thousands of medicinal plants of nearly 500 different species are grown and nurtured, and commonly used and valuable herbs according to regional habitat can also be studied. There are three TM museums run by the department:

one in University of Traditional Medicine, Mandalay and two in National Herbal Park, Nay Pyi Taw. People from all walks of lives can study the roots and current situation of Myanmar Traditional Medicine at one sitting. The raw materials from animal, plant, mineral and aquatic sources used in TM drug formulations are also displayed colorfully. Hundreds of herbarium sheets are also prepared to disseminate the knowledge of medicinal plants.

Manufacturing of Traditional Medicine

Traditional Medicines have been manufactured by both public and private sectors. The Department of Traditional Medicine is responsible for manufacturing in the public sector and owns two pharmaceutical factories. Medicines are produced according to the national formulary and Good Manufacturing Practice (GMP) standards. These two factories manu-facture twenty one kinds of Traditional Medicine powders which are provided free of charge to be dispensed in public Traditional Medicine facilities, and the factories al so produce 12 kinds of Traditional Medicine drugs in tablet form for commercial purpose.

The private Traditional Medicine industry is also developing and undertaking mass production of potent and registered medicines according to the GMP standard. Some private industries are now exporting traditional medicines to neighbouring countries. Due to the encouragement and assistance of the government and the manufacturing of standardized traditional medicine under GMP, public trust and consumption of TM have greatly been enhanced.

Traditional Medicine Laws

Traditional Medicine Council Law – The Myanmar Indigenous Medicine Act was enacted in 1953. The State Traditional Medicine Council, a leading body responsible for all the matters relating to traditional medicine, was formed according to that law. In the year 2000, the Myanmar Indigenous Medicine Act was replaced by the Traditional Medicine Council Law. One of the objectives of the law is "to supervise traditional medicine practitioners for abidance by the rule of conduct and discipline".

Traditional Medicine Drug Law - The Government has promulgated the Traditional Medicine Drug Law in 1996, in order to supervise systematically the production and sale of traditional medicine in the country. One of the objectives of the law is "to enable the public to consume

genuine quality, safe and efficacious traditional drugs". According to the law, all the traditional medicine drugs produced in the country have to be registered and the manufacturers must have license to produce their products. Manufacturing of traditional medicine drugs must follow the good manufacturing practice. The department also supervises and monitors the advertisement of traditional medicine drugs.

Myanmar Traditional Medicine Practitioners Association

Myanmar Traditional Medicine Practitioners Association has been established in 2002 after unification of various TM groups of different disciplines. The objectives of the association are to: provide consolidated efforts and contribution of TM practitioners in implementation of National Health Plan; provide community health care through TM approaches; do research and strive for the development of TM; conserve the endangered species of medicinal plants and animals while revitalizing the almost extinct TM textbooks and therapies and uplift of the dignity of TM profession and practitioners. The most important missions are to conduct continuing TM education programs, to provide quality services and to encourage the development of evidence based TM through systematic research.

Traditional Medicine Practitioners Conference

In order to promote the development of Myanmar Traditional Medicine, Myanmar Traditional Medicine Practitioners Conferences has been held annually since the year 2000. Traditional medicine practitioners from various parts of the country gathered and exchanged their knowledge at the conference, new policies and objectives are proposed, discussed and also reiterated the unity of TM healers for perpetuation and propagation of Myanmar Traditional Medicine. 13th Myanmar Traditional Medicine Practitioners' Conference was successfully held in December 2012 at Nay Pyi Taw.

Harmonization of Traditional Medicine Standards among ASEAN member states

The Inter-sessional Meetings on ASEAN Traditional Medicines and Health Supplements Scientific Committee (ATSC) and Task Force on Regulatory Framework Meetings were held from 11-15 March, 2013 in Nay Pyi Taw, Myanmar and was attended by delegates from Burnei Darussalam, Cambodia, Indonesia, Lao PDR, Malaysia, Myanmar, the Philippines, Singapore, Thailand, Viet Nam, and representatives from ASEAN Alliance of Health Supplements Associations (AAHSA) and ASEAN Alliance of Traditional Medicine Industry (AATMI).

Deputy Minister for Health, H.E. Dr. Win Myint, Ministry of Health delivered an opening speech at the Inter-sessional Meetings on ASEAN Traditional Medicines and Health Supplements Scientific Committee (ATSC) and Task Force on Regulatory Framework

HEALTH STATISTICS

Vital Statistics

Health Index	1988	1999	2005	2006	2007	2008	2009	2010
Crude Birth Rate (per 1,000 population)								
- Urban	28.6	24.5	19.0	19.0	18.4	14.0	15.3	15.4
- Rural	30.5	27.1	21.9	21.5	21.2	16.1	16.6	16.6
Crude Death Rate (per 1,000 population)								
- Urban	8.9	6.0	5.5	5.3	5.3	7.6	5.1	5.2
- Rural	9.9	7.8	6.4	6.3	5.9	8.7	5.8	6.1
Infant Mortality Rate (per 1,000 live births)								
- Urban	47.0	55.1▲	45.1	44.9	43.4	28.2	25.7	25.6
- Rural	49.8	62.5▲	47.0	46.9	46.3	30.0	27.8	27.8
U5 Mortality Rate (per 1,000 live births)								
- Union	-	77.77▲	70.84	66.22	64.25	40.73	36.53	34.91
- Urban	72.9	65.12▲	70.02	64.15	62.10	39.80	36.15	34.43
- Rural	-	85.16▲	71.16	67.03	65.02	41.08	36.69	35.11
Maternal Mortality Ratio (per 1,000 live births)								
- Union	-	2.5▲	1.17	1.16	1.13	1.48	1.41	1.42
- Urban	1.0	1.8▲	0.96	0.96	0.94	1.23	1.13	1.12
- Rural	1.9	2.8▲	1.43	1.41	1.36	1.57	1.52	1.54
Population Growth Rate	1.96	2.02	2.02	2.02	1.75	1.52	1.29	1.10
Average Life Expectancy								
- Urban (Male)	59.0	61.0	62.5	62.9	64.0	65.1	65.5	65.8
(Female)	63.2	65.1	66.6	67.3	69.0	70.5	70.7	70.8
- Rural (Male)	56.2	60.3	62.0	62.5	63.2	63.9	64.1	64.3
(Female)	60.4	62.7	64.9	65.4	67.1	67.4	67.5	67.8

***Source**: Central Statistical Organization(CSO), Ministry of National Planning and Economic Development, 2011*

▲ National Mortality Survey, CSO, 1999

Health Manpower Development

Health Manpower	1988-89	2008-09	2009-10	2010-11	2011-12	2012-13*
Total No. of Doctors	12268	23740	24536	26435	28077	29832
- Public	4377	9583	9728	10450	11675	12800
- Co-operative & Private	7891	14157	14808	15985	16402	17032
Dental Surgeon	857	2092	2308	2562	2770	3011
- Public	328	777	703	756	774	802
- Co-operative & Private	529	1315	1605	1806	1996	2209
Nurses	8349	22885	24242	25644	26928	28254
Dental Nurses	96	244	262	287	316	344
Health Assistants	1238	1822	1845	1883	1893	2013
Lady Health Visitors	1557	3238	3278	3344	3371	3397
Midwives	8121	18543	19051	19556	20044	20617
Health Supervisor (1)	487	529	529	541	612	677
Health Supervisor (2)	674	1484	1645	2080	1718	1850
Traditional Medicine Practitioners						
- Public	290	950	890	890	885	875
- Private	2500	5397	5737	5737	5867	5979

** Provisional actual*

Health Facilities Development

Health Facilities	1988-89	2008-09	2009-10	2010-11	2011-12	2012-13
Hospitals (Public Sector)	631	846	871	924	987	1010
Ministry of Health	617	820	844	897	921	944
Other Ministries	14	26	27	27	66	66
Total No. of Hospital Beds	25309	38249	39060	43789	54503	55305
No. of Primary and Secondary Health Centers	64	86	86	86	87	87
No. of Maternal and Child Health Centers	348	348	348	348	348	348
No. of Rural Health Centers	1337	1481	1504	1558	1565	1635
No. of School Health Teams	80	80	80	80	80	80
No. of Traditional Medicine Hospitals	2	14	14	14	14	16
No. of Traditional Medicine Clinics	89	237	237	237	237	237

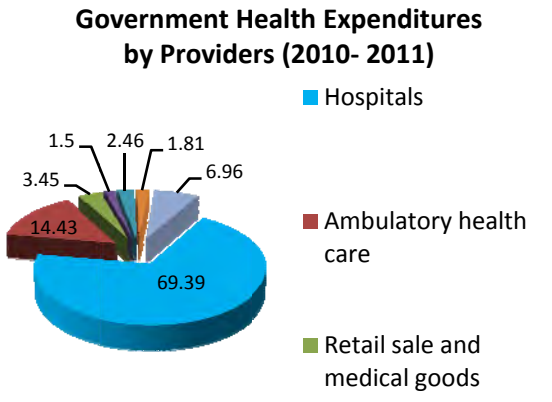
Government Health Expenditures

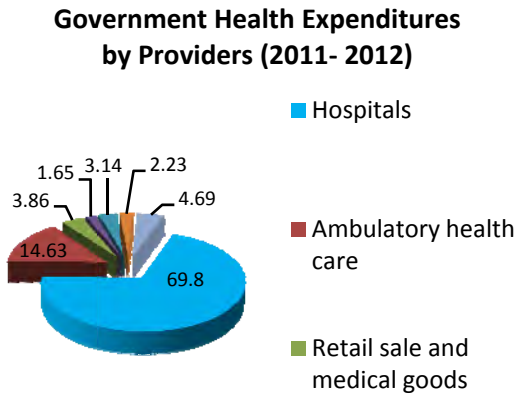
	1988-89	2007-08	2008-09	2009-10	2010-11	2011-12*
Health Expenditure (Million Kyats)						
- Current	347.1	38368.1	41362.7	47275	60601.0	73060.3
- Capital	117.0	10379.2	10080.7	16521	24743.7	27764.3
Total	464.1	48747.3	51443.4	63796	85344.7	100824.6
Per Capita Health Expenditure (Kyats)	11.8	847.8	881.2	1078.9	1427.6	1669.8

* *Provisional actual*

Government Health Expenditures by Providers (2008-2009 to 2011-2012)

Providers (%)	2008-09	2009-10	2010-11	2011-12
- Hospitals	70.33	67.89	69.39	69.80
- Ambulatory health care	17.54	17.01	14.43	14.63
- Retail sale and medical goods	3.84	3.79	3.45	3.86
- Provision and Administration of Public health programs	2.00	2.51	1.50	1.65
- General health administration	0.51	0.50	2.46	3.14
- Health related services	1.98	1.82	1.81	2.23
- Rest of the world	3.80	6.48	6.96	4.69





Single Leading Causes of Morbidity (2011)

Sr. No.	Causes	Percent
1	Other injuries of specified, unspecified and multiple body regions	10.6
2	Other complications of pregnancy and delivery	6.7
3	Single spontaneous delivery*	6.0
4	Diarrhoea and gastroenteritis of presumed infectious origin	5.4
5	Malaria	3.2
6	Other pregnancies with abortive outcome	2.9
7	Other viral diseases	2.6
8	Gastritis and duodenitis	2.1
9	Cataract and other disorders of lens	2.0
10	Other acute upper respiratory infections	1.8
11	Fractures of other limb bones	1.8
12	Other conditions originating in the perinatal period	1.7
13	Respiratory tuberculosis	1.6
14	Toxic effects of substances chiefly nonmedicinal as to source	1.5
15	Other diseases of liver	0.5
	All other causes	49.6
	Total	**100.0**

(*) 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. As such single spontaneous delivery came out as the most frequent condition being provided treatment or investigation during the episode of health care.

Single Leading Causes of Mortality (2011)

Sr. No.	Causes	Percentage(%)
1	Human immunodeficiency virus [HIV] disease	6.3
2	Septicaemia	5.0
3	Other diseases of the respiratory system	3.9
4	Respiratory tuberculosis	3.9
5	Other diseases of liver	3.8
6	Slow fetal growth, fetal malnutrition and disorders related to short gestation and low birth weight	3.7
7	Stroke, not specified as haemorrhage or infarction	3.6
8	Heart failure	3.2
9	Malaria	3.1
10	Other heart diseases	2.3
11	Pneumonia	1.8
12	Intracranial haemorrhage	1.6
13	Renal Failure	0.9
14	Acute myocardial infarction	0.9
15	Other viral diseases	0.9
	All other causes	55.1
	Total	**100.0**

Universities and Training Schools under Department of Medical Science

Sr. No.	University/ Training Schools	Degree/ Diploma/ Certificate Conferred
1.	University of Medicine (1), Yangon	M.B., B.S., Dip.Med.Sc. (Tuberculosis & Chest Diseases), Dip.Med.Sc. (Sexually Transmitted Diseases), Dip.Med.Sc. (Family Medicine) M.Med.Sc., Ph.D., Dr.Med.Sc.
2.	University of Medicine, Mandalay	M.B., B.S., Dip.Med.Sc. (Family Medicine) M.Med.Sc., Ph.D., Dr.Med.Sc.
3.	University of Medicine (2), Yangon	M.B., B.S., Dip.Med.Sc. (Family Medicine) M.Med.Sc., Ph.D., Dr.Med.Sc.
4.	University of Medicine, Magway	M.B.,B.S., M.Med.Sc.
5.	University of Public Health, Yangon	Dip. Med.Sc. (Hospital Administration), Dip.Med.Ed, MPH, Ph.D.
6.	University of Dental Medicine, Yangon	B.D.S., Dip.D.Sc., M.D.Sc., Dr. D.Sc.,Ph.D, Diploma in Dental Technology
7.	University of Dental Medicine, Mandalay	B.D.S., Dip.D.Sc.
8.	University of Pharmacy, Yangon	B.Pharm., M.Pharm.
9.	University of Pharmacy, Mandalay	B.Pharm.
10.	University of Medical Technology, Yangon	B.Med.Tech., M.Med.Tech.

Sr. No.	University/ Training Schools	Degree/ Diploma/ Certificate Conferred
11.	University of Medical Technology, Mandalay	B.Med.Tech., M.Med.Tech.
12.	University of Nursing, Yangon	B.N.Sc., M.N.Sc., Diploma Speciality Nursing (Dental, EENT, Mental Health, Paediatrics, Critical Care, Orthopaedics)
13.	University of Nursing, Mandalay	B.N.Sc., M.N.Sc.
14.	University of Community Health, Magway	B.Comm.H.
15.	Nursing Training Schools	Diploma
16.	Midwifery Training Schools	Certificate
17.	Lady Health Visitor Training School	Certificate
18.	Nursing Field Training School	-
19.	Domiciliary Midwifery Training School	-

University under Department of Traditional Medicine

Sr. No.	University	Degree
1.	University of Traditional Medicine, Mandalay	B.M.T.M
		M.M.T.M

International Non-Governmental Organizations working in Myanmar

1. Association of Medical Doctors of Asia (AMDA)
2. Action Contre La faim (ACF)
3. Adventist Development and Relief Agency (ADRA)
4. Aide Medicale International (AMI)
5. Association of Freancosis-Xavier Bagnoud (AFXB)
6. Artsen Zonder Genzen (AZG) MSF-Holland
7. Asian Harm Reduction Network (AHRN)
8. Alliance International HIV/AIDS
9. Burnet Institute Australia
10. CARE Myanmar
11. Cooperation and Svilu - ppo onlus (CESVI)
12. Groupe De Recherche et D'echanges Technologiques (GRET in Myanmar)
13. Humanitarian Services International (HSI)
14. International Rescue Committee(IRC)
15. International Organization Migration (IOM)
16. International Union against TB and Lung Diseases (IUATLD)
17. Japan Heart
18. Japanese Organization for International Cooperation in Family Planning (JOICFP)
19. Latter Day Saint Charities, USA
20. Malteser (Germany)
21. Marie Stopes International (MSI)
22. Medecines du Monde (MDM)
23. Medecins Sans Frontieres- Swizerland (MSF-CH)
24. Merlin
25. Mercy Corps
26. Pact Myanmar
27. Partners International Solidarity Organization
28. Population Services International (PSI)
29. Progetto Continenti
30. Relief International
31. Save the Children (UK)
32. Save the Children (US)
33. Save the Children (Japan)
34. Terre des homes (TDH)
35. University Research Co.,LLC(URC)
36. World Concern (WC)
37. World Vision International

National Non-Governmental Organizations working in Myanmar

1. Myanmar Women's Affairs Federation (MWAF)
2. Myanmar Maternal and Child Welfare Association (MMCWA)
3. Myanmar Red Cross Society
4. Myanmar Academy of Medical Science
5. Myanmar Medical Association (MMA)
6. Myanmar Medical Council
7. Myanmar Traditional Medicine Council
8. Myanmar Traditional Medicine Practitioners Association
9. Myanmar Dental Association (MDA)
10. Myanmar Dental Council
11. Myanmar Nurses Association (MNA)
12. Myanmar Nurses Council
13. Myanmar Health Assistant Association
14. Myanmar Anti-narcotic Association