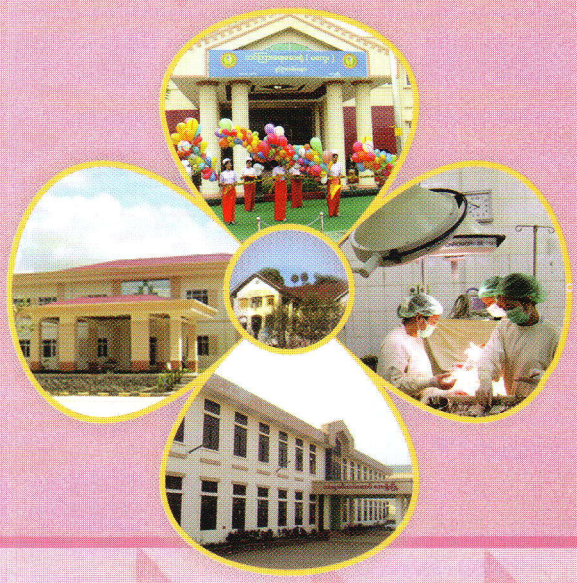
MINISTRY OF HEALTH

HEALTH IN MYANMAR

2010



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Guidelines related to Health Sector by
H.E. General Thiha Thura Tin Aung Myint Oo,
Secretary (1) of the State Peace and Development Council
Chairman of the National Health Committee

- In striving with all out efforts for building a peaceful modern and developed nation, healthy and educated citizens are the key human resources
- Ministry of Health, in carrying out the tasks of uplifting the health status of the citizens, need the leadership and guidance of the State, community involvement and collaboration of related departments, organizations and non-governmental organizations in order to achieve the desired outcomes

Foreword by H.E. Professor Dr. Kyaw Myint, Minister for Health

In carrying out the tasks of improving health and prolonging lives of the citizens the Ministry of Health has recognized that many important determinants of health lie outside the direct realm of influence of health sector. With increasingly complex and rapidly changing backdrop of health determinants the boundary of public health has become less clear. The importance of economic, social and environmental determinants of health has grown.

Demographic and epidemiologic transitions combining with nutritional and behaviour transitions brought in by globalization and urbanization are creating unfavourable new trends in health and lives of people. Urbanization now has been highlighted in the international health agenda as an urgent public health concern. Urbanization presents both challenges and opportunities, in terms of health.

With adoption of the market economy system and drive for industrial development urban migration in quest of better opportunities in cities is also taking place in the country. It is important to take note of the fact that improving urban health required the collaborative efforts of government departments related to urban health, international organizations, industries and economic enterprises, social organizations in formulating policies relating to urban development.

Under the guidance of the Government and National Health Committee, the Ministry of Health has uphold the tradition of sectoral collaboration and community participation in health development. In keeping with this custom, the Ministry will take measures possible in collaboration with partners to mitigate health problems that could follow urbanization.

Professor Dr. Kyaw Myint

Minister for Health

Four Political Objectives

- Stability of the State, community peace and tranquility, prevalence of law and order
- National reconsolidation
- Emergence of a new enduring State Constitution
- Building of a new modern developed nation in accord with the new State Constitution

Four Economic Objectives

- Development of agriculture as the base and all-round development of other sectors of the economy as well
- Proper evolution of the market-oriented economic system
- Development of the economy inviting participation in terms of technical know-how and investments from sources inside the country and abroad
- The initiative to shape the national economy must be kept in the hands of the State and the national peoples

Four Social Objectives

- Uplift of the morale and morality of the entire nation
- Uplift of national prestige and integrity and preservation and safeguarding of cultural heritage and national character
- Uplift of dynamism of patriotic spirit
- Uplift of health, fitness and education standards of the entire nation

CONTENTS

COUNTRY PROFILE

Location

Myanmar, the largest country in mainland South-East Asia with a total land area of 676,578 square kilometers, 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. It is bounded on the north and north-east by the People's Republic of China, on the east and south-east by the Lao People's Democratic Republic and the Kingdom of Thailand, on the west and south by the Bay of Bengal and Andaman Sea, on the west by the People's Republic of Bangladesh and the Republic of India. It lies between 09°32' N and 28°31'N latitudes and 92°10' E and 101°11' E longitudes.

Geography

The country is divided administratively, into 14 States and Divisions. It consists of 67 districts, 330 townships, 64 subtownships, 2891 wards, 13698 village tracts and 64817 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 preceeds rainy season and lasts from mid-February to mid-May.

During the 10 years period covering 1994-2003, the average rainfall in the Coastal regions of the Rakhine and Tanintharyi was over 5000 mm annually. The Ayeyarwady delta had a rainfall of about 3000 mm, the mountains in the extreme north had about 2000 mm and the hills of the east about 1300 mm. The dry zone had between 600 and 1400 mm due to the Rakhine Yomas (hills) cutting off the monsoon. The average temperature experienced in the delta ranged between 22°C to 32°C, while in the dry zone, it was between 20°C and 34°C. The temperature was between 15°C and 29°C in hilly regions and even lower in Chin state ranging between 10°C and 23°C.

Demography

The population of Myanmar in 2008-2009 is estimated at 58.38 million with the growth rate of 1.52 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 86 per square kilometers and ranges from 666 per square kilometers in Yangon Division, where in lies the city of Yangon, to 15 per square kilometers in Chin State, the western part of the country.

Estimates of population and it's structure (1980-2008)

(in million)

Population Structure	1980-81		1990-91		2000-01		2007-08		2008-09	
	Estimate	%	Estimate	%	Estimate	%	Estimate	%	Estimate	%
0-14 years	13.03	38.77	14.70	36.05	16.43	32.77	18.57	32.30	18.87	32.32
15-59 years	18.44	54.86	23.47	57.55	29.72	59.29	33.87	58.90	34.38	58.89
60 years and above	2.14	6.37	2.61	6.4	3.98	7.94	5.06	8.80	5.13	8.79
Total	33.61	100	40.78	100	50.13	100	57.50	100	58.38	100
Female	16.93	50.37	20.57	50.28	25.22	50.31	28.92	50.29	29.35	50.27
Male	16.68	49.63	20.21	49.72	24.91	49.69	28.58	49.71	29.03	49.73
Sex Ratio (M /100F)	98.52		98.25		98.77		98.85		98.91	

Source: Planning Department, Ministry of National Planning and Economic Development

People and Religion

The Union of Myanmar is made up of 135 national groups speaking over 100 languages and dialects. The major ethnic groups are Kachin, Kayah, Kayin, Chin, Mon, Bamar, Rakhine and Shan. About 89.4% of the population mainly Bamar, Shan, Mon, Rakhine and some Kayin are Buddhists. The rest are Christians, Muslims, Hindus and Animists.

Economy

Myanmar is a country with a large land area rich in natural and human resources. Cognizant of the fact that the agricultural sector can contribute to overall economic growth of the country the government has accorded top priority to agricultural development as the base for all round development of the economy as well.

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.

Encouragement for the development of the industrial sector has been provided since 1995. In order to support and to render assistance to small and medium size industries scattered all over the countries in an organized manner, the government has established 19 industrial zones in states and divisions.

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 States and Divisions. Adult literacy rate for the year 2005 was 94.1% while school enrolment rate was 97.58%, increasing respectively from 79.7% and 67.13% in 1988. Expenditure for health and education have risen 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.

Gross Domestic Product (kyats in million)

GDP	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08▲
Current	5625254.7	7716616.2	9078928.5	12286765.4	16852757.8	23331693.2
Constant Producers' Prices	3184117.3▲	3624926.4▲	4116635.4▲	4675219.6▲	13893395.3▲	15551477.4▲
Growth (%)	12.0	13.8	13.6	13.6	13.1	11.9

Source: Statistical Year Book 2007, CSO

▲ Provisional actual ▲ 2000-01 Constant Producers' Prices ▲ 2005-06 Constant Producers' Prices

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 social objective laid down by the State, and the National Health Policy, the Ministry of Health is taking the responsibility of providing promotive, preventive, curative and rehabilitative services to raise the health status of the population. 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, mainly curative, for their employees and their families. They include Ministries of Defense, Railways, Mines, Industry I, Industry II, Energy, Home and Transport. Ministry of Labour has set up two general hospitals, one in Yangon and the other in Mandalay, and one TB hospital in Hlaingtharyar (Yangon) to render services to those entitled under the social security scheme. Ministry of Industry (1) is running a Myanmar Pharmaceutical Factory and producing medicines and therapeutic agents to meet the domestic needs.

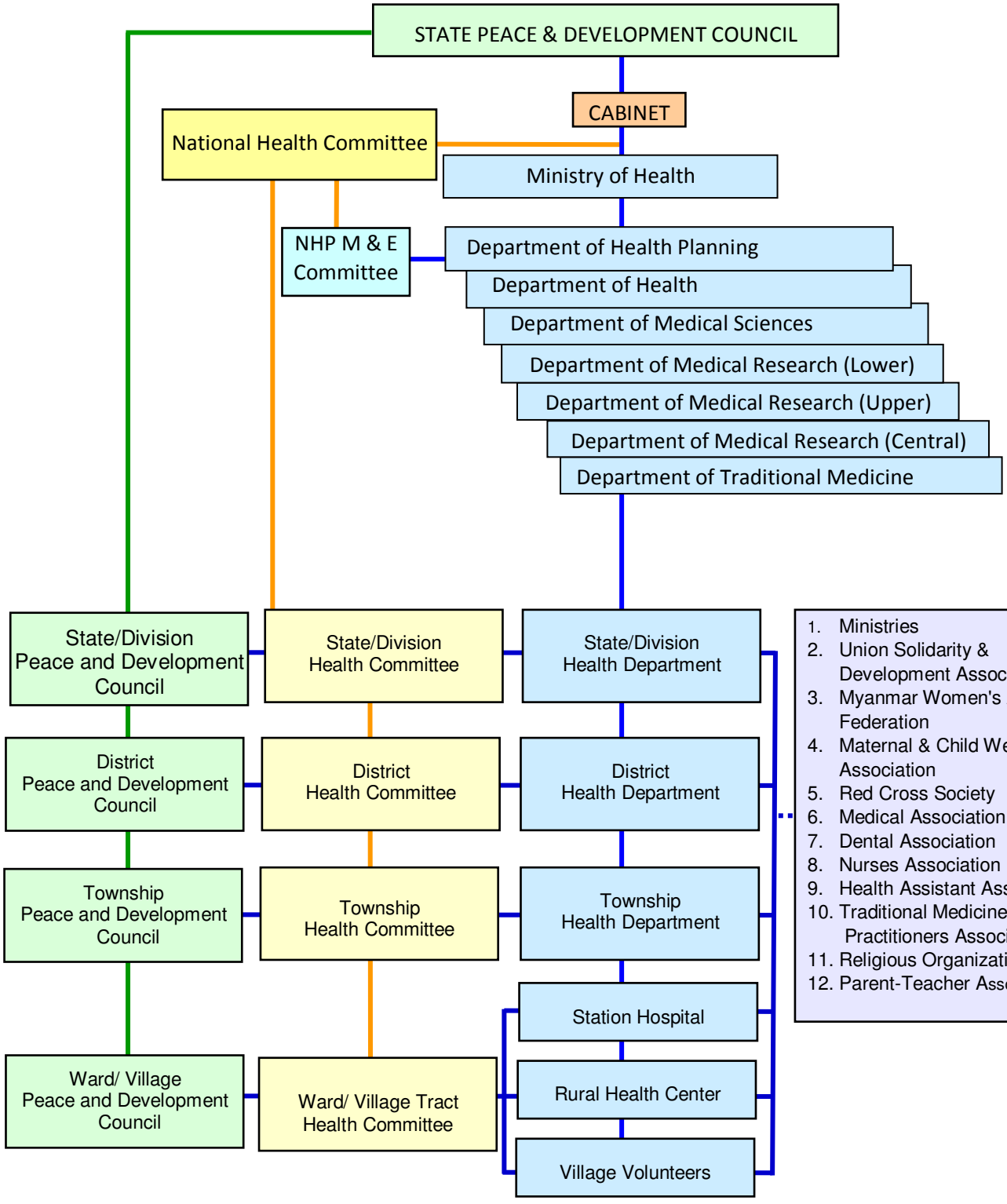
The private, for profit, sector is mainly providing ambulatory care though some providing institutional care has developed in Yangon, Mandalay and some large cities in recent years. Funding and provision of care is fragmented. They are regulated in conformity with the provisions of the law relating to 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, which is another sector also providing ambulatory care though some providing institutional care 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 through out 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. Sectoral collaboration and community participation is strong in Myanmar health system thanks to the establishment of the National Health Committee in 1989. 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 have been established in various administrative levels down to the wards and village tracts. These committees at each level are headed by the chairman or responsible person of the organs of power concern and include heads of related government departments and representatives from the social organizations as members. Heads of the health departments are designated as secretaries of the committees.

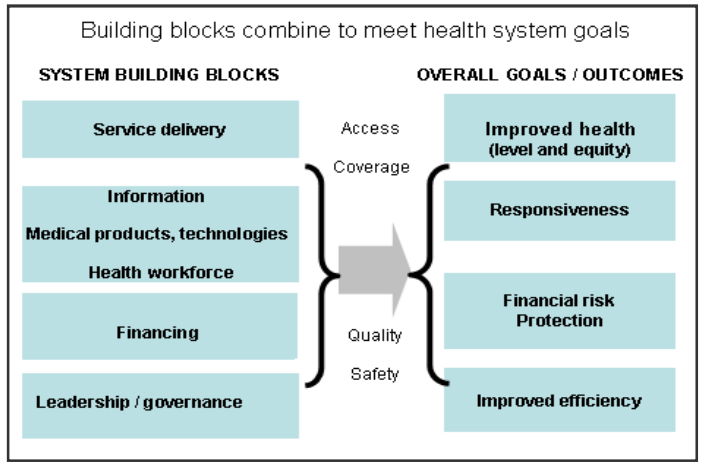
Health Service Delivery



Health System Strengthening

An independent review committee recommended an award of a health system strengthening grant through the Global Alliance for Vaccines and Immunization in 2008. This grant was subsequently approved by the Board of GAVI in 2008.

The health system strengthening framework was developed in 2008. The main observation from the framework is the interaction between the equity and effectiveness of health care services, and the strengthening of health management and planning (including financing) and human resource development systems. The health systems framework describes how system "building blocks" interact to affect the equity, responsiveness and efficiency of health care services.



WHO Health System Building Blocks

The health sector analysis has indicated that there have been some adverse effects on health system function: Limited access to hard to reach areas due to specific health system barriers and gaps; inefficiencies in service delivery; overburdening of work of primary care providers (in particular midwives) with documentation and vertical programming, resulting in less attention provided to core functions of the midwife of maternal and child health. Coordinated Township Health Planning provides an opportunity to address the fundamental weakness in the system, by harmonizing and aligning various national and international investments with this PHC strategy through strengthening of health system coordination. Following the Nargis natural disaster in 2008 and the subsequent commitment of international donors to relief and recovery efforts, additional policy pressures have arisen to develop more coordinated planning systems.

It is therefore the intent of the Ministry of Health to strengthen the planning system in Myanmar through development and implementation of Township Coordinated Planning Guidelines. It is proposed that in the medium term, a coordinated National Planning System will be operational nationally incorporating key Primary Health Care components for other levels of the health system.

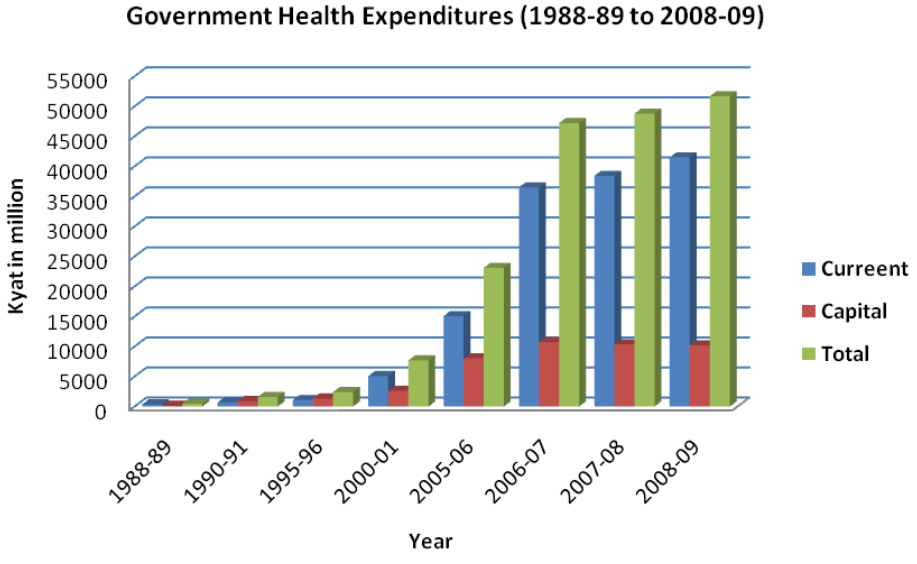
The Goal of the Health System Strengthening Program in Myanmar is to achieve improved service delivery of essential components of Immunization, MCH, Nutrition, & Environmental Health by strengthening programme coordination, health planning systems, and human resources

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 and 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.

Financing Health

The major 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 464.1million in 1988-89 to kyat 51674.9 million in 2008-2009.



As spending by Ministry of Health as a financing agent constitutes the major share in the public spending on health and also taken into account the availability of data, estimates on public expenditures on health by financing entities were based solely on spending by the ministry. By functions curative and rehabilitative services accounted for around 37% followed by 31% to 34% of spending devoted to health related functions. Prevention and public health accounted for about 20% to around 25% and Health Administration & Health Insurance accounted around 4%.

Governmental Health Expenditures by Functions (2006-07 and 2007-08)

Functions (%)	2006	2007
Curative & Rehabilitative	37.03	37.72
Ancillary Services	0.28	0.24
Medical Goods Dispensed	3.73	3.44
Prevention & Public Health	21.62	24.03
Health Administration & Insurance	3.68	3.86
Health Related Services	33.66	30.71

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 77 branch offices have been established nation-wide. One 250-bedded Workers' Hospital in Yangon, one 150-bedded Workers' Hospital in Mandalay and one 100-bedded TB Hospital in Hlaingtharyar has been established along with 89 dispensaries and 2 mobile medical units.

HEALTH POLICY, PLANS AND LEGISLATION

**Chairman of the State Peace and Development Council,
Senior General Than Shwe inspecting the provision of Health Care at
the areas affected by Cyclone Nargis and giving guidance**

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. Under the guidance of the National Health Committee various health committees had been formed at each administrative level.

For the monitoring and evaluation purpose, National Health Plan Monitoring and Evaluation Committee was formed at the central level. Built-in monitoring and evaluation process is undertaken at State/Division and Township level on regular basis. Implementation of National Health Plan at various levels is carried out in collaboration and co-operation with health related sectors and NGOs.

Composition of National Health Committee

1.	Secretary (1), State Peace and Development Council	Chairman
2.	Minister, Ministry of Health	Member
3.	Minister, Ministry of National Planning and Economic Development	Member
4.	Minister, Ministry of Home Affairs	Member
5.	Minister, Ministry for Progress of Border Areas and National Races and Development Affairs	Member
6.	Minister, Ministry of Social Welfare, Relief and Resettlement	Member
7.	Minister, Ministry of Science and Technology	Member
8.	Minister, Ministry of Education	Member
9.	Minister, Ministry of Sports	Member
10.	Minister, Ministry of Immigration and Population	Member
11.	Mayor, Nay Pyi Taw	Member
12.	Director, Directorate of Medical Services, Ministry of Defence	Member
13.	Deputy Minister, Ministry of Health	Member
14.	Deputy Minister, Ministry of Health	Secretary
15.	Director General, Department of Health Planning, Ministry of Health	Joint Secretary

National Health Policy

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 Development Plans

With the objective of uplifting the health status of the entire nation, the Ministry of Health is systematically developing Health Plans, aiming towards Health for All Goal. From 1978 onwards four yearly People's Health Plans have been drawn up and implemented. Since 1991, short term National Health Plans have been developed and implemented.

Myanmar Health Vision 2030

Considering the rapid changes in demographic, epidemiological and economic trends both nationally and globally, a long-term (30 years) health development plan has been drawn up to meet any future health challenges. The plan encompasses the national objectives i.e. political, economic and social objectives of the country. This long term visionary plan with its objectives will be a guide on which further short-term national health plans are to be developed.

Objectives

- To uplift the Health Status of the people.
- To make communicable diseases no longer public health problems, aiming towards total eradication or elimination and also to reduce the magnitude of other health problems.
- To foresee emerging diseases and potential health problems and make necessary arrangements for the control.
- To ensure universal coverage of health services for the entire nation.
- To train and produce all categories of human resources for health within the country.
- To modernize Myanmar Traditional Medicine and to encourage more extensive utilization.
- To develop Medical Research and Health Research up to the international standard.
- To ensure availability in sufficient quantity of quality essential medicine and traditional medicine within the country.
- To develop a health system in keeping with changing political, economic, social and environmental situation and changing technology.

Main components of the Plan

- 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
- International Co-operation

Expected Benefits

Improvement in the following indicators:

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 Health Plan (2006-2011)

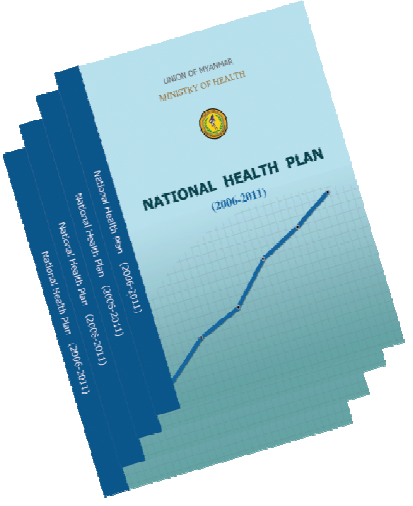
The National Health Plan forms an integral part of the National Development Plan and is in tandem with the national economic plan. The plan will ensure effective implementation of the National Health Policy. It covers the second 5 year period of Myanmar Health Vision 2030.

Objectives

- To facilitate the successful implementation of the social objective, "uplift of health, fitness and educational standards of the entire nation"
- To implement National Health Policy
- To strive for the development of a health system, that will be in conformity with political, economic and social evolutions in the country as well as global changes
- To enhance the quality of health care and coverage
- To accelerate rural health development activities

Main Components of the Plan

- Community Health Care
- Disease Control
- Hospital Care
- Environmental Health
- Health System Development
- Human Resources for Health
- Health Research
- Traditional Medicine
- Food and Drug Administration
- Laboratory Service
- Health Promotion
- Health Information System



Expected Benefits

National Health Plan 2006-2011 have been formulated within the objective frame of the second five year period of Myanmar Health Vision 2030 and as such as a short term plan to accelerate endeavours to realize future vision of raising the health status of the nation. The plan will carry on the tasks in the previous National Health Plan that still need to be completed and will also be implemented setting sights on reaching health related goals in the Millennium Declaration. In this way the plan will give effect to all round development of the country through raising the health status and will also enable the country as member of the global community to fulfill its roles and responsibilities in the international and regional agenda for health development.

Health Legislation

Legal provision for the interest of health of the people is accomplished through enacting the following health related laws.

1. 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.
2. Dental and Oral Medicine Council Law (1989)	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.
3. Law relating to the Nurse and Midwife (1990)	Provides basis for registration, licensing and regulation of nursing and midwifery practices and describes organization, duties and powers of the nurse and midwife council.
4. Myanmar Maternal and Child Welfare Association Law (1990)	Describes structure, objectives, membership and formation, duties and powers of Central Council and its Executive Committee.
5. National 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.
6. 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.

7. Prevention and Control of Communicable Diseases Law (1995)	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.
8. 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.
9. 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.
10. 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.
11. 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.

12. 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.
13. 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.
14. 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.
15. 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.

16. 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.

HEALTH INFRASTRUCTURE

Objectives and Strategies

To realise 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 realise 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, viz promotive, preventive, curative and rehabilitative measures.

The Ministry of Health is headed by the Minister who is assisted by two Deputy Ministers. The Ministry has seven 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) and Department of Traditional Medicine. 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.

General Thiha Thura Tin Aung Myint Oo, Secretary (1) of the State Peace and Development Council and Chairman of the National Health Committee delivered an inaugural speech at 2009 World Health Day Commemoration Ceremony

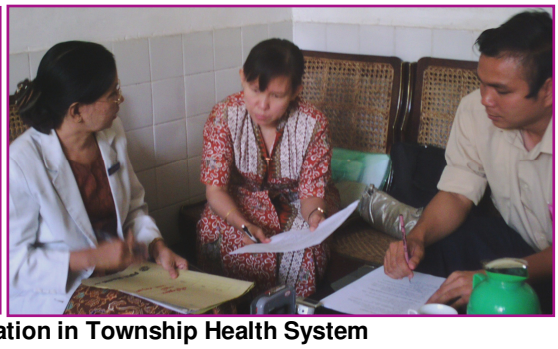
Department of Health Planning

The Department of Health Planning comprises of the following divisions:

- Planning Division
- Health Information Division
- Research and Development Division
- E-Health 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. The availability of reliable statistics and information is a vital prerequisite in such an effort. The Department of Health Planning is responsible for formulating the National Health Plan and for supervision, monitoring and evaluation of the National Health Plan implementation. The Department also compiles health data and disseminates health information.

Meeting on Monitoring and Evaluation of National Health Plan (2006-2011)



Study on Health Financing Situation in Township Health System

Workshop on WHO- Family of International Classification

Workshop on Development of HIS Strategic Plan

Department of Health

The Department of Health, one of the seven departments under the Ministry of Health is responsible for providing health care services to the entire population in the country.

Under the supervision of the Director General and Deputy Directors General, there are 10 Directors who are leading and managing the following divisions.

- Administration
- Planning
- Public Health
- Medical Care
- Disease Control
- Health Education
- Food and Drug Administration
- National Health Laboratory
- Occupational Health
- Nursing

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 and school health services. The medical care division is responsible for setting hospital 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 cover prevention and control of infectious diseases, disease surveillance, outbreak investigation and response and capacity building. Health education division is responsible for wide spread dissemination of health information and education.

Food and drug administration division is responsible for registration and licensing of drugs and food, quality control of registered drugs, processed food, imported food and food for export. 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.

Department of Traditional Medicine

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 Science

The Department of Medical Science is responsible for training and production of all categories of health personnel with the objective to produce appropriate mix of competent Human Resources for Health for successful implementation of the National Health vision and mission.

The department has five divisions which are Graduate/Nursing Training Division, Postgraduate Training & Planning Division, Foreign Relation & Library Division, Administrative & Budget Division and Medical Resource Center.

The Department of Medical Science supervises the educational programmes and training processes for quality improvement.










Training of Human Resources for Health

Department of Medical Research (Lower Myanmar)

The Department of Medical Research, established since 1963 was expanded in phases. It was renamed as the Department of Medical Research (Lower Myanmar) with the establishment of two Research Departments in Upper and Middle parts of Myanmar. Current organization set-up of the Department comprises 22 research divisions, 8 supporting divisions and 10 clinical research units of various disciplines. On-going research- cum -action projects include vaccine and diagnostic clinic, cervical cancer clinic and hot line service for reproductive health.

It's main function includes organizing research in various fields, trans-disciplinary collaborative research, promoting research capability, and supporting researchers from health institutes, universities and other departments under the Ministry of Health. Research capacity strengthening has been achieved through provision of regular research methodology training, diagnostic laboratory training and advanced technology training, and hosting workshop on ethical issues in reproductive health research, national workshop on monitoring efficacy of antimalarial drugs in Myanmar and technical meeting on anti-malarial drug resistance in Myanmar.

National Workshop on Monitoring Therapeutic Efficacy of Anti-Malaria Drugs in Myanmar

Training on immunohistochemical method for detection of Hepatitis C antigen in liver tissue for the diagnosis of Hepatocellular Carcinoma

Department of Medical Research (Upper Myanmar)

Department of Medical Research (Upper Myanmar) was inaugurated in Mandalay in November 1999, and was moved to Pyin Oo Lwin township since March 2001. Under the guidance of the Ministry of Health, it is actively involved in research studies on identification of novel medicinal plants for treatment of six major diseases, namely malaria, tuberculosis, hypertension, diabetes mellitus, diarrhoea and dysentery diseases. Medicinal plants of rare species are collected from states and divisions and grown in the herbal gardens of the department. Up to now, 518 species of medicinal plants are grown and maintained.

Currently ten research divisions and seven supporting divisions are functioning in the department. Research areas covered by these divisions included: reproductive health studies. monitoring of therapeutic efficacy of antimalarials, operational research on performance of various categories of health staff, assessment of efficacy and side effects of medicinal plants for treatment of diabetes mellitus, hypertension and diarrhoea, seasonal prevalence of malaria vectors and health services utilization status by minor ethnic groups.

Department of Medical Research (Central Myanmar)

Department of Medical Research (Central Myanmar) [DMR (CM)] was established in December, 2002 and it has developed technologies on various fields during the 7 years periods. Basic histological, immunological, microbiological, hematological, parasitological and biochemical techniques have already been established in DMR (CM) now. Cultural technique including malaria culture, cell culture, and bacteriological culture are also being conducted. Furthermore molecular biological techniques including DNA and RNA technology, Polymerase Chain Reaction (PCR) Technology and in-situ hybridization have also established. Real Time (RT-PCR), Sequencing, and Cloning techniques will be established in near future. By using these methodologies, research works are being performed in the fields of oral cancer, breast cancer, urinary tract cancer, viral aetiology and carcinogenesis, antibiotic sensitivity testing of dysentery and diarrhoea diseases, research on various aspects of infectious diseases including influenza, leprosy, HIV/AIDS, reproductive tract infection and dengue haemorrhagic fever (DHF) in collaboration with local and foreign institutions.

Epidermiological and Socioeconomical research in Tuberculosis, Malaria, DHF, are also being conducted. Public services such as cervical cancer screening and running the clinical laboratory of Mitter San Yay Clinic, Myanmar Maternal and Child Welfare Association (MMCWA) are being undertaken by staffs of DMR (CM).

HEALTH SERVICES IN MYANMAR

The Ministry of Health is providing comprehensive health services covering promotive, preventive, curative and rehabilitative aspects to raise the health status and prolong the lives of the citizens. With the objective of achieving Health for All goals, successive National Health Plans have been developed and implemented in accordance with the guidelines of the National Health Policy.

The basic health staff down to the grass root 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 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/Divisional level, the State/Divisional Health Department is responsible for State/ Divisional 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 Township Health Department forms the back bone for primary and secondary health care, covering 100,000 to 200,000 people.

In each township, there is a township hospital which may be 16/25 or 50 bedded depending on the size of population of the township. Each township has at least one or two station hospitals and 4-7 RHCs under its jurisdiction to provide health services to the rural population. Urban Health Center, School Health Team and Maternal and Child Health Center are taking care for urban population, in addition to the specifically assigned functions. Each RHC has four sub-centres covered by a midwife and a public health supervisor grade 2 at the village level. In addition there are voluntary health workers (community health worker and auxiliary midwives) in outreach villages providing Primary Health Care to the community.

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

1. Health Service Delivery in the context of Primary Health Care
2. Services for the Target Population Group
3. Promoting Health, Ensuring Healthy Environment and Protecting Consumers
4. Controlling Communicable Diseases

Health Service Delivery in the context of Comprehensive Primary Health Care

Basic Health Services

Basic health service is one of the essential components of rural health development scheme. Access to health care for 70% of country population residing in rural areas has been improved through the expansion of the health infrastructure and health manpower in terms of basic health staff and voluntary health workers, i.e. community health workers and auxiliary midwives.

Basic health staff have been providing health care services in terms of maternal and child health care, nutrition promotion, school health, environmental health, expanded programme of immunization and disease control activities, such as TB, Malaria, HIV/AIDS, Leprosy, and other communicable diseases, including emergency response in case of disaster. They also have to collect data on health and health related sectors and to report monthly for monitoring, supervision and mid-year and yearly evaluation.

Basic health service section, public health division of department of health is responsible for implementation of health care activities especially for rural areas through comprehensive primary health care approach. Regarding the community health care programme, one of the essential programmes of National Health Plan, basic health services section has been implementing the primary health care and referral project in order to strengthen the capacity not only of the basic health staff but also the community health workers by providing trainings, refresher trainings and support for supervision and monitoring.

Curative Services

Curative services are provided by various categories of health institutions. There are General hospitals, Specialist hospitals, Teaching hospitals, State/Division hospitals, District hospitals, Township hospitals in urban area. Sub-township hospitals, Station hospitals, Rural Health Centres and Sub-Rural Health Centres are serving rural people by providing comprehensive health care services including public health services with available diagnostic facilities.

Station Hospitals including Sub-township Hospitals are basic medical units with essential curative elements such as general medical and surgical services and obstetric facilities. The population residing in rural area are covered by Station Hospitals. Township Hospitals situated at 10 to 20 kilometers away from the station hospitals are providing health care services including laboratory, dental and also major surgical procedures and 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 unit with life saving facilities are available. More advanced secondary and tertiary health care services are provided at the State/ Division Level hospitals, Central and Teaching hospitals.

Hospitals under the Ministry of Health

At village level there are 1504 Rural Health Centers (RHCs). The basic health staff down to the grassroot level are providing promotive, preventive, curative and rehabilitative services through primary health care approach.

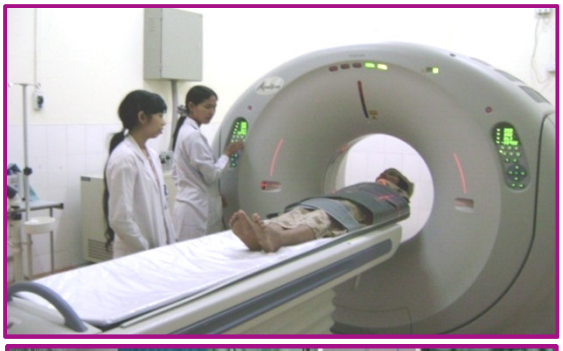
To ensure adequate coverage of hospital services in every state and division, hospital upgrading project was planned and implemented every 5 year. It also includes establishment of new hospitals in remote area and increasing hospital beds for those area with high population density especially the districts with rapid socioeconomic development.

By the end of December 2009, total government hospitals are 884 in number, which increased 40% from that of 1988. Total hospital beds provided in public hospitals under the Ministry of

Health for 2009 are 38579. Institution based health care quality is improved during last few years. Most of the central, teaching and state/divisional hospitals are equipped with modern diagnostic and therapeutic facilities. Majority of referral cases have accessed to high quality medical care services at district hospitals and above.

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 the new Capital, Nay Pyi Taw, 1000 bedded General Hospital is providing general medical and special care facilities including cardiology, pulmonary, urology, neurology, gastro-intestinal and hepatology Intensive Care Unit with emergency medical and surgical services are now available to those residing in middle Myanmar.



The health development and provision of medical care services for border area have been implemented since 1989 and up to December of 2009, 100 hospitals, 97 dispensaries, 90 rural health centres and 200 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.

With partnership approach, provision by the Government and donation by private donors of hospital equipment and supplies have been a custom in almost all hospitals in Myanmar. Based on religious and social customs, Myanmar people are eager to provide assistance for social works. Local community and private donors have contributed for curative health service in terms of cash or fulfilling hospital needs including medical equipment. The Hospital Management

Committees led by local administrative authority and members from related departments are organized and are then making coordinated effort to fulfill needs of the hospitals according to functional requirements.

Public hospitals throughout the country are 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 cumulated amount of trust fund established in the hospitals was 1,516 kyat in million in 2005 and 5,494 kyat in million in 2009 October.

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.

Outreach cataract surgical teams, reconstructive surgery teams and general medical and surgical teams from Eye, ENT hospitals, central, state and divisional and 200 bedded hospitals have provided their services throughout the country. The services are free and costs for out-reach services were borne by NGOs and other individual donors.

Along with curative service, patient centered nursing care has been focused and upgraded in both the managerial and practical aspects. The Nursing Division under the Department of Health could provide training on nursing leadership and management development to strengthen nursing services in collaboration with WHO and International Council of Nurses.

Access to Essential Medicines

Essential medicines are those that satisfy the priority health care needs of the population and these medicines are intended to be available within the context of functioning health systems at all times in adequate amounts, in the appropriate dosage forms, with assured quality.

National List of Essential and Complementary Medicines being a critical component of Myanmar Essential Medicines Project, the first Myanmar Essential Medicines List was published in 1979. It has been revised as 2010 version to be relevant to updated concepts by National Essential Medicines Committee under the guidance of National Health Policy.

The Essential Medicines List consists of two sections, a "core" list representing the minimum medicines needs for a basic health-care system, and a "complementary" list for medicines that address priority health-care needs, but require specialized facilities/services, or are costly.

Oral Health

In Myanmar and throughout the world, dental caries is the most common chronic disease, affecting general populations and particularly children. Periodontal or gum diseases have been associated with major systemic conditions including diabetes, adverse pregnancy outcomes and some heart ailments. In order to control these major oral diseases, the slogan *"Save your smile with twice-a-day-fluoride toothbrushing"* was chosen for Myanmar and has focused on promotion of effective toothbrushing with fluoride toothpaste among its populations. The overall objective is to achieve optimal oral health through early prevention and possible standard of self care. A new set of IEC materials have been developed to disseminate the most appropriate and efficacious way of toothbrushing with fluoride toothpaste for all age groups of the country.

In order to supplement the promotive efforts, Oral Health Unit under the Department of Health has conducted advocacy meetings with dental and health professionals for promotion of effective toothbrushing in border area and strategic townships. Basic and emergency oral health care trainings have been given to basic health staff, so that the first contact oral health care is established in rural and remote communities throughout Myanmar.

Advocacy Meeting with Health Professionals on Effective Tooth Brushing in Tachileik

Basic and Emergency Oral Health Care Training for Basic Health Staff in Pathien

The Oral Health Unit, in collaboration with The International Medical Cooperation of Japan (IMCJ), Leprosy Elimination Campaign of the Department and Keng Tung oral health sector have conducted a field research in Naung Kan area of Eastern Shan State, aiming at identifying oral disfigurement, prosthetic need, oral hygiene behavior and the oral impact of daily performance among leprosy affected persons and healthy locals.

Conducting Oral Health Research in KengTung, Shan (East) State

In order to reinforce the clinical oral health facility of the Dental & Maxillofacial Unit of the 1000 Bedded Specialist Hospital of Nay Pyi Taw, new dental chairs, units & equipment have been installed. With the support of Myanmar Maternal and Child Welfare Association, the Japanese and Myanmar maxillofacial specialist team has provided restorative surgery for 55 patients with maxillofacial disfigurements and cleft lips & palates, for the first time in Nay Pyi Taw Specialist Hospital, and the program will be continued in the future.

Services for the Target Population Group

Maternal and Child Health

Maternal, Newborn and Child Health has been a priority national health issue aiming to achieve the Millennium Development Goals especially Goal 5: To improve Maternal Health by reducing maternal mortality and morbidity. With the adoption of the comprehensive reproductive health care in life cycle approach with emphasis on Safe Motherhood by ICPD (Cairo, 1994), Myanmar incorporated the comprehensive reproductive health care into the conventional maternal and child health care programme. Maternal and child health care services are provided both in urban and rural settings and it is also a crucial component of National Health Plan.

Objective:

- To improve the health status of mother and children including newborn by reducing maternal, neonatal and child mortality and morbidity.

Strategies:

The reproductive health strategy provides a review of the reproductive health situation and services in Myanmar and sets objectives under the following core strategies:

- Improving antenatal, delivery, post-partum and newborn care;
- Providing quality services for birth spacing and prevention and management of unsafe abortions;
- Preventing and reducing reproductive tract infection (RTIs); sexually-transmitted infections (STIs), including HIV, cervical cancer and other gynaecological morbidities;
- Promoting sexual health; including adolescent reproductive health and male involvement.

In order to increase access to quality reproductive health services and implementation of the above core strategies, the following priority policy and programmatic actions will be implemented:

- 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.

Major Activities:

- Training
- Provision of supply and equipment
- IEC development and distribution
- Research
- Infrastructure development
- Supervision, monitoring and evaluation
- Community empowerment and strengthening of referral system
- Integration with other health services and partnership

Major Achievements:

- The Five Year Strategic Plan for Reproductive Health (2009-2013) has been successfully developed in 2009.
- Meeting for achieving MDG could be held at central level attended by all States and Divisional Health Directors, Clinicians and other Departments' stakeholders.

- Workshop for MCH Medical Officers from the whole country aiming to achieve MDG was held in December 2009.
- AMW recruitment was up to 31787 for total 64910 villages and ratio of AMW: Village become nearly 1:2.
- More than 18000 BHS at township level were given trainings on Maternal, Newborn and Child Health Care during 2009.
- Total 295 Rural Health Centers and Sub-centers have been attached with labour room.
- Nearly 200,000 home-based maternal records, 30,000 clean delivery kits and 20 labour beds have been supplied to townships for clean and safe delivery.
- Integrated service for maternal, child and nutrition was provided to mobile population at construction sites in Nay Pi Taw.

Workshop on Achieving MDG
attended by MCH Medical Officers countrywide

Future Plan:

- Improvement of quality services for maternal, newborn and child health
- Establishment of maternity waiting homes
- Increase number of MWs and AMWs (Midwifery skilled persons: Village to be 1:1)
- Building capacity of health care providers by skill-based trainings and distribution of training materials to be used in CME sessions at township level.
- Strengthening collaboration between reproductive health programme and other key public health programmes such as immunization, nutrition, HIV/AIDS and malaria.

Women and Child Health Development

Women and Child Health development (WCHD) activities have been being implemented since 2001 with the goal of achieving Millennium Development Goals and the objectives of providing quality health care services for women, children and adolescent in order to reduce under five mortality rate and maternal mortality rate according to MDGs and promoting health development of the women, children and adolescent. WCHD project has been implemented in 149 townships in all States and Divisions from 2001 to 2009.

WCHD strategies aiming at ensuring quality health services are accessible and affordable for women, children and adolescent. It contains 4 components: namely, women health development, child health development, adolescent health development and newborn health development.

Strategies:

- To incorporate available strategies into the new program. Integrated Management of Childhood Illness (IMCI) for Child Health, Integrated Management of Pregnancy and Childbirth (IMPAC) for Women Health and Life Skills Education for Health (LSEH) for Adolescent Health.
- To initiate coordination between departments, national/international agencies and organizations involved in health of women, children and adolescent.
- To carry out WCHD activities in 12 new townships per year from 2006 to 2010.
- To continue and reinforce IMMCI activities in areas where WCHD activities are not yet implemented.

Strategies have focused on the following five areas:

1. Strengthening of organization and management
2. Improving skill of Basic health Staff
3. Improvement of the Health system
4. Improvement of community participation and family practice.
5. Surveys for evidence based decision making

WCHD training for Basic Health Staff and hospital staff, AMW training, project management training and community based health activities training have been conducted annually to improve the skill of health personnel and to provide quality health care services. After conducting the training of trainers' course, multiplier trainings have conducted at the respective township level. For community based health activities, multipliers trainings are held at township as well as rural health center (RHC) level to train volunteers as health promoter to improve family practices in the community.

WCHD project had conducted nation-wide cause-specific under five mortality survey (2002-2003), nation-wide cause specific maternal mortality survey (2004-2005), study on key family practices and local terminology for selected ethic groups (2004) and study on AMW performance (2005).

In 2009, review on use of misoprostol in the management of third stage of labour was conducted in order to document the usage of Misoprostol in Myanmar and to identify the strengths and weaknesses to improve the programme and its impact on preventing maternal deaths. In addition, Study on Assessment of Emergency Obstetric Care Facility in 7 States and Divisions has been carried out with the objective of assessing the impact of Essential Obstetric Care (EOC) services aimed at reducing maternal mortality and to apply the findings for guiding policy and programme development by identifying priority issues and intervention.

Annual review meeting of WCHD has been held to review the existing program as well as to plan for the future activities. In addition, short program review on child health development was also conducted.

Workshop on Short Program Review on Child Health Development

Focus Group Discussion with Mothers of Under Five Children for Review on Community-based Health Activities

Group Work on Coordination Meeting for WCHD Training for Hospital Staff

Based on the findings from the Short Program Review on Child Health Development, workshop on Review of Existing Five-year Strategic Plan for Child Health Development (2005-2009) and Development of Five-year Strategic Plan for Child Health Development (2010-2014) was conducted in September 2009.

HE Professor Dr Kyaw Myint at the opening ceremony of workshop on development and formulation of five-year strategic plan for child health development (2010-2014)

In 2010, community based case management for pneumonia and diarrhoea management via community health volunteers has been started as pilot in one township.

Future plan:

WCHD project is going to complement with child health activities in 35 townships where reproductive health project is currently implemented. To improve new born survival, a strategy on home visits for the new born child within first 24 hours to ensure the essential newborn care practices such as early and exclusive breast feeding, hygienic umbilical care, and skin to skin care has been started in 2010.

Gender and Women's Health

Trainings have been provided to basic health staff on concepts and related practices within the health related framework of gender and equity. During 2008-2009 training on gender and health was conducted in 12 new townships and up till the present moment gender issue has been sensitized to BHS of 31 townships. Training are totally participatory in nature and BHS are encouraged to use the modules in training the community and at the same time applying the Gender Analysis Tools in align with the contents of the modules.

Following Cyclone Nargis, Gender Sensitive Disaster Management training workshops were held in Ayeyarwaddy and Yangon divisions and also in Mon State. All the Township Medical Officers (TMOs) and Health Assistants were sensitized on gender issues who later identified in group work means and ways for supporting gender sensitive disaster management in future.

Drawing Risk Mapping for Disaster Preparation during the training

Training on GMS to Four Programmes in Meikhtilar Township

In early 2009, mainstreaming gender (GMS) into four programmes namely Tuberculosis, HIV/AIDS, Leprosy and Reproductive Health was initiated by conducting training at central and followed by performing four actions cum research, emphasizing on gender perspectives towards the four programmes.

Refresher training was given to those training team members from the pioneer six townships started for gender training since 2006. During refresher training experience sharing was done between central trainers and the township training teams. The participants were encouraged to conduct further refresher training at townships they are responsible.

All these activities will lead to development of strategies for integrating gender equity into programmes, policy, and capacity building in the health sector in future.

Monitoring of the BHS from the townships that obtained training on gender and health is being done 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.

Gender analysis and mainstreaming tools for the Basic Health Staff and the community has provided with the acceptance, understanding and consideration of gender issues among service providers and community thus making them gender aware and gender sensitive in their service provision and treatment seeking respectively.

Research on gender issues:

A small scale study on assessing Gender based domestic violence in two townships Hlegu and Pyinmana was done during end of 2009 and is still in process for data analysis. Findings will provide input for further prevention of Gender Based Violence for the women in the communities.

Community Support and Reproductive Health Behaviour

In Myanmar community, there is an aged old tradition and accepted practice where inter-personal interactions are based on intimacy and amiability. This cultural ideal has provided a social network through which neighbours and friends, growing together and knowing each other, exchange mutual help and support in times of need. Correct knowledge and attitudes are essential yet insufficient for practices and behaviours conducive to health. Ability to make right choice and environment favouring to do so are additional requirements. Generating community support encouraging correct behaviours and impeding unwholesome ones goes a long way in making individuals' practices health promoting.

In this context making reproductive health education programmes realistic and in conformity with real life circumstances will need community support. Support of the community members willing to volunteer will provide mechanisms to bridge the gap between technically oriented initiatives of health workers and customary and culturally imbued beliefs and practices of the clients in the community.

In collaboration with UNFPA and JOICFP, Department of Health (Central Health Education Bureau) has launched a Reproductive Health Behaviour Change Communication programme in 2002, which now covers 41 townships. Through establishing correct reproductive health

behaviour in the community the programme aims to contribute in reducing maternal mortalities one of the goals included in the MDGs, in the country. The activities included in the programme are formation of Community Support Group (CSG), providing health education, timely referral of maternal cases to hospitals and clinics and providing support for patients lacking assistance.

Some CSG volunteers organized Health Posts named CSG corners to assist midwives for ante-natal or post-natal care, nutrition education or social support to the hard to reach areas.

Youth Information Corners (YICs) are also formed to facilitate learning and prevention of HIV/AIDS and Reproductive Health.

Collaboration of township authorities, township health departments and basic health staff play important roles in sustaining the activities. The programme after a considerable period of implementation has gained momentum and made substantial achievements thanks to the concerted efforts of all partners especially 45,414 trained CSG volunteers and 1,640 Youth volunteers.

Activities on Youth Information Centers and Community Support Groups

School and Youth Health

As School Health Programme aims to improve the health of entire students, the programme is in keeping along the track of Health Promoting School up to the community level. 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 Helath Services,
- Sports and Physical Activities,
- School to Community Outreach,
- Counselling and Social Support,
- Training and Research.

This ongoing process was found to have some progress from year to year.

School Health Week of 2009 ceremonies had been carried out in Nay Pyi Taw and all States and Divisions in the 2nd week of August. School Health Project had undertaken special 2009 School Health Week Activity at Thitpokepin Village of Lewai Township on July 28, 2009 in collaboration with Myanmar Maternal and Welfare Association. The following health promoting school activities were carried out in all schools during school health week annually.

- School Environmental sanitation
- School Health Education
- School Medical Examination and Treatment
- Prevention of Disease
- School Nutrition Promotion

All school children, school health personnel, authorities concerned and community are aware of the scope of vision for development of health promoting schools.

A workshop on Strengthening of School Sanitation and Hygiene Education Program has been conducted in Nay Pyi Taw during October 14-15, 2009 with various related departments. The Regional Advisor, Health Promotion and Education, WHO SEARO also participated. Participants were given learning opportunities regarding water, sanitation and hygiene promotion in schools and relevant approaches to improving school health activities through genuine participation of students, parents and community groups so that they can look after themselves and others.

Adolescent and Youth Health

The Ministry of Health is committed to promoting and maintaining the health status of adolescents and youths through Youth Health Project in collaboration with related sectors. A National Workshop for early implementation of five year strategic plan for Adolesent Health and Development (2009-2013) was organized in 2009 with various related sectors and inputs were obtained through discussions mainly addressed to the problems of adolescent and youth health.

Strategic Directions for Adolescent Health and Development

- Creating supportive and enabling environment
- Improving the provision of information and skills to adolescents
- Improving accessibility and utilization of health services

Promoting Healthy Ageing

Progress towards the goal of “Health for All” implies increasing survival due to the reduction of crude birth rate and crude death rate, increasing life expectancy and improving quality of health care. This will cause gradual increase in elderly population, which will later impose one of the emerging issues of the third world. The developing countries are experiencing the effect of rapid urbanization and industrialization, interacting with the changing economy, social and cultural values. Explicit problems that are emerging in relation to aged population fall under the category of social, health and economic dependence of the aged on their families, community and government.

To overcome the health effect of growing elderly population, elderly health care project was initiated as one of the primary health care programme since 1992-93. It was expanded by four to

six townships yearly and now, implemented in 82 project townships. In these townships, older people are taken care at health centres and hospitals on every Wednesday. Based on the concept of active ageing, the project mainly focuses on preventive and promotive aspect.

Doctors and Nurses from the Township hospitals as well as Basic Health Staff are trained for basic elderly health care and case management of elderly patients. They are trained to be able to detect minor as well as some major illnesses of the elderly. They are also trained to understand the underlying causes of the illnesses so they can identify determinants of healthy aging like psychological, physical, social, environmental and economic.

As health education/ counseling is an essential component of the elderly health care, it is also included in the training with special emphasis on communication skills for educating and counseling the elderly people as well as their care givers. Taking regular physical exercise is very beneficial for daily living activity of older people, so that BHS are also trained on suitable physical exercise such as stretching exercise to be able to demonstrate older people. To explore the current situation of socioeconomic status, health status and environmental status of older people in expanded project townships, base line data collection is usually done before implementation of elderly health care services.

Furthermore, yearly refresher trainings are conducted at central level as well as township level. To assess the achievement of elderly health care program, annual evaluation is held at central level usually in October.

It is obvious that care of the elderly should be the joint responsibility shared by the family, the community and the state. Awareness raising on issue of older people among stakeholders is crucial. For this reason, advocacy meetings were held at 4 states/ divisions in 2009.

International Day for Elderly people is usually held all over the country on the1st of October and on that day, the elderly people are given gifts and medical care including eye care and oral care assisted by the local NGOs and voluntary health workers. Collaboration and coordination with related departments like Social Welfare Department and the Sport and Physical Education Department are also contributing to the success of activities on healthy aging.

Promoting Health, Ensuring Healthy Environment and Protecting Consumers

Environmental Sanitation and Safe Water

Environmental Sanitation Division, the Department of Health, is implementing the environmental sanitation activities such as construction of fly-proof sanitary latrine for community and health institution and water supply for health institutions in rural areas.

In 1998, the National Sanitation Week (NSW) movement was initiated for increasing the sanitation coverage in line with the National Health Plan and HFA 2000 throughout the country. Following the launch of National Sanitation Week, coverage of sanitary latrines dramatically increased from 45% in 1997 to 82.1% in 2008.

Coverage of Sanitary Latrine

	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
Rural	39	53	57	56.5	85.3	91.9	90.7	77.9	81.0	80.7	78.0	73.5
Urban	65	72	73	83.6	90.4	87.1	88.9	83.5	87.6	92.2	87.4	82.9
Union	45	60	62	63.1	86.6	88.4	90.3	82.4	82.7	83.6	80.2	82.1

Sources : Joint Monitoring Progress (JMP), Multiple Indicator Cluster Survey(MICS), National Sanitation Week Report (NSW)

ESD has carried out the Drinking Water Quality Surveillance and Monitoring Projects in Nyaungshwe in Southern Shan State, Dawei in Tanintharyi Division and Maubin and Wakema in Ayeyawaddy Division. Moreover ESD, firstly, implemented the Water Treatment Plant by means of Horizontal Roughing Filtration Process at Ohn-ny Station Hospital in Kawa township of Bago Division.

Water Safety Plan have been implemented by ESD in Tatkone, Lewe and Pantanaw townships in 2007 and Thanatpin and Kawa in 2008. The workshop on Water Safety Plan for Urban Water Treatment Plant was conducted in 2008 at the Department of Health. Concerned Departments and Private companies relating to water treatment participated in this workshop.

Under the guidance of National Health Committee, leadership of Ministry of Health and supervision of Department of Health and with concerted effort of ESD, participation of community and authorities concerned, the National Sanitation Coverage is on the track to meet the Millennium Development Goal.

In the aftermath of Cyclone Nargis, ESD carried out activities to provide safe water supply, construction of fly-proof sanitary latrine, systematic disposal of garbage and personal hygiene activities for the cyclone affected people with participation of local people, authorities concerned and NGOs.

Central Health Education Bureau (CHEB) organized campaigns for social mobilization on National Sanitation Week and conducted community-based health promotion action plans on Four Cleans: Clean toilets, Clean water, Clean hands and Clean foods.

Community Based Arsenic Mitigation (CBAM) project was organized by CHEB since 2002, covering areas in Bago and Ayeyarwady Divisions where arsenic contamination is high.

Healthy Work Places

Ensuring Healthy Work Places

To ensure healthy work places, Occupational Health Division (OHD) has provided various training on occupational health and safety including occupational first aid to employers, workers, supervisors, medical officers, nurses and basic health staff. OHD has been providing surveillance on workers' health, occupational diseases, occupational injuries and work environment. OHD has also investigated the industrial accidents in various States and Divisions to prevent the occurrence of similar episodes.

The Ministry of Health has been collaborating with the Ministry of Labour for the formation of National Occupational Safety and Health Committee.

Monitoring and Controlling Environmental Health

The Ministry of Health developed a "National Environment and Health Action Plan" in collaboration with National Commission for Environmental Affairs from Ministry of Forestry in 2010.

Air quality monitoring of Yangon City has been implemented in collaboration with WHO from October 2008 to December 2009. OHD also conducted compilation of emission data on air pollutants in Yangon in 2009. Activities of air quality monitoring of Nay Pyi Taw started from January 2010.

OHD has been providing surveillance on acute poisoning cases all over the country. OHD investigated the heavy metal poisoning including lead poisoning in various States and Divisions.

The Ministry of Health played a major role in drafting "Chemical Safety Law" with the Ministry of Industry No. (I) and other related ministries.

Promoting Urban Health

OHD has been implementing Healthy Cities Project to promote urban health by setting approach in Mandalay and Thanlyin. Recent activities are Survey on Industrial Waste Management, Survey on Healthy School Programme, Training on Industrial Waste Management and Training on Health Care Waste Management.

Nutrition Promotion

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

With the general objective to ensure that all citizens enjoy the nutritional state conducive to longevity and health, the nutrition promotion activities in Myanmar are implemented to realize the following specific objectives; to control/ eliminate all forms of nutritional deficiency; to promote healthy dietary habits and lifestyles among people and to prevent over-nutrition and diet-related chronic diseases.

Major interventions against nutritional problems:

Problems	Interventions
Protein Energy Malnutrition (PEM)	• Growth Monitoring and Promotion for children under 3 years • Community-based nutrition rehabilitation centre (CNC) for moderately malnourished children in urban areas • Hospital-based Nutrition Rehabilitation units (HNU) for severely malnourished children • Therapeutic feeding centers for severely malnourished children • Community-based feeding centers (Village Food Banks) for malnourished children in rural villages
Iodine Deficiency Disorders (IDD)	• Universal Salt Iodization (USI) is the major long-term intervention for elimination of iodine deficiency disorders
Iron Deficiency Anaemia (IDA)	• Biannual supplementation with high-potency vitamin A capsule is the main intervention against vitamin A deficiency among under-5 children. Lactating women receive one dose of vitamin A (200,000 IU) within one month after childbirth to ensure that the suckling baby gets sufficient vitamin A from the breast milk while mother is practicing exclusive breastfeeding
Vitamin A deficiency (VAD)	• Iron folate tablets supplementation for pregnant women throughout the country, for adolescent school girls in selected townships and children between 6 months and 3 years in selected growth monitoring sessions
Vitamin B1 Deficiency (Beri Beri)	• Vitamin B1 tablets were distributed to all townships for the risk groups especially to pregnant women one month before delivery and lactating mothers 3 months after delivery. • Supply of Injection B1 ampoules for treatment of beri beri cases.

Professor Dr. Kyaw Myint, Minister for Health, giving award for Baby Friendly Home Delivery Activity

The nutrition promotion week campaign has been launched since 2003. It takes place in the first week of September every year. During the campaign, various nutrition promotion activities were carried out. Vitamin A capsules were distributed to children between 6 months and 5 years of age; iodine content of salt is tested in the markets; and iron tablets were distributed to the pregnant women. Various nutrition education programmes are broadcast and telecast. Testing of iodine in salt is demonstrated for the school children and essay competitions among school children and cooking competitions for mothers were held.

In collaboration with Medical Care Division of the Department of Health, Nutrition Promotion Month was launched in 2009. All campaign activities were successfully completed following the guidance of Ministry of Health, Myanmar Salt and Marine Chemical Enterprise (MSMCE) of the Ministry of Mines, Department of Basic Education, Ministry of Information, and Department of General Administration.

As worm infestation is one of the causes of anemia, National Nutrition Centre launched Mass de-worming campaign in collaboration with Filarial Project and School Health Project. All children age between 2 to 9 yrs, all primary school students, 2 to 9 years out of school children and pregnant women with at least 3 month gestation are targeted for de-worming activity. This activity was implemented twice a year starting from 2006.

Chairperson of MMCWA, giving Vitamin A supplement to preschool children

The National Plan of Action on Food and Nutrition (NPAFN)

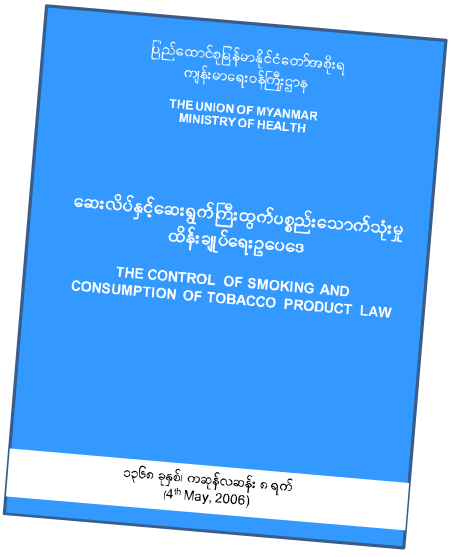
In accord with the commitment made at the International Conference on Nutrition 1992, Myanmar formulated the National Plan of Action for Food and Nutrition in 1994 and the Ministry of Health collaborated with relevant ministries involved in food production, food distribution, education, information and developmental affairs to update existing NPAFN. The framework of updated NFAPN (2006-2010) includes emerging issues such as over-nutrition, obesity and diet related chronic non-communicable diseases, adoption of new strategies including Infant and Young Child Feeding (IYCF), Diet, Physical Activity and Health, and Promotion of Optimal Fetal Growth. In 2009, Plan of Action for Diet, Physical Activity and Health was drawn in collaboration with Medical Care Division of Department of Health and other related ministries. NPAFN (2006-2010) is going to be reviewed and revised in 2010 to update and plan for next five years.

Rapid Nutritional Status Assessment in Nargis Affected Township

Focus Group Discussion by villagers on food availability

Tobacco Control Measures

Myanmar became a Party to the WHO Framework Convention on Tobacco Control in 2005. The "Control of Smoking and Consumption of Tobacco Product Law" was enacted in May, 2006 and came into effect in May, 2007. The Law prohibits smoking at public places, public transport, health facilities and educational institutions; ban all forms of tobacco advertisements and prohibits sale of tobacco to and by minors. The Law also prohibits sale of tobacco products within the school compound and within 100 feet from the compound of the school. It prohibits sale by vending machine, sale of cigarettes in loose forms and requirement of health warnings in local language on tobacco products. Ministry of Health had conducted a series of multisectoral workshops in collaboration with WHO to strengthen law enforcement.



The Myanmar Tobacco Control Programme has been implementing its activities in line with the six MPOWER policies recommended in the "WHO Report on the Global Tobacco Epidemic 2008".

Mpower Policy Package

1. Monitor tobacco use and prevention policies: The National Tobacco Control Programme has been monitoring tobacco use through conducting of sentinel prevalence studies and global tobacco surveillance system, i.e. by conducting Global Health Professions Students Surveys, Global School Personnel Surveys and Global Youth Tobacco Surveys periodically. The recent studies done in 2009 showed an increasing trend in both smoking and smokeless tobacco use, especially among male. The similar trend was found both in urban and rural areas. Monitoring of prevention policies is also conducted through collection of data and reporting instruments such as Global Tobacco Control Reports.

2. Protect people from tobacco smoke: In line with the Myanmar Tobacco Control Policy and Plan of Action, all the health facilities had been established as smoke -free since 2001;

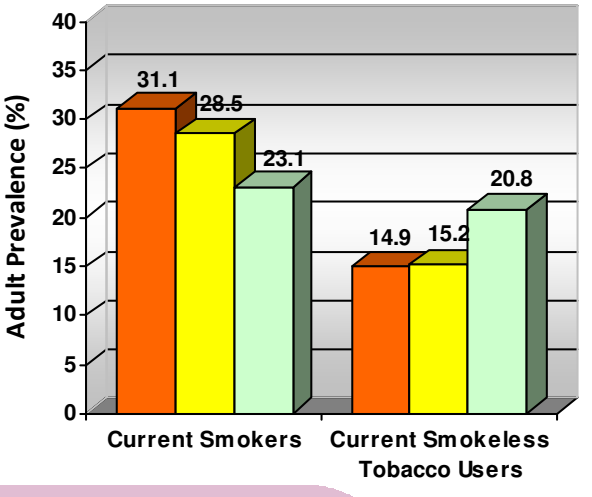
education department started to establish tobacco-free schools in 2002 and sports grounds were declared smoke-free in 2002. The National legislation prohibits smoking at public places, public transport and in enclosed public places. However, it is a challenging issue to be aware of and follow the regulations accordingly.

3. Offer help to quit tobacco: Community-based cessation programmes are being implemented in project townships where community facilitators were trained to provide support and counseling for tobacco users to quit. Basic health personnel are also trained for health education on dangers of tobacco and on cessation. Clinical support for Nicotine Replacement Therapy and establishment of quit lines are yet to be implemented.

4. Warn about the dangers of tobacco: National legislation requires cigarette, cheroot and cigar packages to display health warnings in local language. Measures are underway to enforce regulations for the health warnings to be rotating, pictorial as well as textual and to be displayed taking at least 30% of the front of cigarette packages.

5. Enforce bans on tobacco advertising, promotion and sponsorship: The 2006 Control of Smoking and Consumption of Tobacco Product Law prohibits all forms of direct and indirect advertising, promotion and sponsorship of tobacco. Even before the Law was enacted, tobacco advertisement on TV and Radio was prohibited in 2000-2001 in collaboration with Ministry of Information. Tobacco billboards had been totally banned since 2002 in collaboration with City Development Committees and Department of Development Affairs. Tobacco advertisement via print media was prohibited in 2002 in collaboration with the General Administrative Department.

6. Raise taxes on tobacco: Cigarette taxes in Myanmar are levied at 75% (commercial tax) of taxable turnover; Myanmar is among a few countries in the world which levied cigarette taxes higher than 70%. Advocacy workshops had been conducted to increase taxes harmoniously on all tobacco products such as cheroots, pipes, cigars, betel with tobacco etc.



Prevalence of Tobacco Use among Adults (>15 yrs) (Sentinel Prevalence Surveys)

Ensuring Safer Food and Drugs

The Food and Drug Administration (FDA) established since 1995 takes care of the safety and quality of Food, Drugs, Cosmetics, Household Materials and Medical Devices Food and drug control activities have been expanded with establishment of Food and Drug Administration Branch in Mandalay in 2000.

As food and drug safety is concerned with a number of sectors including Agriculture, Veterinary, Livestock and Fisheries, Industry, Trade and Police, General Administration, City Development Committees and in recognition of the need for integration, Myanmar Food and Drug Board of Authority (MFDBA) was formed in the year 2000. The Minister for Health leads the Board and members are senior officials from other related ministries. Various levels of central, state and division, district and township Food and Drug Supervisory Committees (FDSC), Food Advisory Committee (FAC) and Drug Advisory Committee (DAC) have been formed by MFDBA in 2002.

To enable the public to have quality and safe food, drugs, cosmetics, household materials and medical devices, 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.

FDA issues Health Recommendation for local food manufacturing, imported food and food to be exported. About 400 drinking water factories and 250 major food production facilities which comply with Good Manufacturing Practice (GMP) are given Health recommendation. Pre-market control and post-market surveillance (PMS) are conducted to assess quality and safety of food and drug.

Out of post-market survey of 300 drugs, 14 counterfeit drugs and 11 sub-standards were found and publicized in newspapers. FDA has extended its control on foods such as soft drink, preserved fruits, pickled tea leaves, fish paste (Ngapi) and chili powder in 2009. Hundred brands of pickled tea leaves out of 760 and 93 samples of fish paste out of 136 were found containing unpermitted industrial dye Auramine O and Rhodamine B respectively. The events were publicized through news media. Product recall and destruction of positive samples were done under the supervision of respective Township Food and Drug Supervisory Committees. FDA team inspected the procedure of preparing pickled tea leaves and fish paste production at the original sources and urged to avoid the use of dye. Pickled tea leaves and fish paste manufacturers who follow Good Hygienic Practices were given health certificate.

Health education to public through media as well as to manufacturers through workshops and seminars is being carried out on regular basis. Rapid Test kits for detection of Auramine O in pickled tea leaves and Rhodamine B in fish paste were developed and distributed up to township level for detecting and deterring use of un-permitted dye and chemical in food.

Detecting the misuse of industrial dye in traditional food by Rapid Test Kit

Mobile assessment for quality and safety of food and drug

Controlling Communicable Diseases

Disease control activities had been undertaken since the country regained independence and campaigns had been established to fight against major infectious diseases. Since 1978, integration of health services was carried out and disease control activities were implemented in integrated primary health care approach with involvement of basic health staff.

As in many other countries, AIDS, TB and Malaria primarily affect the working age. As these diseases can result in negative impact on economic, social and development of the country, 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 and divisional levels.

Diseases of National Concern

HIV/AIDS

Prevention and care activities of HIV/AIDS are being implemented as a National concern since 1989 with formation of multi-sectoral National AIDS Committee comprising of Ministry of Health, related Ministries and National NGOs which work in accordance with the guidelines laid down by the National Health Committee. Under the National AIDS Committee, a Working Committee was organized comprising related departments and various National NGOs, and AIDS Committees were also formed at various administrative levels: State and Division, District and Township in order to conduct HIV/AIDS activities all over the country. Currently, the 46 AIDS/STD prevention and care teams including 6 State and Divisional level AIDS/STD teams located in all strategic areas of Myanmar form the core of the National AIDS Programme.

Since 1989, short and medium terms plans have been formulated and currently National response to HIV/AIDS is being implemented through National Strategic Plan and its operation Plans covering 2006-2010 which is developed through coordinated multiagency participation of National AIDS Programme and various stakeholders. The National AIDS Committee serves as an active multi-sectoral body for formulation of National Strategic Plan for implementation of HIV/AIDS prevention and care activities.

The National Strategic Plan, addressing 13 strategic directions for the most pressing needs of population at greater risk and essential enhancement of the capacity of health system, provided a common planning framework with a single set of monitoring and evaluation system for all stakeholders, so as to be implemented in line with global approach for “Three Ones“ Principle.

The National AIDS Programme under Department of Health is implementing the 13 Strategic Directions through the following HIV/AIDS prevention and care activities:

1. Advocacy
2. Health Education
3. Prevention of sexual transmission of HIV and STD
4. Prevention of HIV transmission through injecting drug use
5. Prevention of mother to child transmission of HIV
6. Provision of safe blood supply
7. Provision of care and support
8. Enhancing the multisectoral collaboration and cooperation
9. Special intervention programmes
    - Cross border programmes
    - TB/HIV joint programmes
10. Supervision, monitoring and evaluation

To determine the extent of HIV and AIDS situation in the country, active surveillance of HIV and AIDS has been conducted 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. The sentinel groups included are population at low risk: pregnant women attending antenatal clinics, new military recruits, blood donors; and those at high risk: injecting drug users, men who have sex with men, female sex workers and male patients attending sexually transmitted infection (STI) clinics.

In collaboration with National Tuberculosis Programme, the newly diagnosed TB patients from TB clinics have been included in HIV sentinel surveillance to assess the prevalence of HIV among TB patients since 2005 in 10 sites.

HIV sentinel surveillance (2008)

Categories	HIV Prevalence (%)
High risk population	
• Male STI Patients	5.42
• Female Sex Workers	18.38
• Injection Drug Users	37.5
Low risk population	
• Blood Donors	0.48
• New Military Recruits	2.50
• Pregnant Women attending Antenatal Clinics	1.26
New Tuberculosis Patients	11.1
New Sentinel group	
• Men who have sex with men (MSM)	28.8

Trends analysis of the HIV sentinel surveillance data revealed that HIV prevalence levels among low risk populations in 2008 show continuation of the general decline observed since their peak in the late 1990s; however, a slight rise was observed among new military recruits from 1.3% in 2007 to 2.5% in 2008. Among most at risk population, a decline was observed among female sex workers and injecting drug users, a slight rebound was observed in male clients of STI clinics from 4.9% in 2006 to 5.4% in 2008.

Based on reported AIDS cases, it has been found that 72.8 % of the cases were attributed to sexual transmission, 3% to injecting drug use, 1.7% to blood transfusion, 2.8% to mother to child transmission and the remaining 19.7% to other causes.

For estimation and projection of HIV situation in Myanmar, in-country workshop was conducted in Nay Pyi Taw with country stakeholders in October 2009, following Regional Workshop on estimation and projection of HIV/AIDS organized by WHO and UNAIDS conducted in April 27-29 at Bangkok. The results from the Estimation and Projection of HIV/AIDS (2009) revealed that approximately 238,000 adults and children are living with HIV in Myanmar at the end of 2009. An estimated adult HIV prevalence among 15 to 49 years age group is 0.61%. The adult HIV prevalence peaked around 2000-2001 and since then there is a steady decline.

To track behaviours, Behaviour Surveillance Surveys were conducted among out-of school youth in Yangon, Mandalay, Meiktila, Lashio and Monywa townships and among general population (adult male and female) in Shwebo, Kawthoung and Hpa-an townships in 2007. Behaviour surveys were also carried out among FSW in Yangon and Mandalay; among IDU in Yangon, Mandalay, Lashio and Myitkyina in 2008. In addition, an Integrated Bio-Behavioral Survey (IBBS) was carried out among Men who have sex with Men in Yangon and Mandalay for the first time in 2009; and behavioural surveillance survey was also conducted among high way truck drivers in Magway, Muse and Mawlamyine in 2009.

HIV/AIDS Prevention Education Activities

Success in reducing HIV prevalence as well as other positive achievements in National response to HIV and AIDS in Myanmar are the outcomes of well recognition by decision makers with strong commitments as well as of coordinated efforts by all implementing partners both local and international in combating HIV/AIDS in the country. The National AIDS Programme has also well coordinated the inputs from national and international partners comprising 7 UN Agencies, 22 International NGOs, 18 Local NGOs and other line ministries with accountable relationship based on the openness, respects and unity principles.

Achievements in 2009

- Blood safety program had made progress covering all public hospitals in 325 townships and Blood Safety Advocacy Meetings were conducted in 50 townships during 2009.
- Prevention of mother to child transmission program covered 170 townships and 38 hospitals. Multidisciplinary State/Divisional PMCT Training teams were formed and conducted Advocacy meetings, Township trainings, community mobilization at respective programme townships.
- Voluntary confidential counseling and testing (VCCT) for HIV was made available in 291 sites across the country and 83,996 adults has received HIV testing and post test counseling in 2008 .
- Anti retroviral Therapy (ART), Care and Support services for AIDS patients which was initiated in 2005 has covered in 2009, 23 hospitals including State/Division Hospitals which are providing ART for both adult and paediatric AIDS patients. At the end of 2008, a total of 15,191 AIDS patients were on ART provided by theNational AIDS Programme, INGOs and National NGOs.
- Prophylaxis and treatment for opportunistic infections are being provided in all AIDS/STD Teams as well as all hospitals across the country.
- Training on Integrated Management of AIDS and related illness (IMAI) were conducted at five sites in 2009 for 180 health personnel comprising of doctors, nurses and basic health workers and peer counselors.
- TB/HIV joint program has been started since 2005 and is now being implemented in 11 townships and integrated HIV care program are in place in 8 townships in 2009.
- PLHIV networks are being formed at AIDS/STD teams for involvement of PLHIV in HIV/AIDS prevention, treatment and care activities.
- Community Home Based care trainings are being conducted for ensuring basic health staff and care givers.
- Review workshop, Coordination Meeting ,Planning Meeting on 100% Targeted Condom Promotion Programme were conducted in 2009 for enhancing coordinated response to

sustain awareness on HIV/AIDS, increase availability of condom and promote condom use especially among risk groups. In 2008, 34 million condoms including female condoms were also distributed.

- Syndromic Management of STD was implemented in 316 townships and refresher trainings were conducted in 2009.
- Various elements of Harm reduction strategy were implemented in pilot areas such as Yangon, Mandalay, Myitkyina and Lashio since 2006 and has covered 21 townships in 2008.
- Methadone Maintenance Therapy was started in 2005 and currently 8 Drug Dependence Treatment Centres are providing therapy to 580 IDUs in 2008.
- Workshop on Continuum of Care Frame Work for People living with HIV in Myanmar in coordination with WHO and UNICEF was conducted in Nay Pyi Taw during November 2009 aiming to promote a comprehensive and integrated response to the treatment, care and support needs of people living with HIV and AIDS through an effectively coordinated linkage among partner organizations. The framework provides the guiding principles and key service delivery components, and proposes a set of strategic approaches for delivering Continuum of care components in Myanmar context.
- In order to have a better understanding of the situation of country epidemic and estimation of HIV incidence, the National AIDS Programme is developing a Asian Epidemic Model with the coordinated inputs of UN agencies, INGOs and NGOs working in the field.

Painting Competition at World AIDS Day

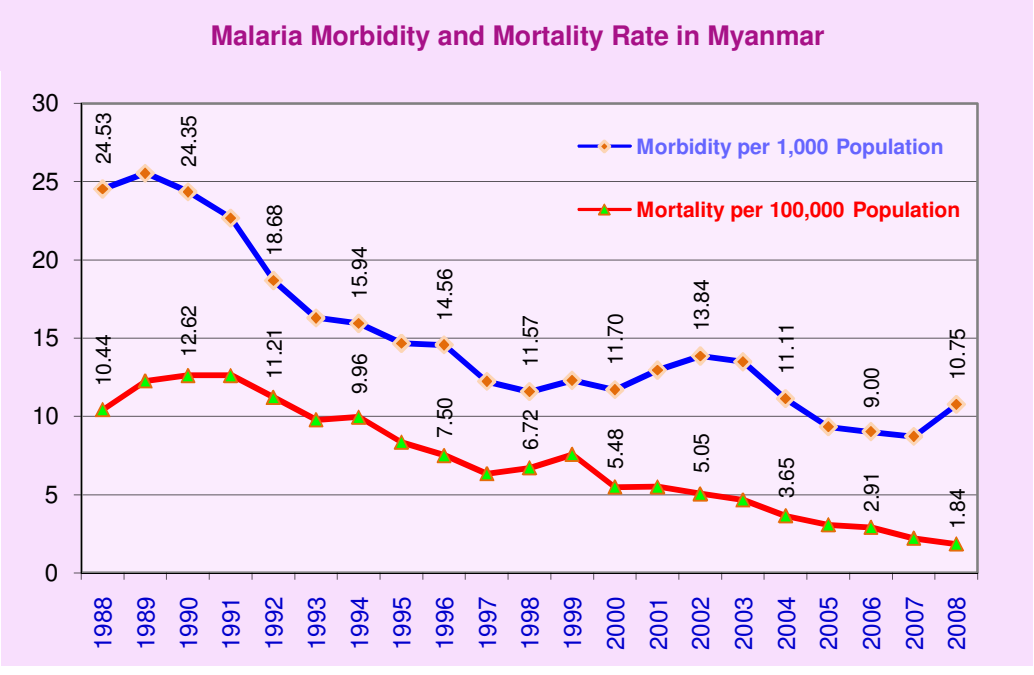
World AIDS Day Activity at Mandalay

Malaria

Malaria is one of the priority diseases in Myanmar. It is a re-emerging public health problem due to climatic and ecological changes, uncontrolled population migration, development of multi-drug resistant P.falciparum parasite, development of insecticide resistant vectors and changes in behavior of malaria vectors. Long-term trend shows decreasing malaria morbidity and mortality in Myanmar.

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 and it is highly resistant to DDT. An. sundaicus is responsible vector for malaria transmission in coastal regions. 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.

Aims and objectives of the National Malaria Control Program are reduction of malaria morbidity and mortality by 50% of the level in 2000 by 2010 and to achieve MDG by 2015 (To achieve MDG Goal 6 Target 8 - have halted by 2015, and began to reverse the incidence of malaria and other major diseases). The major approaches are (i) increasing accessibility to quality diagnosis and appropriate treatment according to national treatment guideline and (ii) scaling up the ITN (insecticide treated net) Program throughout the country.



National Malaria Control strategies are:

- 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 of malaria control program (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

Activities of National Malaria Control Program

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.

Malaria Health Education in Community

2. Preventive activities

Stratification of Areas for Malaria Control

In 2007, risk area stratification was carried out in 80 endemic townships of 15 states and divisions of Myanmar. 16,178 villages and total population of 10,390,106 was covered by area stratification activity. In 80 endemic townships, 76% of population (7,931,446) was residing in malarious areas, 13% of population (1,306,152) was residing in potential malarious areas and 11% of population (1,152,508) was residing in non-malarious areas. In malarious areas, 25% of population (2,596,030) was residing in high risk areas, 28% of population (2,897,630) was residing in moderate risk areas and 23% of population (2,437,786) 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 malaria-metric survey in some targeted townships in 2009.

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. In 2009, 100,800 LLINs were distributed and 937,650 existing nets were impregnated in 4634 villages of 85 endemic townships particularly in hard to reach areas. Total population covered by ITN Program was 3,115,350.

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. One malaria epidemic has been reported in Kyaukme Township of Northern Shan State in December, 2009. Total population of 4114 (856 households) in 4 villages were affected and 328 cases and 3 deaths were reported. As epidemic response, IRS was carried out and 193 structures and houses were sprayed and population covered was 1031. 800 LLINs were distributed and population covered was 3830.

One malaria epidemic has been reported in Pyinmana Township (Kayan Special Region) in December, 2009. Total population of 577 (105 households) in 4 villages were affected and 44 cases and 2 deaths were reported. As epidemic response, IRS was carried out and 107 structures and houses were sprayed and population covered was 577. 189 LLINs were distributed and population covered was 500.

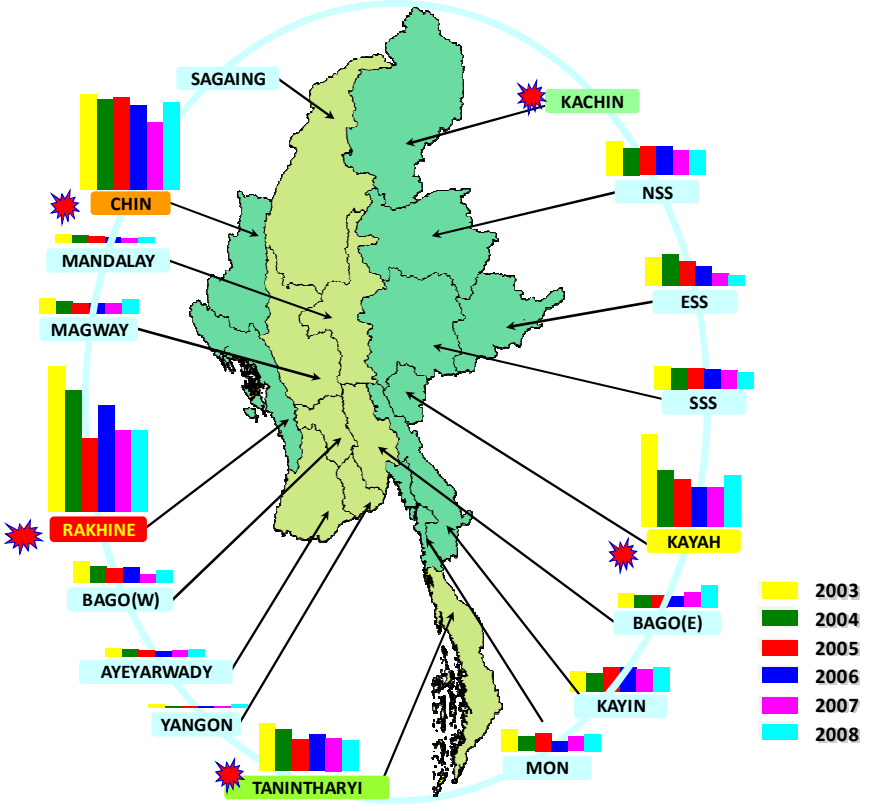
3. Early diagnosis and appropriate treatment

In 2009, according to the new anti-malarial treatment policy, case management with ACT (Artemisinine based combination therapy) was practiced in all 325 townships. For malaria

diagnosis, 700 microscopes were distributed up to rural health center level and RDT (Rapid Diagnostic Test) were also distributed up to sub-center level. 500,000 RDT and ACT (Coartem) 250,000 doses were distributed to BHS of those all 325 townships in 2009. Malaria mobile teams reached up to rural areas and hard-to reach border areas for improving access to quality diagnosis and effective treatment. Assessment and quality control of malaria microscopy was done by laboratory technicians from Central and State/Divisional VBDC team in 2009. Monitoring therapeutic efficacy of antimalarial drugs particularly ACTs and quality assurance of RDT (Paracheck) were also done in collaboration with DMRs. Since 2006 - 2007, Community based Malaria Control Program has been introduced and implemented in some selected townships of Eastern Shan State and Tanintharyi Division with the aim of improving access to quality diagnosis and effective treatment in remote areas. Community based Malaria Control Program was expanded in some townships of Sagaing Division, Southern Shan State, Magwe Division, Kayin State, Kachin State, Northern Shan, Mon State, Rakhine State and Bago Division in 2008 and 2009.

4. Capacity building

Different categories of health staff were trained on different technical areas. Refresher training on malaria microscopy was conducted for 100 trained microscopists. Different categories of 115 VBDC staff working at district level were trained on Basic Malariology and Malaria Field Operation.



Tuberculosis

Tuberculosis (TB) is one of the major public health problems in Myanmar and ranked as the third priority disease in the National Health Plan (2006-2011). Myanmar is one of 22 high TB burden and 27 high MDR-TB burden countries in the world. Recent estimates suggest that 1.5% of the population become infected with tuberculosis every year, out of which about 130,000 people progress to develop tuberculosis. Half of those cases are infectious with positive sputum smears, spreading the disease in the community.

TB mainly affects the most productive age group of (15-54) years. HIV positive cases among new TB cases were 11.1% in 10 sentinel sites according to sentinel surveillance report for 2008 and 60-80% of AIDS patients have TB. Multi Drug Resistant (MDR) TB among new smear positive TB cases and previously treated TB cases were 4% and 15.5% in nationwide drug resistant survey conducted in 2002-2003 and it became 4.2% and 10% in second nationwide drug resistant survey conducted in 2007-2008.

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.

- 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 (MDGs, Goal 6, Target 8, Indicator 24)
- To reach the interim targets of halving TB deaths and prevalence by 2015 from the 1990 situation. (MDGs, Goal 6, Target 8, Indicator 23)

NTP has implemented "Directly Observed Treatment, Short Course" (DOTS) strategy since 1997 and gradually expanded. In 2003, it covered all 325 townships. WHO recommended STOP TB STRATEGY has been implemented since 2007 to achieve the MDGs. 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 National Tuberculosis Programme **activities** are:

- Intensification of health education activities by using multi-media to increase community awareness about TB
- BCG immunization to all under one year children
- Implementation Directly Observed Treatment (DOT) of all TB cases including TB/HIV cases and planning to involve MDR-TB cases down to the grass root level.
- Early case detection through quality-assured bacteriology attending health services and contact tracing
- Regular supervision and monitoring of NTP activities at all levels
- Strengthening partnership
- Capacity building
- Promotion of operational research

Above activities were adopted in the National Strategic Plan for TB Control (2006-2010). Those activities are reviewed and revised in the National Strategic Plan for (2011-2015) to be in line with the National Health Plan and new STOP TB STRTEGY as WHO recommended. It was drafted in 2008 together with implementing partners with the technical assistance of World Health Organization (WHO).

Health Education on TB

NTP, Myanmar ensures the quality of the 5 components of the DOTS strategy. The government increased the budget for TB control gradually especially for anti-TB drugs procurement. Case finding activities have been improved by conducting initial home visit and contact tracing, by setting of sputum collection centers in some hard to reach areas funded by 3 Diseases Fund (3DF) (30 sputum collection centers are functioning in 7 States and Divisions), by using mobile teams and introduction of External Quality Assurance System (EQAS) for laboratory performance since 2006.

TB patients are treated with WHO recommended regimens using Fixed Dose Combination of first line anti-TB drugs (FDC) since 2004. The major portion of first line anti-TB drugs were supported by Global Drug Facility (GDF) since 2002 for exceptionally for 7 years. NTP started using of pre packed patient kit in 38 pilot townships since 2007 under close supervision of Basic Health Staff (BHS).

Other sources of funding from Three Diseases Fund (3DF) could be mobilized for current drug requirement of the year 2010 and Japan's Grant Aid will provide the first line anti-TB drugs for 2011 to fill up the critical gap.

National Annual TB Evaluation Meeting (2008) was held in October, 2009 in Nay Pyi Taw, which evaluated the activities conducted in 2008 and achievement and re-plan to achieve the national targets.

NTP also co-ordinates with national NGOs such as Myanmar Women Affairs Federation (MWAF), Myanmar Maternal and Child Welfare Association (MMCWA), Myanmar Medical Association (MMA) and Myanmar Red Cross Society (MRCS) in DOTS implementation.

International NGOs co-operating with NTP are Population Services International (PSI), Japan Anti-TB Association (JATA), Japan International Co-operation Agency (JICA), Major Infectious Disease Control Project (MIDCP), International Union Against Tuberculosis and Lung Disease (Union), Medecins Sans Frontieres (Holland), Medecins Sans Frontieres (Switzerland), Central Emergency Response Fund (CERF) and World Vision, Pact Myanmar, Malteser and International Organization for Migration (IOM).

MDR-TB prevention, control and care is one of the integral part of 5 Year National TB Strategic Plan (2006-2010). National Drug Resistant TB (DRTB) committee was formed in 2006. National guideline for management of DRTB was developed and applied to Green Light Committee (GLC) for second line anti-TB drugs in 2007 and approved in 2008.

Public-Private Mix (PPM) DOTS is implemented with MMA, PSI and JICA. Some Private Practitioners (PPs) use the scheme I which educate about TB and refer the TB suspected patients to TB center. Some PPs prefer to use the Scheme II, act as a DOT provider. PSI organizes the PPs and run the “Sun Quality Clinics” as a DOT unit.

WHO suggested to introduce International Standards for TB Care (ISTC) to medical professionals and NTP took the leading role for Myanmar. The assessment was implemented in August, 2009 in Nay Pyi Taw for provision of Quality Care to all TB patients. In-Country Workshop on Operational Research for TB control was organized by NTP, in collaboration with Department of Health, Department of Medical Science, Department of Medical Research and all TB implementing partners in October, 2009 in Nay Pyi Taw to have prioritized researchable areas for TB control in Myanmar and to have all partners and promote the operational researches related to TB control in Myanmar.

NTP is conducting nationwide Knowledge, Attitude and Practice (KAP) survey to explore the knowledge, attitude and practice of communities related to TB. Based on the findings of KAP survey, NTP will develop the appropriate Advocacy, Communication and Social Mobilization

(ACSM) strategy for the country. NTP also conducted Advocacy, Communication and Social Mobilization (ACSM Methodology Workshop) in October, 2009 to develop the standardized ACSM materials and method for all the implementing partners and for improving of community awareness in TB control in line with STOP TB STRATEGY.

As TB prevalence is one of the indicators of MDGs and one of the most effective tools to monitor the impact of the programme, "National TB Prevalence Survey" was started in June, 2009. and to be completed 70 clusters in 2010 March.

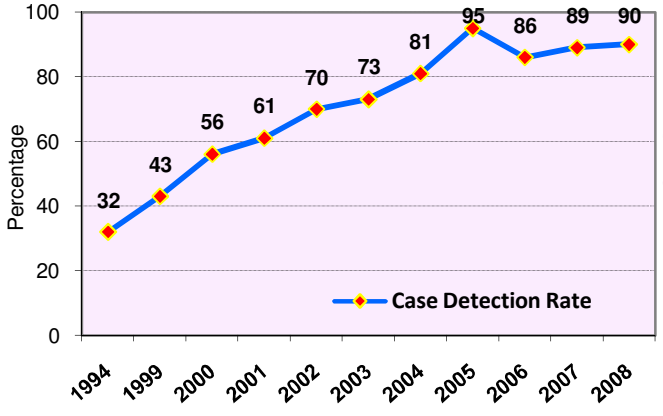
Conducting of National TB Prevalence Survey

NTP achieved case detection rate 90% and cure rate 77% (treatment success rate 85%) reached the global TB control targets since 2006 and maintained.

Progress of National Tuberculosis Control Programme (Myanmar)

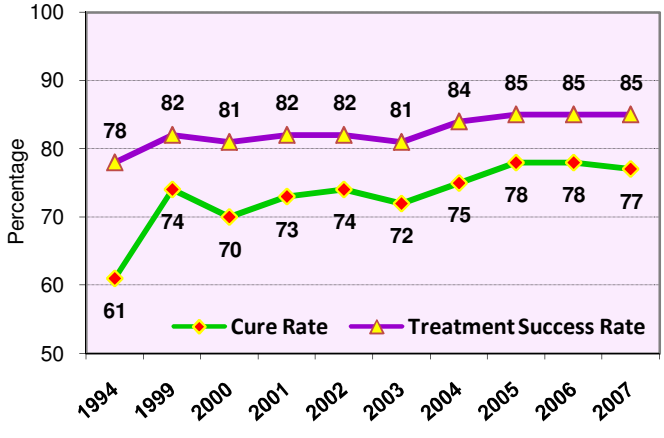
Indicators	1994	2000	2001	2002	2003	2004	2005	2006	2007	2008
DOTS Covered Population (%)	8	85	90	95	95	95	95	95	95	95
DOTS Covered Township (%)	6	71	80	95	100	100	100	100	100	100
Case Detection Rate (%)	32	56	61	70	73	81	95	86	89	90
Cure Rate (%)	61	70	73	74	72	75	78	78	77	Result Pending
Treatment Success Rate (%)	78	81	82	82	81	84	85	85	85	Result Pending

Professor Dr. Mya Oo, Deputy Minister for Health, inspecting the exhibition at the World TB Day Commemoration Ceremony, 2009



Case Detection Rate of Tuberculosis

Cure Rate and Treatment Success Rate of Tuberculosis



Surveillance and Emerging Diseases

The Central Epidemiological Unit, Department of Health, the focal unit of national communicable diseases surveillance system, has employed several mechanisms to function as early warning reporting systems. These have been incorporated with ongoing surveillance programme inclusive of ASEAN disease surveillance network and Mekong Basin Disease Surveillance network.

As a proactive measure for prevention and control of communicable diseases, surveillance of disease morbidity and mortality trend and prediction, risk assessment, health education, improving environmental sanitation, stockpiling of emergency logistics requirements in disease outbreak prone areas, sanitation management in worksites, proper management of social gathering and fair and festival management are the major activities.

Surveillance and response for new emerging diseases such as Avian Influenza, Human Influenza Pandemic and Pandemic (H1N1) 2009, Polio Eradication, Maternal Neonatal Tetanus Elimination, Measles Elimination, Adverse Events Following Immunization (AEFI) and other disease outbreak investigation and management are also the crucial activities.

Principal epidemic diseases such as severe diarrhoea (cholera), dengue haemorrhagic fever and plague, Diseases Under National Surveillance (DUNS) like diarrhoea and dysentery, food poisoning, typhoid and paratyphoid and vaccine preventable diseases such as measles, neonatal tetanus, other tetanus, diphtheria, and whooping cough are included in surveillance system. Central Epidemiology Unit is also responsible for disaster prevention, mitigation, management and implementation of International Health Regulation.

Implementation of International Health Regulations (IHR 2005)

As a member country of the WHO and to implement the International Health Regulations 2005 (IHR-2005), strategies have been adopted for development of tools to assess core capacities and for collaboration with WHO and donor agencies to build capacity for disease surveillance and response.

Recognizing the link between the globalization of trade and travel and the spread of infectious diseases, Ministry of Health has already planned to implement the activities to control public health emergencies of international concern as included in the International Health Regulations (2005), which seek to "prevent, protect against, control and provide a public health response to the international spread of disease, that are commensurate with and restricted to public health risks, and which avoid unnecessary interference with international traffic and trade."

Myanmar has developed, strengthened and maintained capacity to detect, report and respond to public health emergencies of international concern and provide routine inspection and control activities at international airports, ports and ground crossings.

All the core capacities required to implement the international health regulation had already been assessed. Communicable disease law has already been reviewed and revised within the context of the international health regulation.

In order to implement the IHR-2005 effectively at all points of entry, Myanmar emphasized cross border issue and as a first step, Ministry of Health facilitated the Myanmar-Thailand cross border workshops on 30th - 31st October, 2007 and on 23rd -24th July, 2009 in Tarchileik District with the objectives of designating major ground crossing points at which core capacity for implementation of IHR-2005 will be developed, assessing existing core capacity for implementation of IHR-2005 at ground crossing point on the Myanmar-Thai Border and strengthening capacity at designated ground crossing points based on the assessment findings.

Prevention and Control of Avian Influenza Outbreak in Myanmar

Following the Global Alert issued by WHO on 15 March 2003, Ministry of Health formulated a National Preparedness Plan for Prevention and Control of SARS in Myanmar and this had been put into place during the worldwide SARS outbreak.

Myanmar had formulated a pandemic preparedness plan jointly with the Ministry of Livestock and Fisheries since January 2004. To be on the stage of preparedness for preventing and controlling Avian Influenza, plans have been developed and Steering Committee, Working Committee and Sub-committees comprising responsible persons from the Ministry of Health, Ministry of Livestock and Fisheries and other related ministries, have been formed and tasks delegated. National Strategic Plan for Prevention and Control of Avian Influenza and Human Influenza Pandemic Preparedness and Response was developed since 2006 and all of the committees and sub-committees were functioning in place for early detection and containment of disease. National Health Laboratory has been recognized by WHO as member of Global Influenza Surveillance Network in December 2007.

The outbreak situation of H5N1 in poultry was immediately notified by the government to the OIE, FAO, WHO and the international community. Rapid Response Teams (RRTs) were dispatched to the affected areas within 24 hours after the in-country tests confirmed H5N1 positive. Daily surveillance, monitoring, information gathering and reporting of suspected human cases was carried out including severe pneumonia and influenza like illnesses in poultry workers and contacts. Laboratory investigations were performed on suspected cases with necessary management and treatment. Samples were also sent to the WHO Reference Laboratory in Japan for confirmation. Hospitals and wards for isolation and quarantine of contacts and suspected patients have been designated. Measures for public awareness and risk communications has been provided to the community living in the affected areas. All the other States and Divisions were also alerted for enhancing surveillance activity.

In 2007 November, the only one human case, 7 years old female patient was infected with avian virus and she had been kept in isolation and given treatment with Oseltamivir (Tamiflu) at the People's Hospital in Kengtung (Eastern Shan State). Laboratory samples were also sent to a laboratory in Bangkok, Thailand, and a laboratory of WHO in Tokyo, Japan, and those reference laboratories also confirmed for H5N1 virus. The patient was discharged from hospital on 12 December in good condition. The outbreak was put under control in a short time, due to the coordinated control measure activities of Ministry of Health and the local authorities, Livestock Breeding and Veterinary Department, related departments and social organizations.

Prevention and control activities for Human Avian Influenza in Kengtung

Pandemic (H1N1) 2009 outbreak in Myanmar

An outbreak of influenza like illness in Veracruz, Mexico was reported to WHO and Novel influenza A (H1N1) virus infection was confirmed in Mexico on April 23, 2009. WHO had declared Pandemic Phase 6 on 11 June, 2009.

In Myanmar since 24 April, 2009 Ministry of Health has alerted all the States and Divisions for enhancing surveillance system and fever screening at entry points and home surveillance. The first case of Pandemic (H1N1) 2009 was detected through active surveillance system on 26 June 2009.

Based on experiences gained during SARS outbreaks, Avian Flu outbreaks and lessons learnt from previous Human Influenza Pandemics outbreaks, Myanmar adopted the containment at source strategy to prevent or limit the spread of the Pandemic (H1N1) 2009 virus infection in country.

Fever Screening and Disease Surveillance Activities at Entry Points and Home Surveillance

The pandemic preparedness activities are implemented under the guidance of National Health Committee. National Steering Committee and Working Committee has given instructions in needs basis for actions. Central Committee and State and Division committees for Influenza prevention and control carried out activities by enhancing surveillance system in the country for Severe Acute Respiratory Diseases, Pneumonia and Influenza like illness, strengthening capacity of SRRT teams at States and Divisions, Districts and Townships covering the whole country. Strategic Health Operation Center and central command system was established and community based surveillance system has been strengthened with involvement of local authority, other sectors, NGOs, professional bodies and private sectors. Also by updating laboratory capacity for diagnosing Pandemic (H1N1) 2009 at National Influenza Centre, preparation of hospitals for case management and infection control, risk communication dissemination to community through media such as news papers and television, non-pharmaceutical interventions, stockpiling of Oseltamivir and PPE. Fever screening of passengers was done at international airports, seaport and ground crossing points since 28 April 2009.

Immunization Programme

The Expanded Program on Immunization (EPI) in Myanmar was launched in May, 1978 when BCG, DPT and TT vaccines were introduced. Children under one year of age are protected against Diphtheria, Pertussis, Tetanus and TB. In order to prevent neonatal tetanus, pregnant women are given two doses of Tetanus Toxoid along with the commencement of 1st People's Health Plan (PHP) (1978-82) and it was implemented in 104 townships.

In 1990, there were 212 townships implementing EPI, and in 1995 it could cover up to 305 townships. In 1997, almost all areas of all townships could be covered. From 1998 onwards, installation of special cold chain equipments such as solar-powered refrigerators, application of special strategies for EPI activities and conducting crash programs during favourable season for hard-to-reach and remote border areas could make the EPI to operationally cover the whole country.

Measles and polio vaccines were introduced into routine EPI program for infants in 1987. Hepatitis B vaccine was introduced in phases from 2003 and could cover the whole country in 2005. A combination of fixed, outreach and crash immunization delivery systems were used to achieve the nation-wide coverage.

In addition to routine immunization activities outlined above, supplementary immunization activities such as National Immunization Days and Mop-Up for polio eradication, measles control and maternal and neonatal tetanus elimination were undertaken.

The central EPI (CEPI) and Central Epidemiology Unit of the Department of Health (DOH) are responsible for development for planning and management of vaccine and cold chain, supplies and logistics, surveillance and outbreak management of vaccine preventable diseases, training, supervision, monitoring and evaluation.

CEPI and CEU of DOH, WHO and UNICEF collaborate closely in implementing priority vaccine preventable diseases control activities. While immunization is an important strategy for disease control and mortality reduction in its own right, it is also a proven cost effective intervention yielding broad benefits to both mother and children. Completing a child's immunization series in a timely manner requires that the child and most often, the mother be seen by a health care provider usually midwife in Myanmar at least 4-5 times during the first year of life. This repeated contact with the health care system provides opportunities for general health screening and provision of timely health information and advice. For this reason, EPI program is considered to be a "Cutting Edge" for improving child and maternal health care.

The EPI is administered by central level staff assigned for EPI program and working through state/divisional counterparts, Township Medical Officers and other public health staff at township, RHC and Sub-RHC levels. Vaccination is delivered through a combination approaches of fixed and outreach sessions. Limited electric power, low rate of urbanization, staff vacancies at all level, lack of transport and difficult access mean immunizing infants on a monthly basis is a challenging task.

Routine immunizations are delivered at fixed sites at Maternal and Child Health Center (MCH) and Urban Health Centers in towns and at RHCs in country sides. Majority of immunization services are provided through outreach activities in wards and villages. In some townships, a special program called crash program is implemented where 3-4 times of immunization services are provided to less than 3 years children within a year during "open" or in other words "favourable" season in some part of the township or in entire township where the accessibility is an issue. Eight townships in Kachin State and 3 townships in Sagaing Divisions totally rely on crash immunization strategy in providing immunization services. During 2009, 93 townships from 12 States/Divisions carried out crash program in hard to reach areas within the townships.

Major Milestones of EPI Program in Myanmar

1978 (May)	Launch of EPI with BCG, DPT & TT vaccines
1987	Measles, Polio vaccines added
1996	Polio Eradication Program Started
1998	Crash Program Started
1999	Maternal and Neonatal Tetanus Elimination Plan Started
2002-04	Mass Measles Campaigns conducted
2003-05	Hepatitis B vaccine introduced in phases
2007	Comprehensive Strategies Package for Measles Control Campaign conducted
2008	Second dose Measles immunization (18 months of age) introduced

The vision of the immunization program during next five years, as reflected in the Comprehensive Multi-year Plan for Immunization(cMYP) is to contribute towards reduction of under 5 morbidity and mortality, caused by vaccine preventable diseases, in reaching Millennium Development Goal 4 (MDG4).

The objectives of immunization program are in line with Global Immunization Vision and Strategies (GIVS) and described below:

1. The overall objective of the immunization program is to reach the routine immunization coverage of 90% nationally in children under one with 7 antigens and with TT in pregnant women, and at least 90% coverage in all townships by 2011.
2. To reduce measles mortality and morbidity by 95% in 2010 compared to 2001 level.
3. To reduce the neonatal tetanus incidence to less than 1/1000 live-births at the national level as well as township level; to reach and maintain the elimination status by the year 2009.
4. To sustain the interruption of indigenous transmission of wild and vaccine-derived polio virus and maintain elimination levels.

Polio Eradication Measures in 2009

Myanmar is conducting four strategies for Polio Eradication with strong political commitment and tremendous community involvement. These strategies are :

1. Routine OPV Immunization to achieve high coverage throughout the country
2. Conducting National Immunization Days (NIDs) and Sub National Immunization Days (SNIDs). Myanmar has conducted National Immunization Days for 10 times and Sub-National Immunization Days (SNIDs) for 5 times.
3. Conducting Mopping up Immunization to wild polio virus transmitted areas and high risk areas.
4. High quality Acute Flaccid Paralysis (AFP) surveillance.

The last case of wild poliovirus was detected on 13th February, 2000 and WHO has certified Polio Eradication of Myanmar on 13th February, 2003.

Polio free status, lasting 6 years, has been interrupted by the report of an outbreak of 11 cases of wild-polio virus in Maungdaw and Buthidaung townships of Rakhine State in the months of March, April and May, 2007.

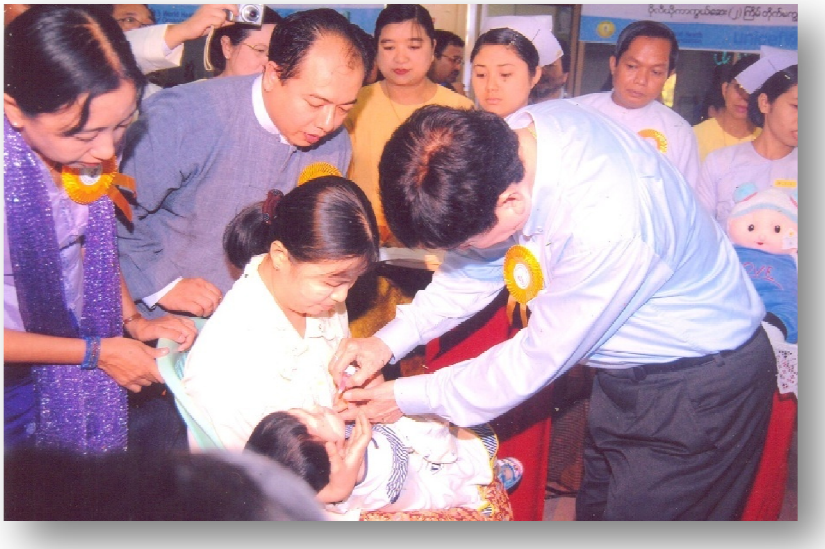
The Government of the Union of Myanmar is deeply concerned about the re-emergence of wild poliovirus in Myanmar and has decided to take immediate action to contain and stop transmission of wild poliovirus in and surrounding areas of Rakhine state where the wild poliovirus outbreak has occurred. Immediate response including provision of monovalent oral polio vaccine type 1 (OPV 1) to all children from birth to 5 years of age in Rakhine state and adjoining Paletwa township of neighboring Chin State has been conducted. The mop up polio vaccination campaign was carried out in house to house basis.

On account of the outbreaks of wild polio viruses and vaccine derived polioviruses, National Immunization Days Strategy for all of under 5-year-old children was conducted who are living throughout Myanmar in November, December 2007 and January, February 2009 with the achievements of 98.13%, 97.83% and 99.99%, 99.92% respectively targeting 7.23 million children of 0-5 years of age.

After 2008, there were no more wild polio viruses and VDPV detected through AFP surveillance. The onset of the last case of wild virus in Myanmar was May 31, 2007 and the onset of the last case of vaccine derived poliovirus was December 6, 2007. Regaining polio free status in Myanmar is imminent.

As a continuation of NIDs 2007 and NIDs 2009, for the year 2010, Sub-National Immunization Days are going to be conducted for high risk townships in 11 State/Divisions where wild polio virus and VDPV were detected and are possible routes of transmission. The forthcoming SNIDs 2010 will target 2.23 million of under 5-year-old children who are living in 81 townships in 11 States/ Divisions in April and May 2010.

The Commander of South-West Command and Minister for Health opening the Launching Ceremony of the Sub-National Immunization Days in Pathein. Ayeyarwady Division, 3rd April, 2010



Professor Dr. Kyaw Myint, Minister for Health, giving Oral Polio Vaccine to a child at the Launching Ceremony of Sub-NIDs in Pathein, Ayeyarwady Division, 3rd April, 2010

Measles Control Strategies in Myanmar

The Objectives of Measles Control Programme in Myanmar are to reduce the estimated number of measles deaths by 90% in 2010 relative to 2000 estimates. The strategies are:

- Providing the first and second doses of measles vaccines to all children of 9 months and 18 months of age in Routine Immunization.
- Ensuring that all children have a Second Opportunity for measles vaccination.
- Conducting case-based measles surveillance within an integrated vaccine preventable disease surveillance system.
- Improve measles case management.

Routine measles immunization for 9-month old children in EPI has been started since 1987. Currently, EPI of Myanmar is immunizing 1.3 million of children under1 year of age with measles vaccine every year. At present, it is planned to conduct follow-up measles immunization for under 5- year-old children in periodic manner i.e; every 3 to 4 years and the simultaneous introduction of two-dose strategy for measles immunization in routine EPI.

In 2007, Comprehensive Strategies Package for Measles Control (CSPMC) including measles catch-up campaign targeting 6 million children was conducted throughout the country and 5.7 million of the children at the age of 9 months to 5 years could be immunized against measles.

Maternal and Neonatal Tetanus Elimination Program in Myanmar

Based on National Plan of Action for Maternal and Neonatal Tetanus Elimination, the Supplementary Immunization Activities for women of child-bearing age (15-45 years) was conducted since 1999. Total of 220 townships were selected by high risk approach from 1999 to 2006 and 3 doses of TT were given. The goal of this plan is to eliminate maternal and neonatal tetanus as a public health problem by the year 2008; that is to reduce the incidence of neonatal tetanus case per 1000 Live Births in every district.

In 2008, another 87 High Risk Townships are selected and one round of Tetanus Toxoid immunization was conducted for 60 Townships and 3 rounds of Tetanus Toxoid immunization were conducted for 27 Townships in February, March and October 2008 with the target 2.6 millions of Women of Child bearing age. In 2009, 7 High Risk Townships in 3 State and Divisions were selected and one round of Tetanus Toxoid immunization was conducted in March and April 2009.

Vaccine Preventable Diseases Surveillance

Seven vaccine preventable diseases are included in 17 Diseases under National Surveillance (DUNS). Surveillance of 3 vaccine preventable diseases is strengthened using the following strategies.

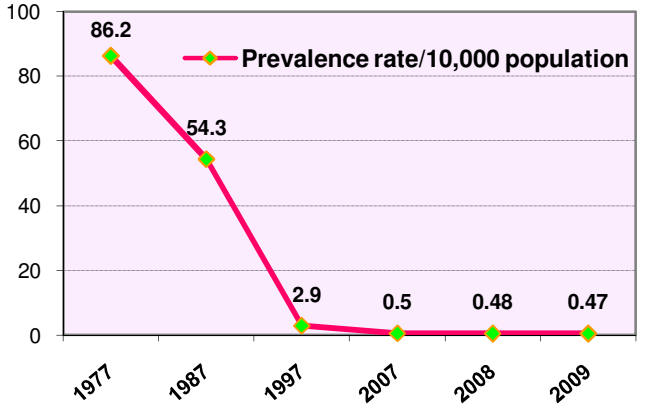
- Building on AFP surveillance infrastructure to accelerate measles and neonatal tetanus surveillance.
- Strengthening active surveillance, outbreak detection and response, laboratory confirmation of outbreaks.
- Establishing minimal core data to be collected, analyzed and reported to the regional level.
- Monitoring indicators at the township, state/division, national and regional level.

Sustaining Achievements

Leprosy

Leprosy control programme in Myanmar was launched in 1952. Partial integration with People's Health Plan started in 1977. In 1988, MDT programme was started in six hyper-endemic regions (Yangon, Mandalay, Upper Sagaing, Magway, Ayeyarwaddy and Bago Divisions) and it was fully integrated into Basic Health Services in 1991 and completed in 1995. Myanmar has achieved Leprosy Elimination Goal at the end of January 2003 thanks to the guidance of National Health Committee and Ministry of Health, Partnership of WHO, International and Local Non-governmental Organizations, active participation of community and all health staffs involved in leprosy elimination activities.

Before introduction of MDT services, registered prevalence rate was 54.3/10,000 in 1987. Prevalence rate was markedly reduced 100 times in 2009 (i.e. 0.47/10,000). Total registered cases at the end of 1987 were 204282 and it reduced significantly to 2819 in 2009. Between 1988 and 2009, 277401 leprosy cases are treated with MDT and cured. PB cure rate was 94.96 % and MB cure rate was 93.67 % in 2008.



Following elimination, National Leprosy Control Programme has sustained the momentum of leprosy control activities focusing on further reducing the leprosy burden, preventing disabilities and providing rehabilitation in accord with National Guideline for Leprosy Control which was based on WHO Global Strategy. Refresher trainings of Basic Health Staffs on sustaining leprosy services were conducted to implement control activities according to national guideline.

Case-finding activities and treatment with MDT are being carried out with quality care by Basic Health Staff with the technical support of leprosy specialized staff. Central and State/ Divisional Level Leprosy Elimination Commemorative Day Ceremonies are held annually to sustain political commitment. **"Treat early: Prevent Disability"** was designated as the slogan to honor the Sixth Leprosy Elimination Commemorative Day (2009). Partners Meeting for Myanmar Leprosy Control Programme is conducted annually to strengthen partnership and promote collaboration with all partners. Tenth Partners Meeting was held on 17-18 December 2009. Throughout the country 3145 new cases were detected and treated with MDT during 2009. Dissemination of knowledge on leprosy is carried out through various media channels with emphasis on early signs and symptom, curability, availability of free-of-charge MDT drugs, prevention of disability by early diagnosis and treatment and elimination of stigma and discrimination. As community awareness becomes increased, most of new cases (about 80%) were detected by voluntary reporting. In the pocket areas where leprosy prevalence was previously high, special case finding activities such as ideal mass survey and leprosy awareness campaign were carried out.

Tenth Partners Meeting for Myanmar Leprosy Control Programme, December 2009

Leprosy Awarene
Campaign
Nanyun Townshi
Naga Regi

Since achieving the leprosy elimination goal, the programme emphasized more on prevention of disability and rehabilitation. At the end of the year 2009 prevention of disability activities (POD) are being carried out in 97 townships with regular follow up case assessment, self-care training and provision of necessary aids for disability such as footwear, sunglasses and POD kits. POD activities will be expanded in 20 townships annually.

Ulcer Care Management of person affected by Leprosy in a village

Activities implemented in 2009

- Sustaining political commitment
- Case finding and MDT services throughout the country
- Community awareness raising activities including printed and electronic medias
- Strengthening monitoring and supervision
- Conducting of Sixth Leprosy Elimination Commemorative Day
- Meeting of National Task for Leprosy Control
- Tenth Partners Meeting for Myanmar Leprosy Control Programme
- Meetings for planning, implementation and evaluation for leprosy control activities
- Refresher training of Basic Health Staffs on sustaining leprosy services
- Workshop for Health Service Managers In charge of Leprosy Control Programme
- Expansion of prevention of disability programme in 20 townships
- Training on prevention of disability and self-care for all BHS and baseline POD assessment in 20 expanded POD township
- Follow up POD assessment activities in previously POD expanded township
- Research activities mainly focusd on sustaining of the leprosy control activities, prevention of disability and rehabilitation

Progress of Leprosy Control Programme

Indicators	2007	2008	2009
Registered cases	2892	2793	2819
Prevalence rate/ 10,000 population	0.50	0.48	0.47
New Cases detected and treated	3648	3383	3145
Cases release from treatment (during the year)	3521	3444	3124
Cases of released from treatment (cumulative)	270,833	274,277	277,401

Trachoma Control and Prevention of Blindness

Trachoma Control and Prevention of Blindness project was launched in 1964. At that time trachoma was the main cause of blindness in Myanmar and active trachoma rate was 43 % in trachoma endemic areas (Central Myanmar). With the concerted efforts of the project and support of Government, WHO, UNICEF and INGOs, active trachoma rate was reduced 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	63 %
Glaucoma	16 %
Posterior segment diseases	7 %
Trachoma	4 %
Corneal opacity	3 %
Trauma	1 %
Others	6 %

WHO has laid down the strategy “Vision 2020, the Right to Sight: Elimination of avoidable blindness” and Myanmar Prevention of Blindness project is trying best to fight against avoidable blindness.

Prevention of Blindness project has 19 secondary eye centers in Mandalay, Magway, Sagaing (lower part), Bago (east) and Ayeyarwady divisions headed by ophthalmologists. The project is covering 18.5 million people in 81 townships of those 5 divisions.

National Objective

- To reduce blindness rate to less than 0.5%.

Strategies

- Improving cataract surgical rate and quality of surgery.
- Making Primary Eye Care available to all BHS and eliminating the 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 services

Services Provided by the Project

Type	Activities
Promotive (Government)	• Greening of Central Myanmar • Improving water supply
Preventive	• Village and school eye health services by field staff and ophthalmologist • Tetracycline eye ointments for trachoma patients, trichiasis surgery at field and referral of other eye diseases
Curative	• Medical and surgical services at secondary eye centres and fields • Outreach cataract surgery
Training	• Primary Eye Care Training to basic and voluntary health workers and NGOs (550 BHS were trained in 2009)
National Eye banks (Yangon and Mandalay)	• Collection of donated cornea, quality control and distribution of corneal tissue
Operational Research	• Rapid assessments of trachoma were done in three district (Shwebo, Gangaw and Kyaukpadaung) to identify pocket area and for elimination of trachoma.
Low cost Eye drop Production	• Low cost eye drop production unit at Prevention of Blindness Programme Region (3) Meikhtila, supported by Christoffel- Blinden Mission.

Provision of outreach services for Eye Health

Professor Dr. Kyaw Myint, Minister for Health
encouraging the patients at Outreach Eye Care Services

Activities in 2009

Cataract surgery	24,684
Outreach mass cataract	14,017
Glaucoma surgery	3,982
Other major surgery	960
Other minor surgery	18,923
Trichiasis surgery	3,482
No. of eye drop bottles produced	32,250
No. of villages examined	2,041
No. of population examined	1,257,908
No. of schools examined	1,025
No. of students examined	155,028

MANAGING HEALTH WORK FORCE

Under the leadership of the Ministry of Health, the Department of Medical Science is responsible for training and production of all categories of human resources for health in accordance with the health needs of the country. There are a total of 14 medical and health related universities, 46 nursing, and midwifery and related training schools under the management of the Department of Medical Science.

Professor Dr. Kyaw Myint, Minister for Health delivered opening speech at Refresher Course for Doctors

The appropriate mix of different categories of health professional is being produced from universities and training schools under the Department of Medical Science. Motivated and accountable Basic Health Staff are also produced who go into service as community leaders.

In addition, postgraduate training courses are being conducted for higher learning and these are 31 doctorate courses, 7 Ph.D courses, 29 Master courses and 6 diploma courses conducted in universities under the Department of Medical Science.

8th Ceremony on Conferring B.N.Sc. and M.N.Sc. Degree at University of Nursing , Mandalay

To produce efficient human resources for health, all health professional curricula have been reviewed, revised and updated in relevant to the health needs, competency needs and training needs by conducting Medical Education Seminar periodically since 1964. In 2009, 8th Medical Education Seminar was conducted under the guidance of the Ministry of Health. The seminar had highlighted the refinement of assessment component of the under-graduate curricula.

Students attending in Universities and Training Schools under Department of Medical Science as of 31st December 2009 are as follows:

Undergraduate

No.	University/ Training Schools	Number of Students
1.	University of Medicine(1), Yangon	4491
2.	University of Medicine, Mandalay	4451
3.	University of Medicine(2), Yangon	3587
4.	University of Medicine, Magway	3552
5.	University of Dental Medicine, Yangon	996
6.	University of Dental Medicine, Mandalay	948
7.	University of Pharmacy, Yangon	898
8.	University of Pharmacy, Mandalay	540
9.	University of Medical Technology, Yangon	737
10.	University of Medical Technology, Mandalay	599
11.	University of Nursing, Yangon	766
12.	University of Nursing, Mandalay	867
13.	University of Community Health, Magway	670
14.	Nursing Training Schools	3728
15.	Midwifery Training Schools	1318
16.	Lady Health Visitor Training Schools	132

Postgraduate

No.	Courses type	Number of Courses	Candidate attending
1.	Diploma	6	30
2.	Master	29	702
3.	Ph.D.	7	40
4.	Dr.Med.Sc.	30	109

Health Manpower Production as of 31st December 2009 are as follows:

Undergraduate

No.	Degrees/ Certificate	Total Number of Product
1.	M.B,B.S	26896
2.	B.D.S	2436
3.	B.Pharm	1796
4.	B.Med.Tech	1862
5.	B.N.Sc	3258
6.	B.Comm.H	907
7.	Nursing Diploma	22990
8.	Midwifery	30253
9.	L.H.V	3865

Postgraduate

No.	Courses type	Candidate attending
1.	Diploma	1892
2.	Master	3982
3.	Ph.D.	84
4.	Dr.Med.Sc.	219

University of Pharmacy, Yangon

Nursing Training School, Taunggyi

Midwifes, lady health visitors, public health supervisor I and II are basic health front line workers in the essence of primary health care system practiced in Myanmar. These workers are the corner stone for successful implementation of rural health development programme.

The trainings for newly assigned health assistants and newly promoted health assistants I, and the training of trainers for community health workers were conducted and new community health workers were recruited every year in order to cover the health care services up to the grass root level. It has also been supporting all townships from 17 States/ Divisions for yearly evaluation on community health care activities.

Management effectiveness programme is one of the programmes implementing by Basic health services unit and it was aimed for strengthening management capacity of township level managers and township health teams in delivering health care services. It has been implemented since May, 2004 and it has covered 18 townships of all States and Divisions at the end of 2009. All basic health staff from those townships were provided with the trainings and supported to implement the health care activities in their townships with their own action plan through problem solving approach.

With collaboration and cooperation between Ministry of Health and JICA, the Project for "Strengthening Capacity of Training Teams for Basic Health Staff" was launched in May, 2009, as a five-year project, targeting the training teams at Central, State/ Divisional and Township level, which are responsible for developing capacity of Basic Health Staff. During 2009, the baseline survey was conducted in 8 States/ Divisions and 8 Townships in order to assess the current situation and needs of training teams. The teaching aids were supplied to those state/ division and township training teams and it was planned to develop the handbook for training teams using educational science.

EVIDENCE FOR DECISION

Health Information Services

In order to ensure minimum essential information of prioritized health projects are integrated in the national health information system, the Health Management Information System (HMIS) was established in 1995. It is well aspired to accomplish the requirements of integrated national health information system for timely, reliable and accurate information based on minimal essential data set. Generating and reporting health information in the course of implementation of the National Health Plans for timely and effective monitoring and evaluation and to minimizing the data collection burden for basic health staffs are key purposes of HMIS.

Health Management Information System collects and compiles both community based and institutional based information as a means to support making evidence based decisions in policy design, planning and management so as to improve overall health system performance. Furthermore, HMIS is now on the route of advance progress by establishing e-Health System in all states and divisions with support of the WHO.

Hospital reporting is another facet of health information service well established through monthly collection of hospital morbidity and administrative information from public hospitals. Morbidity information which is individual case summaries with analysis of all discharges and deaths is processed at the central office (Department of Health Planning). The medical record services have been established in most hospitals and training program exists for medical record officers. By using (ICD 10) for disease coding, data entry, processing and analysis international comparison is facilitated. Computerized medical record system has been established in some major hospitals since 2000 and to be further expanded.

To further strengthen the health information system, ICT Centre has been established in the Ministry of Health. This will enable extension of information network and rapid and smooth flow of information. A web site has also been established in the Ministry of Health providing updated information on health activities and achievements and also the opportunity to search health literatures.

As a member country of World Health Organization Family of International Classification (WHO-FIC) working group mortality, a workshop was conducted in Nay Pyi Taw, Myanmar from 4 to 6 March 2009 to facilitate its overview of the mission, functions and working methods. It was contributed jointly with WHO country office for Myanmar and Department of Health Planning, Ministry of Health. The consultant team from Thai WHO-FIC Collaborating Centre initiated this

workshop, sponsored jointly by Royal Thai Government and the WHO country office for Myanmar. The mission of this workshop is to improve mortality data quality among countries in Asia Pacific Region by establishing standardized application and standardization of the International Classification of Disease (ICD).

Following the launching of Health Matrix Network (HMN) at the World Health Assembly in 2005, Myanmar joined the international effort for strengthening health information system in the country. As part of HMN activities, a Workshop on Developing Health Information System Strategic Plan has been conducted in the Ministry involving all stakeholders in November 2009. In implementing and processing the health programs, the proper planning is essential. It is necessary for all health personnel to acquire knowledge on how to develop a strategic plan for health programs. Myanmar Health Information System is one of the main components of the National Health Plan that is to assemble, explore, hoard and allocate retrieval of data relating health. This workshop has the aim to formulate measurable HIS performance improvement objectives and strategic interventions which address the problems related to each HIS component and to identify detailed activity that are required to implement each strategy and its various interventions.

Health Research

In accordance with Vision 2030 and National Health 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.

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

Health and Ecological Assessment of Pesticide Residues in Inlay Lake

being published. During 2009, Department Medical Research (Lower Myanmar) participated and accomplished multi-country collaborative study on Eco-Bio-Social Research on Dengue in Asia and developed and evaluated participatory innovative package of ecosystem management interventions on dengue vectors applicable to peri-urban eco-settings.

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. Research findings are disseminated to the concerned national programmes of the department of health. Research seminars, workshops and trainings are regularly conducted to evaluate the ongoing research works, promote the technical skills and knowledge of the staff and formulate the future plan of actions. Professionals and experts of concerned subjects are invited to these meetings for their contribution to the 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.

Research and Development Division of Department of Health Planning has implemented Health System Research (HSR) activities since 1995 in order to enhance efficiency and effectiveness of national and local health systems. Health System Research Methodology Training Workshops for post-graduate students from Medical Universities and for mid-level managers from States and Divisional and Township level Health Departments have been conducted as one of the HSR activities for disseminating concepts of health systems and for imparting knowledge on health system research for obtaining research cultures in managing health problems with the use of evidence-based information. During 2009, a total of 362 post-graduate students from Medical Universities and 30 mid-level managers from State level were trained in HSR methodology and research management.

As one of the HSR activities from the aspect of community health information system, completeness and coverage of mortality statistics in urban areas of Myanmar was conducted in order to evaluate the completeness of registration of vital data by Civil Registration System and Health Management Information System. Three activities including National Seminar on Service Availability Mapping (SAM), pilot implementation of SAM in Pyinmana Township and plan for national implementation of SAM were carried out for the development of SAM in the country.

For monitoring achievements of Millennium Development Goals in Myanmar, Multiple Indicator Cluster Survey (2008-2009) has been being implemented during 2008 and 2009 with the collaboration of Planning Department from the Ministry of National Planning and Economic Development and UNICEF. It is a nationwide survey collecting data for assessing healthy life indicators including child mortality, nutrition, maternal and child health, immunization, water and sanitation, education indicators, child protection indicators and HIV/AIDS indicators. From this survey, up to date knowledge on situation of women and children in Myanmar can be used for planning and implementation of necessary actions to meet the Myanmar's targets of MDGs, 2015.

TRADITIONAL MEDICINE

The Myanmar Traditional Medicine covers profound medical treatises, a variety of potent and effective medicines and a diversity of therapies.

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. There are now, two 50 bedded Myanmar Traditional Medicine hospitals, twelve 16 bedded hospitals and 237 district and township clinics and sub-centers. In addition to these public institutions, private Traditional Medicine Practitioners are also taking part in health care provision in townships and hard to reach areas.

Provision of Household Traditional Medicine Kits

This is one of the special achievements of traditional medicine in Primary Health Care by providing necessary traditional medicine drugs up to rural population. There are two objectives; one is to provide easy access to common traditional medicine drugs for minor illness and two is to minimize the cost of treatment for minor illness.

Household Myanmar Traditional Medicine Kits contain seven different kinds of traditional drugs for minor illnesses, cotton and bandages for wound cleaning and it also contains instruction leaflet and one reference booklet.

Pilot project started in August 2007 in Nay Pyi Taw. At the end of 2009, (2750) Traditional Medicine Kits were provided in one State and six Divisions.

According to the data and reports from the township level, provision of traditional medicine kits are effective and beneficial to the rural dwellers. It also supports and uplifts the health status of the people of Myanmar in the context of primary health care.

Teaching of Traditional Medicine

Myanmar Traditional Medicine is truly an inherited profession whose development has interrelations with the natural and climate condition, thoughts and convictions and the socio-cultural system of Myanmar.

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 Myanmar Traditional Medicine was established and systematic training programmes were introduced to train and produce competent Traditional Medicine Practitioners. A two year course together with one year internship was conducted conferring, a Diploma in Traditional Medicine to successful candidates. The yearly intake of students is about 100. The institute had already produced (2187) diploma holders.

The University of Myanmar Traditional Medicine was established in 2001. Using modern teaching and learning methodologies in accordance with the systematic curricula, the training program was developed by the joint efforts of Myanmar Traditional Practitioners and medical educationists. The curriculum covers all the Traditional Medicine subjects of the four Nayas, basic science and basic concepts of western medicine. It is a four year course together with one year internship. A successful candidate is conferred Bachelor of Myanmar Traditional Medicine. The yearly intake is 100 candidates. The University had already produced (657) degree holders.

Basic concept of Myanmar Traditional Medicine has 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 incorporated together with assessment for completion. 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.

Manufacturing of Traditional Medicine

The government is giving impetus to developing Traditional Medicine systematically to reach international standard and to manufacture potent and efficacious Traditional Medicine based on scientific evidences and practices.

Traditional Medicines have been manufactured by both public and private sectors. The Department of Traditional Medicine takes the responsibility for the public sector and has two factories. Medicines are produced according to the national formulary and Good Manufacturing Practice (GMP) standards. In addition, these two factories manufacture twenty one varieties of

Traditional Medicine in powder form which are provided free of charge to patients attending public Traditional Medicine facilities, and the factories also produce 12 kinds of drugs in tablet form for commercial purpose.

The private Traditional Medicine industry is also developing and undertaking mass production of potent medicine according to the GMP standard. Some private industries are now exporting traditional medicines which are well accepted.

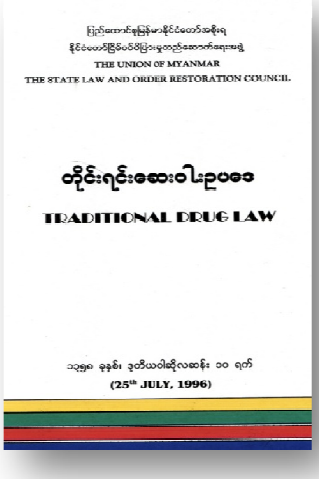
Due to the encouragement, regulations and assistance of the government and the manufacturing of standard traditional medicine through correct and precise methods which complied with international norms of production process, storage system and packaging methods using modern machinery, public trust and confidence in indigenous drugs have greatly been enhanced. There is a progressive increase in demand for traditional medicine not only in rural areas but also in urban areas.

Laws

Traditional Medicine Council Law

The Myanmar Indigenous Medicine Act was enacted in 1953. According to the Act, The State Traditional Medicine Council was formed; it was a leading body and responsible for all the matters relating to Traditional Medicine. To keep abreast with the changing circumstances, the department reviewed and updated the Myanmar Indigenous Medicine Act and transformed it into Myanmar Traditional Medicine Council Law, which was enacted in the year 2000. One of the objectives of the Law is "to supervise Traditional Medicine Practitioners for causing abidance by the rule of conduct and discipline". At present, there are six thousand Traditional Medicine Practitioners registered under this law. According to the Law, the licenses for practicing are issued to persons who have diploma in Myanmar Traditional Medicine or Bachelor of Myanmar Traditional Medicine.

Traditional Medicine Drug Law



In 1996, the Government promulgated the Traditional Medicine Drug Law in order to control the production and sale of Traditional Medicine drug systematically. This was followed by series of notifications concerning registration and licensing, labeling and advertising. One of the objectives of the Traditional Medicine Drug Law is " to enable the public to consume genuine quality, safe and efficacious traditional drugs". According to the Traditional Medicine Drug Law, all the Traditional Medicine drugs produced in the country have to be registered and manufacturers must have licenses to produce their products. There are all together (10087)

registered items of drugs and (1910) manufacturers have already received the licenses for production at the end of 2009. Practices of good manufacturing are considered before issuing the licenses.

Myanmar Traditional Medicine Practitioners Association

Myanmar Traditional Medicine Practitioners Association has been formed since 2002 to promote unity, harmony and adherence to code of conducts of the Traditional Medicine Practitioners. The objectives of the association are to implement programmes through the work of practitioners well versed in their field, to hold seminars in which the physicians themselves can seek means to revive hidden and extinct subject, therapies and drugs and to unite all the practitioners of the various groups under the banner of Myanmar Traditional Medicine Practitioners Association.

Traditional Medicine Conference

Myanmar Traditional Medicine Practitioners' Conference has been held annually since 2000 in accord with lofty aims for development of Myanmar Traditional Medicine. Every year, Traditional Medicine Practitioners from all over the country assemble at the conference, to exchange knowledge and hold discussions for perpetuation and propagating of Myanmar Traditional Medicine, for the standardize progress of the science providing more effective and broader health care services through the profession.

WHO Congress on Traditional Medicine

Myanmar adopted the Primary Health Care approach since Alma-Ata declaration in 1978. Since then, Traditional Medicine has been integrated into Primary Health Care through provision of health care services, education, provision and manufacturing of traditional medicine. In November 2008, WHO Congress on Traditional Medicine was held in Beijing, China and the Declaration of Beijing was successfully laid down and confirmed on the congress. Myanmar has actively participated in the congress.

Herbal Parks and Traditional Medicine Museum

Department of Traditional Medicine has established 9 herbal parks all over the country to cultivate more medicine plant. There are three departmental museums, two are in Nay Pyi Taw National Herbal Park, and one is in University of Traditional Medicine, Mandalay. The objective of establishing museums is to enable the people to observe resources used in Myanmar Traditional at a single place and to preserve rare and extinct animal origins and aquamarine origins and the endangered species of Myanmar medicinal plants.

Professor Dr. Paing Soe,
Deputy Minister for Health inspecting the Traditional Medicine Museum at Nay Pyi Taw

Research and Development

In 1980, Myanmar Traditional Medicine National Formulary has been compiled for 57 numbers of traditional medicine formulations, each monograph included formulary, therapeutic uses, caution and dosage in Myanmar language. These traditional medicines were standardized botanically and physio-chemically and evaluated toxicologically and pharmacologically in the period of 1984-1989. This project has been implemented with the assistance of UNDP/WHO. Five volumes of Myanmar traditional medicine had been published in English and are being used as references and guidelines where and when necessary such as quality control system, health education and the use of traditional medicine formulation in primary health care.

The publication of “Commonly Use Herbal Plants” had been undertaken in series since 1997 and Volume 11 was published in 2008. Moreover, Myanmar Traditional Medicine Handbook was compiled in bilingual for traditional medicine practitioners with the support of JICA and A Manual of Myanmar Traditional Medicine for Primary Health Workers had been compiled not only in Myanmar but also in English language and published with the assistance of WHO for basic health workers and Voluntary Health Workers.

The monograph of 120 Myanmar medicinal plants had been successfully published, Volumes 1 and 2 respectively in 2000 and 2006. These will provide basic information relevant to the use of the medicinal plants in primary health care.

HEALTH STATISTICS

Vital Statistics

Health Index	1988	1999	2002	2003	2004	2005	2006	2007*
Crude Birth Rate (per 1,000 population)								
- Urban	28.6	24.5	21.2	19.9	19.1	19.0	19.0	18.4
- Rural	30.5	27.1	24.6	22.4	22.0	21.9	21.5	21.2
Crude Death Rate (per 1,000 population)								
- Urban	8.9	6.0	6.1	5.6	5.5	5.5	5.3	5.3
- Rural	9.9	7.8	7.0	6.5	6.4	6.4	6.3	5.9
Infant Mortality Rate (per 1,000 live births)								
- Urban	47.0	55.1▲	48.4	45.3	45.2	45.1	44.9	43.4
- Rural	49.8	62.5▲	50.7	47.1	47.0	47.0	46.9	46.3
U5 Mortality Rate (per 1,000 live births)								
- Union	-	77.77▲	-	66.1▲	-	-	-	-
- Urban	72.9	65.12▲	72.6	72.2	70.1	70.0	64.15	62.1
- Rural	-	85.16▲	73.5	73.2	71.4	71.2	-	-
Maternal Mortality Ratio (per 1,000 live births)								
- Union	-	2.5▲	-	-	-	3.16▲	-	-
- Urban	1.0	1.8▲	1.1	0.98	0.98	0.96	0.96	0.94
- Rural	1.9	2.8▲	1.9	1.52	1.45	1.43	1.41	1.36
Population Growth Rate	1.96	2.02	2.02	2.02	2.02	2.02	2.02	1.75
Average Life Expectancy								
- Urban (Male)	59.0	61.0	61.8	62.1	62.4	62.5	62.9	64.0
(Female)	63.2	65.1	66.0	66.2	66.5	66.6	67.3	69.0
- Rural (Male)	56.2	60.3	61.3	61.5	61.8	62.0	62.5	63.2
(Female)	60.4	62.7	63.8	64.0	64.5	64.9	65.4	67.1

** Provisional actual*

***Source**: Statistical Year Book, Central Statistical Organization (CSO), 2007*

▲ *National Mortality Survey, CSO, 1999*

▲ *Overall and Cause Specific Under Five Mortality Survey, Ministry of Health/ UNICEF, 2002-2003*

▲ *Nationwide Cause Specific Maternal Mortality Survey, Ministry of Health/ Survey, 2004-2005*

Health Manpower Development

Health Manpower	1988-89	2005-06	2006-07	2007-08	2008-09	2009-10*
Total No. of Doctors	12268	18584	20501	21799	23740	26016
- Public	4377	6941	7250	7976	9583	11158
- Co-operative & Private	7891	11643	13251	13823	14157	14858
Dental Surgeon	857	1594	1732	1867	2092	2373
- Public	328	625	707	793	777	762
- Co-operative & Private	529	969	1025	1074	1315	1611
Nurses	8349	19776	21075	22027	22885	23746
Dental Nurses	96	162	165	177	244	262
Health Assistants	1238	1771	1778	1788	1822	1845
Lady Health Visitors	1557	3025	3137	3197	3238	3305
Midwives	8121	16745	17703	18098	18543	19051
Health Supervisor (1)	487	529	529	529	529	529
Health Supervisor (2)	674	1359	1394	1444	1484	1645
Traditional Medicine Practitioners						
- Public	290	819	889	945	950	950
- Private	2500	4650	4952	5163	5397	5498

* *Provisional actual*

Health Facilities Development

Health Facilities	1988-89	2005-06	2006-07	2007-08	2008-09	2009-10*
Government Hospitals	631	826	832	839	846	884
Total No. of Hospital Beds	25309	34920	35544	36949	38249	39719
No. of Primary and Secondary Health Centers	64	86	86	86	86	86
No. of Maternal and Child Health Centers	348	348	348	348	348	348
No. of Rural Health Centers	1337	1456	1463	1473	1481	1504
No. of School Health Teams	80	80	80	80	80	80
No. of Traditional Medicine Hospitals	2	14	14	14	14	14
No. of Traditional Medicine Clinics	89	237	237	237	237	237

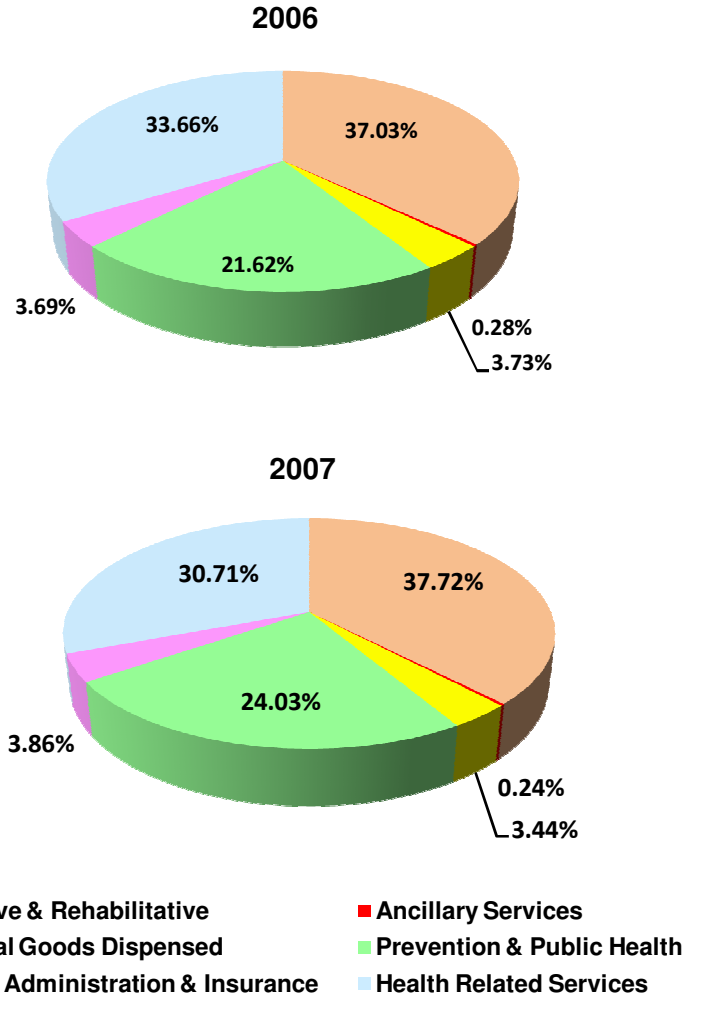
* *Provisional actual*

Government Health Expenditure

	1988-89	2006-07	2007-08	2008-09*
Health Expenditure (Million Kyats)				
- Current	347.1	36497.3	38414.2	41490.8
- Capital	117.0	10717.6	10371.3	10184.1
Total	464.1	47214.9	48785.5	51674.9
Per Capita Health Expenditure (Kyats)	11.8	835.4	848.4	885.2

* *Provisional actual*

Government Health Expenditure by Functions (2006-2007)



Leading Causes of Morbidity (2008)

Sr. No.	Causes	Percent
1.	Single spontaneous delivery, unspecified	4.9
2.	Dengue haemorrhagic fever (DHF)	4.6
3.	Head injury, unspecified	4.0
4.	Diarrhoea and gastroenteritis of presumed infectious origin	3.6
5.	Cataract, unspecified	3.4
6.	Unspecified Malaria	2.6
7.	Viral infection, unspecified	2.5
8.	Neonatal jaundice, unspecified	2.2
9.	Delivery by emergency caesarean section	2.1
10.	Incomplete abortion without complication	1.6
11.	Tuberculosis of lung, without mention of bacteriological or histological confirmation	1.5
12.	Pneumonia, unspecified	1.3
13.	Acute lower respiratory infection, unspecified	1.1
14.	Other acute gastritis	1.0
15.	Essential (primary) hypertension	1.0
	All other causes	62.7
	Total	100.0

Source: Annual Hospital Statistics Report, Department of Health Planning, 2008

Leading Causes of Mortality (2008)

Sr. No.	Causes	Percent
1.	Septicaemia, unspecified	5.2
2.	Head injury, unspecified	4.1
3.	Tuberculosis of lung, without mention of bacteriological or histological confirmation	4.0
4.	Plasmodium falciparum malaria with cerebral complications	2.9
5.	Other preterm infants	2.7
6.	Stroke, not specified as haemorrhage or infarction	2.6
7.	HIV disease resulting in mycobacterial infection	2.5
8.	Birth asphyxia, unspecified	2.4
9.	Retrovirus infections, not elsewhere classified	2.3
10.	Other and unspecified cirrhosis of liver	2.2
11.	Intracerebral haemorrhage, unspecified	1.9
12.	Heart failure, unspecified	1.5
13.	Acute myocardial infarction, unspecified	1.4
14.	Pneumonia, unspecified	1.4
15.	Congestive heart failure	1.3
	All other causes	61.6
	Total	100.0

Source: Annual Hospital Statistics Report, Department of Health Planning, 2008

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., M.Med.Sc., Ph.D, Dr. Med. Sc.
2.	University of Medicine, Mandalay	M.B., B.S., Dip. Med.Sc., M.Med.Sc., Ph.D, Dr. Med.Sc.
3.	University of Medicine (2), Yangon	M.B., B.S., Dip. Med.Sc., M.Med.Sc., Ph.D, Dr. Med.Sc.
4.	University of Medicine, Magway	M.B.,B.S.
5.	University of Public Health, Yangon	Dip. Med.Sc, Dip.Med.Ed, MPH, Ph.D.
6.	University of Dental Medicine, Yangon	B.D.S., Dip.D.Sc., M.D.Sc., Dr. D.Sc., D.DT.(Diploma in Dental Technology)
7.	University of Dental Medicine, Mandalay	B.D.S.
8.	University of Nursing, Yangon	B.N.Sc., M.N.Sc., Diploma Speciality Nursing (Dental, EENT, Mental Health, Paediatrics, Critical Care, Orthopaedics)
9.	University of Nursing, Mandalay	B.N.Sc., M.N.Sc.
10.	University of Medical Technology, Yangon	B.Med.Tech., M.Med.Tech.
11.	University of Medical Technology, Mandalay	B.Med.Tech.
12.	University of Community Health, Magway	B.Comm.H.
13.	University of Pharmacy, Yangon	B.Pharm., M.Pharm.
14.	University of Pharmacy, Mandalay	B.Pharm.
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	-

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(ADRA)
4. Aide Medicale International(AMI)
5. Association of Freancosis-Xavier Bagnoud (AFXB)
6. Artsen Zonder Genzen (AZG) MSF-Holland
7. Asian HarmReduction Network(AHRN)
8. Alliance International HIV / AIDS
9. Burnet Institute Australia
10. CARE Myanmar
11. Cooperation and Svilu - ppo onlus (CESVI)
12. Humanitarian Services International(HSI)
13. International Organization Migration(IOM)
14. Latter Day Saint Charities, USA
15. Malteser (Germany)
16. Marie Stopes International (MSI)
17. Medecines du Monde(MDM)
18. Medecins Sans Frontieres- Swizerland(MSF-CH)
19. Merlin
20. Pact Myanmar
21. Partners International Solidarity Organization
22. Population Services International(PSI)
23. Progetto Continenti
24. Save the Children(UK)
25. Save the Children(US)
26. Save the Children(Japan)
27. Terre des homes(TDH)
28. World Concern(WC)
29. World Vision International

National Non-Governmental Organizations working in Myanmar

1. Union Solidarity and Development Association (USDA)
2. Myanmar Women's Affairs Federation (MWAF)
3. Myanmar Maternal and Child Welfare Association (MMCWA)
4. Myanmar Red Cross Society
5. Myanmar Medical Association (MMA)
6. Myanmar Dental Association (MDA)
7. Myanmar Nurses Association (MNA)
8. Myanmar Health Assistant Association
9. Myanmar Council of Churches
10. Myanmar Anti-narcotic Association
11. Myanmar Business Coalition on AIDS
12. Pyi Gyi Khin
13. Ratana Metta