5 Provision of services

Chapter summary
The Ministry of Health (MOH) is determined to deal with communicable diseases, noncommunicable diseases (NCDs) and the high burden of maternal mortality in the country. The Department of Health (DOH) is mainly responsible for the management of public health activities through various national programmes and implementation in collaboration with development partners, civil service organizations and community-based organizations. Public health services in Myanmar are delivered to the communities by rural health centres (RHCs) and sub-rural health centres (Sub-RHCs) through corresponding township, district, and region and state health departments that provide technical assistance and support. Campaigns and implementation of specific national programmes such as those for tuberculosis, malaria, HIV/AIDS, leprosy, and prevention of blindness are systematically delivered at all levels. Maternal and child health (MCH) services and prevention of vaccine-preventable diseases through the expanded programme on immunization are delivered together with nutrition promotion, health education and environmental sanitation services in the community. While the disease surveillance system is well established in the public sector, there is still room for improvement in getting information from the private sector. International health regulation core capacities have been strengthened at eight points of entry into the country, but there are gaps in human-resource and infrastructure development. There will be more challenges in this area with the new airport, sea ports and border-crossing projects. Occupational hazards are taken care of by the Occupational Health Department. Services provided for NCDs not only cover treatment, but also prevention, control, and reduction of disease, disability and premature deaths due to chronic disease and conditions. Primary ambulatory care is usually provided by all outpatient departments at the hospitals, urban health centres, MCH centres, school health teams, RHCs and Sub-RHCs that handle outpatient care. Emergency, specialized ambulatory and specialized inpatient care are handled by the hospitals at all levels according to their capacity. Specialized inpatient care is
conducted in both public tertiary hospitals and private specialist clinics and hospitals. The Central Medical Store Depot procures and distributes medicines to hospitals all over the country, but supplies are insufficient; management of the supply chain needs to be strengthened. Meanwhile, private pharmacies and drug stores are reaching consumers, who then incur out-of-pocket expenses. The country has institutional care like homes for long-term care of the aged and also community-based care by volunteers implemented in over 150 townships supported by Help Age Korea, and DOH is implementing an elderly health care project in another 150 townships opening weekly clinic for care the elderly at the RHC level. Though dental care is based on clinical institutional care, it is also concerned with public health where oral health programmes are conducted in schools for schoolchildren. Traditional medicine of Myanmar also has an important agenda as regards service delivery as many rural people still rely on traditional herbal medicines.

5.1 Public health

Under the Department of Health (DOH), specific national programmes have set strategies to reduce morbidity and mortality from communicable diseases such as tuberculosis, HIV/AIDS, malaria, dengue haemorrhagic fever (DHF) and some neglected tropical diseases. Also maternal and child health, nutrition and immunization services are provided for the reduction of maternal and child mortality. Public health is provided through regional/state health departments, where there is a regional/state-level public health section, disease control campaigns and surveillance sector working in collaboration with the regional/state-level organizations and under the guidance of regional/state governments implementing up to the township level. As 70% of the country’s population resides in rural areas and the basic structure of the national health system lies at the township level, the so-called township health system serves as the backbone of health care provision taking the major portion of the public health service delivery component through a primary health care (PHC) approach.

5.1.1 TB and TB–HIV coinfection

Myanmar is among the 22 TB high-burden countries, 27th in the list of multi-drug resistant (MDR)TB high-burden countries and 41st in TB–HIV high-burden countries in the world. National TB control activities have been implemented since 1966–1967 and were integrated with PHC activities in 1978. A National TB Programme (NTP) is operating with 14
regional and state TB centres and 101 TB teams at district and township levels. In 1994, the standard regimen used for TB patients was replaced by short course chemotherapy (SCC) and the implementation of a directly observed therapy – short course (DOTS) strategy in 1997. By 2003 all townships had been covered by the DOTS strategy. The Stop TB Strategy was initiated in Myanmar in 2007 and was embedded in the five-year National Strategic Plan (NSP) (2011–2015) (DOH-NTP, 2011). TB patients are treated by patient kits with fixed dose combination drugs according to the type of TB.

The National TB/HIV Coordinating Body has been built up since 2005 and joint training is regularly given to different levels of health staff from both NTP and the National AIDS Programme (NAP). Activities were initiated in collaboration with international nongovernmental organizations (INGOs), particularly UNION in Mandalay in 2009. Altogether 136 townships are implementing TB–HIV collaborative activities in 2014 – scaling up is limited by the availability of antiretroviral therapy (ART). The MDR-TB management pilot project was started in 2009 at 2 TB hospitals and in 10 townships, and expanded to 68 townships in 2014 with collaborative efforts by NGOs and INGOs. Public–private mix DOTS (PPM-DOTS) activities have been implemented since 2004 in collaboration with Myanmar Medical Association (MMA), Population Services International (PSI) and Japan International Cooperation Agency (JICA). PPM-DOTS was initiated at 4 general hospitals in 2007, expanding to 23 hospitals by 2013. In 2014, PSI implemented PPM-DOTS in 198 townships with 923 active private practitioners under Sun Quality Health clinics. PSI also trained 2610 PHC volunteers working under Sun Quality Health clinics of PSI, of which 1827 also actively participated in PPM-DOTS. MMA also implemented PPM-DOTS in 122 townships with 1286 active general practitioners (GPs). Community-based TB control activities were initiated in 2011 (Program Manager, NTP, DOH, Nay Pyi Taw, personal communication, 2013).

5.1.2 HIV/AIDS

HIV/AIDS prevention and care activities have been implemented in Myanmar as a national concern since 1989 with high political commitment. National response to HIV and AIDS is being implemented in the context of the NSP (2011–2015) developed with participation of all stakeholders, under the guidelines given by the multisectoral national AIDS committee (formed 1989), and is monitored according to the National Monitoring and Evaluation Plan. Myanmar has scaled
up the implementation of the 100% Targeted Condom Promotion (TCP) programme since 2000 and has covered 170 townships through coordination meetings, advocacy meetings, syndrome management training on sexually transmitted infections (STI) for basic health staff (BHS), peer education and awareness-raising activities. Increased access to condoms with high condom use among risk groups has been achieved through distribution of over 35 million condoms in 2011. Methadone maintenance therapy (MMT) started in 2005 and covered 18 drug-dependence treatment and rehabilitation centres in 2012. A Needles and Syringes Exchange Programme has been implemented with some INGOs in Kachin and Shan states with distribution of more than 9 million needles in 2011. HIV/AIDS prevention activities among the youth are under the auspices of the Ministry of Education and related programmes under MOH (e.g. School Health and Adolescent Health in collaboration with local and international NGOs).

ART started in 2005 and covered 48 hospitals for adults and 28 paediatric hospitals in 2012. Through coordinated efforts of 15 implementing partners, at the end of December 2012, some 53,709 patients were being provided with ART. However, the gap between the need for ART and availability of resources remains wide and training in integrated management of AIDS and related illnesses was conducted during 2011 and 2012 in various regions and states. An integrated HIV care (IHC) programme has been started with UNION covering 18 sites. Through IHC, ART has been provided in public hospitals to AIDS patients with and without TB coinfection.

Prevention of mother-to-child transmission (PMTCT) of HIV was initiated in 2001 and already covered 253 townships and 38 hospitals (including region and state hospitals) by 2012. Multidisciplinary regional/state PMTCT training teams were formed and conducted advocacy meetings, training in townships, and community mobilization at township level. Two of the weaknesses of the PMTCT programme are lack of partner testing and lack of follow-up of children born to HIV-positive mothers. People living with HIV (PLHIV) networks are trained to play an essential role in pre- and post-test counselling, couple counselling, and tracing of defaulter cases, to help improve compliance across the continuum of care.

A donor deferral system for the Blood Safety Programme has been introduced with JICA support and a National External Quality Assessment
Scheme (NEQAS) of HIV testing was established. Although Myanmar has successfully gained a Global Fund Round 9 Grant for scaling up of activities in the coming years, the next NSP (2011–2015) needs to be fully funded by both international and domestic sources for achievement of Millennium Development Goals (MDGs), Universal Access and achieving the Three Zeros – zero new HIV infections, zero stigma and discrimination, and zero death (Program Manager, NAP, DOH, Nay Pyi Taw, personal communication, 2012).

5.1.3 Malaria

The National Malaria Control Programme (NMCP) positioned within the National Vector Borne Diseases Control (VBDC) Programme under DOH has been responsible for policy and strategy development and programme evaluation. At the regional/state level, malaria control is integrated into the general health services. The NMCP has a cadre of staff at the regional/state level which complements the region/state and district health system staff in the implementation of prevention and control of malaria and other vector-borne diseases. At the township and village levels, malaria services are delivered by highly motivated township-level BHS.

Preventive measures have been conducted by malaria risk area microstratification and identifying 80 endemic townships from 12 regions/states in 2007 applying stratification guidelines that had been developed through collaborative efforts between the United Nations Children’s Fund (UNICEF), WHO, Japan International Cooperation Agency (JICA) and Vector Borne Diseases Control (VBDC/MOH) and expanding to 50 townships each in 2011 and 2012 making a total of 180 townships in 2012. Restratification of the first 80 townships was conducted during 2009-2010, validating by malirometric survey in some targeted townships; (61.8% of the population resides in malaria-transmission and the remaining 38.2% in malaria transmission-free areas in 2012 ). Long-lasting impregnated bed nets (LLIN) were provided free of charge since 2001. Based on three years cumulative LLIN coverage, the total population covered by the Insecticide Treated Net (ITN) programme was over 2 million in each of 2009 and 2010, and nearly 3 million in 2011. But there is still a large gap to scale up LLIN coverage.

Dissemination of key information and messages on malaria is done through various media channels: TV, radio, video, newspapers, magazines and individual health talks with special emphasis on regular use of bed nets and early seeking of quality diagnosis and prompt appropriate
treatment. A total of 0.14 million posters and 3.6 million pamphlets were distributed to malaria endemic areas from 2009 to 2011, all in Myanmar language and heavily illustrated for providing health education.

For early diagnosis and treatment, according to the new antimalaria treatment policy, case management with artemisinin-based combination therapy (ACT) was introduced all over the country in 2009. In 2013, approximately 1.7 million people were tested for malaria parasites. Of these, 0.32 million tests were positive, giving a malaria positivity rate of 18.98%. Malaria microscopy was the only diagnostic tool in Myanmar until 2006 before the Three Diseases Fund (3DF) was launched. From 2007 onwards, rapid diagnostic test (RDT) kits were available for early detection of malaria.

NMCP has also been partnered by several international and local NGOs; however, a very large part of the service delivery for malaria control operations, including monitoring and supervision, are being carried out by the public-sector health services greatly strengthened over the past six years mainly at the RHCs, Sub-RHCs and village health volunteers resulting in well-functioning service delivery for malaria in villages.

The Three Millennium Development Goals (3MDG) Fund started in 2013 to fill the gaps in the Global Fund to Fight AIDS, Tuberculosis and Malaria support. Global Fund new funding model and Regional Artemisinin Resistant Initiative are being developed for further improvement of the malaria situation in Myanmar (Retired Deputy Director General (Disease Control), NMCP, DOH, Nay Pyi Taw, personal communication, 2013).

### 5.1.4 Leprosy

Leprosy is a chronic infection that was eliminated in Myanmar in 2003 and is no longer a public health problem. However, it still requires attention in terms of sustaining leprosy control activities such as new case finding and treatment in areas with high prevalence (pocket areas)\(^\text{22}\) and hard-to-reach areas, and providing quality leprosy services focusing on prevention of disability (POD) and rehabilitation of persons affected by leprosy. POD has been carried out in 147 townships with regular follow-up case assessment, self-care training and provision of necessary drugs, aids and services at the end of 2013.

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\(^{22}\) A leprosy pocket area is an area where at least 5 new cases are detected within a 5 year period.
Mental illness, drug abuse and avoidable blindness are also emerging health issues in Myanmar for which prevention and control measures have been started.

5.1.5 Disease surveillance

The Central Epidemiology Unit (CEU) is the national focal point for communicable disease (CD) surveillance and response, working in collaboration with related ministries, departments and organizations. The national surveillance system focuses on the surveillance of the epidemic-prone CDs (severe diarrhoea, cholera, dengue haemorrhagic fever and plague), 17 Diseases Under National Surveillance (DUNS) (including diarrhoea, dysentery, food poisoning, typhoid and paratyphoid), emerging infectious diseases, post disaster CDs, climate-related CDs, vaccine-preventable diseases, and early warning, alert and response system (EWARS). Private sector routine reporting of CDs needs strengthening, although some in the private sector are actively participating in CD prevention and control programmes and collaborative effort is seen between CEU and private hospitals.

Myanmar actively participates in the Mekong Basin Disease Surveillance (MBDS) and Greater Mekong Sub region (GMS) for disease control activities along the borders with Yunnan province of People’s Republic of China, Lao People’s Democratic Republic and Kingdom of Thailand. Cross-border check points have been established between Myanmar and each of the other three countries for CD surveillance, including new emerging diseases like severe acute respiratory syndrome (SARS) and avian influenza. However, areas that still need to be strengthened are: community-based surveillance, epidemiology, information and communications technology (ICT), laboratory, risk communication and research. Myanmar is strengthening International Health Regulation (IHR) core capacities at designated points of entry to the country, and is also making progress in conducting Field Epidemiology Training Programme (FETP) training, joint Rapid Response Team (RRT) training for health professionals at airports, sea ports and land crossings, holding regular border-control committee meeting and sharing information with neighbouring countries in the context of the ASEAN +3 Field Epidemiology Training Network (FETN), MBDS. However, gaps continue in human-resource quantity and capacity, and inadequate infrastructure, lab and medical facilities at land border crossings. With the limited resources available, new points of entry, such as the new airport in Nay Pyi Taw,
new seaports at Kyaukphyu, Sittwe, Dawei and Thilawa, and the new land crossing to China (Muse-Shweli), it is still necessary to build up the core capacity at point of entry to meet the requirements for implementation of IHR. (Assistant Director, CEU, DOH, Nay Pyi Taw, personal communication, 2013).

5.1.6 Preventive services

The Myanmar Expanded Programme for Immunization (EPI) was launched in 1978, introducing bacille Calmette–Guérin (BCG for TB), diphtheria–pertussis–tetanus (DPT) and tetanus toxoid (TT) vaccines, and oral polio (OPV) and measles vaccines from 1987. The new vaccine for hepatitis B was added to the routine immunization programme from 2003 to 2009. EPI has been running with support from WHO, UNICEF, Global Alliance for Vaccine Initiative (GAVI) and other partners to reduce the morbidity and mortality of the children from vaccine-preventable diseases thereby achieving MDG 4.

With the change of the government and health financing, the government cofinances [US$ 1 million] the cost for the new Pentavalent vaccine (DPT + Haemophilus influenzae + hepatitis B), which was introduced into the routine immunization schedule in 2012. The EPI is largely implemented by midwives trained at PHS-2 status and who ensure coverage in their catchment areas. A “crash immunization” activity is carried out in hard-to-reach areas within three consecutive months particularly in open seasons. The national average of DPT3 coverage was fairly high during 2009–2012, but there are pockets of low immunization coverage in border areas, physically hard-to-reach areas, in urban slums and among migrant communities. Comprehensive data analysis has been conducted for all regions and states up to the health centres under the township health department based on 2011 achievements: 179 townships showed RHCs having less than 80% DPT3 coverage (Program Manager, EPI, DOH, Nay Pyi Taw, personal communication, 2013). In 2012, the year of Intensification of Routine Immunization (IRI) was launched, setting the objectives of reaching the unreached, reducing the gap, ensuring that no one is left behind and all have equitable access – i.e. achieving universal coverage of routine immunization. Even so, the distribution of health services is not equal everywhere, as a result of shortage of basic health workers in hard-to-reach areas and conflict areas, lack of cold chain or inability to reach inaccessible areas (coastal or hills).

Maternal and neonatal tetanus was eliminated in 2010 and the measles mortality reduction goal reached, and the country is on track for measles, rubella and congenital rubella syndrome elimination. It is assumed that
Poliomyelitis will be eradicated in early 2014 not only in Myanmar, but also in neighbouring countries. The high-level advocacy and communication strategy is used with participation of members of the NHC as well as local ministers of health and education from all regions and states – immunization has a high level of political commitment. Routine and supplementary immunization activities have also been strongly supported by local and international NGOs and other stakeholders, as demonstrated in the Mass Measles Campaign 2012.

Strategic plans for reproductive health, adolescent health and child health are directed towards achieving the MDG goals under the guidance of NHP. The five-year Strategic Plan for Reproductive Health [2009–2013] was successfully developed in 2009 by the reproductive health programme of DOH with the support of all implementing partners as a continuation of first five-year strategic plan for reproductive health 2004–2008 (DOH, 2009). The Plan sets core strategies for improving antenatal, delivery, postpartum and newborn care, providing quality services for birth spacing and prevention and management of unsafe abortions, preventing and reducing reproductive tract infection (RTIs), STIs (including HIV), cervical cancer and other gynaecological morbidities, and promoting sexual health, including adolescent reproductive health for both females and males. The United Nations Population Fund (UNFPA) is the main agency providing support on reproductive health to DOH and it also supports the Health Education Bureau for Behaviour Change Communication programme targeting community support groups to aid referral of at-risk pregnant women to midwives and also targeting youth centres for prevention of HIV/AIDS among out-of-school youths by peer education. Even with these efforts, there are still significant gaps in coverage of maternal health care: the proportion of deliveries with skilled birth attendance is 64%, a gradual improvement from 58% in 2005. Women in rural areas still prefer home delivery (80%) and the unmet need for family planning is 18% (DOP & UNFPA, 2009). Childhood stunting is a significant public health problem, with 35% moderately stunted and 13% severely stunted (MNPED, MOH & UNICEF, 2011).

The Five Year Strategic Plan for Child Health Development [2010–2014] and the National Plan of Action on Food and Nutrition [2011–2016] address: child health care; organizing the national coverage to prevent and reduce food, water, vector-borne and infectious diseases; preventing and treating pneumonia; ensuring exclusive breastfeeding of infants up to six months; promoting nutrition for prevention of micronutrient-deficiency
diseases; and intensifying programmes to treat acute moderate and severe malnutrition (MOH, 2012). In terms of combating micronutrient deficiency, vitamin A coverage is more than 90% as there is a twice yearly nationwide vitamin A supplementation campaign. The country’s iodine-deficiency disorders elimination status was not maintained as there was only 81% iodization at factory level due to the salt-producing factories not following regulations and instructions for iodization. According to UNICEF’s progress report (DOH & UNICEF, 2012), at least 60% of children under five, pregnant and lactating women nationwide received iron/folate and vitamin B1 supplementation to prevent anaemia and beriberi. Home fortification with micronutrient sprinkles was piloted in three townships and then implemented in another 17 townships. For severe acute malnutrition, Hospital Nutrition Units (HNU) were created in 14 hospitals in 2012, with a target of reaching 20 hospitals in 14 regions/states by 2015. The National Nutrition Centre (NNC) is working for Scaling Up Nutrition (SUN) together with UNICEF, Food and Agriculture Organization of the United Nations (FAO), World Food Programme (WFP), WHO and other development partners, as well as other line ministries. Nutrition promotion is not the responsibility of health sector alone and needs highly ambitious intersectoral and multisectoral cooperation and collaboration.

A nationwide deworming campaign has been conducted.

All these service-delivery activities are delivered at the township health department and there has been some integration in vertical programmes. It is believed that the best model would incorporate all activities in a coordinated township health plan with inter- and intra-departmental coordination and collaboration by all vertical programmes.

5.1.7 Occupational health

The Occupational Health Division (OHD) has been providing training on occupational health and safety, including occupational first aid, to employers, workers, supervisors, Basic Health Staff (BHS), nurses, and medical officers from factories. Screening factory workers for TB has been conducted in collaboration with NTP. OHD also investigates industrial accidents. It also assesses the environmental and health problems and impacts of industries in the various regions and states to prevent pollution of the environment (air, soil and water), yet it has been functioning with limited numbers of technical personnel and advanced instruments for on-site and confirmatory testing. Functions of OHD include the arsenic and fluoride mitigation project with UNICEF, air quality monitoring (AQM),
compilation of emission data on air pollutants in Yangon and Mandalay, surveillance of acute poisoning cases all over the country for the accident and poisoning database, and investigating heavy-metal poisoning. Even though the method and instruments of ambient air quality measurement are very old they are useful up to now and it is planned to upgrade both instruments and technology (Deputy Director (Occupational Health), DOH, Nay Pyi Taw, personal communication, 2013).

5.1.8 Sanitation

The Environmental Sanitation Division (ESD) of DOH supplies water for health institutions and promotes systematic utilization of sanitary latrines in both institutions and households. With the assistance of UNICEF, ESD implemented a latrine-construction project with free distribution of plastic pans and pipes from 1981 to 1995, and followed this up by conducting National Sanitation Week annually from 1998. Starting from 2011, ESD with the support of UNICEF has been pursuing Community Led Total Sanitation (CLTS) to free the open defecation status by mobilization approach of using community behaviour-change methods. Now it has been implemented at 282 villages in 21 townships aiming for the sustainability of the sanitary latrines constructed. In 2014, training of trainers programme and implementation of CLTS will be conducted at (220) villages of 4 townships in Magwe, Sagaing and Mandalay regions. (MOH 2012a).

5.1.9 Noncommunicable diseases

For noncommunicable diseases (NCDs), priority actions have been developed to prevent, control and reduce disease, and disability and premature deaths from chronic disease. These actions were: developing a comprehensive national policy and plan for prevention and control of major NCDs; establishing high-level national multisectoral mechanisms for planning, guiding and monitoring; implementing cost-effective approaches for early detection of major NCDs; and strengthening the human-resources capacity for better case management and to help people to manage their own conditions better. A population approach has been advocated to reduce the risk levels of smoking, drinking and lack of exercise in the population through community action and participation (MOH, 2013).

Public-health programmes in Myanmar are comprehensive and cover all the main health problems of the country. All programmes have clearly defined responsible persons/institutes. Public–private partnership and multistakeholder involvement has been observed in many programmes.
Services are adequately available for and accessible to the needy, e.g. LLIN in the high malaria transmission areas, while some programmes aimed for universal coverage, e.g. universal coverage of routine immunization. However, there is much room for improvement, in particular equity in immunization coverage and quality of services, e.g. ART adherence.

5.2 Patient pathways

Two cases of pregnant women who gave birth at a health care facility (Box 5.1) and at home (Box 5.2) are given as case studies.

### Box 5.1 Delivery at health care facility

North Dagon township, situated north of Yangon, is a satellite peri-urban area with 25-bed hospital providing both ambulatory and inpatient care.

A 30-year-old lady married seven years previously missed her period for two months and tested herself with a UCG test strip, so knew that she was pregnant. She bought Furamin BC (iron and vitamins of the B complex) from a drug store by herself and had taken one tablet per day regularly up to seven months of pregnancy.

At seven months, at the suggestion of neighbours, she went to Dagon North outpatient department (OPD) for first antenatal care. She was asked for her last date of menstruation and the expected date of delivery was calculated by the staff as 29 June 2012. She was given a shot of tetanus toxoid, had her urine tested, was given an iron tablet and tablets for deworming. She was referred to Dagon East hospital for blood tests which she followed and was told the results were good. She went again to Dagon North OPD and was given second dose of tetanus toxoid.

Early on 14 July, she started to have labour pain and at 20:00 amniotic fluid passed out due to rupture of the membrane and she was taken to the hospital by taxi. As soon as she arrived at the hospital, she was examined and given a bottle of IV infusion (Synthocinon, i.e. oxytocin) and at 05:00 on the 15 July a baby girl (3 kg) was born by normal vaginal delivery. She was given medicines and said it cost about 33 000 kyats for medicines at the hospital and she was satisfied with the treatment from the hospital. She would like to have more knowledge on maternal and child health. (It is to be noted that the government is initiating a policy of providing delivery at health care facility free of charge.)
Box 5.2 Home delivery

Yedarshay township is situated in Bago East Region, has total population of nearly 200,000 people and the health service for this population is covered by the township hospital, two station hospitals (Swa and Myo Hla), Mother and Child Health, five RHCs and 25 Sub-RHCs.

A 25-year-old lady married for two years got pregnant; she knew when her abdomen was protruded. Her neighbours told her to see a midwife. As the midwife stays in a village near her home, she went there for antenatal care service for the first time. The midwife asked for her date of last menstruation, which she could not remember, so expected time of delivery was estimated through abdominal examination. The midwife checked her blood pressure, tested her urine, gave tetanus toxoid injection and supplied iron and vitamin B1 tablets. The follow-up visit was when the midwife came to the village for immunization of children and the mother was given another shot of tetanus toxoid. This time the midwife also gave her deworming tablets to take. She was given a booklet on what a pregnant mother should do during pregnancy, which the midwife read out for the pregnant women attending the session. The midwife also explained about eating nutritious food, the risks of pregnancy and referral in case of bleeding before pregnancy.

When labour pain came, the mother asked her husband to call the midwife and had to endure pain for nearly 8 hours before delivery of a healthy baby boy at her home. The midwife came and provided her services free of charge. Nonetheless, the patient and family gave the midwife some cash to show their gratitude for her help.

5.3 Primary/ambulatory care

In the public sector, RHCs, Sub-RHCs, MCH centres and Urban Health Centres provide ambulatory care and are patients’ first point of contact with health staff. A total of 87 Urban Health Centres and 348 MCH centres cover urban areas of the country, while 1635 RHCs and 7581 Sub-RHCs provide primary ambulatory care to people in rural areas. Health promotion activities are conducted especially during antenatal care for pregnant mothers – nutrition promotion for mothers and children, exclusive breast feeding and safe motherhood measures – at the RHC, Sub-RHC and MCH centres. A total of 80 school health teams throughout the country provide general medical check-ups of school pupils, oral health care, personal hygiene and health education to different ages with different health topics.
In addition, all MOH hospitals, MOD hospitals, other ministries’ hospitals and private hospitals (see Chapter 4) have OPDs for primary and ambulatory care. A total of 4640 private GP clinics and 444 polyclinics are available throughout the country. Patients can choose to go to see a doctor at any public or private health care facility, making their decision on the basis of acceptability, availability, accessibility and affordability.

5.4 Specialized ambulatory care, inpatient care and specialized inpatient care

Specialist OPDs exist in the general, specialized (e.g. Central Women’s Hospital, Children’s Hospital, Eye hospital, and Ear, Nose and Throat hospital) and teaching hospitals in big cities. Settings also differ according to the capacity of the general hospitals (see also sections 5.5 and 5.7). For instance, YGH has a well-established setting for ambulatory care including general medical care, minor surgery care attached to a minor surgery theatre, emergency cardiac care, orthopaedic care, laboratory, radiology and dental care. Moreover YGH also has radiotherapy, chemotherapy, and other sophisticated radio-imaging measures as ambulatory care services. Patients can be referred from lower-level health care facilities to get specialized ambulatory services in the general and specialized hospitals (requires a proper referral letter). Patients without referral letters can go to a general medical OPD, from where they will be referred to a specialized OPD if needed through the referral mechanism of that general hospital.

A specialized area of ambulatory care is mass operation of cataract surgery and intraocular lens replacement, which used to be conducted by public-sector eye surgeons in collaboration with private-sector eye surgeons especially from foreign countries. Chemotherapy is normally provided as specialized ambulatory care in both public and private hospitals.

Inpatient care is available in all public and private hospitals, and specialized inpatient care is available in tertiary public hospitals having specialities in over 17 disciplines. Radiation therapy for cancer patients as specialized inpatient care is available in three public general hospitals (YGH, MGH and Taunggyi Sao San Tun hospital). The 1200-bed Mental hospital in Yangon and the 200-bed Mental hospital recently established in Mandalay are the only hospitals for patients with long-term mental illnesses. Specialized inpatient care is available in central women’s...
hospitals, children’s hospitals, orthopaedic hospitals, eye and ENT hospitals and Rehabilitation hospital. Central Women’s Hospital Yangon has been upgraded to an 800-bed hospital, opening up posts for many obstetrics and gynaecology specialties like gynaecological oncology, fetal medicine and infertility. Sub-speciality staff have already been recruited and trained.

Specialized inpatient care is given not only at the public hospitals, but also in private hospitals as specialists in Myanmar are allowed to practise during out-of-office hours in private hospitals and clinics.

Specialized ambulatory care, inpatient care and specialized inpatient care are available throughout the country, but are still concentrated in the big cities. The needy can avail of specialized ambulatory and inpatient care depending upon their ability to access them (geographically) and pay for them. There is room for improvement, not only in terms of availability, but also in terms of the quality of specialized care with high concern for equity in utilization.

5.5 Emergency care

Emergency medical care in Myanmar is still being developed. The main organization leading emergency care to public is DOH through the emergency department of government hospitals. The centres providing emergency medical care exist only in major cities. At district and township levels, PHC centres receive patients with emergency illness and trauma and refer these to a higher level. The emergency department of most of the hospitals in Myanmar is not well organized compared to other developing countries. The modern emergency department occurs only in YGH, having been developed since the early 1990s. Specialist care for emergency patients by physicians, surgeons and trauma surgeons along with other allied departments like pathology, radiology and emergency operating theatre is available 24 hours a day, but a standardized emergency service system needs to be developed. In other cities and rural hospitals, there is no a separate emergency department due to lack of facilities and skilled staff; thus, the outpatient department has to provide both outpatient and emergency care. The emergency cases are received by a junior medical officer and referred to specific wards or other hospitals as there are no resuscitation facilities in most of the hospitals.

There is no Emergency Medical Service (EMS) system established yet for transporting patients from the district to a major hospital, only primitive
ambulance and other transport modalities are available. The transport of patients in cities relies solely on taxis, private cars and other vehicles rather than well-equipped ambulances. Even in Yangon city, no more than 3% of patients come to hospital by (poorly) equipped ambulances. DOH has procured 60 well-equipped ambulances in preparation for the 27th South-East Asia Games to be held in Myanmar in December 2013; after the games these ambulances will be distributed to states/regions for EMS (Medical Care division, DOH, Nay Pyi Taw, personal communication, 2013). At the same time, MRCS has been operating First Aid Stations at the 115-mile rest camp near Phyu township and the 285-mile Thegone rest camp near Meikhtila township on the Yangon–Nay Pyi Taw–Mandalay highway with the support of the Singapore Red Cross (SRC) Society. Teams of Red Cross volunteers from nearby townships and restaurant staff were trained, provided with mobile phones and walkie-talkies, and assigned at these first-aid stations. With provision of well-equipped ambulances from SRC, MRCS is helping reduce the number of deaths, injuries and impact from road traffic accidents by emergency management and necessary transfer (MRCS, unpublished information, 2013).

The new government has made efforts to improve the health system of Myanmar, including provision of emergency medical care throughout the country since 2010. MOH through DOH and DMS has planned and been implementing degree courses in emergency medicine as a new specialty in medical universities to produce emergency medicine specialists to lead the future development of standard emergency departments in major hospitals of Myanmar in 2012. The course consists of three stages: phase I delivers the diploma course (emergency medicine) to the specialists of various disciplines; phase II is the master degree course for M.Med. Sc (emergency medicine); and in phase III there will be expansion of the course to community doctors. At the same time, DOH is planning to upgrade the emergency departments of major city and district hospitals with modern equipment and facilities. The aim of this development is to provide emergency care free of charge to the community. Though there is no established national EMS system in Myanmar, public awareness on the need for emergency ambulance transport is increasing at community level. Many social-welfare societies are running their own local not-for-profit ambulance transport with their own funding in rural communities. Taking note of community awareness, the National EMS system in Myanmar will have to see cooperation between the government hospital-based ambulance system and the community-based system. Current problems are the lack of technical expertise in development of regional
system and the need for funds for the development of sophisticated emergency department and EMS system for Myanmar (Professor [Orthopedic], EMC, YGH, Yangon, personal communication, 2013). An example of patient pathway in an emergency care episode is given in Box 5.3.

### Box 5.3 Emergency episode

A 39-year-old male, a taxi driver, residing in Sipaw township, Shan North, woke up in the middle of the night of 2 May 2013 with pain in his abdomen and vomiting sour fluid. He visited the general clinic opened by the Medical Superintendent of Sipaw Township Hospital about half a mile from his home by riding on motorcycle-carrier on the following morning of 3rd May. He was given an injection and three doses of medicine by the doctor. At first, the pain seemed to subside, but became worse on the 4 May with sweating. He again visited to the same doctor and was told that he had appendicitis and to go to hospital immediately.

When he arrived at the OPD, an abdominal examination was done and treatment was given. Intravenous infusion was given and he was admitted to the surgical unit.

He was operated on the morning of 5 May with spinal analgesia. The operation took half an hour, he did not suffer from any more pain after the operation, stayed in bed for the whole day of 6 May, and started to walk on 8 May. Stitches were removed on the 12 May and he was discharged from hospital.

He was satisfied with the doctors and staff of the hospital and, although an estimated 30,000 kyats was spent during his hospitalization, he was quite happy.

### 5.6 Pharmaceutical care

Myanmar Pharmaceutical Industry (MPI) of the Ministry of Industry (MOI) has five factories (see Table 5.1). CMSD normally purchases pharmaceutical products and medical devices from the factories under MPI. On average, CMSD spends about 10% of total national pharmaceutical expenditure on purchases from MPI factories (Thida-Aye & Finch, 2000).
Table 5.1  Factories under Myanmar Pharmaceutical Industry, Ministry of Industry

<table>
<thead>
<tr>
<th>Factory</th>
<th>Products</th>
<th>Items purchased by CMSD annually</th>
</tr>
</thead>
<tbody>
<tr>
<td>Myanmar Pharmaceutical Factory in Yangon (MPF)</td>
<td>Pharmaceuticals and related products, including powders, liquids, ointments, tablets, capsules, injections and biological products, including snake antivenom and rabies vaccines (Thida-Aye &amp; Finch, 2000)</td>
<td>100 pharmaceutical items</td>
</tr>
<tr>
<td>Pharmaceutical Factory, Inn Yaung, Kyaukse</td>
<td>Pharmaceutical items mostly injection, including Cefotaxime and Ceftriaxone injection which are not produced by MPF</td>
<td>15 injection items including Cefotaxime and Ceftriaxone injection</td>
</tr>
<tr>
<td>Paleik Textile Industry</td>
<td>Cotton wool, gauze, bandage, cloth, etc.</td>
<td>Many items of cotton wool, gauze, etc.</td>
</tr>
<tr>
<td>Sagaing Textile Industry</td>
<td>Cotton wool, gauze, bandage, cloth, etc.</td>
<td>Many items of cotton wool, gauze, etc.</td>
</tr>
<tr>
<td>Minsu Home Furniture Factory</td>
<td>Hospital equipment, instruments and devices</td>
<td>Many items of hospital equipment, instruments and devices</td>
</tr>
</tbody>
</table>

Source: Myanmar expert on pharmaceutical production (AD, CMSD, personal communication, 2013).

The medicines that cannot be acquired because of insufficient production by the MPI factories are purchased from private companies by open tendering. In 2012, some 25 companies competed for tender for medicines and medical products and in 2013 this increased to 50 companies registered with the Company Registry, Ministry of National Planning and Economic Development. Apart from government budget, United Nations agencies (mainly WHO, UNICEF and UNFPA) and INGOs supply medicines to CMSD and also support funding for their distribution. CMSD has warehouses to store the medicines and medical supplies that are procured or donated, but there is a need for more space for placing of medicines and medical products procured by increased health budget from 2012 onwards.

There are two distribution methods: personal collection and CMSD forwarding services. Personal collection is required for controlled medicines, snake antivenom and some instruments. The hospital officer
or responsible person has to collect these medicines in person and the hospital is responsible for transportation costs. CMSD forwarding services are for distribution of common medicines according to a schedule set by CMSD. CMSD calls for tenders for the transportation and contracts out to the winner to distribute medicines and equipment to all hospitals in all regions and states except Yangon. Distribution is made to all hospitals (station, township, district, region/state and specialist) from Yangon. For those townships not accessible by road, supplies are distributed via their respective Regional/State Health Department. Sixteen-bed hospitals, RHCs and Sub-RHCs are supplied according to the standard list directed from central through government budget and they have to take their quota from the respective township bearing cost for transportation themselves. Distribution of medicines is made twice yearly to all townships on a schedule that takes note of those townships accessible in the rainy season and those accessible in the dry season. Subdepots take care of distributing to respective townships.

For the year 2012–2013, the medicines and medical supplies budget was increased 20 fold over the previous year (2011–2012), so CMSD has to procure more according to hospitals’ needs, especially for emergency treatment and blood safety package. Two main issues faced are inadequate professional staff for efficient pharmaceutical management and lack of storage capacity to store these purchased medicines properly before distribution. A medication procurement plan and door-to-door distribution of purchased medicines from private companies is one option for solving the problem of inadequate storage capacity. Private companies that win contracts can distribute directly to the hospitals, RHC and Sub-RHC [Assistant Director, CMSD, Yangon, personal communication, 2013].

PSI conducted a retail census in 2012 in Yangon, Mandalay, Pyinmanar, Monywar, Myitkyina, Mawlamaing, Pathein and Myeik, identifying 3267 pharmacies [Han Win Htet, Marketing Manager, PSI, personal communication, 2013]. According to FDA data, there are 10 000 drug stores and pharmacies (wholesale and retail) throughout the country and 202 drug importers/distributors registered with FDA. Not all pharmaceutical importers provide essential drugs on the essential drug list of DOH, and the majority of medicines come from China, India, India.

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23 Blood safety package contains reagents for grouping and matching (Anti A, Anti B, Anti D), Anti Human Globulin, test kits for Hep B, Hep C, HIV, malaria, VDRL, glass tube (for blood collection), glass slides, syringe and needle, handiplast, blood giving set and blood bag.
Bangladesh and Thailand. In general, people can access pharmaceutical products through the private pharmacies if they can access and afford them.

The National Drug Law was promulgated in 1992 to ensure that medicines consumed by the community are safe, efficacious and of assured quality. The FDA, under the guidance and supervision of the Central Food and Drug Supervisory Committee, systematically ensures and monitors the availability of quality medicines. However, quality and rational use of medicines and pharmaceutical products are important areas for research and development.

5.7 Rehabilitation/intermediate care

5.7.1 Institutional rehabilitation

Myanmar has provided rehabilitation services for people with disabilities through institution-based rehabilitation since 1958. It was originally provided by the National Rehabilitation Hospital, which was handed over from the Ministry of Social Welfare to MOH in 1965. At present, there are 30 Physical Medicine and Rehabilitation departments under general hospitals with specialists providing rehabilitative services, of which Yangon General Hospital, National Rehabilitation Hospital in Yangon and Mandalay General Hospital are the main departments fully equipped with facilities for physiotherapy and also for having in-patients. In addition, there are 69 physiotherapy departments in different townships, each with physiotherapists only and not fully equipped to a total 99 all over the country.

Types of disabilities treated are hemiplegia, traumatic and nontraumatic paraplegia and quadriplegia, traumatic brain injury, post fractures and dislocations, arthritis and connective-tissue disorders (e.g. rheumatoid arthritis, osteoarthritis, gouty arthritis, ankylosing spondylitis), musculoskeletal pain in all regions of the body, rehabilitation of amputees, chest and cardiac diseases, leprosy and other skin diseases rehabilitation, rehabilitation of burns patients, rehabilitation of critically ill patients, rehabilitation of geriatric patients, and rehabilitation of paediatric patients (especially polio and cerebral palsy patients).

New institutions and departments have been established to upgrade physiotherapy education. Paramedical School, Yangon was upgraded to University of Medical Technology Yangon in 1992, and similarly in
Mandalay during the year 2000. These two universities have been producing medical technologists specialized in physiotherapy since 2000 (Associate Professor, Physiotherapy Department, YGH, personal communication, 2013).

5.7.2 Community-based rehabilitation

Introduction of community-based rehabilitation in Myanmar through a pilot study was started in 1980 and implementation initiated in 1982 with the support of the WHO. Myanmar has been one of the leaders of community-based rehabilitation in South-East Asia. The health service aims to provide a comprehensive rehabilitation service for disabled persons at grassroots level by fully utilizing community resources. The community-based rehabilitation programmes for physically disabled persons include home-based rehabilitation (such as physiotherapy exercises), formal education and nonformal education. Moreover, income-generating measures for the family, nutrition supplementation, medical treatment and necessary facilities are also provided. To improve rehabilitation services for persons with disabilities (PWDs) at community level, strengthening of community involvement and promoting inclusion of PWDs in all aspects of social life is crucial. In the rehabilitation team, a physiatrist (specialist in rehabilitation medicine) leads a team that includes physiotherapists, rehabilitation nurses, medical social workers, prosthetists and orthotists, all working together for the development of quality rehabilitation management in Myanmar.

There are three prosthetic and orthotic (P&O) clinics under MOH, which are also supported by the International Committee of Red Cross and Red Crescent Societies (ICRC): at NRH, MGH and Yay Nant Thar Leprosy Hospital in Madaya, Mandalay Region. This is an area where there is a great challenge as the human resource of P&O technicians for making prosthesis are becoming fewer and harder to replace as there was no in-country training and they were usually trained abroad (AP (Physical Medicine), personal communication, 2014). This challenge is going to be overcome by developing in-country training of P&O by DMS with assistance from Cambodia Trust, an International NGO for curriculum development and other support. Apart from the three P&O clinics, there is another clinic in Pa-an under the care of ICRC providing prosthesis services for amputees. Another is the centre for below-knee prosthesis opened by The Leprosy Mission International (TLMI) in Taungnoo and its mobile team also operates at the Leprosy Missionary Hospital in
Mawlamyaing township. The Ministry of Defence also has three P&O centres in Mingaladon, Pyin Oo Lwin and Aungpan townships.

For PWD to participate in sports competitions, the Myanmar Sports Federation for Disabled Persons was established and is conducting annual local sports competitions for the disabled. The International Day of Disabled Persons (3 December) has been celebrated yearly as a national-level ceremony and outstanding PWDs are honoured (Medical Superintendent, NRH, Yangon, personal communication, 2013).

5.8 Long-term care

Homes for the aged opened by the Ministry of Social Welfare are for long-term care. A total of 70 homes for the age are spread over the country covering about 2300 old persons; Hnin Si Gone Home for the Aged in Yangon is the largest institution of all. The government supports food, clothing and operational costs for running homes for the aged, but they are mainly sustained by donations from well-wishers.

Another activity is the launch the Republic of Korea–ASEAN Home Care for Older People project (Help Age Korea) with the involvement of the Department of Social Welfare, Relief and Resettlement, DOH along with YMCA and INGOs initiated in Insein and Hlinethaya townships of Yangon Region in 2004, the second phase was undertaken 2006–2009 and the third phase from 2009 to 2012 [Ministry of Social Welfare, Relief and Resettlement, unpublished information, 2013]. This project focused mainly on the use of well-trained volunteers in the community and members of Myanmar Maternal and Child Welfare Association (MMCWA), MRCS and interested locals in providing care to the elderly in their homes. Aiming to raise the health and social status of the elderly is also contextually and culturally appropriate and now implemented in 154 townships.

The DOH introduced the project on health care for the elderly with WHO support in 1993. Making the care holistic and extending beyond the provision of routine basic health services, it provides promotion of healthy ageing, and prevention and early detection of chronic diseases common in older people. With this project, elderly health care is being provided to the general population through the RHCs and Sub-RHCs having one day dedicated to the elderly (Wednesday clinic). All BHS are trained to detect and manage common health problems of the elderly and
refer those with serious conditions to the nearest township hospital for advanced treatment and care. Capacity building also includes training in aspects of managing social and mental health problems of the elderly, developing counselling skills and health education to family members. Daily physical activity has been encouraged by teaching age-specific exercises to the elderly in the community. At present, the project is running in 158 townships (WHO Regional Office for South-East Asia, 2012; Project Manager, Elderly Care project, DHO, Nay Pyi Taw, personal communication, 2013). Long-term care services are available but still inadequate in terms of availability (equal access to all the needy). At the implementing level, there has been a lot of collaboration between MOH and the Ministry of Social Welfare, Relief and Resettlement (MSW) as physicians from the hospitals in townships used to take care of the elderly from the homes provided by MSW. Wardens and caregivers from homes under MSW have to train in elderly care, and health professionals have to provide training for them. Apart from this, many elderly health care programmes are operated jointly by MSW and MOH.

5.9 Palliative care

In 1998, the U Hla Tun Hospice (Cancer) Foundation was founded in memory of U Hla Tun’s only daughter who passed away with leukaemia in the United Kingdom. In 2000, Yangon Hospice 40-bed inpatient centre was successfully opened and Mandalay Hospice (a replica of Yangon) 40-bed inpatient centre was opened in 2003. The Myanmar Humanitarian Hospice was established with the purpose to serve humankind, catering for the poorest of the poor. Medical care has been provided by five retired oncologists and seven retired physicians both in Yangon and Mandalay make regular visits to the Centre. The centres are staffed by 3 matrons and 19 nurses.

Admission criteria have been set as: having a hospital discharge certificate; status as terminally ill; poorest of the poor with no home or family; free from any infectious diseases; with no discrimination on basis of race, religion or creed. Special features of the Myanmar Humanitarian Hospice are its focus on provision of quality of life at the terminal stage, effective symptom control in advanced cancer, appropriate therapy and pain control. There are Buddhist Prayer Rooms as well as Christian Chapels, and an electronic system is provided in all wards for listening to religious tapes. Religious pilgrim trips have been arranged for patients to several famous pagodas, Buddhist prayer meetings are held frequently
with reverend monks, offering food to monks, and also patient’s last wishes are being granted. Apart from this, music therapy is also used at the centre with an entertainment programme by famous actors and vocalists. This lifts the patients’ and staff morale (U Hla Tun Hospice Foundation, 2013).

5.10 Mental health care

In the past, mental health care in Myanmar was practised in hospitals based solely on the 1200-bed Mental Hospital in Yangon and 50-bed psychiatric unit in Mandalay. In 1990, mental health care began to be included in the NHP. The mental health policy was incorporated with the general health policy document and the last version of the mental health plan was revised in 2006. A disaster preparedness plan for mental health also exists and was last revised in 2006. Mental health legislation was enacted in 1912 and is currently under review and revision.

In 1990, the mental health project sponsored by WHO under the guidance of MOH was launched. Since then, community-based mental health care has been practised aiming to identify and care for people suffering from common mental disorders in the community. Integration of mental health care services into the pre-existing PHC delivery system is the main strategy for developing community-based mental health service. BHS have been trained to detect and manage mental health problems in the community so as to be able to provide a basic minimum level of mental health care in their routine PHC services. To date, this project has trained a total of 4760 people on mental health care including health staff, school teachers and local NGOs. In addition, 190 people received training on harmful use of alcohol. Before 2006, only three mental illnesses – psychosis, epilepsy and intellectual disability – were included in the PHC delivery system. The list was expanded to six, adding depression, anxiety disorders and alcohol dependence, after 2006. Following the 2008 Cyclone Nargis, training on psychosocial care after disaster were given to 2000 medical officers and BHS. Post disaster mental health teams were formed and sent to the disaster area to treat victims.

Recently, the Mental Hospital in Mandalay was upgraded and both Yangon and Mandalay Psychiatry hospitals become tertiary-level teaching hospitals for mental health problems. Both outpatient and inpatient services are provided mainly focused on curative aspects of mental health. Since 1992, mental health units attached to the general hospitals
have opened in all region- and state-level hospitals catering for both outpatient and inpatient services.

Despite efforts to integrate mental health in the general health services and the development of community-based programmes, the mental health treatment gap is still widening (to nearly 90%) due to various factors like stigmatization of the disease, lack of mental health knowledge and unavailability of psychiatric drugs at the primary care level. Psychotropic drugs are available at the mental hospitals and psychiatric departments where psychiatrists are posted and in a few townships, but are not available at primary care level. Outreach mental health clinics are available in Kyauktan, Hlegu and Nyaungdone townships and capacity building of the medical officers and BHS are conducted in three regions so as to narrow the mental health gap. Similar clinics will be opened in other areas in a phased manner. Back-to-back referral system between primary, secondary and tertiary centres will be put in place and a helpline will be established at the tertiary centre.

Although deinstitutionalization was tried, about 60% of the inpatient beds in mental hospitals are still occupied by chronic patients. Psychosocial rehabilitation treatment programmes for chronic patients are weak and there are no properly supervised home-care services for chronic patients.

The mental health hospital is being restructured, including establishing psychosocial rehabilitation services, to achieve comprehensive care of mentally ill patients.

Regarding the harmful use of alcohol, MOH recently conducted a national workshop on policy and interventions to reduce harm from alcohol use, and a multisectoral collaborative effort to reduce harm from alcohol is being implemented according to the recommendations of the workshop. Myanmar is now working closely with other ASEAN countries through the establishment of mental health network as a member of the ASEAN mental health task force and Mekong mental health partnership. For drug-abuse control, there is a total of 26 major drug treatment centres (DTCs), 40 minor DTCs and 3 youth correction centres throughout the country providing case detection, treatment and after care, health education on substance abuse to all levels of the population, case follow-up and management, training of health personnel in drug abuse, and registration of drug addicts. Apart from these, research on drug abuse and harm reduction has been carried out. A methadone maintenance
therapy (MMT) programme was launched in February 2006 in four major DTCs and has been expanded to eight treatment sites (Retired Project Manager, Mental Health, personal communication, 2013).

5.11 Dental care

Oral health conditions in Myanmar have gradually improved since the 1970s. However, dental caries are still a problem in preschool children and periodontal disease is still a problem in adults and the old aged (Myanmar Dental Association & Pathfinder, unpublished information, 2007).

Dental health services are provided by both the public and private sectors, but dental surgeons are more in the private sector than the public sector. The public sector consists of dental surgeons working in hospitals, school health teams and at the two dental universities. In 2012, there were about 379 dental surgeons posted in public hospitals. These included senior consultant dental surgeons, junior consultant dental surgeons who are specialists and dental surgeons (who are the same rank as medical officers). Services such as dental check-ups, tooth extraction, and dressing of carious teeth are available in public facilities. Minor oral surgery, fixed or removable prosthesis are available at the district, state and region levels with some contribution fees. Dental surgeons in school health teams provide free dental check-ups, dental health education, tooth extraction (of deciduous teeth), sedative dressing and atraumatic restorative technique with glass ionomer cements for appropriate cases.

The oral health unit of the DOH is responsible for the coordination of oral health activities in the country. The Primary Oral Health Care (POHC) project is included in the Community Health Care Programme and was initiated in 1991 with support from WHO. Up to 2012, some 120 townships had been covered by this project and five main POHC tasks are performed by the trained basic health workers – oral health screening, basic and emergency care, referral and feedback referral forms, health education and after-lunch tooth-brushing drills in primary schools. Emphasis is placed on prevention, and free distribution of educational pamphlets and booklets to schools was done as part of the preventive programme. Water fluoridation is not available, but fissure sealants and fluoride tablets are used (mostly in the private sector).

Instead of a national-level oral health survey, regional oral health surveys are conducted annually in selected regions. Furthermore, with
the permission of MOH, MDA in collaboration with Asia Oral Health Promotion Fund (Japan) conducted the Pathfinder Oral Health Survey during 2006–2007 in Yangon, Mandalay, Magwe, Taunggyi, Pa-an and Mawlamyaing townships to obtain oral health data representative of the delta, central, hilly regions and coastal areas. The survey report showed that decayed missing and filled teeth affected 0.8% of 12-year olds, 2.94% of 35–44-year olds and 6.94% of 65–74-year olds. Periodontal disease was also common, and bleeding and calculus scores were high (>80%) in adolescent groups. Among 65–74-year olds, shallow periodontal pockets were found in 20.4% of the study group and deep periodontal pockets in 10.4% of the participants (MDA & Pathfinder, 2007).

Dental treatment is available for free at the OPDs of Yangon and Mandalay dental universities, and at the various specialty departments as part of the training programme for dental students. For dentures, a minimal contribution has to be paid by the patients.

Private dental clinics are mainly in the big cities and towns, and a patient has to pay user charges as out-of-pocket (OOP) expense. Mobile dental teams of the Myanmar Dental Council and MDA provide free dental treatment to people in remote and hard-to-reach areas. At the same time, they provide dental health education talks, toothbrushes and free toothpaste donated by private companies (Retired Rector, University of Dentistry, Yangon, personal communication, 2013). A dental health education programme, including promotion of tooth-brushing, is provided to school students by school health teams consisting of medical officer, dental surgeon, dental nurse, trained nurse and a compounder. People in rural and remote areas are able to access dental services provided by health assistants at RHCs. Locally produced fluoride toothpastes are available everywhere at prices affordable to most people, including those in low socioeconomic strata.

5.12 Complementary and alternative medicine

For traditional medicine, there are three 100-bed, six 50-bed and seven 16-bed traditional medicine hospitals, and 49 district and 194 township traditional medicine clinics providing services in the country. In addition, private traditional medicine practitioners also provide health care.

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24 A pocket is a pathologically deepened gingival sulcus [a gap between gum and tooth].
The Department of Traditional Medicine (DTM) has established a series of nine herbal gardens in the country covering a total of over 124 hectares. The National Herbal Park, established in 2006, is one of the biggest department-owned herbal gardens, having area of 79.5 ha and is located at the centre of Nay Pyi Taw. Aiming to enable people to observe available resources of traditional herbal plants of Myanmar at a single place and to conserve the endangered species of medicinal plants, it has more than 900 species of medicinal plant. MOH works with Nay Pyi Taw Council, the Ministry of Agriculture and Irrigation and Ministry of Environmental Conservation and Forestry to establish nurseries of medicinal plants which are traditionally used for six major diseases – diabetes, hypertension, TB, malaria, diarrhoea and dysentery.

Traditional medicines are manufactured by both public and private sectors. DTM takes responsibility for public-sector manufacturing in two department-owned factories, in Yangon and Mandalay. Each factory produces over 15 000 kg of medicines yearly according to the standard national formulary. In addition, these factories also manufacture 21 traditional medicines in powder form, which are given free of charge to patients through public traditional medicine hospitals and clinics. The factories also produce 10 kinds of drugs in tablet form for commercial purposes.

The private traditional medicine industry is also developing and conducting mass production of potent traditional medicines according to good manufacturing practice (GMP) standards. There are more than 2500 registered private traditional medicine drug producers and about 15 traditional medicine factories in Myanmar, but only two factories work to GMP standard – Fame and U Thar Yin traditional medicine factories.

Scientific research projects such as botanical, chemical, pharmaceutical, pharmacological and clinical investigations are conducted on traditional herbal drugs. And there is a quality control system for department-owned traditional medicine factories and a post market drug survey of all traditional medicine drugs around the country is ongoing. As for the therapeutic efficacy of traditional medicine drugs, DMRs (Lower and Upper Myanmar) conduct research on safety and efficaciousness of these medicines and many have proved to be able to treat malaria, hypertension, diabetes, diarrhoea
and dysentery. Research papers are presented at the Myanmar Health Research Congress and also at the annual Traditional Medicine Conference.

“The traditional medicine kit for emergency use” project was launched in August 2007 as a pilot project in Nay Pyi Taw. A total of 150 kits were distributed to 44 villages in Nay Pyi Taw with a quota of one kit per 50 households. Kit holders selected from the villages were middle-aged middle-school graduates, preferably recommended by villagers, religious person, monk or school teacher and were given training on the use of medicines in the box for minor ailments. Seven standardized Myanmar traditional medicine drugs with cotton wool, spirit, bandage, plaster, thermometer, pamphlet, guidance manual and stickers on traditional medicine are put in the kit. Delivery is according to a distribution plan and kits are usually reordered when their supplies are low but not completely used up. The cost of each kit is about 10 000 kyats, medicine has to be provided free to the villagers and replenishment for sustainability is by village authority, NGOs and well-wishers of the village. The price has been made reasonable for medicines produced by department-owned factories. Regular supervision on the use of the kit is made by the traditional medicine practitioner of the respective township traditional medicine clinic. The initial investment of the cost of traditional medicine kits was financed by MOH and donations of well-wishers. With humanitarian assistance from Nippon Foundation, the traditional medicine kit distribution project is being expanded (since 2009). This project aims to distribute kits to every region and state. A total 15 156 kits had been distributed by March 2013 (Director, DTM, Nay Pyi Taw, personal communication, 2013).

5.13 Health services for specific populations

Jivitadana Sangha
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Jivitadana Sangha25 Hospital in Yangon is the oldest hospital for monks and nuns. It has 150 beds, providing health services especially for monks and nuns, but also for the general public. It provides both OPD and inpatient care with specialists. Others are Sidagu Ayudana hospital (100 beds) and Wachet Jivitadana Sangha hospital (25 beds) situated in Sagaing, meant for monks and nuns but also for locals staying in the community especially poor people. Usually all township hospitals in the whole country have a separate Sangha ward for monks.

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25 Sangha means monks.
For prisoners, the Ministry of Home Affairs operates two 50-bed hospitals – one in Insein, Yangon and one in Mandalay. For other prisons, medical care of prisoners has to be covered by the respective regions/state, district or township hospital.

For delivering services in conflict areas where there are tensions between government and local populations, the MOH works in collaboration with United Nations agencies, INGOs, local NGOs and associations. Routine services have been intensified in some areas and emphasis has been placed on emergency medical care, disease surveillance, prevention and control of CDs and health education, thus at this point no serious disease outbreak has yet been reported.