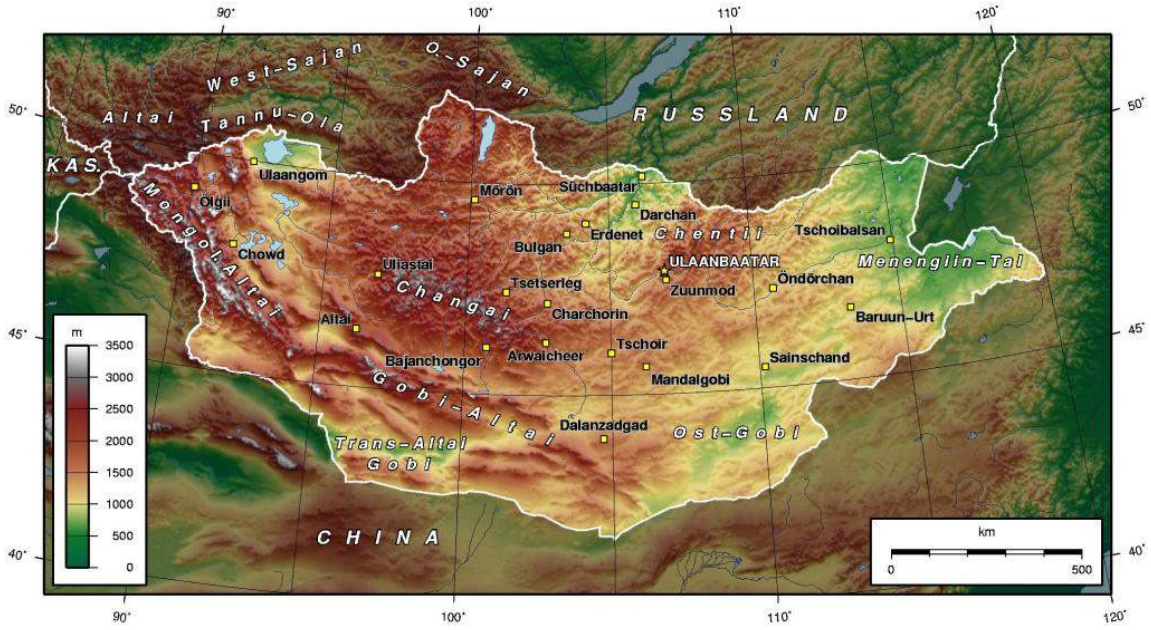
Health Service Delivery Profile

Mongolia

2012



Compiled in collaboration between
WHO and Ministry of Health, Mongolia

Mongolia health service delivery profile

Demographics and health situation

Mongolia is a landlocked country bordered by Russia to the north and China to the south, east and west. In 2010, it had a population of 2,780, spread over an area of 1 566 460 km^2 giving a population density of 1.76 per km^2. The majority of the population are young, despite declining fertility, mortality rates and population aging. Most of the population is Mongol (85-95%) by ethnicity while Kazakhs (4-5%), Tuvans and other minorities are present especially in the west. One-third of the population lives in the capital Ulaanbaatar City and 36.7% live in rural areas, mostly as livestock herders.

Table 1. Key development indicators in Mongolia

Key development indicators	Measure	Year
Human development index	0.653	2011
Gini coefficient	36.5	2000-2011
Total health expenditure	4.7% GDP	2009
GDP per capita	PPP$ 3,522	2009
Literacy rate (male/female) (%)	96.9/97.9	2010
Multidimensional poverty index	0.065	2005
Life expectancy at birth	68.5 years	2011
Infant mortality rate	19.4 per 1,000 live births	2010
Maternal mortality rate	45.5 per 10,000 live births	2010

Sources: UNDP2011, WHO CHIPS 2011

During the socialist period health services were publicly funded but, despite achievements in workforce training, a network of facilities and improved health status, the system was inefficient. In the mid-1990s, health sector reform focused on improving primary health care and disease prevention, and this, along with economic development, contributed to improvements in health status and epidemiologic transition over the last 15 years.

The leading causes of mortality are non-communicable diseases (cardiovascular diseases, neoplasms) and external causes. Respiratory and digestive system diseases are main causes of morbidity, along with external causes (injuries and poisonings) in urban areas, and urinary tract diseases in rural settings.

Health legislation, strategies and objectives

The *Mongolian Constitution (1992)* provides citizens the right to live in a safe and healthy environment and free access to primary health care. The *Health Law (1998, 2006, 2011)* provides the right to primary health care, maternal and child care and some public health services regardless of socio-economic status and health insurance coverage. There are several laws and regulations that refer to health care financing. The *Citizen's Health Insurance Law (1993, 1997, 1998, 2002 and 2006)* identifies the MOH as responsible for defining benefit packages, payment methods and tariffs. It emphasizes the provision of equitable access to vulnerable groups, but has changed frequently in the past 19 years.

The Health Sector Development Programme 1998 was developed by the Ministry of Health (MOH) and the Asian Development Bank and is now in its fifth phase. Key objectives focused on primary care services, financial sustainability, universal access, and development of health resources and infrastructure. The MOH's *Health Sector Strategic Master Plan 2005-2015* provides a sector-wide approach to improving health service delivery and ensures responsive and equitable, pro-poor, client-centred and quality services. Goals include increasing coverage, access and utilization, especially for mothers and children, the poor and other vulnerable groups, strengthening primary health care, and strengthening specialized, advanced and emergency care.

Service delivery model

Health service delivery is organized according to the administrative divisions and Mongolian citizens are required by law to register and have annual check-ups. The *Essential and Complementary Package of Services (2005)* is defined in the Health Sector Master Plan. This describes the full range of services that

should be provided at all levels in the health sector, both public and private, through a three-level service delivery structure – primary, secondary, and tertiary – in varying complexity and advancement. Public services are designed to address four priority health issues: maternal health, child health, communicable diseases, and NCDs. The essential package includes health promotion, disease prevention and curative care, and is delivered for free, by primary and community level services. The complementary package includes inpatient and outpatient services at secondary and tertiary levels, including emergency services and long-term care. These services are subsidized by the national Health Insurance Fund, and co-payments of 10-15% by patients are required. Figure 2 summarizes the number of public health facilities and services provided at different levels.

Population-based services, including communicable disease monitoring, safe water supply and sanitation, health promotion and education, disease prevention, and environmental health, are also delivered by primary and secondary level providers. Management for long-term conditions including and HIV/AIDS is also covered.

The provider network

Mongolia is divided into 21 aimag (provincial) governments, and soum (district) governments within the aimag. The health system is decentralized to the level of the aimag. The majority of health services are delivered by the public sector.

Table 2. Summary of service packages at each level of care in Mongolia, 2012

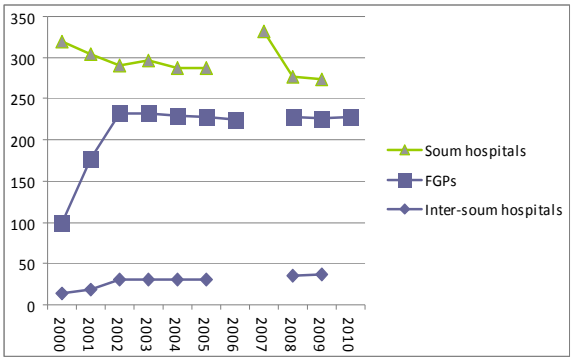
Provider	Services delivered
PRIMARY LEVEL – paid by government	
Bagh feldsher (rural)	Trained mid-level health personnel that work and live in their own ger (traditional house). Home visits; antenatal and postnatal care; health promotion and education; early detection; disease surveillance and epidemiological monitoring; referral of cases to *soum* hospitals; prescribe essential drugs; public health services
274 Soum health centres and 37 inter-soum hospitals (rural)	Average 15-30 beds; provide 24 hour services with doctors (primary care, family medicine specialists or generalists), nurses, midwives, and support staff; cover 2,000-15,000 population. Health promotion and education; preventive care (e.g. immunizations and screening); disease surveillance and epidemiological monitoring; outpatient services including prescriptions; inpatient services including normal delivery; minor surgery; diagnostic tests, home visits; emergency care; public health services; palliative care; rehabilitative care
219 Family health centres (urban, private practices)	Staffed by family physicians and nurses during working hours. Outpatient services including prescriptions, preventive care (e.g. immunizations and cancer screening), disease surveillance and epidemiological monitoring, diagnostic tests, home visits, emergency care (limited), public health services, palliative care; rehabilitative care
SECONDARY LEVEL – 10% co-payment	
12 district hospitals	200-300 beds with doctors nurses, midwives and support staff 24 hours a day Secondary care: internal medicine, surgery, obstetrics, gynaecology, psychiatry, dermatology, and neurology; outpatient services including prescriptions; diagnostic tests (including X-ray and ultrasound); emergency care, public health services
17 aimag hospitals	105-500 beds with doctors (specialists and generalists), nurses, midwives and support staff 24 hours a day for 50,000 to 100,000 people. Specialized care: internal medicine, surgery, obstetrics, gynaecology, psychiatry, dermatology, and neurology; outpatient services including prescriptions; diagnostic tests (including X-ray and ultrasound); emergency care, public health services
TERTIARY LEVEL – 15% co-payment	
4 regional diagnostic and treatment centres (at aimags)	Specialized care: internal medicine, surgery, obstetrics, gynaecology, psychiatry, dermatology, orthopaedics, neurology and outpatient services including prescriptions; diagnostic tests; and emergency care
3 Central Hospitals	Services vary depending on specialization, e.g. cardiovascular surgery, neurosurgery, colorectal surgery, haematology, communicable diseases, mental health and narcology, traditional medicine and maternal and child health; Other specialized care found in the secondary level; Inpatient and outpatient services and diagnostic tests, emergency care
PRIVATE SECTOR – fee-for-service	
Clinics	Specialized outpatient clinics including dental and traditional medicine
Hospitals	Specialized hospitals providing internal medicine, obstetrics, gynaecology, and neurology
Sanatorium	Rehabilitation and traditional medicine services

Source: MOH, 2005

Mongolia has more than twice the average number of hospitals than that of the EU and other transition countries, although numbers have been declining since 1998. Concomitantly there has been a decline in the number of in-patient beds, though Mongolia still has a high number of beds at 68.1 per 10,000 population in 2011. Average length of stay in hospitals has been decreasing, from 12.3 days in 1990 to 8.1 days in 2011. In 2011, inpatient and outpatient visits were 2491.6 and 6187.2 per 10 000 population respectively. The number of outpatient and inpatient visits is higher in Ulaanbaatar city than in aimags.

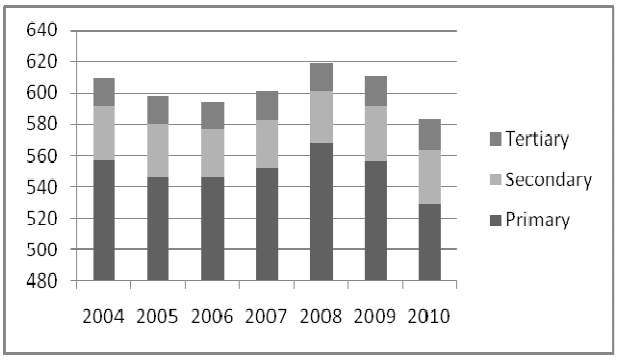
The number of private health care providers has been increasing in recent years from 683 private hospitals and clinics in 2005 to 1184 in 2011. Most of are small hospitals with 10-20 beds and outpatient clinics. There are increasing numbers of NGOs active in health promotion and awareness in HIV/AIDS, domestic violence, and drug and alcohol issues. There are limited services provided by NGOs, for example, mother and child day clinic services.

Figure 1. Number of health facilities in Mongolia with basi service capacity, 2000 to 2010



Sources: ADB, 2008; World Bank 2007; O'Rourke et al, 2003c; Bolormaa et al, 2007; WHO, 2010b; Dashzeveg et al, 2011 (draft)

Figure2.. Number of primary, secondary and tertiary level public facilities in Mongolia, 2004 to 2010



Note: the increase in 2008 is probably due to the quality of data rather than an actual increase

Sources: Department of Health, Health Indicators, 2005-2009; Department of Health, Health Minister's Orders, Health Indicators 2010

Mongolian Traditional Medicine is based on medical theories, techniques, and medications from Tibetan traditional medicine. Mongolian traditional medicine was repressed during the mid- 20th century but is now officially recognised. A national traditional medicine research institute was established in 1959. The Institute of Traditional Medicine was established in 1961, and the Institute of Natural Compounds in 1973.

Table 3. Summary of traditional medicine providers in Mongolia, 2012

Traditional Medicine Provider	Services provided
Aimag, district general hospitals, health centres, and polyclinics	Most district hospitals have traditional medicine departments, and 21 aimags have inpatient beds reserved for traditional medicine patients
Regional Diagnostic and Treatment Centres (aimags)	Most national-level hospitals in Ulaanbaatar provide outpatient traditional medicine services
Traditional medicine inpatients and outpatients	10 smaller traditional medicine hospitals with 10 to 20 beds 35 outpatient traditional medicine clinics close to or attached to government health centres
National Specialized Hospital	The national specialized traditional medicine hospital has 100 inpatient beds that also receives 40-50 outpatients daily
Traditional medicine clinics and sanatoria	There are 82 private traditional medicine clinics, 63 of these are in Ulaanbaatar. There are an unknown number of sanatoria and spa. Massage, various types of physiotherapy, vacuum cupping, use of UV and ultrasonic waves, electromagnetic modalities, focal heat from light source, iontophoresis, acupuncture, sauna, inhalations, walking on crystals, treatment with herbs and medicinal plants, moxibustion, diet related therapies, cupping treatments are practiced

The MOH established a national traditional medicine expert committee in 1992. The *National Policy on the Development of Mongolian Traditional Medicine* was adopted in 2003 and covers training, research, application, and translation of ancient literature. It supports Mongolian traditional medicine doctors and the use of some aspects of Mongolian traditional medicine in primary care and emergency services. The traditional medicine industry is regulated by the *Law on Drugs (1998)* and the *State Policy on Drugs 2002-2011*.

Traditional medicine services are available mainly through district and provincial secondary care hospitals and private hospitals and clinics. The percentage of hospital beds devoted to traditional medicine increased from 0.5% in 2002 to 5% in 2006, while the total proportion of inpatients admitted to traditional medicine departments rose from 3.5% to 4.15%.

Mongolian traditional medicine has also been included in a project established in 2004 to increase access to health care for rural populations. The project involved the distribution of family medicine kits containing 12 types of Mongolian traditional medicine on a use first – pay later basis. The project currently covers 15 villages in 5 provinces, servicing 10,000 households. Evaluation indicates that nomad families find the kit convenient and effective.

Health financing

Expenditures on health services are paid from general taxation revenues, social insurance contributions and out-of-pocket payments. Of the total health expenditure in 2009, out-of-pocket payments made up 49%, consisting of direct payments and co-payments to public and private providers, private purchase of outpatient medicine, and household health expenditures on overseas medical treatment. In addition to official charges it is common for people to pay more to providers informally. The poor, retired, children, disabled persons and other disadvantaged groups are exempt from co-payments and some official user charges. Private sector services, including dental care, are paid for on a fee-for-service basis.

The Health Insurance Fund established in 1994 is Mongolia's social health insurance scheme. There is a compulsory contribution of 4% of income in the formal sector and a flat contribution rate for herdsmen, students and the self-employed, although there has been difficulty reaching the informal sector. The uninsured pay fully for secondary and tertiary care, although they are allowed to pay the insurance premiums when they need care. Primary health care is paid for by the government. The Health Insurance Fund subsidizes secondary and tertiary level health care through a reimbursement to the service providers. Co-payments of 10% for secondary services and 15% for tertiary services are required from the patient. The Health Insurance Fund benefits package includes in-patient traditional medicine and long-term care in sanatoria.

Family health centres are private providers, and receive capitation for services delivered that favours registration and rendering services to the poor, the elderly, the vulnerable and individuals from remote areas. Capitation also favours quality of service and competition for clients because payment follows the patient. The government does not subsidise other private providers however, private hospitals with accreditation receive funding from the Health Insurance Fund. In hospitals, the introduction of case- or diagnosis-based payment in 2006 incentivized them to maximize service volume and reduce length of stay.

Human Resources

In general, Mongolia has a large number of health workers, but is a shortage of nurses with a high doctor to nurse ratio. In addition, doctors are concentrated in urban areas; the ratio of doctors per 10 000 population in Ulaanbaatar city is 1.5 times more than that in rural areas. Bagh feldshers are trained mid-level health personnel that work and live in their own ger (traditional house) to provide care to nomadic herdsmen families and communities. Bagh feldshers work for and are paid by the soum health centres. In 2011, 1058 bagh feldshers were working at soum health centres and soum hospitals, and there were 3.4 primary health care doctors per 10 000 population working in soum and family health centres. In 2011, 1677 doctors were working in 1184 private health facilities with 3069 hospital beds. There is some data on the number and proportion of health workforce (doctors, nurses, midwives and feldshers) per 10 000 population although it is incomplete. The sources are varied and annual information is not available online. These are listed in Appendix 1.

The Health Sciences University of Mongolia established a Traditional Medicine Faculty in 1990. It offers a 6-year training course and short term courses on traditional medicine. There are 4 more private universities and colleges providing traditional medicine bachelor and master degrees. Since the 1990s,

the number of traditional medicine doctors has increased dramatically from a national total of only 27 to having 1.1 traditional medicine doctors per 10,000 people. As of 2007, there are 1,538 doctors trained in Mongolian traditional medicine, 558 of whom have a bachelor's degree in traditional medicine. Mongolian traditional medicine doctors now make up between 10-15% of medical graduates.

Acupuncture providers who have been regulated since 1958, and regulation for the practice of other Mongolian traditional medicine is being developed. Two professional organisations, the Association of Acupuncture and the Association of Traditional Medicine, have been established.

Medicines and therapeutic goods

Drugs are dispensed by the state in public hospitals or by the private sector. Prices for drugs on the Essential Drugs List are controlled through price limits and most pharmacies comply with these controls. If drugs are prescribed by family and soum health centres, pharmacies are reimbursed for 50-80% of the price for 132 essential drugs by the Health Insurance Fund. In urban settings, the availability of essential medicines is close to 100%, but there are gaps in rural areas. Revolving drug funds were organized in all soums to enhance availability of essential drugs.

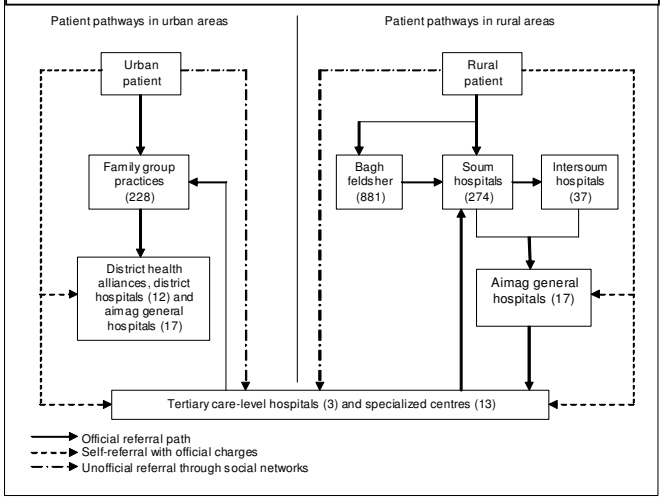
Herbal medicines can be sold in pharmacies as prescription medicines or by licensed practitioners. Mongolia has 5 traditional medicine manufacturing units which produce more than 200 types of traditional medicine. In 2007 the total value of herbal medicines produced and sold in Mongolia was US$500,000. It increased to US$1 million in 2008 and US$1.4 million in 2009. However, quality of raw materials is questionable.

Herbal medicines are regulated as prescription medicines, non-prescription medicines, or as traditional medicines. Herbal medicines can be sold with health claims. Mongolia has a registration system for herbal medicines, and 30 products have been registered to date. Some herbal medicines are included on the national essential medicines list. The criteria for selection to this list are based on traditional use, clinical data or laboratory testing.

Mongolia currently has no pharmacopoeia for traditional medicine. Other countries' pharmacopoeias are used, including those of China and Russia, and these are legally binding. Good manufacturing practice guidelines for herbal medicines are in the process of being developed. Safety requirements for herbal medicines were issued in 2002. These require checks for bacterial and fungal extrusion, and heavy metals. A post-market surveillance system for the safety of herbal medicines was established in 1998. A state standard for traditional herbal medicine was approved in 2005 to control the quality of herbal medicines. This is enforced by periodic inspections by authorities at the manufacturing plants and laboratories. Manufacturers are required to submit samples of their medicines to a government approved laboratory for testing.

Referrals and linkages in the provider network

Figure 3. Patient Pathways in Rural and Urban Areas



Adapted from Bolormaa et al, 2007; 2011 values are from Dashzeveg et al, 2011 (draft)

Although family health centres are intended to act as gate-keepers, in urban areas there are few incentives and patients continue to bypass lower levels, preferring secondary hospitals and specialist services, believing that these are better equipped and health professionals have greater skills. There is some evidence that bagh feldshers and soum health centres do operate as gate-keepers in rural areas.

Patients without referral pay fully for inpatient services because the Health Insurance Fund will not pay. However, overall the referral system is not strong.

Transportation is crucial to an effective referral system. Most ambulances do not have equipment for emergency care. Rough roads and remote areas are further

challenges that delay access.

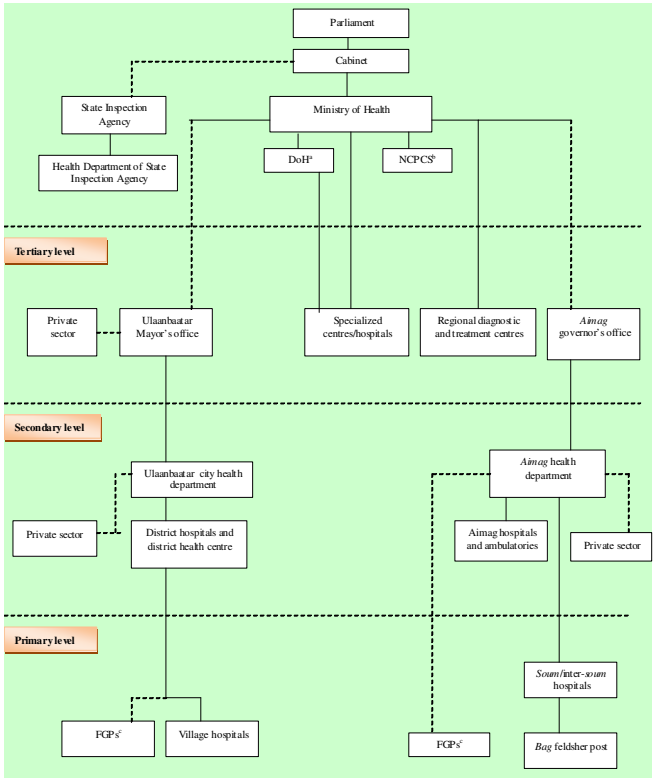
Distribution of facilities, capacity and quality of care, health-seeking behaviour, and patronage also influence access through referral.

There is some communication and linkage between parts of the health system. The public sector and NGOs may share resources and the quality improvement system has enhanced communication and information sharing across levels of service.

Implementation of service delivery

The MOH is responsible for strategic planning, policy development and implementation at the national level, defining the list of services to be provided by the health insurance fund, regulation, and supervision.

Figure 4. Health administration and service delivery structure in Mongolia



National agencies such as the Public Health Institute contribute to policy formulation, research, technical support, accreditation, monitoring, and development of clinical guidelines and training. Other agencies (some under the MOH) have responsibility for promotive and preventive services. Aimag health departments are responsible to implement national health policies and programmes at local level. They are also responsible for implementation, monitoring, infrastructure development and resource management for primary health care and health service delivery at the local level.

Quality

Improving quality is a key objective in the Health Sector Master Plan 2005-2015 which has quality targets. There are policies and structures for accreditation. The Health law (1998) requires all doctors and health care professionals to pass licensing exams. However, accreditation of health facilities is voluntary. However, there is lack of quality standards, outdated clinical protocols, few guidelines, lack of monitoring, inadequate regulation and variable quality within the private sector. The MOH is responsible for regulating and licensing new private hospitals, while the DOH is responsible for renewal and accreditation of already established enterprises. Soum and family doctors also need to pass licensing exams. The accreditation system is focused on structural aspects of quality rather than on efficiency and appropriateness of care. Policies on accreditation and licensing may need strengthening in order to bring them more in line with international practice. Independent accreditation and licensing bodies may be needed involving professional boards and civil society.

There is generally more satisfaction with health services in rural than in urban areas. Client involvement in clinical decision-making is inadequate, and strengthening patient-centred care and participation is a current focus.

There are reports that the quality of health services are deteriorating. The government has established a National Quality Programme and a National Programme on Improving Hospital Quality Management (2008-2013), but as yet, there have been no reports as to how these plans have been implemented and no actual evidence on whether they have actually enhanced quality.

Equity

Mongolia's socialist background has a strong influence on their policies for equity and social access. State funding of primary health care aims to provide access for everyone, and vulnerable groups are exempt from co-payments (mothers, children under 5 years, elderly and adolescents). However, there is still an urban-rural disparity in access. Provision of services favours urban and non-poor areas. Rural areas suffer from a shortage of health workers.

Use of state family health centres in cities and provincial centres has reached 71-82%, mainly among low-income and rural individuals. Bypassing family health centres is still common among the affluent. Social health insurance coverage was 82.6% in 2010, but a lack of qualified doctors in rural areas and difficulties in accessing services mean that not everyone receives the same benefits. Formerly nomadic households that have settled around urban centres also experience inequities in health. These are unregistered, poor populations with limited education and high risk of disease. Family health centres are assigned to these groups, but health service delivery is challenging due to insufficient funding. Overall, equity is influenced by geographic distance, harsh weather conditions, unregistered populations, and low-income groups. There are some NGOs that support the homeless, unregistered and the poor.

There are no reports as to how adequately the government-funded services are provided for free, or on impacts to access and equity for those who are not exempt. However, poverty is one reason why patients do not seek medical care.

Demands and constraints on service delivery in Mongolia

Strengths in health service delivery in Mongolia include well-trained and retained staff, understanding of service needs and local conditions, strategic plans, availability of data on health utilization, decentralized management, and involvement of clinicians in health service management. Gaps and challenges include:

- **Health workforce capacity** is poorly distributed, and roles and responsibilities, including for family group practices, are not well defined.
- **Efficiency in service delivery** is reduced by poor gate-keeping and referral system, inappropriate use of out-patient and inpatient care, distribution of hospitals and hospital beds, distribution of technology, not matching of health needs to supplies, low use of health information for management, low coordination between levels of care, roles and responsibilities of different levels and agencies not clear, outdated guidelines and protocols, and the poor capacity of health authorities for monitoring and provision of technical support.
- In terms of **financing**, there is inefficiency in the allocation of resources between curative (hospital) services and preventive (PHC, FGP) services. Level of expenditure on hospital care is high compared to that on public health and primary care. Payment of providers tends to incentivize prolonged hospital stay and excessive diagnostics. Out-of-pocket payments pose barriers to access.
- Issues in **infrastructure** include: outdated hospital buildings, utilities and equipment, lack of or limitations in equipment and supplies, water supply, telecommunications, electricity, sanitation system, lack of or limitations in ambulances and FGP transportation, lack of medicines or pharmacies and poor maintenance.
- **Barriers to access** are identified as income-related, geographic and demographic.
- **Demand-side challenges** include self-medication, population mobility, vulnerable, unregistered populations, remote areas, poverty, low-income, public perception, and awareness and understanding about social health insurance.
- **Service delivery areas that need strengthening** include rehabilitation and long-term care for the elderly and disabled. This is because families tend to provide informal caregivers.

The MOH has also identified barriers to successful implementation of the new plan and has identified priorities for health service delivery and quality of care. Barriers include economic growth, staff turnover, organizational constraints, privatization, natural hazards, reduced support from international partners and behaviour of providers and patients.

Indicators of progress

In general, the public sector is used more than the private sector and health service utilization is fairly similar across income groups. Those who are well-off seek advanced care abroad, commonly in China and Korea. The Health Sector Master Plan covers primary health care, family health centres, hospitals, the private sector, health workforce capacity, health financing, and equity, monitored regularly. Family Group Practices show an average performance of 81% under their performance-based contracts with aimags. The Health Sector Master Plan identified outcomes and timeframes for each goal service delivery area, rather than set indicators. There is no overall report showing whether these are being met. Similarly, there are no data on implementation, effectiveness, or impacts of the implementation of the Essential Services.

Two projects – Reaching Every District and ADB's Health Sector Development Programme – have utilized and recommended indicators to monitor progress in health service delivery. The Ministry of Health and Ulaanbaatar city government have also developed and provided service indicators and targets. Indicators for monitoring hospital services and quality have also been recommended. The following areas have been monitored regularly: Primary Health Care, FGPs, secondary level hospitals (aimags and district hospitals), tertiary level hospitals, the private sector, health workforce capacity, health financing (i.e. payment of health care providers) and equity. The Health Sector Strategic Master Plan (HSMP) also outlines indicators for service delivery and quality.

Looking at reproductive health indicators from 1996 to 2009 (Table 4) shows steady and progressive improvement.

Table 4. National Indicators for Reproductive Health in Mongolia (1996-2009)

	1996	2002	2006	2009
Maternal Mortality per 100.000 live births	176 .1	124 .8	69 .7	46
Under-Five Mortality per 1.000 live births (includes infant mortality)	150	95	73	45
Infant Mortality (one year of age or younger) per 1.000 live births	63 .4	37	28	20 .2
Use of Family Planning (modern methods only)	35%	44%	51%	61%

Source: Mongolia: Well on its Way to Achieving National Targets around Health-Related Millennium Development Goals, GTZ

The Ministry of Health (Order No. 203, 2005) has developed monitoring sheets for health facilities, national centres and health programmes. There are reporting sheets for each of the following areas: family hospitals, soum hospitals, provincial and capital hospitals, private hospitals, Communicable Disease Research Centre, Centre for TB, Cancer Research Centre, Centre for STI/AIDS, Centre for Psychiatry and Narcology, forensic hospital, pathos-anatomy, Blood Centre, Centre of Facial-oral health, training and marketing activities, health workforce, mortality and morbidity, child nutrition and in-patient and out-patient morbidity rates. Monitoring reports are not available online.

The National Statistics Office of Mongolia produces monthly reports on social and economic indicators online (http://www.nso.mn/v3/index2.php).

Health related extracts for July 2012 include the following:

"In the first 7 months of 2012, 42 559 mothers delivered 36 129 children (live births) increased by 2 713 mothers, and 2 723 children or 6.8 percent respectively, compared to same period of the previous year. In the first 7 months of 2012, at national level infant mortality decreased by 11 or 1.6 percent to 686, and child mortality aged 1-5 decreased by 8 or 5.4 percent to 141.

In the first 7 months of 2012, the total number of infectious disease cases reached 27 063, increase by 3 807 cases or 16.4 percent compared to same period of the previous year. The increase in the number of infectious disease cases was mainly due to the increases of 6 705 or 9.2 times in mumps and 132 or 5.4 percent in syphilis although there were decreases of 1 800 or 29.7 percent in viral hepatitis, 711 or 28.2 percent in varicella, 196 or 16.8 percent in shigellosis, 103 or 3.7 percent in tuberculosis, and 71 or 2.4 percent in gonococcal infection. "

It is notable that there is no mention of NCDs, indicating that they are not yet on the broader radar screen. However, for Mongolia to maintain its health status progress, attention to effective and efficient detection, control and treatment of NCDs will be essential.

Appendix 1. Ratios of Health Workers in Mongolia, 2005-2011, from different sources

Year	Ratio	Sources
2011	1 doctor per 383 people	ADB, 2011
2011	6 PHC doctors per 10,000	ADB, 2011
2011	5 family doctors per 10,000 urban population	ADB, 2011
2011	7 soum doctors per 1000 rural population	ADB, 2011
2011	1 PHC doctor per 1750 people	ADB, 2011
2011	1 family doctor per 2097 urban population	ADB, 2011
2011	1 soum doctor per 1374 rural population	ADB, 2011
2010	26 physicians per 10,000 people	ADB, 2010a
2010	35 nurses and midwives per 10,000 people	ADB, 2010a
2010	1 family doctor per 1200 to 1500 people	WHO, 2012
2009	18.4% doctors employed in private hospitals and clinics	ADB, 2009b
2011	1 doctor per 1.2 nurses	ADB, 2011
2004	1 private per 4 public facility	Baeg-ju 2005
2004	1 doctor per 1350 individuals	ADB, 2008
2003	1 public per 1.5 private including FGPs	MOH, 2005
2003	1.3 public per 1 private excluding FGPs	MOH, 2005
2003	10.5 public beds per 1 private bed	MOH, 2005
2003	1 family doctor per 1350 people (in UB and aimag population centres)	O'Rourke et al, 2003c
2003	31.06 nurses per 10,000 people	MOH, 2005

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