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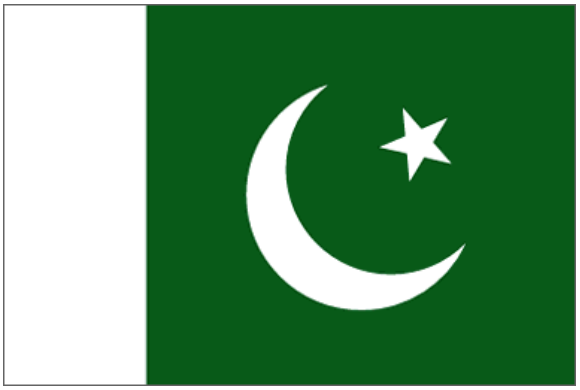
Pakistan Country Report

Pakistan, officially known as the Islamic Republic of Pakistan, is a country in South Asia. It has a 1,046-kilometer (650 mi) coastline along the Arabian Sea and Gulf of Oman in the south, is bordered by Afghanistan and Iran in the west, India in the east and China in the far northeast. [1] Tajikistan also lies very close to Pakistan. Thus, Pakistan occupies a crossroads position between South Asia, Central Asia and the MiddleEast.[2]

With an estimated population of more than 174,578,558 (July 2009), Pakistan is the world's sixth most-populous country. Although the official language is Urdu, there are a variety of recognized regional languages which are spoken among Pakistan's ethnically diverse population. According to a census taken in 1998, 55.63% Pakistanis are Punjabi, 22.99% Sindhi, 13.41% Pathan, 4.96% Balouchi [3]



General Facts	
Capital	Islamabad
Total Population	174,578,558
Islamabad Population	689,249
Total Area	340,403 sq mi
Karachi Area	3,527 Km²
Gross national income per capita	US $980
Life expectancy at birth m/f	63.51 / 67.11 years
Infant Mortality Rate	67.36 deaths/1,000 live births
Total expenditure on health per capita	46 USD (2005)
Total expenditure on health, % of GDP (2005)	2% (2005) [5].

History

The Indus Valley civilization, one of the oldest in the world and dating back at least 5,000 years, was spread over much of what is present day Pakistan. During the second millennium B.C. remnants of this culture fused with the migrating Indo-Aryan people. The area underwent successive invasions in subsequent centuries from the Persians, Greeks, Scythians, Arabs (who brought Islam), Afghans, and Turks. The Mughal Empire flourished during the 16th and 17th centuries and the British came to dominate the region in the 18th century. The separation of British India into the Muslim state of Pakistan (with Western and Eastern sections) and largely Hindu India was never satisfactorily resolved, and India and Pakistan fought two wars in 1947 and 1965 over the disputed Kashmir territory. A third war between these two countries in 1971, in which India capitalized on Islamabad's marginalization of Bengalis in Pakistani politics, resulted in East Pakistan becoming the separate nation of Bangladesh. Furthermore, in response to Indian nuclear weapons testing, Pakistan conducted its own tests in 1998. The dispute over the state of Kashmir is ongoing, but discussions and confidence-building measures have helped the two countries begin to work through their issues.

In February 2008, Pakistan held parliamentary elections and in September 2008, after the resignation of former President Musharraf, Asif Ali Zardari was elected to the presidency. The Pakistani government and military leaders are struggling to control domestic insurgents, many of whom are located in the tribal areas adjacent to the border with Afghanistan. Indian-Pakistani relations have been rocky since the November 2008 Mumbai attacks, but both countries are taking steps to put relations back on track [4].

Politics

Between the years of 1947 and 2009, Pakistan has been governed primarily by two political systems, parliamentarian and semi-presidential. In the parliamentary system, all power is vested in the hands of the prime minister, cabinet and national assembly. Members of the National Assembly are elected by universal adult suffrage (over eighteen years of age in Pakistan). Seats are allocated to each of the four provinces, the Federally Administered Tribal Areas, and Islamabad’s Capital Territory proportional to

National Assembly members serve a parliamentary term five years, unless they die, resign or the National Assembly is dissolved. The prime minister is appointed by the president from among the members of the National Assembly. The prime minister is assisted by the Federal Cabinet, a council of ministers who are appointed by the president on the advice of the prime minister. The Federal Cabinet is comprised of the ministers, ministers of state, and advisers. As a semi-presidential system, the president, as the executive of the government, generally acts on the advice of the prime minister, but has some important residual power. The president is elected for a five year term by an electoral college consisting of members of the Senate and National Assembly and members of the provincial assemblies. The president is eligible for re-election, but no individual may hold the office for more than two consecutive terms. The president may resign or be impeached, being removed from office for incapacity or gross misconduct by a two-thirds vote of the members of the parliament. [6]

Economy

Pakistan, a developing country, had an estimated GDP of $449.3 billion in 2009. The economy of Pakistan is the 27th largest economy in the world in terms of purchasing power, and the 45th largest in absolute dollar terms. Pakistan has a semi-industrialized economy, which mainly encompasses textiles, processing, agriculture and other industries. Growth poles of Pakistan's economy are situated along the Indus River. Pakistan has suffered from decades of internal political disputes and low levels of foreign investment. Between 2001- and 2007, however, poverty levels decreased by 10%, as Islamabad steadily raised development spending. Between 2004 and 2007, GDP growth in the 5-8% range was spurred by gains in the industrial and service sectors despite severe electricity shortfalls. Growth slowed in 2008 and unemployment began to rise.

Inflation remains the top concern among the public, jumping from 7.7% in 2007 to 20.8% in 2008, and leveling off at 14.2% in 2009. In addition, the Pakistani rupee has depreciated since 2007 as a result of political and economic instability. The government agreed to an International Monetary Fund Standby Arrangement in November 2008 in response to a balance of payments crisis, but during 2009 its current account has strengthened and foreign exchange reserves have stabilized, largely because of lower oil

Textiles account for most of Pakistan's export earnings, but its failure to expand a viable export base for other manufactures have left the country vulnerable to shifts in world demand.

Other long-term challenges include expanding investment in education, healthcare, and electricity production, and reducing dependence on foreign donors. [4]

Public Health Care System

Pakistan has a centralized health care system. The Government takes responsibility to provide free medical treatment to all citizens in need for health care services.

The governmental institutions involved in the health policy process include the Federal Ministry of Health and several planning and approval institutions. The Federal Ministry of Health consists of one division and eighteen departments. These departments are situated in different cities but work under the supervision of the Health Division in Islamabad.

The Federal Ministry of Health is responsible for health legislation, quality of health care, health planning and coordination of health related activities. The Ministry is also responsible for educational standards in the field of medicine as well as nursing, dental, pharmaceutical, and paramedical professions. In addition, the Ministry takes care of the provision of educational facilities for backward areas and admissions in all the state-owned medical colleges. The Ministry is also involved in the collection of health statistics.

Although the Federal Ministry of health is formally responsible for all these interventions, the realization of these tasks is strongly dependent upon other governmental bodies such as the Planning and Development Division (P&D Division), the National Economic Council (NEC), the Executive Committee of the National Economic Council (ECNEC), the Economic Coordination Committee of the Cabinet (ECC), and Provincial Developmental Working Party (PDWP).

Levels of Health Care:

Delivery of health care in the Pakistani system is basically a referral system from the villages to the cities. The public sector comprises more than 10,000 health facilities including dispensaries (pharmacies), Basic Health Units (BHUs) and Rural Health Centers (RHCs) in the villages, Tehsil Headquarters (THQ) hospitals which function as secondary health care facilities, and District Headquarters (DHQ) hospitals that serve the role of tertiary care units.

At present a BHU covers around 10,000 people whereas the larger Rural Health Centers (RHCs) cover around 30,000 to 45,000 people. In Pakistan, Primary Health Care (PHC) centers comprise both BHUs and RHCs. The Tehsil Headquarters Hospitals cover the population at the sub-district level, where as the District Headquarters Hospitals serve the entire district. Currently there are 22 tertiary care facilities in Pakistan, all of which are mostly teaching institutions located in the major cities.

Primary Health Care Centers:

Including Maternal and Child Health Centers (MCHC), Basic Health Units (BHUs) and Rural Health Centers (RHCs). There is at least one PHC center present in each of the Union Councils, which serves between 10,000 to 25,000 people. MCHCs and BHUs are supposed to operate from 8am to 3pm, Monday through Saturday, while RHCs are supposed to provide 24-hour services. That being said, most of these facilities are typically only operational for 3-5 hours each day. There are 1,084 MCHCs in Pakistan which are managed by Lady Health Visitors (LHVs) and provide basic ante-natal care, normal delivery, post-natal and family planning services, as well as treatment of minor ailments to women and children.

There are 5,798 BHUs and Secondary Health Centers (SHCs) in Pakistan, which are generally staffed by 10 health care workers consisting of a male doctor, a LHV, a male medical technician and/or a medication dispenser (pharmacist), a midwife (dai) of variable training, a sanitary inspector, a vaccinator, and 2-3 support staff (guard, sweeper, gardener, etc.). They are required to offer first level curative, maternal and child health, family planning, and preventive care services.

services, though these services are usually limited to short term observation and treatment of patients who are not expected to require transfer to a higher-level facility. They serve a population of about 50,000 to 100,000 people, with about 30 staff including two male medical officers, a female medical officer, a dental surgeon and a number of paramedics. They typically have 10 to 20 beds, x-ray equipment, a laboratory and minor surgery facilities. These facilities do not include delivery and emergency obstetric services however.

Referral Level Care Facilities:

There are a total of 947 Tehsil Headquarters (THQ – sub district units) and District Headquarters (DHQ) Hospitals that are located at respective levels and offer first line referral services. Tehsil Headquarters Hospitals (THQH) serve approximately 100,000 to 300,000 people. They typically have 40 - 60 beds and support services including x-ray, laboratory and surgery facilities. The staff consists of at least three specialists: an obstetrician/gynecologist, a pediatrician, and a general surgeon.

District Headquarters Hospitals (DHQH) serve a catchment population of about 1 to 2 million people and typically have about 100-150 beds. These facilities typically utilize a minimum of eight specialists, including an obstetrician and anesthetist, although do not provide comprehensive emergency obstetric care.

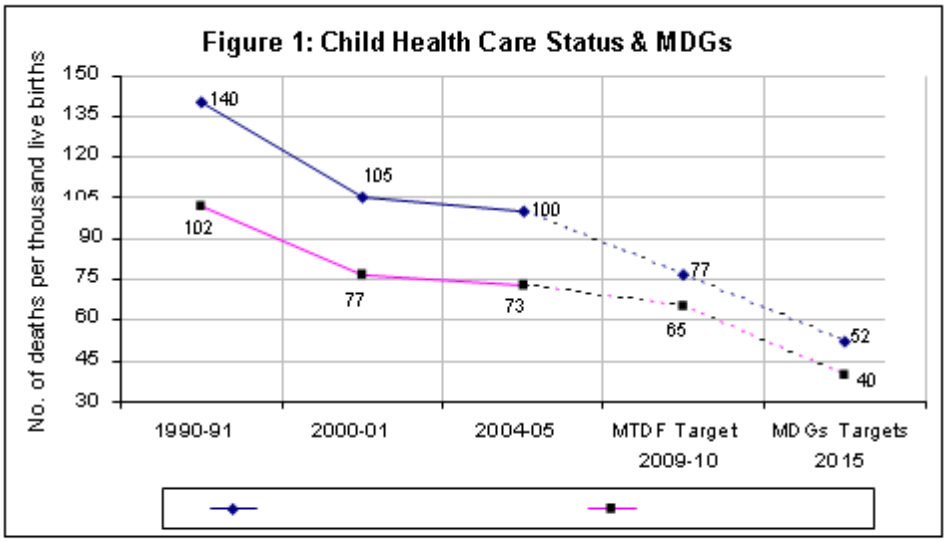
Tertiary Care Facilities:

There are 22 tertiary care facilities in Pakistan. They also provide sub-specialty care. These hospitals mainly provide curative services and to a limited extent some preventive services. The majority of the communities have access to a primary care facility within a radius of 5 km. While access to government health facilities is generally good, the utilization levels are low. Several surveys have consistently shown that about 80% of clients seek care from the private sector and only 20% visit the government managed facilities for ambulatory care, which is indicative of considerable under-utilized capacity within the system. [7]

Access to Health Care Services

Pakistan's health indicators, funding, and sanitation infrastructure are generally poor, particularly in the rural areas. About 19% of the population is malnourished, compared to the 17% average for developing countries, with 30% of malnourished population being children under the age of five. The leading causes of mortality and morbidity include gastroenteritis, respiratory infections, congenital abnormalities, tuberculosis, malaria, and typhoid fever. Hepatitis B and C are also rampant, with approximately 3 million cases of each within the country. The cost of treating these illnesses is often more costly than preventing them.

In Pakistan, as of 2004, child health care trends show that 100 children out of every thousand die before reaching their fifth birthday and 73 infants out of every thousand die before their first. Figure 1 presents the trends in achieving the child health care targets under the United Nation's Millennium Development Goals (MDGs). It is clear that there is a need to invest in child health care services in order to achieve the MDG targets by 2015. [9]

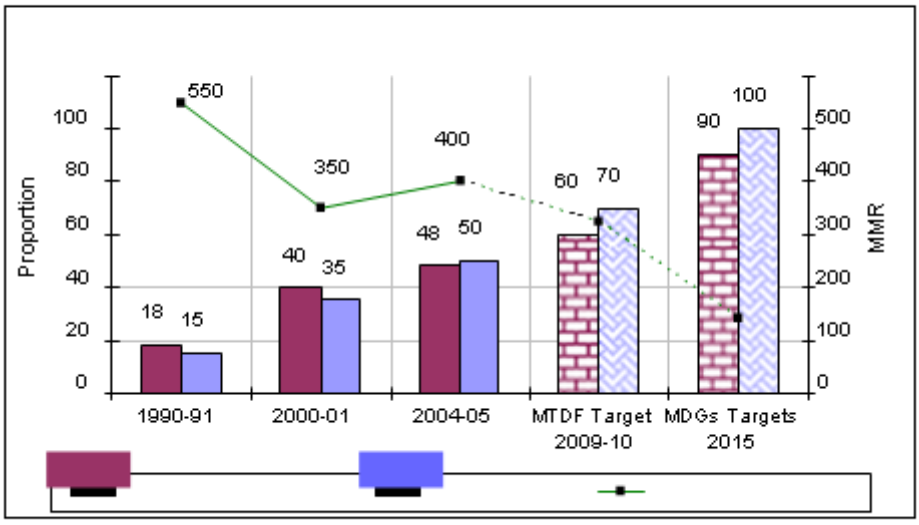


Source: DPMGR (2005).

Maternal mortality and morbidity are also major challenges facing Pakistan's underlining health care system. Progress in regards to the proportion of women (15 – 49 years) who have given birth and made at least one ante-natal care consultation, as well as had births attended by skilled birth

much work (see Figure 2).

Figure 2: Maternal Health Care Status and Targets



Source: PMDGR (2005).

Data shows a negative correlation in regards to maternal mortality ratio, i.e., 350 mothers died due to complications of pregnancy per 100,000 live births in 2000-01 and it reaches 400 deaths in 2004-05 whereas the MDG target is 140 in a decade time. On the other hand, targets for skilled birth attendants and antenatal care are on track but still need efforts to achieve the MDG targets in Pakistan.

The human capital available for health care services in Pakistan has gradually improved over the period of time. There are 100,131 doctors and 18,029 specialists, registered with the Pakistan Medical and Dental Council (PMDC). In addition, 6,374 general practitioners and 387 specialists registered as dental surgeons (see Table 1). Though there is annual output of around 5,000 medical graduates from both private and public medical colleges, the current ratio of one doctor per 1,310 persons is below the international recommended ratio, i.e. one doctor per thousand persons.

Table 1

Registered Medical and Paramedical Personnel

Year	Registered Doctors	Registered Dentist	Registered Nurses	Registered Mid-wives	Registered LHVs	Population per Doctor	Population per Dentist	Population per Nurse
1991	56,478	2,193	18,150	16,299	3,463	1,993	50,519	6,104
2000	92,734	4,164	37,623	22,525	5,443	1,529	33,629	3,732
2001	97,156	4,611	40,019	22,711	5,669	1,516	31,579	3,639
2002	102,541	5,057	44,520	23,084	6,397	1,466	29,405	3,347
2003	108,062	5,530	46,331	23,318	6,599	1,404	27,414	3,296
2004	113,206	6,127	48,446	23,559	6,741	1,359	25,107	3,175
2005	118,160	6,761	33,427	23,897	7,073	1,310	25,297	4,636

Source: Economic Survey of Pakistan (2005-06).

According to the World Health Organization (WHO) international standards, the ratio of doctors to nurses should be 1:3; however this is reversed in the case of Pakistan, with there being three doctors for every nurse. The government of Pakistan is committed to train and provide door-step health care services through the Lady Health Worker (LHW) program, however this will only help the poor and disadvantaged areas in the provision of first-aid/primary health care and not the secondary or tertiary health care facilities.

In the provision of health care services the private sector plays a major role. The private sector provides almost 80 percent of all outpatient services. According to the 2004/2005 Pakistan Social and Living Standards Measurement (PSLM) survey, as many as 77% of households consult with the private sector verses only 23% with the public sector (see Table 2).

Table 2

Health Consultations In Past Two Weeks By Type of Health Provider Consulted

Region / Province	HealthProvided/Consulted							
	Private	Public Dispn/ Hospt	RHC/ Dispn/ Hospt	Hakeem/ BHU	Homeopath Herbalist	Chemist/	Saina/ Pharmacy	Other Saini
Urban Areas	71.50	20.47	0.52	1.76	1.54	3.10	1.01	0.11
Punjab	73.50	15.42	0.26	3.09	2.28	3.91	1.37	0.18
Sindh	78.93	17.79	0.75	0.75	0.96	0.14	0.65	0.03
NWFP	55.81	31.31	0.39	0.67	1.44	9.13	1.09	0.16
Balochistan	56.47	40.68	1.20	0.99	0.10	0.13	0.43	0.00
Rural Areas	64.31	20.68	3.50	2.32	0.60	6.89	1.36	0.35
Punjab	71.08	15.27	1.20	4.74	1.22	3.85	2.28	0.35
Sindh	76.29	18.71	3.23	0.53	0.16	0.28	0.52	0.29
NWFP	51.73	21.73	3.60	1.15	0.44	19.90	1.13	0.32
Balochistan	47.57	37.51	10.21	2.13	0.17	0.69	1.20	0.51
Overall	67.40	20.59	2.22	2.08	1.00	5.26	1.21	0.24
Punjab	72.27	15.34	0.74	3.93	1.74	3.88	1.83	0.27
Sindh	77.60	18.25	2.00	0.64	0.56	0.21	0.58	0.16
NWFP	52.92	24.53	2.66	1.01	0.73	16.75	1.12	0.28
Balochistan	50.34	38.50	7.41	1.77	0.15	0.52	0.96	0.35

Source: PSLM 2004-05 Table 3.3

Private sector consultants include: private clinics/hospitals, chemist/ medical stores, and/or pharmaceutical industries. Furthermore, a large number of patients, especially in the rural areas, consult homeopathic practitioners and tabbibs (traditional herbal medicine practitioners).

Delivery of health in rural areas is designed to be met by a strong force of 100,000 Lady Health Workers (primary health care providers). According to the World Health Organization, Pakistan's total health expenditures amounted to 2% of its gross domestic product (GDP) in 2006, but conflicting economic surveys claim the funding to be as low as 0.75% of the GDP. Per capita, the country's health expenditures were equivalent to $51 (USD) in 2006. The government provided 24.4% of the total health expenditure, with the remaining 75% going entirely to the private sector, in the form of patient out-of-pocket expenses. [11]

The Federal Ministry of Health

Analyzing the Pakistan Health Care System:

Although the Federal Ministry of health is formally responsible for all these interventions, the realization of these tasks is strongly dependent upon other governmental bodies such as Planning and Development Division (P&D Division), the National Economic Council (NEC), the Executive Committee of the National Economic Council (ECNEC), the Economic Coordination Committee of the Cabinet (ECC), and Provincial Developmental Working Party (PDWP).

Planning and Finance Directorate:

A countrywide, facility-based, Health Management Information System (HMIS) was developed in Pakistan in the early 1990s. This effort was initiated by the Basic Health Services Cell, now known as the National HMIS Cell of the Ministry of Health. Provincial health departments were also involved in the development process. International agencies, including USAID, UNICEF, and WHO, extended both technical and financial support. The ultimate objective of the initiative was to assist mid and senior health managers in making more informed decisions. Subsequently, the Family Health Projects of the World Bank supported the establishment and institutionalization of HMIS in all the Pakistani provinces. This system has now been implemented in a phased manner and more than 90% of primary health care facilities report under this system.

Health Sector Development Program:

For the attainment of the eight core millennium goals, the UN Millennium Declaration fixed 18 targets and 48 indicators; of which Pakistan has adopted 16 targets and 37 indicators. Pakistan is a signatory to the UN Millennium Development Goals (MDG), 2000- 2015. Three of the eight MDGs are specific to the health sector, incorporating four of the targets and sixteen of the indicators. The MDGs include:

Reducing:

- The mortality rate for children under the age of five from an estimated 140 in

- The infant mortality rate from an estimated 110 in 1990 to a target of 40 by 2015
- The maternal mortality ratio from an estimated 530 in 1990 to a target of 140 by 2015

Increasing:

- The proportion of one year-old children immunized against measles from an estimated 50% in 1990 to a target of 85% by 2015
- The proportion of births attended by skilled health personnel from an estimated 20% in 1990 to a target of greater than 90% by 2015

Combating:

- TB, Malaria, HIV/AIDS and other communicable diseases

The 2008 report of the MDG Gap Taskforce revealed that while there has been much progress during the last decade, the delivery on commitments, particularly on MDG 4 and 5, has lagged behind schedule. Pakistan has:

- Reduced the under-five mortality rate by 25 during the 1990s, but has achieved no further reductions in the past decade
- Maintained the same infant mortality rate of approximately 75 for the past decade
- Slightly increased the proportion of 1 year-old children immunized against measles to 60%
- Reduced the maternal mortality ratio to 280
- Doubled the proportion of births attended by skilled health personnel to 40%

Though some significant gains have been made, overall they still fall short of the targets identified for the remainder of the current timeframe. [8]

Targets and indicators by definition adopted by the Government of Pakistan:

Reduce by Two-thirds, between 1990 and 2015, the Under-five Mortality Rate

Indicators	Definitions
Under-five mortality rate	Number of deaths of children under five years of age per thousand live births
Infant mortality rate	Number of deaths of children under 1 year of age per thousand live births
Proportion of fully immunized children 12- 23 months	Proportion of children of 12 to 23 months of age who are fully vaccinated against EPI target diseases
Proportion of under 1 year children immunized against measles	Proportion of children 12 months of age and received measles vaccine
Proportion of children under five who suffered from diarrhea in the last 30 days and received ORT	Proportion of children under 5 years suffering from diarrhea in past 30 days
Lady Health Workers' coverage of target population	Households covered by Lady Health Workers for their health care services

Reduce by Three-quarters, between 1990 and 2015, the Maternal Mortality Rate

Indicators	Definitions
Maternal mortality ratio	No. of mothers dying due to complications of pregnancy and delivery per 100,000 live births
Proportion of births attended by skilled birth attendants	Proportion of deliveries attended by skilled health personnel (MOs, midwives, LHVs)
Contraceptive prevalence Rate	Proportion of eligible couples for family planning programs using one of the contraceptive methods
Total fertility rate	Average number of children a woman delivered during her reproductive age
Proportion of women 15-49 years who had given birth during last 3 years and made at least one antenatal care consultation	Proportion of women (15-49) who delivered during the last 3 years and received at least one antenatal care during their pregnancy period from either public/private care providers

Have Halted by 2015, and Begun to Reverse, the Spread of HIV/AIDS

Indicators	Definitions
HIV prevalence among 15-24 year old pregnant women (percentage)	Prevalence baseline to be reduced by half
HIV prevalence among vulnerable group (e.g., active sexual workers)	Prevalence baseline to be reduced by half

Have halted by 2015, and Begun to Reverse, the Incidence of Malaria and Other Major Diseases [9]

Indicators	Definitions
Proportion of population in malaria risk areas using effective malaria prevention and treatment measures	Proportion of population living in 19 high risk districts of Pakistan having access and using effective malaria prevention and treatment as guided in roll back malaria strategy
Incidence of tuberculosis per 100,000 population	Total number of TB cases per 100,000 population
Proportion of TB cases detected and cured under DOTS (Direct Observed Treatment Short Course)	Proportion of TB cases detected and managed through DOTS strategy

Medium Term Development Framework (2005-10)

The first Medium Term Development Framework (MTDF), 2005-10 provided guidelines to ensure equitable development in all the regions of Pakistan, incorporating a fully integrated economy in an attempt to create a sense of common and shared destiny.

The MTDF acknowledges the MDG targets and puts emphasis to continue and strengthen the shift from curative services to preventive and primary health care. Moreover, the MTDF also addresses the issues of health care financing, health insurance, employee social security, and public-private partnerships within the health sector. The MTDF also incorporates the health system in Pakistan at the federal, provincial, and district levels, including private health services.

The public provision of medical and health services compromises of primary, secondary and tertiary health care facilities. Primary health care facilities mainly look after out-patients. These facilities include: rural health centers, basic health units, primary health care centers, dispensaries, first aid

after out-patients as well as in-house patients. District and tehsil headquarter hospitals are the secondary health care establishments. Tertiary health care facilities are mainly present in the major cities only. These facilities are affiliated with research and teaching organizations. Both the secondary and tertiary health care services are operational 24 hours a day.

The MTDF also provides recent figures regarding health workers and facilities in Pakistan. Table 3 quantifies the national medical and health establishments between 1990 and 2006. It shows that the numbers of each health establishment are increasing, however due to a simultaneous increase in population growth, the number of persons per bed is also increasing.

Table 3

National Medical and Health Establishments

Year	Hospitals	Dispensaries	BHUs	MCHCs	RHCs	TB Centers	Total Beds	Population per Bed
1991	776	3,993	4,414	1,057	465	219	75,805	1,461
2000	876	4,635	5,171	856	531	274	93,907	1,495
2001	907	4,625	5,230	879	541	272	97,945	1,490
2002	906	4,590	5,308	862	550	285	98,264	1,517
2003	906	4,554	5,290	907	552	289	98,684	1,536
2004	916	4,582	5,301	906	552	289	99,908	1,540
2005	919	4,632	5,334	907	556	289	101,490	1,530

Source: Economic Survey of Pakistan (2005-06).

MTDF highlights following major issues in the health service provision within Pakistan:

1. Organizational Issues
   - A) Inadequacies in primary/secondary health care services
   - B) Urban/rural imbalances
   - C) Professional/managerial deficiencies in district health system
   - D) Gender equity
   - E) Unregulated private sector

2. Burden of Disease
   - A) Wide spread prevalence of communicable diseases
   - B) Basic nutrition gaps in target population
   - C) Addiction and mental health

Realizing these challenges and limitations, the MTDF calls for a partnership with private sector including civil society, which is effective, efficient and responsive to the health needs of low socio-economic groups especially women in the reproductive age.

The MTDF health sector strategy focuses on: primary health care in rural areas and urban slums; vertical programs, training and re-training of medical staff; subsidization of health services for the poor segments; regulation of private sector; and health education through skill development of staff in communication techniques at all levels.

Parallel to the MTDF, a project on Medium Term Budgetary Framework (MTBF) has also been started by the ministry of finance in collaboration with the UK—Department for International Development (DFID). The MTBF will provide budgetary guidelines to the finance departments. [9]

Pakistan Health Insurance System

Although Pakistan Health Insurance system is not as much developed; Government of Pakistan with the help of USAID and foreign banks is working a lot in order to promote it.

Health Policy of the Government

Vision:

The vision of the National Health Policy is to improve the health and quality of life of all Pakistanis, particularly women and children, through access to essential health services.

Goal:

The goal of the national health policy is to remove barriers to access to affordable, essential health services for every Pakistani.

Policy Objectives:

To achieve the above stated goal of removal of barriers to essential health services, the Government of Pakistan adopts the following six Policy Objectives to reform and strengthen

critical aspects of its health systems to enable it to:

1. Provide and deliver a basic package of quality essential health care services
2. Develop and manage competent and committed health care providers
3. Generate reliable health information to manage and evaluate health services
4. Adopt appropriate health technology to deliver quality services
5. Finance the costs of providing basic health care to all Pakistanis
6. Reform the health administration to make it accountable to the public

The Ministry of Health recognizes that provinces have varied needs and expectations regarding health and that each Department of Health is fully capable of identifying as well as delivering appropriate health care to their populations. It is in this spirit that the federal ministry will support and facilitate the provinces in implementation of their strategies by providing relevant financial and technical resources to ensure that the essential health service package is accessible to all citizens. The national health policy has been formulated with the primary objective of resonating with the expectations of Provinces. It is designed to contribute to advancing and strengthening the **provincial health strategies**. [8]

National Drug Policy

Objectives of the National Drug Policy are as follows:

A) To develop and promote the concept of essential drugs and to ensure regular, uninterrupted and adequate availability of such drugs of acceptable quality and at reasonable prices.

B) To inculcate in all related sectors and personnel the concept of rational use of drugs with a view to safeguarding public health from over-use, misuse or inappropriate use of drugs.

C) To encourage the availability and accessibility of drugs in all parts of the country with emphasis on those which are included in the National Essential Drugs List.

D) To attain self-sufficiency in formulation of finished drugs and to encourage production of pharmaceutical raw materials by way of basic manufacture of active ingredients.

E) To protect the public from hazards of substandard, counterfeit and unsafe drugs.

F) To develop adequately trained manpower in all fields related to drugs management.

G) To develop a research base particularly for operational and applied research with a view to achieving the above mentioned objectives.

H) To develop the pharmaceutical industry in Pakistan with a view to meeting the requirement of drugs within the country and with a view to promoting their exports to other countries. [10]

Private Health Care System

The private sector in Pakistan is varied with no defined structure and weak regulation exists in this sector.

Health Infrastructure:

The private sector health infrastructure is not well organized. There is a wide range of disparity in health care provision in the private ranging from Hi-Tech hospitals with all the necessary provisions to general stores providing unauthorized healthcare services.

Private hospitals: There are few regular hospitals in the private sector, which are fully equipped with necessary supplies & equipment, transportation and skilled staff, and can be compared to any teaching hospital of the public sector. Such hospitals are generally privately owned businesses. The running costs are offset by the monthly income

generated as they charge a fee for service. Deemed business, there is no central depository of information regarding these hospitals. Being under private ownership, financial and business records are not available to the public. The anecdotal information about the conditions of these hospitals leads to the conclusions that the majority of the hospitals in the private sector are under staffed, lack drugs and supplies, adequate patient transportation, qualified staff and modern equipment. Under such conditions, the services provided by private sector hospitals should not be relied upon, yet about 80% of the population is seeking services from the private sector. This is mostly due to the fact that the public is unaware of the quality and standard of the services which they are being provided.

Nursing Homes/Centers: Nursing homes/centers are small facilities in comparison to the private hospitals. These entities are usually established though partnerships in which two or more individuals have pooled their resources together. Nursing homes/centers act primarily as maternity homes and generally are not capable of providing most primary health care services, including those of newborn care. There are some instances good nursing homes/centers which have all the necessary provisions and skilled staff to provide quality services to the public. In contrast, however, there are cases in which services at nursing homes are being provided by non-qualified or semi qualified personnel, adding to an increased risk for maternal deaths. Furthermore, these lower quality centers often lack some of the necessary supplies and equipment needed to provide comprehensive care.

Clinics: Clinics are generally owned by a single person who is the sole-proprietor of the health care entity, but there are also some jointly-owned clinics. There are various types of clinics, including: day clinics, part-time clinics, and 24-hour clinics. There are also wide variations in the quality of the services being provided at these clinics. There are some very good clinics being run by specialists, well-equipped and providing quality services. However, these are in limited number and are mostly

situated within the metropolitan areas in which people are well aware of the quality of the health services. The condition of most of the clinics is poor due to Pakistan's weak regulatory system. Often these clinics advertise the name of a qualified medical professional, however often the individual will not actually be present at the clinic. Instead the semi- qualified or non-qualified staff runs the clinic on their behalf. These clinics also generally lack supplies and equipment.

Informal structures: Health care services are also being provided by informal structures in Pakistan. Informal structures, such as karyana or general stores, are providing medicine for minor diseases, often not informing the patients of side effects. Generally they are distributing over the counter drugs like Aspirin or Paracetamol, but some also dispense stronger painkillers and antibiotics.

Partnerships between public/governmental entities, private/commercial entities, and civil society can potentially improve the health of the poor by combining their skills and resources in innovative ways. Public agencies clearly benefit from working in collaboration with the private sector in areas where the public sector lacks expertise and experience, such as product development, production process development, manufacturing, marketing, and distribution. That being said, there are areas, such as public health policy-making and regulatory approval, where the concept of partnership with for-profit enterprise is not appropriate.

Partnerships appear to be most justified in cases in which: traditional ways of working independently have a limited impact on a problem; the specific desired goals can be agreed upon by potential collaborators; there is relevant complementary expertise in both sectors; the long-term interests of each sector are fulfilled (i.e. there are benefits to all parties); and the contributions of expertise and resources are reasonably balanced. [7]

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Radiology in Pakistan

Since Pakistan is a developing country, many steps can be taken in regards to the advancement of the radiology services being offered. For example, in 1990, in the city of Rawalpindi (population of more than 2 million), there were 2-3 radiologists, almost 40 X-ray machines, 10 ultrasound machines, and no MRI or CT scanners. However, now in 2010, the city has approximately 70 radiologists, X-ray and ultrasound equipment in almost every government and private hospital, as well as approximately 15 MRI and 23 CT scanners.

CT Scanners: The first CT scanner in Pakistan was installed in Lahore at the Lahore General Hospital. This was a dedicated head scanner. The first whole body CT was installed in Karachi at the Liaquat National Hospital in 1984. At the present time there are an estimated 80 CT scanners in Pakistan. This number is increasing with a recent spate of new installations. Over half of these are concentrated in the urban centers of Karachi, Lahore and Rawalpindi/Islamabad. The majority of these scanners are in the private sector with less than a third of all CT scanners being in government or semi-government institutions. The majority of the scanners are older conventional (non spiral) variety, although a growing number of the scanners are the more modern multi-slice configuration. Of the 80 installed scanners, 34 are spiral scanners including 6 multi-slice spiral scanners. Only 26 of these 80 scanners are in public sector institutions.

All CT scanners including the old conventional (non-spiral) units are capable of producing satisfactory images of the brain. The added capability of volume acquisition that spiral scanners can provide is not as beneficial as it is often made to seem, since neither respiratory motion or length of contrast are of absolute need for accurate image interpretation. That being said, the inability of conventional CT scanners to perform advanced CT angiography and perfusion procedures, gives the more modern machines greater appeal. However, as of yet, there are no CT scanners in Pakistan capable of performing perfusion scans of the brain.

The cost of a CT of the head varies greatly. It ranges from free scans offered by some of the government institutions up to as much as $60 (USD). The average cost of a non-contrast scan is between $15-20 (USD). Contrast administration typically adds $10 for ionic and $20 for non ionic contrast.

MR Scanners: The first MRI scanner in Pakistan was also installed at the Liaquat National Hospital. At the present time there are an estimated 19 MRI scanners. The distribution and demographics are broadly similar to those of the CT scanners, with the majority being in Karachi, Lahore and Islamabad and in the private sector. Because of the very high cost of the super-conductive magnet systems, which cost an average of over $750,000 (USD) each, there is a growing number of low field strength permanent units. These units tend to be somewhat limited in their capabilities but offer a more cost effective solution. Twelve of the 19 MRI scanners in Pakistan are super-conductive units. Four of these are capable of diffusion and perfusion imaging techniques. The cost of MRI scanning also varies greatly, ranging from USD 25 for "Limited" studies (single sequence studies) to $150 (USD) for complete studies with contrast enhancement.

Pakistan has an estimated population of 170 million. With 80 CT scanners and 19 MRI systems, this works out to roughly one CT scanner for every two million people and one MRI scanner for nine million people. This deficiency is most marked in the rural areas. Karachi, the largest cit, has the largest collection of these scanners, consisting of 22 CT and 7 MRI scanners, whereas the entire province of Baluchistan has one CT and no MRI scanners.

The private sector has led the way in provision of these expensive technologies. This has put a limitation on the cost of scanning. The only units utilized to provide free imaging services are in the public sector institutions, however these systems are constantly plagued by problems due to the lack of trained technical staff leading to frequent and prolonged break downs. [13]

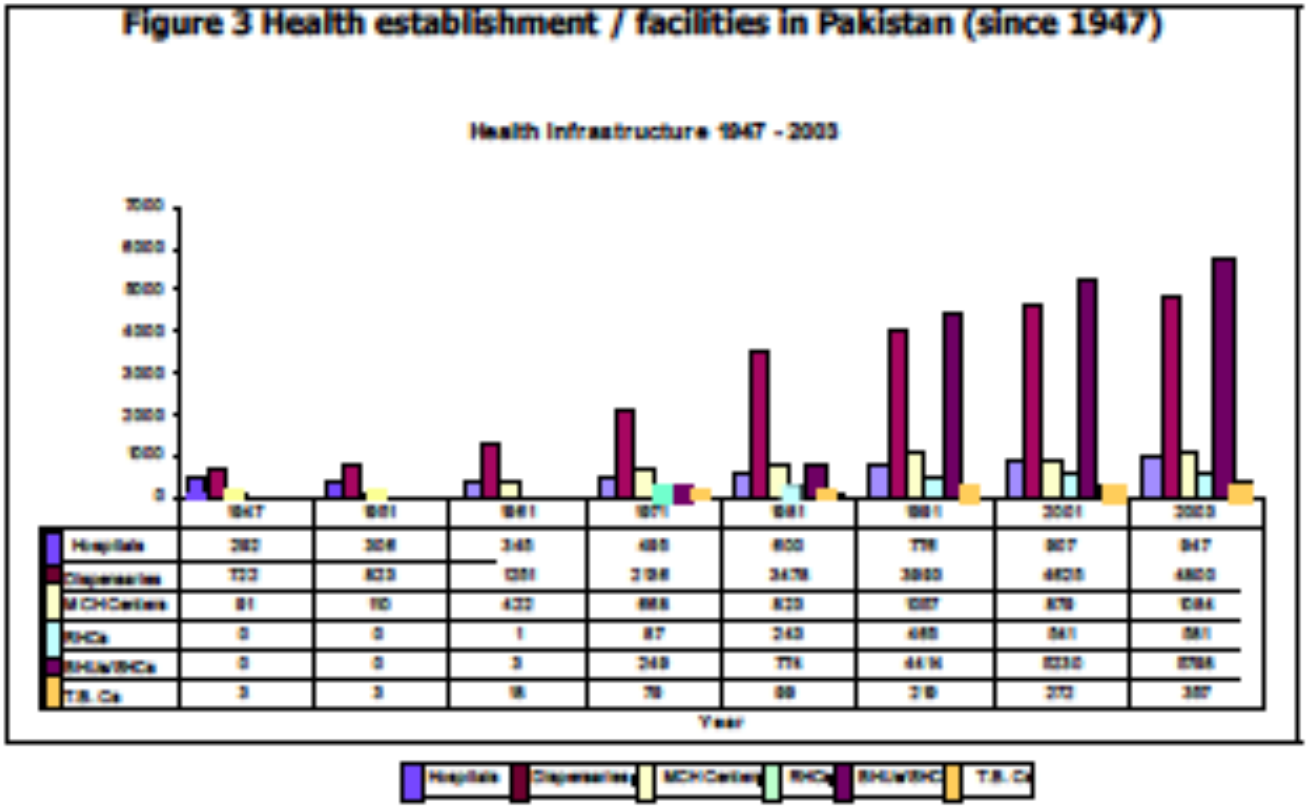
Pakistan has only one PET/CT scanner, which was installed in Shaukat Khanum Memorial

Additional Tables, Charts, and Resources

Health Systems Profile- Pakistan

Regional Health Systems Observatory- EMRO

Figure 3 Health establishment / facilities in Pakistan (since 1947)



Source: Annual report of Director General Health: 2000-2001. Ministry of Health

Health Services Delivery (2006-07)

Total Health Facilities	13,937
Hospitals	965
Dispensaries	4,916
Basic Health Units	4,872
Rural Health Centers	595
MCH Centers	1,138
TB Centers	371
First Aid Points:	1,080
Beds in hospitals & dispensaries	105,005
Population per bed	1,515
Population to health facility ratio	11,413

Human Resources (Registered, 2007)

Doctors	107,835
Doctors registered as specialists	19,623
Dentists	7446
Dental specialists	433
Nurses	43,646
Midwives	2,788
Lady Health Visitors	3,864
Lady Health Workers	95,000
Lady Health Supervisors	3,385
Population per doctor	1,475
Population per dentist	21,362
Population per nurse	3,644

Academic Institutions (2007)

Public sector: Medical colleges	23
Dental colleges	9
Private sector Medical colleges:	24
Dental colleges:	12

TOTAL NUMBER OF DOCTORS / DENTAL SURGEONS(G.P's with basic degree only)

REGISTERED UP TO 31ST JANUARY, 2009

	M.B.B.S.			B.D.S.			L.S.M.F.		
Province	Male	Female	Total	Male	Female	Total	Male	Female	Total
Punjab/Federal Area	25339	18324	43663	1644	1664	3308	511	54	565
Sindh	26970	21572	48542	1230	1857	3087	284	22	306
N.W.F.P.	8267	3633	11900	736	566	1302	52	2	54
Balochistan	2104	1235	3339	140	79	219	44	11	55
A.J.K.	1246	689	1935	125	76	201	3	1	4
Foreign Nationals	2157	647	2804	282	90	372	98	8	106
Total	66083	46100	112183	4157	4332	8489	992	98	1090
			RMP			RDP			LSMF/LDS

TOTAL=112609+8849+1090=122248

TOTAL NUMBER OF DOCTORS/DENTAL SURGEONS REGISTERED

Up to 31st JANUARY, 2009 as SPECIALISTS

	M.B.B.S.			B.D.S.		
Province	Male	Female	Total	Male	Female	Total
Punjab/Federal Area	8600	2396	10996	183	61	244
Sindh	4789	1711	6500	112	37	149
N.W.F.P.	2355	501	2856	76	13	89
Balochistan	632	121	753	21	1	22
A.J.K.	369	78	447	18	1	19
Foreign Nationals	63	14	77	3	0	3
Total	16808	4821	21629	413	113	526
			RMP			RDP

TOTAL LSMF=1090

TOTAL RMPs (Basic & Specialists)=(112609+21629)=134238

TOTAL RDPs (Basic & Specialists)=(8549+526)=9075

GRAND TOTAL=134238+9075+1090=144403

GRAND TOTAL=RMP+RDP+LSMF [12]

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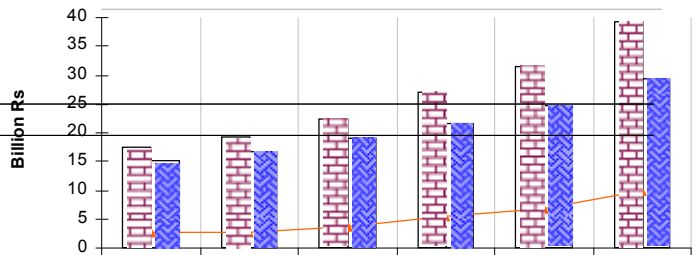
Figure 4: Total Public Sector Expenditure on Health



	2000-01	2001-02	2002-03	2003-04	2004-05	2005-06
Total	17.508	19.211	22.368	27.009	31.426	39.203
Current	14.984	16.717	18.847	21.441	24.777	29.41
Development	2.524	2.494	3.521	5.568	6.649	9.793

Figure 5: Public Expenditure on Health as % of GDP

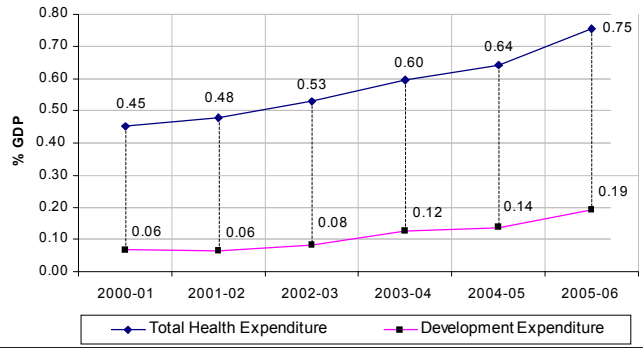


Table4

Distribution of Government Health Expenditure by Sector and Quintile (2005-06)

	Preventive Measures and Health Facilities				General Hospitals and Clinics				Mother-Child			
Region	Lower20 %Share in Expenditure	Upper20 %Share in Expenditure	GINI Coefficient	Concentration coefficient	Lower20 %Share in Expenditure	Upper 20% Share in Expenditure	GINI Coefficient	Concentration Coefficient	Lower20 % Share in Expenditure	Upper 20 % Share in Expenditure	GINI Coefficient	Concentration Coefficient
Punjab	19.10	21.26	0.42	0.02	7.18	41.66	0.43	0.26	2.95	21.27	0.38	0.44
Rural	20.17	20.82	0.36	0.02	1.92	41.69	0.34	0.43	–	–	–	–
Urban	18.85	21.37	0.43	0.03	12.18	30.41	0.43	0.19	–	–	–	–
Sindh	20.11	20.68	0.35	0.01	7.03	95.87	0.31	0.68	10.47	28.91	0.31	0.29
Rural	19.07	22.14	0.28	0.02	–8.23	7.45	0.24	0.77	–	–	–	–
Urban	19.58	21.88	0.35	0.02	6.10	12.93	0.31	0.42	–	–	–	–
NWFP	17.97	25.56	0.38	0.07	4.64	29.06	0.36	0.37	24.49	5.04	0.21	-0.28
Rural	17.93	25.53	0.34	0.07	2.76	43.55	0.34	0.50	–	–	–	–
Urban	18.52	24.53	0.41	0.07	25.91	32.76	0.35	0.10	–	–	–	–
Balochistan	19.04	22.17	0.30	0.03	10.31	35.97	0.27	0.20	–	–	–	–
Rural	19.58	22.15	0.27	0.04	25.59	17.20	0.24	0.02	–	–	–	–
Urban	18.94	20.57	0.29	0.02	-8.50	126.88	0.32	1.09	–	–	–	–
Pakistan	6.17	31.54	0.31	0.29	7.04	36.40	0.36	0.35	8.08	23.69	0.30	0.19
Rural	4.95	25.25	0.30	0.38	4.68	46.14	0.31	0.48	–	–	–	–
Urban	6.18	35.77	0.29	0.09	6.83	30.00	0.37	0.23	–	–	–	–

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Structure of District Health Facilities

Health Facility	Location	Operations
District Headquarter Hospital (DHQ)	Located at District Headquarters	Medical Superintendent (MS) who reports to Director General Health, Provincial Government
Tehsil Headquarters Hospital (THQ)	One in each Tehsil	MS-Tehsil who reports to Executive District Health officer (EDHO)
Rural Health Center (RHC)	Markaz (serving a cluster of 4-6 Union Councils)	Senior Medical officer (SMO) who reports to EDHO
Basic Health Unit (BHU)	One in each Union Council	Medical Officer who reports to EDHO

ABBREVIATIONS

BHU	BASIC HEALTH UNIT
DHDC	DISTRICT HEALTH DEVELOPMENT CENTER
DHQ	DISTRICT HEAD QUARTER
DOH	DEPARTMENT OF HEALTH
GOP	GOVERNMENT OF PAKISTAN
GDP	GROSS DOMESTIC PRODUCT
HMIS	HEALTH MANAGEMENT INFORMATION SYSTEM
HR	HUMAN RESOURCE
IMR	INFANT MORTALITY RATIO
LHV	LADY HEALTH VISITOR
LHW	LADY HEALTH WORKER
MCH	MATERNAL AND CHILD HEALTH
MCHC	MATERNAL AND CHILD HEALTH CENTER
MDG	MILLENNIUM DEVELOPMENT GOALS
MMR	MATERNAL MORTALITY RATIO
MNCH	MATERNAL, NEWBORN AND CHILD HEALTH
MOH	MINISTRY OF HEALTH
MTDF	MEDIUM TERM DEVELOPMENT FRAMEWORK
MTBF	MEDIUM TERM BUDGETARY FRAMEWORK
NWFP	NORTH WEST FRONTIER PROVINCE
PHC	PRIMARY HEALTH CARE
PMDC	PAKISTAN MEDICAL & DENTAL COUNCIL
PMRC	PAKISTAN MEDICAL AND RESEARCH COUNCIL
RHC	RURAL HEALTH CENTRE
THQ	TEHSIL HEAD QUARTER
THQH	TEHSIL HEAD QUARTER HOSPITAL
WHO	WORLD HEALTH ORGANIZATION
WTO	WORLD TRADE ORGANIZATION

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