Data Collection Survey on Health Sector

Country Report
Islamic Republic of Pakistan

October 2012

Japan International Cooperation Agency
(JICA)

KRI International Corp.

TAC International Inc.

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Exchange Rate

US$ 1=94.36 Pakistan Rupee

（JICA rate, July, 2012）

This report is prepared to support JICA's country operation in health through strategic programming. The contents, however, may need to be supplemented with the latest and more detailed information by the readers since the report is mainly based on literature review and not on field study, with the exception of some countries.

Foreword

Background

The current situation surrounding the health sector in developing countries has been changing, especially at the start of the 21st century. Based on the recommendations from the concept of "Macroeconomics and Health"[1], development assistance for health has greatly increased to accelerate efforts to achieve the Millennium Development Goals (MDGs) by 2015. The development assistance for health has risen sharply from USD 10.9 billion to USD 21.8 billion in 2007[2]. Moreover, development assistance was harmonized by the common framework developed at the three consequent high-level forums in Rome (2003), in Paris (2005) and in Accra (2008).

Regardless of such favorable environmental changes for the health sector in developing countries, the outcomes do not seem to reach the level of expectation in many countries. Many developing countries, particularly Sub-Saharan African countries, will not achieve some of their MDGs 4 (Reduce child mortality), 5 (Improve maternal health) and 6 (Combat HIV/AIDS, malaria and other diseases) by 2015. Therefore, while raising more money for health is crucial for lower-income countries striving to move closer to universal coverage[3]; "More Money for Health[4]", it is just as important to get the substantial health gains out of the resources available; "More Health for Money[5]". Efficiency is a measure of the quality and/or quantity of output of services for a given level of input, and improving efficiency should also be seen as a means of extending coverage for the same cost and the improved health outcomes.

Considering this situation surrounding the health sector in developing countries, in a recent movement of its development assistance work, JICA has been working on country-based analytical work. This consists of macro level and sector wide analytical work aiming to clarify JICA's aid direction in each country by looking at priority areas of concern and aid mapping. The purpose of the Data Collection Survey on Health Sector is to contribute to JICA's analytical work efforts. In the past, JICA's analytical efforts were concentrated on the project planning purpose, as a consequence, information gathered in such analytical works were naturally limited to be around the particular projects. It is therefore thought to be important for JICA to conduct a country-based health sector review to gather complete information and analyze the whole sector to learn about the situation of the country and identify high priority problems and issues to be tackled in the health system.

Objectives of the Study

The key to the formulation of a good project is having conducted thorough sector reviews. Good sector reviews and analyses help us to understand the health situation and its determinants, and the capacity for health project implementation in the countries. They also help us to contribute to the countries for identifying the feasible projects in the context of priorities and developing the necessary policies and strategic planning for the health service delivery. It is also necessary to conduct such health sector review studies on a regular basis in order to develop and implement effective and efficient health projects. Based on this concept, JICA decided to carry out the sector review studies of 23 selected countries. The objectives of the sector review are to give recommendations to JICA on the aid direction for the health sector in each country, and to improve strategic approaches and the efficiency of aid cooperation.

Structure of the Report

The health sector study country report consists of seven chapters. Chapter 1 is the summary of the socio-economic situation of each country. Chapter 2 is an analysis of the national health policy, strategic approaches, and plans. Chapter 3 describes the health situation of each country to show the priority health problems by using health information and data. Chapter 4 is an analysis of the health service delivery function of each country, while Chapter 5 is an analysis of other functions of the country's health system namely: human resources for health, health information systems, essential medical products and technologies including the health facilities, health financing, and leadership and governance. Chapter 6 is an analysis of the development partners' assistance and cooperation. Based on the above analysis, Chapter 7 provides recommendations to JICA on the strategic areas of cooperation and its approaches.

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1 WHO announced "Macroeconomics and Health: Investing in Health for Economic Development" in December, 2000. This regards Health is an intrinsic human right as well as a central input to poverty reduction and socioeconomic development and the process helps place health at the centre of the broader development agenda in countries.

2 Ravishankar N., Gubbins P. Cooley J.R., et. al; June 2009; Financing of global health: tracking development assistance for health from 1990 to 2007; the Lancet 373:2113-2132

3 According to WHO, Universal coverage (UC) is defined as ensuring that all people have access to needed promotive, preventive, curative and rehabilitative health services, of sufficient quality to be effective, while also ensuring that the use of these services does not expose the user to financial hardship. (http://www.who.int/health_financing/universal_coverage_definition/en/index.html)

4 In the World Health Report 2010 (WHO), the report advocates it with the following concrete three suggestions as the requirements; 1) Increase the efficiency of revenue collection, 2) Reprioritize government budgets, and 3) Innovative financing. As the forth suggestion, it advocates increasing development aid and making it work better for health.

5 The World Health Report 2010 also suggests the needs of improving the efficacy in the health systems and eliminating the inefficiency/waste will enable the poor countries to improve the availability and quality of the services.

Abbreviation and Acronyms

AIDS	Acquired Immune Deficiency Syndrome
ART	Anti-retroviral Therapy
BCC	Behavior Change Communication
BCG	Bacille Calmette Guerin
BHU	Basic Health Unit
CDA	Capital Development Authority
CHBC	Community and Home-Based Care
CW&S	Central Warehouse & Supplies
DEWS	Disease Early Warning System
DFID	Department for International Development
DHIS	District Health Information System
DOTS	Directly Observed Therapy Short-course
DPT	Diphtheria, Pertussis, Tetanus
EPI	Expanded Programme on Immunization
FATA	Federally Administered Tribal Areas
FEG	Framework for Economic Growth
GDP	Gross Domestic Products
GFATM	The Global Fund to Fight AIDS, Tuberculosis and Malaria
GNI	Gorss National Income
HIS	Health Information System
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
Hib	Haemophilus influenza type B
IDU	Injecting Drug User
ITN	Insecticide-Treated Mosquito Net
JICA	Japan International Cooperation Agency
LHV	Lady Health Visitor
LHW	Lady Helath Worker
LMIS	Logistic Management Information System
MDGs	Millenium Development Goals
MDR-TB	Multidrug-Resistant Tuberculosis
MNCH	Maternal, Newborn and Child Health
MO	Medical Officer
MSD	Medical Store Depot
NGO	Non-governmental Organization
NHIRC	National Health Information Resource Center
NSF	National HIV and AIDS Strategic Framework

PAEC	Pakistan Atomic Energy Commission
PDHS	Pakistan Demographic and Health Survey
PHC	Primary Health Care
PPP	Purchasing Power Parity
PRSP	Poverty Reduction Strategy Paper
PRSP-II	Poverty Reduction Strategy Paper II
TBA	Traditional Birth Attendant
UNDP	United Nations Development Programme
UNFPA	United Nations Population Fund
UNICEF	United Nations Children's Fund
USAID	United States Agency for International Development
WHO	World Health Organization

Source: http://www.freemap.jp/asia/asia_pakistan_all.html (The name of provinces are updated by the Study Team)

Islamic Republic of Pakistan

Summary

1. Efforts to spur economic recovery and reduce poverty have come to a standstill in the Islamic Republic of Pakistan, or Pakistan, as a result of the economic downturn in 2008 and heavy floods in 2010. The power of the President was vastly curtailed by the Eighteenth Amendment to the Constitution of Pakistan in 2010; administrative reforms began, and the federal Ministry of Health was dismantled in June 2011. Authority for planning, service provision, etc. in the health sector was transferred to provincial governments, and other roles at the federal level were dispersed and transferred to multiple ministries and divisions. Programmes dealing with issues that require coordination at the national level will be implemented by the Ministry of Inter-Provincial Coordination.

2. The health sector was given priority in Vision 2030, Pakistan's long-term development plan. Particular emphasis was placed on basic health services and maternal and child health. Drafted in 2008, Poverty Reduction Strategy Paper II includes the health sector under 1 of its 9 pillars, and the Paper cites goals of improving maternal and child health, eradicating polio, preventing tuberculosis and hepatitis B, and providing essential service packages to the extremely poor. Indicating planned development from 2011-12 to 2015-16, the Framework for Economic Growth (FEG) also emphasizes maternal and child health and efforts to combat communicable diseases, and the FEG seeks to ensure that health care finances are provided. The annual development plan for 2012-13 has been formulated in accordance with the FEG and it cites goals such as the introduction of results-based management. In addition to maternal and child health and efforts to combat communicable diseases, the health sector includes a number of other efforts like health sector reform and establishment of social insurance.

3. Noncommunicable diseases account for 46% of total deaths in Pakistan. The pattern of disease is shifting, suggesting that Pakistan faces a double burden of disease in the shorter term. Pakistan is projected to have real difficulties attaining many of its Millennium Development Goals (MDGs). At the heart of these difficulties are a number of socioeconomic conditions, such as poverty, low levels of education and urbanization, and the country's health system has been rated as fundamentally ineffective. The maternal mortality ratio is second in South Asia[6] only to that of Afghanistan. The child mortality rate has tended to improve, but attainment of MDGs will be problematic.
   Malaria is endemic in almost the entire country, and the number of patients has not changed. There is an exceedingly high prevalence of HIV among injecting drug users. One hundred percent coverage by DOTS (Directly Observed Therapy Short-course) strategy has been achieved, and the prevalence and mortality rate for tuberculosis have both fallen since 2000. Pakistan is one of 3 polio-endemic countries in the world. Nutrition status has improved little since 1985, and maternal malnutrition is a major cause of low-birth-weight infants.

4. The attainment of MDGs is the highest priority in the areas of maternal and child health and communicable diseases, and interventions are being enhanced particularly at the community level. In terms of maternal and child health, the country seeks to enhance the Expanded Programme on Immunization (EPI) and increase the number of Lady Health Workers (LHWs) to expand family planning and primary health care. The country also seeks to mobilize communities and improve networks of 3 types of personnel, i.e. LHWs, Lady Health Visitors (LHVs), and community midwives. That said, there has been no improvement in the proportion of women undergoing 4 or more visits as part of antenatal care or in the proportion of deliveries attended by health personnel. The vaccination coverage has gradually improved overall, but there are disparities between rural and urban areas and between financial status of families.

   Malaria control has emphasized prevention and early diagnosis and treatment, though the country also seeks to build systems for coordinated responses by the public and private sectors. However, little progress has been made in the utilization of insecticide-treated nets. The country's HIV/AIDS control seeks to enhance prevention by targeting key populations at higher risk[7] and their partners and children

[6] Regional classification used by the World Bank and UNICEF (Afghanistan, Bangladesh, Bhutan, India, the Maldives, Nepal, Pakistan and Sri Lanka)

[7] In line with a change from the long-used "high-risk groups" to a more accurate description, "key populations at higher risk" ("UNAIDS' Terminology Guidelines" available on http://www.unaids.org/en/media/unaids/contentassets/documents/unaidspublication/2011/JC2118_terminology-guidelines_en.pdf).

and increase treatment coverage for those infected, but very few health care facilities are able to perform testing or provide treatment.

Aspects of tuberculosis control such as the case detection rate, DOTS Strategy coverage and treatment success rate have improved. In future, issues such as coordination of the public and private sectors, cooperation with other sectors, and building of systems for monitoring and evaluation will be dealt with. Prime Minister's Program for Prevention and Control of Hepatitis was implemented but was abolished with decentralization. The country has made no notable efforts to combat noncommunicable diseases.

5. In Pakistan, 70% of health services are provided by the private sector; the government has been unable to ascertain conditions or provide oversight, and specific concerns about the quality of treatment have been noted. The country faces a crisis because of the shortage and uneven distribution of skilled health personnel in absolute numbers. The shortage of nurses is particularly serious. There are no departments or sections that oversee health personnel development at either the national or provincial level, and a clear long-term personnel development strategy for the country has yet to be formulated. Health data collected by facilities are entered by districts and compiled by provinces, but numerous issues remain, e.g. mixed use of the District Health Information System (DHIS) and the old system. Funds from donors account for about 15% of health care finances, and the individual burden is increasing as use of the private sector increases. Dependence on donors and the private sector is increasing. Securing government-specific financing is an issue that needs to be addressed to secure consistent financing for the public sector and increase that financing. In addition, coordination of the public and private sectors has been cited in budgeting and implementation systems and policies resulting from decentralization, though further information needs to be collected in future.

6. Donors to the health sector meet once a month. UN agencies coordinate by devising common programs. Support for maternal and child health and health system strengthening has increased. Japan's aim is for support to the health sector to help ensure human security and improve social infrastructure. Polio eradication and strengthening of health systems are also supported. Yen loans for polio eradication are provided in conjunction with the Bill & Melinda Gates Foundation.

7. Japan can enhance its support for improvement of basic health care services, and provide support for strengthening of health services delivery systems and health systems after decentralization. New avenues of support by capitalizing on its experience providing yen loans can be also explored.

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Country Report
Islamic Republic of Pakistan

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Chapter 1 Country Situation

The Islamic Republic of Pakistan (hereafter referred to as Pakistan) is located at the junction of the Middle East and Asia and is bordered by Afghanistan, China and India. Ninety percent or more of the population is Muslim, and 60% or more of the population resides in rural areas. The country's main industry is farming, so the country's economy is vulnerable in that it is greatly affected by the weather [1] [2].

The country experienced steady economic growth until 2007. In 2008, however, the economic growth rate declined considerably from 7% in the year prior to 1.2% as a result of high global oil prices and internal turmoil. In addition, heavy floods in 2010 had massive socioeconomic impacts such as inflation; efforts to spur economic recovery and reduce poverty have come to a standstill [3]. Major indicators for Pakistan are shown in Table 1-1.

Table 1-1 Major Demographic and Socio-economic Indicators

Indicator	Value	Unit	Year
Population	173.6	millions	2010
Population growth rate	1.8	%	2010
Life expectancy at birth	65.2	years	2010
Crude birth rate	27.3	per 1,000 population	2010
Crude death rate	7.5	per 1,000 population	2010
Gross National Income (GNI) per capita	1,050	US$	2010
Economic growth rate	5.2	%	2010
Primary school enrolment ratio (net)	74.1	%	2010
Human Development Index*	145	rank in 187 countries	2011
Population below income poverty line at 1.25 US$ a day (PPP)	3.49	%	2011

Source: World Development Indicators (Online) (World Data Bank) [4]
*Human Development Report 2011 (UNDP) [5]

The power of the President was vastly curtailed by the Eighteenth Amendment to the Constitution of Pakistan in 2010. The country transitioned to a parliamentary system. The federal Ministry of Health was also abolished and the role of providing health services was transferred to the provinces. Other functions have been spread to various Ministries/Divisions including Planning & Development Division, Cabinet Division, Inter-Provincial Coordination Division, Capital Administration & Development Division, Economic Affairs Division and Interior Division, etc.[8] [6].

Pakistan's administrative divisions consist of 4 provinces (Balochistan, Punjab, Sindh, and Khyber Pakhtunkhwa) and 4 federally administered areas (Federally Administered Tribal Areas (FATA), the Islamabad Capital Territory, Azad Kashmir, and Gilgit–Baltistan).

[8] That said, formerly federal programs were still implemented by the federal government until partway through the seventh budget (National Finance Commission Award) (2010-2011) [6].

Chapter 2 Development Policies and Plans

2.1 National Development Policies

2.1.1 Vision 2030

Vision 2030, a long-term development plan formulated in February 2006, predicts changes such as the continued ageing of society as a result of a demographic transition. The plan depicts a vision of what the nation and public want Pakistan to be in 2030, and the plan seeks to improve energy supply, use natural resources efficiently, enhance international competitiveness through enhanced intellectual prowess, encourage macroeconomic growth and foster social stability and better lives in order to realize that vision. To that end, the plan emphasizes education, justice, governance and management, institutions, finances and health. Specific issues in relation to the health sector are [7] [8]:

Major themes related to the health sector in Vision 2030

Health care and social welfare

1) Re-defining the role of the state in providing basic services
2) Managing the epidemiological transition from infectious to chronic diseases
3) Developing and financing the social protection systems

In order to achieve universal coverage as a definite way to ensure service provision to the vulnerable, the plan features many efforts in health care and specifically maternal and child health. For example, the plan seeks to improve the network of Lady Health Workers (LHWs) and community midwives, enhance perinatal care in hospitals, and improve expanded programme on immunization (EPI).

2.1.2 Poverty Reduction Strategy Paper II (PRSP-II)

Poverty Reduction Strategy Paper II (PRSP-II) drafted in 2008 (2008-09 – 2010-11[9]) has 9 pillars as described below, and the health sector is included under (6) Human Development for the 21st Century [9].

9 Pillars of Poverty Reduction Strategy Paper II (PRSP-II)

(1) Macroeconomic Stability and Real Sector Growth
(2) Protecting the Poor and the Vulnerable
(3) Increasing Productivity and Value Addition in Agriculture
(4) Integrated Energy Development Program
(5) Making Industry Internationally Competitive
(6) Human Development for the 21st Century
(7) Removing Infrastructure Bottlenecks through Public Private Partnerships
(8) Capital and Finance for Development
(9) Governance for a Just and Fair System

[9] Pakistan fiscal year; Pakistan's fiscal year is from July 1st-June 30th (of the following year).

Goals for the health sector in PRSP-II are as follows:

Objectives for the Health Sector in PRSP-II

(1) Save 350,000 additional lives of children
(2) Save additional 7,000 lives of mothers
(3) Eradicate polio
(4) Prevent 1.5 million children from becoming malnourished
(5) Provide family planning services to 2.5 million additional couples
(6) Avert 5 million new TB cases
(7) Immunize 12 million children against Hepatitis B
(8) Reach 40 million poorest people of Pakistan to ensure provision of essential package of service delivery

2.1.3 Framework for Economic Growth (FEG)

The 2011 Framework for Economic Growth features action plans in 9 sectors: (i) governance and institutional reforms, (ii) competitive markets, (iii) creative cities, (iv) connectivity, (v) energy, (vi) water, (vii) results-based management, (viii) health, nutrition and education and (ix) the environment and climate change [10]. The FEG also describes implementation plans for the target year of 2015-16. Goals for health, nutrition and population are as follows [11]:

Table 2-1 Implementation Plan of Framework for Growth Strategy: Outline of Health, Nutrition and Population Sector

Output/Outcome	Implementing Agency
Revamped and improved management of primary, secondary and tertiary healthcare to achieve the objective of "Health for all" by:	
・Strengthening primary healthcare to reduce infant mortality rate (IMR)	Ministry of Inter-Provincial Coordination, Provincial EPI Programme, provincial Health Depts.
・Improving maternal and child healthcare to reduce maternal mortality ratio (MMR)	Provincial Health Depts.
・Controlling communicable diseases to reduce disease burden	Provincial Malaria and TB Control Programs
・Developing capacity of health manpower	Provincial Health Depts.
Strengthened health, nutrition and population welfare service providing and regulatory institutions for improvement of quality care, governance and accountability	Provincial Health Depts. Drug Regulatory Authority
Improved family planning and reproductive health services to reduce total fertility and population growth rate	
Developed healthcare financing reforms	
・Social health protection for the poor	Federal Govt.
・Affordable health insurance ・Other financing options	Provincial Health Depts. Provincial Finance Depts.
Introduced food safety and security reforms	
・Improved availability of staple and energy foods ・Reduced gaps in food consumption and demand ・Improved nutrition status through healthy food consumption pattern ・Developed dietary guidelines particularly for vulnerable groups ・Developed minimum food basket providing sufficient energy and essential nutrients, Expanded food quality control system ・Modified food laws and regulations with robust implementation system ・Mass awareness campaign: implemented regulations and Breastfeeding Ordinance	Planning Commission, Provincial Depts. of Food, Agriculture and Health, Health Foundations/Private Sectors, Pakistan Standard and Quality Control Authority (Ministry of Science and Technology) , Nutrition Division (National Institute of Health) , Law Division

Source: Implementation Plan of Framework for Economic Growth, Results Based Management, Planning Commission, May 2012 [11]

2.1.4 Annual Development Plan (Annual Plan 2012-2013)

An annual plan has been formulated in accordance with the FEG. The plan describes increased economic growth through increased productivity and improved competitiveness and introduction of results-based management for public bodies. The development plan for the health sector is described in the following section.

2.2 Health Sector Development Plan

Formulation of the 2009 health policy[10] concluded without approval of a draft. In future, provinces will formulate their own health policies. In the annual development plan (2012-2013), priorities for the health sector are as follows:

Strategic Priorities in the Health Sector in Annual Plan 2012-13

- Strengthening of primary health care facilities particularly in improvement of mother and child health
- Communicable disease control and funding of the relevant vertical Program
- Mobilization of resources through international development partnership like WHO, World Bank, DFID
- Initiate social protection/social health insurance to assure provision of quality and affordable health care particularly to the vulnerable
- Health sector reforms (service structure, remuneration package)

Source: Annual Plan 2012-2013, Planning Commission, June 2012 [6]

Programmes and budgeting under the plan are shown in Table 2−2. Programmes dealing with primary health care and maternal and child health account for large proportions of the budget and have increased from the previous year.

Table 2-2 Budget Allocation for Heath Programs in Annual Plan 2012-2013

(Unit: Million Rupees)

Vertical programs	Allocation 2011/12	Allocation 2012/13
National Program for Family Planning and Primary health Care	8,000	11,000
Expanded Programme on Immunization (EPI)	2,716	2,793
Enhanced HIV/AIDS Control	247	247
National Tuberculosis Control Program	124	124
Roll Back Malaria Control Program	124	124
National Program for Prevention and control of Blindness	247	247
Prime Minister's Program for Prevention & Control of Hepatitis	600	684
National Maternal, Neonatal and Child Health Program	2,281	2,366
National Program for Prevention and Control of Avian Pandemic influenza	37	37
Total	14,375	17,622

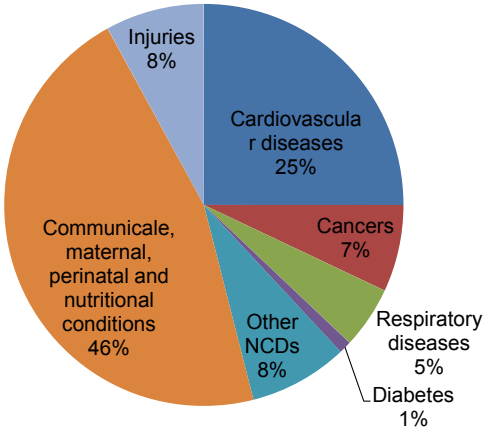
Source: Annual Plan 2012-2013, Planning Commission, June 2012 [6]

[10] "Health Policy 2010" was referred in the media [58], but details were unavaible for this study.

Chapter 3 Health Status of the People

3.1 Overview

In Pakistan, 46% of all deaths were caused by communicable, maternal, perinatal and nutritional conditions, while 46% were caused by noncommunicable diseases (NCDs) and 8% were caused by injury [12]. Communicable diseases such as malaria and tuberculosis and NCDs cause a substantial burden, and the pattern of disease is shifting (Figure 3-1) [13].



Source: WHO（2011）NCD Country Profiles [12]

Figure 3-1 Proportional Mortality (% of total death, all ages)

As shown in Table 3-1, there are limited prospects for attaining Millennium Development Goals (MDGs) related to the health sector.

Table 3-1 Progress Towards MDGs 4, 5, 6

MDGs	MDGs Indicators	1990	2000	2010	Targets in 2015	Progress
4	Under-5 mortality rate (/1,000 live births)	123.6	100.5	86.5	52	Stagnated
	Infant mortality rate (/1,000 live births)	95.6	79.5	69.7	40	Insufficient
	Proportion of under 1 year children immunized against measles (%)	50	59	86	>90	Insufficient
5	Maternal mortality ratio (/100,000 live births)	490	340	260	140	Stagnated
	Births attended by skilled birth attendant (%)	18.8	-	38.8	>90	Stagnated
6	Incidence/Death rate of tuberculosis (/100,000 population)	565/71	562/70	364/34	45/ -	Stagnated
	Proportion of population in malaria risk areas using effective malaria prevention and treatment measures*2	-	20*3	30*4	75	Insufficient

Note: *1. According to the National Tuberculosis Control Program incidence was 171 in 1990/91, 181 in 2001/02 and 181 in 2008/09. There are large difference between the government data and those of international agencies.
*2. Proportion of population in 19 malaria endemic districts using effective malaria prevention and treatment measures indicated in the guideline for Roll Back Malaria Strategy.
*3. 2001/02
*4. 2008/09

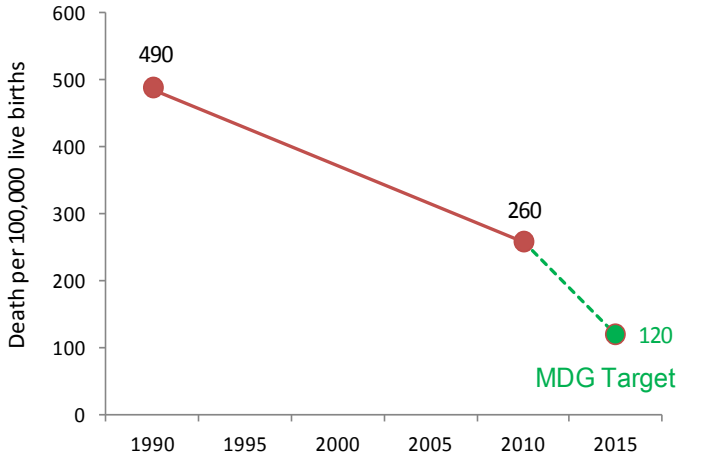
Sources: World Data Bank, Millennium Development Goals [14],
World Data Bank, Health Nutrition and Population Statistics [15]
United Nations, Millennium Development Goals Indicators [16]
Planning Commission, Pakistan Millennium Development Goals Report 2010 [17]

Poverty Reduction Strategy Paper II (PRSP-II) cited factors outside the health sector such as a low literacy rate, a high unemployment rate, gender inequality, the existence of a vulnerable population, poor hygiene, inconsistent food supply and urbanization. The country's health system has been rated as fundamentally inefficient [9].

3.2 Maternal and Child Health

3.2.1 Maternal and Child Health

The 2006 Pakistan Demographic and Health Survey (PDHS) indicated that the maternal mortality rate was 260 (per 100,000 live births), and this number has gradually decreased since 1990 (Figure 3-2).



Source: Countdown to 2015 , Maternal, Newborn & Child Survival, 2012 [18]

Figure 3-2 Trend in Maternal Mortality Ratio [11]

The maternal mortality ratio in 2010 was higher than that in Bangladesh, India or Nepal and is the highest in South Asia[12], second only to that of Afghanistan (Table 3-2).

Table 3-2 Maternal and Child Mortality: Comparison with Countries in South Asia

	Pakistan	Bangladesh	India	Nepal	Afghanistan
Maternal mortality ratio (/100,000 live births)	260	240	200	170	460
Infant mortality rate (/1,000 live births)	70	38	48	41	103
Under 5 mortality rate (/1,000 live births)	87	48	63	50	149

Source: World Data Bank, Millennium Development Goals [14]

According to the PDHS, roughly 20% of deaths of women resulted from pregnancy or delivery. About 70% of the deaths of pregnant women occurred during labor or the postpartum period. When combined with deaths due to postpartum hemorrhage or puerperal sepsis, the figure is roughly 40%.

3.2.2 Child Health

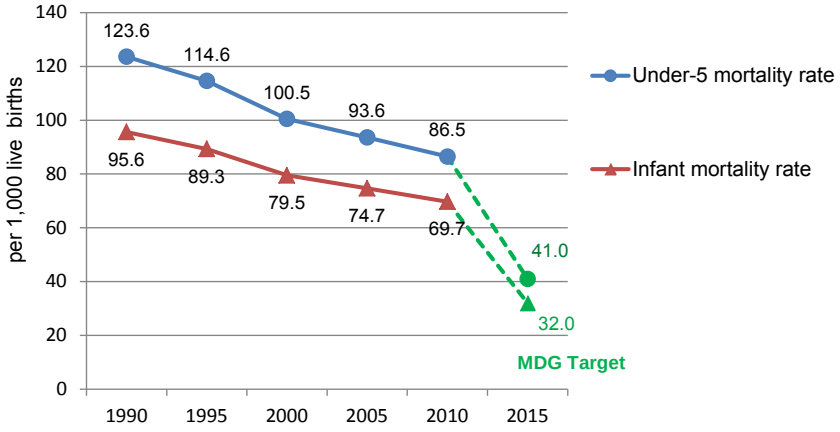
The under-5 mortality rate was 123.6 (per 1,000 live births) in 2000 and 86.5 in 2010, so it has gradually improved (Figure 3-3). The infant mortality rate went from 93.9 (per 1,000 live births) to 67, so improvement

[11] Figure 3-2 and MDGs targets in the figure are based on data from international agencies (adjusted values). The goal for the maternal mortality ratio is "reduce by three-quarters, between 1990 and 2015." With the figure from the Pakistani Government's Survey as a baseline, the MDG target is 140 (Source: Government of Pakistan, Planning Commission, Pakistan Millennium Development Goals Report 2010, 2010 [18]).

[12] According to regional classifications of the World Bank and UNICEF.

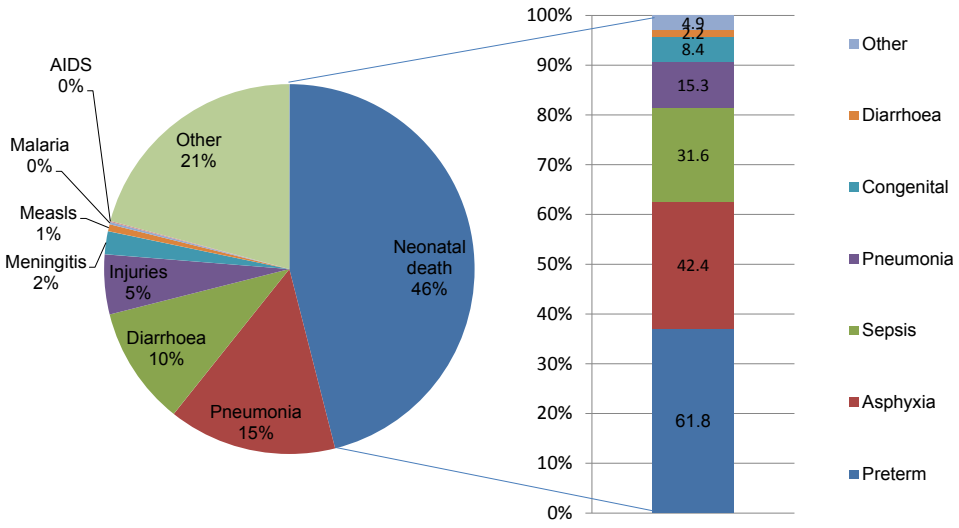
has been noted. Like the under-5 mortality rate, this is the second highest in South Asia (Table 3-2) and is above the average (67.0, 51.6) [19]. According to the 2006 PDHS childhood mortality rates for Punjab and Sindh provinces are higher than for the other two provinces[13] [20].

The major causes of deaths among children under-5 are neonatal death (45.8%), pneumonia (14.6%), diarrhea (10.3%), injury (5.2%) and meningitis (2.6%). According to the 2006 PDHS, deaths in the postnatal period are mostly due to diarrhea or pneumonia. Deaths during neonatal period are due to complications of premature birth (61.8%), conditions during labor (e.g. neonatal asphyxia) (42.4%), sepsis, meningitis or tetanus (31.6%), pneumonia (15.3%) and congenital abnormality (8.4%) (Figure 3-4).



Source: World Data Bank, Millennium Development Goals [14]

Figure 3-3 Trends in Child Mortality Rates (estimates) [14]



Source: Countdown to 2015, Maternal, Newborn & Child Survival, 2012 [18]

Figure 3-4 Cause of Deaths Among Under 5 Year Children (2010)

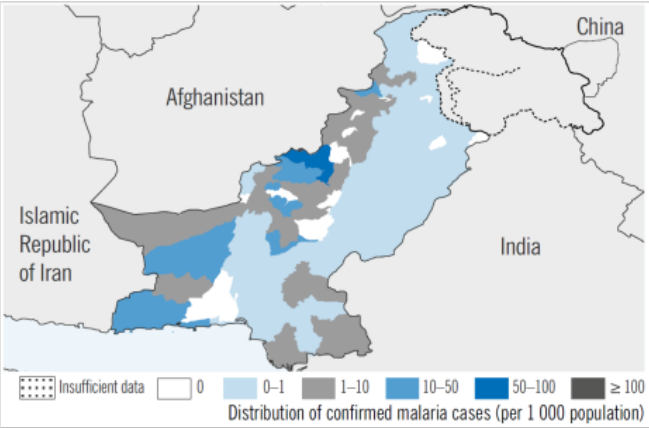
[13] (a) Under-5 mortality rates by provinces are 101 in Sindh, 97 in Punjab, 75 in Khyber Pakhtun Khwa and 59 in Balochistan.
(b) Infant mortality rates by provinces are 81 in Sindh and Punjab, 63 in Khyber Pakhtun Khwa and 49 in Balochistan

[14] Figure 3-3 and MDG targets in the figure are based on data from international agencies (adjusted values). The goal for the infant and under-5 mortality rate is "reduce to 1/3 of the baseline in 1990." With the figure from the Pakistani Government's Survey as a baseline, the MDG target is 40 and 52 (Source: Government of Pakistan, Planning Commission, Pakistan Millennium Development Goals Report 2010, 2010 [18]).

3.3 Communicable Diseases

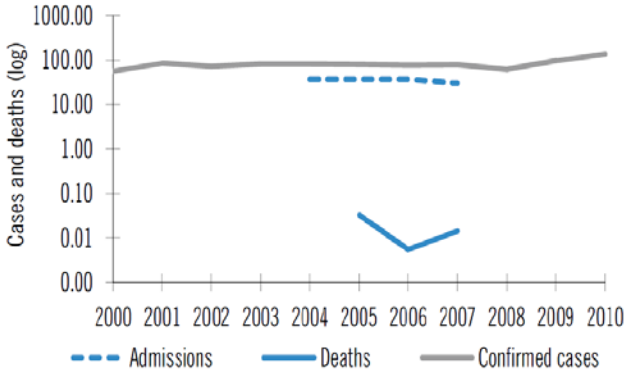
3.3.1 Malaria

In Pakistan malaria is endemic in almost the entire country. Floods and irrigation systems are one of factors for the spread of malaria. Fifteen percent of the population resides in malaria high transmission areas while 84% resides in areas with low prevalence (Figure 3-5) [21]. The most cases of malaria are Plasmodium falciparum malaria (28%) or Plasmodium vivax malaria [21]. More than 90% of disease burden in the country is shared by 56 highly endemic districts, mostly located in Balochistan , Federally Administered Tribal Areas (FATA), Sindh and Khyber Pakhtunkhwa [6]. The number of cases remains unchanged (Figure 3-6), and there were 4,242,032 reported cases in 2009 according to data from the World Bank [4].



Source: WHO, World Malaria Report 2011 [21]

Figure 3-5 Malaria Incidence by Districts (confirmed cases) (2009)



Source: WHO, World Malaria Report 2011 [21]

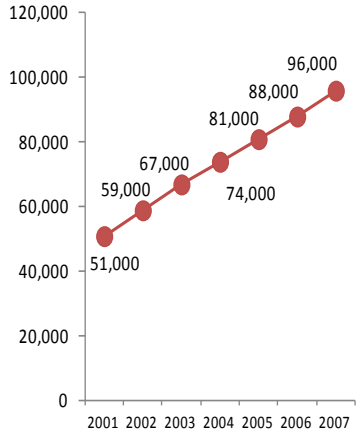
Figure 3-6 Trends in Malaria Caused Admission and Death (/100,000 population)

3.3.2 HIV/AIDS

In 2009, an estimated 98,000 were living with HIV (people with HIV, regardless of whether or not they have developed AIDS). The highest HIV prevalence is among injecting drug users. They had an exceedingly high prevalence of 27.2% in 2011, followed by hijra (eunuchs[15]) sex workers with a prevalence of 5.2% and men who have sex with men with a prevalence of 1.6%. In addition, infection has recently spread from large cities to small and medium-sized towns [22].

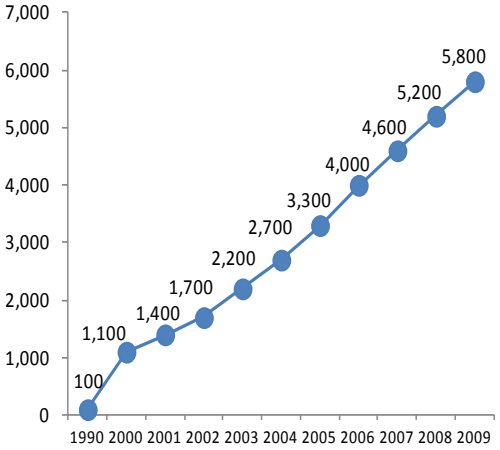
Estimated HIV prevalence among adults (ages 15-49) in 2010 was 1.0%. Since 2000, it has remained at about 1% [23]. In Pakistan, the number of people living with HIV and the number of deaths resulting from HIV have increased. Substantial improvement was not seen until 2009 (Figures 3-7 and 3-8).

[15] Not dressing in culturally or biologically defined clothing



Source: HIV and AIDS Data Hub for Asia-Pacific, Review in Slides, Pakistan, 2011 [24]

Figure 3-7 Trend in Number of People Living with HIV/AIDS

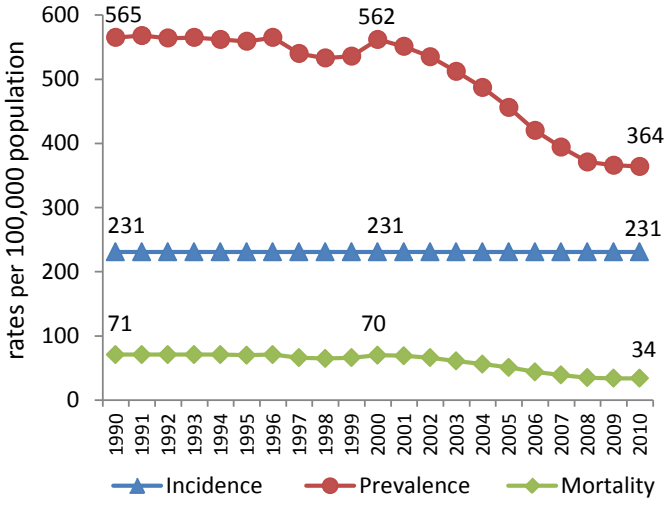


Source: World Data Bank, Health, Nutrition and Population Statistics [15]

Figure 3-8 Trend in Number of Deaths from AIDS

3.3.3 Tuberculosis

The prevalence and mortality rates for tuberculosis (TB) have decreased since 2000, but the incidence has remained at 231 (per 100,000 population). As of the end of 2011, Pakistan had the sixth highest TB burden worldwide (Figure 3-9, Table 3-3) [13] [25].



Source: United Nations, Millennium Development Goals Indicators [16]

Figure 3-9 Trends in TB Incidence, Prevalence and Death (1990-2000)

Table 3-3 Status of Tuberculosis (2010)

Indicator	Value
Incidence (per 100,000 population)	231.0
Death rate (per 100,000 population)	34.0
Prevalence (per 100,000 population)	346.0
Case detection rate (%)	65.0%
Treatment success rate (%)	91.0%

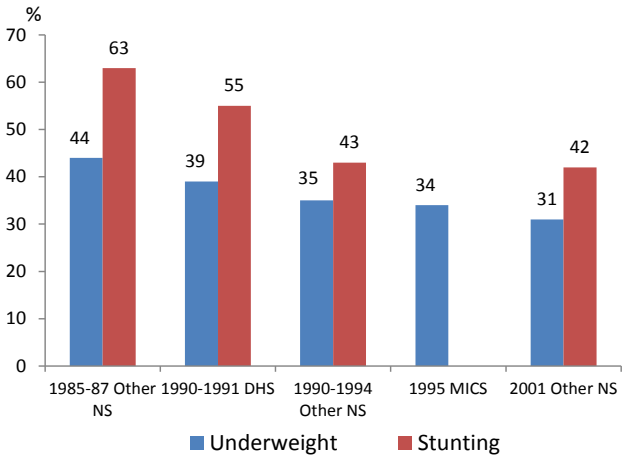
Source: United Nations, Millennium Development Goals Indicators [16]

3.3.4 Other Communicable Diseases

Along with Nigeria and Afghanistan, Pakistan is one of the world's 3 remaining polio-endemic countries. In 2010, 144 cases were reported and in 2011 198 cases were reported [26]. A report has indicated that 7.6% of the population as a whole is infected with hepatitis B or C [27].

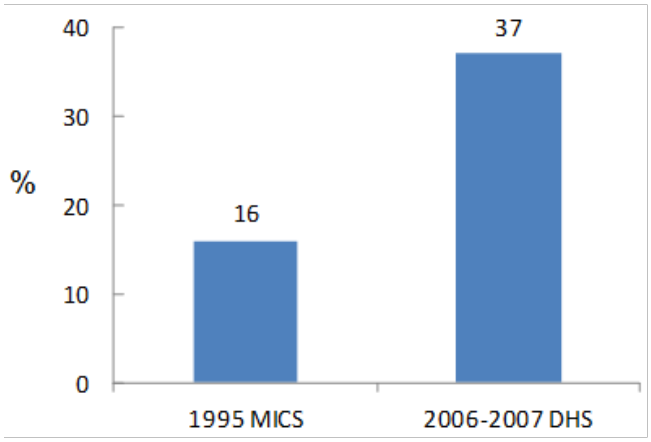
3.4 Nutrition

According to a study in 2001, 31% of children under 5 were underweight and 42% were stunting[16]. There has been little improvement since 1985 (Figure 3-10). According to the National Nutrition Survey 2001-02, 26% of pregnant women were malnourished, and this was a major cause of low-birthweight infants[17] [10]. In 1995, 16% of infants (under 6 months of age) were exclusively breastfed, and in 2006-2007 this figure had risen to 7% (Figure 3-11).



Source: UNICEF, ChildInfo Nutrition Country Profile Pakistan 2012 [28]

Figure 3-10 Trends in Nutritional Status of Children Under-five

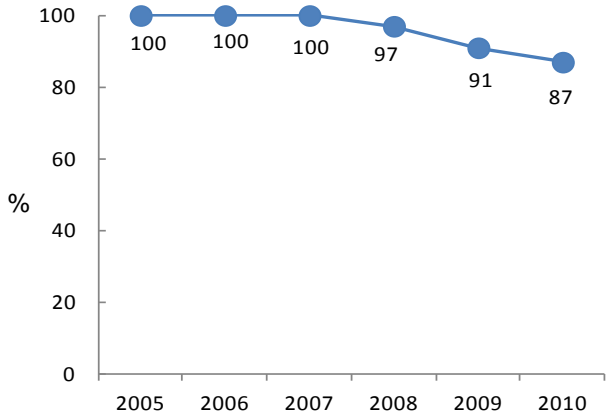


Source: UNICEF, ChildInfo Nutrition Country Profile Pakistan 2012 [28]

Figure 3-11 Percent of Infants Exclusively Breastfed (%)

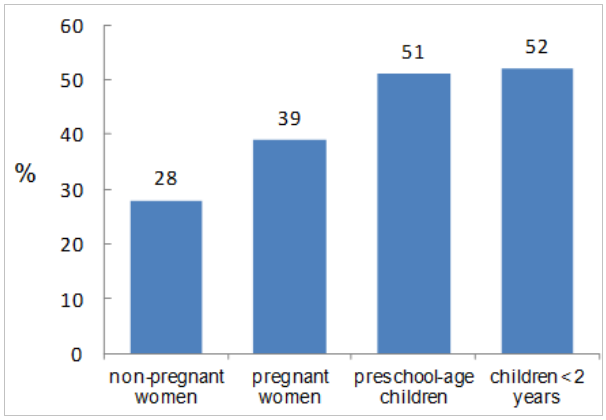
A 2010 survey found that 87% of children consumed vitamin A, though this figure has decreased in recent years (Figure 3-12). In addition, a large proportion of pregnant women, preschool-age children and children under 2 year old have anemia (specific figures are 39%, 51% and 52%, respectively) (Figure 3-13).

[16] Children are classified as stunted if scores of height-for-age are below minus two standard deviations (SD) from the median of the WHO Child Growth Standards.
[17] Less than 2,500 g.



Source: UNICEF, ChildInfo Nutrition Country Profile Pakistan 2012 [28]

Figure 3-12 Trend in Vitamin A Supplementation Among Children 6-59 Month Old



Source: UNICEF, ChildInfo Nutrition Country Profile Pakistan 2012 [28]

Figure 3-13 Prevalence of Anaemia Among Selected Populations (2001)

3.5 Noncommunicable Diseases (NCDs)

According to 2011 World Health Organization (WHO) estimates, 46% of the total deaths in Pakistan were the result of noncommunicalbe diseases (Figure 3-1). About 1/3 of the population who died from noncommunicalbe diseases were age 60 or over. By cause, more than half of deaths resulted from cardiovascular disease.

Chapter 4 Health Services

4.1 Maternal and Child Health Care

4.1.1 Policies and Strategies

Poverty Reduction Strategy Paper II (PRSP-II) designed attainment of MDGs with regard to maternal and child health and family planning as the highest priority. The Paper also sought to definitively provide essential service packages in conjunction with Lady Health Worker (LHW) program for Expanded Programme on Immunization (EPI), family planning and primary health care (PHC), Maternal, Newborn and Child Health (MNCH) program, and Nutritional Program.

National Maternal and Child Health Program 2006-2012 sought to improve the state of maternal and child health by providing emergency obstetric and neonatal care at district level and utilizing community midwives in rural areas. The status as of 2010 is shown in Table 4-1.

Table 4-1 Progress in National Program for Maternal, Newborn and Child Health (2006-2010)

Indicator	Target	Achievement	Progress level
Strengthening of health facilities	899	279	42%
Training of health service providers	15,000	4,500	30%
Training of community midwives	12,000	6,263	52%
Employment of midwifery instructors	600	250	42%
Construction/Renovation of midwifery schools	114	98	86%
Establishment of district management units	134	78	58%
Post-graduate training of doctors	150	30	20%
Post-graduate training of nurses	150	30	20%

Source: National Programme for Maternal, Newborn and Child Health (2006-2012) [29]

In addition, objectives of the Annual Plan for 2012-13 are as follows:

- Improvement of MNCH services for the poor:

Training of 10,000 community midwives, provision of comprehensive emergency obstetric and neonatal care at 275 hospitals or health centers, and provision of basic emergency obstetric and neonatal care at 550 healthcare facilities.

- Family planning and primary health care:

Recruitment of 110,000 LHWs and provision of services to 60% of the total population and 76% of the target population.

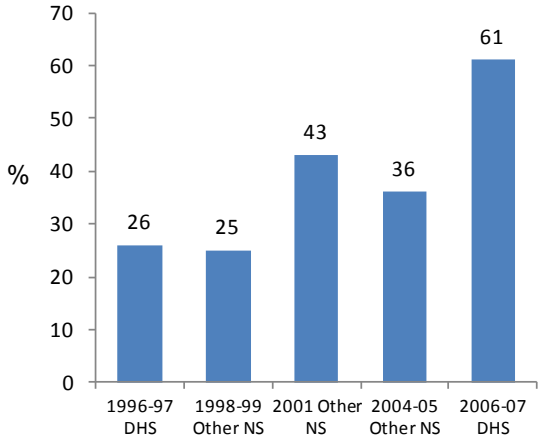
- Expanded Programme on Immunization (EPI):

Vaccination of 8.5 million children under 1 year old with 7 vaccines and distribution of oral rehydration salts to 25 million.

4.1.2 Maternal Health Care

In 2007, 60.9% of women attended antenatal care at least once while 28.4% attended at least four times (Figure 4-1), and a proportion of births attended by a skilled birth attendant was 38.8% of total births (Figure 4-2). These figures are lower than the averages for South Asia (70.6% for antenatal care at least once, 46.1%

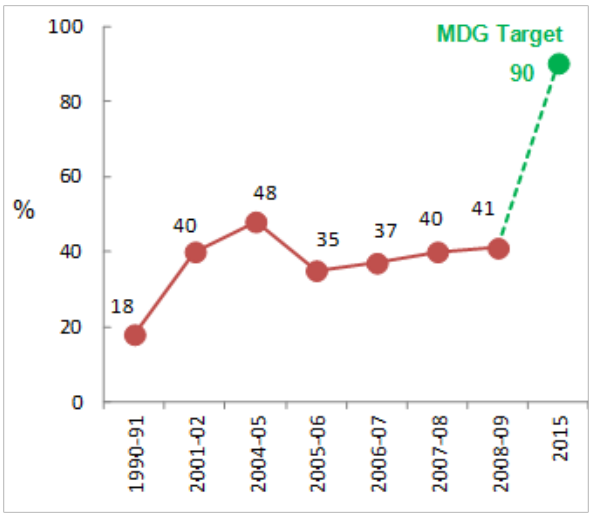
for antenatal care at least 4 times, and 50.0% for births attended by a skilled birth attendant). The proportion of deliveries assisted by medically trained personnel (doctors, nurses, or midwives) was only 39% according to federal Ministry of Health statistics, and the person most often in attendance was a traditional birth attendant (TBA) (52%, Figure 4-3).



Source: Countdown to 2015 , Maternal, Newborn & Child Survival, 2012 [18]

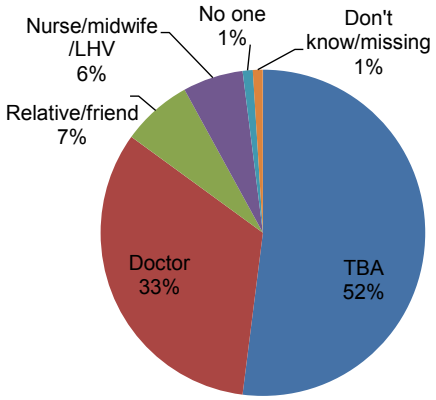
Figure 4-1 Trend in Antenatal Care Coverage (% of women aged 15-49 years attended antenatal care at least once)

Comparing antenatal care (comprises at least 4 visits) coverage between rural and urban areas and differences in economic status indicated that the poor in urban areas had the lowest rate of receiving antenatal care (less than 20%) [30]. Antenatal care consisted of sphygmomanometry for roughly 80% of women and ultrasound for about 60%, but fewer than half underwent blood tests, urinalysis, or measurement of weight. Of women attended antenatal care, 25% received information on potential risks during pregnancy [20].



Source: Government of Pakistan, Pakistan, Millennium Development Goals Report 2010 [31]

Figure 4-2 Trend in Births Attended by Skilled Birth Attendant (SBA) (%)



Source: Pakistan Demographic and Health Survey 2006-2007 [20]

Figure 4-3 Person Providing Assistance During Delivery (%)

The context for this lack of service utilization presumably includes physical distance, financial status, traditional values etc. A 2006 Pakistan Demographic and Health Survey (PDHS) found that 42% of women

were 5 km or further from their nearest Basic Health Unit (BHUs) and 57% were 10 km or further from their nearest maternal and child health center [20]. Potential reasons why few women are able to receive services include inability to come up with travel expenses and family opposition to their extended travel.

According to PDHS 2006, utilization of services for pregnant women was low in Balochistan province (Table 4-2).

Table 4-2 Utilization of Services for Pregnant Women by Provinces

	Balochistan province	Khyber Pakhtunkhwa province	Sindh province	Punjab province
Antenatal care by skilled birth attendant (%)	40.7	51.3	70.4	60.9
Delivery at home (%)	81.0	69.5	57.3	65.5
Births attended by skilled births attendant (%)	23.0	37.9	44.4	37.7

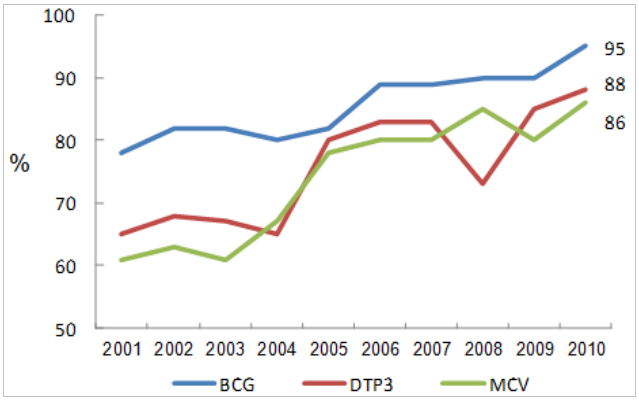
Source: Pakistan Demographic and Health Survey 2006-2007 [20]

4.1.3 Family Planning

According to the 2006 PDHS, knowledge of contraception has spread overall, but only 21% of respondents used modern methods of contraception. They have the knowledge but have not put it into practice. In addition, total fertility rate decreased from 5.4 (1985-1990) to 4.1 (2004-2006), but there are disparities because of the education attainment and the family's economic status. The survey found that 34% of children were born within 24 months of a preceding birth, so a short birth interval was noted. In addition, the under-5 mortality rate for children born within 24 months of a preceding birth was 122 (per 1,000 live births), which is substantially higher than the rate of 69 for children born 2-3 years after a preceding birth [20].

4.1.4 Child Health Care

In Pakistan, the EPI currently vaccinates against BCG, diptheria, pertussis, tetanus, Haemophilus influenzae type b (Hib), hepatitis B, polio and measles. The immunization rate has gradually improved (Figure 4-4, Table 4-3).



Source: UNICEF, Childinfo [19]

Figure 4-4 Trends in Child Immunization Coverage

Table 4-3 Child Immunization Coverage (2010)

	BCG	DPT1	DPT3	Pol3	MCV	HepB3	Hib3
Coverage (%)	95	90	88	88	86	88	88

Source: UNICEF 2012, The State of the World's Children 2012: Children in an Urban World [32]

Comparing the rate of measles immunization between rural areas and urban areas and differences in economic status indicated that rural and urban poor had a lower rate of roughly 60%, while the urban wealthy had a high rate of close to 90% [30].

Immunization coverage varies substantially across provinces. The proportion of fully immunized children under 1 year old[18] is 32.5% in Balochistan province, the lowest coverage among provinces; 37.0% in Sindh province; 46.9% in Khyber Pakhtunkhwa province; and with the highest coverage (52.6%) is Punjab province [20].

4.2 Communicable Disease Control

4.2.1 Malaria control

(1) Policies and Strategies

The Directorate of Malaria Control under the Ministry of Inter-Provincial Coordination has coordinated malaria control at the federal level in relation to the National Strategy for Roll Back Malaria. An overview of the strategy is provided below [33].

National Strategy for Roll Back Malaria

- Early Diagnosis and prompt treatment at general health facilities and community based approaches towards home treatment
- Multiple prevention measures including promotion of insecticide treated bed nets (ITNs) & materials, targeted use of residual insecticide spraying, and introduction of biological and environmental vector management approaches.
- Intensive and comprehensive public education activities with appropriate information, education and communication (IEC) material to enhance pubic knowledge of malaria, treatments and prevention.
- Improved detection and response to epidemics and malaria emergency situations.
- Developing viable public and private partnerships in the country to combat malaria.

Source: Malaria Control Program in Pakistan, Directorate of Malaria Control, Ministry of Inter-Provincial Coordination [33]

With the support of the Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund)[19], efforts are being made to strengthen monitoring and evaluation capacity by expanding prevention measures and building information systems in 19 districts where malaria is highly endemic and which are the areas of focus pursuant to the strategy. .

(2) Prevention and Diagnosis

Indicators related to malaria control are summarised in Table 4-4. The aforementioned strategy seeks to increase the utilisation of insecticide-treated nets (ITNs), though it has made little headway.

[18] The proportion of children of 12-23 month old, who received vaccination of BCG, measles, DPT and polio before the PDHS study.
[19] Round 7

Table 4-4 Indicators for Malaria Control Program

Indicator	2006-07 PDHS
Percentage of households with at least one ITN	0.1%
Percentage of children under 5 years of age who slept under an ever-treated net* the night before the survey	0.2%
Percentage of women who slept under an ever-treated net* the night before the survey	0.2%
Percentage of children under age 5 with fever in the 2 weeks preceding the survey who took antimalarial drugs on the same or next day after onset of the illness	2.6%

Note: *ITN is a net that has been soaked with insecticide within the past 12 months.

Source: Pakistan Demographic and Health Survey 2006-2007 [20]

In 2008, there were 104,454 confirmed cases of malaria at public health facilities nationwide. Of these, 76% involved *Plasmodium vivax* malaria while 24% involved *Plasmodium falciparum* malaria. However, the actual malaria burden is presumed to be about 5 times higher since 70-80% of those infected were estimated to be treated in the private sector. [33].

4.2.2 HIV/AIDS Control

(1) Implementation Structure and Strategies

National AIDS Control Program under the Ministry of Inter-Provincial Coordination allocates budgets and coordinates relevant bodies and provinces for the program implementation. The program targets key populations at higher risk, particularly injecting drug users (IDUs). Prevention and care for IDUs and their partners and children, and community and home-based care (CHBC) have been emphasized. With the support of the Global Fund[20], main objectives of the control program are as follows:

Core indicators for HIV/AIDS Control Programme

1) Reduce sexual transmission of HIV by 50 % by 2015
2) Reduce transmission of HIV among people who inject drugs by 50 % by 2015
3) Eliminate mother-to-child transmission of HIV by 2015 and substantially reduce AIDS related maternal death
4) Have 15 million people living with HIV on anti-retroviral therapy (ART) by 2011
5) Reduce tuberculosis deaths in people living with HIV by 50 per cent by 2011

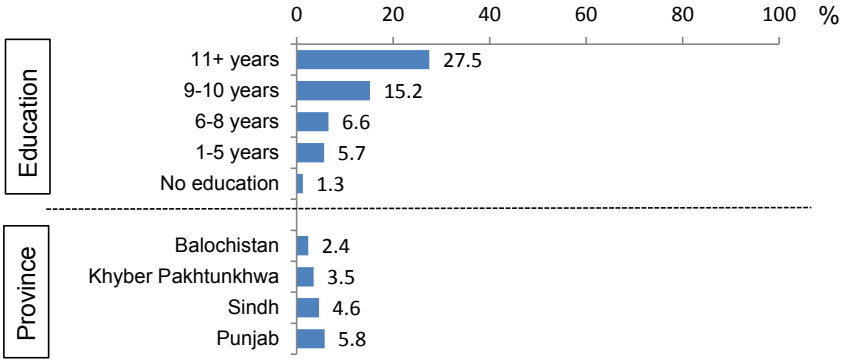
Source: National AIDS Control Program, Ministry of Inter-Provincial Coordination, Government of Pakistan, Country Progress Report, Pakistan, Global AIDS Response Progress Report 2012 [22]

The second National HIV and AIDS Strategic Framework (NSF) completed its 5-year time frame in 2011, and the third National Strategic Framework is being developed[21]. Due to devolution[22], each province is developing its own AIDS strategy tailored to its specific context. The third National Strategic Framework will include a consolidation of the four provincial strategies.

[20] Round 9
[21] As of March 2012 (at the time that reference source "Country Progress Report, Pakistan, Global AIDS Response Progress Report 2012" was prepared)
[22] See Chapter 5 for more detail information.

(2) Progress of the Program

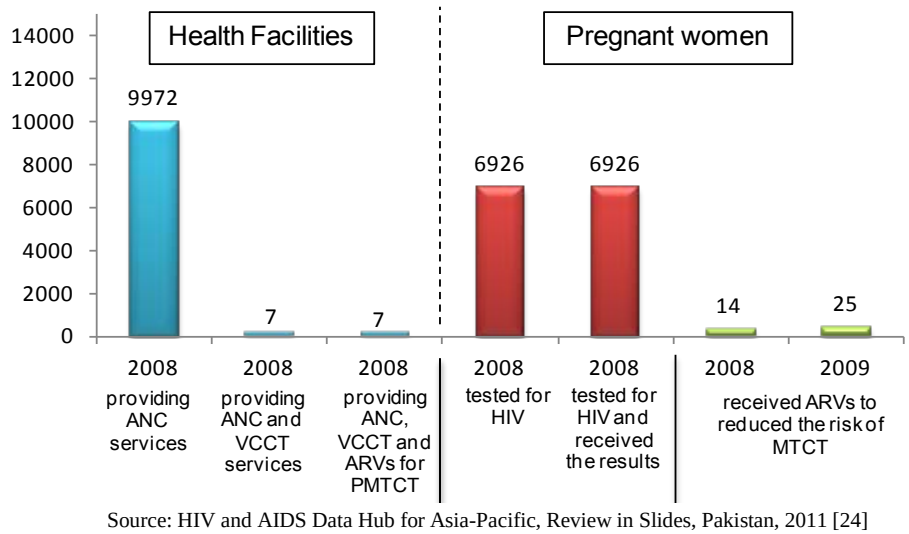
As shown in Figure 4-5, overall, only 5% of women are classified as having comprehensive knowledge about HIV/AIDS. There are differences between provinces and education attainment. This should be a matter of great concern because it implies that there is urgent need for an efficient strategy to increase accurate and comprehensive knowledge of HIV/AIDS, particularly for the women less educated and no education.



Source: Pakistan Demographic and Health Survey 2006-2007 [20]

Figure 4-5 Percentage of Women Age 15-49 with a Comprehensive Knowledge about AIDS by Education and Provinces

Of the 98,000 people estimated (2009) to be living with HIV, only 5,256 had registered at an ART Center as of the end of 2011. Of these, 2,491 received treatment. The numbers of registered cases and patients receiving treatment have increased. On average, 40 to 45 people initiate treatment each year [22]. As shown in Figure 4-6, in 2008 only a few of the facilities providing antenatal care also provided voluntary confidential counseling and testing (VCCT) for pregnant women or antiretroviral drugs for preventing mother-to-child transmission (PMTCT) of HIV.

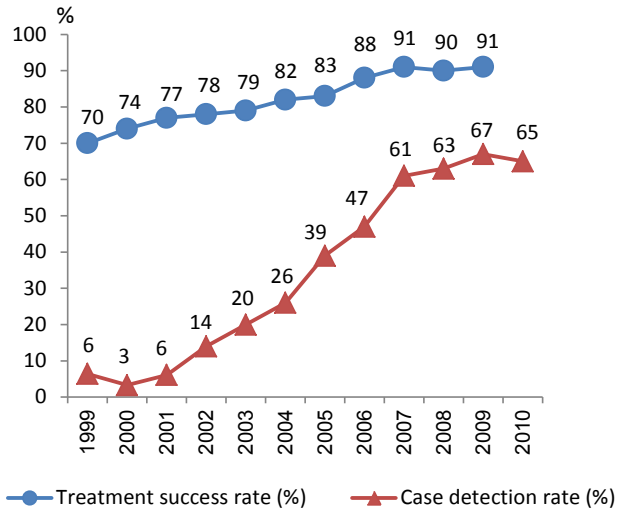


Source: HIV and AIDS Data Hub for Asia-Pacific, Review in Slides, Pakistan, 2011 [24]

Figure 4-6 Status of Health Facilities Providing ANC, VCCT and PMTCT Services and their Uptakes

4.2.3 Tuberculosis Control

Tuberculosis (TB) control is overseen by the National Tuberculosis Control Program[23]. The DOTS (Directly Observed Therapy Short-course) Strategy was adopted in 1995. The Program has already achieved 100% DOTS coverage. As shown in Figure 4-7, a treatment success rate of 70% was achieved in 1999 and a rate of 91% was achieved in 2009 [6].



Source: United Nations, Millennium Development Goals Indicators [16]

Figure 4-7 Trends in Case Detection Rate and Treatment Success Rate under DOTS Strategy

The Program seeks to keep the rate of diagnosis at 70%, the global target. Future efforts will include management of suspected cases, quality bacteriology services, engaging all care providers through public private partnership and inter-sectoral collaboration, monitoring and supervision, research for evidence-based planning and advocacy communication and social mobilization (ACSM).

4.2.4 Control of Other communicable Diseases

Prime Minister's Program for Prevention and Control of Hepatitis (2010-15) aimed at 50% reduction in new cases of hepatitis B and C by 2015 through advocacy and behavior change communication (BCC), hepatitis B vaccination of key populations at higher risk, establishment of screening, diagnosis and treatment facilities in 150 teaching and district headquarter hospitals, safe blood transfusion and prevention of hepatitis A and E. However, the Program has been abolished due to devolution [6].

4.3 Noncommunicable Disease Control

According to the WHO, specific funding for the prevention and treatment of noncommunicable diseases (NCDs) has not been allocated and surveillance on NCD morbidity and risk factors has not been performed. As regards cancer treatment, 13 hospitals run by the Peace Atomic Energy Commission (PAEC) are already providing diagnosis and treatment facilities to cancer patients, 9 new cancer hospitals are in the process of construction. Breast cancer care clinic is have been established at all the nuclear medical centers [6].

[23] Like the National AIDS Control Program, this was transferred to the Ministry of Inter-Provincial Coordination.

Chapter 5 Health System

5.1 Governance

5.1.1 Decentralization

Since the decentralization policy was introduced in 2001, health administration has primarily fallen to local governments in the provinces and districts[24]. In pursuance to 18th Amendment to the Constitution, health sector has been devolved to the provinces with absolute administrative and financial autonomy. The residual functions indicated below have been spread to various Ministries/Divisions including Planning & Development Division, Cabinet Division, Inter-Provincial Coordination Division, Capital Administration & Development Division, Economic Affairs Division and Interior Division. The Ministry of Inter-Provincial Coordination now coordinates with these ministries and divisions and provincial governments. Although vertical Programs in health sector have also been devolved to the provinces, funding for these vertical Programs shall be provisionally catered by Federal Government [25][6] [22].

The health functions retained at the federal level

- National planning
- Coordination (with provinces and international development partners)
- Funding of vertical programs in health sector
- Regulation of pharmaceutical sector
- International health regulations
- Dealing with international agreements and memorandum of understandings
- Training abroad

In the Islamabad Capital Territory, the Capital Development Authority (CDA) under the Cabinet oversees municipal hospitals, 6 basic health units (BHU) and 6 clinics.

5.1.2 Health Service Delivery System

An overview of facilities providing health services is shown in Table 5-1, and the number of facilities and beds are shown in Table 5-2. Simply dividing the total number of beds by the population results in a figure of 6 beds per 10,000 population. There are also many private and NGO-run facilities. In Pakistan, 70% of health services are been provided by the private sector[26] [34]. The government cannot ascertain conditions or provide governance, and concerns about the quality of treatment have been noted [9].

[24] The federal Ministry of Health was in charge of policy development, while provincial health departments were responsible for its implementation. In principle, the federal government had no power against provincial governments to direct or compel. Implementation of several national vertical programs such as National HIV/AIDS Control Program, National Malaria Control Program, and EPI were the responsibility of federal Ministry of Health.

[25] Other information has indicated that this will continue until the end of the 2014-15 budget [22].

[26] As cited in the Pakistan National Health Accounts Report 2005-06, the Pakistan Social and Living Standards Measurement 2006 found that 77% of the health care facilities used were in the private sector.

Table 5-1 Outline of Health Facility Network in Public Sector

Medical level	Administrative level	Health facilities	Health personnel	Population (,000)
Tertiary	Federal Government	Teaching hospitals Tertiary care hospitals	Specialists, doctors, nurses, paramedical staff	nationwide
	Provincial health department			
Secondary	District	District hospitals		100-300
	Tehsil	Tehsil hospitals Rural Health Centers (RHCs)		
Primary health care	Union council	RHCs Basic Health Units (BHUs) Maternal and Child (MCH) welfare centers	Medical Officer (MO), Lady MO, dentist, paramedical staff	25-50
	Community	(Home visit / outreach / community-based services)	MO, paramedical staff	5-10

Source: Dr. M. Rashid Anjum, Community Medicine Department, Army Medical College Rawalpindi, Healthcare System in Pakistan, 2011 [35]

Table 5-2 Type and the Numbers of Health Facilities and Beds in Public Sector

year	Hospital		Dispensary		Rural health centre		TB clinic		BHUs/Sub-health centre		MCH centre	
	No. of facility	No. of bed	No. of facility	No. of bed	No. of facility	No. of bed	No. of facility	No. of bed	No. of facility	No. of bed	No. of facility	No. of bed
2002	906	80,655	4,590	2,815	550	8,840	285	212	5,308	5,488	862	254
2011	980	87,905	5,039	2,807	579	9,900	345	112	5,449	6,559	851	254

Source: Pakistan Statistical Yearbook 2011, Pakistan Bureau of Statistics [36]

5.2 Human Resources for Health

5.2.1 Current Situation

Pakistan is one of 57 countries facing a crisis in human resource for health (HRH) according to a 2006 report by the WHO. According to the WHO's database, there are few health personnel per 10,000 population and only 0.5 nurses (0.7 when including midwives) per doctor. The shortage of nurses is serious (Table 5-1). Training of doctors has garnered attention. Since nursing is seen as women's work in lower status and working conditions are poor there are few current nurses. Pharmacists and medical technicians are also in short supply. No department or section at either the national or provincial level is responsible for human resource development, and there is no clear long-term goal or policy on HRH [37]. Lady Health Workers (LHWs) work at the community level, and about 95,000 LHWs cover 90% of the rural population[27]. The plan is to assign 1 community midwife or LHW per 35,000 population in order to provide quality midwifery care at the community level [38].

There are many practitioners of traditional medicine, like homeopaths and Unani practitioners, and other unqualified service providers, but information on them is sparse and fragmented.

Numbers and density of major HRH are shown in Table 5-3.

[27] The LHW program in the 1990s improved rural health services and represent a success. The plan was to increase their number to 120,000, but the future is unclear due to the abolition of the federal Ministry of Health.

Table 5-3 Numbers and Densities of Major Human Resources for Health

Year		Doctor	Nurse	Midwife	Dentist	Paramedic	Lady Health Visitor (LHV)
2011 [1]	Total number	152,188	77,683	30,122	11,584	---	12,621
	Density (per100,000 population)	8.59	4.39	1.70	0.65	---	0.71
2009 [2]	Density (per 100,000 population)	8.13	5.57		0.57	---	0.59
2004 [2]	Density (per 100,000 population)	---	---		---	0.60	--

Sources: 1. Pakistan Statistical Yearbook 2011, Pakistan Bureau of Statistics [36]
2. Global Health Observatory Data Repository, WHO [39]

Table 5-4 Numbers of Major Human Resources for Health in Public Sector by Provinces [*28]

Province	Doctor	Dentist	Nurse	Midwife	LHV	LHW	Medical technologist*[2]	Administrative staff
Punjab	8,848	459	4,282	4,113	2,704	39,694	19,923	1,364
Sindh	4,113	224	3,226	465	400	8,727	8,399	346
Khyber Pakhtunkhwa	2,651	262	874	924	8,921	923	6,438	485
Balochistan	1,330	47	154	1,283	544	5,445	2,436	132
FATA	597	23	94	647	280	762	3,537	0
Azad Kashmir/ Gilgit–Baltistan	406	90	131	345	204	2,344	1,758	94
Total	17,945	1,105	8,761	7,777	13,053	57,895	42,491	2,421

Note: 1. Data are believed from year 2004 although it is not clearly stated in the source document.
2. Radiologist, laboratory technician/assistant and other medical technologist (male only)
Source: Draft Report, Human Resources for Health in Public Sector in Pakistan, National HMIS Program, Ministry of Health [40]

The WHO cited the following issues regarding health personnel in Pakistan:

- Uneven distribution of health personnel (urban areas and rural areas)
- Weak health personnel management system
- Shortage of health personnel (particularly in rural areas)
- Brain drain of skilled personnel
- Unregulated private sector (primarily in urban areas)
- Limited quality control and standardization of care
- Health personnel are not included in health information systems
- Lack of mechanisms to coordinate health-related personnel

5.2.2 Human Resource Training Institutes

There are numerous postgraduate educational institutions, medical colleges and nursing schools in different provinces. Although the data in Table 5-5 are rather dated (2003-2004), the number of training institutions is indicated. About 5,000 students graduate from medical school each year. In addition, LHWs and Lady Health Visitors (LHVs) are trained by training facilities in the provinces and districts.

Table 5-5 Number of Human Resource Training Institutes for Health (2004)

Type of institute	Number *
Medical schools	100（54）
Schools of dentistry	7（5）
Nursing schools	84
Midwifery schools	92
Schools of public health	22
Homeopathic colleges	127

Note: * Figures in parenthesis are private schools.
Source: WHO Health System Profile: Pakistan, 2007 [41]

[28] Another source (National Health Accounts 2006) tallies public health personnel outside the federal Ministry of Health at 400,000. All of the figures in the table may not coincide. Even if 200,000 office workers were added, the total would still fall short of 400,000.

5.3 Health Management Information System

As a result of decentralization in 2001, the authority to provision of public services like health and education was transferred to districts. Accordingly, management of health information and utilization of the health information at district level became crucial. Its importance has increased further with the abolition of the federal Ministry of Health in 2011.

National Action Plan was formulated to develop, introduce and utilize the District Health Information System (DHIS)[29], though as of 2008 utilization of the District Health Information System (DHIS) had not increased as expected. The old Health Management Information System (HMIS) and DHIS are both used, and provinces operate both systems. Since 2009, JICA has provided technical assistance to improve health services management based on system improvement and data utilization and to expand that management nationwide[30]. The National Health Information Resource Centre (NHIRC), which is the body responsible for implementing the DHIS, was established under the federal Ministry of Health in 2004 as the headquarters for the health information system (HIS) [42].

Handwritten health information collected in the community by LHWs and information from primary care facilities is sent to the district. Data from information at the district level and information at the primary care level are entered in computers and made available to the province on CD or on the Web. In Punjab Province, the DHIS/HMIS Section is the department responsible for this work. Information in the HMIS is limited to that from primary care facilities. DHIS is a support system that is crucial to the strengthening of district administrative capacity. Increased utilization of the DHIS is supported by UNICEF, UNFPA, USAID and the World Bank in the areas they support[31] [42].

In addition, the information system built to be the Disease Early Warning System (DEWS) is in operation, as are health information systems for disease control programs and Expanded Programme on Immunization (EPI). Human resource management information systems are needed.

5.4 Medical Equipment and Devices

In general, provincial workshops for maintenance of medical equipment and devices are established at provincial level. Public health facilities normally receive services at the workshop for free. Maintenance contracts for expensive medical equipment and devices that include replacement parts and consumables are dealt with during procurement [43].

5.5 Drug Procurement and Supply

The National Drug Policy was revised in 2003. In 2007, National Essential Medicines List (4th revision) of 355 drugs was announced. The health sector in general and public health sector in particular is expected to seriously consider adopting this list. However, the limited availability of essential drugs is a problem for

[29] Support by a JICA Development Study, “Study to Plan and Improve Health Management Information Systems” (2004-2007).
[30] JICA technical assistance, per the Project for Provincial Health Information Systems to Facilitate Informed Decision-making and Management, was provided prior to July 2012.
[31] Current situation on how much the DHIS is functioning nationally was not available from the literature survey.

public health service providers. A study in 2006 found that the median availability of 29 essential drugs was 3.3%, and the availability of brand-name drugs was 0% in public health facilities. In contrast, availability of essential drugs in the private sector was 31.3% and availability of brand-name drugs was 54.2% [44]. There are drug shortages and inconsistent supply in the public sector, on the other hand, expenditures on medicines account for 47% of total health expenditures in Pakistan (2007) and many of these expenditures are in the private sector [45]. Many brand-name drugs that are more expensive than generic drug are sold at pharmacies [46].

The public sector procurement consists of local procurement by provinces (about 75%) and by districts. About 75% of the latter is bulk purchase, while the remainder is locally purchased as necessary. The public sector tender bids are publicly available and procurement is based on prequalification of suppliers. The Medical Store Depots (MSDs) in provinces call quotations from a list of prequalified companies. In Pakistan, the government supply system has not a central medical store at national level, but there are stores at district level, from where drugs are supplied to health facilities [45].

In 2011, the Central Warehouse & Supplies (CW&S) in Karachi was renovated with support from USAID. A logistics management information system (LMIS) to manage contraceptives was also introduced at each administrative level. Data are entered in the system on the web and can be sent the same way, so information of commodity stocks and supplies is available in real time. The LMIS/Procurement Cell was established in the Population and Social Planning Section of the Planning and Development Division. The system can also be applied for other health products [47].

5.6 Health Financing

According to data from the World Bank, total health expenditures in Pakistan were US$ 58.73 (purchasing power parity) per capita. Total health expenditures accounted for 2.2% of GDP (2010) and public health expenditures accounted for 0.9% of GDP (2009); these figures are much lower than those in neighboring countries. Public health expenditures accounted for 38.5% of total health expenditures and 3.6% of government expenditures. It is pointed out that the public health sector is short of funds [37] [41].

Table 5-6 Health Expenditures: Comparison with Neighbouring Countries

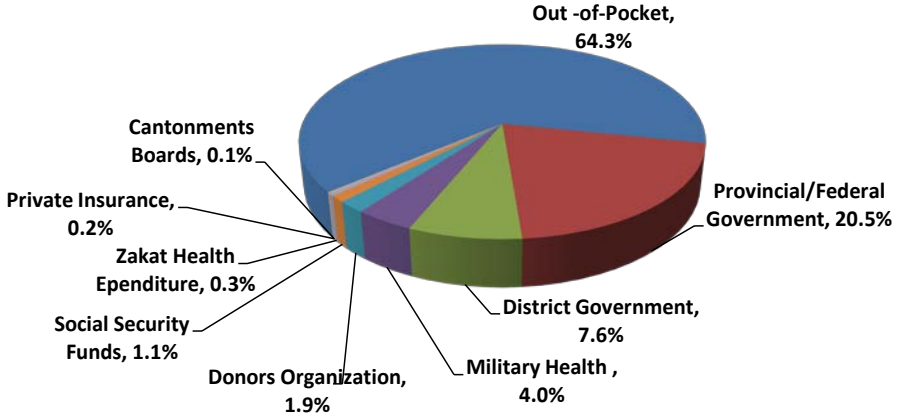
	Pakistan	Afghanistan	Bangladesh	India	Nepal	Sri Lanka
Total health expenditure, per capita (PPP US$)	58.7	44.5	57.3	132.2	66.3	148.4
Total health expenditure (% of GDP)	2.2	7.6	3.5	4.1	5.5	2.9
Public health expenditure (% of GDP)*	0.9	1.6	1.1	1.4	2.1	1.8
Out-of-pocket health expenditure (% of total health expenditure)	50.5	83.0	64.1	61.2	48.3	44.9

Note: Data are for 2010 except public health expenditure (% of GDP) * that are for 2009

Source: World Development Indictors, World Bank, 2012. [48]

A breakdown of total expenditures on health according to Pakistan National Health Accounts (2005-2006) is shown in Figure 5-1. In Pakistan, expenditures on health related to the military account for 4% or more. Personal expenditures on health have increased in real terms. Data from 2006 indicated that total expenditures on health had reached 70% [37]. This is associated with big household's expense of health care

in private organizations and the public sector. In principle, public health facilities offer drugs for free and systems have been introduced to partially or totally exempt poor households from medical expenses. However, poor families are known to spend large amounts on drugs at pharmacies.



Note: Zakat: Social support fund for the poor, orphans, widows, the disabled, etc.
Source: National Health Accounts Pakistan 2006-06, 2006 [34]

Figure 5-1 Total Health Expenditure by Financing Agents (2005-06)

Changes in the federal government's latest budgeted expenditures are shown in Table 5-7 and changes in the general and health care budgets are shown in Table 5-8. Since 2010, subsidies to provinces have increased.

Table 5-7 Trends in Expenditure Budgets of the Federal Government

(Pakistan Rupees in Million)

Classification	2008-09	2009-10	2010-11	2011-12	2012-13
Current expenditure, Total	1,649,224	2,017,255	2,295,921	2,631,911	2,611,940
Health affairs and services	5,490	6,743	7,455	6,651	7,845
(% of total)	(0.33%)	(0.33%)	(0.32%)	(0.25%)	(0.30%)
Development expenditure, Total	437,803	568,302	263,446	477,821	591,059
Public sector development program: Health	13,990	18,500	10,125	0	---
Subsidies to provinces	na	na	21,929	52,398	76,771
Expenditure, Total	2,087,027	2,585,557	2,559,367	3,109,732	3,202,999

Note: Budgets from 2008-09 to 2011-12 are revised ones.
Source: Federal Budget in Brief, Finance Division, Government of Pakistan [49]

Table 5-8 Expenditure Budget of Federal Government: Health Budget in General Budget

(Pakistan Rupees in Million)

Classification	2008-09	2009-10	2010-11	2011-12	2012-13
Medical products, appliances and equipment	54	65	80	100	132
Hospital services	4,892	5,953	6,627	5,712	6,609
Public health services	347	469	487	696	845
R&D Health	2	2	2	1	
Health administration	195	254	258	143	259
Total	5,490	6,743	7,454	6,652	7,845

Note: Budgets from 2008-09 to 2011-12 are revised ones.
Source: Federal Budget in Brief, Finance Division, Government of Pakistan [49]

Chapter 6 Development Assistance and Partnership

6.1 Framework for Donor Coordination

Co-hosted by Japan and the World Bank, the Pakistan Donors Conference were held in April 2009, with 31 countries and 18 organizations and agencies. The Conference discussed the importance of support to resolve the economic crisis that Pakistan faces. Support of a total of US$ 5 billion or more was committed to (Japan committed to maximum support of US$ 1 billion). A statement by the Conference Chair cited short-term financing needs focus on protecting the poor, maintaining pro-poor services, and continuing programs in health, education and social protection funding needs in the form of a continued need for support in the areas of protection of the poor, education and health care [50].

In 2010, a Pakistan Development Forum[32] attended by government agencies and development partners was held as a result of the support of the World Bank. Important issues in line with the Poverty Reduction Strategy Paper including health sector and aid coordination were discussed.

Donors to the health sector meet once a month. The United States Agency for International Development (USAID) acts as coordinator. The WHO also holds two Health Cluster Meetings each month to confer on flood control. UNDP, UNFPA and UNICEF have devised common programs (2013-2017) [51] for Pakistan, and common areas of focus, outcomes, and indices have been determined.

6.2 Activities of Major Development Partners

6.2.1 Overview

An overview of the status of support from major development partners to the health sector in Pakistan is shown in Table 6-1.

Table 6-1 Supported Areas by Major Development Partners

	Child health	Maternal health	HIV/ AIDS	TB	Malaria	Polio	PHC/Local health	HRH	Strengthening of health system
WHO	X	X	X	X	X	X	X	X	X
UNFPA		X					X		X
UNICEF	X	X	X			X		X	
The World Bank	X	X				X			X
USAID	X	X	X	X		X	X	X	X
DFID	X	X							X

Source: Documents and information on websites of development partners

6.2.2 Status of Activities of Major Development Partners

(1) World Health Organization (WHO)

The WHO's support policy in the health sector includes attainment of the Millennium Development Goals (MDGs) and universal coverage of basic health care services. Priorities for support are as follows [52]:

- Health policy and system development
- Communicable disease control

[32] The Pakistan Development Forum had been held annually prior to 2006 but was suspended because of political and social instability.

- Health of women and children
- Noncommunicable diseases
- Social determinants of health: healthy environments, health awareness raising and better lifestyles
- Emergency preparedness and response
- Partnerships, resource mobilization and coordination

(2) United Nations Population Fund (UNFPA)

UNFPA supports maternal and child health programs, provides various equipment and drugs and trains midwives. The recent "Draft common country program document for Pakistan and the UNFPA results and resources framework, 2013-2017" cited access to and use of quality services by vulnerable and marginalized populations as the highest priority. System and institutional improvements in reproductive health are included [51].

(3) United Nations Children's Fund (UNICEF)

UNICEF promotes polio campaigns by supporting EPI program and providing cold chain equipment. Support for maternal and child health is also provided, and it also conducts campaigns for neonatal care and training in treating malnourished children [53].

(4) World Bank

In its Country Partnership Strategy for Pakistan from 2010 to 2013, the World Bank cited 4 pillars for its support to Pakistan: (i) improving economic governance, (ii) improving human development and social protection, (iii) improving infrastructure to support growth and (iv) improving security and reducing the risk of conflict. The health care field falls under (ii). The World Bank primarily provides support for maternal and child health and public health surveillances [54].

(5) United States Agency for International Development (USAID)

Along with the Department for International Development (DFID), USAID is a major donor to the health sector. USAID provides support to Pakistan primarily for maternal and child health and communicable disease control. Support for provision of health services in rural areas and construction of health facilities is also provided [55].

(6) Department for International Development (DFID)

DFID's support scheme for Pakistan from 2011 to 2015 reduced support for specific diseases, including HIV/AIDS and malaria, and emphasized maternal and child health [56].

(7) The Global Fund to Fight AIDS, Tuberculosis and Malaria (the Global Fund)

Pakistan has received support from the Global Fund to Fight AIDS, Tuberculosis and Malaria. The state of current support from the Global Fund is shown in Table 6-2.

Table 6-2 Global Fund Support for Control Programs of HIV/AIDS, Tuberculosis and Malaria

Grant type	Round	Grant title	Principal recipient	Total signed amount (US$)	Phase and status
HIV/AIDS	9	Public Private Partnership to Improve Harm Reduction, Care and Support Services and Implementation Capacity	National AIDS Control Program, Ministry of Health of Pakistan	4,934,925	Phase I - In Progress
	9	Public Private Partnership to improve harm reduction, care & support services and implementation capacity	Nai Zindagi Trust	5,617,241	Phase I - In Progress
Tuberculosis	6	Moving Towards Comprehensive DOTS	Mercy Corps	13,334,050	Phase II - Closed
	6	Moving Towards Comprehensive DOTS	National TB Control Program Pakistan	13,654,150	Phase II - Closed
	9	Reducing the Burden of Tuberculosis in Pakistan by Improving Access to Quality Directly Observed Therapy Short course (DOTS) and Multi-Drug Resistant Tuberculosis (MDR-TB) Care Services	National TB Control Program Pakistan	28,814,121	Phase I - In Progress
	9	Reducing the burden of tuberculosis in Pakistan by improving access to quality Directly Observed Therapy Short Course (DOTS) and Multi-drug Resistance tuberculosis (MDR-TB) care services	Mercy Corps	14,217,116	Phase I - In Progress
Malaria	Single Stream of Funding Grant	Expanding coverage of Malaria control interventions in 19 high endemic districts of Pakistan	Directorate of Malaria Control, Ministry of Inter-Provincial Coordination, Pakistan	17,102,915	Phase I - In Progress
	Single Stream of Funding Grant	Expanding coverage of Malaria control interventions in 38 highly endemic districts of Pakistan	Save the Children, Pakistan	6,451,392	Phase I - In Progress

Source: GFATM, Country Grant Portfolio, 2012 [57]

6.3 Outline of Japanese Cooperation

6.3.1 Country Assistance Policy for Pakistan and Health Sector

Japan has, in its recently announced County Assistance Policy for the Islamic Republic of Pakistan (April 2012), emphasized 3 important areas of support to create a stable, sustainable society through economic growth: 1) improving economic infrastructure, 2) ensuring human security and improving social infrastructure and 3) stable and balanced development in border areas. The health sector falls under "ensuring basic health care services are provided," a development issue related to 2) [27].

6.3.2 Japanese Cooperation in the Health Sector

Cooperation in the health sector for polio eradication, health systems and the like is provided through grants and technical assistance projects (Table 6-3). In coordination with other donors, Japan provides effective

support for polio eradication through yen loans with the Bill & Melinda Gates Foundation and grants through UNICEF.

Table 6-3 Japanese Assistance for Pakistan in Health Sector (since year 2005)

Scheme	Cooperation period (fiscal year)	Project name
Technical cooperation projects	2006 – 2009	Tuberculosis Control Project in Pakistan
	2006 - 2011	EPI/Polio Control Project
	2009 - 2012	The District Health Information System Project for Evidence-based Decision Making and Management
Loan projects	2011 - 2013	Polio Eradication Project
Grant project	2005	The Renovation of Islamabad Children's Hospital
	2005 - 2011	The Project for the Eradication of Poliomyelitis (through UNICEF)
	2011 - 2012	The Project for the Control and Eradication of Poliomyelitis (through UNICEF)
Grass-roots grant project	2010	Project for Construction of Treatment Center of Congenital Mouth Abnormality in Gujrat District, Punjab
	2010	The Project for Improvement of Blood Bank Equipment in Nazir Hussain Hospital Karachi City, Sindh
	2010	The Project for Improvement of Rural Outreach Clinic in Fateh Jang Tehsil, Attock District, Punjab
	2011	The Project for Construction of Maternal and Child Health Center in Mandi Bahauddin District, Punjab
	2011	The Project for Strengthening of Ophthalmic Treatment of Eye Hospital in Muzaffarabad City, Kashmir
	2011	The Project for Improvement of ICU Equipment of Afzaal Memorial Thalassemia Hospital in Karachi City
Grass-roots technical cooperation project	2009 - 2012	Project for Medical and Public Health Assistance and Their Capacity Building Project for Rural Poor in Sindh, Pakistan
Development study	2003 - 2006	Development Study on Improvement of Management Information System

Sources: MoFA (2010, 2011) Country Data Book [1]
Country Assistance Policy for the Islamic Republic of Pakistan [27]

Chapter 7 Priority Health Issues and Recommendations

7.1 Priority Health Issues

Given the current status of the health sector as summarized thus far, Pakistan's priority issues in the health sector and their context are summarized in Figure 7-1 and are described below.

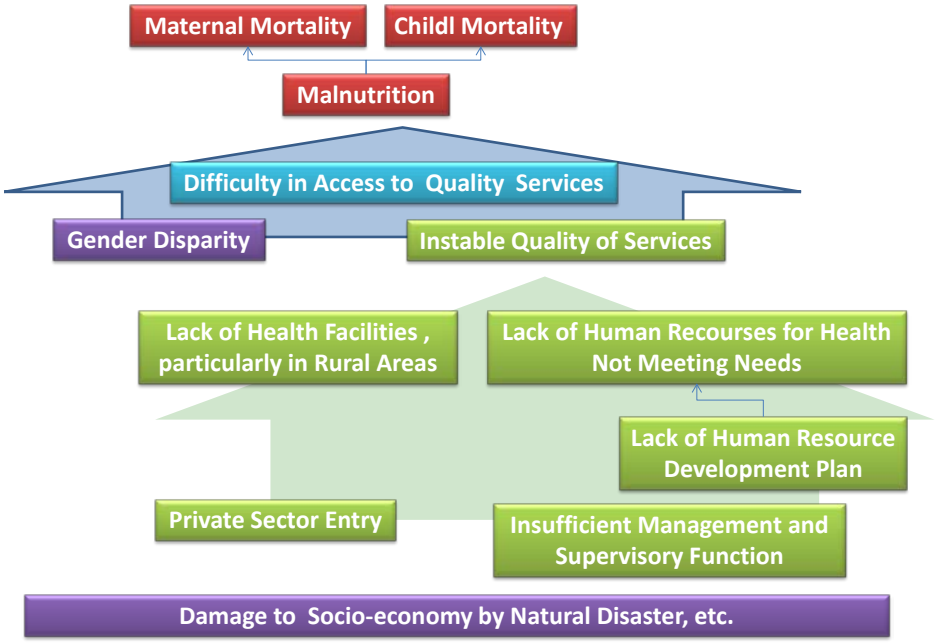


Figure 7-1 Issues in the Health Sector and their Context in Pakistan

7.1.1 Issues with Health

Attainment of Millennium Development Goals (MDGs) in terms of maternal and child health and communicable diseases will be problematic. Pakistan lags far behind its neighbors in terms of improvements in maternal and child health in particular. Its malaria control has improved little and patient numbers remain unchanged. Pakistan is also one of the only 3 countries where polio is still endemic. For a long time, there have been no notable improvements in the nutritional status of women and children. Malnutrition during pregnancy causes malnutrition in children and lowers resistance, thus increasing the mortality rate in a vicious cycle. Over the long-term, the ageing of society as a result of a demographic transition and a shift in the pattern of disease are expected, and efforts to combat noncommunicable diseases must also be considered.

7.1.2 Context for Problems

The context for the aforementioned problems is the stalling of economic growth, which had been steady prior to 2007, and the massive socioeconomic impact of heavy floods in 2010. Major factors outside the health sector that affect female health include gender disparities as a result of traditional values and restrictions on female actions. In addition, the inadequacy of health care facilities in the health sector has resulted in limited physical access, shortage of health personnel like nurses and problems with oversight of the quality of services provided by the private sector. Moreover, massive decentralization has led to most of the authority

and responsibility for providing health services being transferred to provincial governments. At some time in near future, disruptions may occur, the capacity of local governments may be outstripped and disparities between provinces may grow. Although the Planning Commission will apparently oversee the health sector at the national level, its long-term prospects are uncertain; many issues need to be resolved in future, such as consistency with current policies and strategies for human resource development.

7.1.3 Government and Donor Efforts to Resolve Problems and Future Issues

Specifics are unclear since abolishing of the federal Ministry of Health in June 2011, but the government has continued its efforts to attain MDGs in the health sector with the support of development partners. Service provision should be expanded, particularly at the community level. The capabilities and roles of Lady Health Workers and community midwives are being enhanced and systems that provide emergency obstetric care and services are being enhanced to prevent the deaths of pregnant women and newborns. Innovative efforts to secure financing by coordinating the public and private sectors, introducing health insurance, etc. are also evident.

7.2 Recommendations

In light of the aforementioned issues and Japan's country assistance policy for Pakistan, strengthening the capacity for health administration in local governments is an effective way to enhance support to improve basic health care services and prevent disruptions and disparities in services after decentralization. Yen loans have few precedents in the health sector. Japan should capitalize on its achievements and experiences with such loans in coordination with well-financed foundations and explore the potential for support to the health sector via yen loans. Such steps will facilitate additional efforts in future.

Since most of the authority and responsibility for providing health services have being transferred to provincial governments it is also required to explore a future direction of assistance through information gathering and analysis by provinces. In this study available information on provincial health sector was fragmented and its updating status was not clear. The study had no choice but depended on Pakistan Demographic and Health Survey (PDHS) in 2006 for comparison study between provinces. One of the directions of assistance in maternal and child health may be to select specific area, for instance, Balochistan province where service utilization status is worst in general among provinces, while collection of up-to-date information on the health sector should be carried out.

ATTACHMENTS

Attachment 1: Major Health Indicators

Attachment 2: References

Attachment 1: Major Health Indicators (Islamic Republic of Pakistan)

Islamic Republic of Pakistan				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region
0 General Information	0.1 Demography	0.1.01	Population, total		WDI	111,844,679	144,522,192	173,593,000	2010	1,633,146,000	(2010)	South Asia
		0.1.02	Population growth (annual %)		WDI	2.9	2.3	1.8	2010	1.4	(2010)	South Asia
		0.1.03	Life expectancy at birth, total (years)		WDI	60.8	63.2	65.2	2010	65.3	(2010)	South Asia
		0.1.04	Birth rate, crude (per 1,000 people)		WDI	40.4	31.4	27.3	2010	23.0	(2010)	South Asia
		0.1.05	Death rate, crude (per 1,000 people)		WDI	10.3	8.4	7.5	2010	7.9	(2010)	South Asia
		0.1.06	Urban population (% of total)		WDI	30.6	33.2	37.0	2010	30.1	(2010)	South Asia
	0.2 Economic・Development Condition	0.2.01	GNI per capita, Atlas method (current US$)		WDI	410	470	1,050	2010	1,175.9	(2010)	South Asia
		0.2.02	GNI growth (annual %)		WDI	5.1	3.9	5.2	2010	8.0	(2010)	South Asia
		0.2.03	Total enrollment, primary (% net)	2.1	WDI			74.1	2010	90.7	(2009)	South Asia
		0.2.04	Ratio of female to male primary enrollment (%)	3.1	WDI	51.6	67.2	81.8	2008	95.0	(2008)	South Asia
		0.2.05	Literacy rate, adult total (% of people ages 15 and above)		WDI			55.5	2008	61.1	(2009)	South Asia
		0.2.06	Human Development Index		HDR	0.31	0.50	0.50	2011	0.55	(2011)	South Asia
		0.2.07	Human Development Index (rank)		HDR	120 / 160	138 /173	145 /187				
		0.2.08	Poverty gap at $1.25 a day (PPP) (%)		WDI			3.5	2008	8.6	(2008)	South Asia
	0.3 Water and Sanitation	0.3.01	Improved water source (% of population with access)	7.8	HNP Stats	85	89	92	2010	90.0	(2010)	South Asia
		0.3.02	Improved sanitation facilities (% of population with access)	7.9	HNP Stats	27	37	48	2010	38.3	(2010)	South Asia
1 Health Status of People	1.1 Mortality and Morbidity	1.1.01	Age-standardized mortality rate by cause (per 100,000 population) - Communicable		GHO			387	2008	254	(2008)	Eastern Mediterranean
		1.1.02	Age-standardized mortality rate by cause (per 100,000 population) - Noncommunicable		GHO			711	2008	706	(2008)	Eastern Mediterranean
		1.1.03	Age-standardized mortality rate by cause (per 100,000 population) - Injuries		GHO			92	2008	91	(2008)	Eastern Mediterranean
		1.1.04	Cause of death, by communicable diseases and maternal, prenatal and nutrition conditions (% of total)		HNP Stats			45.6	2008	38.6	(2008)	South Asia
		1.1.05	Cause of death, by non-communicable diseases (% of total)		HNP Stats			46.1	2008	51.5	(2008)	South Asia
		1.1.06	Cause of death, by injury (% of total)		HNP Stats			8.3	2008	9.9	(2008)	South Asia
		1.1.07	Distribution of years of life lost by broader causes (%) - Communicable		GHO			64	2008	55	(2008)	Eastern Mediterranean
		1.1.08	Distribution of years of life lost by broader causes (%) - Noncommunicable		GHO			26	2008	31	(2008)	Eastern Mediterranean
		1.1.09	Distribution of years of life lost by broader causes (%) - Injuries		GHO			9	2008	14	(2008)	Eastern Mediterranean
	1.2 Maternal and Child Health	1.2.01	Maternal mortality ratio (modeled estimate, per 100,000 live births)	5.1	MDGs	490	340	260	2008	290	(2008)	South Asia
		1.2.02	Adolescent fertility rate (births per 1,000 women ages 15-19)	5.4	MDGs		48.8	29.5	2010	72.8	(2010)	South Asia
		1.2.03	Mortality rate, under-5 (per 1,000)	4.1	MDGs	123.6	100.5	86.5	2010	67.0	(2010)	South Asia
		1.2.04	Mortality rate, infant (per 1,000 live births)	4.2	MDGs	95.6	79.5	69.7	2010	51.6	(2010)	South Asia
		1.2.05	Low-birthweight babies (% of births)		HNP Stats			31.6	2007	27.4	(2010)	South Asia
		1.2.06	Fertility rate, total (birth per woman)		HNP Stats	6.0	4.5	3.4	2010	2.7	(2010)	South Asia
	1.3 Infectious Diseases	1.3.01	a) Prevalence of HIV, male (% ages 15-24)	6.1	MDGs			0.1	2009	0.1	(2009)	South Asia
			b) Prevalence of HIV, female (% ages 15-24)	6.1	MDGs			0.1	2009	0.1	(2009)	South Asia
		1.3.02	Notified cases of malaria per 100,000 population	6.6	MDGs Database			881	2008			
		1.3.03	a) Malaria death rate per 100,000 population, all ages	6.6	MDGs Database			1	2008	2	(2009)	Southern Asia
			b) Malaria death rate per 100,000 population, ages 0-4	6.6	MDGs Database			0	2008	8	(2009)	Southern Asia
		1.3.04	Tuberculosis prevalence rate per 100,000 population (mid-point)	6.9	MDGs Database	565	562	364	2010	267	(2009)	Southern Asia
		1.3.05	Incidence of tuberculosis (per 100,000 people)	6.9	MDGs	231	231	231	2010	192	(2010)	South Asia
		1.3.06	Tuberculosis death rate (per 100,000 people)	6.9	MDGs	71	70	34	2010	29	(2010)	South Asia
		1.3.07	Prevalence of HIV, total (% of population ages 15-49)		HNP Stats	0.1	0.1	0.1	2009	0.3	(2009)	South Asia
		1.3.08	AIDS estimated deaths (UNAIDS estimates)		HNP Stats	100	1,100	5,800	2009			
		1.3.09	HIV incidence rate, 15-49 years old, percentage (mid-point)		MDGs Database							
		1.3.10	Paritial Prioritization Score by the Global Fund (HIV)		GF			7	2012			
			Paritial Prioritization Score by the Global Fund (Malaria)		GF			5	2012			
			Paritial Prioritization Score by the Global Fund (TB)		GF			9	2012			
	1.4 Nutrition	1.4.01	Prevalence of wasting (% of children under 5)		HNP Stats			14.2	2001			
2 Service Delivery	2.1 Maternal and Child Health	2.1.01	Births attended by skilled health personnel, percentage	5.2	MDGs Database	18.8		38.8	2006	50.0	(2009)	Southern Asia
		2.1.02	Birth by caesarian section		GHO			7.3	2007	16.0	(2011)	Eastern Mediterranean
		2.1.03	Contraceptive prevalence (% of women ages 15-49)	5.3	MDGs	14.5		27.0	2008	50.5	(2010)	South Asia
		2.1.04	Pregnant women receiving prenatal care (%)	5.5	HNP Stats			60.9	2007	70.6	(2010)	South Asia
		2.1.05	Pregnant women receiving prenatal care of at least four visits (% of pregnant women)	5.5	HNP Stats	14.2		28.4	2007	46.1	(2010)	South Asia
		2.1.06	Unmet need for family planning, total, percentage	5.6	MDGs Database			25.2	2007	14.7	(2008)	Southern Asia
		2.1.07	1-year-old children immunized against: Measles	4.3	Childinfo	50	59	86	2010	77	(2010)	South Asia
		2.1.08	1-year-old children immunized against: Tuberculosis		Childinfo	80	74	95	2010	88	(2011)	South Asia
		2.1.09	a) 1-year-old children immunized against: DPT (percentage of infants who received their first dose of diphtheria, pertussis and tetanus vaccine)		Childinfo	77	72	90	2010	85	(2012)	South Asia
			b) 1-year-old children immunized against: DPT (percentage of infants who received three doses of diphtheria, pertussis and tetanus vaccine)		Childinfo	54	62	88	2010	76	(2013)	South Asia
		2.1.10	1-year-old children immunized against: Polio		Childinfo	54	65	88	2010	75	(2014)	South Asia
		2.1.11	Percentage of infants who received three doses of hepatitis B vaccine		Childinfo			88	2010	51	(2015)	South Asia
	2.2 Infectious Diseases	2.2.01	Condom use with non regular partner, % adults (15-49), male	6.2	MDGs							
		2.2.02	Condom use with non regular partner, % adults (15-49), female	6.2	MDGs							

Attachment 1: Major Health Indicators (Islamic Republic of Pakistan)

Islamic Republic of Pakistan				MDGs	Sources	1990	2000	Latest	Latest year	Latest in Region	(Latest year)	Region
		2.2.03	Men 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database					36	(2005-2010)	Southern Asia
		2.2.04	Women 15-24 years old with comprehensive correct knowledge of HIV/AIDS, percentage	6.3	MDGs Database			3.4	2007	17	(2005-2010)	Southern Asia
		2.2.05	Ratio of school attendance of orphans to school attendance of non-orphans aged 10-14 years	6.4	MDGs Database					0.73	(2005-2010)	Southern Asia
		2.2.06	Use of insecticide-treated bed nets (% of under-5 population)	6.7	HNP Stats							
		2.2.07	Children under 5 with fever being treated with anti-malarial drugs, percentage	6.8	MDGs Database			3.3	2007			
		2.2.08	Tuberculosis treatment success rate under DOTS, percentage	6.10	MDGs Database		74	91	2009	88	(2008)	South Asia
		2.2.09	Antiretroviral therapy coverage (% of people with advanced HIV infection)	6.5	MDGs			4.0	2009			
		2.2.10	People aged 15 years and over who received HIV testing and counselling, estimated number per 1,000 adult population		GHOr							
		2.2.11	Testing and counselling facilities, estimated number per 100,000 adult population		GHOr			0	2010			
		2.2.12	Pregnant women tested for HIV, estimated coverage (%)		GHOr			<1	2010			
		2.2.13	Percentage of HIV-infected pregnant women who received antiretroviral drugs to reduce the risk for mother-to-child transmission (Mid point)	6.5	MDGs Database							
		2.2.14	Tuberculosis case detection rate (all forms)		HNP Stats	61.0	3.3	65.0	2010	58	(2010)	South Asia
		2.2.15	Tuberculosis treatment success rate (% of registered cases)	6.1	MDGs		74.0	91.0	2009	88	(2009)	South Asia
	2.3 Nutrition	2.3.01	Vitamin A supplementation coverage rate (% of children ages 6-59 months)		HNP Stats			87.0	2010	49.8	(2010)	South Asia
		2.3.02	Consumption of iodized salt (% of households)		HNP Stats			17.0	2002	55.3	(2010)	South Asia
	2.4 Quality and Coverage	2.4.01	Estimate of health formal coverage		ILO					11.6		Countries of very high vulnerability
		2.4.02	Population not covered (%) due to financial resources deficit		ILO			97.3		85.8		Countries of very high vulnerability
		2.4.03	Population not covered (%) due to professional health staff dificit		ILO			69.4		74.6		Countries of very high vulnerability
3 Health System	3.1 Human Resources	3.1.01	Physicians (per 1,000 people)		HNP Stats	0.46		0.81	2009	0.6	(2010)	South Asia
		3.1.02	Midwives (per 1,000 people)		HNP Stats							
		3.1.03	Nurses (per 1,000 people)		HNP Stats			0.31	2004	0.68	(2004)	South Asia
		3.1.04	Dentistry personnel density (per 10,000 population)		GHO			0.57	2009	2	(2007)	Eastern Mediterranean
		3.1.05	Density of pharmaceutical personnel (per 10,000 population)		GHO			0.5	2004	5.0	(2007)	Eastern Mediterranean
	3.2 Health Financing	3.2.01	Health expenditure, total (% of GDP)		HNP Stats		3.0	2.2	2010	3.9	(2010)	South Asia
		3.2.02	Health expenditure, public (% of total health expenditure)		HNP Stats		21.2	38.5	2010	30.0	(2010)	South Asia
		3.2.03	Health expenditure, private (%) of total health expenditure)		HNP Stats		78.8	61.5	2010	70.0	(2010)	South Asia
		3.2.04	Out-of-pocket health expenditure (% of private expenditure on health)		HNP Stats		80.3	82.0	2010	79.3	(2010)	South Asia
		3.2.05	Health expenditure, public (% of government expenditure)		HNP Stats		2.3	3.6	2010	3.5	(2010)	South Asia
		3.2.06	External resources for health (% of total expenditure on health)		HNP Stats		0.8	4.8	2010	2.3	(2010)	South Asia
		3.2.07	Social security expenditure on health as a percentage of general government expenditure on health		GHO			3.8	2009	19.4	(2009)	Eastern Mediterranean
		3.2.08	a) Health expenditure per capita (current US$)		HNP Stats		14.6	21.8	2010	47.5	(2010)	South Asia
			b) Per capita total expenditure on health (PPP int. $)		GHO		47	63	2009	324	(2009)	Eastern Mediterranean
		3.2.09	Per capita government expenditure on health at average exchange rate (US$)		GHO		3	7	2009	96	(2009)	Eastern Mediterranean
	3.3 Facilities, Equipments and Supplies	3.3.01	a) Median availability of selected generic medicines (%) - Public		GHO			3.3	2004			
			b) Median availability of selected generic medicines (%) - Private		GHO			31.3	2004			
		3.3.02	a) Median consumer price ratio of selected generic medicines - Public		GHO							
			b) Median consumer price ratio of selected generic medicines - Private		GHO			2.3	2004			
		3.3.03	Hospital beds (per 1,000 population)		HNP Stats	0.6		0.6	2010	0.9	(2005)	South Asia

WDI: World Development Indicators & Global Development Finance (http://databank.worldbank.org/ddp/home.do) (Accessed 07/2012)
HDR: Human Development Reports (http://hdr.undp.org/) (Accessed 07/2012)
HNP Stats: Health Nutrition and Population Statistics (http://databank.worldbank.org/ddp/home.do) (Accessed 07/2012)
GF: Global Fund eligibility list for 2012 funding channels, the Global Fund to Fight AIDS, Tuberculosis and Malaria (http://www.theglobalfund.org/en/application/applying/ecfp/) (Accessed 04/2012)
GHO: Global Health Observatory Country Statistics (http://www.who.int/gho/countries/en/) (Accessed 07/2012)
GHOr: Global Health Observatory Repository (http://apps.who.int/ghodata/) (Accessed 07/2012)
MDGs: Millennium Development Goals (http://databank.worldbank.org/ddp/home.do) (Accessed 07/2012)
MDG database: Millennium Development Goals Indicators (http://mdgs.un.org/unsd/mdg/) (Accessed 07/2012). Regional data is available on The Millennium Development Goals Report Statistical Annex 2011 (United Nations).
Childinfo: Childinfo UNICEF (http://www.childinfo.org/) (Accessed 07/2012)
ILO: World Social Security Report 2010/11: Providing coverage in times of crisis and beyond. International Labour Office Geneva: ILO 2010.

1.3.10 Partial Prioritization Score is composed of the income level score for the country and the disease burden score for the particular disease in the country. The minimum score is 3 and the maximum score is 12.

2.4.01 Estimate of health formal coverage is indicated as percentage of population covered by state, social, private, company-based, trade union, mutual and other health insurance scheme.

2.4.02 Population not covered (%) due to financial resources deficit (based on median value in low-vulnerability group of countries) uses the relative difference between the national health expenditure in international $ PPP (excluding out-of-pocket) and the median density observed in the country group with low levels of vulnerability as a benchmark for developing countries. The rate can be calculated using the following formula:

Per capita health expenditure not financed by private households' out-of-pocket payments (PPP in int. $) [A]
Population (in thousands) total [B]
Total health expenditure not financed by out of pocket in int. $ PPP (thousands) [C = A x B]
Population covered by total health expenditure not financed by out-of pocket if applying Benchmark* (thousands) [D = C ÷ Benchmark]**
Percentage of the population not covered due to financial resources deficit (%) [F = (B - D) ÷ B x 100]
*Benchmark: Total health expenditure not financed by out-of-pocket per capita = 350 international $ PPP.
**This formula was partially modified from the original in the source to suit an actual calculation.

2.4.03 Population not covered (%) due to professional health staff dificit uses as a proxy the relative difference between the density of health professionals in a given countries and its median value in countries with a low level of vulnerability. The rate can be calculated using the following formula:

Total of health professional staff [A = B + C]
Number of nursing and midwifery personnel [B]
Number of physicians [C]
Total population (in thousands) [D]
Number of health professional per 10,000 persons [F = A ÷ D x 10]
Total population covered if applying Benchmark* (thousands) [E = A ÷ Benchmark x 10]
Percentage of total population not covered due to health professional staff deficit [G = (D - E) ÷ D x100]
Benchmark: 40 professional health staff per 10,000 persons.

Attachment 2：References (Islamic Republic of Pakistan)

	TITLE	AUTHOR	URL	YEAR
1	Japan's ODA: Country Data Book 2011, Pakistan【In Japanese】	Ministry of Foreign Affairs of Japan	http://www.mofa.go.jp/mofaj/gaiko/oda/region/s_asia/pakistan/index.html	
2	Country Partnership Strategy for the Islamic Republic of Pakistan for the Period FY 2010-13	World Bank	http://siteresources.worldbank.org/PAKISTANEXTN/Resources/293051-1264873659180/6750579-1279901350261/PakistanCPSJuly2010.pdf	July, 2010
3	Achieving Results in a Challenging Environment		http://siteresources.worldbank.org/IDA/Resources/73153-1302790208764/IDA_AT_WORK_Pakistan_2011.pdf	
4	World Development Indicators	World Bank	http://data.worldbank.org/data-catalog/world-development-indicators	
5	Human Development Report	UNDP		2011
6	Annual Plan 2012-13	Planning Commission, Planning and Development Division		2012
7	Vision 2030	Planning Commission, Government of Pakistan		2007
8	Approach Paper, Strategic Directions to Achieve Vision 2030	Planning Commission, Government of Pakistan		2006
9	Poverty Reduction Strategy Paper (PRSP)-II	Finance Division, Government of Pakistan		2010
10	Pakistan: Framework for Economic Growth	Planning Commission, Government of Pakistan		2011
11	Implementation Plan of Framework for Economic Growth, Result Based Management	Planning Commission, Government of Pakistan		2012
12	NCD Country Profiles 2011	WHO		2011
13	Country Cooperation Strategy at a glance Pakistan	WHO		May, 2011
14	Millennium Development Goals	World Bank		
15	Health Nutrition and Population Statistics		http://databank.worldbank.org/ddp/home.do	
16	Millennium Development Goals Indicators	United Nations		
17	Pakistan Millennium Development Goals 2010	Planning Commission, Government of Pakistan		2010
18	Countdown to 2015	Maternal, newborn & Child Survival		2012
19	Childinfo - Monitoring the Situation of Children and Women	UNICEF	http://www.childinfo.org/index.html	
20	Pakistan Demographic and Health Survey 2006-2007	National Institute of Population Studies	http://www.measuredhs.com/pubs/pdf/FR200/FR200.pdf	2008

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	TITLE	AUTHOR	URL	YEAR
21	World Malaria Report 2011	WHO		2011
22	Country Progress Report, Pakistan, Global AIDS Response Progress Report 2012	National AIDS Control Program, Ministry of Inter-Provincial Coordination, Government of Pakistan		2012
23	Rapport National de Suivi de la Déclaration Politique sur le VIH/Sida	Comité National de Lutte contre le Sida		2012
24	Review in Slides, Pakistan	HIV and AIDS Data Hub for Asia-Pacific		2011
25	Pakistan ranks 6th among 22 high burden TB countries	APP		November, 2011
26	Global Polio Initiative		http://www.polioeradication.org/	
27	Country Assistance Policy for Pakistan【In Japanese】	Ministry of Foreign Affairs of Japan		2012
28	Childinfo Nutrition Country Profile Pakistan	UNICEF		2012
29	National Program for Maternal, Newborn and Child Health (2006-2012)	National Maternal, Newborn and Child Health Program	http://mnch.gov.pk/	
30	Pakistan: Urban health profile	WHO	http://www.who.or.jp/uhcprofiles/Pakistan.pdf	
31	Millennium Development Goals Report 2010	Government of Pakistan		2010
32	The State of the World's Children 2012: Children in an Urban World	UNICEF		2012
33	Directorate of Malaria Control	Ministry of Inter Provincial Coordination	http://dmc.gov.pk/index.php?option=com_content&view=article&id=55&Itemid=88&showall=1	
34	National Health Accounts Pakistan 2006-06	Federal Bureau of Statistics, Statistics Division, Ministry of Economic Affairs & Statistics		2006
35	Healthcare System in Pakistan. (Presentation)	Dr. M. Rashid Anjum, Community Medicine Department, Army Medical College Rawalpindi		2011
36	Pakistan Statistical Yearbook 2011	Pakistan Bureau of Statistics	http://www.pbs.gov.pk/content/pakistan-statistical-year-book-2011	
37	Report of the Health System Review Mission - Pakistan	WHO/UNICEF/DFID/the World Bank		2007
38	Pakistan Millennium Development Goals Report 2010	Government of Pakistan, Planning Commission		2010
39	Global Health Observatory Data Repository. Global Health Observatory (GHO)	WHO	http://apps.who.int/ghodata/	
40	Draft Report, Human Resources for Health in Public Sector in Pakistan	National HMIS Program, Ministry of Health		2006

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	TITLE	AUTHOR	URL	YEAR
41	Health System Profile: Pakistan	Regional Health System Observatory, WHO		2007
42	Preparatory Survey Report on the District Health Information System Project for Evidence-based Decision Making and Management in the Islamic Republic of Pakistan【In Japanese】	JICA	http://libopac.jica.go.jp/images/report/P0000252243.html	2009
43	Preparatory Survey Report on the Project for Improvement of Children Hospital in Sindh Province and Central Hospital in Multan District, the Islamic Republic of Pakistan【In Japanese】	JICA	http://libopac.jica.go.jp/images/report/P0000255990.html	2010
44	Availability and Affordability of Medicines in Pakistan	The Network for Consumer Protection	http://www.haiweb.org/medicineprices/surveys/200407PK/survey_report.pdf#search='drug%20availability%20pakistan	
45	Pakistan Pharmaceutical Country Profile	Ministry of Health		2010
46	The Gateway Paper: Health System in Pakistan - a Way Forward	Nishtar Sania		2006
47	Pakistan Logistics Management Information System	Government of Pakistan	http://www.lmis.pc.gov.pk/	
48	World Development Indictors	World Bank	http://databank.worldbank.org/	
49	Federal Budget	Ministry of Finance, Government of Pakistan	http://www.finance.gov.pk/fb_2012_13.html	
50	Co-Chairs' Statement, Pakistan Donors Conference	Ministry of Foreign Affairs of Japan	http://www.mofa.go.jp/region/asia-paci/pakistan/meet0904/state-cochair.html	Apr. 2009
51	Draft common country programme document for Pakistan and the UNFPA results and resources framework, 2013-2017	UNFPA、UNIEF、UNDP	https://www.unfpa.org/public/home/exbrd/pid/11625	
52	Country Cooperation Strategy for WHO and Pakistan 2005–2009	WHO	http://www.who.int/countryfocus/cooperation_strategy/ccs_pak_en.pdf	
53	UNICEF Pakistan Annual Report 2010	UNICEF	http://www.unicef.org/pakistan/UNICEF_Pakistan_2010_Annual_Report_-_low_res.pdf	
54	World Bank Pakistan: Country Partnership Strategy FY 2010-2013	World Bank	http://siteresources.worldbank.org/PAKISTANEXTN/Resources/293051-1264873659180/6750579-1279901350261/PakistanCPSJuly2010.pdf	
55	USAID Health in Pakistan Working Paper	USAID	http://transition.usaid.gov/pk/docs/sectors/Health_Working_Paper.pdf	April, 2011
56	DFID Pakistan Operational Plan 2011-2015	DFID	http://www.dfid.gov.uk/Documents/publications1/op/pakistan-2011.pdf	
57	Country Grant Portfolio	GFATM	http://portfolio.theglobalfund.org/en/Country/Index/PKS/	
58	The News International	Dr. Sania Nishtar		