DELIVERING BETTER HEALTH SERVICES TO PAKISTAN'S POOR

April, 2010.

ABBREVIATIONS AND ACRONYMS

ADP	Annual Development Program
AIDS	Acquired immunodeficiency syndrome
AJK	Azad Jammu and Kashmir
BHU	Basic health unit
BCC	Behavior change communication
BHC	Basic health center
BHU	Basic health unit
BISP	Benazir income support program
CAD	Coronary Artery Disease
CCT	Conditional cash transfer
CIDA	Canadian International Development Agency
CIET	Tropical Disease Research Centre (or Centro de Investigación de Enfermedades Tropicales)
CPR	Contraceptive Prevalence Rate
DALY	Disability-adjusted life years
DfID	Department for International Development
DG	District government
DHDC	District Health Development Center
DHIS	District Health Information System
DHO	District health officer
DHQ	District headquarters
DHS	Demographic and Health Survey
DOH	Department of Health
DOTS	Directly Observed Treatment, Short course
DPT	Diphtheria, Pertussis, and Tetanus
EDO	Executive District Officer
EDO(H)	Executive District Officer (health)
EmOC	Emergency obstetric care
ESW	Eunuch sex worker
FANA	Federally Administered Northern Areas
FATA	Federally Administered Tribal Areas
FSW	Female sex worker
GDP	Gross Domestic Product
GOP	Government of Pakistan
GTZ	German Technical Cooperation (or Gesellschaft für Technische Zusammenarbeit)
HIES	Household-Integrated Economic Survey
HIV	Human Immunodeficiency Virus
HMIS	Health Management Information System
HNP	Health, Nutrition, and Population
HR	Human resources
IDU	Injecting drug user
IMCI	Integrated Management of Childhood Illnesses
IMR	Infant mortality rate

LGO	Local government ordinance
LHS	Lady Health Supervisors
LHV	Lady health visitor
LHW	Lady health worker
MDG	Millennium Development Goal
M&E	Monitoring and evaluation
MMR	Maternal mortality ratio
MNCH	Maternal neonatal and child health
MOH	Ministry of Health
MSW	Male sex worker
NCD	Non-communicable disease
NID	National Immunization Day
NHA	National Health Account
NHSP	National Health Survey of Pakistan
NGO	Non-governmental organization
NNS	National Nutrition Survey
NSPS	National Social Protection Strategy
NTP	National Tuberculosis Program
NWFP	North Western Frontier Province
OPD	Outpatient department
PDS	Pakistan demographic survey
PFFPS	Pakistan fertility and family planning survey
PG	Provincial government
PHC	Primary health care
PHDC	Provincial Health Development Center
PDHS	Pakistan Demographic and Health Survey
PIHS	Pakistan Integrated Household Survey
PPHI	People's Primary Healthcare Initiative
PRHFPS	Pakistan Reproductive Health and Family Planning Survey
PSDP	Public Sector Development Program
PSES	Pakistan Socio-Economic Survey
PSLSM	Pakistan Social and Living Standards Measurement Survey
RHC	Rural Health Center
RSP	Rural Support Program
RYK	Rahim Yar Khan
SAP	Social Action Program
SIA	Supplementary Immunization Activities
SIUT	Sindh Institute of Urology and Transplantation
SNID	Sub-National Immunization Day
TB	Tuberculosis
TBA	Traditional birth attendants
TFR	Total fertility rate
U5MR	Under-five mortality rate
USAID	United States Agency for International

	Development
WDI	World Development Indicators
WHO	World Health Organization

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ACKNOWLEDGMENTS

A number of new developments have occurred in Pakistan since work on the report began. The report has taken these developments into account and attempts to provide options for addressing the challenges the sector is currently facing.

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EXECUTIVE SUMMARY

Pakistan is not on track to achieve most Millennium Development Goals (MDGs) related to health, nutrition and population. Given its current rate of progress, in 2015 Pakistan's infant mortality rate (IMR) will be 65 deaths per 1,000 live births and the under-five mortality rate (U5MR) will be 78, considerably above the MDG4 targets of 33 and 43 deaths per 1000 births respectively. Pakistan will not achieve the MDG related to nutrition. **C**hildhood malnutrition in Pakistan is higher than in sub-Saharan Africa, and the rate of decline is significantly slower than in the rest of South Asia. In addition, Pakistan's fertility rate currently at 4.1, although declining, is higher than its neighbors' and predicted to remain so. While there has been some progress on improving health outcomes, the rate of progress is much slower and the poor, in particular, are being left behind.

Though on the decline, child mortality is still high. Currently, the IMR and the U5MR stand at 78 and 94 deaths per 1,000 live births, respectively. Comparing the levels with 2001-02, this implies that almost 1 in every 10 children born in Pakistan between 2001-02 and 2006-07 died before reaching five years of age.

Despite a decline among the general population, under-five mortality among the poorest has made no improvements in the last 15 years. The 1990 and 2006 Pakistan Demographic and Health Surveys indicate that the poorest income quintile has seen almost no change in its U5MR. This is despite a decline in under-five mortality among the general population.

Maternal mortality appears to be declining, but remains high. The rate of institutional delivery, often used as a proxy for the maternal mortality rate, has increased, mainly due to increased use of private sector facilities. Still women in Pakistan run a 1 in 80 chance of dying of maternal causes during their reproductive life.

Pakistan lags behind its neighbors in immunization coverage and contraceptive prevalence rate. Results from Demographic and Health Surveys conducted between 2005 and 2007 show that India and Pakistan are lagging their neighbors in terms of vaccination coverage. It is also not clear whether Pakistan is actually making progress in immunizing its children, and there is a debate on whether the decline seen recently is real. The contraceptive prevalence for Pakistan is only 22 percent, less than half that of other South Asian countries.

Pakistan has the potential to generate a demographic dividend by supporting fertility decline with sound polices. To materialize this potential, Pakistan has to focus on rural areas where the decline in fertility has been slow. Such efforts are required to realize a general decline in fertility, and will results in an increase in the share of the working age population and the labor force. This generates the first pillar of the demographic dividend, which has to be supported by sound policies to ensure the health status and capacities of the increased potential labor force.

The gap between the poor and the wealthy and geographic differences in access to health, nutrition, and population (HNP) services remain large. The gap in access to services between the poorest income quintile and the wealthiest does not appear to be narrowing. There are also large rural-urban differences in access that are not explained by poverty differentials alone. Similarly, there are large geographical variations in coverage of services. Even within a province, average coverage rates hide very large variations between districts. For example, in Baluchistan immunization coverage between the best and the worst performing districts differs by 69 percentage points.

The quality of care in public facilities is low, resulting in low utilization of public health facilities. Recent health facility surveys in Baluchistan and Sindh indicate that many health workers do not show up regularly to work. In Baluchistan, the absentee rate for all staff was 50 percent, while for doctors it was 58 percent and for female paramedics, 63 percent. The situation was similar in Sindh where 45 percent of the doctors were absent from basic health units (BHUs) and 56 percent were absent from rural health centers (RHCs). These facilities were also poorly equipped and lacked drugs. A 2006 study found that only 46 percent of first level health care facilities had a water supply and only 33 percent had toilets. Only half of the BHUs and RHCs in Sindh had the equipment necessary to carry out proper deliveries. In Baluchistan, contraceptives were available in only 15 percent of BHUs while in Sindh antibiotics were available in only 12 percent of RHCs and 22 percent of BHUs. Oral rehydration salts were available in only one-third of the BHUs and RHCs. As a result, utilization of the public sector, even by the poor, is low; only 25 percent seek care in public facilities.

A large part of total spending in health comes from out-of-pocket payments, which drive about 4 percent of the population into poverty every year. Public spending on health represents only a quarter of total expenditure. The largest share of the rest is out-of-pocket payments made by patients at the time of service utilization. Out-of-pocket payments remain large even for those using public facilities. In addition to the income loss associated with being unable to work due to illness, medical costs by themselves can push households into poverty.

Providing protection against the impoverishing impact of ill-health is urgent but requires careful consideration. Designing the mechanism and the benefit package needs to take into account a number of factors. The first consideration is who will be covered, and the number and mix of health service providers in the market. When the majority of the providers are public facilities, an option such as expanding health insurance needs to be accompanied by reforms related to the governing of public facilities. The second consideration is the structure of the cost of health shock. When forgone earnings and non-medical payments constitute the largest share of the cost of health shocks, there needs to be provisions in the benefit package that covers such losses if the package is to provide meaningful protection.

The poor in Pakistan might be better protected against the financial risk of health shocks through targeted transfers using tools such as those developed for the Benazir Income Support Program. Direct transfers that are conditioned on health shocks would both protect the poor from the actual cost of treatment and provide partial compensation for foregone earnings. On the other hand, providing insurance coverage to the rural poor without restructuring the existing supply of health care services would result in limited use and impact of the scheme. Moreover, by paying for insurance premiums which will then cover the cost of services provided by the public sector, the government may end up effectively paying twice for the same services.

Pakistan cannot afford to ignore the HNP sector if it is to realize sustained economic growth. Interventions focused on improving HNP outcomes are necessary for the sector to serve both as a catalyst to growth and as a beneficiary of it. These interventions include the following options for gradual scale-up:

i. *Accelerate the decline in child mortality by* (a) addressing neonatal mortality through training lady health workers (LHWs), increasing early post-partum visits, and increasing institutional deliveries; (b) increasing access to effective preventive and curative services; and (c) more regularly tracking the IMR and U5MR and cause of death though demographic surveillance.

ii. *Reduce maternal mortality by* (a) increasing access to family planning services; (b) increasing the number of skilled providers in rural areas through incentives for doctors, mid-wives, and lady health visitors (LHVs) who work in under-served areas; (c) further expanding 24-hour emergency obstetrical care; (d) improving nutritional status before and during pregnancy (e) providing incentives such as conditional cash transfers for use of prenatal, obstetrical, and post-partum care; and (e) providing vouchers for deliveries.

iii. *Intervene on a broad scale to reduce childhood malnutrition by* (a) controlling childhood infections, possibly through the use of incentives aimed at increasing vaccination coverage and well-child care; (b) promoting early and exclusive breastfeeding and adequate complementary feeding; (c) addressing micronutrient deficiencies; and (d) treating severely malnourished children using "protocolized management", including community-based approaches

iv. *Increase the use of contraceptives to reduce the fertility rate by* (a) increasing the focus of LHWs and other rural health workers on providing family planning services and supplies; (b) increasing the number of public facilities that provide a broad menu of family planning methods; (c) broadening social marketing of contraceptives and ensuring results by paying contracts based on performance; and (d) offering supply-side incentives to providers.

v. *Focus particularly on the poor, including the urban poor by* (a) engaging more with non-governmental organizations (NGOs) to provide basic preventive and promotive services; and (b) assessing whether the deployment of LHWs can be targeted and deployed in urban areas.

vi. *Protect the poor from impoverishing health shocks by* ensuring access to a clearly defined package of services and coordination with the social protection strategy to ensure adequate protection.

These interventions require more resources than what Pakistan currently spends on health. Compared to other countries at its level of development, Pakistan spends very little on HNP services. As a proportion of GDP, the Government of Pakistan spent only 2.6 percent in 2005/06, the lowest in all South Asian countries. Not only is the level of expenditure low, the rate of increase in spending is very slow.

In addition to spending more resources, Pakistan also needs to manage the sector better and spend efficiently. Because of the lack of a clear strategy, expenditures are volatile. There have been large expenditures on hospitals planned in the Public Sector Development Program (PSDP) that seem at odds with efforts to address the MDGs and improve equity. Further, the public financing system is highly fragmented with various entities being responsible for funding limited components and activities of a program in the health system. Such fragmentation weakens accountability and contributes to the inefficiency of delivery.

Domestic initiatives, such as the People's Primary Healthcare Initiative (PPHI), offer a means for improving the management of publicly financed services: The PPHI is a locally developed and financed approach to improving publicly financed primary care using NGO management. An evaluation of the initiative in two districts in Punjab showed that utilization of BHU services increased significantly and also community satisfaction of services increased. The PPHI can be further expanded and strengthened by (a) including Rural Health Centers under the responsibility of PPHI, and health workers such as lady health workers and vaccinators report to PPHI managers rather than vertically managed by the programs;(b) making the indicators of success explicit and having third party evaluation; and (c) using competitive selection of the NGOs to ensure innovative approaches.

The government could better harness the private sector to attain national health objectives. Much of the improvement in access to prenatal and obstetrical care is due to increased access to and use of the private sector. Taking advantage of private sector growth, even in rural areas, the government could devise alternatives to increase poor people's access to private providers. It could also consider buying services, such as institutional delivery, from the private sector.

In addition to the for-profit private sector, the government should explore ways to work with the philanthropic sector. This sector is performing well in managing and running hospitals, ambulances, and related health services. The results of half-hearted

attempts at giving public hospitals autonomy were modest. A better way of strengthening hospital services, especially for the poor, may be for the government to work with the philanthropic sector. This would involve partnering with philanthropies expand their services. Based on the performance of the philanthropies so far, this approach would appear to have a high likelihood of success.

Improving the HNP outcomes through the above strategies calls for the government to assume a stronger stewardship role in the sector. Because they remain occupied with service delivery, the federal and provincial governments devote little time to stewardship functions such as where they have a unique and irreplaceable role to play. This neglect could be partly because of lack of structure, resources, and skilled people to carry out the core stewardship functions both at the federal ministry and in the provincial level. The governments need substantial capacity building to enable them refocus on these core functions.

Introduction

Unless coherently addressed, Pakistan's poor health outcomes and high fertility rate will remain obstacles to poverty reduction efforts. Although Pakistan is making progress, it is unlikely to achieve the health MDGs at its current pace and the country will remain far behind other large South Asian countries. An analysis of both infant mortality and child malnutrition rates indicates that even with increases in maternal education, income, and immunization coverage, Pakistan is not on track to achieve the MDG targets for these indicators.

A comprehensive review of the sector is critical to guide the necessary reform efforts. Few studies have analyzed the serious weaknesses from which the sector suffers and the challenges it faces to more effectively use the limited resources available to it. Utilization of public facilities remains low, absenteeism is rampant, the quality of care is poor, and coverage of some key interventions is low. So far a comprehensive assessment of the sector is missing, although this is a prerequisite for the design of strategic reforms and for the engagement of all stakeholders.

1. Objective, Scope, Methods, and Audience

Objective: The review aims to develop a limited set of practical options that would allow the government and other stakeholders to improve the availability and use of health services, especially for the poor.

Scope The topics covered in the review were identified after extensive consultation with the Ministry of Health (MOH) and its development partners. The value added of the report lies in helping the various levels of government and their development partners focus on actions that are likely to improve the quality and coverage of health services. Though the selected topics are considered most pressing and are areas where synthesized documentation is needed, the review also identifies areas where there is knowledge gap. Of particular importance are human resources for health and the private sector. While human resource management issues are discussed in parts of the report, it needs further in-depth assessment to understand the governance, deployment and retention issues affecting service delivery. Accordingly, preparation is underway to have a separate study that can provide actionable recommendations supported by evidence. Similarly, as important as the private sector is in terms of both service provision and reaching the poor, little is available in the form of documented knowledge that can guide the government in its engagement with public private partnerships.

***Methodology and data sources*:** The report mainly focuses on synthesizing the available body of knowledge through review of existing studies, reports and research. The review draws on existing household surveys, particularly the Pakistan Demographic Surveys (2003 and 2005), Pakistan Health and Demographic Survey (2006/07), Pakistan Integrated Household Survey (2001/02), Pakistan Social and Living Standard Measurement Survey (2004/05, 2005/06 and 2006/07), Pakistan Reproductive Health and Family Planning Survey (2000/01), Household Integrated Economic Survey

(1992/93, 1993/94), Pakistan National Health Accounts (2005/06). In addition, data from World Development Indicators (2001-2009), special survey such as that conducted by the Tropical Disease Research Center (or Centro de Investigación de Enfermedades Tropicales- CIET 2005), and data from Biological and Behavioral Surveillance (IBBS 2005 and 06) conducted by Agriteam in partnership with the University of Manitoba and Pro-Action, were also used.

***Audience*:** The primary audience for this report consists of the GOP and its development partners, including the Bank management and staff involved in current and future operations in Pakistan.

Use of the report: The review provides various options to improve health service delivery and reach the poor. It highlights alternative interventions that are known to have quick impact and also interventions that need piloting. It also suggests alternative management systems that have worked in Pakistan to improve the performance of the system. The presented options can help guide the government's effort to focus to improve service delivery for the poor in order to achieve HNP targets of the MDGs. The options are also intended to inform development partners' support to the sector.

3. Structure of the report

The report starts with a description of the health and nutrition status of the population, Pakistan's fertility and growth rates and potential to benefit from a demographic dividend, the burden of diseases and trends in the past few years. The second and third chapters describe the performance of the public health care system over time, including coverage and utilization, quality of care, equity, and patient satisfaction and the impact of national programs. Chapter four discusses the financing of the sector, including overall trends, and the composition of public and private expenditures. Chapter five describes the organization and management of the sector and examines the role of government. Chapter six concludes by summarizing the key challenges facing the sector and suggesting a way forward.

CHAPTER 1. HEALTH STATUS IN PAKISTAN

This chapter presents trends on key health, nutrition, and population outcomes and examines whether Pakistan's rate of progress is sufficient to achieve the health MDGs by 2015. It looks specifically at (a) infant and child mortality; (b) nutritional status, particularly among children; (c) maternal mortality; (d) fertility and population; (e) the potential to benefit from a demographic dividend; and (f) the burden of disease and emergence of non-communicable diseases (NCDs). This chapter also looks at income, social, and gender variations in health status and suggests options for dealing with the challenges Pakistan still faces.

1.1 *Infant and Child Mortality*

Pakistan's infant and child mortality rates are high by regional standards. Although both the infant mortality rate (IMR) and the under-five mortality rate (U5MR) have steadily declined since 1990, the rate of decline over the last 15 years has been considerably slower than that of its South Asian neighbors according to World Bank and United Nations estimates **(**See Figures 1.1 and 1.2). Between 1990 and 2005, the rate of decline in the IMR was 21 percent in Pakistan—less than half of what it was in Bangladesh and Nepal where the IMR declined 46 and 44 percent, respectively[1].

Figure 1.1. Infant Mortality Rate

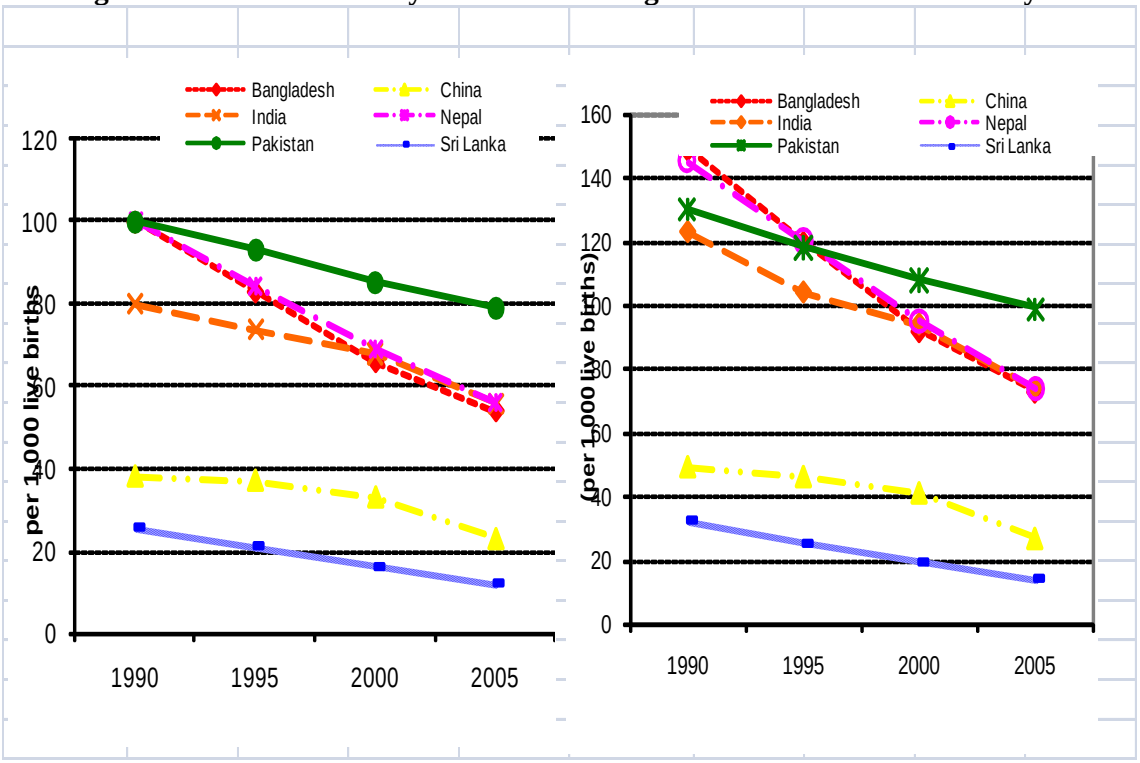


Figure 1.2. Under-Five Mortality Rate

Source: WDI 2007.

More than 400,000 children die every year. Similar to the IMR, the U5MR fell by only 24 percent in Pakistan between 1990 and 2006, compared to 57 percent in Sri Lanka and 40 percent in India[2]. Currently, infant mortality and under-five mortality stand at 78 and 94 deaths per 1,000 live births, respectively (see Tables 1.1 and 1.2).[3] This implies that almost 1 in every 10 children born in Pakistan between 2001-02 and 2006-07, died before turning five. This translates into more than 400,000 child deaths every year.

Table 1.1. Infant Mortality Rate (per 1,000 live births)
by Various Sources 1990-2007

	Survey Year	Reference Period	IMR
PDHS	1990-91		94
PIHS	1995-96		101
PFFPS	1996-97		92
PIHS	1998-99	1995-97	89
PDS	2000	2000	77
PRHFPS	2000-01		85
PIHS	2001-02	1997-99	82
PDS	2003	2003	76
PDS	2005	2005	77
PSLSMS	2004-05		82
PSLSMS	2005-06	2001-03	70
PDHS	2006-07	2001-06	78

Source: Pakistan Demographic and Health Survey (PDHS), Pakistan Integrated Household Survey (PIHS), PFFPS, PDS, PRHFPS, and Pakistan Social and Living Standards Measurement Survey (PSLSMS), various years.

Table 1.2. Under-Five Mortality Rate (per 1,000 live births)
by Various Sources 1990-2007

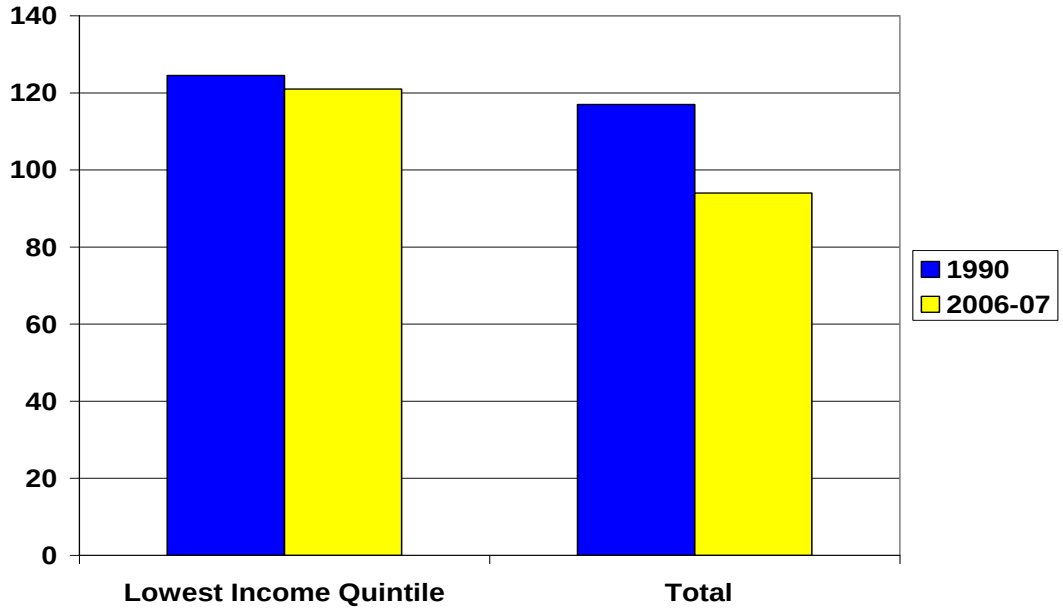
	Survey Year	Reference Period	U5MR
PDHS	1990-91		120
PSES	2000-01	1991-1999	96
PRHFPS	2000-01	1997-1999	105
PRHFPS	2000-01		103
PDHS	2006-07	2002-06	94

Sources: PDHS, PSES, PRHFPS, PDHS, various years.

The poorest have made little progress and the gap between rich and poor has increased. The 1990 and 2006 Pakistan Demographic and Health Surveys indicate that the poorest income quintile has seen almost no change in its under-5 mortality rate (see

Figure 1.3). This is discouraging and points out the need for ensuring that health services reach the poorest segment of the society.

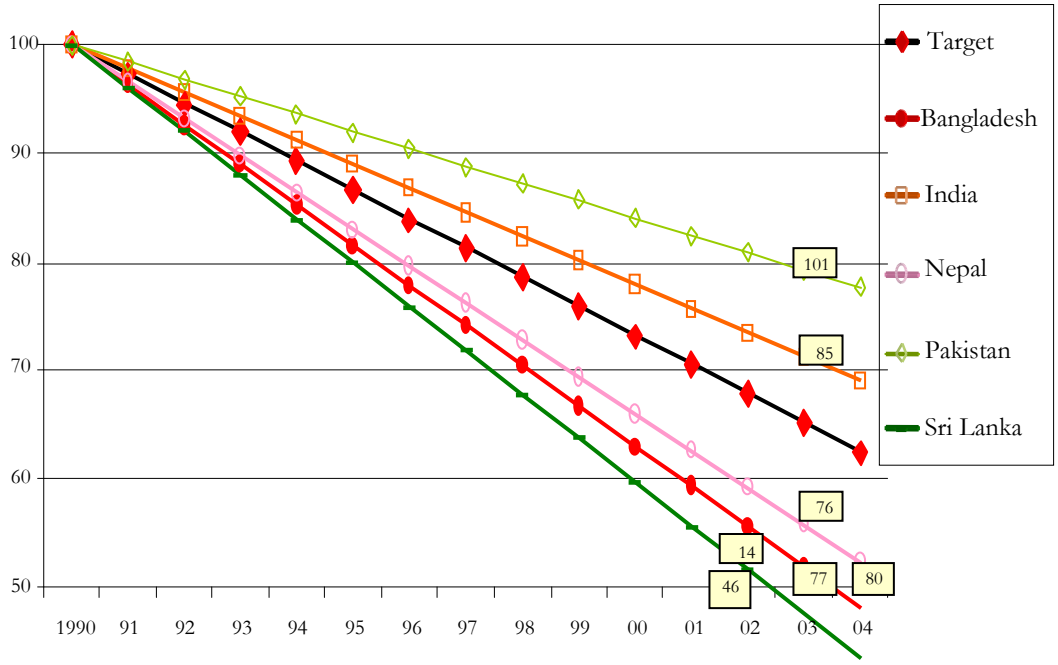
Figure 1.3. Under-5 Mortality Rates for the Poorest Income Quintile and the Whole Population, 1990 to 2006-07



Source: PDHS, 1990-91 and 2006-07.

Based on current trends, Pakistan will not achieve the child mortality millennium development goal. The MDG for child health (MDG 4) calls for a reduction by two-thirds in the 1990 levels of U5MR and IMR by 2015. For Pakistan, this translates into an IMR of 33 deaths per 1,000 live births and an U5MR of 43 deaths per 1,000 live births based on United Nations data and World Development Indicators[4]. A linear projection suggests that in 2015 Pakistan's IMR will actually be 65 deaths per 1,000 live births and the U5MR will be 78, considerably above the MDG4 targets. It also appears that Pakistan is the least likely country in South Asia to achieve MDG4. Figure 1.4 sets each country's 1990 U5MR at 100 and plots the percentage decline since then compared to what would be needed to achieve the MDG4 target (the absolute levels for the latest available year are in boxes at the right).

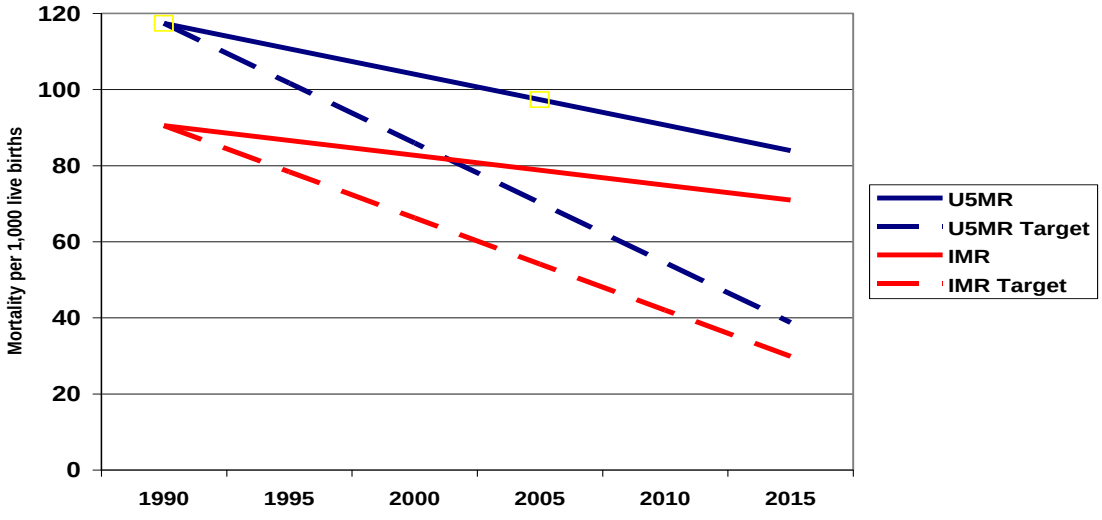
Figure 1.4. Progress on Reducing U5MR Compared to the MDG4 Target (1990 = 100)



Source: WDI, 1990.

Using different sources of data does not change the results of the projections. Using the results of the 1990-91 and 2006-07 Pakistan Demographic and Health Surveys (PDHS) instead of UN and World Bank data does not change the projections about the likelihood of Pakistan achieving MDG4; on the contrary, the PDHS data projects the likely shortfall to be worse (see Figure 1.5).

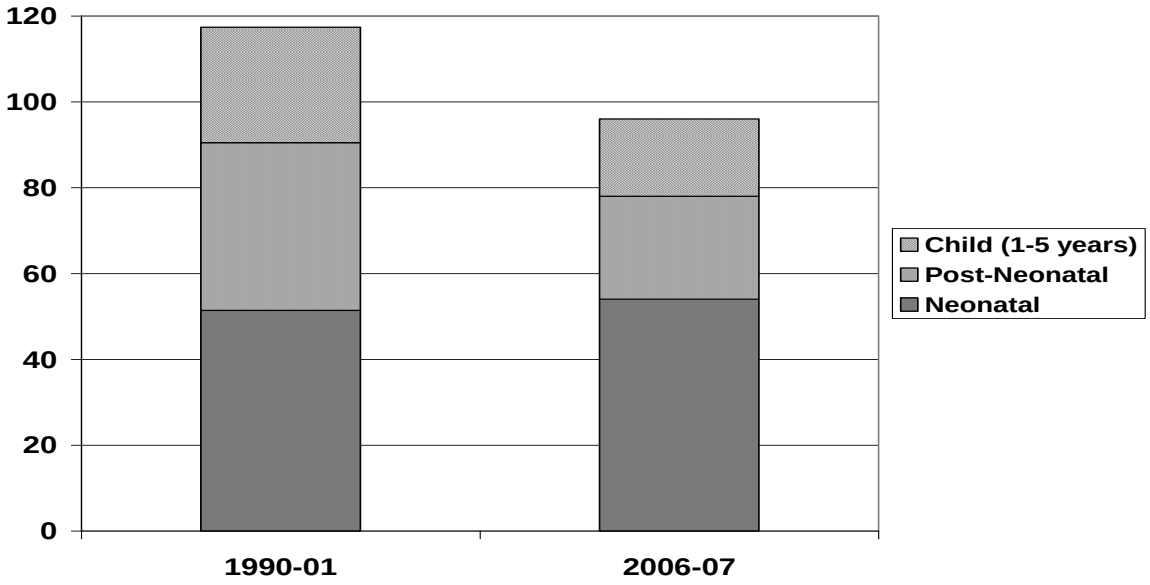
Figure 1.5. Projections of U5MR and IMR to 2015 Compared to the MDG Targets (Based on PDHS Data)



Source: DHS 1990-91 and 2006-07.

Neonatal mortality accounts for 57 percent of under-five mortality and has changed little since 1990. Neonatal mortality (that which occurs in the first 28 days of life) now accounts for 57 percent of all under-five deaths in Pakistan. Unlike post-neonatal mortality (children who die between 28 days and their first birthday) and child mortality (children who die between their first and fifth birthdays), neonatal mortality rates have changed little since 1990 (see Figure 1.6). In fact, Pakistan has the highest neonatal mortality in the region[5] and neonatal mortality levels have remained more or less stagnant during the last three decades[6].[a]

Figure 1.6. The Composition of Under-5 Mortality



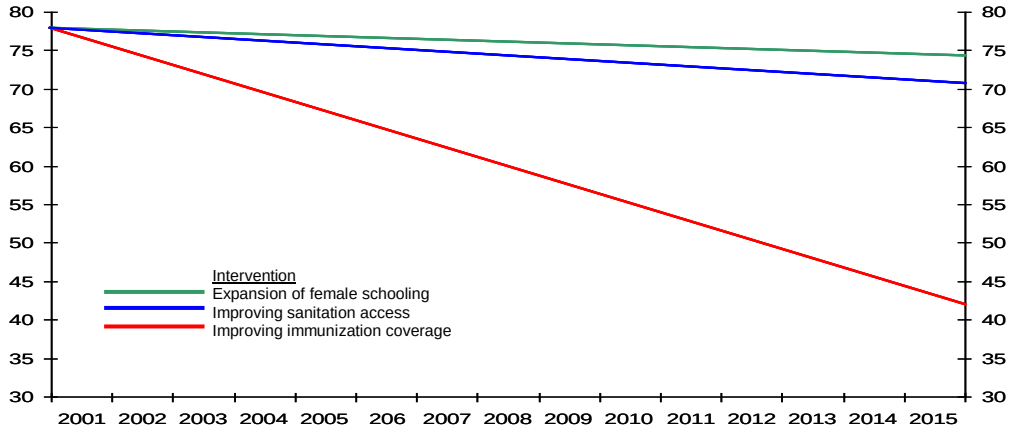
Source: PDHS 1990-91 and PDHS 2006-07

Gender does not appear to be an important factor in child mortality: PSLSM surveys since the mid-1990s up to the present (and including the PDHS 2006-07) show that girls in Pakistan display the expected biological advantage in IMR. This is quite different from India where boys have a lower U5MR than girls (98 vs. 105 – WDI 2007).

[a] Regional comparisons were obtained from the WHO's Statistical Information System (2007). Estimates for neonatal mortality are for 2004. The WHO neonatal estimate for Pakistan in 2004 was 53 deaths per 1,000 live births.

Multivariate analysis suggests that health interventions will have the largest impact on the IMR. A multivariate probit[b] model using the Pakistan Socio Economic Survey (PSES) suggests that specific health interventions will have the largest impact on IMR (World Bank 2005[7]). Figure 1.7 shows the projected decline in the IMR in Pakistan with three selective interventions[c] being pursued simultaneously and gradually to 2015.[d] An expansion of female schooling and increased sanitation coverage are each associated with declines in infant mortality of three to four deaths per 1,000 live births. On the other hand, expanded immunization coverage, likely linked with other health services, is associated with a large decline of 28 deaths per 1,000 live births. With the full package of interventions, the IMR in the country is projected to decline by 35 infant deaths per 1,000 live births by 2015.

Figure 1.7. Projected Infant Mortality Rate to 2015 Under Different Intervention Scenarios (cumulative effect of each additional intervention)



Source: World Bank, South Asia Human Development Sector,"Attaining the Millennium Development Goals in Pakistan" Discussion Paper Series Report No. 8, May 2005.

Evidence suggests that broad socio-economic progress by itself will not be sufficient to help Pakistan achieve the MDG related to reducing child mortality rates. First, the economic growth that has taken place over the last 15 years appears to have had little impact on the U5MR of the poorest income quintile. Second, controlling

[b] Since the dependent variable is dichotomous the model has been estimated by the maximum-likelihood probit method. The simulations discussed should be treated as indicative of possible trends in the future – not as definitive predictions.

[c] The starting value of the percentage of women with 10 or more years of schooling is 8.3 in 1998-99 and a 0.5 percentage point change is assumed per year. Percentage of households with access to toilet was 44.5 percent and a 1.8 percentage point change is assumed. Lastly, 68.5 percent of the population had immunization coverage in a district and 2.1 percentage point change per year was assumed.

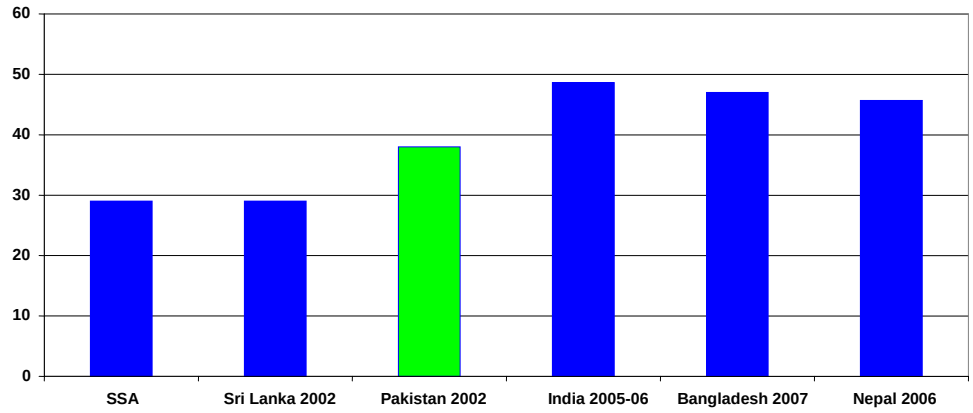
[d] The scope and magnitude of the assumed interventions illustrate the likely reduction in IMR under one possible scenario. There is no implication that the assumed interventions will take place and, even if they do, whether the interventions will proceed at the pace assumed.

for other variables, non-health interventions appear to have had only modest impact on the IMR. Third, other countries in the region with similar or worse economic growth rates (such as Bangladesh and Nepal) have achieved much greater rates of decline in the IMR and U5MR.

1.2 *Child Nutritional Status*

Pakistan has a high prevalence of malnutrition by global standards, although lower than elsewhere in the South Asia Region. With the exception of Sri Lanka, at 38 percent Pakistan has the lowest prevalence of under-weight in South Asia[e]. However, the extent of malnutrition in the country is still very high by global standards and still compares poorly even against averages for sub-Saharan Africa (Figure 1.8).

Figure 1.8. Prevalence of Malnutrition (children more than two standard deviations below the weight for age norms) Among Children Under 5 in Percent

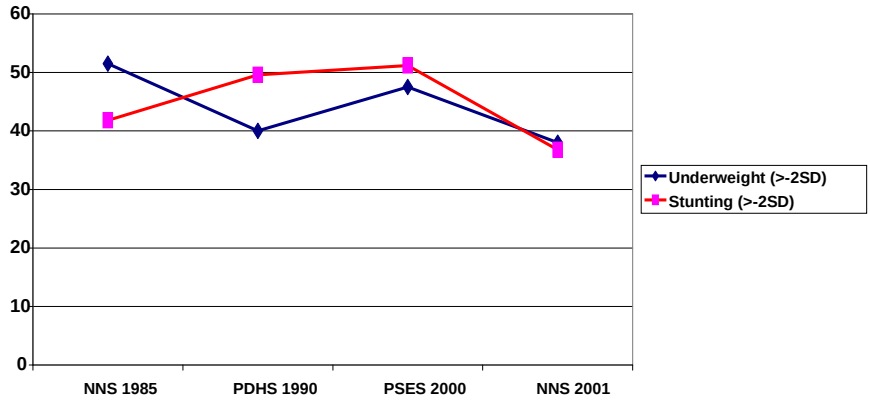


Source: Sri Lanka Pakistan (DHS 2003) Nepal (DHS 2006); Bangladesh (DHS 2007), India (NFHS 2005-06). Sub-Saharan África (SSA) 2007 estimate.

The trend in child nutritional status appears static. From the currently available survey data it does not appear that malnutrition as measured by the prevalence of underweight (i.e., more than two standard deviations below the weight for age norms) has changed much since the early 1990s (see Figure 1.9). Stunting (i.e., the proportion of children more than two standard deviations below the height for age norms), an indicator of chronic under-nutrition, appears to have declined from the early 1990s. But this suggests little sustained progress when compared to the national nutrition survey in 1985.

Figure 1.9. Prevalence of Under-5 Malnutrition According to Various Surveys

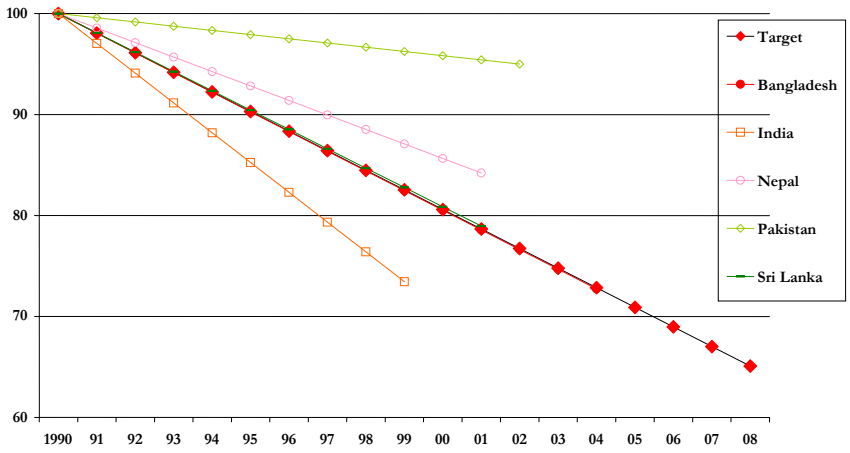
[e] This is using population reference of the National Center for Health Statistics.



Source: NNS 1985, 2001; PDHS 1990; and PSES 2000

Pakistan is not on track to achieve the MDG related to reducing malnutrition. Without concerted efforts, it does not appear that Pakistan will achieve the MDG nutrition target as it has the slowest rate of decline in malnutrition rates in South Asia. Figure 1.10 plots the percentage decrease in malnutrition prevalence of South Asian countries by setting the prevalence in 1990 to 100.

Figure 1.7. Prevalence of Malnutrition (moderate and severe under-weight) (1990 = 100)



Source: WDI 2006 and UNDP 2005-06.

There are widespread micronutrient deficiencies in Pakistan: According to the 2001-02 National Nutrition Survey (NNS), 12.5 percent of children suffered from Vitamin A deficiency; nearly 36 percent, from iron deficiency anemia; and 37 percent, from zinc deficiency (see Table 1.3). While 6.5 percent of children were found to suffer from a clinical sign of severe iodine deficiency in 2001-02, biochemical evidence of subclinical iodine deficiency (urinary levels below 20 ug/ml) was found in 59 percent of school-aged children (23 percent had severe deficiency, 17 percent moderate, and 19 percent mild)[8]. These micronutrient deficiencies are very serious because the causal link between them and adverse child health and developmental outcomes is very strong.

Table 1.3. Summary of Micronutrient Deficiency Prevalence Rates (percent)

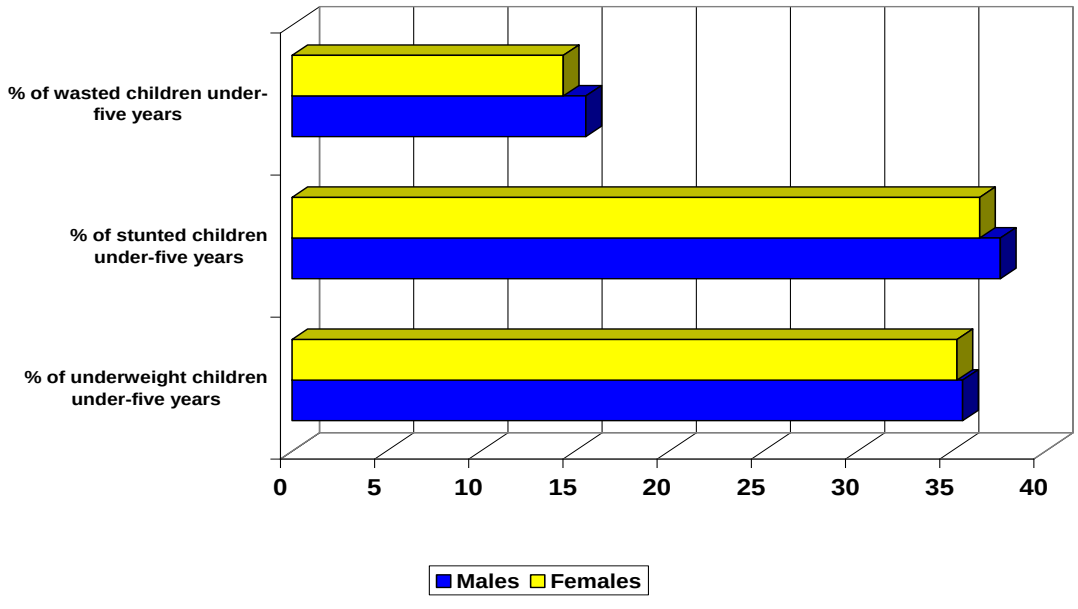
Survey	Sample	Vit. A Deficiency	Severe Iodine Deficiency	Iron Deficiency Anemia	Zinc Deficiency
NNS 2001-02	Children 0-5 Years	12.5	22.9	35.6	37
	Mothers 15-49 years of age	5.9	36.5	25.5	41

Source: GOP, Micronutrient Initiative and Nutrient Wing, National Plan of Action for the Control of Micronutrient Malnutrition in Pakistan, p. 14.

The consequences of widespread malnutrition are many and serious. In addition, to interfering with psycho-motor development and increasing the risk of dying in childhood, wide-spread malnutrition reduces school performance and may independently reduce the productivity of the adult workforce. Chronic malnutrition in females may cause difficulty and death in future pregnancies and impaired physical and mental development in their offspring[9]. Recent research also indicates that malnutrition in childhood increases the risk of developing chronic non-communicable diseases, such as heart disease, as an adult. Therefore, Pakistan cannot afford to have such high levels of malnutrition.

No evidence of gender differentials in nutritional status has been found. The results of the 2001-02 NNS (see Figure 1.11) and previous surveys, particularly the 1990-91 PDHS, do not show any obvious indication of gender differentials in rates of malnutrition. The similarities between males and females in terms of nutritional status remain even when taking income levels into account.

Figure 1.8. Malnutrition Prevalence by Gender – National Nutrition Survey 2001-02



Source: NNS 2001-02

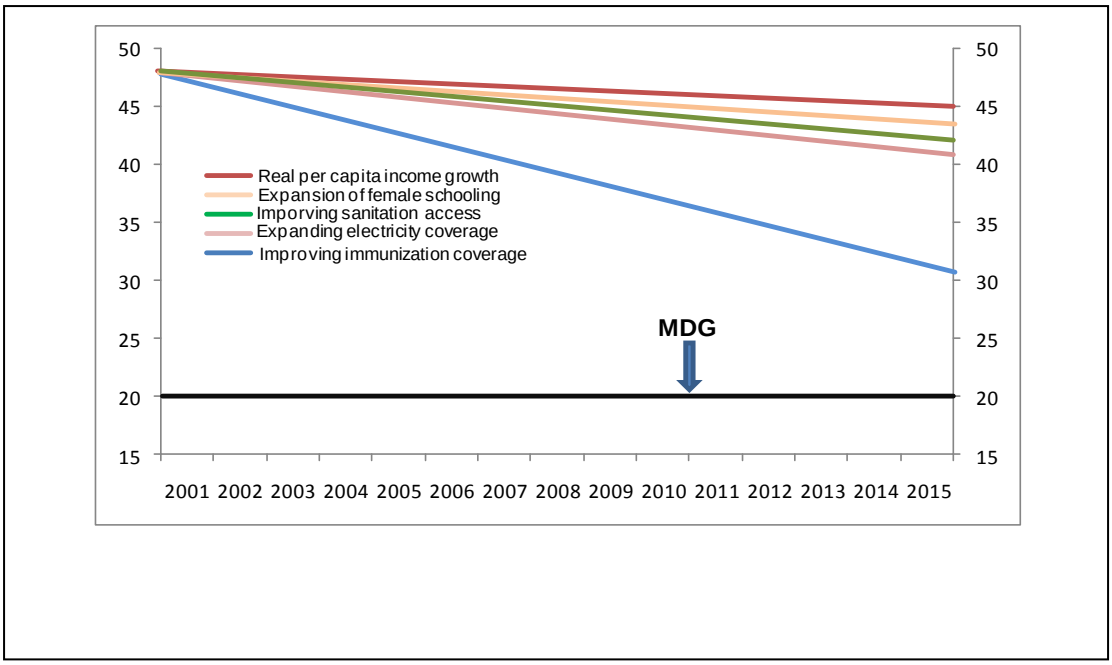
Multivariate analysis suggests that health interventions will have the largest impact on malnutrition: The multivariate probit[f] model discussed earlier also suggests that specific health interventions will have the largest impact on rates of malnutrition (World Bank 2005). Figure 1.12 shows the projected decline in the child underweight rate in Pakistan with five selective interventions being pursued simultaneously and gradually to 2015. A 5.4 percent annual increase in household consumption expenditure per capita is associated with a reduction of the child underweight rate by 2.4 percentage points. This is consistent with the finding that the national average daily per capita consumption of calories (2,350) and protein (62g) is adequate[10].Expansion of female schooling and increased sanitation and electricity coverage are associated with modest declines in the child underweight rate of about 1-1½ percentage points.[g] However, expanded immunization coverage is associated with a dramatic decline in child malnutrition of about 10 percentage points, and it swamps the effect of the other interventions.[h] With the full package of interventions in place, the child underweight rate in the country is projected to decline by 16 percentage points by 2015.

Figure 1.9. Projected Child Underweight Rate to 2015. Under Different Intervention Scenarios (cumulative effect of each additional intervention)

[f] Since the dependent variable is dichotomous the model has been estimated by the maximum-likelihood probit method. The simulations discussed should be treated as indicative of possible trends in the future and not as definitive predictions as it does not include variables that may have large impact on nutrition such as early and exclusive breastfeeding, complementary feeding.

[g] In 2000-01, 20.5 percent of women had some formal schooling and a 2 % point change is assumed per year. 78 percent of households had an electricity connection in 2000-01 and a 1.45 % point annual increase has been assumed. 44.5 percent of households had access to a toilet and a 1.8 %point annual increase has been assumed. Lastly, 68.5 percent of the population in each district had immunization coverage and a 2.1% point annual increase has been assumed.

[h] The plausibility is that vaccines prevent infections (e.g. measles) that would reduce appetite, intake of food and reduce absorption.



1.3 *Maternal Mortality*

Maternal mortality appears to have decreased. The maternal mortality ratio (MMR) -- the number of maternal deaths per 100,000 births - is one of the hardest of the MDGs to measure, partly because, statistically, it is a rare event. As Table 4.1 shows, different studies using different methodologies provide varying estimates. Yet it shows a declining trend. Given an MMR of about 300 and a total fertility rate of 4.1, the average woman in Pakistan runs about a 1 in 80 risk of dying of maternal causes during her reproductive life.

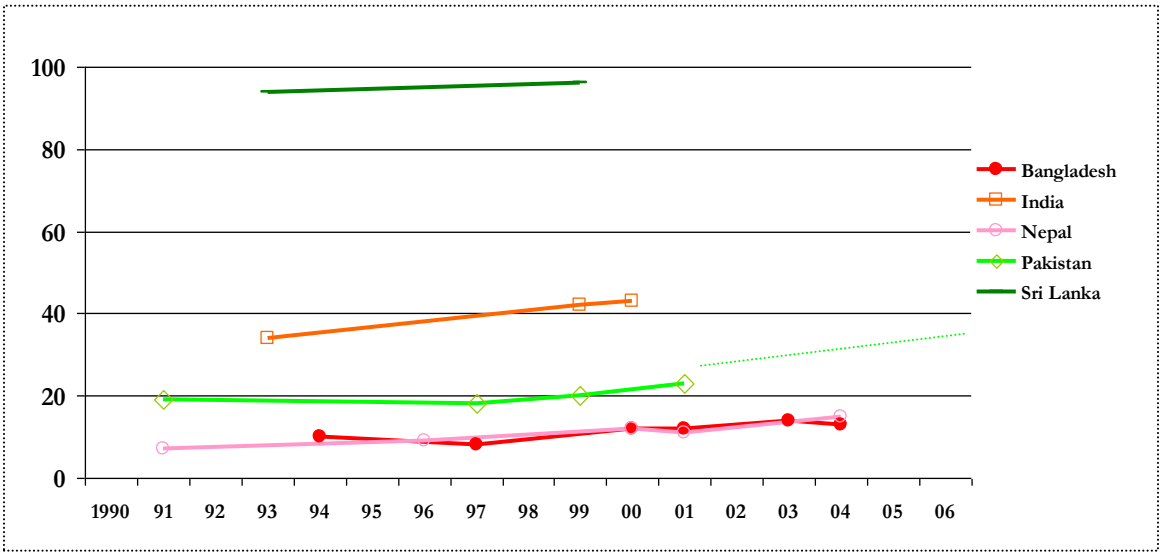
Table 1.4. Maternal Mortality Ratios from Different Studies in Pakistan

Study/Source	Reference Period	Estimation Method	MMR Estimate
National Reproductive Health and Family Planning Survey 2001	1990-91	Indirect Sisterhood Method	533
Maternal and Infant Mortality Survey 1998	1988-93	Verbal Autopsy	392
Maternal and Infant Mortality Survey 2001	2000-01	Statistical Modeling	279
UN Estimates 2004	2000	Statistical Modeling	500
UN Estimates 2005	2005	Statistical Modeling	320
PDHS 2006-07	2003-2006	Verbal Autopsy	276

Source: Pakistan Reproductive Health and Family Planning Survey 2001; Maternal and Infant Mortality Survey 1998; Maternal and Infant Mortality Survey 2001; UN Estimates 2004, 2005; PDHS 2006-07

There has been a slow increase in skilled birth attendance. Because of the difficulties of measuring MMR accurately and frequently, more attention has been paid to measuring increasing skilled birth attendance, which is seen as a proxy for maternal mortality. Pakistan has made slow progress in increasing the proportion of women who benefit from skilled birth attendance; the 2006-07 PDHS indicates that it has only reached 38 percent. Although this is progress, it is significantly behind that of India and far behind what has been accomplished in Sri Lanka (see Figure 1.13). A similar story applies to delivery in a health facility, which has increased from 14.8 percent in the 1990-91 PDHS to 34.2 percent in the 2006-07 PDHS. In order to achieve MDG5 (i.e., reducing MMR by three fourths of 1990 levels) Pakistan will have to rapidly expand the use of skilled birth attendants and delivery in a facility.

Figure 1.10. Skilled Birth Attendance (percent) Across South Asia



Source: WDI 2006 and UNDP 2005-06

Doctors are attending more deliveries. Over the last 6 years there appears to be an increase in the proportion of deliveries that are attended by doctors, even in rural areas. As the data in Table 1.5 show, the increase in attendance by doctors seems to be displacing traditional birth attendants (TBAs) and completely unskilled attendants. Midwives, nurses and LHVs play a relatively smaller role than doctors, even in rural areas.

Table 1.5. Proportion of Birth Assistance by Type of Provider

	2001-02 PIHS			2006-07 PSLSMS		
	Urban	Rural	Overall	Urban	Rural	Overall
Doctor	40	11	19	48	17	26
Nurse	8	3	4	10	6	7
Trained Dai/TBA	43	61	56	32	56	49
Midwife				6	3	3
Family member/Neighbor/Friend	8	23	19	5	18	14
LHV						
Total	100	100	100	100	100	100

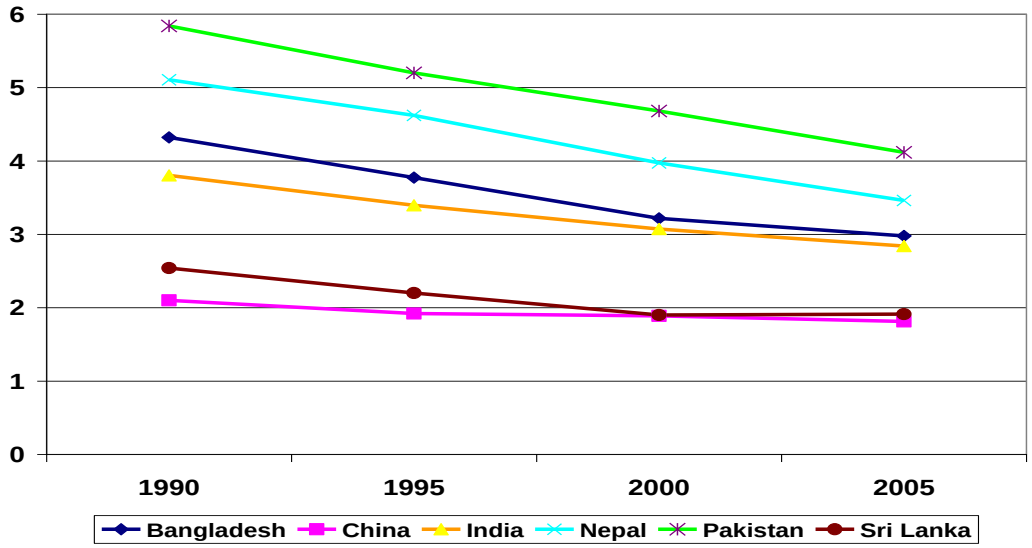
Source: PSLSMS 2005-06
Note: (1) Based on births during the past three years to all ever married women aged 15-49 years (last pregnancy only). Totals may not add to 100 because of rounding.

1.4 *Fertility*

Pakistan's fertility rate is much higher than that of its neighbors. Although Pakistan has witnessed a decline from 5.6 children per women in 1990-91 to 4.1 in 2006-07, its total fertility rate (TFR) is still considerably higher than any of its neighbors' (see Figure 1.14). When combined with the young population age structure,

the annual population growth rate has remained nearly constant over the last 15 years, at around 2.4 percent per year, an effect known as "demographic momentum."

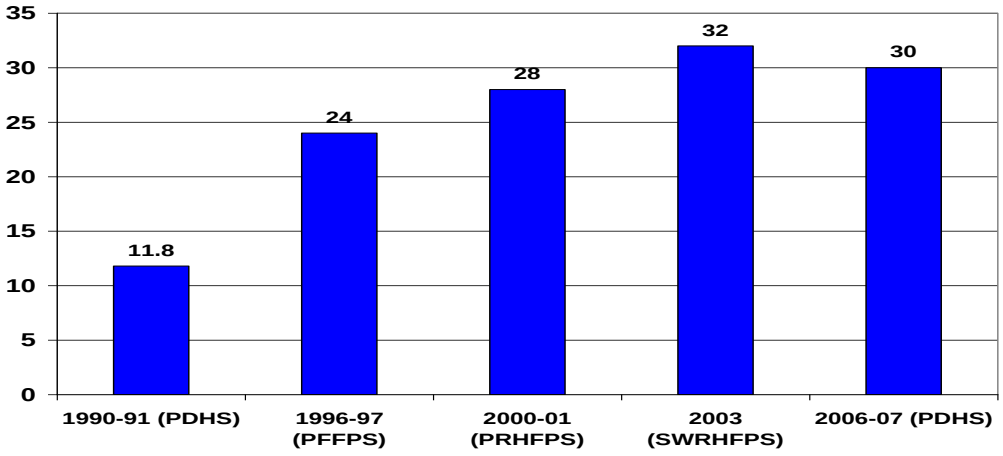
Figure 1.11. Total Fertility Rate (children per woman) 1990 - 2005



Source: WDI 2007

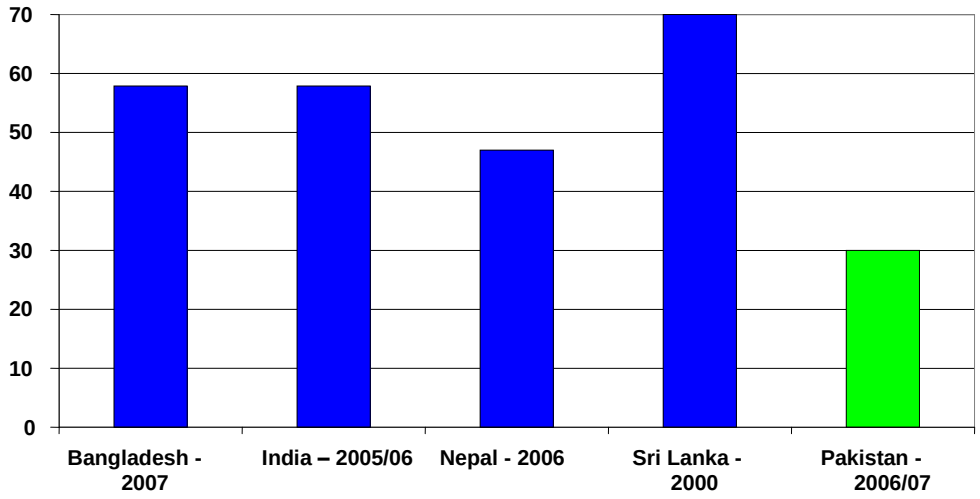
Much of Pakistan's high fertility rate is largely due to low use of contraceptives. Recent research points to the importance of access to family planning in reducing fertility rates, particularly in countries with a young age distribution. While Pakistan's CPR has improved slowly since 1990 (see Figure 1.15), it remains far behind its South Asian neighbors'. Bangladesh, for example has nearly twice as high a CPR as Pakistan does (see Figure 1.16) and consequently a low TFR.

Figure 1.12. Contraceptive Prevalence Rate (all methods, percent) Over Time in Pakistan



Source: PDHS 1990-91, 2006-07; PFFPS 1996-97; PRHFPS 2000-01; SWRHSPS 2003.

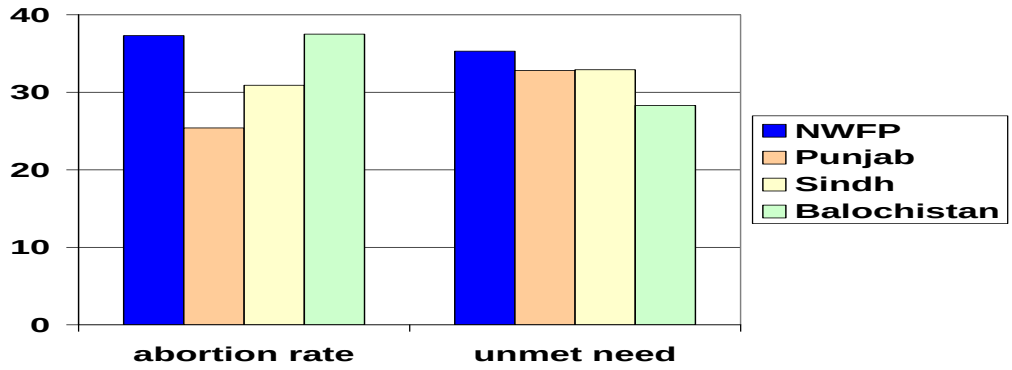
Figure 1.13. CPR (all methods, percent) in South Asia



Sources: Bangladesh DHS 2007; Nepal DHS 2006; India National Family Health Survey 2005-06; Pakistan DHS 2006-07; WDI 2007 and WHO statistical system 2007

There is a large unmet demand for family planning. Assessing the true unmet demand for contraception is challenging but a number of surveys in Pakistan consistently show that couples do indeed want to use family planning. The results of various studies show that the unmet demand for family planning has unfailingly been above 30 percent, the highest rate outside sub-Saharan Africa. The unmet need in rural areas of Pakistan is substantial, and the very high rates of abortion suggest that it is indeed high (see Figure 1.17). It also implies that women's lives are at risk from unsafe abortions.

Figure 1.14. Abortion Rate (per 1,000 women) and Unmet Need for Contraception (percent)



Source: Population Council 2004

Condoms and female sterilization are the main modern methods of contraception used. Data from 2006-07 PDHS indicate that condoms and female sterilization are the most popular forms of modern contraception and that female sterilization is particularly important in rural areas. The relatively low overall CPR and low use of pills and injectables, especially in rural areas, is disappointing given the dramatic increase in the number of LHWs over the last 5 years.

There are important benefits from further decreases in fertility. Rapidly reducing Pakistan's fertility rate would be expected to

(a) Improve women's health and reduce overall maternal mortality by reducing the number of births, especially high order births, which are riskier than low order ones (e.g., second or third births);

(b) Reduce infant mortality rates by increasing the birth interval, i.e., the time between births. Currently in Pakistan a third (33.7 percent) of birth intervals are less than 24 months, putting the second child at twice the risk of dying in infancy;

(c) Help empower women by providing them choices about when and how many children to have, and enabling them to participate in the workforce; and

(d) Provide an opportunity for sustained and rapid economic growth. This opportunity is generated through a reduction in the dependency ratio and increase in the working-age population. This process, called the demographic dividend, is discussed in the next section.

1.5 *Generating a Demographic Dividend and Capturing the Benefits*

A demographic dividend is derived from changes in the age structure of the population as it moves through a demographic transition, a path which Pakistan is slowly following. A demographic dividend is possible when fertility falls, reducing the share of children in a population. The corresponding expansion of the share of the population in the labor force group may last for a window of about 50 years[11] once fertility has begun to decline and before population aging is significant.[i] As the previous section shows, Pakistan is gradually following this path.

The realization of the potential dividend is built on the twin pillars of demographic change and supportive socio-economic policies. As fertility declines, the share of children in the total population is reduced, thus increasing the proportion of working-age adults and youths. Such change is reflected in the dependency ratio, which measures the share of the population which is "dependent", i.e. those aged 0-14 years, and those 65 years and above. [j] The potential dividend stems from the contribution of

[i] A second demographic dividend may occur during the period when the population is aging, as the older group accumulates savings which are then available for capital intensification. As this possibility is in the distant future for Pakistan, this paper focuses on the first potential demographic dividend.

[j] The total dependency ratio is the ratio of the sum of the population aged 0-14 and those aged 65+ to the population aged 15-64. The child dependency ratio is the ratio of the population aged 0-14 to the population aged 15-64. The old-age dependency ratio is the ratio of the population aged 65 years or over to the population aged 15-64. This may be too rigid a definition in countries where children start to work at young ages, and where people remain productive in the labor force at older ages. However, it provides a useful tool for comparison.

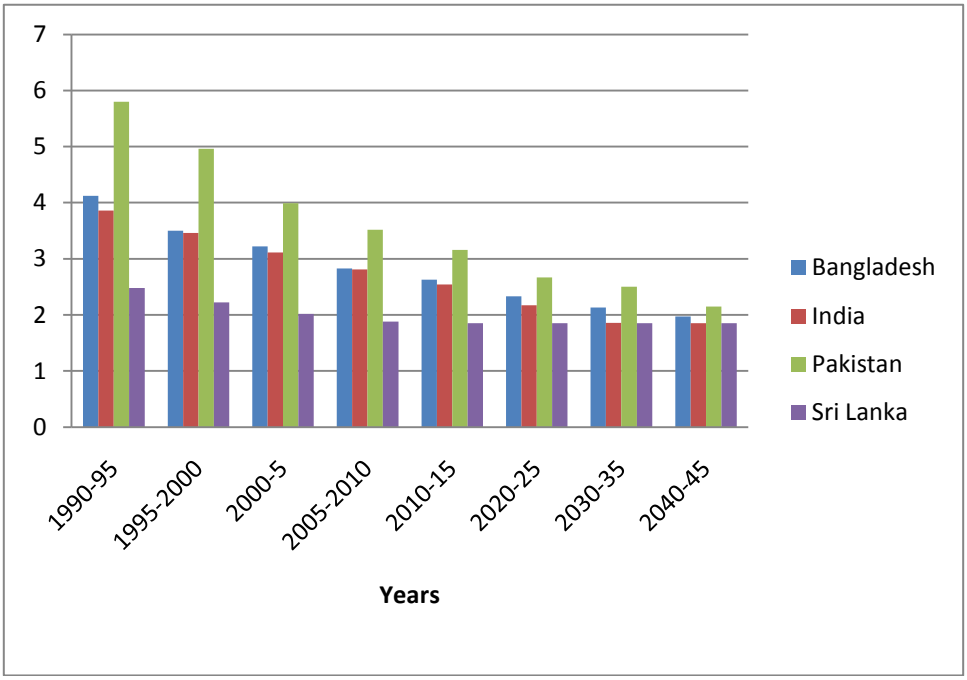
the enlarged working-age group relative to the young and dependant. However, just having proportionately more people in the working-age group does not automatically produce a dividend. The benefit depends on the second pillar, namely, the policy environment that creates the enabling conditions to engage the enlarged labor force in productive activities.

If the dividend is to be captured, these two pillars must be the priority areas of action for Pakistan. The question is whether the government of Pakistan will concentrate its efforts firmly on the policies that are needed to capture this potential demographic dividend. The following section assesses Pakistan's performance in this regard and provides the options to further decrease fertility.

A) Pillar one : Demographic Change

Not only is Pakistan's total fertility rate one of the highest in South Asia, but it is projected to remain so for the coming 35 years (Figure 1.19). Pakistan is projected to have a population of 173 million in 2010, growing at 1.8 percent a year[12] and doubling in about 39 years if current fertility and mortality rates are maintained.

Figure 1.15. Regional Comparisons of Total Fertility Rate Forecasts

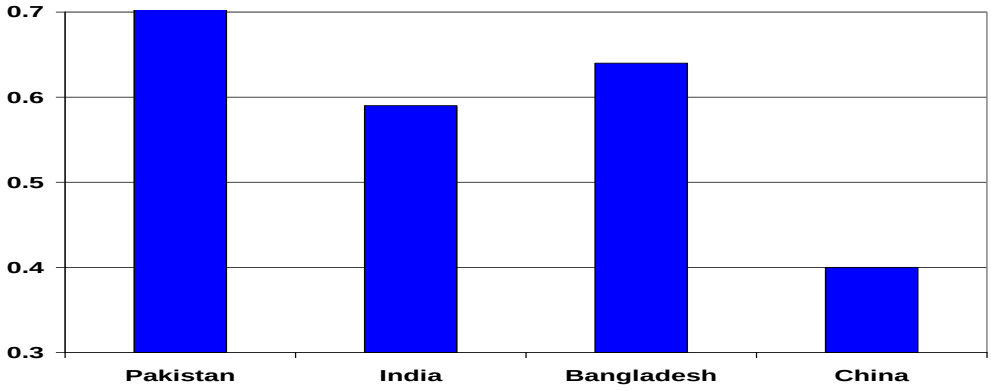


Source: United Nations, Population Division,
World Population Prospects: The 2006 Revision, Medium Variant.

As a result Pakistan also has the highest dependency ratio, which is expected to remain high for years to come. While the country has made notable progress in reducing the dependency ratio, it falls short relative to the level achieved by its

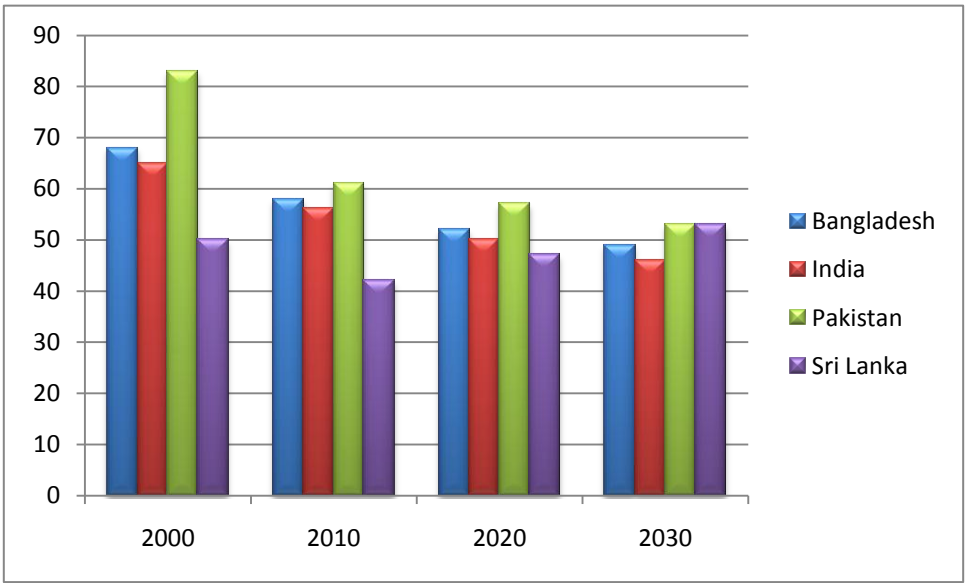
neighbors. The dependency ratio is higher than that of other large Asian countries (Figure 1.16), and is projected to remain so for the next 20 years (Figure 1.17).

Figure 1.16. Dependency Ratios (dependents per working-age person) 2005



Source: World Development Indicators 2007

Figure 1.17. Regional Comparisons of Dependency Ratio Forecasts



Source: UN Population Prospects: 2006 Revision – Medium Variant

Accelerating the rate of fertility reduction should be the priority. The proximate determinants of fertility highlight the fact that further declines will be harder to achieve (see Annex1 for further discussion of the determinants of fertility). Efforts to increase the use of modern contraceptive methods to address the unmet need (Figure 1.18) should be strongly pursued. Supportive and expanded efforts to reduce fertility, especially in the rural areas, are clearly needed. These efforts are also necessary to mitigate the effects of the population momentum, which will generate a higher number of births because of the young age structure of the population.

B) Pillar two: Socio-economic policies

The second pillar of the demographic dividend is socio-economic policies that create an enabling environment for the emerging labor force to engage in productive activities. Three policy areas strongly affect the potential contributions of this group of people: health, education, and labor force participation.

(a) *Health:* Although Pakistan has made some progress in improving health outcomes and reducing gender differences, the rate of progress has been much slower than that of its South Asian neighbors. The gap between the high and low income groups in accessing health services is not narrowing. Section 1.6 on burden of disease and Chapter 2 on the performance of the public health service review what needs to be done to improve the provision of health services in ways that help capture the demographic dividend.

(b) *Labor force participation: The demographic dividend can only be captured if those available to wo*rk are engaged in productive activities. The size of the working-age group is projected to expand from just over half the population in 1990 to almost two-thirds by 2020. The overall labor force participation rate rose from 42 percent in 1992/3 to 47 percent in 2005/6. This increase occurred largely in rural areas and among males. Although female participation rates showed a steady but small increase during the same period, the gender gap of more than 50 percent in the participation rates for men and women is much higher than the average gap of 35 percent in South Asia. A number of studies have shown that increasing contraceptive prevalence increases the likelihood of labor force participation. Hence the need to prioritize meeting the unmet need for contraceptives.

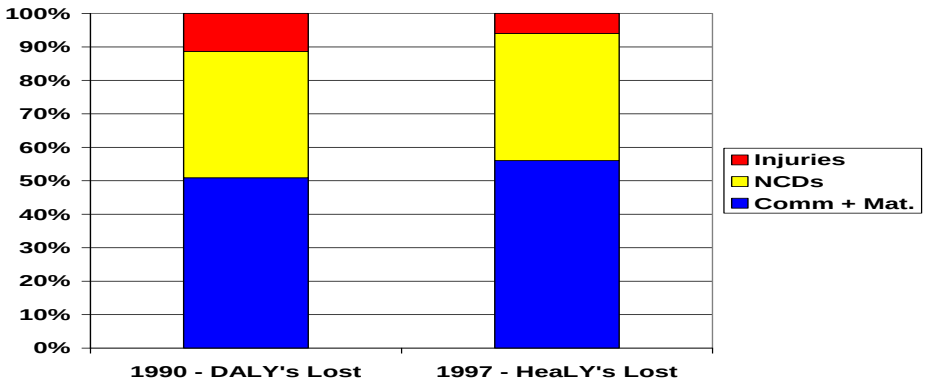
(c) *Education:* While notable progress has been made to expand education, the country is long way from attaining universal literacy and primary education. In 2006, only 56 percent of boys and 48 percent of girls attended primary school. A major gap remains between rural and urban areas, and female literacy continues to be lower than male.

In sum, Pakistan has the potential to generate a demographic dividend, and to capture this dividend decreasing fertility should be one its top priorities. Pakistan must intensify its efforts to increase the rate of decline in fertility and to improve the quality of life of the growing youth. Otherwise, if the decline in fertility moves slowly, if women are limited in their labor force participation, and if labor force entrants are poorly educated and have difficulty finding productive employment, the result will be a growing pool of underemployed and unemployed youth, a potentially destabilizing burden. This will be a burden rather than a dividend.

1.6 *Burden of Disease*

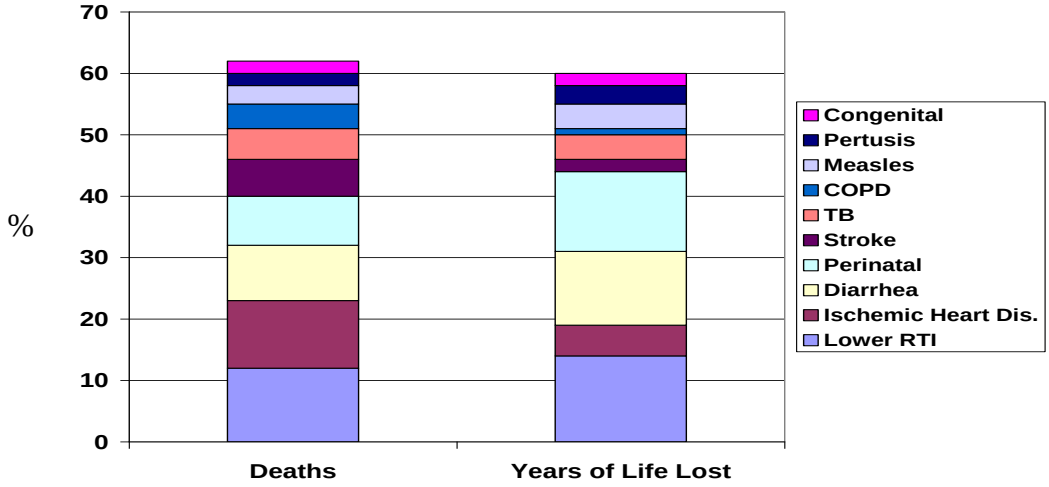
Pakistan is going through an epidemiological transition that subjects it to a double burden of disease. According to the most current estimates, communicable diseases combined with maternal and perinatal conditions remain the main causes of illness, accounting for more than 50 percent of the disease burden (see Figure 1.22). However, as Pakistan's population ages over the next 25 years and communicable diseases are better controlled, non-communicable diseases (NCDs) will come to predominate. This implies that, as the population ages, the health care system has to do more to control communicable diseases while also learning to systematically address what is certain to be a growing burden of NCDs.

Figure 1.18. Burden of Disease based on Disability Adjusted Life Years (DALYs) Lost and Healthy Life Years (HeaLYs) Lost



Communicable diseases that can be prevented at relatively low cost still dominate. Using Disability Adjusted Life Years (DALY) or Lost and Healthy Life Years (HeaLY) is important because it provides an overall assessment of the importance of different diseases. This can be seen well in Figure 1.22, which compares the 10 leading causes of death with the corresponding years of life lost. For example, ischemic heart disease accounted for 11 percent of deaths in 2002, but only 5 percent of years of life lost. This is because many of the people who died of ischemic heart disease did so at an advanced age. Figure 1.23 emphasizes the continuing predominance of infectious and perinatal conditions in the burden of disease. Much of the current burden of disease is caused by communicable diseases that are preventable at relatively low cost. For example, lower respiratory tract infections, diarrheal diseases, measles, and whooping cough account for almost a third of the years of life lost but can be controlled by low-cost interventions, such as vaccination, simple treatment, and hand washing.

Figure 1.19. Top Ten Causes of Death and Years of Life Lost in 2002 in Pakistan



Source: World Health Statistics, 2006. WHO

Women face a greater burden of disease due to maternal/reproductive health issues. Despite a significantly lower risk of dying from injuries and some advantage in NCDs, women still face a larger overall burden of disease (see Table 1.6). This is mostly due to maternal and related causes, which overwhelm the advantage women have in other areas.

Table 1.6. Healthy Life Years (HeaLYs) Lost Due to Cause-Specific Mortality (adjusted for "others" category)

	Males	Females	Total
	HeaLYs lost per 1,000 population	HeaLYs lost per 1,000 population	HeaLYs lost per 1,000 population
All causes	358.10	375.59	366.50
Infections, maternal and perinatal causes	180.57	223.58	205.56
Chronic non-communicable diseases	145.04	134.45	139.95
Injuries	32.49	8.55	20.99

Source: Measuring the burden of premature mortality in Pakistan: use of sentinel surveillance systems "Public health" (2004) xx, 1-7

Tuberculosis (TB) remains a major killer despite a cheap and effective cure. Human Immunodeficiency Virus (HIV) and malaria also pose serious threats. The government will need to work hard to control these diseases. Pakistan suffers from the sixth highest burden of TB in the world with about 270,000 people falling ill from the disease each year and some 66,000 people dying from it. This despite the fact that TB can be treated effectively for less than US$30 per case. Pakistan has made significant progress in controlling TB in the last few years, but these efforts need to be sustained and further expanded.

In the absence of intensive preventive activities, HIV poses a serious threat to Pakistan. Although there is little evidence that HIV is widely prevalent in the general population, the findings of four rounds of biological and behavioral surveillance indicate that Pakistan suffers from a concentrated HIV epidemic among selected high-risk groups, particularly injecting drug users (IDUs). The situation in Sargodha, with 51 percent prevalence among IDUs, points out how serious the epidemic can become in a short period and the danger it poses. It also appears that HIV, in some cities, has spread to male sex workers (MSWs) and Hijras or Eunuch Sex Workers (ESWs). The good news is that HIV appears not to have spread yet to the female sex worker (FSW) population and, in those cities with extensive HIV prevention efforts; there has been a decrease in risky behaviors among the high-risk groups. This suggests that intensive prevention activities provided to these groups wherever there are "hot spots" is critical to controlling the epidemic.

Table 1.7. HIV Prevalence among High-Risk Groups (Various Studies 2004-2006)

City/Study	Date of field work	IDUs	FSWs	ESWs	MSWs
Karachi [1]	Aug 2004	23%	0%	2%	4%
Karachi [2]	Sept-Dec 2004	26%	0%	0%	7%
Karachi [3]	Sept-Dec 2005	NA	0.8%	1.5%	4%
Karachi [4]	*Sept-Dec 2006*	*30%*	*0%*	*3%*	*7.5%*
Lahore[1]	Aug 2004	0.5%	0.5%	0.5%	0%
Lahore[3]	Sept-Dec 2005	3.8%	0%	0.5%	0%
Lahore[4]	*Sept-Dec 2006*	*6.5%*	*0%*	*0%*	*0%*
Sargodha [4]	*Sept-Dec 2006*	*51.5%*	*0%*	*0.5%*	*1%*
Larkana [4]	*Sept-Dec 2006*	*16.8%*	*0%*	*14.1%*	*2.5%*

Results in italic are preliminary

Sources:

[1] RTI = National Study of Reproductive Tract and Sexually Transmitted Infections - Survey of High Risk Groups, field work conducted March to August 2004.

[2] IBBS pilot = Integrated Biological and Behavioral Surveillance pilot round field work conducted September-December 2004.

[3] IBBS Round 1 = Integrated Biological and Behavioral Surveillance Round 1 in 8 cities, field work conducted September-December 2005, National Report.

[4] IBBS Round 2 = Integrated Biological and Behavioral Surveillance Round 1 in 8 cities, field work conducted, September-December 2006

Coronary artery disease and diabetes are widely prevalent in Pakistan. Based on a standard international classification, recent data in Pakistan suggest that 27-30 percent of the adult population suffers from coronary artery disease (CAD). Pakistan is also among the top 10 countries in the world when it comes to diabetes prevalence[13]. In 2000, the overall prevalence of diabetes in Pakistan was 7.1 percent as against 4 percent in India, 2.2 percent in Bangladesh, and 2.6 percent in Sri Lanka. The National Health Survey of Pakistan (NHSP) 1990-94 showed that almost 36 percent of diabetics were unaware of their condition and less than 3 percent had their condition under control.

There is a high prevalence of risk factors for CAD and stroke, especially smoking. The high prevalence of CAD and stroke in Pakistan reflects a frequent occurrence of known risk factors, including smoking, hypertension (high blood pressure), elevated cholesterol and overweight (see Table 1.8). Controlling NCDs in Pakistan will have a lot to do with reducing these risk factors, especially smoking. Reducing smoking rates will have significant beneficial effects on CAD, stroke, lung cancer, and chronic

obstructive lung diseases. According to the Pakistan Health Education Survey (2003), the prevalence of smoking among men who were illiterate was 41 percent compared to a rate of 28.5 percent among those with secondary education[14]

Table 1.8. Prevalence of Risk Factors for CAD/Stroke

Risk Factor	Gender	Rural %	Urban %
Hypertension[1] among adults 35-44 years	Males	18	28
	Females	15	25
Smoking among adults 15+ years	Males	39	31
	Women	13 (rural and urban)	
Overweight[2] among adults 35-44 years	Males	9	22
	Females	14	37
Raised cholesterol[3]	Males & Females	13 (rural and urban)	

Source: National Action Plan for Prevention and Control of Non-Communicable Diseases and Health Promotion in Pakistan, 2004

[1] Systolic pressure above 140 mm Hg, diastolic pressure above 90 mm Hg, or taking anti-hypertensive medicine

[2] Body Mass Index (BMI) or 25 or higher

[3] Total cholesterol above 200 mg/dl

Although there are disease control programs for communicable diseases, there are few systematic efforts to control NCDs. The government has long-standing and systematic programs in place to address communicable and maternal conditions. For example, Pakistan has had an immunization program for almost 30 years. However, there are few organized efforts to control NCDs. Anti-smoking campaigns could be specifically designed to address the poor, who are likely to smoke. Results from an ongoing regional analytical work on NCDs will provide details on the programs and the institutional capacity to implement the programs.

CHAPTER 2. PERFORMANCE OF THE PUBLIC HEALTH SERVICE

This chapter presents trends in access and coverage of key health services and differences in these trends among different socio-economic groups. It also examines the choice between public and private providers in the health-seeking behavior of the population.

2.1 *Utilization and Coverage of Key Health Services*

Utilization of health service has increased considerably since the late nineties, but coverage remains inadequate. The data indicate a rising trend in maternal care indicators, including antenatal consultations, immunization against tetanus, skilled birth attendance and institutional deliveries. But coverage is still far from adequate (Table 2.1). In 2006/07 the majority of women (53 percent) who had given birth within the last three years received antenatal care from skilled professionals and 56 percent received at least one tetanus toxoid injection for their most recent birth, representing a considerable improvement over corresponding rates of 35 percent and 39 percent, respectively, five years earlier. Similarly, the percentage of births attended by health professionals (doctor, nurse, midwife or LHV) increased from 23 percent to 36 percent while institutional deliveries rose from 21 to 32 percent over the same period.

Table 2.1. Trends in Coverage & Access of Key Health Indicators

	1998-99 PIHS	2001-02 PIHS	2004-05 PSLSMS	2005-06 PSLSMS	2006-07 PSLM	2006-07 DHS
Measles immunization (children 12-23m)	55	57	78	76	77	60
Fully immunized (children 12-23m)	49	53	77	71	76	47
Prenatal consultation (at least one for most recent birth)	31	35	50	52	53	61
Postnatal consultation for most recent birth (within 6 weeks after delivery)	9	9	23	22	24	22
Pregnant women receiving at least 1 tetanus toxoid injection during pregnancy for most recent birth	39	46	51	62	56	58
Skilled Birth Attendance (includes assistance by doctor, nurse, LHV, or midwife)	18	23	31	46	36	39
Treatment of diarrhea in	54	54	78	72	76	41

	1998-99 PIHS	2001-02 PIHS	2004-05 PSLSMS	2005-06 PSLSMS	2006-07 PSLM	2006-07 DHS
children ≤5 years old (% of diarrhea cases where ORS was given to the child)						

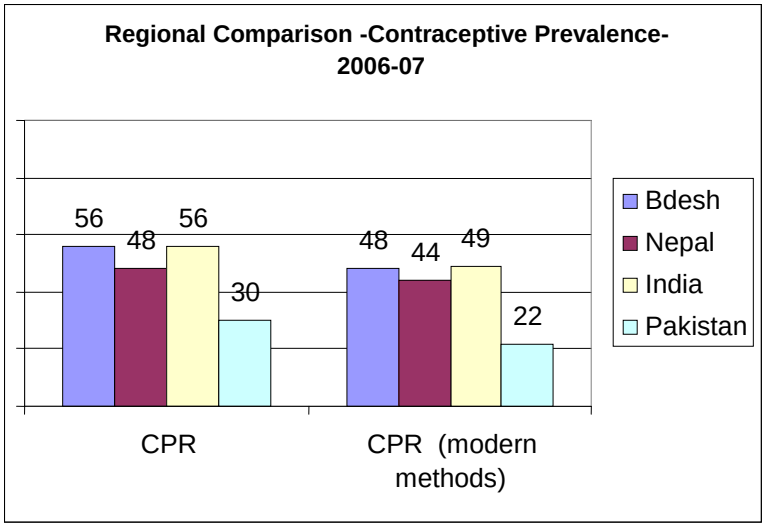
Note: Maternal care indicators refer to women who gave birth in the last three years.
Source: PIHS 1998-99, 2001-02; PSLSMS 2004-05,2005-06; PSLSMS 2006-07, PDHS2006-07.

Trends in immunization coverage are not clear. Trends in immunization rates are not clear due to wide divergence in PDHS and PSLSMS findings for 2006-07. The PDHS indicates that fewer than half the children aged 12-23 months were fully immunized while the corresponding rate based on PSLSMS is 77 percent. The difference in immunization coverage between the PDHS and PSLSMS is mainly in the proportion of children with DPT2 and DPT3 (both for diphtheria, pertussis, and tetanus) and measles immunization. Estimates of polio and Bacilli Calmette-Guerin (BCG) coverage are roughly comparable[k]. The large discrepancy in estimates warrants a detailed assessment of the survey methods and questionnaire design of the two surveys. In the meantime, it is better to assume the lower rate since overstating actual coverage could divert attention from a program that is critical to child health outcomes.

Pakistan lags behind other South Asian countries on all indicators except antenatal care, skilled birth attendance, and institutional delivery. The comparison is largely based on Demographic and Health Survey data. Pakistan is still behind in some key indicators, particularly contraceptive prevalence rate at 30 percent -- use of modern contraceptive methods is among the lowest in the region and is less than half of that of in India, Bangladesh and Nepal (Figure 2.1). Immunization coverage in the country has also not kept up with the achievements of Bangladesh and Nepal (Figure 2.2). In contrast, Pakistan is ahead in use of antenatal services and is second only to India in institutional deliveries and births attended by health professionals (Figure 2.3).

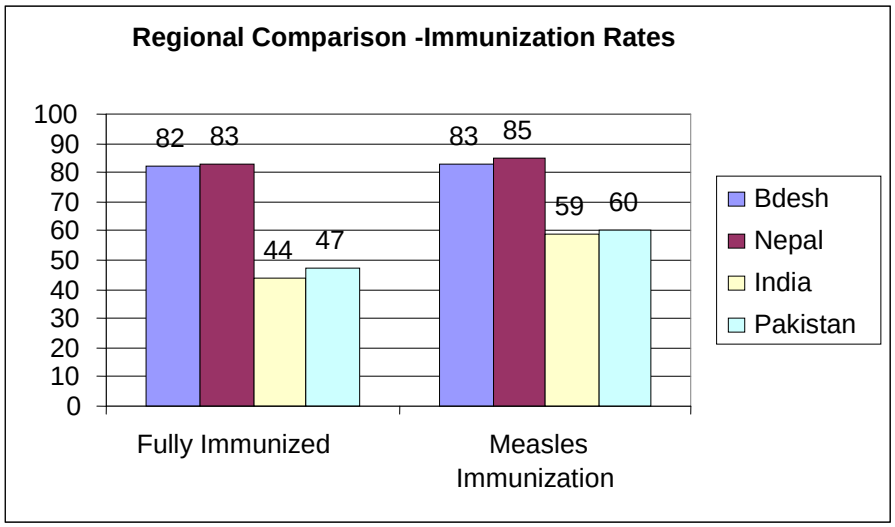
[k] While the drop-out rates between first and third doses of DPT is very low in PSLSMS, similar drop-out rates are recorded for Nepal and Bangladesh based on PDHS.

Figure 2.1. Regional Comparisons of Contraceptive Prevalence



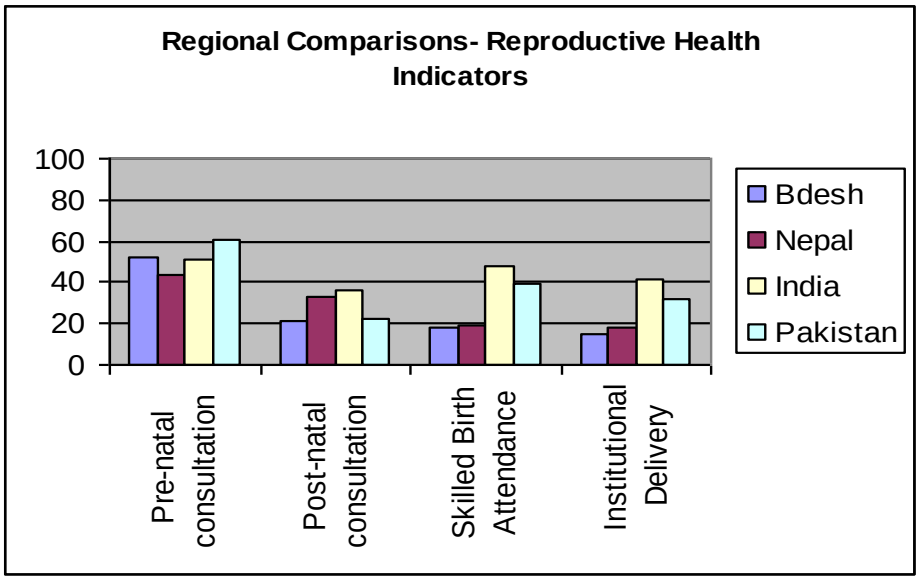
Source: Bangladesh DHS 2007; Nepal DHS 2006; India National Family Health Survey 2005-06; Pakistan DHS 2006-07

Figure 2.2. Regional Comparisons of Immunization Rates



Source: Bangladesh DHS 2007; Nepal DHS 2006; India National Family Health Survey 2005-06; Pakistan DHS 2006-07

Figure 2.3. Regional Comparisons in Reproductive Health Indicators



Source: Bangladesh DHS 2007; Nepal DHS 2006; India National Family Health Survey 2005-06; Pakistan DHS 2006-07

2.2 *Utilization, Economic Status and Region*

There are large inequalities across regions and economic status in service utilization. National averages hide wide differentials in utilization of services by economic status and region. The differentials by expenditure quintiles are highest for antenatal and postnatal care but are also substantial for immunization and contraceptive prevalence (Table 2.2). Over time, there has been a modest reduction in income disparities in immunization rates and antenatal care while the difference has increased in contraceptive use and postnatal care.

Table 2.2. Child and Maternal Health Indicators by Expenditure Quintiles and Residence

	PIHS 2001			PSLM 2005/06		
	Lowest quintile	Highest quintile	Ratio= lowest/highest	Lowest quintile	Highest quintile	Ratio= lowest/highest
Immunization						
Overall	41	72	0.57	60	87	0.69
Urban	57	90	0.63	75	98	0.77
Rural	38	58	0.66	56	78	0.72
Contraceptive prevalence rate						
Overall						
Urban	22	34	0.65	26	40	0.65
Rural	11	17	0.65	18	24	0.75
Antenatal care						
Overall	21	62	0.34	36	72	0.50
Urban	39	85	0.46	46	86	0.53
Rural	18	44	0.41	37	57	0.65
Postnatal care						
Overall	5	21	0.24	12	41	0.29
Urban	7	28	0.25	19	58	0.33
Rural	4	15	0.27	11	24	0.46

Source: PIHS 2001, PSLSMS 2005-06

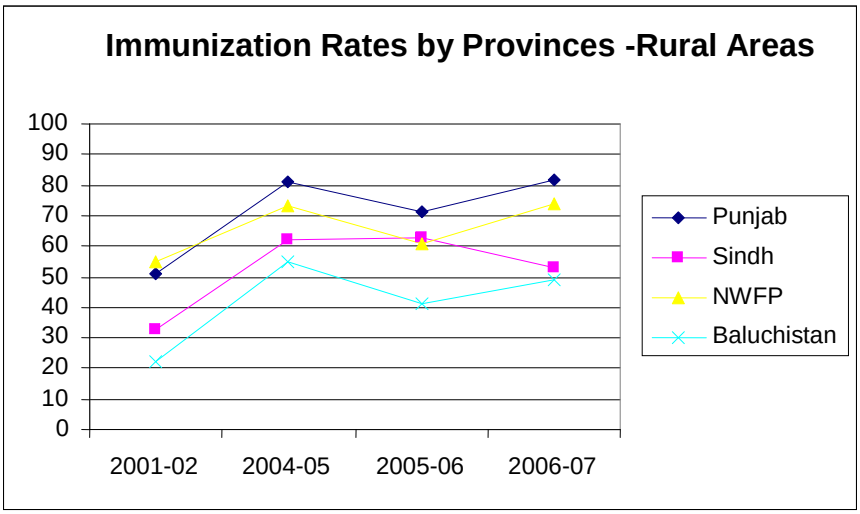
The rural poor have substantially lower use of services than the urban poor. Children living in the poorest households in urban areas are 30 percent more likely to be fully immunized than children from poor rural families. Immunization rates for children from the poorest urban households are comparable to those of the richest rural children. A similar trend is noted for other services, including contraceptive where the prevalence is higher among the urban poor than among the richest rural households.

Inequality has decreased over time and mainly among rural residents. Over time inequality is decreasing across all the three indicators. The decreases are larger for rural areas and are larger for antenatal, postnatal care. Inequality in contraceptive prevalence among rural areas has decreased, while it remained same for urban areas. Inequality in immunization rates has fallen sharply for urban resident than rural.

Rural-urban differences in use of health services vary by province. Coverage of services in rural Punjab and North Western Frontier Province (NWFP) has increased at a relatively faster pace, resulting in a narrowing of urban rural differences in these provinces. However, rural areas of Sindh and Baluchistan have experienced slower expansion and, in some cases, a declining trend in services (Figure 2.4). Consequently rural urban disparities that were already the highest in these provinces have either remained constant or increased. The stagnation in Sindh and Baluchistan has widened the inter-provincial differences in rural coverage. In 2006/07 full immunization rates in rural Punjab and NWFP were 82 and 73 percent, respectively, but only 53 and 49 in Sindh and Baluchistan (Figure 2.5). A similar inter-provincial trend is observed in tetanus toxoid immunization of pregnant women. In 2006/07 the proportion of women immunized in Punjab (59 percent) was double the comparable estimate in Sindh (28

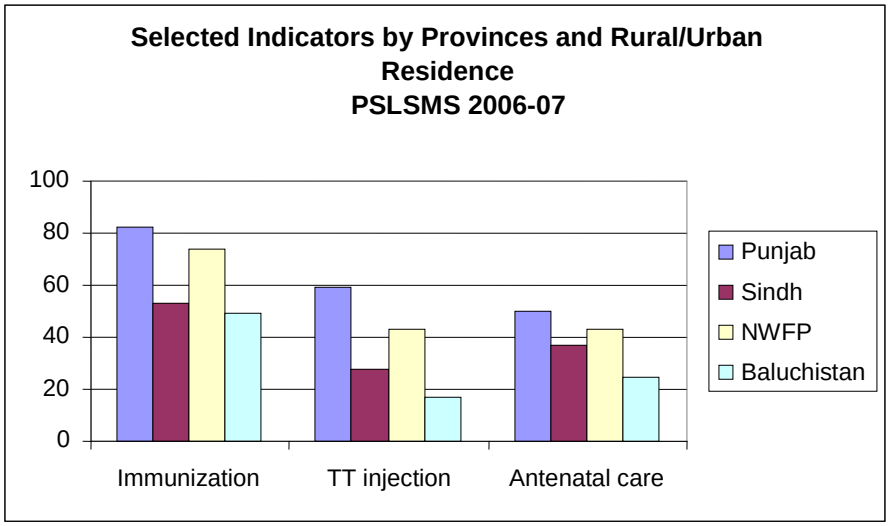
percent) and more than three times the proportion of women immunized in Baluchistan (17 percent) (Figure 2.5). The rural urban gap in immunization against tetanus increased in Sindh from 38 percentage points in 2001/02 to 45 percentage points in 2006/07 and in Baluchistan from 28 percentage points to 36 percentage points during the same period. Provincial differences are less marked in use of antenatal services that have risen relatively faster in rural areas of all provinces, with the exception of Baluchistan.

Figure 2.4. Immunization by Province (rural)



Source: PIHS, PSLSMS

Figure 2.5. Selected Indicators by Province



Source: PSLSMS 2006-07

District level variations are more pronounced than provincial level variations. A national ranking of all districts throughout the country shows that the top 20 performers are districts overwhelmingly from Punjab and the worst 5 performers are from Baluchistan

(Annex 2).[1] The national ranking is based on the five key health indicators using 2004/05 PSLSMS data: (a) CPR; (b) percentage of pregnant women receiving at least one tetanus toxoid injection during pregnancy; (c) percentage of women who visited a health facility for prenatal consultation; (d) percentage of women who visited a health facility for postnatal consultation; and (e) immunization rates. The findings remain by and large the same even when the composite index is subjected to varying weights under different scenarios in a sensitivity analysis.

Table 2.3. Inter-district Variation in Key Indicators

	Punjab		Sindh		NWFP		Baluchistan		Pakistan	
	Best	Worst	Best	Worst	Best	Worst	Best	Worst	Best	Worst
Immunization	99	64	88	35	100	48	97	28	100	28
CPR	65	25	44	14	43	20	35	1	65	1
TT injections	87	19	75	29	63	16	63	2	87	2
Antenatal care	80	38	81	30	71	8	72	6	81	6

Source: PSLSMS data for 2004-05

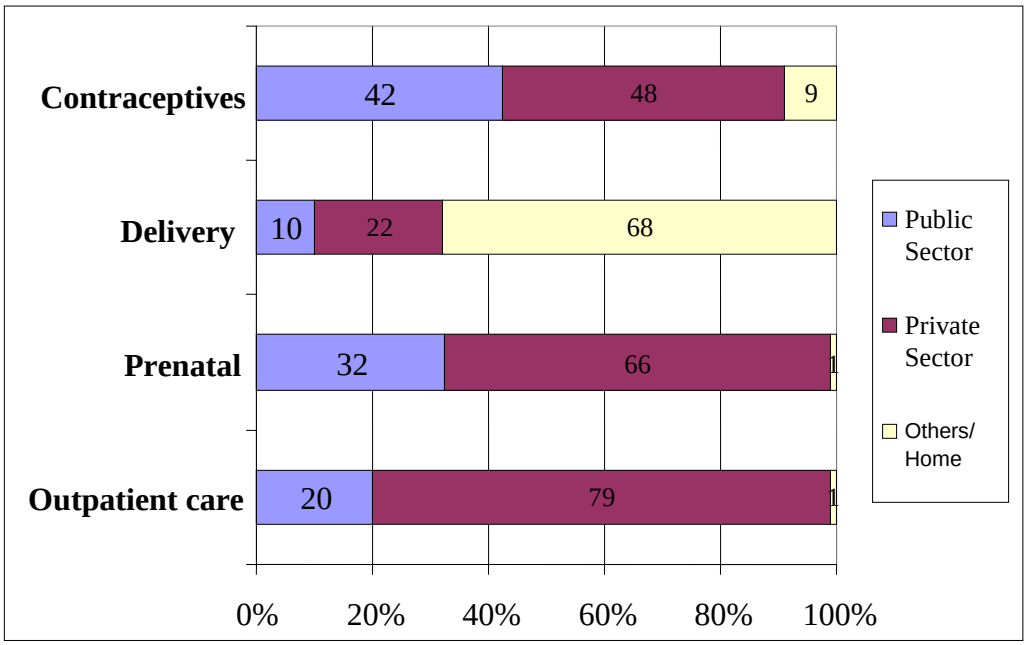
Significant differences exist between districts within the same province. A cluster of districts in each province is most deprived across a range of health and other human development indicators. For instance, Jacobad in Sindh, Kohistan in NWFP, Musakhel in Baluchistan, and Rajanpur in Punjab have the highest level of infant mortality and the lowest literacy rates. The differences to some extent reflect variations in levels of socio-economic development and remoteness of communities. At the same time, some districts performed better than what would be predicted given their socio-economic context. These variations have important implications for targeting resources and interventions to poorly served districts and regions. The disparities are relatively the largest for Baluchistan across all indicators.

2.3 *Choice of Health Service Provider*

The private sector is the predominant source of outpatient consultations and maternal and child health services. Evidence from the Pakistan Integrated Household Survey (PIHS) and the Pakistan Social and Living Standards Measurement Survey (PSLSMS) shows increased reliance on private providers for outpatient care and maternal health services. The use of the private sector for outpatient consultations has risen from 69 percent in the late nineties to 79 percent in 2006-07. The private sector is credited for the rising trend in antenatal care and institutional deliveries (Figure 2.6); of the women using antenatal services, more than two-thirds sought care from private providers in 2006-07 as compared to 50 percent in 1998/99. Nearly 70 percent of institutional deliveries took place in private facilities in 2006-07.

1 The PSLSMS data for 2004-05 were used to generate the ranking. Note that only districts for which data were available for all five indicators have been included in the national ranking. Districts that were not included are Nankana (Punjab),; Kohistan (NWFP),; Jamshoro, Kamber, Kashmore, Matiari, T. Allahyar, T.M.Khan, Umerkot (Sindh); and Dera Bughti, Noshki, Kohlu, and Washuk (Baluchistan).

Figure 2.6. Coverage of Selected Health Service by Public and Private Providers In Pakistan 2006-2007



Source: PSLSMS 2006-07

Rural and poor households rely heavily on the private sector for ambulatory care. The proportion of households using private practitioners in rural areas is only slightly lower than in urban households. While 78 percent and 64 percent of the rural households use private providers for outpatient and prenatal consultations, respectively, the corresponding figures for urban households are 83 percent and 71 percent respectively. The findings of surveys in 2001 and 2005 on utilization and satisfaction found that the majority of poor households also rely on private providers. The surveys by CIET (Centro de Investigación de Enfermedades Tropicales), which covered a sample of 57,000 households in all districts of the country, indicate that in 2005, 74 percent of very vulnerable households typically used private services, an increase of 6 percentage points compared with 2001. Over the same period, the proportion of all households using private services increased from 71 to 76 percent.

Provider choice varies by region and residential area. Private providers are the most preferred in Sindh and Panjab with 74.5 percent and 67.1 percent, respectively of sick individuals visiting private providers. Baluchistan on the other hand has the highest rate of utilization of public providers at 44.2 percent of the sick individual visitation. While private providers are the most preferred by both urban and rural residents, a higher percentage of urban resident visited private providers (69.8 percent) compared to rural residents (59.2 percent). These differences are partly due to regional differences in the supply of private providers.

The costs of services do not explain the choice for private providers. The cost mean cost to the user per visitation in public and private providers is comparable[15]. Nearly all users of government facilities pay out of pocket[m]. The estimated mean cost of visits for a case of fever over the last three months was similar for government and private facilities at Rs. 229 for government and Rs. 239 for private facilities (see Table 2.4).[n] The costs of government services consisted largely of payments for medicines bought outside the facility by nearly two-thirds of users. A small proportion of users of government facilities (ranging from 3 percent in Punjab to 9 percent in Sindh) reported paying health workers.

Table 2.4. Cost of a Case of Fever in Facilities

	Government	Private
% Paid anything for visit	94% (5880)	99% (7528)
Mean total cost of visit	229 Rs (5300)	239 Rs (7178)
% Paid for ticket	77% (5796)	13% (7254)
Mean cost of ticket	5 Rs (3543)	52 Rs (764)
% Paid for medicines in facility	4.7% (5730)	43% (7128)
Mean cost of meds in facility	82 Rs (258)	90 Rs (2261)
% Paid for medicines outside	65% (5649)	60% (7041)
Mean cost of meds outside	252 Rs (4188)	198 Rs (5074)
% Paid service worker(s)	5% (5686)	44 % (7073)
Mean payment to service worker	95 Rs 1(242)	72 Rs (3963)
Made other payment	5%(5621)	5% (7105)

Source: CIET 2005.

2.4 *Why Private Providers? Performance of Public Providers*

Physical access to facilities remains an important predictor of use. The CIET survey found that distance to government facility was an important determinant of use. Households in communities with a government facility within 5 kilometers were 1.5 times more likely to use government centers irrespective of whether private facilities were also available. The 1996-97 PIHS data highlights differences in access to various types of government health facilities across the four provinces. Most communities in Baluchistan (66 percent) and Sindh (52 percent) were located more than 20 kilometers from a Rural Health Centre. Punjab was best served with the majority of communities having access to facilities within 20 kilometers or less. Access was the worst for Baluchistan, with only 26 percent facilities accessible by road, followed by Sindh where 46 percent facilities were accessible by road (Health Management Information System, HMIS 2006). In response to the question of why government facilities were not utilized for

[m] Though patients are expected to pay nominal fee for services in public facilities, payments are more than what is legally required due to informal payments. There are few cases that document the pervasiveness of such informal payments (96 percent of users of public facilities claiming to make such payments) and that such payments on average are 35 percent of the monthly per-capita income in Pakistan (Transparency International, 2002).

[n] Costs varied across provinces; prices at government facilities were generally lower than at private facilities, with the exception of NWFP where treatment at a government center was more expensive.

treatment of diarrhea, the main reason cited by 47 percent of rural and 41 percent of urban households was that public health facilities were either too far away or nonexistent.

A significant number of first level health care facilities are in poor condition. A study conducted in 2006 points to large gaps in basic amenities, indicating that on average only 46 percent of first level health care facilities had a water supply, 72 percent had electricity, and 33 percent had public toilets. Only 56 percent of first level facilities, including BHUs and RHUs, are accessible by road in Pakistan[16]. Baluchistan clearly stands out as the province with the most ill-equipped and poorly maintained facilities, with electricity and water supply available in only 36 percent and 23 percent respectively of first level care facilities. Similar findings were noted in the health facility surveys of over 100 facilities in Baluchistan and 40 in Sindh undertaken in 2006 and 2008, respectively.

Public facilities are poorly equipped. With the exception of immunization-related equipment, basic equipment (including for antenatal care and deliveries) was lacking in the majority of facilities. In Sindh, facilities were particularly poorly equipped for deliveries: only 15 of the 32 BHUs and 5 of 8 RHCs visited in the province provided delivery services. Among these, even basic requirements for safe delivery, such as soap, sterilized scissors or new blades for cutting the umbilical cord, and sterilized thread or clips for cord tying, were available in only one RHC and two BHUs. A functioning sterilizer was available in only one BHU.

Contraceptives and medicines are not available in many of the public facilities. In both Sindh and Baluchistan, contraceptives were in short supply. In Sindh, only one-third of RHCs and one in four BHUs had injectables and IUDs in stock. Antibiotics were available in 12 percent of RHCs and 22 percent of BHUs. ORS packets were available in only one-third of the first level care facilities. The situation was worse in Baluchistan where contraceptives were available in only 15 percent of the BHUs.

There is a serious shortage of trained health workers, particularly females, and the existing staff are unequally distributed. The majority of lower level facilities operate without an adequate number of doctors, particularly female doctors, paramedics or other medical staff. The Baluchistan survey found that 57 percent of the total number of authorized positions for LHVs and 40 percent for doctors were vacant. In Sindh, some first level care facilities were overstaffed whereas others are understaffed. While 50 percent of BHUs had more than two doctors, 30 percent of the facilities had none. In addition, a disproportionately large number of doctors were posted to the more developed districts in the sample. For example, 24 doctors were posted to the 8 BHUs in Karachi and Matiari, whereas only 6 doctors were posted for the same number of BHUs in the less developed district of Thatta and Umerkot.

Staff absenteeism is high at 63 percent for some categories of health professionals. The Sindh and Baluchistan surveys are among the few attempts to empirically assess the extent of staff absenteeism. In the Baluchistan survey, the absentee rate for all staff was 50 percent, while for doctors it was 58 percent and for female paramedics it was 63 percent. The situation was similar in Sindh where 45 percent of doctors were absent

from BHUs and 56 percent from RHCs. The absentee rate for female paramedics was 39 percent in BHUs and 33 percent in RHCs.

Staff absenteeism is not related to remoteness, though varies considerably across districts. The expected positive association between absenteeism and remoteness and level of development of communities is not borne out by the Sindh findings. In fact, above average rates of absenteeism were found in RHCs of the metropolitan centre of Karachi. In the less-developed districts of Nawabhsah and Sanghar, however, the availability of staff was constrained more by the limited number of posted staff rather than by absentee rates.

Satisfaction with government health services is low, especially among the vulnerable group. The CIET survey found that, among households that are current users of services, 62 percent were satisfied with government health facilities as compared to 82 percent satisfaction among users of qualified private providers and 76 percent among patients of unqualified providers. The approval level for government services was much lower when it included all households irrespective of whether they had used the service. Only 27 percent of all households were satisfied with government health services. Vulnerable households were significantly less likely to report satisfaction with available government services while urban residents, more educated respondents, and female respondents were more likely to express general satisfaction.

Management reforms are needed as much as additional resources. In the absence of management reforms, investment in health infrastructure is unlikely to lead to improvement in service delivery. Management problems, particularly those related to personnel, are critical constraints to effective functioning of the system and improving utilization of services. Political patronage, as well as limited administrative authority, undermines the ability of lower level managers to link rewards and punishment to performance. Consequently staff are unaccountable, barely supervised, and have little incentive for performance. Monitoring and measuring results have low priority for the management and even when data are available there is little effort to use them.

CHAPTER 3. NATIONAL PROGRAMS: IMPACT AND FUTURE DIRECTION

3.1 Introduction

In the last two decades there has been a considerable increase in the numbers and size of National Health Programs in Pakistan. Some are disease-specific and others are thematic[17], but all are under the purview of the federal Ministry of Health. As in many other countries, National programs in Pakistan benefited significantly from Global Health Initiative (GHI) finances. Globally GHIs make up a significant share of expenditures on national/vertical programs. For instance, the combined contributions of the Global Fund, PEPFAR and the World Bank Multi-Country AIDS Program totaled more than two-thirds of all external funding to control HIV/AIDS and malaria in Pakistan.

This chapter reviews three national programs, namely the Polio Eradication program (part of the Expanded Program for Immunization), the National Tuberculosis Control Program, and the Lady Health Worker (LHW) Program (National Program for Family Planning and Primary Health Care).

The objectives are to assess: i) coverage of service; and ii) impacts on the health system. In what follows each of the three programs are discussed separately. Each program is briefly described with focus on operational management and organization, the coverage and quality of service, monitoring systems, and impacts on the health system. Each section ends with assessment of the future directions.

3.2 National Polio Eradication Program.

The national polio eradication program has been highly successful in decreasing polio cases. Polio has been eradicated globally in all but four countries: Pakistan, India, Afghanistan and Nigeria. The national polio eradication program in Pakistan is part of the global polio eradication initiative. Polio immunization was introduced to Pakistan in 1978 as part of the Expanded Program for Immunization (EPI). In 1994 the government began a systematic initiative including house-to-house routine immunization, National Immunization Days (NIDs), Sub-National Immunization Days (SNIDs) and Supplementary Immunization Activities (SIAs).

3.2.1 Operational management

The national polio eradication program is managed by the extended program of Immunization at all levels of government. Each level of government has its own responsibility: *Federal:* With overall management, the federal Ministry of Health (MoH) develops policy, planning and strategy, coordinates with international partners, provides of technical and operational guidelines for implementation, conducts

monitoring and evaluation, prepares training needs assessment and training materials, trains mid-level managers, and ensures supply of vaccines and other supplies. *Provincial:* Provincial Departments of Health are responsible for administration at provincial level, planning and financing of some non-salary support, distribution of vaccines and other supplies to the districts, analysis of district-based MIS reports, supervision at district level and below, training of EPI workers except mid-level managers, technical assistance, and supplementing district level EPI activities. *District:* Each district is responsible for local level planning and implementation of EPI services including immunization of target populations; distribution of vaccines and related supplies to all EPI centers; supervision and reporting; training of service staff; community education through interpersonal communication; and coordination with the provincial EPI.

Over the past two years, the program has received an annual financial allocation equivalent to 2.5 percent of the annual public health expenditure.

3.2.2 Coverage

The program coverage is high at 97 percent, with some variation among provinces. While Punjab has the highest coverage at 99 percent, Baluchistan has the lowest at 94 percent. Polio cases decreased from 1147 cases in 1997 to 117 cases in 2008. Despite regular implementation of good quality SIAs, 97 percent coverage of the target population, and a well-functioning surveillance system, achieving zero reported cases has so far eluded the program.

Though the coverage is high, there is recent upsurge in polio cases. The recent upsurge in polio cases was attributed to: (i) persistent transmission of wild polioviruses in key reservoir areas; (ii) deterioration of population security in the key reservoirs of NWFP and FATA that resulted in a decrease in campaign quality; (iii) large-scale population movements from low-security areas of NWFP & FATA into previously polio-free areas; and (iv) increase in population susceptibility in polio-free areas due to the reduction in the number of polio campaigns in 2008 along with deterioration of the routine immunization service delivery system, including vaccine stock outs.

3.2.3 Monitoring and Evaluation System

The program assesses its performance through: i) SIA coverage among under-five children (the targeted population) in each of the four provinces; ii) timely arrival of the OPV at the central stores of the EPI; and iii) number of confirmed polio cases reported. These indicators are tracked through routine monitoring and surveillance system.

3.2.4 Impacts on the system

*Human resource***: Substantial numbers of health professionals were trained in management of large scale campaigns**. Capacities were built in public health planning, logistics, managing community-based interventions, epidemiology,

communications and social mobilization. The human resource base will eventually strengthen the health system and the implementation of other public health interventions.

Surveillance system: **The Polio Eradication Program has established a sound surveillance system that could strengthen the national surveillance capacity.** Many of the attributes of the polio surveillance system – such as active surveillance visits at health facilities, laboratory specimen collection, channels of data reporting–could also be used for other infectious disease surveillance systems. The program has contributed to a sound base for expansion of surveillance system for other diseases by training 40,000 - 50,000 workers in surveillance.

Routine Immunization: **The program has improved the performance of the routine immunization program.** In the initial period of the mid nineties, the introduction of SIAs had coincided with slow growing or stagnant immunization rates. However, in the recent period, routine immunization rates have also risen significantly. Though lack of counterfactual scenario severely limits the scope of such the assessment, there are strong indications that the Polio program has increased the routine immunization program's coverage of the poor. The NIDs and SNIDS specifically targeted remote and underprivileged areas through strategies adapted to local socio-cultural contexts. The program worked effectively with Lady Health Workers to reach the poor and most vulnerable households. In addition, house to house immunization and the emphasis on including women in vaccination teams has helped to access households and communities with stringent norms of seclusion and restrictions to female mobility.

3.2.5 Future directions

Maintain eradication strategy while strengthening routine immunization. Even a few cases of polio are capable of leading quickly to transmission to nearby and far away areas with disastrous results. This requires sharpening surveillance tools and placing priority on high risk areas such as the Pakistan-Afghanistan border, as well as improving routine immunization strategies. Such a strategy should include joint operations with the Afghan polio eradication program.

Advocacy for polio eradication campaigns should target areas that have been difficult to access. The main focus should be in areas where resistance to vaccination is the strongest such as the Pakistan-Afghanistan border area. Such advocacy campaign may need formative studies to understand the target groups and learn how to effectively communicate. The communication and advocacy activities should focus on the household, endeavoring to reach all members including male members.

Provincial governments' involvement in advocacy and communication is crucial. There are cultural differences between provinces and between districts in some provinces. Provincial Health Departments are well positioned to guide additional emphasis on advocacy and communication and implementation. They can also help ensure the delivery of information in culturally appropriate approach.

3.3 National Tuberculosis Control Program

Tuberculosis is responsible for 5.1 percent of the national burden of disease in Pakistan. Pakistan has the 7th highest tuberculosis (TB) burden in the world, with an estimated 1.5 million people living with the disease. Although the National TB Program (NTP) adopted directly observed treatment, short course (DOTS) strategy in 1995 to control TB, it remained dormant till 2001 due to abolition of the Federal Directorate for Tuberculosis control. The declaration of TB as a national emergency in 2001 reinvigorated the program, including public sector funding for nationwide expansion of services.

3.3.1 Operational management

Similar to all national programs, the implementation of NTP is managed by three levels of government: *Federal level*: The federal level provides strategic guidance, spearheads new initiatives, and provides routine and emergency program support services, such as anti-TB drug procurement. *Provincial level***:** The Provincial Health Departments manage the implementation of TB services within the primary health care system. *District level:* The districts implement field work including DOTS and diagnostic services.

Over the past two years, the program has received an annual financial allocation equivalent of less than one percent of the annual public health expenditure (excluding funds flowing outside the budget).

3.3.2 Coverage

Service coverage has increase over the past years. The case detection rate for sputum smear positive cases increased from 8% in 2001 to 66% in 2007. Case detection rate for all types of smears increased from 8% to 80%. DOTS availability increased from 19% of the health facilities in 2001 to 100% in 2005 and remains at the same level.

3.3.3 Monitoring and Evaluation System

The program has a standard set of indicators used to assess its performance. These include case detection rate, and treatment success rates that are regularly monitored. Regular monitoring is done at national, provincial, district and facility levels. Quarterly meetings at the national, provincial and district level review and validate district level data. District coordinators regularly visit diagnostic and treatment centers to supervise and assess the availability and quality of services.

3.3.4 Impacts on the system

Data culture: **The National TB Program's operations research has contributed to development of an evidence-based approach to implementation.** The program's new initiative for advocacy, communication and social mobilization designed based on operations research could serve as a model for the Polio eradication, the Lady Health Worker Programs and other programs.

Lady Health Worker and Nutrition programs: **The program works closely with other national programs.** It works with lady health workers at the community level to identify suspects and provide DOTS treatment at households. The enhanced role of LHWs in TB control has been successfully piloted in 20 districts. There are plans to scale up the successful pilot nationwide. [18] At the same time, the National Nutrition program uses the TB control program to provide micronutrients for TB patients.

Coordination: **The National TB Program managers coordinate inter-sectoral collaboration** with the LHWP, National Nutrition program, National AIDS Control Program, and the National Malaria Program at the policy level and operational levels, as well as between Federal and Provincial levels.

3.3.5 Future directions

Enlarge the scope of the current collaboration with the National Nutrition Program. The existing collaboration with the national nutrition program to increase the use of micronutrient products could be expanded to include a nutrition knowledge component. For instance, one area of further collaboration is targeting school children to communicate both nutrition and TB messages. School children are particularly well positioned to carry nutrition and TB knowledge home, to the benefit all families in the household.

Broaden the Program's Social Marketing Plan. Include an advocacy campaign aimed at stimulating private providers to refer suspected cases to the public sector for diagnosis. Build on existing partnerships with non-state partners in social marketing to focus on the needs of the poor.

Strengthen the ability of clinical facilities to identify, treat and report multi-drug resistant TB cases. Pilot Multi Drug Resistance guidelines in selected health facilities, as recommended by WHO's assessment.

3.4 National Lady Health Worker Program

Lady Health Workers form basis of the program which aims to promote health and reduce poverty by increasing access to health services. The Lady Health Worker Program (LHWP) created in 1993 is based on Lady Health Workers (LHWs) trained to provide specific, basic Primary Health Care (PHC) treatment plus preventive services. In addition to providing primary health care services, the LHW organize village committees for men and for women. The LHWs are supervised by Lady Health Supervisors (LHS) that are responsible for maintaining the quality of work of 20-25 LHWs.

3.4.1 Operational management

The LHWP is implemented through implementation units at the federal, provincial and district levels: *Federal level:* based in the PHC & family planning unit, it is responsible for policy formulation, national reporting, monitoring and evaluation, curriculum development, training, procurement, operational planning and budgeting, health management information system. P*rovincial level:* provincial program implementation units, based in each province, are responsible district LHW allocation, department operational plan implementation, and organization of training. *District level:* the district executive officer at the first level care facility in each district is responsible for allocation, supervision, and hiring/firing LHS, organizing kit replenishment an it serves as a meeting point for LHWs and LHSs.

The uniformity of the system enables quality standards of key inputs to be established and monitored nationally. When there is a failure to meet standards, mechanisms are in place to report the failure and trigger action. For instance, at the field program officer monthly meeting of the provincial program implementation unit, reports are filed on all districts and issues identified with actions. These reports are sent to the federal level, which typically has representatives at the provincial meeting. Similarly, districts send standard monthly report to provinces.

The allocation of LHWs posts follows a consultative process that so far has worked well. The allocation of LHW posts, which essentially is the decision about the level of LHW services to be provided in each province, was determined through consultation between federal and provincial units of the Program. Within a province, allocation is done in consultation with districts. The districts, taking into account program criteria, determine which health facilities in their district are allocated LHWs. While there are reports of re-allocations motivated by political/self interest, largely the consultative process has worked well.

The program receives a significant share of total public spending in health. In 2005/06, the program has received more than a quarter of the total public spending in health. Out of these, the federal government contributed about 20.5 percent while provinces contributed the remaining 79.5 percent.

3.4.2 Coverage

The program has expanded since its inception and reaches all districts of the country. The program has expanded to cover almost all districts of Pakistan, providing outreach services to the poor in rural areas and urban slums. Until 2000 the LHWP has relied on LHWs that completed at least eight years' education. This has limited the coverage of the program in impoverished and remote areas. Since then there were efforts to expand the number of LHWs in the program to ensure the poor and under-served areas are covered.

So far with nearly 90,000 working LHWs, the program covers around 77,000,000 people. Due to such expansion the average number of households per LHWs has dropped from 145 to 131 in eight years time. This is largely because of increase in the

number of LHWs per health facility. Recent survey shows that expansion has occurred through extending coverage to uncovered health facilities, as well as by increasing the number of households served in the catchment areas that were already served. Most importantly, the program has expanded to serve populations that are under-served.

Such expansion of the program has resulted in increased coverage of a number health services. A 2008 household survey shows that 85 per cent of households as having had a visit from the LHW within the past three months. LHWs remain one of the sources of curative services as well. Of all those who sought consultation for an illness, 17 per cent report consulting the LHW. Community group reports on LHW performance are almost all improved in the past eight years. The program has little impact in changing behavior related to breastfeeding.

A preliminary comparison of coverage of services in program areas with a national average shows that program areas perform better. Coverage of ante natal care, skilled birth attendance, contraceptive prevalence, child immunization, and tetanus toxoid vaccination is consistently higher in program areas. Program households are 11 percentage points more likely to use modern family planning methods; are 13 percentage points more likely to have had tetanus toxoid during their pregnancy; are 15 percentage points more likely to have neo-natal check-ups; are 15 percentage points more lily to have fully immunized children under three years of age, than other households.

3.4.3 Monitoring and Evaluation System

The program has sound monitoring and evaluation system. Monitoring and evaluation is conducted internally by the program and independent body outside the program. Routine program monitoring uses data from the management information systems of the program. Performance assessment and periodic evaluation was conducted by independent external body. The use of external evaluator in assessing the systems' performance, quality of inputs, service delivery and outcomes strengthened the credibility of the information.

Although the program generates an annual performance report, the report is seldom used for management purpose. The report is prepared for the planning commission on key performance indicators and overall performance. The internal system also appraises provincial and district coordinators and staff based on quarterly reviews and monthly meetings. However, such appraisal is seldom used for managing human resources. For instance, despite a substantial group of under-performing LHWs, limited actions were taken. As a result the program remains with significant number of poorly-performing LHWs.

External assessors do periodic assessment of program performance. External assessment of the program was done by a number of agencies including the Auditor General's department and an external consulting firm hired to evaluate the program. The

most recent evaluation (the 4th of its nature) done by a consulting firm (Oxford Policy Management) assesses the various dimensions of the program.

3.4.4 Impacts on the system

Coordination/integration: **The LHWP ensures integration of service delivery of basic primary health care services.** The program succeeded in promoting services at the community level for other development programs including EPI, malaria, TB, Nutrition, HIV AIDS, Mother and Child Health, and Family Planning. As such LHWs play important role in the provision of preventive and promotive health care services and also serve as a link between the community and health facilities.

Maintaining such integration has proved difficult with the presence of different service delivery mechanisms. This is mainly due to the fact that the link with basic health units (BHU) that have been contracted out to non-governmental organizations is weak. BHUs are the training facilities for LHWs, is the main institution to which the LHW refers her clients, where they run their monthly meetings, and where they receive supplies. However, there are evidences that staff in BHUs that are contracted to non-governmental organizations are denied training opportunity to become LHWs trainers; some such facilities refusing to distribute supplies to LHWs. .

Beyond health: LHWs serve as development agents in their community. Each LHW is responsible for establishing village health committees. Such community organizations have significant potential to improve governance in health sector.

3.4.5 Future directions

Expand LHWs services in remote and under-served areas, while addressing issues of non-compliance. Expansion has occurred both through extending coverage to previously under-served health facilities and through increasing the number of LHWs in health facilities that were already covered by the program. While the program has expanded, 50 percent of the expansion occurred in only 15 districts and the incentive remained to increase LHWs at health facilities where the program is already established. Future expansion would require working with provincial and district governments to ensure the program is established in increasing number of facilities. The program also needs to address problems of non-compliance in posting and performance such that a credible threat of sanctions against non-compliance is in place.

Improve the quality of services delivered by LHWs. Though LHWs' clinical knowledge has improved since 2000, there is still a room for improvement. The average composite knowledge score increased from 69 per cent in 2000 to 74 per cent in 2008, yet a good fraction were unable to demonstrate knowledge in areas that are central to their work. Around one third failed to identify a number of life-threatening conditions. Trainings and other measures to improve quality of services should be accompanied by sanctions against non-performing LHWs.

Provide performance related incentives in terms of carrier development and institutional recognition. Develop career ladders for LHWs with a variety of choices. Develop certified training courses for LHWs who wish to undertake additional maternal and child health related roles under "enhanced LHWs". Recognize good performing LHWs with a recognition certificate at national day attended by higher officials and journalists.

Limit the scope of work of LHWs and focus their role. The ever expanding terms of reference of LHWs endangers their effective contribution. For instance, increased role of LHWs in response to polio eradication and the time spent on NIDs would require LHWs to reduce the time available for other activities.

Reduce the turnover of managers. Rapid turnover of staff in management positions at all levels in the program has hindered the continuity of leadership. This absence of continuity presents a risk that managers lack the long-term vision required to manage such a key program.

3.5 Conclusion

National programs are successful in delivering results that can be emulated. The strong focus on specific areas coupled with robust monitoring and evaluation system has enabled national programs to deliver. The additional resources earmarked to finance the programs also created the enabling environment for success. National programs also have important role in setting technical standards and guidelines, conducting training, carrying out supervision, and defining reporting requirements

Despite the success, there are claims that national programs create distortions within the health system. The claims ranges from selective financing of these programs leading to internal brain drain within the health system as these programs compete with others less funded program for the limited health human resource; to creating additional challenge by making the development of an integrated system harder; to limiting the autonomy of managers in the field by making centralized decision-making.

There is evidence that these programs have a positive impact on the system. The vertical programs have strengthened the system through establishing model monitoring and evaluation system, disease surveillance system, training health workers etc. The fact that these programs have been successful does provide lessons for the system improvement.

The contribution of national programs can be further strengthened. Providing managers in the field the responsibility on how best to deliver services with the program focusing on the technical standards and monitoring and evaluation, would provide the space for learning from the experience of national programs. Furthermore, a system for frequent sharing of new lessons learned in better reaching the poor and vulnerable would further enhances the contribution of national programs to the system as a whole.

CHAPTER 4. HEALTH FINANCING IN PAKISTAN

The World Health Report 2000 identified health financing as one of the four key functions of a health system. Yet, debates on health financing often remain limited to a question of how much should be spent on health, whereas a health financing policy should assess and seek to improve three aspects: the availability of funding; the pooling of risks; and the effectiveness of spending in attaining the intended results.

This chapter focuses on describing the level and trends in health expenditure and the public private mix. It also discusses the resources flow in the system.

> *In order to ensure fairness and financial risk protection, there should be a high level of prepayment; risk should be spread (through cross-subsidies from low to high health risk); the poor should be subsidized (through cross-subsidies from high to low income); the fragmentation of pools or funds should be avoided; and there should be strategic purchasing to improve health system outcomes and responsiveness. World Health Report 2000*

4.1 *Total Health Expenditure*

According to the recently released report of its national health accounts (NHA), Pakistan spent about 2.6 percent of its GDP on health in 2005/06. These estimates capture total expenditure on health by the three levels of government (federal, provincial, and district), external assistance and households. This reflects all expenditures on health by all parts of the government (including the military and state-owned enterprises), private expenditure, expenditure by employers, and by donors.

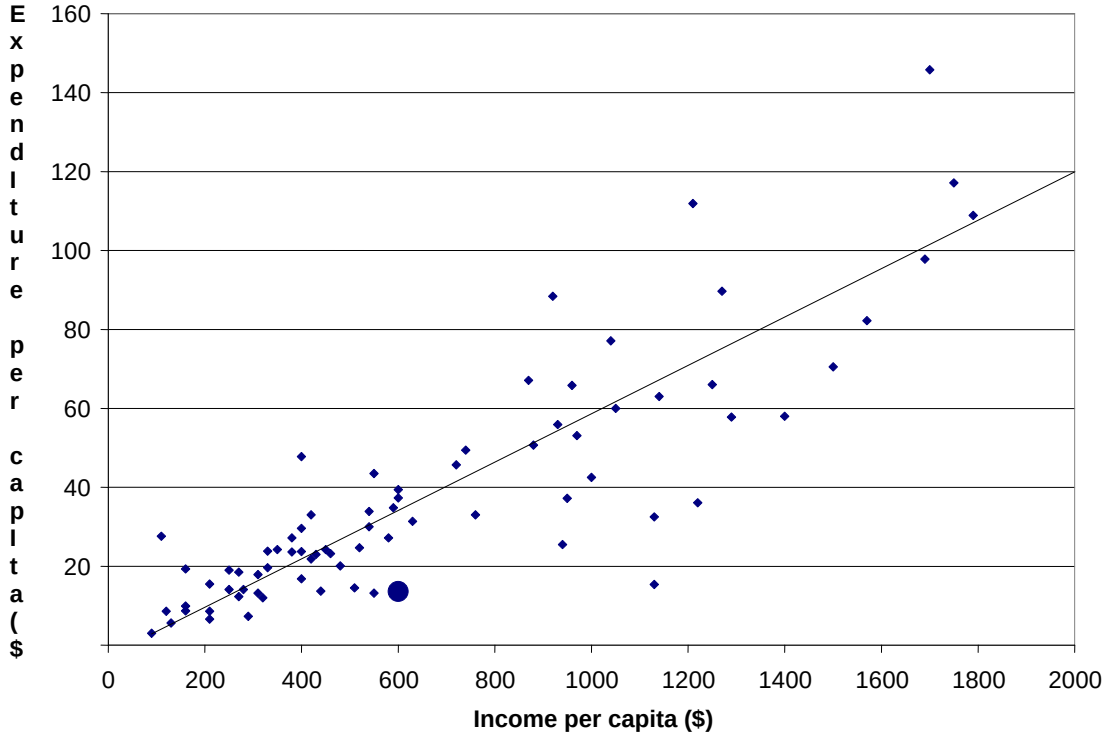
Total health expenditure has increased by about 50 percent in real per capita terms in the past 15 years. Total health expenditure has increased in nominal terms from 20 billion rupees in 1990 to 150[o] billion in 2005/06. Yet, once the data are adjusted for inflation and population growth, the increase in health expenditure appears much more modest. In fact, real per-capita expenditure has increased by 50 percent during the past 15 years.

In 2005/06, total health expenditure in Pakistan is less than 1020 rupees (US$15) per capita, an extremely low level of expenditure by international standards. There is a well-documented correlation between gross national income and health expenditure across countries in the world.[19] Figure 4.1 illustrates this relationship and plots income per capita against health expenditure per capita in 75 countries that have an income below US$2000 per capita. The bold trend line represents what a country "on average" spends given its income level. Countries above or below the line spend respectively more / less than their peers, and Pakistan is clearly an outlier. For instance, Senegal, at the same level of income, is on the trend line and spends US$39 per capita on health more than twice as much. In general, Pakistan spends much smaller as a share of GDP

[o] For comparison with 1990, the 2005/06 figure excludes expenditures by the military, state enterprises, philanthropies, etc, for which data 1990 is not available.

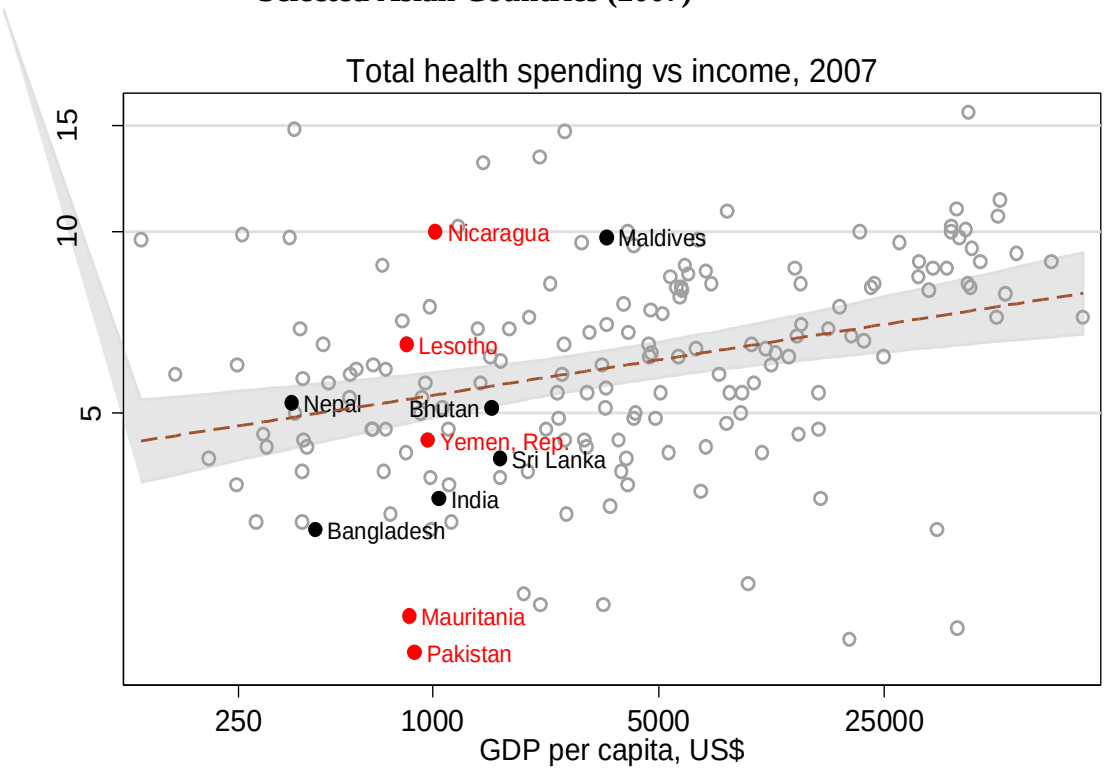
than all South Asian countries as well as countries at the same level of income (Nicaragua, Lesotho, Yemen, and Mauritania) (Figure 4.2).

Figure 4.1. Health Expenditure and Income Per Capita in Countries with Per-Capita Income Below US$2,000 (2004)



Sources: Per-capita total expenditure on health at average exchange rate (US$): WHO. GNI per capita, Atlas method (current US$): World Bank, Development Data Platform.

Figure 4.2. Health Expenditure and Income per Capita
Selected Asian Countries (2007)



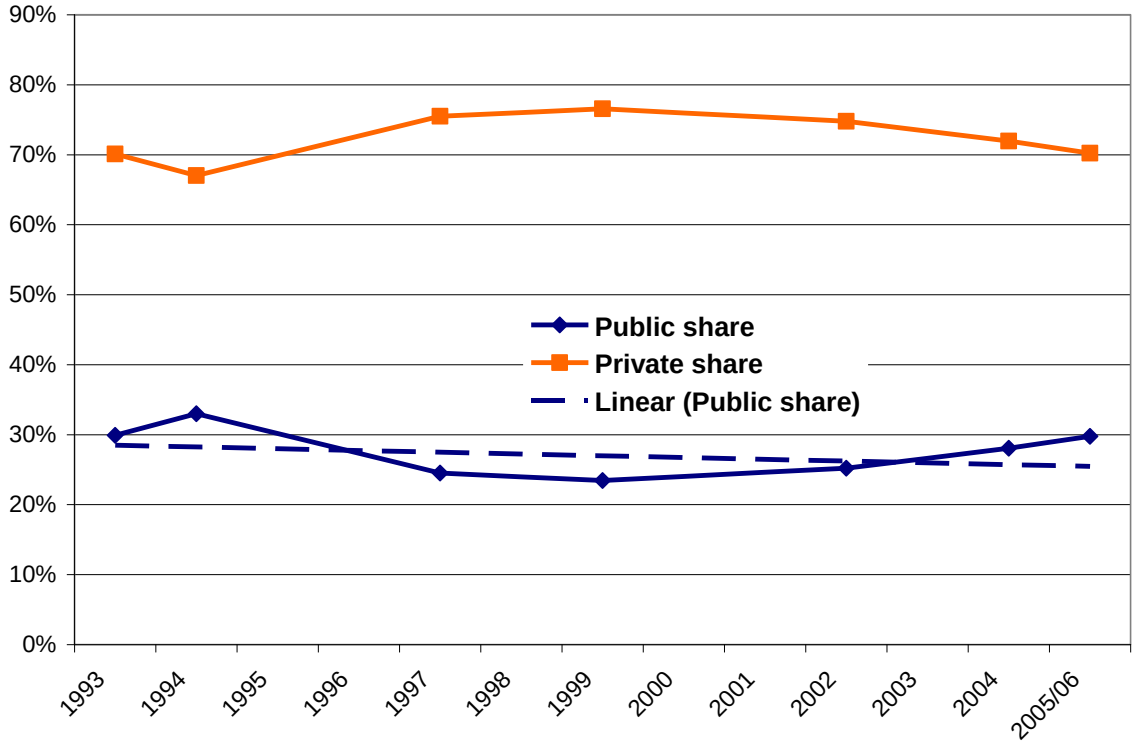
Source: World Development Indicators, WHO, & Royal Monetary Authority, 2009
Health expenditure data are preliminary as of May 2009
Note: log scale

4.2 *Public-Private Mix*

Public expenditure represents slightly more than one third of the total health expenditure. Based on the single NHA estimate of 2005/06, public expenditure represents about 34 percent of total health expenditure in Pakistan. This represents a higher share than do estimates from household surveys (Figure 4.3). Although the trend is not very steep and the difference may not be significant, the share of public expenditure in the total appears to be slightly lower in 2005 than it was in the early nineties.[p]

[p] Private expenditure tends to account for a greater share of health expenditure in poor countries than in rich ones. Moreover, in lower income countries, private expenditure is often incurred out-of-pocket at the point and time of care. This is detrimental to households' financial protection, to equity in access, and to the fairness of health financing. Pakistan is no exception. Out of pocket expenditures account for 97.5 percent of expenditure by the private sector.

Figure 4.3. Public-Private Mix in Pakistan 1993-2005
(based on available household surveys)



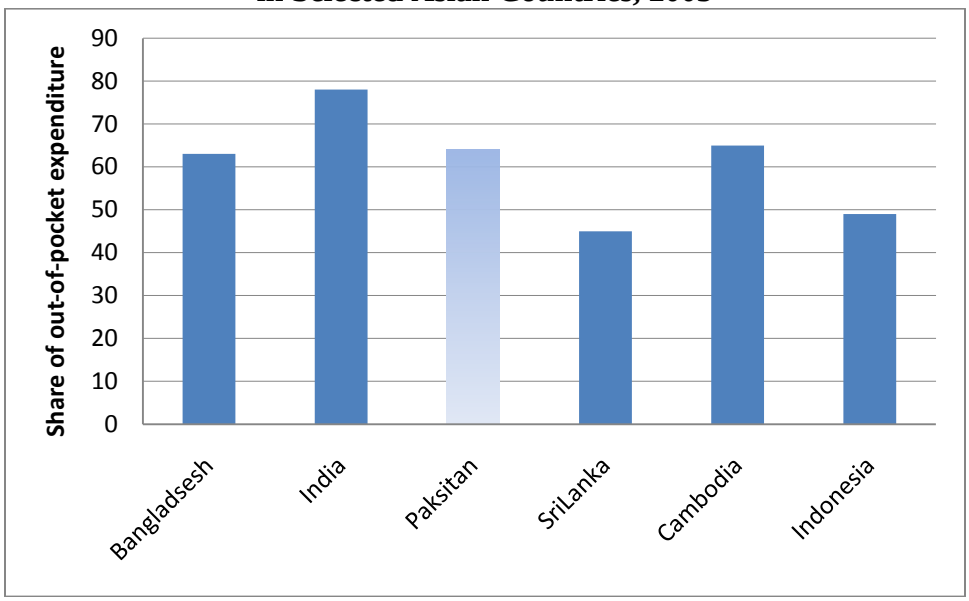
Sources: Private expenditure: HIES 92-93, 93-94, and 96-97; PIHS 98-99 and 01-02; and PSLSMS 04-05 and 05-06. Public expenditure: GOP, Finance Accounts (1984/85-1996/97), Combined Finance Accounts (1990/91-1998/99), and Budget Documents for years onward.

Pakistan is among the countries where out-of-pocket payments represent the highest share of total health expenditure. In 1998, out-of-pocket expenditure represented more than 73 percent of total expenditure in South Asia, the highest level among all regions of the world (the second highest was East Asia with 50 percent, followed by the Middle East).[20] Figure 4.4 suggests that the situation may not have changed much. In 2005, private expenditure still represents about two-third of the total in Pakistan.

Box 4.1: **Health Spending in Pakistan**

- *Total health spending per capita= 1202 rupees (US$ 15)*
- *Total health spending as a percentage of GDP= 2.6%*
- *Public spending on health as a percentage of total government spending= 7.6%*
- *Out of pocket spending as a percentage of total spending= 64.4%*

Figure 4.4. Out-of-Pocket Payment as a Share of Total Expenditure in Selected Asian Countries, 2005



Source: WHO publications.

4.3 *Public Health Expenditure in Pakistan*

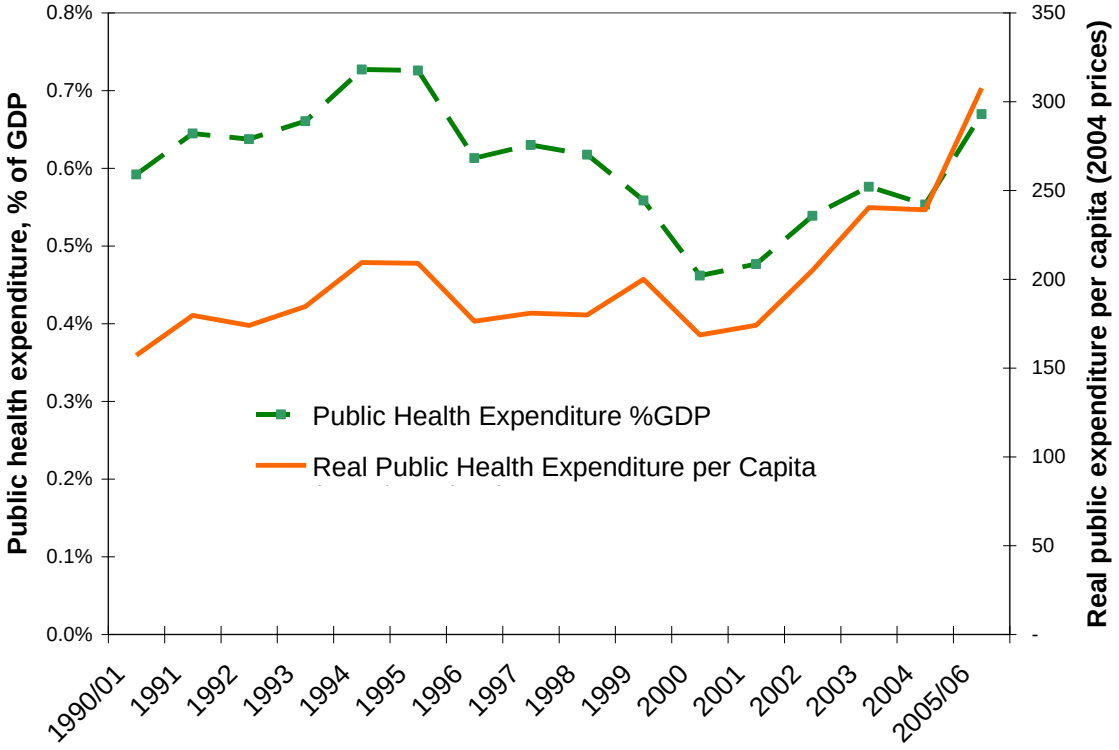
4.3.1 Level and Trend

Public expenditure on health has increased over the past five years. Investment in human capital was one of the three pillars of Pakistan's 2003 poverty reduction strategy paper. The document sets target of 0.92 percent of GDP to be spent on health and population by the government in the mid-term and 1.1 percent by FY2007/08. Government investment in health has indeed accelerated in recent years: total public expenditure increased by more than 90 percent in real terms between 2001/02 and 2005/06, compared with a growth of only 5 percent during the previous five years (Figure 4.5).

Despite this increase, public expenditure still remains low. Figure 4.5 describes public health expenditure trends since the early nineties[q]. On the right axis, the graph shows that public currently spends a little more than Rs 300 per-capita per year on its population's health, or in real terms 100 more rupees than 10 years before (1994/95).[r] At the time, public expenditure represented slightly more than 0.7 percent of GDP (left axis). While poverty-reduction related expenditures represent an increasing share of the GDP, health expenditure is growing more slowly than other types of poverty-reduction related expenditures until recently (Figure 4.6). The most recent figure shows a rising trend in health expenditure.

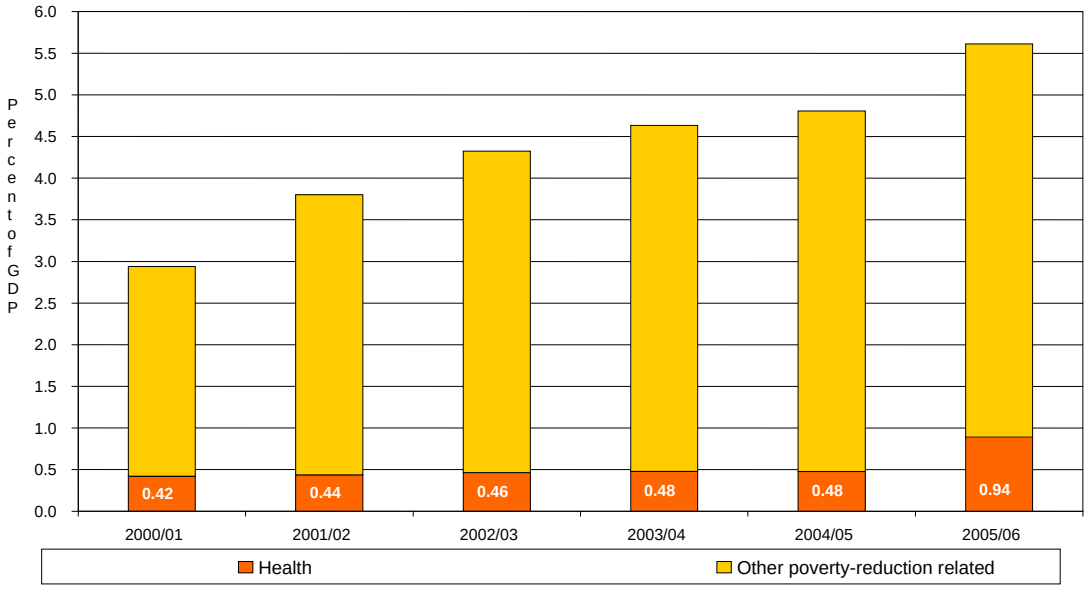
[q] Including population expenditure.
[r] Base year for prices is 2004/05.

Figure 4.5. Trends in Public Expenditure on Health in Pakistan (Rs)



Sources: GOP, Finance Accounts (1984/85-1996/97), Combined Finance Accounts (1990/91-1998/99), & Budget Documents for years onward.

Figure 4.6. Health and Other Poverty-Reduction Related Expenditures 2001/02 to 2005/06

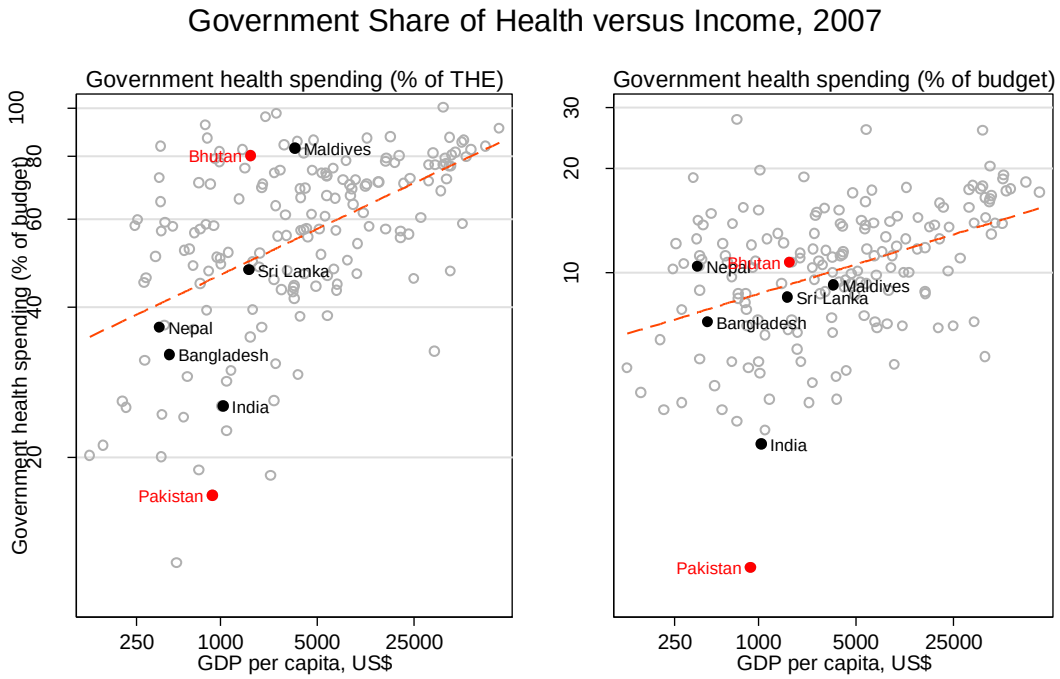


Source: GOP, Finance Division, poverty reduction strategy secretariat, *Annual Progress Report, 2005/06*, Nov. 2006; NHA 2005/06.

Note: The figures exclude expenditures by the military, state enterprises, philanthropies, etc.

Regional comparisons confirm that Pakistan commits modest public resources to health. The absolute amount a government can invest in health depends on the size of its budget and therefore its wealth. Part of the story behind Pakistan's low investment in health is indeed its low level of income. Yet, comparing South Asian countries, Pakistan has the lowest public expenditure on health per capita, given the income level (Figure 4.7). In fact, Pakistan is one of the countries that government spending is the lowest in South Asia both as the share of total expenditure in health and as the share of government budget. Many countries poorer than Pakistan spend more public funds on health.

Figure 4.7. Government Expenditure on Health in South Asian Countries, 2007



Source: World Development Indicators and WHO, 2009
Health expenditure data are preliminary as of May 2009
Note: log scale

Pakistan needs to increase health spending and improve the efficiency of its spending. Ultimately, better health outcomes will be achieved if the quality, quantity, and scope of health services used by the population increase. Many of the reforms the government needs to make to increase coverage and quality of services require increased investment in health. In addition to increased investment, the way government finances the sector also affects the coverage and quality of services. Hence, financing mean more than mobilizing resources; it also is an instrument for changing incentives through the system to increase coverage of services and improved their quality.

Designing a well articulated and prioritized policy is as much needed as additional financial resources. Richer countries tend to spend more on health and to have better health outcomes; still, empirically it is extremely challenging to attribute changes in health status only to changes in health spending, independent of other factors. A powerful illustration is that the countries with child mortality rates below 30 per 1,000 have public health expenditures ranging from 1.4 to 8.7 percent of GDP and from US$7 to US$4,200 per capita.[21] Although there are precedents[s], setting a numerical target for total or even public health expenditure is not very helpful in itself. At any level of expenditure, it is equally—if not more—important to focus on designing technically sound and reasonably prioritized policies to ensure that the system is as efficient and equitable as possible in the pursuit of improved health outcomes.

4.3.2 Sources of Public Financing

Describing how money is raised by the government to finance health helps in assessing the levers available to increase investments in health. It also provides insight into the fairness of overall health financing. It reveals the extent to which pooling and redistribution from the rich to the poor and the healthy to the sick, both of which are desirable heath financing objectives, is taking place. Broadly speaking, public revenue used for health can come from the general pool of public revenues or from dedicated taxes and contributions.

Public health expenditure in Pakistan is funded from the general revenue pool that has limited mobilization capacity. Overall revenue mobilization in Pakistan is low at 15 percent of GDP and trickles down from the central to the district governments. In the short- to mid-term, this means that efforts to increase resources for health should focus on advocating for a larger share of the existing resources to be allocated to health at all levels of the government. The National Finance Commission sets the allocation formula for all federal revenues. Currently, more than half of federal revenues are allocated to the federation, and the rest are distributed among provinces based on the size of their population. [t] As provinces have limited tax powers, more than 90 percent of their revenue comes from the federal level.[22] Four provincial finance commissions in turn reallocate funds between the provincial and the district governments. The redistribution method varies across provinces from being based on a historical basis in Punjab, to based on population and backwardness index, in other provinces.[23]

A well prioritized strategy with clear performance indicators is essential for advocating additional resources for health. To strengthen its case for additional

[s] The Commission on Macroeconomics and Health estimated that more than $30 per capita was needed to provide a basic package of essential interventions against infectious diseases and nutritional deficiencies in developing countries. *Macroeconomics and Health: Investing in Health for Economic Development*, Report of the Commission on Macroeconomics and Health to the World Health Organization (Geneva: 2001).

[t] This does not take into account the recent shift in allocations that increased the share of provinces. While the shift will likely be translated into increased budgetary allocation for health, the actual impact is to be seen in the coming months when sectoral budgetary decisions are made.

funding, the sector should prepare a credible and prioritized health sector strategy and be prepared to hold itself accountable for specific performance targets that would justify such funding increases.

With a clearly articulated sector strategy, Pakistan could mobilize more external sources of financing for health than it currently does. Part of the finance that ultimately goes to health comes in the form of grants, loans, or direct assistance from a range of bilateral and multilateral agencies, as well as from philanthropies, foundations, or NGOs. Until the recent NHA exercise, there was no centralized mechanism in place to track external resources, which contribute to funding the public sector, and no tracking mechanism for nongovernment aid or aid that does not flow through the public sector. The NHA estimates the total external resources spent in the sector in 2005/06 at US$44.5 million. This represents 1.9 percent of total health expenditure which is extremely low compared to 14 percent for the average for low-income counties.[24] Further, the aid is fragmented across a large number of small projects, thus reducing its efficiency. Part of the problem lies in the lack of a clear government strategy behind which donors could align themselves in a coordinated way.

4.4 *Private Health Expenditure*

The main private actors who finance health are households, employers, and nonprofit institutions such as foundations and philanthropies. Of these, households are the single largest source of funding for health in Pakistan, including the public sector. Budget surveys (Household-Integrated Economic Survey, HIES 1993, 1994, 1997, 1999, 2002, and 2005[u]) collect data on household expenditure on various items, including medical goods and services, in the past year. These surveys provide a wealth of information on out-of-pocket expenditures, which will be summarized below. They also have some limitations, one being that they probably underestimate private expenditure[v]. A new survey module introduced in the HIES in 2007/08 should help overcome some of these limitations and provide more accurate information in the future.

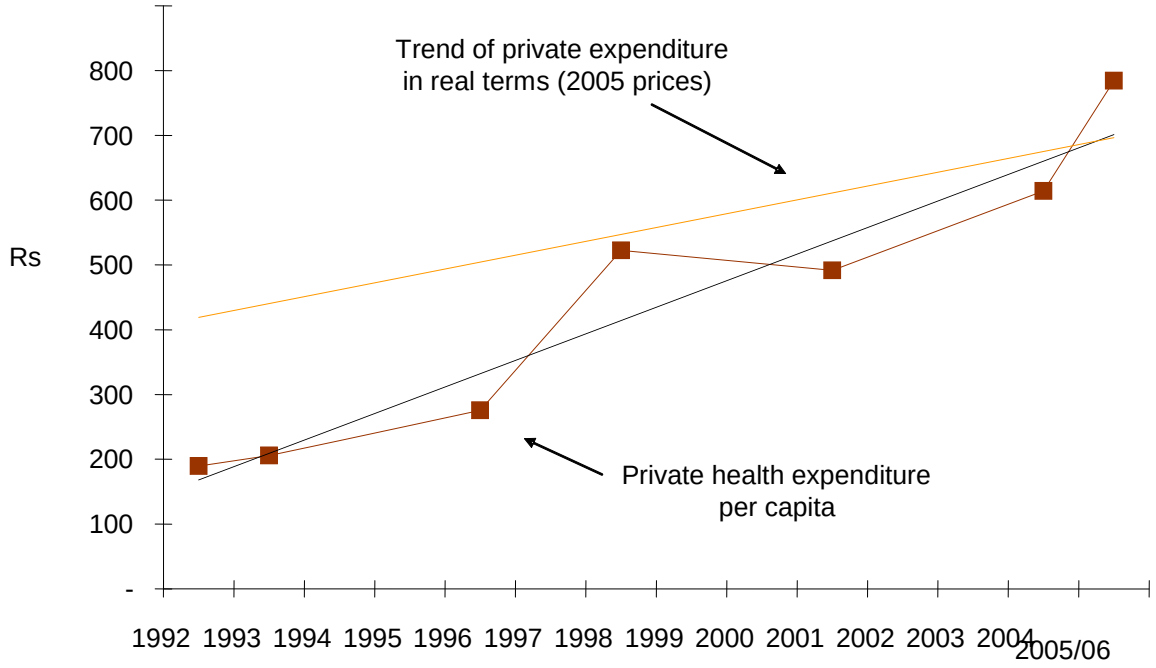
The contribution of non-out-of-pocket private expenditure stands at 1.3 percent of total spending on health. Some proportion of the population is covered by employers either directly buying insurance or through contribution to a pool managed by the employees social security institutions. According to the 2005/06 NHA estimates, these contributions account for 1.1 percent of total health spending. Charitable contributions and in particular Zakat represent another mechanism by which households contribute to funding care.[w] This source contributes to 0.2 percent of the total health spending.

[u] Detailed data for 2005/06 are not available yet.

[v] In particular, the recall period is too long, and the questions are not related to specific health problems; this leads to less accurate estimates. Moreover, the questions do not distinguish prices/volumes and the types of expenditure (drugs/hospitals/fees/other) are not clearly mutually exclusive (fees paid for a consultation can include drugs, and "hospital" expenditures).

[w] Given the way Zakat is organized it could be technically classified as a public funding source in the context of Pakistan.

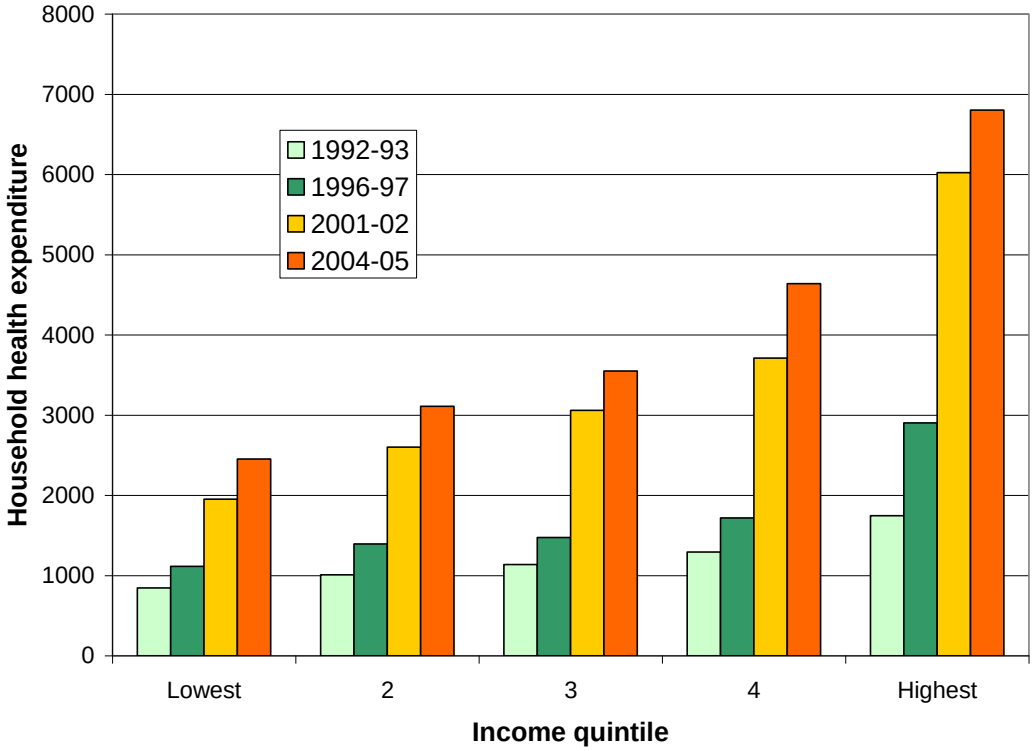
Figure 4.8. Trends in Private Expenditure per Capita



Sources: HIES 92-93, 93-94, and 96-97, PIHS 98-99 and 01-02, and PSLSMS 04-05 and 05-06.
Note: The large points mark the estimates for the years for which a survey is available; based on those, the dotted line shows the trend in nominal expenditure and the thick solid line shows the trend in real expenditure per capita.

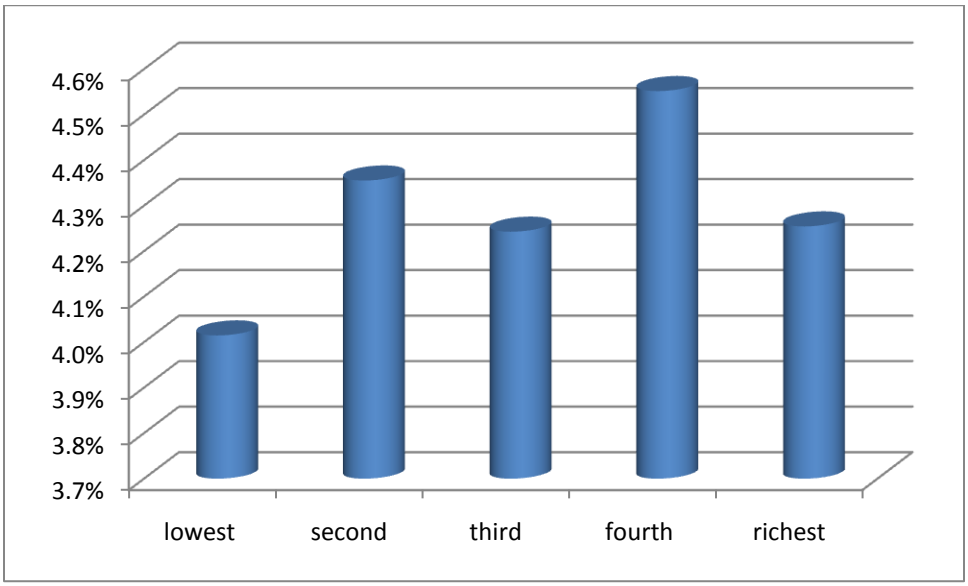
Out-of-pocket expenditure on health has increased over time (Figure 4.8). According to NHA 2005/06, each household has spent about Rs 770 per capita (US$9.6) per year. Poor households spend on average Rs 2,500 a year, though rich have higher out-of pocket payments than the poor. The difference between the poor and the rich has been increasing over time (Figure 4.9). As a share of total household expenditure, however, the difference is smaller (Figure 4.10). Out of pocket expenditure is higher in urban than rural areas in all provinces. It is the highest in NWFP, followed by Punjab, Sindh, and Baluchistan.

Figure 4.9. Nominal Household Expenditure Across Income Quintiles, Over Time



Sources: HIES 92-93, 96-97; PIHS 01-02; and PSLSMS 04-05.

Figure 4.10. Health Expenditure as a percentage of total household expenditure by income quintiles.



Source: NHA, 2005-06.

The vulnerability of poor households to health-related shocks is worrisome. A 2005 survey of safety-net recipient/applicant households found that nearly two-thirds of respondents (about 80 percent of whom were poor) suffered from one or more major shocks in the three years before the survey.[25] Over half of all shocks to this group (54 percent) were health-related (death, sickness, disability). Losses and expenses due to shocks represented 54 percent of annual consumption for ultra-poor households compared to 27 percent for near-poor households and 18 percent for non-poor households. The survey also showed that 33 percent of the households that faced shocks lowered their food intake, 10 percent put children to work, and 8 percent pulled children out of school in response to the shock. These percentages were higher for more costly shocks and among ultra-poor households. The short-term effectiveness of coping strategies depends on the type of shock but appears to be limited. Approximately 43 percent of those reporting a shock declared that they had not recovered from it at the time of the survey, compared to 20 percent who reported being fully recovered. The share of those who had not yet recovered increased with the estimated cost of the shock and was significantly higher for those with health shocks.

In Pakistan, the proportion of households facing catastrophic health expenditures has been increasing over time. In 2004/05 nearly 12 percent of households spent more than 15 percent of their non-subsistence income on health, up from 7 percent of households in 1992/93. The impoverishing impact of health shocks is also increasing over time. While in the early nineties, an estimated 3 percent of the population became poor per year because of health payments, the proportion of the population is now close to 4 percent. The risk of falling into poverty because of health expenses is higher in rural than in urban areas, the highest in NWFP, and it increases with the household size and falls with higher income.

The fact that formally "free" services from the public sector require payments exacerbates the burden on the poor. An important facet of the problem, supported by a limited but consistent body of evidence, is that services that are supposed to be free or highly subsidized in fact are not. A 2004 survey of 700 obstetric patients in four public hospitals of Karachi showed that they spent on average Rs 590 per stay when two-thirds of them had a monthly income below Rs 3,000.[26] The CIET Social Audit of 2004/05 showed that for a case of fever in the three months before the survey, patients had paid Rs 239 in the private sector and hardly less in the public sector (Rs 229) (Table 2.4). A 2007 survey of 360 patients in six public hospitals showed that although formally the registration fee was around Rs 3 per outpatient visit and Rs 12 per inpatient day, the actual out-of-pocket expenditure was Rs 422 for outpatient visits and Rs 720 per bed-day for inpatient stays. Clearly, out-of pocket payments are pervasive in the Pakistan health system and it is not limited to use of the private sector (see footnote m).

More information is required to tailor a solution to the problem. The above analysis suggests that the problem is concentrated among the poor and among large and rural households. The other aspect of the problem is the question of what these households spend on. The response might differ on whether high and impoverishing expenditures are incurred for rare and catastrophic events (e.g., an accident that requires a household member to be hospitalized) or for chronic illnesses, because of expenditure on drugs or

on fees. As noted earlier, the quality of the data available to respond to this question is still limited, but some forthcoming survey data will provide additional insight.

4.5 *Organization of Government Spending and Allocation Responsibilities*

4.5.1 Description

The organization of public funding in Pakistan mirrors the complexity of its general political and administrative set-up. The federal, provincial, and district governments are each responsible for a series of mandates in terms of financing, providing and managing health services. At each level of government, a distinction is further made between "recurrent" and "development" budgets. The development budget covers specific projects and capital assets, such as the construction of buildings, as well as donor-funds that flows through the government system. The development budget represents a quarter of total public health expenditure (2005/06)[x]. The recurrent budget covers the ongoing administrative and service costs. Recurrent and development budgets are planned, organized, and managed by different departments according to different procedures. Development budgets, which are strategic in nature, are under the planning commissions. Recurrent budget on the other hand remains under the departments of health. Absence of integration in the two components of the budget means decisions on investment are made with little consideration for their recurrent cost implications.

Each level of government finances both preventive and curative activities. In broad terms, the federal government is responsible for a series of mainly preventive vertical programs, the largest of which are the immunization and the Lady Health Worker programs. These are funded from the federal development budget, which represents more than 60 percent of the total federal health budget (2005/06). The federal government also funds and runs a number of tertiary hospitals throughout the country. Provinces and districts are mainly responsible for delivering curative services, funded through their recurrent budget (which represents more than 80 percent of the public health funds they manage). To a lesser extent, provinces also fund from their development budget other federally initiated vertical programs, such as the HIV/AIDS control program. The division of responsibilities between provinces and districts has changed over time and across provinces. Currently in all provinces, salaries, which constitute the bulk of recurrent costs for service delivery, are managed at the district levels, while the provinces retain a significant share of the development budget.

The federal government manages 41 percent of total public expenditure in health.[y] Table 3.1 provides a summary of public health expenditure by the federal government and four provinces for 2004/05. Provinces account for more than 35 percent and districts the remaining 24 percent. On average in 2004/05, Rs 387 of public funds were spent on each person for health and population in Pakistan or 2.5 percent of the total public expenditure. The federal government spending amounts to about Rs 160 per person.

[x] The share has been increasing over the last few years from a level of about 15 percent, but no information is readily available that would explain the reason or the nature of this shift.

[y] This may changes with the recent reallocation as indicated in footnote t.

This seems very low, but it also reflects the fact that the responsibility for funding health is for the most part devolved.

Table 3.1. Expenditure by the Different Levels of Government 2004/05

	Share in total public health expenditure (1)	Share in non-federal public health expenditure (2)	Share of population (3)
Punjab	37%	49%	57%
Sindh	16%	30%	24%
NWFP	9%	12%	14%
Baluchistan	7%	9%	5%
Total	59%	100%	100%
Federal	41%		
Province	35%		
District	24%		
Total	**100%**		

Source: NHA, 2005-06.

The provinces' investment in health is variable. Column 2 of Table 7.1 gives the breakdown of non-federal expenditure across the four provinces while column 3 shows the share of the population of each province. For instance, Sindh, in which 24 percent of the population lives, spends 30 percent of the total amount spent by all provinces. Baluchistan with only 5 percent of the population, it spends about 9 percent of the total spending by provinces. In terms of total per capita spending, NWFP has the largest which stands at more than twice of Baluchistan. The variation in health outcomes that does not match the spending patterns, and reflects the diversity of the provinces in terms of cost of production.

4.5.2 Issues

This complex organization has a number of shortcomings. The following analysis would probably hold true for other sectors, but illustrates from the "financing" angle some of the practical challenges faced by the health sector. The bottom line is that the complexity and lack of transparency of the health financing system are symptomatic of the public health system's poorly defined lines of accountability and a reason for the system's inadequate performance.

The system of budget and expenditure is not integrated. Each level of government, within the parameters of the global envelope it receives, decides on the allocations for a particular sector, in terms of current and development budgets (which are not necessarily jointly decided at a given level). In reality, this freedom is bound by the fact that salaries and allowances for filled posts, which represent the bulk of the expenditure in the health sector, get the first priority. Little monitoring appears to take place on budget execution. Although the Accountant General's office collects data on

expenditures, there is no systematic and centralized effort to assess the extent to which budgets at various levels are spent.[z]

As a result, stated priorities differ from actual ones. An analysis of the recent federal development budget provides a concrete illustration of this issue. In line with the national health policy formulated in 2001, health officials in various forums[aa] have consistently stated their main priority to be the expansion of key national preventive and promotive interventions. In 2004/05, the federal PSDP allocation for various hospital schemes represented 11 percent of the total; in the subsequent three fiscal years, it increased significantly to 29 percent. Yet, no open debate or explicit decision making apparently took place about the appropriateness of this shift towards increased investment in infrastructure in light of other priorities.

The fragmentation of funding contributes to the inefficiency of the system. First, decisions are likely to be made without taking into account the full range of their long term budgetary implications. To give a concrete example, the decision to construct a health care facility or to purchase a major piece of equipment (development budget) does not necessarily take into account the long-term implications of the decision in terms of the required recurrent budget (e.g., staff availability, drugs, and maintenance requirements)[bb]. This means that the investment may never produce the desired output, even if the development money is spent as planned.

Furthermore, the division of financial responsibilities is not always sensible from a technical or managerial perspective. The split of operational responsibilities between the national program, the provincial and district management and the fact that these are not necessarily aligned with the financial responsibilities allow considerable opportunities for duplication/ gaps in service provision.[27] This is particularly true at the grassroots level, where the funding for all inputs necessary to deliver a single activity comes from a variety of sources. This fragmentation of funding and responsibilities accounts for some shortcomings in service delivery.

Box 4.2: Fragmentation of budgetary decisions

- *To ensure their desired impact, decisions on capital investments need to take into account their implication for recurrent budget.*
- *National priorities are not necessarily reflected in provincial priorities. Output based financing (from federal to province) could help align these priorities. Examples of such practices exist in Argentina, Brazil, and Uganda.*

[z] The authors' attempt to do so for a given fiscal year proved unsuccessful.

[aa] For example, the speech given by Muhammad Nasir Khan, Minister for Health of Pakistan, Leader of the Pakistan Delegation, at the 58th World Health Assembly, Geneva, on May 17, 2005.

[bb] This can happen particularly if the "development" and "recurrent" budgets required are not at the same level (e.g., federal-provincial).

These issues are partly systemic in nature and need to be addressed through public sector and financial management reforms at the national level. Some progress could be made through the following measures:

i. In the context of a national health policy, a role delineation document could be developed. It could cover all publicly financed health mandates, assigning sets of coherent responsibilities for each level of government. In doing so it is particularly important to ensure that responsibilities are aligned with decision-making space and that mechanisms are in place to hold the different levels accountable for meeting their obligations.

ii. To support the implementation of national priorities, systems of performance related grants could be set up, flowing from the higher to the lower levels of government. They could be adjusted according to objective and transparent criteria to take into account performance and/or to help target areas in need of additional support. Systems of similar grants were used, for instance, in Zambia and Uganda, where they helped shift resources away from hospitals towards primary care services and reduce the pro-rich bias of expenditure.

iii. A systematic analysis of financial flows through the system and provider payments methods is critical. Establishing a health economics unit and integrating it in the formal structure of the MOH would build the ministry's capacity to undertake such analysis. Such a unit would closely work with the National Health Accounts team of the Federal Bureau of Statistics, support the government in its effort to monitor health expenditure, and assist the government to use financing levers to better achieve the sector's objectives.

4.6 *Purchasing and Resource Allocation in the Public Sector*

The concept of purchasing is useful framework to analyze the system. Any entity, public or private, that gives money to a health professional or institution in exchange for a service rendered, can be seen as engaging in a purchasing transaction. Accordingly, the different levels of government(s) of Pakistan can be seen as buying services for the population of Pakistan. Once the purchasing function is established, a number of questions arise: What is the exact package of services the government is buying for the population? Do the resources allocated reflect these priorities? Who is actually purchasing which service? Are there good reasons for the government to produce the services rather than buy them? How are prices established? What are the mechanisms used to pay the providers? Are these payment mechanisms optimal in creating the best incentives for improved performance of the health system? Is the government getting good value for its money?

There are a few examples of purchasing taking place in the public health system that can be expanded. One example is the contracts signed by district governments across the country with the Rural Support Programs (RSPs) to manage basic health units. These are also purchasing arrangements: in exchange for an amount of money defined in advance, the RSPs are responsible for ensuring that BHUs are functional and delivering services to the population. They are given some managerial and financial

authority to organize the system accordingly. This experience has generated a lot of debate on (a) the nature of what was being purchased: was it curative or preventive services? (b) the definition of responsibilities: was there a complete alignment between the providers' mandate, the budget it received, and the authority to manage? and (c) the results: was it delivering? Preliminary results indicate that the answer to this last question is positive; using the same budgets, the system's managers were able to combine resources more efficiently and thus increase the output (BHU attendance) significantly.[28] The fact that the RSPs are external entities to the government makes it easier to think about these questions, but in reality, government should be asking similar questions about all the services it delivers through the public sector.

The budget is not explicitly related to expected output and performance. In Pakistan, there is no clear-cut mechanism whereby a budget is established for a facility and or a system by which the facility is accountable for delivering specific and measurable activities. Inputs are provided on a line-item basis, based on some physical norms and "standards of service" (lists of inputs that should be available in a given type of facility). It is widely recognized that these norms are outdated and bear little relation to real service costs. Program budgets are also calculated based on the inputs they require. Overall, funding has a strong historical basis with only incremental changes being made on an annual basis. It bears no relation to the output of the facility or any measure of performance.[29]

4.7 *Performance of Public Health Financing*

Unfortunately, the public accounting system does not provide the detailed information required to assess what the government spends on. The existing functional classification[cc] does not allow for a proper monitoring of the funding. For instance, it is not possible to tell how much money is spent in various types of facilities (hospitals, BHUs, etc.) or on which type of service (curative or preventive) or even on various types of inputs.

Small-scale studies suggest widespread inequities and inefficiencies in the allocation and utilization of resources. A detailed study conducted in Baluchistan in the late nineties[30] illustrated quite powerfully the inefficiency and inequity of public allocations and purchasing mechanisms. The study found that (a) the per capita recurrent budget for primary care varied by a factor of 15 across districts for no objective or transparent reason; (b) differences in unit cost per patient across facilities of the same type were also large (for instance a variation of a 100 percent was observed between two district hospitals); and (c) the cost per outpatient in Rural Health Centers was higher than in hospitals (when the opposite would have been expected if the referral system worked). The study also highlighted a significant underfunding of medicines at the expense of staffing costs in all facilities. A 2007 survey conducted in six public

[cc] Under the broad "health" heading, four categories are distinguished: general hospitals and clinics, mother and child, other facilities and prevention measures, and "other," a classification that mixes providers and functions and is much too crude to provide meaningful information.

hospitals highlighted similar patterns: the cost of an outpatient visit across hospitals varied by a factor of 1 to 15 and that of an inpatient day by 1 to 5.

A critical unaddressed question is who actually benefits from public expenditure. Ensuring that public spending on health is pro-poor is an important policy objective. Contrary to a common belief, public systems which (supposedly) provide free care to all citizens are rarely pro-poor, particularly in low-income countries. To give a few examples, in India, the poorest 20 percent of the population benefit from less than 13 percent of public spending and the richest 20 percent from 33 percent. In Bangladesh, the poorest 20 percent benefit from 16 percent of public spending, while the richest 20 percent benefit from 35 percent of that spending. Public expenditure is strongly biased towards the rich. Because of the limitations of existing household surveys and public expenditure data in Pakistan, undertaking a benefit incidence analysis is not feasible at this stage. Pakistan is unlikely to be different from its neighbors in that respect: for instance, the PSLSMS shows that the poorest 10 percent of the population only represent 6 percent of those who seek care from the public sector when ill (and the bottom 40 percent only 30 percent).

Strategic purchasing could improve the systems performance significantly. Simply increasing the amount of funding or inputs available for facilities or programs is unlikely to yield results. Pakistan's health authorities today are passive purchasers of services; they need to become strategic purchasers. As suggested throughout this section, the fragmentation of health financing is largely a consequence of a poor definition of responsibilities and accountability mechanisms across levels of government and also at the level of service provision. To improve the system, a number of steps and options should be considered including:

i) **First, a realistic benefits package must be defined.** The definition would spell out an affordable list of cost-effective goods and services for which the public health system would be responsible and for whom. These services must include the preventive and primary services that can make the greatest contribution to achieving the MDGs. The definition of the benefits package should also include the conditions under which they will be delivered (free for all? free for some?).

ii) **Second, a decision should be made on who will be accountable for ensuring that services are delivered and who will have the authority to manage the related budgets and entities providing the services**. Two main options are available: the district level authorities or the public health facilities themselves. These are not mutually exclusive, but in the short run, given the capacity available in the system, it might be more realistic to start at the district level. Consideration should be given to the idea of contracting the delivery of this package to an external entity (as is done with the RSPs) or to hire and hold accountable managers at the district level.

iii) **Third, internal contracting should be considered. This may take the form of the authority (department) responsible for delivering the services be given the managerial autonomy and held accountable for the actual delivery of**

the services. In particular, the authority should have the freedom to reallocate expenditures across line items as needed for efficient management. In the short run, this is likely is to increase efficiency with respect to the mix of inputs used to produce services. In the long run, the adjusted budget should be refined to reflect the service load and thus be based either implicitly or explicitly on units of service, number of cases, or capitation. In other words, the system should move away from buying inputs towards producing outputs.

iv) **Fourth, purchasing specific services from existing philanthropic institutions and the private sector should be considered.** The philanthropic sector in Pakistan is very dynamic. A number of highly reputed institutions mobilize large amounts of private donations and, with limited financial support from the public sector, provide excellent quality services, in many cases free of charge for the indigent[31] (see Box 2.3). By doing so, they effectively contribute to achieving some of the health systems' objectives. The ministry and departments of health should seek to collaborate with them more systematically. Strategic purchasing of specific services from the private sector also will improve the efficiency of public spending. The private sector is the largest provider of maternal and child health services. Through strategic purchasing, the potential of the private sector can be harnessed to improve the performance of the system.

v) **Finally, a clear monitoring and evaluation framework should be set up to assess the performance of the entity responsible for delivering the benefits package**. As part of this effort or in parallel with it, government should develop incentive systems and increase the correlation between payment and performance at all levels of the system.

Box 4.3: Building upon successful philanthropic activities in the health sector.

A detailed review of five philanthropic institutions that provide health services helped identify some of their strengths and weaknesses and possible avenues for the government to make better use of their potential. These institutions are (a) the Layton Rahmatulla Benevolent Trust (LRBT), with an annual budget below US$5m, which is the largest provider of eye care in Pakistan (39 primary care facilities, 12 secondary hospitals and 2 tertiary care facilities); services are free of cost; (b) the Sindh Institute of Urology and Transplantation (SIUT), which has a budget of about $10m and treats more than 450,000 patients a year, mainly in urology and nephrology; services are free of cost but better-off patients often give donations; (c) the Edhi Foundation, with a budget of about US$10m, provides an array of welfare and social services and runs the largest private ambulance service in the world; services are available at a nominal fee; (d) the Shaukat Khanum Memorial Cancer Hospital and Research Center (SKMCH&RC), with a budget of about US$20m, is the only facility specialized in cancer treatment in the country and 75 percent of patients receive care free of cost; and (e) the Marie Adelaide Leprosy Center (MALC), with a budget under US$2m, provides treatment for eye diseases and TB in addition to leprosy.

These institutions have all been founded and in some cases are still run by dedicated and sometimes famous personalities; they draw the bulk of their resources from national and international private donations, individual and corporate; some receive funding from the public sector but it never represents more than 10 percent of the budget and is not regular; others, in particular the Ehdi Foundation, refuse public funding on principle. Overall, they are limited by their fundraising capacity in view of a very large demand. All benefit from some form of tax relief, and three are, or have been, registered with the Pakistan Center for Philanthropy, an NGO dedicated to creating an enabling legal and fiscal environment in the sector and mandated by the government to certify nonprofit organizations based on criteria covering good governance, transparency, accountability, and efficiency.

The relationship between philanthropic institutions and government(s) is by and large ad hoc and, while the institutions described above are exceptional on many accounts, others are run in a much less transparent and

effective way. Different types of collaborations could be envisaged between the government and philanthropic and, more broadly, nonprofit institutions: contracts on agreed terms to deliver services could include exemption of payments for the poor; mandates to manage more autonomous public entities (e.g., hospitals), incentives and facilitation for entities to develop and expand existing services in new areas, and capacity building to meet better service or management standards. In order to build a more systematic and fruitful relationship, many steps have to be taken, including but not limited to the development of a framework defining the principles and processes for various types of collaborations. This framework would also need to outline objective criteria by which a potential collaboration could be mutually beneficial (commonality of objectives and priorities, including, for instance, free service for the poor) and mutual accountability frameworks and agreed-upon performance evaluation systems. The initiative for such an engagement could be taken by the federal Ministry of Health in the first instance and in collaboration with umbrella organizations such as the PCP.

CHAPTER 5. ORGANIZATION AND MANAGEMENT OF THE PUBLIC HEALTH SYSTEM IN PAKISTAN

The gradual development of the public health system in Pakistan has contributed towards improving people's health, but results remain poor. The lack of resources and inputs is often seen as the main hindrance and the prescribed remedies to date are increased allocations and more facilities. Without denying the importance of these inputs, this chapter reviews the organization and management of the public system to highlight the critical constraint they represent to the system. The first section offers a brief description of the system's organization and management, with an emphasis on the impact of the decentralization process. In light of this, the second section assesses a number of critical stewardship functions and suggests how these need to be strengthened in the context of organizational and management reforms.

5.1 *The Evolution of the Health Sector's Organization and Management*

5.1.1 Emphasis on Public Sector Delivery

As in other South Asian countries, Pakistan's health system after independence consisted of a relatively small network of public facilities, which provided limited coverage to the population. After partition, the network was systematically expanded following the principles of a national health system model, where services are directly financed and provided by the government. By the early nineties Pakistan had greatly expanded its health care infrastructure, with at least one health facility in each of the Union Councils (the smallest administrative unit) providing primarily curative care services. Public services are organized into four levels:

i. Outreach/community-based programs, such as the LHW and immunization programs;

ii. First-level or primary health care facilities, including BHUs, RHCs, maternal and child health centers, and dispensaries, which provide outpatient curative care and are hubs for the outreach/community based programs;

iii. Secondary-level care (basic and specialized inpatient and outpatient care including diagnostic facilities), which is provided by civil, *tehsil* (subdistrict) and district headquarters hospitals (DHQs); and

iv. Tertiary care and hospitals for specialized out- and in-patient care.

As the system expanded and grew complex, management capacity was not systematically built to keep pace. Most staff in managerial positions in the facilities or in the administration are held by health professionals. They are given responsibilities based on seniority, irrespective of their interest in and capacity to manage, and they are expected to acquire management skills on the job.

Although gradual progress has been made, capacity for key support functions such as procurement or financial management remains limited. In 2002, the Public Procurement Regulatory Authority established a procurement framework in line with international standards. Based on it, the Ministry of Health, with support from the Department for International Development (DfID), developed standard operating procedures to be used at the federal level. Although there has been no independent assessment, the consensus is that procurement processes have become more transparent. Technical assistance has also been used to build capacity in programs supported by development partners, and some innovations have been tried out. For instance, a procurement management firm was contracted by the national AIDS control program to provide procurement expertise and build the capacity of federal and provincial staff involved in the procurement of NGO services. Yet, compliance with the new guidelines appears to be less systematic in provinces and at lower levels of government. Most procurement remains in the hands of physicians who have limited procurement skills. Another weakness in the system is the lack of a mechanism to track the extent to which publicly procured items (e.g., drugs, commodities, and equipment) are distributed and ultimately used as intended. With respect to financial management, health care follows public sector procedures and varies by province. As in other sectors, internal audit mechanisms are lacking and post-audits remain complex and bureaucratic; their contribution to improving accountability is limited.

Despite a long-established understanding of the need for management reorganization, reforms have failed to materialize. Acknowledging that improvements in health outcomes were slow, the first health policy in 1990[32] outlined the need to change strategic direction, with an emphasis on preventive and primary health care, and to undertake management and organizational changes. During the nineties, the Social Action Program (SAP) and associated projects supported an increased focus on key programmatic areas, including prevention. They also included ambitious management reforms to overhaul the system's organization and improve governance so that the right service priorities would be financed, become more efficiently managed, open, and responsive to the influence of legitimate stakeholders, and be better appreciated by the public. The managerial reforms included enhancing powers at the district level and creating district health departments, management teams, and health boards[33,34]. Due to inadequate ownership of the agenda and to lack of leadership and capacity, these management reforms were never implemented[35,36]. A critical inhibiting factor was that the reforms attempted to decentralize administrative and financial powers in the sector within a centralized public system.

There are a few examples of relatively successful reform. In this consistently reform-shy environment, a few attempts at reform stand out as having been pursued systematically and sustainably: (a) efforts to increase hospital autonomy and (b) the contracting of primary health care management.

Hospital autonomy. Over time, with the objective of improving service delivery and empowering hospitals to collect more revenues, Punjab and the NWFP attempted to increase the autonomy of a number of teaching hospitals. In both cases, the reform was initiated and supported by the department of health and the design introduced three

significant changes: first, a new governance structure, with a competitively selected chief executive supported by a management committee; second, a lump-sum grant financing and increased autonomy to reallocate resources and collect and retain fees; and third, a higher degree of administrative authority over employees, including the power to hire and fire staff on contract, to surrender any permanent government employees to the Health Department authority (Punjab), or to monitor the performance of senior staff (NWFP). Though neither set of reforms was fully implemented, there were positive signs of their impact:

(a) In Punjab, anecdotal evidence suggests that the quality and utilization of services had increased, but the reform was rolled back and the initially selected chief executives were gradually replaced by senior medical staff.

(b) In NWFP, an assessment carried out by the German Technical Cooperation (Gesellschaft fur Technische Zusammenarbeit or GTZ) and the Department of Health showed that the hospitals were never allowed to fully exercise the autonomy they were granted and that stakeholders actually had a very different understanding of what autonomy meant or was supposed to help achieve. The evaluation also showed that the reform did not much improve the quality of care or management. More broadly, in both provinces, the reform lacked an implicit results framework by which the results of the experience could have been measured.

(c) Sindh Province offers a successful example of hospital autonomy in Pakistan. In 1991, the Sindh Institute of Urology and Transplantation (SIUT), a public hospital department, was granted full autonomy and an independent management structure.[37] It has since developed to become one of the leading hospital institutions in Pakistan with high quality services. While it receives funds from the government, the vast majority of its funds come from donations.

Contracting of management. The experience of contracting the management of primary care facilities, described in previous chapters, represents a model for Pakistan to build upon. It was initiated in a district of Punjab where authorities gave an NGO the responsibility—and substantial autonomy—to manage all primary health care facilities. These contracting are budget neutral in a sense that the contracted NGOs operate the facilities with the same budget as before contracting. The results of this exercise were promising. A small scale evaluation of the initiative in two districts in Punjab found that utilization of services as as well as community satisfaction of the services provided by the contracted facilities has increased compared to facilities that were not contracted.

In summary, although the system has expanded and diversified over time, building capacity in management and support systems was never considered a priority. In health, the commitment to reforms which could improve management in the public sector has never been very strong or sustained, and little attention has been paid to the contribution of the private sector. The devolution initiative of 2001 provided an

opportunity to take this agenda forward, but it was not seized and, in fact, may have further complicated the system's organization and management.

The following section describes the devolution process and takes a closer look at the current division of responsibilities between levels of government.

5.1.2 Organizational Structure of the Public Health System:

Management responsibilities for health care are divided between the provinces and the federal government. Pakistan is a federal state with three levels of government – federal, provincial, and district. In addition, two areas are managed by the federal government: the Federally Administered Tribal Areas (FATA) and the Federally Administered Northern Areas (FANA); while Azad Jammu and Kashmir (AJK) are autonomous. Following the separation from East Pakistan in 1971, the federal and provincial governments were made responsible for delivery of health care with implementation through the districts. The 1973 Constitution of Pakistan specifies the subjects that come under the responsibility of the federal and provincial governments, respectively. Constitutionally, provision of health services is the provincial government's responsibility. The federal government's primary responsibilities are policy formulation and strategy setting, monitoring and evaluation, health communication, advocacy and information, formulation of technical standards and guidelines, and the prevention of communicable diseases. In other words, the federal government is a steward of the system rather than an implementer. The provincial governments' primary responsibility is health services, including planning, management and oversight, financing, implementation, medical education and training, monitoring and supervision, and regulation.

While stewardship functions are exercised by both federal and provincial governments, service provision is mainly the responsibility of provincial and district governments. Provincial governments were made responsible for health service delivery, including tertiary care and medical education, as well as the provision of services and implementation of programs through divisional[dd] and district structures. The district health officer (DHO) was responsible for all health services in the district except those provided in District headquarters (DHQ). DHQs were headed by medical superintendents, who, along with DHOs, reported to the Director General of Health at the provincial level through divisional directors.

This two-tier system continued until the Devolution Initiative in 2000.[38] The Local Government Ordinance 2001 (LGO) created district governments (DG) as the third tier of government[ee]. The goal of the Devolution Initiative was to devolve administrative and financial powers at the local level to enhance local accountability and improve service delivery.[39] It placed 13 sectors, including health, under the control of district

[dd] Divisions were an intermediary level between province and district, which was made redundant during the 2001 decentralization process. They have recently been reactivated in Punjab and NWFP.

[ee] In fact, there are three tiers of government in each district: the district itself, the Tehsil Municipal Administration (TMA) and the Union Council (UC). TMAs and UCs have no role or responsibility in health.

governments. In health, devolution did not change the role of the federal government but rather the division of responsibilities between provinces and districts. The latter became responsible for the management, supervision, financing, and monitoring of primary and secondary facilities (including DHQs)[ff]. The provinces' direct managerial responsibilities were limited to tertiary and specialized hospital management, as well as teaching, training, and staff development institutions. New management structures were created in districts on the model of the provincial ones. A position of Executive District Officer for Health was created. The Executive District Officers of Health (EDO(H)s) were appointed by the provincial government and reported to the District Coordination Officer (similarly appointed) as well as district *nazims* (elected). At the grassroots level, citizen community boards were created to improve monitoring and enhance accountability.

Under the three-tier system, where districts are the third level of government, the distribution of responsibilities across levels is unclear. In the devolution initiative, the responsibilities for managing different levels of service providers were mapped to different levels of government, and the allocation of responsibilities was designed to avoid duplication. In practice, two shortcomings have emerged. First, the matrix structure lacks clarity; lines of accountability are confused and affected by turf issues.[40] [41] Second, the degree of autonomy actually granted to and exercised by districts to carry out their responsibilities remains quite limited.

National programs provide examples of a lack of clarity in responsibility. Such vertical programs include outreach and community-based preventive programs, such as the LHW and immunization programs, as well as other communicable disease control programs (HIV/AIDS, TB) and, more recently, the Maternal and Neonatal Child Health Program. These programs are initiated by the federal government, which provides technical guidance, strategic directions and, to a variable degree, funding. Over time and in the wake of decentralization, the management and financial responsibilities have been shared among various levels of government, but not uniformly. The immunization program is perhaps the most decentralized, and the districts are responsible for its implementation. Inputs and financing come from the federal and provincial governments, as well as donors (who provide vaccines and equipment), while districts fund salaries and operational expenditure. At the other end of the decentralization spectrum, the LHW program runs as a vertical program and recruitment of the LHWs is the only decision made at the district level. In most cases, programmatic interventions initiated under federal programs are managed by stand-alone units rather than integrated with service delivery. The approach has helped focus attention on priority services, but it has also added to the complexity of existing management arrangements and negatively impacted accountability and coherence in the system.

At present, all three levels of government play a role in the management and delivery of health care (see Table 4.1). The federal ministry's involvement has grown beyond the oversight functions envisaged in the constitution. In particular, it is involved in the funding and management of vertical programs, but it also funds large hospitals

[ff] The health system was not devolved in FANA, FATA, and AJK.

and medical college construction at the provincial level. Overall, the federal government accounts for about a third of public expenditure on health. At the same time, the government does not take on all of its stewardship responsibilities. Similarly, provincial governments, whose function is more focused on service delivery, including its organization, monitoring, and evaluation, have not fully adjusted to this changed role. Their relationship with districts remains problematic, particularly in smaller provinces where provincial governments still retain considerable influence on personnel management and on the use of development resources.

In view of their mandate, however, districts autonomy on key dimensions remains limited.[42]. Salaries, which represent up to 85 percent of district budgets, are earmarked, and the amount of development expenditure over which districts have discretionary powers is small.[gg] At the same time, budget analyses show that districts allocate very few of their (limited) own resources to health.[hh] With respect to the actual autonomy in human resources, the situation is unclear. First, salaries and pay scales are not decided at the district level. Second, postings and transfers within districts are the responsibility of the EDO(H) but their autonomy is somewhat limited by their dual accountability to the provincial department and the local authorities.

Districts vary in their actual decision making autonomy. A 2007 study[43] estimated the actual amount of autonomy in decision making in a sample of 17 districts for four functions (financial and expenditure management, human resources, strategic planning, and service organization). It found wide variations across districts, including within a province. This means that even when they operate within the same rules (which would be the case in a province), districts do not equally take advantage of the autonomy they are granted. The study also found that capacity was very variable and needed to be systematically built up.

[gg] Districts have almost no revenue-raising powers and the user fees they collect are pooled at the provincial level.

[hh] In Faisalabad only 4 percent of district development expenditure was for health and education (Faisalabad Annual Development Program 2003/04)

Table 5.1. Different Levels of Government and Their Roles/Responsibilities

Administrative / executive Government	Political/ legislative Government	Role/responsibilities according to existing rules	Reality/issues
Federal Government	Federal Assembly	National health policy formulation and strategy setting; monitoring and evaluation; health communication, advocacy and information; setting technical standards and guidelines; preventing the spread of communicable diseases; inter-provincial and international coordination; provision of medical services to federal employees.	The federal government still defines and also directly manages a large (and growing) number of national programs. It is also the main counterpart for externally funded initiatives in the sector. As a result, the federal government gives less emphasis to its stewardship functions (e.g., surveillance, monitoring and evaluation, quality control, and national guidelines development)
Provincial Government (PG)	Provincial Assembly	Planning/monitoring/ personnel recruitment and posting/management of a number of secondary and tertiary care facilities, management and oversight, financing, implementation of service delivery at tertiary and specialized care facilities, medical education and training, monitoring and supervision, and regulation.	The provincial government has not yet adjusted to its new role after decentralization. Relationships with districts remain problematic. The government still maintains a crucial role in personnel management and resists devolution of execution to the district level. As in the case of the federal government, the provincial government also gives less than needed emphasis to its stewardship functions (e.g., monitoring and evaluation, quality control; assessing performance of districts). Although some provinces, like NWFP, have started to adjust, the new regime has yet to be fully institutionalized.
EDOH/DCO	District Assembly composed of elected nazim	Execution of all health programs/planning of public health and integrated primary care activities/management of primary care facilities.	District capacity to execute health programs varies; it is better in urban than in rural and underdeveloped districts.
Tehsil	Tehsil assembly composed of elected sub-nazim	No role in health care	Possible role if involved in management of Tehsil and lower-level facilities
Union Council	Union Council (nazim and sub-nazim)	Monitoring functioning of health facilities through monitoring committees	Not fully functional and varies across the provinces
Village	Local Councilor	No role in health care sector	No role in health care sector

Source: Author.

Devolution resulted in limited but positive impact on service delivery. Problems with service delivery run deep in Pakistan and predate devolution, so expectations about the impact of devolution may have been overly optimistic. Overall, the devolution

process in the health sector was smooth[44] and did not disrupt service delivery, but opinions diverge on whether performance has improved: political leaders strongly believe that it has, while most public health professionals agree that it has not changed much[45]. The evidence about the impact of devolution on performance is limited and mixed. Trends in health indicators and regional disparities were little impacted by the devolution[46]. Nevertheless, some small-scale studies show that the availability of medicines and staff attendance may have improved. The Harvard study in 2007[47] shows that in districts that have a broader scope for decision making, better capacity, and greater accountability of officials to local authority, the coverage of maternal services is higher. While this does not establish causality, it shows that improvements can be achieved in a decentralized context.

5.2 *Application of Key Stewardship Functions*

The World Health Organization delineates stewardship in the context of health systems as a process that involves influencing policies and actions in all sectors that may affect the health of the population. This implies the ability to formulate strategic policy direction, to regulate the system, and to generate the necessary intelligence in order to ensure accountability and transparency. The core stewardship functions that the Ministry of Health (MOH) and Department of Health (DOH) include (i) setting policy and strategic directions; (ii) providing evidence through monitoring and evaluation, assessment of the sector's performance, and public health surveillance to guide policy and make service provision transparent and accountable; (iii) setting standards and regulation and accreditation of the private and public sectors; and (iv) managing human resources for the sector.

5.2.1 Setting Policy and Strategic Direction

Strategic policy documents prepared by different stakeholders are not always consistent. The first national health policy was prepared in 1990 and two other policies were prepared by MOH in 1997 and 2001. Priorities for the health sector are also outlined in the Poverty Reduction Strategy Paper and the Medium-Term Development Framework (MTDF), prepared by the planning commission. In addition, most national programs are governed by separate strategic documents, which are developed in collaboration with MOH and sometimes with development partners. Although provincial policies tend to refer to the national document, the extent to which they reflect it is variable. A review of various policy documents indicates that the priorities and strategies laid out are not entirely consistent. For instance, the Sindh strategy (2002/2003) is directly inspired by the national one, whereas in Punjab, the most recent strategy document (2006/07) was prepared under the leadership of the Department of Planning and Development rather than the Department of Health and lays out different priorities.

MOH and the provincial departments of health are not functionally organized to technically lead this process. Attempts have been made to create policy and health reform units, but the process has been ad hoc and ownership has been limited. For instance, the federal unit, initially supported by DfID, has not received regular funding

for the past two years and it was never fully integrated in the Ministry (not even physically). Under such precarious circumstances, it is virtually impossible to attract and retain the type of skilled and experienced professionals needed. In contrast, the NWFP health policy unit, created eight years ago, has a more successful history of directly supporting the policy development process and attracting, training, and retaining dedicated professionals.

There is limited congruence between setting strategic directions, planning, and actually allocating resources. For the most part, planning for the health sector has been delegated to the federal MOH and its various programs, as well as to the provincial departments of health. Planning units, however, tend to focus on year-to-year and scheme-based implementation programs. They are not mandated nor do they have the capacity to link these activities to an overall strategic direction. As a result schemes that seek to achieve similar objectives or are implemented by the same institutions are not always coordinated. In this context, stated priorities are not always consistent with actual resource allocations, particularly as seen in the PSDP and provincial Annual Development Program (ADP) development budgets. Resource allocation is influenced by political considerations, which tend to override technical ones and lack transparency. For instance, there is a consensus that the increase in the construction of provincial hospitals funded by the federal development program in the past five years is somewhat at odds with priorities laid out in a policy document and that it was primarily guided by political considerations.

In sum, the process by which policies are formulated and resources allocated needs to be better defined and more transparent. Although different stakeholders may favor different policy options, the situation in the health sector is such that a consensus can certainly be reached about a few key priorities that the policy needs to focus on as well as the results to be achieved. Within this framework, various policy options can be envisaged, but the choice needs to be guided by the evidence on results, cost effectiveness, and feasibility of these policies in the context of Pakistan. It is important that the ongoing exercise of developing a new policy be concluded with clear resource allocation criteria aligned to the priorities identified in the policy.

5.2.2 Monitoring and Evaluation

Although there is a culture of reporting, performance monitoring and evaluation remain limited. The main HMIS was developed during the early nineties with US Agency for International Development (USAID) assistance. It mainly focused on first-level care facilities and was later expanded to outpatient departments of secondary hospitals, but failed to include all the information envisaged (e.g., human resources). There is no standardized information system across public hospitals.[ii] Vertical programs have set up their own information systems, leading to duplication of efforts in some cases and unbalanced resource distribution in others. No information is collected about the private sector. Funding for the HMIS has never been integrated into the development

[ii] A handful of them, notably the PIMS and the DHQ Rawalpindi, developed and use data collection tools which could serve as a model for further expansion.

budget and to date remains ad hoc. A recent situation analysis[48] noted that although the timeliness of reports was reasonable, the quality, accuracy, and completeness of the data were questionable. The use of information for management decision making was not common for a number of reasons, including the limited capacity of managers to understand and utilize data but also the lack of accountability and therefore motivation to improve results.

The public health surveillance system in Pakistan is very fragmented and unable to generate the data required to make public health decisions. It is the responsibility of the federal government to provide a functional disease surveillance system. Improved health outcomes require effective prevention and disease control measures, which in turn require investments in public health surveillance. The existing systems cover (a) polio, through a state-of-the-art system run by World Health Organization (WHO); (b) a second generation HIV sero and behavioral surveillance system supported by the Canadian International Development Agency (CIDA); (c) a disease early-warning system operationalized in earthquake-affected districts; and (d) an epidemic investigation unit in the department of health of Baluchistan. In addition, there is only one public health laboratory in Pakistan.

A detailed assessment undertaken jointly by the government and a few donors[49] identified five key requirements to develop a unified system: a clear vision and strong political drive; organizational units at all levels of the government; a clear division of labor between levels of government and across institutions; a legal framework; and skilled manpower and sufficient resources. Based on this analysis a detailed and phased plan of action was developed and partially implemented.

Recent efforts to improve monitoring and evaluation are encouraging. For example, MOH recently undertook a detailed assessment of the HMIS and designed a District Health Information System (DHIS) that will also cover the hospital sector. The DHIS has been tested in pilot districts and the plan is to expand it across Pakistan. In a separate effort, the MOH encouraged the use of independent evaluations, e.g., for the immunization and the LHW program. Also, in 2007, based on survey data, the National Health Policy Unit undertook a systematic performance assessment of the health sector disaggregated by provinces and districts. The assessment, as of yet, does not appear to have influenced any policy or management decisions.

In spite of this progress, the federal and provincial governments still tend to depend almost entirely on routine HMIS data and make little use of survey results. Managers tend not to trust the intrinsic capacity of surveys to accurately picture the reality. The limited attention paid to monitoring and evaluation (M&E) at all levels of the system is illustrated by, and probably compounded by, the lack of capacity. A substantial effort needs to be made to improve M&E and the use of data in the system. Working closely with managers and decision-makers in the ministry and departments of health, skilled M&E staff should generate, analyze, and disseminate data from existing information systems but also from independent sources, in particular health facility and household surveys, along with demographic and disease surveillance.

5.2.3 Setting Standards, Regulating, and Accrediting the Public and Private Sectors

With the exception of pharmaceutical and medical education, there is little regulation of either the private or public health sector. Anyone can open up health service delivery units without oversight, and there are no checks to guarantee even minimum quality standards to ensure that patients are protected. Under the Social Action Program, provinces established health regulatory agencies which were meant to regulate and more broadly devise ways to engage the private sector, but they never developed to fulfill the mandate.

Several encouraging signs of development are worth nothing. First, **s**tandards of care have been introduced by some national programs, as well as by the departments of health in NWFP and Punjab for primary and secondary care. In addition, NWFP has undertaken one of the first assessments of quality of care in the public sector in 2007 and intends to institutionalize this exercise. The works undertaken in NWFP and Punjab provide an important starting point for standards of care, but these still need to be institutionalized, built upon to ensure that they bring about measurable and measured results, and ultimately expanded to the private sector.

MOH needs to build its own capacity and take the lead in establishing standards of care and devising ways to ensure compliance. It should outline the regulatory framework, and provinces should take on the responsibility of implementing it and undertaking regular assessments. A close partnership of the private sector and professional bodies, such as the Pakistan Medical Association, should be pursued.

5.2.4 Managing Human Resources

Most of the problems that plague health service delivery in Pakistan are related to management of human resources. Human resource management in the public sector is tainted by serious governance issues. Moreover, human resources planning and capacity building efforts are insufficient and in desperate need of modernization

The federal and the provincial governments lack dedicated and capable staff to address the human resource problems of the sector. During the nineties, the MOH and provincial health departments worked with development partners to try to address key human resources constraints in the sector: the lack of female health workers and the need to develop capacity. The Planning Commission also undertook a human resources planning exercise. These efforts were not systematically built upon. Interventions have not always been selected based on evidence, or coordinated or implemented in a way that would significantly contribute to addressing the core issues, and their impact has not been systematically evaluated.

Similarly, a systematic approach to capacity building and regular in-service training is absent. During the nineties, a nationwide program was established and provincial and district health development centers were created, but they have very limited resources, and a large number of positions for trainers are either vacant or have

been abolished. Rather than using this human resource, the national programs hire trainers locally and undertake their own training[jj]. Training is also often financed through projects funded by development partners, but these efforts are rarely sustained and, in a system where staff turnover is high, they are not effective. Also, no system is in place to maintain a record of in-service training. In the context of the Pakistan civil service, a number of other institutions offer a model of systematic and organized in-service training, which links capacity with future promotion and which could be adapted to the health sector.

Lack of performance assessment and transparency in transfer and promotion remains major challenges. Staffing in the health sector is governed by the general system of civil administration: it suffers from well known but unaddressed issues of transparency in transfers and promotions and a lack of performance assessment. Neither decisions on hiring and firing nor promotion and transfer mechanisms are competitive, performance-based, or transparent. At best, they are based on seniority, but more often than not they are subject to patronage and political interference. Given the low level of salaries and benefits and the absence of systematic monitoring, staff are poorly motivated and lack incentives to perform. Staff absenteeism is rampant, especially in the rural areas (see Chapter 2). This also affects management in the sector. Senior managers end up spending more time than they should dealing with noncore human resource issues. For instance, a study in NWFP found that 75 percent of letters and 80 percent of files coming out of the office of the Secretary of Health pertained to the posting and transfer of health workers even though most of these decisions should have been made at the district level.

The frequent and arbitrary transfer of senior managers at all levels of the system introduces risk of discontinuity of leadership. In the last 12 months, there have been five federal secretaries of health and three LHW program managers. With a few exceptions, the average tenure of provincial health secretaries in the past 15 years has been less than one year. Similarly, the average tenure of EDO(H)s in the 15 districts of Baluchistan for which information was available between 2001 and 2004 was only 16 months

Putting in place a merit-based system with adequate managerial decision making space and the corresponding accountability is crucial. Increasing accountability in human resources, reducing patronage, and giving managers the space to make and enforce decisions without interference all require serious political commitment in three priority areas: ensuring the continuity of senior managers in key positions; introducing merit-based selection for all appointments; and increasing staff motivation. For key managerial positions, staff should be appointed or transferred on the basis of merit through a transparent and competitive selection process rather than on seniority. All management positions that need to be filled internally should be advertised. Consideration should be given to competitively hiring skilled managers from the market, using the federally determined market pay scale. To address the lack of motivation and reduce absenteeism, both sticks (in the form of penalties) and carrots (in

[jj] Sometimes at the expense of other core activities they are in a unique position to pursue.

the form of financial and non-financial incentives related to performance) could be introduced.

CHAPTER 6. CONCLUDING REMARKS

6.1 *General*

Health service coverage in Pakistan is low by regional standards and is characterized by large disparities. Coverage of basic services is low, at 53 percent for skilled antenatal care, 30 percent for contraceptive prevalence, and 40 percent for skilled birth attendance. Disparities across economic levels and regions remain high across most indicators. Rural areas of Punjab and NWFP have experienced substantial expansion of services, while rural Sindh and Baluchistan have seen little progress. Inter-district variations in performance are striking. For instance, the proportion of women who sought antenatal care varies from 6 percent in poor performing district to 81 percent in best performing district, and the contraceptive prevalence rate ranges from 1 to 65 percent.

Several factors have contributed to the low coverage of public health services. On the demand side, the factors include (i) physical access (particularly in Baluchistan); and (ii) poor perceived or actual quality of care. On the supply side, the factors affecting performance are: (i) management and governance issues; and, (ii) political patronage. These, together with limited administrative authority, undermine the ability of managers to link rewards and penalties to performance.

Pakistan cannot afford to wait for economic growth to improve HNP outcomes; targeted interventions are needed urgently. There should be targeted interventions to improve HNP outcomes. These interventions should focus on accelerating declines in U5MR, interventions to reduce childhood malnutrition, decreasing maternal mortality and reducing fertility. Health interventions that take into account the lifestyle of the poor, including the poor in urban slums need to be designed.

These interventions require more resources than have historically been allocated to the sector. So far, Pakistan has been investing few resources in HNP by world and regional standards. Expenditure on health in Pakistan is extremely low, even in comparison with countries of similar income level. Only a quarter of total health expenditure is public; the largest share of the rest is incurred by patients paying out-of-pocket.

The government could do better in mobilizing resources for the sector and improving the value for money. The current share of external resources from total expenditure is 7 percent, about half the average for low-income countries. Equally important as mobilizing more resources is ensuring that the government spends them better and on the right priorities. Though the stated priorities may seem right, financing does not necessarily follow those priorities. The current exercise of developing the sector policy provides an opportunity to prioritize the programs and ensure that such prioritization guides resource allocations.

Parallel to mobilization of additional resources, the potential of the private sector should be harnessed. In addition to increasing the public investments in the sector, the government should design ways to harness the private sector's potential to attain the national health care objectives. The private sector has grown over time to become the dominant provider of ambulatory care as well as antenatal care and institutional deliveries. Rural and low-income households also rely heavily on private providers of health services.

Before launching a national program as is currently being considered, careful thought should be given to identify the problem that insurance is supposed to solve. Purchasing private insurance for the poor might provide some protection if there were enough supply of health services in rural areas where people could purchase insured services. However, the major supplier of health services in rural Pakistan is the public sector. The private sector in rural Pakistan is dominated by physicians that are formally employed in the public sector but also moonlighting as private providers. In this regard, insurance could work if public facilities (i) made charges more explicit; and (ii) were given autonomy to collect fees and retain the proceeds, which would mean a major reform of the system. Under such circumstance public facilities would have incentives to improve quality and attract clients. However, this raises the question of what insurance is trying to solve. Reforms that provide autonomy for public health facilities (managers) are proven to have improved both the use and the quality of services. Hence, the decision on the instrument should follow a clear identification and understanding of the problem.

The poor in Pakistan might be better protected against the financial risk of health shocks through targeted transfers using tools such as those developed for the Benazir Income Support Program. Purchasing health insurance for the rural poor, without addressing the existing supply of health care services would result in limited use of the scheme. Moreover, by paying premiums for insurance to cover the cost of services in the public sector, the government may end up paying twice for the same services. On the other hand, direct transfer that are conditioned on health shocks, would both protect the poor from the actual cost of treatment and provide partial compensation for foregone earnings.

Federal level financing can better ensure that provincial policies are aligned with the priorities of the national health policy. The current practice does not ensure the alignment of provincial policies with the national policy. The provincial priorities could widely vary from the national policy. One way of ensuring that provincial policies and priorities are aligned with the national policy is to condition federal-level financing on outcomes indicated in the national health policy. This could take the form of results-based financing or tied grants. Once those priorities have been defined in consultation with provincial governments, they need to be reflected in budgetary decisions at all levels of the government.

An integrated budgetary process should be in place. A process that separates decisions on the capital budget from the recurrent budget leads to large-scale inefficient use of available meager resources. Integrating the components would enable decisions about the capital budget to take into account its recurrent cost implications so that capital investments produce the desired results.

Finally, increasing resources alone cannot bring the desired outcome without broader management reforms. In the absence of management reforms, investment in health infrastructure is unlikely to lead to improvement in service delivery. Alternative management models need to be piloted such as: i) using performance-based contracting within the system and with NGOs; ii) increased autonomy. Such reforms would involve changing the focus of the government's stewardship role.

i) *Performance based Contracting*: Some innovative management models to improve utilization of primary health facilities are already under way. The most promising of these is the contracting of management of primary health care facilities to NGOs. The model was initially adopted in 2002 when the Rahim Yar Khan (RYK) district in Punjab contracted the Punjab Rural Support Program to manage all 104 BHUs in the district. Since then, the program has been expanded under the PPHI to a substantial number of districts in all provinces.[kk]

The RYK model is assessed as a successful experiment. Using the same amount of budget as had been previously allocated to BHUs, the contracting has managed to increase utilization and patient satisfaction. The success of the PPHI was attributable to the relative managerial autonomy that encouraged innovation and greater flexibility in resource allocation and an accountability system that penalized staff for non-performance.

ii) *Increased autonomy*. This includes providing greater autonomy to district level managers, performance-based payments for health workers and managers and instituting independent assessments. In addition there is a need to test out alternative management models that can be tailored to different contexts and would encourage competition among government providers.

Both of these initiatives needs greater focus on results through strengthening monitoring and evaluation and use of data for management at all levels of government. Effective use and wide dissemination of disaggregated information is necessary to create a culture of results and accountability at the appropriate level of government. Such an approach would entail regular and systematic collection of data on a range of indicators from various sources including HMIS, population-based household surveys, and facility surveys. Establishing a unit that can assess health system performance is a step in the right direction. The unit can provide information to decision

[kk] In addition various other types of partnerships with NGOs are being piloted such as the Punjab Integrated Model in select districts of the province and in Battagram in NWFP.

makers and the public will improve the use of data for policy making and resource allocation. The units could carry out a number of activities including i) regularly disseminating to assessment of each district's performance; and ii) ensuring that monitoring and evaluation of new initiatives are carried out systematically and the results used to improve programs.

6.2 *Specific Options*

6.2.1 Options for Improving Health Status

a) **Accelerating declines in IMR and U5MR:** There are compelling reasons to take aggressive actions to strengthen health services as a means of achieving MDG4, and more broadly, to improve child health. Achieving these improvements quickly will require the following measures:

   i. *Addressing neonatal mortality* by (a) teaching LHWs and other rural health workers, such as lady health visitors and midwives, how to care for neonates; (b) increasing the focus on early post-partum care provided from existing facilities; and (c) increasing the number of institutional deliveries.
   ii. *Introducing new technologies* or interventions, such as new vaccines and intensive promotion of hand washing.
   iii. *Increasing access to quality curative and preventive services*, particularly for the poor, to address the high prevalence of pneumonia and diarrhea, and gaps in vaccination coverage.
   iv. *Tracking progress* more carefully through (a) demographic surveillance that provides annual estimates of key indicators and could provide near-real-time information on causes of death; and (b) more frequent large household surveys (although these provide estimates of IMR and U5MR that have a time lag).

b) **Improving nutritional status in children:** The data currently available suggest that the high prevalence of malnutrition in Pakistan is less due to widespread under-consumption and more due to infectious diseases and poor child-feeding practices. These can be tackled with:

   i. *Immunization:* Ensure that children receive all their vaccines and receive early and effective treatment of their infections, such as through the expansion of integrated management of childhood illnesses (IMCI).
   ii. *Management*: Find and treat severely malnourished children using protocolized management, including community-based approaches.
   iii. *Micronutrient.* Address micronutrient malnutrition. This is likely the easiest, most cost-effective intervention Pakistan can undertake in the short term and has already achieved some successes.

iv. *Promote breast feeding and adequate complementary feeding practices*. This could have a direct impact on infant malnutrition through behavior change communication campaigns.

c) Reducing maternal mortality: Achieving MDG5 in Pakistan may be in reach. Some useful actions that could be taken both on the supply side and the demand side include the following:

i. *Increase access to family planning*. The CPR in Pakistan remains low despite significant unmet demand. Increasing the CPR will likely have an impact on maternal mortality by decreasing the number of higher order births, which are associated with higher risks of mortality (i.e. evidence from Matlab Bangladesh).

ii. *Increase the number of skilled providers in rural areas*. Female doctors, lady health visitors, and midwives should be encouraged to set up practices in rural areas. The number of LHVs and midwives providing obstetrical services in rural areas could also be increased by training more of them, perhaps in association with NGOs.

iii. *Further expand emergency obstetric care (EmOC) in the public sector*. The amount of around-the-clock obstetrical care in public facilities could be increased, perhaps with a performance-based bonus to providers. It would be worthwhile to ensure 24-hour EOC in all DHQ and tahsil headquarter hospitals in a short period of time.

iv. *Stimulate demand for services maternal health services.* Stimulate demand for services such as antenatal care and institutional delivery through better information and incentives to reduce costs. For example, more effective interpersonal communication through LHWs could be piloted at low cost. In addition, conditional cash transfer/voucher could be piloted to improve nutritional status of women before and during pregnancy and also reduce the financial barrier to deliver in health facilities. Though Pakistan has had almost no experience managing voucher schemes, programs like the BISP provide a good platform to institute targeted support.

d) **Decreasing fertility:** Pakistan could likely make considerable progress on further reducing fertility by increasing the supply of family planning services and improving access to such services, particularly in rural areas. The options for doing this include the following:

i. *Increase the focus of LHWs on providing family planning service and supplies:* This could involve more training on the use of injectable contraceptives and ensuring strengthening the referral system for injecting drug users, implant insertion, and female and male sterilization.

ii. *Increase the number of public outlets providing family planning goods:* All BHUs, RHCs, and hospitals should be staffed, supplied, and equipped to provide a broad range of contraceptive methods. BHUs should be able to

provide all methods except voluntary surgical contraception, which should be available in every RHC and hospital.

iii. *Broaden social marketing of family planning:* Social marketing efforts could usefully be expanded to more rural areas. Such social marketing contracts could be performance-based as judged by overall increases in CPR.

e) **Addressing NCDs:** As NCDs account for a larger proportion of the burden of disease, tracking the prevalence of NCDs and risk factors on a regular basis through household surveys would make sense. Also since most patients use the private sector for their curative care, it makes sense to pilot test creative ways of engaging and influencing private providers to use the best, evidence-based approaches to management of these conditions. Incorporate lessons from successful experience of partnering with the private sector in tuberculosis program

f) **Improving the health of the urban poor:** Addressing the health of the urban poor is a pressing issue that deserves more attention. One option that can be piloted is engaging NGOs more to provide a package of basic preventive and promotive services aimed at the urban poor. This requires scaling up on already successful partnerships that have been initiated in Pakistan as well as Bangladesh.

6.2.2 Options for Increasing Protection Against the Impoverishing Impact of Ill Health.

Increasing households' financial protection is one of the most difficult health policy challenges for many countries. Addressing the issue requires complex heath financing reforms which, in order to succeed, need to be multi-pronged and accompanied by an improved system of accountability. Options that might be considered include:

i) Social Health Insurance (SHI). Under SHI participation is compulsory either by law or conditions of employment and operated on behalf a group and restricted to group members. SHI requires a number of pre conditions that are not yet in place in Pakistan. These conditions include a sizeable formal sector, strong management and administrative capacity, quality assurance and accountability mechanisms for providers.[50] Initially, SHI would only (potentially) benefit a fraction of the population within the fold of the formal sector, who are not the most vulnerable or the poorest segment of the society. Because the population covered would be small, the capacity of the social health insurance fund to meaningfully increase the efficiency of the system by engaging providers and increasing their accountability would be very marginal.

Even a partial success, such as the successful introduction of social health insurance for a small category of the population, is likely to leave the system more fragmented and less amenable to reforms. Indeed, a critical reason why such schemes are unlikely to expand beyond the initially covered groups is that the groups' interest is not to move toward universal coverage but rather to expand their benefits and reduce their own contributions. At the same time, the process of setting

up a social health insurance scheme would require a substantial amount of scarce resources, financial as well as human.

ii) *The National Health Service* (NHS) refers to a single-payer publicly funded healthcare system where healthcare is provided to anyone resident in the country free of charge at the point of use for the patient, with some exceptions. The NHS is characterized by vertical integration in that the payer and provider are the same entity. This is in contrast to insurance systems, where there is usually a separation between the payer and provider. In insurance systems the relationship between the three parties to the purchasing transaction is more explicit: the insured is covered for a specific set of services (benefits package), she seeks care from the provider and the provider is ultimately paid by the third-party insurer[ll].

To the extent the health care system is publicly funded and services are free at the point of use, Pakistan's system is close to the NHS model. However, adopting the HNS model in Pakistan means that use of public facilities will not result in large out of pocket payments as is the case today. This requires that public facilities reformed to significantly reduce drug stock-outs, staff absenteeism and other features that drive patients away from public facilities. Moreover with a revenue collection capacity of 15 percent of GDP and large informal sector, pooling risks effectively would be very challenging.

iii) *Voluntary health insurance*: Experience with voluntary insurance in Pakistan has been very limited. Private health insurance has the potential to increase financial protection and access to services for those who can afford the premiums. At the same time, health insurance markets are known for moral hazard and adverse selection that fails to provide coverage for people who have high risks and hence the greatest need. Though these market failures could be mitigated through government interventions, it requires investment in regulatory and monitoring capacity. Moreover, access to private health insurance will remain inequitable as the willingness and ability to pay for private insurance is usually limited to urban and richer households.

Micro-insurance schemes, on the other hand, have good potential but require substantial initial support. A recent experience of Punjab Rural Support Program with Adamjee reveals the complexity of putting in place a micro insurance that benefits the poor. In 2005, the Rural Support Program signed a partnership agreement with Pakistan's largest private insurance company, Adamjee, and started an innovative project that essentially consisted of selling hospitalization and accident insurance coverage through community organizations to low-income rural households. The premium was set at Rs 250 per year and within a year, 180,000 people had subscribed. An independent evaluation of the scheme[51] found that significant improvements were required for the system to deliver on its promises.

[ll] There are instances of vertically integrated insurance systems (in which the insurance fund uses its resources to produce the services, as it is the case in the Pakistan's Employee Social Security Scheme or some "health maintenance organizations" in the US), but this is not the norm.

Very few claims were filed, even fewer accepted, and the reimbursement process proved cumbersome and lengthy (three to six months). Most importantly, the scheme fails to provide protection as patients had to pay at the point of care and seek reimbursement later.

The health sector should take advantage of the momentum around the social protection strategy. Over the past two years, the recognition that social protection mechanisms in Pakistan are ineffective and insufficient, has led the government to rethink its strategy. The new National Social Protection Strategy (NSPS) provides a roadmap for the development of a minimum safety net package for the poor and vulnerable. It identifies priority areas for policy action and outlines a broad reform agenda aimed at improving program targeting, coverage, implementation, and monitoring, as well overall social protection systems. The strategy recognizes the importance of health shocks and the need to use social protection to strengthen human development. The Ministry of Health should be fully engaged in discussing the strategy both to contribute to and benefit from the discussion. Such debate should be part of any health financing reform the government envisages.

6.2.3 Options to Support the Organization and Management of the System

The health sector suffers not only from a lack of investment but also from a lack of strategic leadership and results-based culture. The challenge can only be met with a strong and sustained commitment. Fortunately, there are enough promising examples of success to demonstrate that the task at hand is manageable. MOH and the departments of health need to take a fresh look at the roles and responsibilities of the three levels of government to redefine and practice in line with the constitution. Districts should be empowered and made responsible for implementing and managing service delivery and the federal and provincial governments should focus on stewardship and oversight roles. This review of roles should also be accompanied by a functional reorganization of the ministry and departments of health to enable them to perform essential stewardship and public health functions.

In moving forward, the following functions of the government could be prioritized: (i) policy and strategic planning, including the economic and financing dimensions; (ii) monitoring, evaluation and public health surveillance; (iii) human resource management; and (iv) regulation, quality assurance, and emergency preparedness. A detailed institutional assessment of the MOH and departments should be undertaken, and the functional reorganization should be supported by a substantial effort to hire competent professionals and build internal capacity.

A few practical options can be envisaged to support the system: (i) *Increased autonomy* which may include creating "health authorities" with administrative and financial powers. The boards would be made independent but operate under a legal framework through a performance-based contract with the district or provincial government. Membership on these boards should be based on competence and merit and be shielded from political interference, and the board should include representatives from the private sector and the communities. This should be pilot-tested in a few

districts and the impact carefully evaluated. The experience of the SIUT indicates that independent boards do produce good results. *(ii) Expanding alternate management arrangements of service delivery:* The results of the PPHI are quite encouraging and certainly the initiative offers an option for quickly improving the management of publicly financed services in the short term.

Annex 1: The Proximate Determinants of Fertility

Fertility levels are determined by intermediate and proximate determinants. Intermediate determinants are essentially socio-economic in nature, such as education, employment, and urbanization. The proximate determinants, which affect fertility levels directly, are behavioral and biological. The relationship between the proximate determinants and the total fertility rate (TFR) has been modeled by Bongaarts and Potter (1982-1983), in what is commonly called the Bongaarts Model[52]. The model captures in a simple formula how the natural fecundity rate, estimated at 15.3 children on average[53], is reduced by the inhibiting effect of the various proximate determinants of fertility, as follows:

TFR = Cm * Ci * Ca * Cs * Cc * Fn.

In this formula, Cm is the marriage index, Ci is the postpartum infecundability index (temporary infertility associated with breastfeeding and postpartum abstinence), Ca is the abortion index (usually induced abortion), Cs is the sterility index, Cc is the contraception index (both modern and traditional), and Fn is the natural fecundity. Each proximate determinant index ranges between 1 (maximum value) and 0 (minimum value). If the value of an index is 1, there is no inhibiting effect of that determinant on the natural fecundity. If the value is 0, that determinant has a complete inhibiting effect[54] and the TFR is equal to zero.

Here is a look at Pakistan's TFR through the lens of the Bongaarts Model. In 1965, the Pakistani Government established a family planning program in response to rapid population growth. However, it was not until the 1990s, that Pakistan began to experience a sharp decline in its TFR[55]. That decline is mostly attributed to the increase in the age at first marriage and the increase in the use of modern contraception[56]. Surveys conducted since the 1960s, such as the Pakistan Fertility Survey, show an overall decline in the TFR from 7.1 in 1965[57] to 4.1 in 2008 (source: Population Reference Bureau).

Cm, the marriage index. Marriage in Pakistan is a social obligation. The Pakistan Fertility Survey found that 98 percent of women were married by the time they reached age 35-39[58]. Census data show an increase at age at first marriage from 16.9 years in 1951 to 22.1 years in 1996-97. A further increase to 23 years in 2004 was also recorded[59]. However, Sathar and Casterline found that the increase in the age at first marriage is too slight to have been very influential in lowering the TFR in the 1990s. The greater influencing factor, related to later age at marriage, was more education for women. The studies show that in Pakistan, educated women are more likely to be employed, less likely to enter into consanguineous unions, more likely to live in urban settings, and more likely to marry later in life. These factors reduce the risk of pregnancy, and therefore contribute to a lower TFR[60].

Ci, the postpartum infecundability index. This index does not seem to contribute greatly to the decline in the TFR. The available evidence suggests that the length of breastfeeding (unsupplemented and supplemented) has remained at around 19-20 months from 1970 to the present and therefore has not contributed to the recent fertility decline[61].

Ca, the abortion index. According to Sathar and Casterline, there are no reliable estimates on the incidence of induced abortion. However, qualitative investigations suggested that abortion was actually more common in the 1990s as a method of birth control than had been expected. The most recent evidence from the Population Council found that there is probably one abortion for every six pregnancies[62]. This highlights the need for improvement in the supply of family planning services, to reduce the number of illegal abortions.

Cs, the sterility index & Cc, the contraception index. The sterility index generally plays a negligible role in reducing the natural fecundity. In Pakistan, sterilization is also used as a form of contraception. The rate of female sterilization was 6.3 percent, which represented the highest share of modern contraceptive methods used[63]. The condom followed at 5.2 percent, IUD at 4.1 percent, pills at 3.1 percent, and injections at 0.6 percent[64]. According to the Population Reference Bureau, the contraceptive prevalence rate (CPR) was 30 percent for all methods and 22 percent for modern methods in 2008. This is almost a four-fold increase in modern methods usage compared to its value of 5.2 percent in 1974-75. Despite the recent increase in contraceptive prevalence, however, there is still an unmet need for contraceptives. One third of currently married women do not have access to contraceptives[65]. Consequently, there is a need for the Government and the Ministry of Health to address this gap in the supply of contraceptives. This, combined with enhanced female education levels, could be the most efficient way for the Government to accelerate the fertility decline[66].

Annex 2: District Ranking of Key Health Indicators

The PSLSMS 2004-05 data has been used to generate district-level ranking for key health indicators, including: (a) Contraceptive Prevalence Rate (CPR); (b) percentage of pregnant women receiving at least one tetanus toxoid injection during pregnancy; (c) percentage of women who visited health facility for prenatal consultation; (d) percentage of pregnant women who visited health facility for postnatal consultation; and (e) children aged 12-23months who have been fully immunized. Tables A-E list the district ranking for each indicator in descending order. A common observation across all indicators is that wide intra- and inter provincial variations exist with regard to access and coverage of each indicator. For instance, the CPR ranges from a low of 1 percent in Barkhan District, Baluchistan, to 65 percent in Jhang District, Punjab. The percentage of pregnant women receiving at least one tetanus toxoid injection ranges from 2 percent in Musakhiel District, Baluchistan, to 87 percent in Sialkot, Punjab. Similarly, the percentage of women who visited a health facility for prenatal consultations ranges from 6 percent in Awaran District, Baluchistan, to 81 percent in Karachi City, Sindh. For postnatal consultations, the range is also wide from 1 percent in Jhal Magsi, Baluchistan to 45 percent in Karachi City, Sindh. The percentage of children aged 12-23 months that have been fully immunized is lowest at 4 percent in Tharparkar, Sindh, compared to 100 percent in Chitral, NWFP.

A composite indicator comprising of all five indicators (with equal weights given to each indicator) show that that the top twenty performers are overwhelmingly districts from Punjab and some from NWFP (with the exception of Karachi city ranked overall at fifth position). The top five performers overall are Attock, Lahore, Rawalpindi, Sialkot and Karachi City (Table F). The worst national performers are overwhelmingly from Baluchistan though some districts from Sindh and NWFP also have performed very poorly. The worst five performers overall are K. Saifullah, Musakhiel, Barkhan, K. Abdullah, and Awaran. Note that only districts for which data was available for all five indicators have been included in the national ranking. Districts that have not been therefore included are: Nankana (Punjab); Kohistan (NWFP); Jamshoro, Kamber, Kashmore, Matiari, T. Allahyar, T. M. Khan, Umerkot (Sindh); and Dera Bughti, and Noshki, Kohlu, Washuk (Baluchistan).

To ensure robustness, we conducted a sensitivity analysis, assigning various combinations of weights to the five indicators under review. The first iteration maintained identical weights, while the rest included significant variation. The findings remain by and large consistent across iterations and the top and bottom districts in the composite index remain unchanged. Consistency of results suggests that the weight distribution does not skew the analysis to any notable degree. Table G shows the distribution of weights for each indicator in five different scenarios. Table H presents the rankings of the top and bottom five districts under each different scenario. It is significant to note that the top five districts remain in the top five under all scenarios. Similarly, the bottom five districts retain their positions under all five scenarios with the exception of Awarab, Baluchistan whose ranking improves to the 89th position under scenario 2.

Table A: Contraceptive Prevalence Rate

Sr. #	District	Province	CPR	Overall Ranking
1	Jhang	P	65	1
2	Lahore	P	53	2
3	Rawalpindi	P	52	3
4	Chakwal	P	46	4
5	Karachi City	S	44	5
6	Malakand	N	43	6
7	Attock	P	43	6
8	Okara	P	41	7
9	Sargodha	P	41	7
10	Sialkot	P	41	7
11	Khushab	P	40	8
12	M.Bahauddin	P	40	8
13	Pakpattan	P	40	8
14	Sheikhupura	P	40	8
15	Bahwalpur	P	39	9
16	T.T. Singh	P	39	9
17	Haripur	N	38	10
18	Hafizabad	P	38	10
19	Hyderabad	S	38	10
20	Chitral	N	37	11
21	Sahiwal	P	37	11
22	Charsadda	N	36	12
23	D.I. Khan	N	36	12
24	D.G. Khan	P	36	12
25	Nowshera	N	36	12
26	Quetta	B	35	13
27	Multan	P	35	13
28	Nankana	P	35	13
29	Kohat	N	35	13
30	Faisalabad	P	34	14
31	Jhelum	P	34	14
32	Peshawar	N	34	14
33	Bahawalnagar	P	33	15
34	Gujrat	P	33	15
35	Swabi	N	32	16
36	Kasur	P	32	16
37	Muzafar Garh	P	32	16
38	Dir (L)	N	32	16
39	Abbottabad	N	31	17
40	Gujranwala	P	31	17
41	Mardan	N	31	17
42	Bakkar	P	30	18
43	Layyah	P	30	18
44	Vehari	P	30	18
45	Swat	N	30	18
46	Khenawal	P	29	19
47	Mianwali	P	29	19
48	Sanghar	S	29	19
49	Panjgoor	B	28	20
50	Norowal	P	28	20
51	Rajanpur	P	28	20
52	Tank	N	28	20
53	Bannu	N	28	20
54	Shangla	N	27	21
55	Matiari	S	27	21
56	Mirpur Khas	S	27	21

Sr. #	District	Province	CPR	Overall Ranking
57	Shikarpur	S	27	21
58	Umerkot	S	27	21
59	Karak	N	26	22
60	Lodhran	P	26	22
61	R.Y. Khan	P	25	23
62	Badin	S	25	23
63	Kamber	S	25	23
64	Larkana	S	25	23
65	Sukkur	S	25	23
66	T.Allahyar	S	25	23
67	Mansehra	N	25	23
68	Lesbela	B	24	24
69	Ghotki	S	24	24
70	Battagram	N	23	25
71	Khairpur	S	23	25
72	N.Feroze	S	23	25
73	Lakki Marwat	N	23	25
74	Dir (U)	N	23	25
75	T.M. Khan	S	22	26
76	Buner	N	22	26
77	Hangu	N	20	27
78	Thatta	S	20	27
79	Dadu	S	19	28
0	Jamshoro	S	19	28
81	Noshki	B	18	29
82	Nawabshah	S	18	29
83	Tharparkar	S	17	30
84	Loralai	B	16	31
85	Washuk	B	15	32
86	Kalat	B	14	33
87	Kech	B	14	33
88	Jacobabad	S	14	33
89	Kashmore	S	14	33
90	Pishin	B	13	34
91	Naseerabad	B	11	35
92	Mastung	B	10	36
93	Chaghai	B	10	36
94	Jaffarabad	B	9	37
95	Sibi	B	9	37
96	Bolan	B	9	37
97	Khuzdar	B	8	38
98	Kohlu	B	6	39
99	Gawadar	B	5	40
100	K. Abdullah	B	4	41
101	Kharan	B	4	41
102	K. Saifullah	B	3	42
103	Awaran	B	3	42
104	Ziarat	B	3	42
105	Jhal Magsi	B	2	43
106	Barkhan	B	1	44
107	Dera Bughti	B	1	44
108	Musakhiel	B	1	44
109	Zhob	B	1	44

Note: B = Baluchistan
S = Sindh
P = Punjab
N = NWFP

District: Kohistan not included due to lack of data.

Table B: Percentage of Women Receiving at Least One Tetanus Toxoid Injection

Sr. #	District	Province	T.T	Overall Ranking
1	Sialkot	P	87	1
2	Norowal	P	86	2
3	Attock	P	78	3
4	Lahore	P	77	4
5	Jhelum	P	77	4
6	T.M. Khan	S	75	5
7	Gujranwala	P	73	6
8	Sargodha	P	72	7
9	Karachi City	S	72	7
10	Khushab	P	71	8
11	Layyah	P	70	9
12	Rawalpindi	P	68	10
13	Mianwali	P	68	10
14	Vehari	P	66	11
15	D.G. Khan	P	65	12
16	Kohlu	B	63	13
17	Swat	N	63	13
18	Peshawar	N	63	13
19	Sheikhupura	P	63	13
20	Gujrat	P	63	13
21	Mardan	N	62	14
22	Hafizabad	P	62	14
23	Multan	P	61	15
24	T.T. Singh	P	60	16
25	M.Bahauddin	P	59	17
26	N.Feroze	S	58	18
27	Malakand	N	57	19
28	Abbottabad	N	57	19
29	Bahawalnagar	P	57	19
30	Nowshera	N	56	20
31	Sahiwal	P	56	20
32	Kasur	P	56	20
33	Jhang	P	56	20
34	Faisalabad	P	56	20
35	Bahwalpur	P	56	20
36	Haripur	N	55	21
37	Sukkur	S	54	22
38	Larkana	S	54	22
39	Kamber	S	54	22
40	Umerkot	S	53	23
41	Mirpur Khas	S	53	23
42	Swabi	N	52	24
43	Pakpattan	P	52	24
44	Dir (L)	N	51	25
45	Matiari	S	51	25
46	Panjgoor	B	50	26
47	Mansehra	N	50	26
48	Muzafar Garh	P	49	27
49	Shikarpur	S	49	27
50	Chitral	N	48	28
51	Chakwal	P	48	28
52	Quetta	B	47	29
53	Charsadda	N	47	29
54	Bannu	N	47	29
55	Rajanpur	P	47	29
56	Hangu	N	46	30

Sr. #	District	Province	T.T	Overall Ranking
57	Khenawal	P	46	30
58	Jamshoro	S	46	30
59	Dadu	S	46	30
60	Hyderabad	S	45	31
61	Dir (U)	N	44	32
62	T.Allahyar	S	44	32
63	Okara	P	43	33
64	R.Y. Khan	P	41	34
65	Lodhran	P	41	34
66	Bakkar	P	41	34
67	Gawadar	B	39	35
68	D.I. Khan	N	38	36
69	Ghotki	S	37	37
70	Washuk	B	35	38
71	Kharan	B	35	38
72	Buner	N	35	38
73	Sanghar	S	34	39
74	Noshki	B	33	40
75	Chaghai	B	33	40
76	Badin	S	33	40
77	Lakki Marwat	N	32	41
78	Thatta	S	32	41
79	Nawabshah	S	32	41
80	Kashmore	S	32	41
81	Jacobabad	S	32	41
82	Bolan	B	31	42
83	Sibi	B	30	43
84	Tharparkar	S	30	43
85	Khairpur	S	29	44
86	Lesbela	B	28	45
87	Kalat	B	28	45
88	Mastung	B	27	46
89	Jaffarabad	B	27	46
90	Ziarat	B	26	47
91	Karak	N	26	47
92	Kech	B	25	48
93	Battagram	N	25	48
94	Loralai	B	24	49
95	Kohat	N	24	49
96	Dera Bughti	B	23	50
97	Pishin	B	21	51
98	Tank	N	20	52
99	Nankana	P	19	53
100	Jhal Magsi	B	18	54
101	Naseerabad	B	16	55
102	Shangla	N	16	55
103	Zhob	B	14	56
104	Awaran	B	14	56
105	Khuzdar	B	13	57
106	K. Saifullah	B	11	58
107	K. Abdullah	B	9	59
108	Barkhan	B	7	60
109	Musakhiel	B	2	61

Note: B = Baluchistan
S = Sindh
P = Punjab
N = NWFP

District Kohistan has not been due to lack of data.

Table C: Percentage of Women Receiving Prenatal Consultations

Sr. #	District	Province	Prenatal	Overall Ranking
1	Karachi City	S	81	1
2	Attock	P	80	2
3	Sialkot	P	80	2
4	Lahore	P	78	3
5	Gawadar	B	72	4
6	Rawalpindi	P	72	4
7	Abbottabad	N	71	5
8	Norowal	P	71	5
9	Gujranwala	P	67	6
10	Haripur	N	66	7
11	Sheikhupura	P	63	8
12	N.Feroze	S	61	9
13	Bolan	B	60	10
14	Mansehra	N	60	10
15	Panjgoor	B	59	11
16	Sargodha	P	59	11
17	T.T. Singh	P	59	11
18	Hyderabad	S	59	11
19	D.G. Khan	P	58	12
20	Jaffarabad	B	57	13
21	Multan	P	57	13
22	Dadu	S	57	13
23	Sukkur	S	57	13
24	Nowshera	N	56	14
25	Quetta	B	55	15
26	Hafizabad	P	55	15
27	Jhelum	P	55	15
28	Peshawar	N	54	16
29	Bakkar	P	54	16
30	Gujrat	P	54	16
31	Faisalabad	P	53	17
32	Khushab	P	53	17
33	Mianwali	P	53	17
34	Muzafar Garh	P	53	17
35	Mirpur Khas	S	53	17
36	Dir (L)	N	52	18
37	Bahwalpur	P	50	19
38	Pakpattan	P	50	19
39	Badin	S	50	19
40	Ziarat	B	49	20
41	Chakwal	P	49	20
42	Kasur	P	49	20
43	Khenawal	P	49	20
44	Vehari	P	49	20
45	Jacobabad	S	49	20
46	Larkana	S	48	21
47	Okara	P	47	22
48	Thatta	S	46	23
49	Malakand	N	45	24
50	Layyah	P	45	24
51	Chitral	N	44	25
52	Hangu	N	44	25
53	Charsadda	N	43	26
54	Mardan	N	43	26
55	Shikarpur	S	43	26

Sr. #	District	Province	Prenatal	Overall Ranking
56	Kech	B	42	27
57	Naseerabad	B	41	28
58	Bahawalnagar	P	41	28
59	Jhang	P	41	28
60	Lesbela	B	40	29
61	M.Bahauddin	P	40	29
62	R.Y. Khan	P	40	29
63	Rajanpur	P	40	29
64	Bannu	N	39	30
65	Lakki Marwat	N	39	30
66	Swabi	N	39	30
67	Swat	N	39	30
68	Sanghar	S	39	30
69	Dir (U)	N	38	31
70	Lodhran	P	38	31
71	Kharan	B	37	32
72	D.I. Khan	N	37	32
73	Tharparkar	S	37	32
74	Ghotki	S	36	33
75	Sibi	B	34	34
76	Chaghai	B	33	35
77	Pishin	B	33	35
78	Khairpur	S	33	35
79	Mastung	B	31	36
80	Nawabshah	S	30	37
81	Battagram	N	28	38
82	Tank	N	27	39
83	Loralai	B	26	40
84	K. Abdullah	B	25	41
85	Zhob	B	25	41
86	Karak	N	24	42
87	K. Saifullah	B	19	43
88	Jhal Magsi	B	19	43
89	Kohat	N	19	43
90	Khuzdar	B	17	44
91	Buner	N	17	44
92	Kalat	B	13	45
93	Barkhan	B	11	46
94	Musakhiel	B	11	46
95	Shangla	N	11	46
96	Kohistan	N	8	47
97	Awaran	B	6	48

Note: B = Baluchistan
S = Sindh
P = Punjab
N = NWFP

Districts that have not been included due to lack of data are: Dera Bughti, Noshki, Kohlu, Washuk (Province B); Nankana, (Province Punjab); and Jamshoro, Kamber, Kashmore, Matiari, T.Allahyar, T.M. Khan, Umerkot (Province S).

Table D: Percentage of Children Aged 12-23 Months Fully Immunized

Sr. #	District	Province	Immunized	Overall Ranking
1	Chitral	N	100	1
2	Jhelum	P	99	2
3	Sialkot	P	98	3
4	Gawadar	B	97	4
5	Khushab	P	96	5
6	Attock	P	95	6
7	Chakwal	P	94	7
8	Gujrat	P	94	7
9	Abbottabad	N	93	8
10	Bahawalnagar	P	93	8
11	Mianwali	P	93	8
12	Pakpattan	P	92	9
13	Rawalpindi	P	92	9
14	Swat	N	91	10
15	Charsadda	N	90	11
16	Bakkar	P	90	11
17	Norowal	P	90	11
18	Zhob	B	89	12
19	Gujranwala	P	89	12
20	Sahiwal	P	89	12
21	T.T. Singh	P	89	12
22	Malakand	N	88	13
23	Swabi	N	88	13
24	Hyderabad	S	88	13
25	N.Feroze	S	88	13
26	Haripur	N	87	14
27	Lahore	P	87	14
28	Layyah	P	87	14
29	Dir (U)	N	86	15
30	Khenawal	P	86	15
31	Lodhran	P	86	15
32	Dir (L)	N	85	16
33	Mardan	N	85	16
34	Nowshera	N	85	16
35	Sargodha	P	85	16
36	Sheikhupura	P	85	16
37	Vehari	P	85	16
38	Ziarat	B	84	17
39	Multan	P	83	18
40	R.Y. Khan	P	83	18
41	Karachi City	S	83	18
42	Shikarpur	S	83	18
43	Jhang	P	82	19
44	M.Bahauddin	P	82	19
45	Larkana	S	82	19
46	Peshawar	N	81	20
47	Kasur	P	81	20
48	Battagram	N	80	21
49	Mansehra	N	80	21
50	Okara	P	80	21
51	D.G. Khan	P	79	22
52	Faisalabad	P	79	22
53	D.I. Khan	N	78	23
54	Hafizabad	P	78	23
55	Dadu	S	78	23
56	Ghotki	S	78	23

Sr. #	District	Province	Immunized	Overall Ranking
57	Kalat	B	76	24
58	Quetta	B	76	24
59	Bannu	N	75	25
60	Badin	S	75	25
61	Sukkur	S	75	25
62	Rajanpur	P	72	26
63	Bolan	B	71	27
64	Pishin	B	71	27
65	Mirpur Khas	S	71	27
66	Awaran	B	70	28
67	Hangu	N	69	29
68	Muzafar Garh	P	69	29
69	Jhal Magsi	B	68	30
70	Khuzdar	B	67	31
71	Karak	N	67	31
72	Mastung	B	65	32
73	Loralai	B	65	32
74	Kech	B	65	32
75	Tank	N	65	32
76	Bahwalpur	P	64	33
77	Thatta	S	64	33
78	Khairpur	S	62	34
79	Kharan	B	61	35
80	Kohat	N	59	36
81	Buner	N	56	37
82	Lakki Marwat	N	56	37
83	Naseerabad	B	55	38
84	Shangla	N	55	38
85	Lesbela	B	53	39
86	Nawabshah	S	52	40
87	Sibi	B	50	41
88	Panjgoor	B	50	41
89	Chaghai	B	49	42
90	Musakhiel	B	48	43
91	Kohistan	N	48	43
92	Sanghar	S	46	44
93	Barkhan	B	45	45
94	K. Abdullah	B	41	46
95	Jacobabad	S	35	47
96	Jaffarabad	B	32	48
97	K. Saifullah	B	28	49
98	Tharparkar	S	4	50

Note: B= Baluchistan
S= Sindh
P = Punjab
N = NWFP

Districts that have not been included due to lack of data are: Dera Bughti, Noshki, Kohlu, Washuk (Province B); Nankana (Province P); Jamshoro, Kamber, Kashmore, Matiari, T.Allahyar, T.M. Khan, Umerkot (Province S).

Table E: Percentage of Women Going for Postnatal Consultations

Sr. #	District	Province	Postnatal	Overall Ranking
1	Karachi City	S	45	1
2	Dir (L)	N	44	2
3	Rawalpindi	P	44	2
4	Chakwal	P	41	3
5	Abbottabad	N	40	4
6	Pakpattan	P	36	5
7	Attock	P	36	5
8	Lahore	P	36	5
9	Larkana	S	36	5
10	Sukkur	S	36	5
11	Bakkar	P	34	6
12	Mansehra	N	33	7
13	Mirpur Khas	S	33	7
14	Dir (U)	N	32	8
15	Jaffarabad	B	31	9
16	Peshawar	N	31	9
17	Haripur	N	31	9
18	R.Y. Khan	P	31	9
19	Chitral	N	30	10
20	Okara	P	30	10
21	Quetta	B	29	11
22	Faisalabad	P	29	11
23	Swat	N	28	12
24	Layyah	P	28	12
25	T.T. Singh	P	28	12
26	Kharan	B	27	13
27	Chaghai	B	27	13
28	Gawadar	B	27	13
29	Sargodha	P	27	13
30	Panjgoor	B	26	14
31	Mianwali	P	26	14
32	Shikarpur	S	26	14
33	Bolan	B	25	15
34	Malakand	N	25	15
35	Multan	P	25	15
36	Hyderabad	S	25	15
37	Ziarat	B	24	16
38	Tharparkar	S	24	16
39	Naseerabad	B	23	17
40	D.G. Khan	P	23	17
41	Jacobabad	S	23	17
42	Bannu	N	22	18
43	Sahiwal	P	22	18
44	Vehari	P	21	19
45	Sialkot	P	21	19
46	Dadu	S	21	19
47	Kech	B	20	20
48	Lakki Marwat	N	20	20
49	Khenawal	P	20	20
50	Norowal	P	20	20
51	Badin	S	19	21
52	Hangu	N	18	22
53	M.Bahauddin	P	18	22
54	Khairpur	S	18	22
55	Barkhan	B	17	23
56	Pishin	B	17	23

Sr. #	District	Province	Postnatal	Overall Ranking
57	Nowshera	N	17	23
58	Bahwalpur	P	17	23
59	Kasur	P	17	23
60	Gujranwala	P	17	23
61	D.I. Khan	N	16	24
62	Kohat	N	16	24
63	Sheikhupura	P	16	24
64	Khushab	P	16	24
65	Hafizabad	P	16	24
66	Rajanpur	P	15	25
67	Ghotki	S	15	25
68	Charsadda	N	14	26
69	Sibi	B	13	27
70	Karak	N	13	27
71	Muzafar Garh	P	13	27
72	Jhelum	P	13	27
73	Battagram	N	12	28
74	Swabi	N	12	28
75	Mardan	N	12	28
76	Nawabshah	S	12	28
77	Loralai	B	11	29
78	Shangla	N	11	29
79	Tank	N	11	29
80	Lodhran	P	11	29
81	Bahawalnagar	P	11	29
82	Jhang	P	11	29
83	Gujrat	P	11	29
84	Thatta	S	11	29
85	N.Feroze	S	11	29
86	Lesbela	B	9	30
87	Mastung	B	9	30
88	Khuzdar	B	8	31
89	Sanghar	S	7	32
90	Musakhiel	B	6	33
91	Kalat	B	6	33
92	Buner	N	6	33
93	Zhob	B	5	34
94	Awaran	B	4	35
95	Kohistan	N	4	35
96	K. Saifullah	B	3	36
97	K. Abdullah	B	3	36
98	Jhal Magsi	B	1	37

Note: B= Baluchistan
S= Sindh
P = Punjab
N= NWFP

Districts that have not been therefore included due to lack of data are: Etta, Khuzdar (Province B); Abbottabad, Dir, Kohistan (Province N); Sialkot, Khushab, Bahawalnagar, Sheikhupura, Muzafar Garh, Bahwalpur (Province P); Larkana (Province S).

Table F: Overall Ranking

Sr. #	District	Province	National Ranking
1	Attock	P	1
2	Lahore	P	2
3	Rawalpindi	P	3
4	Sialkot	P	4
5	Karachi City	S	5
6	Norowal	P	6
7	Abbottabad	N	7
8	Sargodha	P	8
9	Chakwal	P	9
10	Jhelum	P	9
11	Haripur	N	10
12	Gujranwala	P	10
13	Khushab	P	11
14	T.T. Singh	P	12
15	Pakpattan	P	13
16	Mianwali	P	14
17	Sheikhupura	P	15
18	Dir (L)	N	16
19	Peshawar	N	17
20	D.G. Khan	P	18
21	Multan	P	18
22	Layyah	P	19
23	Chitral	N	20
24	Malakand	N	21
25	Sahiwal	P	22
26	Gujrat	P	23
27	Jhang	P	23
28	Hyderabad	S	23
29	Faisalabad	P	24
30	Vehari	P	24
31	Swat	N	25
32	Nowshera	N	26
33	Bakkar	P	27
34	Hafizabad	P	27
35	Mansehra	N	28
36	Sukkur	S	29
37	Larkana	S	30
38	Quetta	B	31
39	Okara	P	32
40	N.Feroze	S	32
41	Gawadar	B	33
42	M.Bahauddin	P	34
43	Mirpur Khas	S	35
44	Bahawalnagar	P	36
45	Kasur	P	36
46	Mardan	N	37
47	Charsadda	N	38
48	Khenawal	P	38
49	Shikarpur	S	39
50	Bahwalpur	P	40
51	Swabi	N	41
52	Dir (U)	N	41
53	Dadu	S	42
54	R.Y. Khan	P	43
55	Muzafar Garh	P	44
56	Panjgoor	B	45

Sr. #	District	Province	National Ranking
57	Bannu	N	46
58	D.I. Khan	N	47
59	Lodhran	P	18
60	Rajanpur	P	18
61	Badin	S	18
62	Hangu	N	19
63	Bolan	B	50
64	Ghotki	S	51
65	Ziarat	B	52
66	Thatta	S	53
67	Lakki Marwat	N	54
68	Battagram	N	55
69	Kech	B	56
70	Khairpur	S	57
71	Kharan	B	58
72	Karak	N	59
73	Jaffarabad	B	60
74	Pishin	B	61
75	Sanghar	S	62
76	Lesbela	B	63
77	Jacobabad	S	64
78	Kohat	N	64
79	Chaghai	B	65
80	Tank	N	66
81	Naseerabad	B	67
82	Nawabshah	S	68
83	Mastung	B	69
84	Loralai	B	69
85	Kalat	B	70
86	Sibi	B	71
87	Buner	N	72
88	Zhob	B	73
89	Shangla	N	74
90	Khuzdar	B	75
91	Tharparkar	S	76
92	Jhal Magsi	B	77
93	Awaran	B	78
94	K. Abdullah	B	79
95	Barkhan	B	80
96	Musakhiel	B	81
97	K. Saifullah	B	82

Note: B = Baluchistan
S = Sindh
P = Punjab
N = NWFP

Districts that have not been included due to incomplete/lack of data are: Jhal Magsi, Musakhiel, Pishin, Kharan, Bolan, Awaran, Barkhan, Loralai, Khuzdar, (Province B); Charsadda, Mansehra, Hangu, Karak, Abbottabad (Province N); Sahiwal, Multan, Pakpattan, Chakwal (Province P); and N.Feroze, Hyderabad, Tharparkar, Umerkot, Matiari, Badin, T.M. Khan, Thatta (Province S)

Table G. Distribution of Weights under Different Scenarios

	Set 1	Set 2	Set 3	Set 4	Set 5
CPR	0.2	0.3	0.2	0.1	0.4
TT Injections	0.2	0.1	0.3	0.2	0.1
Prenatal Consultations	0.2	0.1	0.2	0.3	0.2
Immunized Children	0.2	0.4	0.2	0.1	0.1
Postnatal Consultations	0.2	0.1	0.1	0.3	0.2
Total	1.0	1.0	1.0	1.0	1.0

Table H. Best and Worst Performing Districts Overall, Under Different Scenarios

District	Province	Set 1	Set 2	Set 3	Set 4	Set 5
Top Five Performing Districts						
Attock	Punjab	1	2	2	2	4
Lahore	Punjab	2	4	3	3	1
Rawalpindi	Punjab	3	1	4	4	2
Sialkot	Punjab	4	2	1	5	5
Karachi City	Sindh	5	5	5	1	3
Bottom Five Performing Districts						
Awaran	Baluchistan	93	89	93	95	94
K. Abdullah	Baluchistan	94	95	94	93	93
Barkhan	Baluchistan	95	93	95	94	95
Musakhiel	Baluchistan	96	94	97	97	97
K. Saifullah	Baluchistan	97	97	96	96	96

End Notes

1 Staff calculations based on World Development Indicators (WDI) 2007 data.

2 Staff calculations based on WDI 2007 data.

3 Estimates of Pakistan's health indicators differ according to the data source used. These figures are based on the National Health Surveys.

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