Cost Effective Quality Healthcare

Unravelling the Paradox

An assessment of PPAF models of delivery

PAKISTAN POVERTY ALLEVIATION FUND

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Contents

Acronyms

AJK	Azad Jammu and Kashmir
AIDS	Acquired Immune Deficiency Syndrome
BHU	Basic Health Unit
BOD	Burden of Disease
BOT	Build Operate and Transfer
CDI	Community Driven Independent
CSS	Child Survival Strategy
EPI	Expanded Program on Immunization
FBS	Federal Bureau of Statistics
GAINS	Global Alliance for Improved Nutrition
GDP	Gross Domestic Product
GNP	Gross National Product
GOP	Government of Pakistan
HDSA	Human Development in South Asia
HIV	Human Immunodeficiency Virus
HNP	Health Nutrition and Population
IMR	Infant Mortality ratio
INMOL	Institute of Nuclear Medicine and Oncology
Inter	Intermediate
LHW	Lady Health Worker
Matric	Matriculation
MDG	Millennium Development Goals
MI	Micronutrients Initiative
MMR	Maternal Mortality ratio
MOH	Ministry of Health
NACP	National Aids Control Program
NM & O	Nuclear Medicine and Oncology
NNSP	National Nutrition Support Program
NPMC	National Program for Malaria Control
NTCP	National Tuberculosis Control Program
ODA	Other Donor Adopted
ORS	Oral Rehydration Salts
PAEC	Pakistan Atomic Energy Commission
PPAF	Pakistan Poverty Alleviation Fund

PRM	Pregnancy Related Mortality Ratio
PSLM	Pakistan Social and Living Standard Measurement
PSLM	Pakistan Social and Living Standard Measurement
Purchi	Prescription/Consultation Fee
PSS	Public Sector Supported
RHC	Rural Health Center
SSDP	Social Sector Development Program
TB	Tuberculosis
UN	United Nations
UNICEF	United Nations Children's Fund
WB	World Bank
WHO	World Health Organization

Foreword

The Social Sector Development Program (dedicated to primary education and basic health) is a comparatively recent addition to PPAF scope of activities. It has been developed as a pilot facility in response to systemic and implementation constraints at the grassroots. The program design, therefore, has emphasized flexibility and a range of delivery instruments have been employed.

An in-house study was commissioned to evaluate the relative efficiency and effectiveness of PPAF models of delivery. This entailed assessing relative strengths and weaknesses of each model from a learning perspective to guide future program structure and design. Primary data were collected from a sample of 19 out of 36 operational facilities located in the provinces of Punjab, Sindh, North West Frontier Province and Azad Jammu & Kashmir. A comprehensive range of input, output and outcome indicators was developed and applied in a cost-benefit, result-based framework.

Initiated by Evaluation, Research & Development unit of PPAF, the study has been designed and carried out by Muhammad Muslim Nabeel, under supervision of Ahmad Jamal (Chief Strategy Officer) and facilitated by Health & Education unit. Editorial assistance was provided by Anita Usama Bakhtiar (CSO Office). The cooperation and assistance of Partner Organizations and their communities is gratefully acknowledged.

Kamal Hyat
Chief Executive/Managing Director

1 Executive Summary

Pakistan's health sector is confronted with the twin challenge of availability and affordability. Stemming from this challenge is the need to gauge effectiveness and efficiency and the attendant policy and resource allocation choices. The purpose of this research exercise is to compare diverse features of four PPAF models for delivering basic healthcare services: 'Community Driven Independent'; 'Public Sector Supported'; 'Build, Operate and Transfer', and 'Other Donor Adopted'. Facilities under each model have been assessed along the following dimensions: i) revenues and costs, ii) infrastructure and facilities, iii) service delivery and human resources, and iv) clients and customers.

This study incorporates use of structured and non-structured instruments which include questionnaires related to health center facilities, staff performance and skills, client experience, and household conditions. Focus group discussions were also held with health management committees, in order to get local/grass root perspectives of each category of facility. Finally, patients were asked to rate their understanding of treatment and medicines diagnosed and advised to them.

The main findings of this study lead to the following broad based conclusions:

- The quantum of financial resources, infrastructure and facilities, and staff capabilities are positively associated with intensity of facility use.
- Personal attention and quality of interface with the doctor and staff is seen as a major contributor towards satisfaction and repeat visits, to the extent that the negative perception observed as the result of waiting/travel time and/or difficulty (or ease) of access was mitigated.
- The need for more effective poverty targeting and higher levels of sustainability is indicated across all the models assessed.
- Staff compensation is arguably not a necessary and sufficient condition of job satisfaction. Other factors (access, management and governance) play a critical role in contributing towards high staff morale and motivation.
- There is evidence to suggest that while subsidies (waivers on prescription fee and delivery charges) play a part in attracting patients from relatively disadvantaged backgrounds, they do not necessarily translate into high frequency of return visits.
- Willingness to pay appears higher wherever people have the ability to pay for health care. However, where such paying capacity does not exist, opportunity cost is a good proxy indicator of willingness to pay.
- It was observed that health awareness/health seeking behavior is increasing amongst poorer people especially with respect to juvenile health, with varying degree across the board.

Introduction & Overview 2

The poor suffer disproportionately due to inadequate health and malnutrition: reasons that contribute strongly to low productivity and low quality of life. Improving health nutrition and population outcomes are thus seen as a major way of reducing poverty (World Bank 2007). Poverty in turn is also a prime cause of poor health, as the poor have low access to preventive and curative care (both physically and financially). As a result, they are more likely to be malnourished, have unsafe water and sanitation, lack education, have many closely spaced births, and engage in activities that may put them at higher health risks. Thus, public policy to improve health, nutrition, and population status across a broad front affects both supply and demand for goods, services and activities.

A responsive healthcare policy regime requires an array of simultaneous actions: a single intervention is unlikely to be sufficient. Public policy needs to ensure that poverty reduction is mainstreamed into the framework of policies, ranging from national macroeconomic strategy to local-level administrative actions.

Particular attention should be paid to the creation of additional opportunities for decent work. Public investment and public institutions should endeavor to target the poor, especially for the provision of public goods such as health.

2.1 Review of Literature

Across the globe, trends in longevity, healthier lives and standards of living are unequivocally evident. Over the last thirty years not only have mortality rates declined but the once revolutionary notion of essential drugs has become commonplace and there have been significant improvements in access to water, sanitation and post birth care (WHO 2008).

However, there are other trends that still need to be addressed. First, the substantial progress in health over recent decades has been deeply unequal, with convergence towards improved health in a large part of the world. There is now ample documentation - not available 30 years ago - of considerable and often growing health inequalities within countries. Unfortunately, health systems are not insulated from economic and political crisis and institutional roles to ensure access, delivery and financing. Health systems are developing in directions that contribute little to equity and social justice and fail to get the best health outcomes for their money. Three significant negative trends can be discerned (WHO 2008):

- Health systems that focus disproportionately on a narrow range of specialized curative care;
- Health systems where a command-and-control approach to disease control, focused on short-term results, in fragmented service delivery;
- Health systems where a hands-off approach to governance has allowed unregulated commercialization of health to flourish.

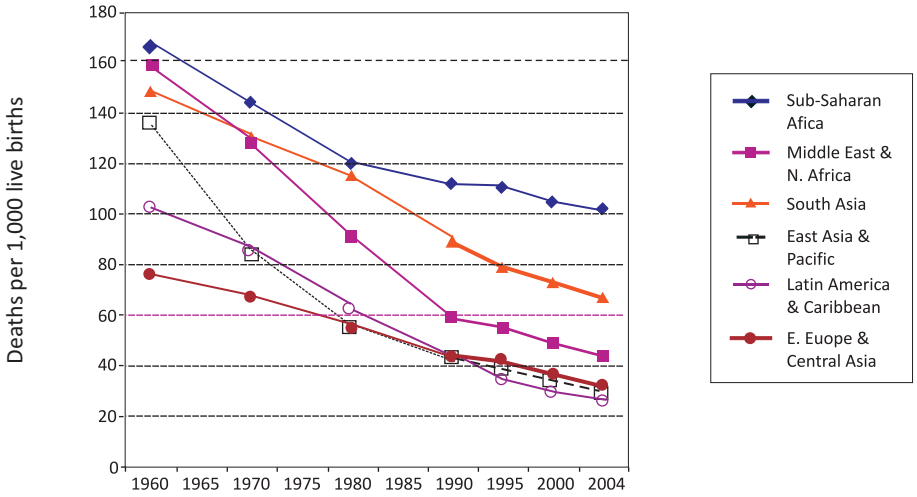
In almost every country, the growth in demand and need for healthcare is faster than the rate of increase in the resources for providing it. There are four main reasons for this: i) ageing population, ii) new technology and new knowledge, iii) patient expectations and iv) professional expectations.

An ageing population raises the demand for maintenance healthcare and various life supporting drugs and equipment. Very often, the need for high technology medicine and surgical procedures is exacerbated. Improvements in technology often lead to an increased need for healthcare and at times increase the potential for low cost treatment: this is of course only possible after the high capital costs of initial procurement, staff training and eventual maintenance cost. Improvements in healthcare accessibility and quality have increased patient expectations and attitudes worldwide. Lastly, the development of factors such as technology and rising patient demands are in turn causing professionals to develop a more need-driven, technologically updated approach towards healthcare (Gray 2001).

2.1.1 Trends in Health Outcomes

There have been substantial improvements in key health outcomes such as infant mortality rates in every developing region since 1960 (Table 2.1) Prevalence of stunting among children under five has declined dramatically in Asia and Latin America since 1980, though only modestly in Africa. These improvements have been attributed to rising average levels of income and education, coupled with improvements in health technology and expanded public health interventions (UN 2008).

Table 2.1: Region-wise Infant Mortality Rate



Source: UNICEF 2006

However, average outcomes conceal important differences in progress across countries within regions. Under-five mortality rates in thirty countries have stagnated or increased since 1990; in some countries, high fertility rates have remained constant or even increased slightly since the 1990s. Despite some progress in Bangladesh and India, malnutrition remains extraordinarily high in South Asia while in 26 countries (primarily in Africa) nutritional status is declining. Communicable diseases remain significant challenges to low and middle-income countries while the threat of non-communicable diseases, particularly for middle-income countries, is formidable (WB 2007).

In order to collectively fight against poverty and improving gender, health and education related indicators, United Nations devised eight Millennium Development Goals out of which three goals pertain to improving public health. In adopting Millennium Declaration in the year 2000 the international community pledged to "spare no effort to free our fellow men, women and children from the abject and dehumanizing conditions of extreme poverty." The world is now more than halfway towards the target date – 2015 – by which these goals are to be achieved (UN 2008). The MDGs have been adopted by the international community as a framework for the development activities of over 190 countries in ten regions. They have been articulated into over 20 targets and over 60 indicators.

2.1.2 Achievements of MDGs

Some key success in achieving health related MDGs from developing countries can be summarized as follows (UN 2008):

- About 80% of children in developing countries have access to a measles vaccine, while the number of such children in the year 2006 was 250, 000.
- The number of deaths from AIDS fell from 2.2 million in 2005 to 2.0 million in 2007, and the number of people newly infected declined from 3.0 million in 2001 to 2.7 million in 2007;

- Prevention of malaria is expanding, with widespread increases in vaccination among children under five in sub-Saharan Africa, in 16 out of 20 countries. Anti-malaria vaccination has tripled since 2000.
- Incidence of tuberculosis is expected to decline before the targeted date of 2015;
- Over 1.6 billion people have gained access to safe drinking water since 1990;
- The private sector has increased availability of some critical essential drugs.[3]

2.1.3 Potential Areas for Improvement

A recent appraisal of progress to date shows that a number of goals and targets are likely to remain unaccomplished unless urgent corrective action is taken:

- Proportion of people in sub-Saharan Africa living on less than $1 per day is unlikely to be reduced by the given target of one-half;
- About one quarter of all children in developing countries are considered to be underweight and are likely to be adversely affected by this in the long run;
- More than 500,000 prospective mothers in developing countries die annually during childbirth or due to pregnancy complications;
- Some 2.5 billion people, almost half the developing world's population, live without improved sanitation;
- More than one third of the growing urban population in developing countries live in slums and do not have proper access to sanitation and clean drinking water.

According to an analysis of the world's health systems carried out by the World Health Organization for the year 2000, the main failings of most of them are:

- Many health ministries focus on the public sector and often disregard the frequently much larger private sector health care.

- In many countries, some if not most physicians work simultaneously for the public sector and in private practice. This means the public sector ends up subsidizing unofficial private practice.
- Many governments fail to prevent a "black market" in health, where widespread corruption, bribery, "moonlighting" and other illegal practices flourish. The black markets, which themselves are caused by malfunctioning health systems, and low income of health workers, further undermine those systems.
- Many health ministries fail to enforce regulations that they themselves have created to protect public interest.

It has been found that the main attributes of an effective healthcare system are that it contributes to good health, it reduces inequalities in the health of a given population and it proves to be responsive in the context of respect for the individual and client orientation. In order to reflect these attributes, health systems need to build human resources through investment and training, deliver services and finance these activities. They act as the overall stewards of the resources and powers entrusted to them.

The most interesting factor that comes into play is the demand for quality healthcare and cost effectiveness, side by side. There are several important ways in which technology can address and also assist in developing better human development outcomes. For instance, the oral rehydration therapy is a much more cost effective and efficient method of treating diarrhea than the old inject able vaccine. Similarly, the use of ORS in place of injections, radiation technologies and the like are all leading to better and easier curability. Technology can help combat the issues of malnutrition and hunger: examples include the application of technology in agriculture for greater productivity, or for water filtration and sanitation will enable better produce and safer hygiene respectively. However, the region suffers from a technology lag even though some examples of technological advancement are available (HDSA 2008).

People suffering from hunger and malnutrition are not likely to be able to take up the challenging tasks to combat other social and economic problems. Not surprisingly, the relatively developed nations pay a lot of attention to public health as reflected in spending patterns of selected OECD countries. South East Asia continues to be home to 47% of the world's poor, defined on the basis of people living below US $1 a day. Health indicators portray a dismal picture: around 60% of the region's births are not attended by skilled health

Table 2.2: Expenditure on health (Developed Countries)

Country	% GDP (2004)
Australia	9.6
Canada	9.8
Germany	10.6
Japan	7.8
Netherlands	9.2
Sweden	9.1
Switzerland	11.5
United Kingdom	8.1
United States of America	15.4

Source: WHO 2007

professionals whereas 43% of its children under five are malnourished. Progress in human development related indicators such as health, education, malnutrition remains so slow that the region lags behind many others, including Sub-Saharan Africa.

Table 2.3: Expenditure on health (Less Developing Countries)

Country	% of GDP (2004)
Bangladesh	3.1
Bhutan	4.6
India	5.0
Indonesia	2.8
Iran ,I.R	6.6
Nepal	5.6
Pakistan	2.2
Sri Lanka	4.3

Source: WHO 2007

The region comprises of mostly third world developing countries. The expenditure on health is relatively low compared to global statistics.

South Asia today has the highest concentration of malnourished people living in the world. Nearly one in every five people is malnourished and micronutrient deficiencies, particularly in iron and vitamin A, are alarmingly high in India, Bangladesh and Pakistan. Nutritional deficiency has been proven to cause irreversible mental stunting and retardation, low IQ levels and reduced learning capacities. Overall, estimates suggest that South Asian countries lose as much as one to percent of their GDP to these deficiencies. For the developing world, the reasons behind the overall gap between economic performance and human development can be attributed to two main factors. Firstly, the political commitment in most countries reflected by their budgetary allocation for social sectors is low, as can be observed by the severe lack of decent access to basic water, sanitation, health and education services.

Table 2.4: Micronutrient Deficiency in South Asia*

Vitamin and mineral deficiency (VMD)	Bhutan	India	Nepal	Pakistan	Bangladesh
Prevalence of IDA in children under 5 (% - est.)	55	81	75	65	56
Prevalence of IDA in women age 15-49 (% - est.)	36	55	51	62	59
No. of maternal deaths from severe anemia (annual)	2,800	<100	22,00	760	…
No. of children born mentally impaired ('000' annual - est.)	750,000	…	6, 600, 000	200,000	2,100, 000
Children under 6 with sub-clinical Vitamin A deficiency (% - est.)	28	32	57	33	35
Child deaths due to Vitamin A deficiency	28,000	600	330, 000	6,900	56,000
Neural tube birth defects due to folate deficiency (annual- est)	8,400	150	50,000	1,600	11,000
GDP lost to all forms of VMD (% - est.)	**0.9**	**1.6**	**1**	**1.5**	**1.7**

Source: UNICEF and MI 2004.

Secondly, the amounts that are allocated towards social sectors are either underutilized or inefficiently allocated, as can be witnessed from citizen's dissatisfaction with public services.

2.2 State of the Sector

2.2.1 Public Spending

Pakistan, as shown by data, spends the lowest amount of GDP on health as compared to other Less Developing countries. For the year 2007, the country had a total of 945 hospitalsand 4755 dispensaries, 903 maternity and childcare centers and a total of 103, 285 beds in the hospitals/dispensaries (FBS 2007). For a population of 158 million people and a birth rate of 27.62 per 1000 people, this is sufficient information to suggest that the sector requires massive improvements. According to the Economic Survey of Pakistan (2005-6), the government spends 0.75 of GDP on health.

There have been a number of horizontal and vertical programs launched by the GOP to promote healthcare: Lady Health Workers Program; Malaria Control Program; Tuberculosis and HIV/AIDS Control Program; National Maternal and Child Health Program; the Expanded Program on Immunization; Cancer Treatment Program; Food and Nutrition Program and the Prime Minister Program for Preventive and Control of Hepatitis A & B. Implementation and follow up of such programs, however, will take careful planning and control.

2.2.2 Service Delivery

In Pakistan around two-thirds of citizens were found to be dissatisfied with public services (PLSM 2007). Communicable diseases are still a challenge and constitute 58% of the Burden of Disease in Pakistan. Non-communicable diseases caused by sedentary lifestyles, environmental pollution, unhealthy dietary habits, smoking etc all account for 10% of BOD in the country. 123 out of 1000 children, who survive infancy, die before the age of five. The reasons attributable to this predominantly include malnutrition.

Pakistan has the lowest proportion of households using iodized salt at 17%, and consequently the highest prevalence of goitre at 38%. Similarly, the country's population is widely

dependent on flour, which in turn needs to be fortified with iron to fight malnutrition. Pakistan launched a National Nutrition Support Program in 2005, in collaboration with the Flour Mills Association, Global Alliance for Improved Nutrition and the Micronutrient Initiative. However, access to rural areas and the up gradation of local flour mills to enable flour fortification are challenges that are being addressed. Furthermore, cooking fat is being used as a vehicle to provide Vitamin A in Pakistan (HDSA 2008).

Maternal healthcare continues to be a serious problem as recent trends measured between 2001 and 2004 actually saw an increase in maternal mortality rates from 350 to 400 mothers per 100, 000 live births.

2.3 The Way-Forward

The foregoing discussion highlights the concerns of international agencies towards improving conditions in developing nations. Multiple steps are being taken, in collaboration with respective governments, in the form of financial, technical and strategic assistance by different international donors such as United Nations, World Bank and USAID, among others. Simultaneously, developing nations are in pursuit of outlining effective policy regimes in light of international frameworks such as the MDGs: as witnessed by the improvement in health related indicators globally. However, there exists a need for more organized and composed efforts at public and private levels involving both the private sector and civil society. Global experiences should be extensively shared so that successful strategies can be adopted and applied across the world.

Global Perspectives I: *Learning from Experience*

Health of the population, including child survival and maternal health, is both a fundamental end in itself and also a crucial input for economic development. The MDGs really embody this dual importance of health. Experience shows that when health improves so too does economic performance.

Money is key for a proper health system, and this includes not only formal medical care, but also related systems of safe drinking water and sanitation, food storage, family planning, nutrition, proper ventilation within kitchens, and so on. So the challenges of mother and child healthcare require investments of several kinds, some within the household, and many at the national level (especially in the public health system). Of course money alone is never sufficient – because if the systems are disorganized, the money will go waste. Is it money, is it systems or is it household awareness that is important? The answer, of course, is all of them. When you have a system, many things have to be in place. Money is one of them. Looking back at history, are there lessons to be drawn from the developed world and its successes? At which point in western society's evolution, did MNH stop being a problem and start being an asset? There are many lessons that can be drawn, both positive lessons as well as warnings. The main causes of maternal and newborn mortality are traditionally infection, undernourishment, and unsafe childbirth. The positive lesson is that all three areas can easily be addressed by modern public health, by investing in control of infectious diseases, preventing acute and chronic undernourishment, and ensuring safe childbirth for the mother and the newborn. Lessons from many countries show that it is possible to drive down death rates very sharply and rapidly if these priority areas are targeted and properly resourced. The second lesson is that it takes systems to bring this about, not just market forces. It requires an organised publicly financed system of disease surveillance, proper training, proper staffing and supervision, monitoring disease burden, enforcement of protocols by supervisors. This is an organizational challenge, not simply a demand-supply question. For example, immunization coverage does not tend to happen because individuals want immunization. It happens because it is decided at the societal level that there should be mass immunization and then efforts are made to ensure that immunization reaches all those in need. The third lesson is that public finance is central. Out-of-pocket expenditure and even community-based insurance cannot cover the cost. It is paramount to have systems work properly...The government wants to do more but implementation can be very weak. This is not only a matter of political will or interest at the central/federal level, but also effective systems right down to the communities. Who reports to whom? Are there ways to simplify the management structure? Are there ways to link information flows more productively? Many countries' demonstration projects show new approaches to service delivery. When those new approaches function successfully, the government comes in and has a look at the changes, and then spreads those changes to other parts of the country. It would be a good idea to look at local working models – those that have been proven to drive down maternal and child mortality rates – then take the lessons from these, and argue for system reforms at a large scale.

Jeffrey Sachs, Director, Earth Institute, Columbia University & Special Advisor to UN Secretary General
Interview, August 2009 (edited)

3 Sector Overview

One of the cornerstones of developing welfare policies are government provided citizen services. These often range from basic health and education services to essential public goods and administrative services. Taken as a whole, those services are critical for economic growth and reduction of poverty.

Pakistan's health sector has faced a constant struggle in the past, amid severe resource constraints as well as governance and management issues. As discussed in the forgoing chapter, Pakistan has underperformed in terms of regional as well as international standards. Real spending on health has been low in relation to countries of comparable size and population at similar stage of development.

The country's health sector is characterized by urban-rural disparities and an imbalance in the health workforce, with insufficient numbers of health managers, nurses, paramedics and skilled birth attendants. Pakistan is still struggling to provide essential primary health services in the community and fulfill the unmet health needs in rural and urban slum areas (WHO 2006).

3.1 Public Health Strategy

The Government's strategy for health includes (PSLM 2007-8):

- Improving efficiency and utilization of basic health care services, both preventive and curative;
- Improving program design by paying more attention to quality;
- Increasing access to health care by constructing more facilities;
- Increasing women's access by recruiting more female staff; and,
- Promoting community participation in the design and management of health care services.

3.2. Government Spending on Health

Faced with the strategic necessity to spend a large amount of resources on defense, Pakistan has been unable to spend adequately on health. Although the latter has increased in monetary terms over the last nine years (Table 3.1) its GNP percentage kept fluctuating around 0.57 percent for most of the time measured.

Table 3.1: National expenditure on health

Fiscal Years	Total Health Expenditure (Rs. billion)	Health Expenditure as % of GNP
2000-01	24.28	0.58
2001-02	25.41	0.57
2002-03	28.81	0.59
2003-04	32.81	0.58
2004-05	38.00	0.57
2005-06	40.00	0.51
2006-07	50.00	0.57
2007-08	60.00	0.57
2008-09	74.00	0.55

Source: Planning and Development Division

Another problem faced by Pakistan's health sector is mismanagement and corruption at various tiers like governance and regulatory level, drug supply and service delivery level (GOP 2007). Consequently, a very small share of already undersized budgetary allocation actually reaches ultimate beneficiaries at grassroots level.

3.2.1 Health Facilities

In Pakistan health services are provided through the health care delivery systems and public health intervention. The former include basic health units (BHUs) and rural health centers (RHCs) forming the core of primary health care while public health intervention include a number of public health programs which are federally led with provincial implementation and institutional mechanism. According to Health Division, there were 948 hospitals in 2008 with over 133,956 registered physicians and over 65,387 registered Nurses, 9,012 Dentists and 10,002 LHWs. Table 3.2 below highlights selected health facility indicators. The country's focus on producing more Doctors has led to marked improvement in the doctor-to-population ratio.

The population-to-facilities ratio is in respect of a doctor for 1,212 persons, a dentist for 18,010 persons and availability of one hospital bed for 1,575 persons.
Although the data shows a slight improvement in population to facilities ratio over last three years, this still lags behind recommended international standards.

Table 3.2: Health Indicators (selected)

Indicator	Up to 2006-07	Up to 2007-08	Up to 2008-09
Registered Doctors	123,125	127,859	133,956
Registered Dentists	7,438	8,195	9,012
Registered Nurses	57,646	62,651	65,387
Population per doctor	1,251	1,225	1,212
Population per dentist	20,702	19,121	18,010
Population per bed	1,508	1,517	1,575

Source: Ministry of Health

3.2.2 Health Sector & MDGs

The national regime in line with global recommendations and United Nation mandate is committed to attain health related millennium development goals (MDGs) on child mortality, maternal mortality, HIV/AIDs, T. B and malaria. The MDGs agenda of reforms has been adopted as a framework for development activities to reduce poverty, hunger and to tackle the problems of ill health through investing in health care, education, diseases prevention, coverage and quality of life by the year 2015.

The eight Millennium Development Goals (MDGs) adopted in 2000 by UN member states provided a framework of global partnership for sustainable human development. The specific objectives are to reduce extreme poverty and hunger, achieve universal primary education, promote gender equity and empower women, improve health conditions and ensure environmental stability. Sensing the importance of improving health of people for effective poverty reduction and human development three out of eight MDGs pertain to health.

Goal # 4: Reduce Child Mortality

There has been an overall improvement in the immunization coverage. In relation to the national MDG target of greater than 90 per cent set for 2015, nearly 16 districts have already achieved it, and extrapolating the recent past performance another 50 districts are likely to achieve it around 2015.

Goal # 5: Improve Maternal Health

Reduction of maternal mortality by three quarters 1990-2015 is another targeted goal. In addition as agreed by heads of Governments in the World Summit Outcome, it also aims to provide universal access to reproductive health by 2015. According to the results of Pakistan Demographic and Health Survey (PDHS) 2006-07, maternal mortality ratio has decreased to 297 from 350 in 2000-01 per 100,000 live births. The data implies that approximately 3 out of 1,000 women in Pakistan will die of maternal causes (lifetime risk).

Goal # 6: Combating HIV/AIDS and other Diseases

Prevalence of HIV/AIDS in the general population is still less than 1 per cent and Pakistan is therefore considered a low prevalence country. However, in some groups vulnerable to a high degree of risk to contacting the disease, this has crossed the 5 per cent mark. Malaria continues to be an endemic disease in large areas of the country. Tuberculosis has been

and continues to be a major contributor to the overall burden of disease in the country. Latest biostatistics indicates that resistance to the existing generation of drugs to combat this disease is beginning to rise, thereby posting greater challenges to attaining the target. The government created a lady health worker cadre in 1994, through the Prime Minister's program for family planning and primary care (Planning Commission of Pakistan 2005).

Under the light of MDGs a number of measures are underway to achieve Pakistan's health sector goals and to bring a visible change in the country's health status. Various health programs like Children Development Program, Nutrition, Immunization, T. B and Malaria Control Program are examples of these measures.

Immunization: Expanding coverage of immunization is the government's primary concern. Despite the limitations faced while gauging the extent of immunization coverage, it has been made possible using certain suitable methods (for details see PSLM 2007-08).

Table 3.3 Percentage of Children Immunized Aged 12-23 Months

Region	2005-06			2006-07			2007-08		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Urban Areas	94	98	96	93	92	93	98	97	98
Rural Areas	94	92	93	85	82	84	96	96	96
Overall	94	94	94	87	85	86	96	96	96

Source: PSLM

Data shows that percentage of children immunized between 12 to 23 months age was already high at around 94 percent in 2005-06 but dipped to 86 percent in 2006-07, recovering again to 96 percent in 2007-08. As this data has been gathered on memorization basis, there is always a chance of reporting error. However, as most of the parents, especially in rural areas are not used to keeping the immunization card it stands as the only suitable method that can be applied in this situation.

Diarrhea: Dehydration caused by diarrhea is a major cause of mortality among children. Childhood diarrhea has been a

serious health problem in Pakistan. Both its prevention, through improved water and sanitation and treatment of dehydration through oral rehydration salts (ORS) are among government goals. Home management of diarrhea through oral re-hydration salts (ORS) or a recommended home fluid (RHF) - can prevent many of these deaths. Preventing dehydration by increasing fluid intake is an important strategy for managing diarrhea. For 90.32 percent of all diarrhea cases a practitioner of some kind was consulted in 2007-08 (see Annex IV). This represents a marginal decline as compared with 93.65 percent in 2006-07. Almost no change has been observed in the use of ORS between 2007-08 and 2006-07 i.e. 76.56 percent and 76.38 percent respectively. For a general snapshot of the data in the table shown below, it can be seen that in cases of diarrhea, the most likely practitioner to be consulted continues to be a private practitioner 67 per cent in 2007-08 (see Annex IV). Government facilities show improvement as compared to 2006-07. Basic health units (BHU) and rural health centers (RHC) consulted only 8 percent of cases in rural Pakistan, which gives some indication of the very limited use of the government primary health network for these kinds of curative services. However, cases that consult a government practitioner as a share of all cases that consult any other practitioner has increased between 2005-06 and 2007-08.

Infant Mortality: There has been a marginal decline in IMR from 70 per thousand births in 2005-06 to 69 per thousand live births in 2007-08. The infant mortality rate for urban areas is 45 whereas it is 79 in rural areas. However, there has been a positive change in IMR over the last few years.

Table 3.4: Infant Mortality Rate

Region	2005-06			2006-07			2007-08		
	Male	Female	Both	Male	Female	Both	Male	Female	Both
Urban Areas	60	70	65	43	39	41	43	46	45
Rural Areas	92	84	88	85	79	82	87	72	79
Overall	84	81	82	73	67	70	75	65	69

Source: PSLM

Pregnancy Related Deaths and Maternal Mortality: As mentioned by Pakistan Demographic Survey 2006-07, the overall pregnancy-related mortality ratio (PRMRatio) for Pakistan is 297 pregnancy-related deaths per 100,000 live births. As expected, the overall maternal mortality ratio (MMR) is slightly lower (since it excludes non-maternal deaths occurring during pregnancy and 6 weeks postpartum) at 276 maternal deaths per 100,000 live births (Table 3.4). Nevertheless, the two rates are very close and compare plausibly with previous estimates. Overall pregnancy-related mortality rates and maternal mortality rates are the same at 0.4 per 1,000 woman-years. The data implies that approximately 1 in 89 women in Pakistan will die of maternal causes during her lifetime (lifetime risk).

Pre/Post Natal Care: Quality prenatal care can contribute to the prevention of maternal mortality by detecting and managing potential complications and risk factors, including pre-eclampsia, anemia, and sexually transmitted diseases. Prenatal care also provides opportunities for women to learn the danger signs of pregnancy and delivery, to be immunized against tetanus, to learn about infant care and be treated for existing conditions, such as malaria and anemia. Around 56 percent of mothers in 2007-08 compared to 53 percent in 2006-07 who had given birth in the last three years went for prenatal consultations during their last pregnancy (see Annex IV). The consultation rate was much higher in urban (74 percent) than rural areas (50 percent) for overall Pakistan. Attendance rates have

increased particularly in rural areas from 45 in 2006-07 to 50 in 2007-08. In urban areas, Sindh has the highest attendance (82 percent) whereas Balochistan urban (53 percent) has the lowest percentage. In Pakistan, the three most commonly consulted sources were private hospital/clinic (57 percent), government hospital/clinic at 30 percent (Annex IV). The study and analysis of selected key indicators discussed above shows that although there is improvement in these over the last few years there is still need to accelerate the progress and devise effective policies to counter the constraints they face. Moreover, access to government based health facilities needs to be improved either by providing suitable means of communication or better geographical targeting. Increased health awareness along with formal education, especially for females in rural areas, can prove instrumental in improving health and overall health cautious behavior of people.

3.3 Challenges and Constraints

Some of the challenges faced by the Government as figured out by Planning Commission of Pakistan are stated below:

- The main challenges facing the country's health sector are low access (both in terms of availability and affordability) to good quality nutrition and poor management of health care and childhood illness. One explanation is inadequate public health expenditure in face of ever increasing demand. According to a report by WHO Commission on Macroeconomics and Health, US$ 34 per capita is required for a package of essential health services

Table 3.5: Maternal Education & Infant Mortality

Deaths/1000 live births	
Level	**No.**
No education	78
Class 1-4	79
Class 5-9	71
Class 10 or more	24
OVERALL	69

Source: PSLM 2007-08

in Pakistan. The total expenditure on health in Pakistan is US$ 18 per capita out of which the total government health expenditure is US$ 4 per capita, which falls drastically short of the recommended level.

- There exists a strong correlation between mother's education level achieved and IMR especially when the level attained crosses class 10th (Table 3.5). This table shows that promoting female education in the country especially in rural areas is pivotal for reducing IMR. Low female education rates are a severe impediment which has to be addressed to not only curbing infant mortalities but also improving overall family health.
- A large share of government health expenditure is spent on curative health programs with 80 percent used up on payroll expenditure. The situation is further aggravated by non-integration of preventive programs at grassroot levels of service delivery. For instance, it is observed that concentrated efforts of personnel resources towards polio eradication tend to overshadow routine immunization activities in the country. Furthermore, within the new framework of devolution introduced by the previous government the influence of provincial EPI Cell to push routine immunization to a district level has become limited.
- Moreover, district-level vaccine stock management results in interrupted supply of vaccines from the province to district levels. Lack of recourses for mobility has implications for outreach activities of vaccinators and supervisory staff. Persistent shortage of qualified staff, appropriate equipment and medicine in BHUs and RHCs and their use further reduces the capacity of local governments to effectively cater to the needs of expanding population.
- There is a need to rethink the approach to skilled birth attendants (SBAs) and midwives as there has been a constant trend of ineffective deployment of SBAs.
- The discipline of midwifery has been dominated by nursing, which in comparison has a better defined

path to career progression. There is a clear need to scale up the practice of midwifery, in areas where the availability of doctors is an issue.

- Lack of emergency obstetric care and 24/7 services, particularly in rural areas, is another impediment in achieving health initiatives outcomes.
- Low availability of food at a national level, with asymmetric distribution of wealth at household level is one of the major factors leading to high incidence of disease and ultimately death. Though the national nutrition policy is designed to specifically cater to this challenge it has several weaknesses, including lack of ownership and responsibility, weak managerial and technical support to provinces, and the absence of a strategic framework leading to fragmented and un-coordinated efforts producing limited impact.
- In absence of safety nets or medical insurance scheme, poor families become more vulnerable. Moreover, improper diet for children and late weaning practices are among the factors contributing to malnutrition. There is also a need for facilitation of the development and marketing of low cost indigenous fortified blended foods for consumption by pregnant mothers and weaning their infants.

- Other challenges include inadequate social sector services delivery including safe water and sanitation, professional and managerial deficiencies, drug pricing, and high prevalence of communicable diseases.
- Currently, monitoring and reporting mechanism of health related indictors are not as desired. This hampers the effective and target efficiency of policies designed on the basis of this information.

3.4 Government Initiatives

With low literacy rate and lack of access to clean drinking water along with inadequate sanitation services, the task of improving health status of the people has become even more difficult. Poor quality and coverage of services in the social sectors and low economic growth during the last few years has led to rising poverty and impeded the country's development (MOH 2006). To reverse this trend, the Government of Pakistan launched a series of reform programs - most important of which have been poverty reduction and devolution of power initiatives.

It has now been fully recognized that poverty cannot be reduced in the country without improving the status of health and education. The Ministry of Health has taken a lead in developing a vision, policy and strategy to revamp Pakistan's health services. Over the last few years, the Ministry has worked with its provincial counterparts in reviewing existing policies and systems of health services.
In response to arising challenges and constraints the government has initiated a number of national level programs which are introduced briefly in the following text:

a. Expanded Program on Immunization (EPI)
EPI aims at protecting children by immunizing them against childhood tuberculosis, poliomyelitis, diphtheria, pertussis, measles, tetanus and also their mothers against tetanus. The Program has progressed significantly over time in terms of immunization coverage and disease reduction through its own system of surveillance, regular monitoring, strategy

evaluation and sufficient trained manpower across the country. This ensures the government's commitment towards the provision of vaccines, syringes, cold chain equipment, transport, printed material and launching of health education/motivation campaign. Major objectives of the program include:-

- Reduction of mortality resulting from seven EPI target diseases by immunizing children of the age 0-11 months and women of child bearing age.
- 90% routine immunization coverage of all EPI antigens with at least 80% coverage in every district by 2012.
- Interruption of polio virus transmission by 2010.
- Elimination of neo-natal tetanus by 2015.

(Economic Survey of Pakistan 2008-09)

b. National Aids Control Program (NACP)

Several socioeconomic conditions are conducive to the spread of HIV/AIDS exist in Pakistan. These include poverty, low levels of education and migration to higher prevalence countries which lead to increased exposure to the disease. Significant factors that increase Pakistan's vulnerability to the epidemic include inadequate blood transmission, screening, high level of professional blood donors, migrants and refugee population. Among reported infections, contaminated blood and blood products is the primary mode of transmission followed by injecting drug use and mother-to-child transmission. This serves to underline the need for rapidly scaling up intervention among vulnerable groups to prevent spillover into the general population.

The National AIDS control program along with its provincial counterparts is the national response to the rising epidemic of HIV/AIDS in Pakistan. The Program since its implementation in 1988 has undergone many policy changes that reflect the overall change in the HIV/AIDS epidemic.

Currently, 7400 people are estimated living with HIV/ Aids in the country at a HIV prevalence rate of one percent and 4,900 deaths by the epidemic up to the year 2008. Till date, 4500 HIV positive cases have been reported to the National and Provincial AIDS Control Programs. It includes 2000 full blown AIDS cases, out of which around 850 are receiving free treatment trough 12 AIDS Treatment Centers.

Investment in HIV/AIDS prevention and control activities have increased over the years. NACP has taken the lead in streamlining health services management to strengthen the quality and delivery of care at Federal and provincial levels. NACP also conducts public awareness campaigns, disseminates informational materials and develops guidance for improving care and support, clinical management, surveillance and blood safe, and intervention effectiveness. Blood banking is managed through both public and private sectors, with a majority of demands being met by the private sector. A total of 1.5 million blood bags are transfused annually in the country of which 66% is contributed by the private sector. Screening reports are received on a quarterly basis from public sector institutions/blood banks and are then compiled at the National AIDS Control program.

Pakistan's commitment to fighting the spread of HIV/Aids can be seen by its 2005-2010 Medium Term Development framework, which includes the halving of its prevalence in most at-risk populations amongst its goals.

c. National Program for Malaria Control (NPMC)

Malaria is one of the most lethal tropical diseases in the world. It is particularly dangerous for young children and pregnant women and their unborn children, although others may be seriously affected in some circumstances. About 250 to 300 million cases of malaria occur annually. New anti-malarial drugs and more efficient diagnostic techniques are being tested to cope with the problem. Malaria is a curable and preventable disease, but it still kills many people.

Pakistan launched malaria eradication campaign with the help of WHO in 1960, but eradication of the disease could not

be achieved because of socio- economic and epidemiological factors. It is thus still a potential threat to the health of millions of Pakistani. On the advice of WHO, Malaria Eradication Program was converted into Malaria Control Program.; this current project is an extension of the on- going Malaria Control Program. The program's goal is to improve health status of the population by effectively controlling malaria through implementation of roll back malaria strategies. Its five year plan is a step towards achieving the WHO global RBM target of 50% reduction in malaria by the year 2010. Considerable progress has been made with regard to involvement of NGOs, awareness campaigns and operational research in this respect.

d. National TB Control Program (NTCP)

Tuberculosis or TB is an infectious disease transmitted from person to person via droplets from the throat and lungs of people with the active respiratory disease. Millions of people around the world each year die of this curable disease. Tuberculosis (TB) is a major public health problem in Pakistan. The country ranks sixth globally among the 22 high disease burden countries. In Pakistan, the total number of TB cases stands at 76,668 while the percentage of TB case detection rate is 51%, treatment success rate is 87% and cure rate is

74%. The problem gets more complicated with a majority of the population living in extremely poor conditions with meager resources and limited provision of healthcare facilities. The Pakistan government has therefore given high priority to TB control and constantly expanding the WHO recommended TB control strategy (DOTS) across the country. Though Pakistan has achieved the outcome target indicators of Millennium Development Goals, i.e. detection of TB at 70 per cent and successful treatment of 85 per cent cases, efforts are still needed to decrease TB cases in the country.

NTCP aims to reduce TB prevalence and mortality rates by 50 percent till 2015. Pakistan's efforts to control TB are supported by over 12 international partners, along with an extended network of health workers and volunteers working at the grassroots.

e. PM Program for Prevention & Control of Hepatitis

Prime Minister Program for Prevention and Control of Hepatitis in Pakistan (2005-2010) was launched in August 2005 to substantially decrease the prevalence, morbidity and mortality rates due to hepatitis viral infections by utilizing existing heath infrastructure. The total cost of the program is Rs. 2.59 billion for financial years 2005 till 2010.

Goals set under the program aim at achieving 50 percent reduction in hepatitis prevalence by 2010 through the establishment of Hepatitis Surveillance System, provision of drugs for hepatitis B & C patients, provision of hepatitis vaccination for high risk population, provision of essentials for ensuring safety of blood and blood related products at all blood transfusion centers, proper disposal of invasive medical devices including syringes, hospital waste, prevention and control of hepatitis A & E and actualizing the strategy for safe drinking water supply and sanitation provisions.

Specific goals of the program include: establishing screening/diagnosis, counseling and chronic liver disease

treatment facilities at provincial, district & Tehsil level hospitals in a phased manner (121 Districts 425 Hospitals); Establishment of reference water quality control laboratories and purification plants at NIH, provinces (7 units) and in rural settings (150 units); Improvement of Health Care Providers knowledge for prevention of Hepatitis through focus on injection safety, safe blood transfusion practices (385 Blood Banks) and hospital waste disposal (425 Hospital); introduction of lab based surveillance system for evidence based policy decisions and creating opportunity for epidemiological research studies mainly community based and the establishment of provincial satellite offices of the Provincial Coordinators; advocacy & behavior change communication (BCC) strategy development and execution on persistent basis for prevention of Hepatitis by creating awareness among general masses for adoption of healthy practices; strengthening of routine immunization services of Hepatitis B vaccine for infants through provision of immunization against Hepatitis B in children below one year of age by using expanded program of immunization's infrastructure and Reduction of vulnerability to Hepatitis B in medical staff of public sector and other risk groups.

These interventions can potentially lead to minimizing the morbidity and mortality caused by hepatitis and likewise reduce economic burden; the community is therefore a direct beneficiary of the program.

f. Cancer Treatment Program (CTP)

Currently, thirteen nuclear medical and oncology hospitals are functioning throughout the country providing diagnostic and treatment facilities to 70% of total cancer patients in Pakistan, with most modern facilities available at these centers. Major services offered at these nuclear medical hospitals include diagnostic and therapeutic nuclear medicines, radioimmunoassay, radiotherapy and indoor cancer treatment. More than 408,900 patients were attended during the year 2008-09. During the period of July 2008 to March 2009 a total of 210,554 patients (160,153 new and 50,401 follow up) benefitted from these nuclear medicine facilities. On the clinical oncology side, a total of 198,330 patients (including 51,363 new and 146,968 follow up) were provided cancer treatment as well as follow up management. During the year (July-Mar) 2008-09 the following activities were carried out:

i. PAEC NM&O hospitals were involved in development activities like research projects and training courses nationally as well across the globe to learn recent development in cancer diagnostic techniques/ treatment trends.

ii. The up gradation project of two NM&O hospitals i.e. AMEC Karachi and INMOL Lahore at various stage of completion.

iii. Cancer registry program has been initiated and initial data of cancer patients at PAEC NM&O Hospital is being maintained which will lead to more effective cancer prevention and awareness programs in future.

(Economic Survey of Pakistan 2008-9).

3.5 Other Initiatives

a) Oral rehydration therapy is being successfully implemented by the government to control diarrheal disease with an expected coverage of 50 percent children less than five years of age.

b) Nutritional programs with the aim of controlling micro nutrient deficiencies, infant mortality, low birth weight, iron deficiency, anaemia as well as Iodine deficiency were implemented by the government under three heads: iodine deficiency control program, iron supplements through the National Program of FP/PHC, and a vitamin A supplementation program for children under five.

c) Government's Lady Health Worker (LHW) Program with one of the aims of ensuring immediate newborn care through professional intervention is expected to further reduce neonatal mortality, especially when it occurs within the first 7 days of birth. As an effective implementation step it is mandatory for a LHW to attend a new born within the first 72 hours of birth. Moreover, to build the technical capacity of LHWs, training is imparted to identify complications in newborns and refer as appropriate. The target for 2004 to train 17,000 LHWs was met.

d) The Government has launched mass communication campaigns as well, based upon principles of social marketing aligned on contemporary behavior change communication methodology.

e) A number of studies were commissioned to assess gaps in the delivery of immunization services in the field. A 'barriers study' conducted in each province compare low and high performing districts.

f) Health Management Information System has been upgraded along with the establishment of a National Health Information Resource Center and a National Health Policy Unit in order to improve the monitoring and reporting mechanism of health sector challenges. Moreover, improvements in Pakistan Social and Living Standard Measurement Survey (PSLM) as well as carrying out of a Core Welfare Indicator Questionnaire have been accomplished.

g) The government, via consultation, has adopted a child survival strategy known as CSS in 2005. This is aimed at reducing mortality and morbidity rates through

addressing major childhood diseases including neonatal issues. The strategy will adopt preventive measures especially for child nutrition and vaccine preventable diseases with an integrated and holistic approach by increasing coverage of the target population with low cost interventions. The CSS stands on the following three pillars:

i. Child survival and care packages comprising newborn care, integrated package for management of childhood diseases, immunization and nutrition.
ii. Strengthening health systems comprises of improving access, resource allocation and equitable distribution, management structure, regulating the private sector, and strengthening linkages with the community.
iii. Support strategies for strengthening public and private partnership, community partnership and oversight, community education and mobilization, and community based initiatives and adopting appropriate family practices and care seeking behavior.

h) During 2005-10 an amount of Rs. 85 billion has been allocated for the development programs in the health sector. In the health policy under MTDF importance is being given to improving maternal health as reflected in the targets (Table 3.6) for various intermediate outcomes.

Table 3.6: Health Sector Targets

Targets	Incremental (No.)
LHWs (refresher courses/training)	27,000
LHWs (new)	50,000
New BHUs	300
New RHCs	100
Strengthening/improvement of BHUs	4,000
Strengthening/improvement of RHCs	400
Mohallah (urban) health centers	1,000
Dispensaries (new)	500
Hospital beds	50,000
Doctors	30,000
Nurses	50,000
Paramedics	30,000

Source: Medium Term Development Framework

i) A national commission on health sector manpower has been set up to review the human resource situation in health sector. A plan of action will be prepared to improve the training institutions for nurses throughout the country. Separate male cadres for nursing have been trained for areas where females are not available.

Although Pakistan has taken significant steps and made reasonable progress in improving the health status of its population during the last few years as reflected by an increase in immunization coverage and reduction in infant mortality, there is still a large room for improvement. The fact that 9 out every 100 new born children in our country die before reaching their first birthday is a grim reminder of the long and tedious path that has to be covered. The Government aims to provide quality health services that are accessible, efficient and equitable. This is to be done through programmatic as well as organizational and management reforms covering both public and private sectors. In addition to the rising government spending on health in recent years, private sector is emerging as an important player in the delivery of health services. A major shift has occurred in the GOP's approach towards the country's health sector.

The government has recognized the limits of what it can accomplish, particularly in terms of resource and expertise levels. It has therefore co-opted the private sector and civil society organizations in financing, management and delivery of education services in Pakistan. In essence, the Government sees its role shifting from being a mere provider to also acting as facilitator and financier of the education sector in Pakistan (MOH 2004).

3.6 Role of Pakistan Poverty Alleviation Fund

With regard to the broader task of poverty reduction and

grassroots development, GOP sponsored PPAF as wholesaling autonomous apex institution. Significantly PPAF has been incorporated as a private sector entity outside the formal public sector channels for delivering resources and services at the household level.

The objective of GOP was to establish an organization with resource backed capability for quality assurance on a sustainable and cost effective basis. As one of the largest sources of pro-poor spending outside the public sector development program and GOP budgetary allocations the vision behind PPAF has been of an institution to be led by private incentives but work in support of public policy objectives. PPAF commenced operations in April 2000 with broad based programs in microfinance, water and infrastructure, and capacity building interventions aimed at the poor and excluded with a special focus on less developedareas of the country.

As a sector support organization, PPAF partners with eligible civil society (non-governmental/ community-based) as well as private sector (for-profit/non-profit) organizations. The distinguishing feature of the model as opposed to conventional methods is a strategic focus on community led, demand-driven approach to development with an emphasis on community owner-ship/'buy-in' of all local development interventions from identification and preparation to implementation and management. This 'bottom-up approach' needs to be demonstrated by any applicant organization seeking partnership with PPAF. On meeting the eligibility criteria they are extended financial resources, technical and managerial assistance, monitoring and feedback, as well as performance assessment and outcome/impact evaluations.

Over the last nine years, PPAF's programs have been implemented through 75 such partner organizations (POs) in over 90 percent of all districts in the country, which directly or indirectly impacted 15 million individuals with financial

services and 11 million with non-financial services. Almost US$ 1 billion has been deployed in various interventions and activities (including education) which have focused on poor and disadvantaged communities (and households) across the country.

3.6.1 Health & Education Component

In 2004, PPAF introduced a small Social Sector Development Program (SSDP) on a pilot basis to complement its existing

Table 3.7: Health Facilities

Province	CHCs* (No.)
AJK	4
Balochistan	4
FATA	2
FANA	14
NWFP	8
Punjab	10
Sindh	13
Federal Territory	2
Total	**57**

**Community Health Centers*
Source: PPAF, June 2009

grassroots development activities. The SSDP envisages specific interventions in education and health sectors, focused on primary education and basic health through a variety of delivery mechanisms. By June 2009, a total of 57 health centers had been established, adopted, rehabilitated or reconstructed in 28 districts throughout Pakistan and AJK. The distribution of these schools is given in Table 3.7 : These health centers are catering to more than a population of 1 million. A total of 300 staff has been employed in these facilities. The services delivered through health component of SSDP can be categorized into four models. Brief definition of these models is presented below:

Model I: Community Driven Independent (CDI)

CDI exemplifies a community led, demand driven approach to development; a fundamental feature of this model is local

community organizing itself for proactive leadership in need identification. This is followed by participatory conceptualization, planning, sitting, structuring, implementing and managing the entire project cycle of the facility. This process is facilitated through technical and managerial support by the Pos while oversight, monitoring and quality assurance are extended by PPAF. Although facilities under this model are typically housed in rented premises, ancillary repair/renovation funding by PPAF is not precluded. The model requires (among other conditions) non-existence of a public sector facility within 5 Km radius of the proposed site of health facility. Prescription fees are charged in the range of Rs. 10 to 50 per patient.

Staff in such health centers tends to consist of new/fresh physicians and paramedics who are capacitated through extensive training. The model is national in nature and CDI facilities have been established by PPAF in the provinces of Punjab, Sindh, NWFP as well as FATA.

Model II: Public Sector Supported (PSS)

Under this arrangement, support of two kinds may be extended to an existing government facility:

i. Provision of missing facilities in existing public sector health facilities in terms of physical infrastructure and human resource, wherever required.

ii. Abandoned government health centers that have become non-functional can be adopted. POs, in consultation with their communities, identify such facilities through refurbishment, developing awareness amongst communities and providing missing facilities including appropriate teaching staff.

Staff on the government's payroll is not eligible to receive PPAF funding for salary or remuneration. This staff is supplemented by PPAF funded recruitment of additional staff from the private, non-governmental sector. This model, to date, has been tested in two provinces (Punjab, Sindh).

Model III: Build Operate and Transfer (BOT)

This is a special, 'best in class' modality developed in response to the earthquake of October 2005, which struck northern Pakistan. It provides for complete reconstruction and refurbishment of the destroyed health facilities along with provision of state-of-the-art infrastructure, equipment and services. It is supported with international corporate funding. Facilities completed under this model, after building and operation, are transferred to the provincial government/long term operator. All related costs (project + operating) are eligible for financing from PPAF.

A value added feature of the BOT model is that construction conforms to, and is in compliance with special regulations/standards of ERRA. Construction activity is contracted to specialized engineering firms and third party top supervision is facilitated through PPAF. The BOT model has been restricted to the earthquake affected areas of NWFP and AJK.

Model IV: Other Donor Adopted (ODA)

This model is a variant of PSS as it adopts already built and possibly non-functional health facilities built by some other donors. Similar type of assistance is provided to ODA that is offered to CDI facilities: technically after adoption an ODA facility becomes a CDI except that it is not established strictly on demand driven philosophy. Necessary renovation and refurbishment and staff salaries for the facility are financed by PPAF.

Global Perspectives II: *The Scientific Dimension*

Scientific endeavour and international development have never been easy bedfellows. However, latest research in relation to MDGs*, argues the case for science and technology in the battle to beat poverty, demonstrating how innovation can tackle the big challenges of the day - climate change, food shortages and disease. While acknowledging the harmful effects of pesticides and touching on the controversies surrounding GM crops, it also offers a nod of respect towards herbal medicines and the role traditional healers can play in improving the health of their communities. The potential of initiatives such as the use of tissue culture to develop disease-resistant bananas and the use of nanotechnology in developing cheaper diagnostic kits for infectious diseases is highlighted. Five priority areas for action are suggested – train and empower scientists in developing countries, strengthen science innovation in developing countries, ensure sufficient resources are available for research - which may include forming private partnerships - ensure the research carried out has wide reach and maximum impact, and raise the profile of science among governments. People in developed countries sometimes forget how scientific innovations have transformed their lives. "In the 20th century we witnessed dramatic medical inventions, such as a vaccine against yellow fever and the discovery of penicillin. Today we are seeing revolutionary advances in electronics and communications. Similarly, technology is helping solve challenges faced by the world's poorest people: water purification technologies are providing communities with access to clean water, mobile phones are being used by farmers to access agricultural data and medical research is helping tackle diseases like malaria and HIV." While conceding that science is only one of many factors which can contribute to development, other factors - ensuring sustainable change, such as good governance, infrastructure, economic growth and conflict - being critical, is also accepted.

**"Science and Innovation for Development", Sir Gordon Conway, Professor, Imperial College and Prof. Jeff Waage, Director, London International Development Centre*
Source: www.guardian.co.uk/katine/katine-chronicles-blog/2010/jan/19/science-and-development-book

4 Study Design & Methodology

4.1 Background

The purpose of this research study is to compare diverse features of PPAF models of adopted/funded community and public sector health facilities and variations of these models. The study assesses health facilities pertaining to each model from the following basic dimensions: revenues and costs, infrastructure and facilities, service delivery and human resources, and clients and customers.

4.2 Selection Criteria

Fifty percent (19 facilities out of 36 operational) was randomly drawn from each model. Distribution of selected facilities by model is given in the following table.

Table 4.1: Selected Sample

Model	Sample
BOT	2
CDI	11
ODA	4
PSS	2
Total	**19**

Source: Survey of PPAF Health Facilities, 2009

4.3 Information Parameters

Data and information was solicited on a comprehensive range of parameters, which are categorized under four groups:

1. Resources and Financing

- Capital expenditure
- Operating expenses
- Revenues and earnings
- Training expenses

2. Infrastructure & Facilities

- Health center facilities
- Client area facilities
- Use and availability of tools and equipmen

3. Quality of staff

- Health center staff
- Staff experience
- Academic qualification
- Professional qualification
- Trainings acquired
- Salary and remuneration
- Location from staff
- Job satisfactiont

4. Clients and Customers

Patients:

- Patients examined

- Location from patient
- Patient's literacy
- Occupation and employment\
- Income and earning
- Client satisfaction

Community (Health Management Committees):

- Meetings
- Inspection visits
- Access to financial records

4.4 Data Acquisition

Four (structured and non-structured) instruments were used consisting of direct enumeration focus group discussions.

4.2.1 Direct Enumeration

i- Health Center Questionnaire (Annex I) designed for gathering the data on the state of basic physical facilities, costs and expenditures, enrollment and other health center specific attributes.

ii- Staff Questionnaire (Annex II) developed to generate information regarding qualification, competency and capacity of the health staff along with their working relationship with the health center.

iii- Exit Client Questionnaire (Annex III) used to obtain knowledge of the socio-economic background of patients and their family, and views/perception on quality of services and contribution of health facility.

iv- Household Questionnaire (Annex IV) designed and administered to gather data about socioeconomic conditions of the communities where the health centers exist. At least 30 households where chosen on random basis from the vicinities of each health facility surveyed.

4.2.2 Patient's information/comprehension

Every patient enumerated was also asked questions about the usage and dosage of prescribed medicine, crosschecked with the prescription, in order to gain an understanding of their comprehension levels regarding their treatment. Patients were further asked about quantity and timing of use of each medicine he/she had received from the dispensary.

4.2.3 Focus Group Discussions

Non-structured interviews/focus group discussions were held with Health Management Committees. These were conducted in order to get a local/community perspective on their institutions as well as with the view of institutionalizing health provision through HMCs.

4.5 Visit Protocol

In the first phase, health facilities in Punjab and Sindh were surveyed. During the survey all four types of questionnaires were administrated and the physical facilities examined. Similarly, in the second phase all facilities in AJK were surveyed. In the third phase, NWFP based health facilities

were visited. Additionally, focus group discussions were conducted at each health center/community surveyed. The table below shows number of each type of questionnaires administered.

Table 4.2: Questionnaires Administered (No.)

Model	Facility	Staff	Patients	Households
BOT	2	19	40	69
CDI	11	30	102	324
ODA	4	10	46	131
PSS	2	13	38	64
Total	**19**	**72**	**226**	**588**

Source: Survey of PPAF Health Facilities, 2009

4.6 Data Processing and Analysis

Data collected in the field were cleaned and entered in specialized software developed in MS Access. Quality and correctness of data were ensured through placing appropriate consistency checks and balances in the software and crosschecking the entered data with the questionnaires. After data entry process, the data were exported to SPSS for further processing and analysis. Some tasks in data analysis

and formatting were carried out in MS Excel.

4.7 Compilation of Report

After the entry and analysis of data the report was compiled as an in-house activity. It has been compiled in five chapters pertaining of the introduction, overview of country's health sector, study design and methodology, comparative analysis and conclusions. Useful data from PSLM and study questionnaires are included in the annexes.

Comparative Analysis & Assessment 5

Information parameters derived from data enumerated in the survey have been analyzed in detail for each of the models separately. In this chapter the major findings of the survey have been collated and presented in a comparative cross model framework. In line with survey objectives and design, these findings have been classified in a multidimensional framework.

5.1 Resources and Financing

5.1.1 Capital Expenditure

The capital expenditure incurred per patient is exceptionally high (Rs. 4,134) for health facilities in earthquake areas owing to a much higher outlay for the provision of high-quality infrastructure and facilities whereas in the other three models there is no such provision and assistance is only confined to

Table 5.1: Capital Expenditure (per capita patient)

Model	Rs.
BOT	4,134
CDI	452
ODA	67
PSS	85

Source: Survey of PPAF Health Facilities, 2009

essential repairs and renovation. However, among the rest CDI facilities spent more in capital cost per capita patient (Rs. 452) followed by PSS (Rs. 85) and ODA (Rs. 67).

5.1.2 Operating Expenses

The cost of delivering health services was compared across the four models and the average cost per patient was computed. The figure for average cost per patient was obtained by dividing the total annual operating expenses of all health facilities within a particular model by the total patients examined within that model over the same period of time. Table 5.2 shows that the unit cost per patient was lowest in the BOT model, while it was the highest for PSS facilities. Patients examined in BOT facilities are on average much higher compared to other models bringing scale economies into play, presumably because of the range of facilities and equipment and medical available at these facilities.

Table 5.2: Operating Expenses

Model	No.	Annual Expenses (Rs)	Avg. per Patien (Rs)
BOT	10,062	404,500	40.2
CDI	4,743	325,240	68.6
ODA	2,393	151,474	63.3
PSS	3,989	357,067	89.5

Source: Survey of PPAF Health Facilities, 2009

5.1.3 Salary Expenses

Staff salary is a key element in health service delivery. High salaries are often assumed to stimulate high performance. However, this may always not necessarily be the case. An overview of the difference in average salary paid across four models is presented in Table 4.3. The table shows average salary awarded to each type of staff in four models. It is evident from the data that BOT offers better salaries to its staff. Average per month salary offered to doctors and LHVs (medical staff) are highest in BOT and PSS distantly followed CDI. ODA model is characterized by exceptionally low overall salaries as an amount of only Rs. 28,632 per month on average in each health center is spent on staff salaries. 28,632 per month on average in each health center is spent on staff salaries.

Table 5.3: Salaries Expenses

Model	BOT	CDI	ODA	PSS
Doctor	46,500	28,727	-	45,000
Dispenser	14,400	6,273	6,595	13,200
OT Staff	12,500	-	-	24,500
LHV	20,500	13,550	7,308	3,150
LHW/TBA	8,500	10,365	5,527	-
Lab Assistant	12,500	2,727	-	5,000
Watchman	6,000	3,491	4,914	9,318
Driver	6,500	3,636	-	25,00
Sweeper	4,000	1,364	-	3,800
Other Staff	13,000	9,364	4,289	9,331
Average Salaries Expense (per facility per month)	**134,400**	**79,497**	**28,632**	**115,799**

Source: Survey of PPAF Health Facilities, 2009

5.1.4 Training Expenses

Apart from staff salaries, significant amount is spent on capacity building. Here again a prior assumption is that spending on capacity building of health staff is a prerequisite of quality. A comparison of annual per staff training average cost is shown in Figure 5.4 .CDI facilities supersede in this department as an amount of Rs. 14,283 has been spent on training the staff in last one year. This is closely followed by PSS (Rs. 12,692) while ODA (Rs. 6,480) and BOT (Rs. 3,526) are a distant third and fourth.

Table 5.4: Training Expenses

Model	Rs./Staff
BOT	3,526
CDI	14,283
ODA	6,480
PSS	12,692

Source: Survey of PPAF Health Facilities, 2009

5.1.5 Medical Camps

CDI and ODA models arrange medical camps to facilitate

Figure 5.5: Medical Camps

Model	No.	Patients (No.)		Expenses (Rs.)
		Male	Female	
BOT	0	-	-	-
CDI	3	33	79	11,719
ODA	3	55	155	13,600
PSS	0	-	-	-

Source: Survey of PPAF Health Facilities, 2009

people living in the vicinities that cannot access the health facilities for any reason. Both the models have arranged three medical camps in last three months. However, there is no such practice reported in BOT and PSS facilities. ODA camps attract/serve more patients (especially female) with a slightly extra average cost.

5.1.6 Waivers to Patients

In order to facilitate poor and deserving patients there is an ongoing practice to give waivers to patients in purchi fee, medicine and/or medical tests. In PSS the treatment and medicine is free therefore waivers is not applicable to this model. CDI has provided relatively large amount in such waivers especially to female patients in three months back from the date of survey (see Table 5.6).

Table 5.6: Average Fee Waivers*

Model	Male		Female	
	No.	Rs.	No.	Rs.
BOT	165	825	225	1,125
CDI	468	9,426	658	14,002
ODA	5	45	17	363
PSS	N/A	N/A	N/A	N/A

**Patients per facility*
Source: Survey of PPAF Health Facilities, 2009

However, this should be kept in mind that CDI charges its patients relatively more than other models therefore a greater amount spent in waivers is quite logical.

5.1.7 Prescription 'purchi' Fee

The Nominal purchi fee is received in BOT, CDI and ODA models whereas PSS does not charge its patients any such cost. The analysis of fees/charges by each model shows that CDI facilities on the average charge about Rs. 23 per patient followed by ODA (Rs. 13) and BOT (Rs. 5). Here one thing should be borne in mind that BOT and PSS both receive financial assistance from the Government while CDI and ODA have to rely on user fee and time bound funding. Therefore, both these models are required to charge relatively high purchi fee for attaining long term sustainability.

Table 5.7: : Prescription Fee*

Model	Rs.
BOT	5.00
CDI	22.73
ODA	12.50
PSS	0.00

**Average per patient*
Source: Survey of PPAF Health Facilities, 2009

5.1.8 Delivery Charges

As part of their quest of achieving long term sustainability and limited resources, CDI and ODA models charge patients coming for delivery. CDI health centers on average charge an amount of around Rs. 1,500 while ODA charges Rs. 510inclusive of all expenses like medical examination, prescription, medication and tests. The three fold difference between fee charged in CDI and ODA models is ascribed to better facilities and more qualified staff at CDI facilities.

Table 5.8: Delivery Charges*

Model	Rs.
BOT	0
CDI	1,476
ODA	510
PSS	0

**Average per facility*
Source: Survey of PPAF Health Facilities, 2009

On the other hand, BOT and PSS benefit from core public sector funding as well as state/provincial budgets and are not required to charge the patients. However, for CDI and ODA it is assumed to be a major source of income for long term sustainability in the absence of funding either from a donor or the public sector.

5.1.9 Savings

Sustainability is considered to be major concern in all development interventions. Some models charge their patients for prescription and medication, thus raising some funds to sustain their facilities partially if not completely. Table 5.9 shows snapshot of amount accumulated in savings

Table 5.9: Average Savings (per facility)

Model	Rs.
BOT	20,000
CDI	49,115
ODA	0
PSS	0

Source: Survey of PPAF Health Facilities, 2009

at the time of survey. CDI facilities are doing exceptionally well in this department as per facility average savings have been recorded at around Rs. 50,000. In BOT Rs. 20,000 per facility has been raised as savings while ODA and PSS did not report any savings. PSS however cannot raise such funds as they are not authorized to charge their patients in any respect as they meet all their expenses through budgetary allocations. Therefore, although PSS does not have any savings yet the sustainability of this model is higher than other models as the Government provides continuous and ongoing financial support.

5.1.10 Revenues

Table 5.10 shows average per facility revenues earned by health centers pertaining to each model in last one year. As

seen from the table CDI facilities earn more revenues than any other model. BOT and ODA are distant second and third respectively.

Table 5.10: Average Revenues

Model	Rs.
BOT	80,406
CDI	313,583
ODA	67,068
PSS	-

Source: Survey of PPAF Health Facilities, 2009

5.2 Physical Infrastructure & Facilities

5.2.1 General Facilities

Table 5.11 shows the percentage of different facilities possessed by health centers in each model. These facilities include boundary wall, main gate, electricity, water for drinking and other purposes, furniture, fans and lights, cleanliness, and necessary lab and other equipment etc. The data shows that BOT excels in this aspect with 100% facilities at its health centers. This is followed by PSS (71%) and CDI (67%) whereas ODA possesses only 51% of the examined facilities.

Table 5.11: Existence of General Facilities

Model	Facilities (%)
BOT	100.0
CDI	67.2
ODA	51.0
PSS	70.5

Source: Survey of PPAF Health Facilities, 2009

5.2.2 Patient Area Facilities

Other than general health center facilities, the provision of different services in patient areas particularly has also been

examined. These facilities contain proper cooling/heating system, wash basin, waste bins, seating capacity and arrangement, availability of water for drinking and washing purpose and separate patient toilets. These facilities show how conducive an environment a health center provides to its clients. Provision of appropriate facilities significantly increases customer satisfaction and the clientele.

Table 5.12: Waiting Area

Model	Facilities (%)
BOT	100.0
CDI	71.8
ODA	60.0
PSS	65.0

Source: Survey of PPAF Health Facilities, 2009

According to the above table BOT again supersedes its counterparts in possessing a customer friendly environment providing 100% facilities. This is followed by CDI (72 percent), PSS (65 percent) and ODA (60 percent).

5.3 Quality of Service

5.3.3 Patients Examined

The number of patient examined is an indication of acceptability and capacity of a health facility. Table 5.13 shows the average number of patients examined by every facility pertaining to each model over the last one year. BOT in this regard outclasses all its counterparts as over 10,000 patients have been treated in each BOT facility on average in the last one year with a slightly better female ratio. In This is distantly followed by CDI and PSS with 4,743 and 3,989 patients respectively: ODA however lags far behind with 2,393 patients over the same period, possibly because it attracts patients with minor ailment due to its lesser resources and qualified staff.

Table 5.13: Number of Patients Examined*

Model	Male	Female	Total
BOT	4,471	5,591	10,062
CDI	1,657	3,086	4,743
ODA	395	1,998	2,393
PSS	1,926	2,063	3,989

**Average Annual per facility*
Source: Survey of PPAF Health Facilities, 2009

5.3.4 Staff Trainings

According to Table 5.14 PSS excels in providing training to its staff as on the average each facility has provided 13.5 trainings to its staff during last one year. BOT follows by a distance by providing 6 trainings averagely while CDI and ODA have given 4.6 and 2.3 trainings on average in last year respectively.

Table 5.14: Trainings Acquired*

Model	Avg. per Staff Trainings
BOT	6.0
CDI	4.5
ODA	2.3
PSS	13.5

**Average annual per staff*
Source: Survey of PPAF Health Facilities, 2009

5.4 Quality of Human Resources

5.4.1 Total Staff

Availability of adequate staff enhances overall efficiency but also puts financial constraints on the system. Therefore, competent personnel and staff are necessary for better quality of service delivery: however, a balance need to be struck between recruitment, other expenses and available resources. Table 5.15 shows the average number of male and female staff serving on average in each facility pertaining to each model. According to the data a BOT facility possesses 9.5 personnel followed by 6.5 in PSS. On the other hand CDI and ODA have a staff of 2.7 and 2.5 respectively. The reason of lower number of staff in CDI and ODA is lack of financial resources and budgetary constraints and smaller nature of the facility.

Table 5.15: Staff Strength per facility

Model	Male	Female	Total
BOT	7.5	2.0	9.5
CDI	1.4	1.4	2.7
ODA	1.0	1.5	2.5
PSS	3.5	3.0	6.5

Source: Survey of PPAF Health Facilities, 2009

5.4.2 Staff Type

The efficient running of a health system requires experienced and qualified technical and paramedical staff. Table 5.16 presents an overview of staff type possessed by each facility in each model.

The data show that on the average BOT possesses more staff than other models including highly qualified (doctors) and technical staff (dispensers, operation theater staff and lab assistants). However CDI, ODA and PSS models mostly rely on LHVs for examining patients: which accounts for their use of more LHVs on average than BOT.

Table 5.16: Staff by Type*

Staff Type	BOT	CDI	ODA	PSS
Doctor	1.5	0.2	0.0	0.5
LHV	0.5	1.1	1.0	1.0
LHW	0.0	0.0	0.0	1.5
Dispenser	2.0	0.5	1.0	0.0
TBA	1.0	0.3	0.5	1.0
O/T Staff	0.5	0.0	0.0	0.5
Lab Assistant	0.5	0.5	0.0	0.5
Others	3.5	0.2	0.0	1.5
Total	**95**	**2.7**	**2.5**	**6.5**

**Average no. per facility*
Source: Survey of PPAF Health Facilities, 2009

5.4.3 Experience

Experienced health staff is a key ingredient in the delivery of professional and quality healthcare. The table below presents the average teaching experience: The analysis of experience shows that staff in BOT facilities have relatively higher level of average experience (5.2 years) compared to the other three models.

Table 5.17: Staff experience*

Model	Years
BOT	5.2
CDI	3.7
ODA	1.5
PSS	1.9

** Average per facility*
Source: Survey of PPAF Health Facilities, 2009

This is followed by an average experience of 3.7 years in community health centers (CDI). In PSS and ODA the staff possesses an experience of 1.9 and 1.5 years respectively.

5.4.4 Educational Level

Well qualified staff guarantees superior quality of services. Table 5.18 shows the percentage distribution of staff by educational level attained. In the field of medicine, an MBBS is the highest qualification attained by a practitioner.

However, in remote rural areas the availability of qualified doctors is scarce therefore LHVs are deployed after two year course after Matriculation to provide primary healthcare facilities. Pharmacy has been clubbed together as each of these levels is equivalent to 16 years of education. According to the table, BOT possesses highest number of MA/MBBS staff followed by CDI and PSS whereas ODA does not have any staff educated at the highest level. On the other hand, PSS has highest percentage of staff that is under Matriculation. This staff type contains TBAs, lab assistants and other support staff. However, in all models most of the staff is concentrated around Matriculation and Inter level: the reason of higher number of such staff is that after this level of formal education, most of them will have obtained professional and technical education according to their nature of job.

Table 5.18: Staff qualification

Educational Level	BOT	CDI	ODA	PSS
Under Matric	10.5%	0.0%	20.0%	30.8%
Matric	47.4%	36.7%	40.0%	38.5%
Inter	21.1%	20.0%	20.0%	15.4%
BA/B. Sc	5.3%	33.3%	10.0%	7.7%
MA/MBBS/ B. Pharmacy	15.8%	10.0%	10.0%	7.7%

Source: Survey of PPAF Health Facilities, 2009

5.4.5 Salaries

Staff salary is a key element behind health service delivery and high salaries are often assumed to stimulate high performance. However, this may always not necessarily be the case. An overview of the difference in average salary paid across four models is presented in Table 5.19. An average

Table 5.19: Staff Salary*

Model	Rs.
BOT	14,474
CDI	13,432
ODA	5,174
PSS	10,051

** Average per staff*
Source: Survey of PPAF Health Facilities, 2009

salary of over Rs. 14,474 is being paid in BOT to each staff which is closely followed by CDI at Rs. 13,432. In PSS average salary paid is just over Rs. 10,000 while ODA pays lowest amount in this regard (Rs. 5,174).

5.4.6 Distance Travelled

Extra distance traveled by staff not only results in fatigue and tiredness and in turn adversely affects their availability and performance but it also increases the expenditure of staff. Therefore an overview of daily distance traveled by the staff in order to commute to their health facility is analyzed in this section.

Table 5.20: Location of Staff*

Distance	BOT	CDI	ODA	PSS
Local Resident	21.1%	33.3%	30.0%	61.5%
1 - 2 km	0.0%	6.7%	0.0%	7.7%
3 – 5 km	78.9%	50.0%	70.0%	10.8%
> 5 km	0.0%	10.0%	0.0%	20.0%

**Between staff residence and facility*
Source: Survey of PPAF Health Facilities, 2009

According to data presented in Table 5.20 highest number of local staff has been possessed by PSS facilities. Among the rest CDI and ODA have around 30 percent of local staff while BOT is at the bottom with only 21 percent such staff. However, PSS on the contrary also contains the highest number of staff (20 percent) that commutes from more than 5 kilometers. CDI also contains 10 percent of its staff that travels above 5 kilometers distance daily.

5.4.7 Travel Expense

The expense on travel imposes additional cost on employees and therefore may result in job dissatisfaction or dereliction. Table 5.21 gives per employee average traveling expense in each model.

Table 5.21: Commuting Expenses*

Model	Expense
BOT	48
CDI	53
ODA	34
PSS	30

**Average per staff per day*
Source: Survey of PPAF Health Facilities, 2009

According to the data presented in the table, health staff in CDI model spends more than fifty rupees for their daily traveling to respective health facilities. This is closely followed by BOT staff that spends Rs. 48 on average on traveling. In ODA and PSS amount spent on traveling is relatively low at Rs. 34 and Rs. 30 respectively.

5.4.8 Support/Assistance in Traveling

Assistance in traveling (in form of subsidy or facility) provides relief to the staff and also promotes responsibility and regularity. Table 5.22 shows percentage distribution of staff in each model that needs and gets assistance/support in their daily traveling.

Table 5.22: Assistance to staff for Commuting

Distance	BOT	CDI	ODA	PSS
N/A	21.1%	33.3%	30.0%	61.5%
No	78.9%	40.0%	70.0%	23.1%
Yes - in the form of subsidy	0.0%	0.0%	0.0%	0.0%
Yes - in the form of transport	0.0%	26.7%	0.0%	15.4%

Source: Survey of PPAF Health Facilities, 2009

According to data none of the models support their staff in the form of subsidy. However, support in form of transport facility is being provided by CDI and PSS models to only 27 and 15 percent staff respectively. The support being provided in PSS model is solely their partner's initiative and not the Government's.

5.5.9 Satisfaction Level

Level of satisfaction in the workplace indicates motivation level of staff which affects their commitment as well as their ability and willingness to deliver. The table below shows the percentage distribution of health staff across each model with respect to their levels of job satisfaction. Not surprisingly,

BOT is characterized by high level of staff satisfaction (90 percent) distantly followed by ODA (60 percent) and PSS (31 percent). CDI is the worst performer in this regard with only 20 percent staff at the highest level of job satisfaction with more than a half (53 percent) showing average level of satisfaction with the job. Mostly the reasons cited by unsatisfied CDI staff are low salary, extra traveling and lack of equipment and resources.

Table 5.23: Job Satisfaction (staff)

Satisfaction Level	BOT	CDI	ODA	PSS
Very High	89.5%	20.0%	60.0%	30.8%
High	0.0%	16.7%	0.0%	38.5%
Medium	5.3%	53.3%	20.0%	23.1%
Low	5.3%	10.0%	20.0%	7.7%
Very Low	0.0%	0.0%	0.0%	0.0%

Source: Survey of PPAF Health Facilities, 2009

5.5 Clients & Customers

The characteristics and socioeconomic condition of end user recipients of service (patients) holds the key to

understanding the system and devising effective strategies. Therefore an analysis of different attributes and indicators pertaining to patients attracted by each model is presented in this chapter.

5.5.1 Clients Enumerated

Table 5.24 shows the number of male and female clients included in each model for further analysis.

Table 5.24: Total Patients Enumerated

Model	Male	Female
BOT	20	20
	50%	50%
CDI	29	73
	28.4%	71.6%
ODA	8	38
	17.4%	82.6%
PSS	16	22
	42.1%	57.9%

Source: Survey of PPAF Health Facilities, 2009

All the patients visiting the health facility at any particular day were enumerated. On the average more than 10 patients per facility were enumerated in each model.

5.5.2 Age

According to Table 5.25, the average age of the patients being examined is around 30 years. This, with a standard deviation of around 28, shows that patients from almost all age groups between 0 to 60 years access these facilities.

Table5.25: Age of Patients*

Model	Age
BOT	31.8
CDI	28.8
ODA	28.4
PSS	31.2

**Average*
Source: Survey of PPAF Health Facilities, 2009

5.5.3 Education and Literacy

Literacy is an indicator of better awareness and developed health seeking behavior. Moreover, it is also considered to be a proxy indicator of economic wellbeing or poverty. Table 5.26 presents percentage distribution of patients by literacy and educational level.

Table 5.26 : Literacy of Patients

Education	BOT	CDI	ODA	PSS
Illiterate	25.0	57.8	54.3	73.7
<= 5	12.5	25.5	13.0	7.9
6 – 8	22.5	7.8	17.4	7.9
9 – 10	32.5	4.9	10.9	5.3
11 – 12	7.5	2.9	4.3	5.3
13 – 14	-	1.0	-	-
Total	100.0	100.0	100.0	100.0

Source: Survey of PPAF Health Facilities, 2009

The data show that PSS supersedes all other models in targeting more illiterate clients. This is distantly followed by CDI and ODA, whereas BOT lags far behind in this dimension with only one fourth clients being illiterate.

5.5.4 Occupations

The Table 5.27 shows occupations to which the clients are associated. According to the table, apart from household work most of the people in CDI and BOT are associated with off-farm labor which is considered to be a low paid profession. On the other hand, ODA attracts 26 percent jobless clients.[1] A relatively high percentage (11 percent) in PSS clients corresponds to people incapable of working due to old age or disability.

1
Jobless are interpreted as those patients that are in working age and in search of job.

Table 5.27: Occupation of patients

Occupation	BOT	CDI	ODA	PSS
Own farming	0.0%	5.9%	2.2%	0.0%
Tenant	0.0%	2.0%	0.0%	0.0%
Business	10.0%	2.0%	8.7%	0.0%
Small trader	0.0%	2.0%	0.0%	7.9%
Employed	10.0%	3.9%	4.3%	0.0%
On-farm labor	5.0%	2.9%	10.9%	0.0%
Off-farm labor	12.5%	17.6%	0.0%	5.3%
Household work	50.0%	35.3%	28.3%	42.1%
Still small	0.0%	8.8%	2.2%	10.5%
Pupil/student	2.5%	9.8%	17.4%	13.2%
Jobless	7.5%	7.8%	26.1%	5.3%
Retired	2.5%	0.0%	0.0%	0.0%
Incapable of working	0.0%	2.0%	0.0%	10.5%
Other	0.0%	0.0%	0.0%	5.3%

Source: Survey of PPAF Health Facilities, 2009

5.5.5 Income & Income Groups

Table 5.28 shows percentage distribution of patients in each model by income groups and average per capita income: The table shows that all models except BOT cater to patients from the higher two income brackets i.e., up to Rs. 6,000. The analysis of average per capita income however shows that PSS performs better in poverty targeting compared to other models which do not demonstrate a significant difference.

Table 5.28: Income Groups of Patients*

Income Groups	BOT	CDI	ODA	PSS
<= 3,000	5.0%	24.5%	19.6%	7.9%
3,001 - 6,000	12.5%	44.1%	41.3%	60.5%
6,001 - 10,000	82.5%	26.5%	15.2%	26.3%
10,001 - 15,000	0.0%	1.0%	17.4%	2.6%
15,001 - 20,000	0.0%	2.9%	4.3%	2.6%
> 20,000	0.0%	1.0%	2.2%	0.0%
Average Rs/month	7,600	7,635	7,884	6,395

**Rs. per month per patient*
Source: Survey of PPAF Health Facilities, 2009

5.5.6 Assets

The results of administering World Bank's National Poverty Scorecard are depicted in Table 5.29 below:

According to the results shown above, PSS exceptionally does well in targeting people from the lowest quintile (53 percent). This is distantly followed by CDI (22 percent) and ODA (18 percent) whereas BOT caters to only 6 percent of people from the bottom most quintile.

Table 5.29: Distribution of Patients (by Assets)

Poverty Bands	BOT	CDI	ODA	PSS
Quintile 1	5.8	22.2	17.6	53.1
Quintile 2	36.2	54.3	45.0	42.2
Quintile 3	46.4	17.6	19.8	4.7
Quintile 4	8.7	4.6	13.0	-
Quintile 5	2.9	1.2	4.6	-
Total	100.0	100.0	100.0	100.0

Source: Survey of PPAF Health Facilities, 2009

5.5.7 Visits

Repeat visits may possibly but partially be an indication of satisfaction with the health services provided by the facility. As shown above, PSS again supersedes its counterparts with 79 percent patients visiting more than once. This is closely followed by ODA (78 percent) and CDI (74 percent). However, in BOT only 60 percent of the patients enumerated were those who had visited the facility more than once.

Table 5.30: Distribution of Patients (Repeat Visits)

Visits	BOT	CDI	ODA	PSS
> 3 visits	40.0%	25.5%	21.7%	21.1%
2 - 3 visits	60.0%	34.3%	58.7%	50.0%
First visit	0.0%	40.2%	19.6%	28.9%

Source: Survey of PPAF Health Facilities, 2009

5.5.8 Location of patients

The table shows the average distance traveled by patients to access the health facility in each model. This basically shows the catchment area of the health centers.

Table 5.31: Location of patients*

Model	Km
BOT	2.23
CDI	3.56
ODA	2.1
PSS	3.1

**Average distance from residence to facility*
Source: Survey of PPAF Health Facilities, 2009

As shown in the table, CDI facilities attract clients from an average distance of 3.6 kilometers while PSS is accessed by patients from 3.1 kilometers. BOT and ODA are accessed by patients from 2.2 and 2.1 kilometers on average.

5.5.9 Traveling Expense

Table 5.32 shows average expense per patient incurred on traveling. CDI patients on average have to spend more (about Rs. 60) on daily traveling while commuting to the health facility. BOT patients at an average pay out Rs. 41 while ODA Rs. 31 in traveling for treatment. Patients at PSS spend the least amount (Rs. 18).

Table 5.32: Expense on Traveling*

Model	Avg. Expense
BOT	41
CDI	59
ODA	31
PSS	18

**Average per patient/visit*
Source: Survey of PPAF Health Facilities, 2009

5.5.10 Client Satisfaction

Client satisfaction holds the key outcome reflecting system performance. Table 5.33 shows percentage distribution of clients by satisfaction level with health center services.

According to the data BOT stand first with 85 percent of its patients highly satisfied, followed by ODA (57 percent), CDI (62 percent) whereas PSS comes last with 34 percent of its clients highly satisfied with its operations and services. There are certain other factors that affect and perceived to be determinants of client satisfaction in the health sector (Haddad et al 2000). Coverage of all such indicators is attempted in order to understand the dynamics involved in patient perception regarding quality of services and in turn, improving their health and health seeking behavior.

Table 5.33: Satisfaction Level of Patients

Satisfaction Level	BOT	CDI	ODA	PSS
Highly satisfied	85.0%	61.8%	56.5%	34.2%
Satisfied	2.5%	33.3%	43.5%	47.4%
Average	12.5%	4.9%	-	18.4%
Not satisfied	-	-	-	-
Totally not satisfied	-	-	-	-
Total	100.0	100.0	100.0	100.0

Source: Survey of PPAF Health Facilities, 2009

5.5.11 Waiting Time

Patient's level of satisfaction in perceived to be a function of time spent waiting for his/her turn. However, the waiting time itself is function of number of clients visiting at a time and improving it involves budgetary and managerial implications.

Table 5.34: Waiting Time for patients*

Minutes/visit	BOT	CDI	ODA	PSS
< 15	20.0%	70.6%	69.6%	86.8%
15 – 30	67.5%	25.5%	28.3%	7.9%
31 – 60	10.0%	2.9%	0.0%	2.6%
> 60	2.5%	1.0%	2.2%	2.6%

**Average per patient*
Source: Survey of PPAF Health Facilities, 2009

According to the data PSS seems to do well with 87 percent patients having to wait for less than fifteen minutes for their turn for checkup. In CDI and ODA around 70 percent of the patients have to wait the same period of time. However, in BOT most of the patients (68 percent) have to wait for 15 – 30 minutes.

5.5.12 Checkup time

Along with waiting time, doctor's check up time has an impact on patient's satisfaction levels.
According to the data, ODA performs better as around 91 percent of the patients are given more than five minutes during checkup. This is closely followed by CDI (86 percent) and BOT (83 percent) whereas PSS lags behind with 47 percent patients given this much time during checkup.

Table 5.35: Checkup Time (patients)

Minutes	BOT	CDI	ODA	PSS
< 5	17.5%	13.7%	8.7%	52.6%
5 – 10	82.5%	67.6%	58.7%	39.5%
> 10	0.0%	18.6%	32.6%	7.9%

**Average duration of consultation*
Source: Survey of PPAF Health Facilities, 2009

5.5.13 Understanding of Prescription

It is very important for the patient to fully understand the dosage/usage of the prescribed medicine for better and successful treatment. The clients leaving after obtaining the prescribed medicines from the dispensary were asked about the usage of the medicine and crosschecked with the health practitioner's prescription. Percentage distribution of patients by levels of understanding of the prescribed medicine is given in Table 5.36.

Table 5.36: Understanding of Prescription (patients)

Level of Understanding	BOT	CDI	ODA	PSS
Fully	87.5%	97.1%	93.5%	78.9%
Partly	12.5%	2.0%	6.6%	18.4%
Not at all	0.0%	1.0%	0.0%	2.6%

Source: Survey of PPAF Health Facilities, 2009

According to the table 97 percent of CDI clients fully understood the usage/dosage of the medicine while in ODA this proportion was at 93 percent. In BOT such patients who fully understood the prescription were 88 percent whereas in PSS this percentage was low at 79 percent. Special attention

should be paid on improving patients understanding of prescription as it is the key to better treatment.

5.5.14 Rating of Practitioner

Health practitioner's behavior holds key position in patients comfort and in turn satisfaction level. Table 5.37 depicts the percentage distribution of patients by rating of doctor/LHV's behavior during examination.

Table 5.37: Rating of Practitioner by patients

Rating	BOT	CDI	ODA	PSS
Excellent	100.0%	66.7%	73.9%	36.8%
Good	0.0%	32.4%	23.9%	55.3%
Average	0.0%	1.0%	2.2%	7.9%
Poor	0.0%	0.0%	0.0%	0.0%
Very poor	0.0%	0.0%	0.0%	0.0%

Source: Survey of PPAF Health Facilities, 2009

In this department BOT clients were fully satisfied and rated the health practitioner's behavior at 'excellent level'. This is distantly followed by ODA clients (74 percent) and CDI (67 percent). In PSS the patients were not highly satisfied with the health practitioner's behavior (37 percent).

5.5.15 Rating of Other Staff

Along with health practitioner's behavior, attitude of the support/technical staff (e. g. dispenser, OT staff and other support staff) also plays an important role in client satisfaction with overall health center operations.

Table 5.38: Rating of Other Staff Behavior (percent patients)

Excellent	72.5%	51.0%	32.6%	31.6%
Good	27.5%	46.1%	63.0%	52.6%
Average	0.0%	2.9%	2.2%	15.8%
Poor	0.0%	0.0%	0.0%	0.0%
Very poor	0.0%	0.0%	2.2%	0.0%

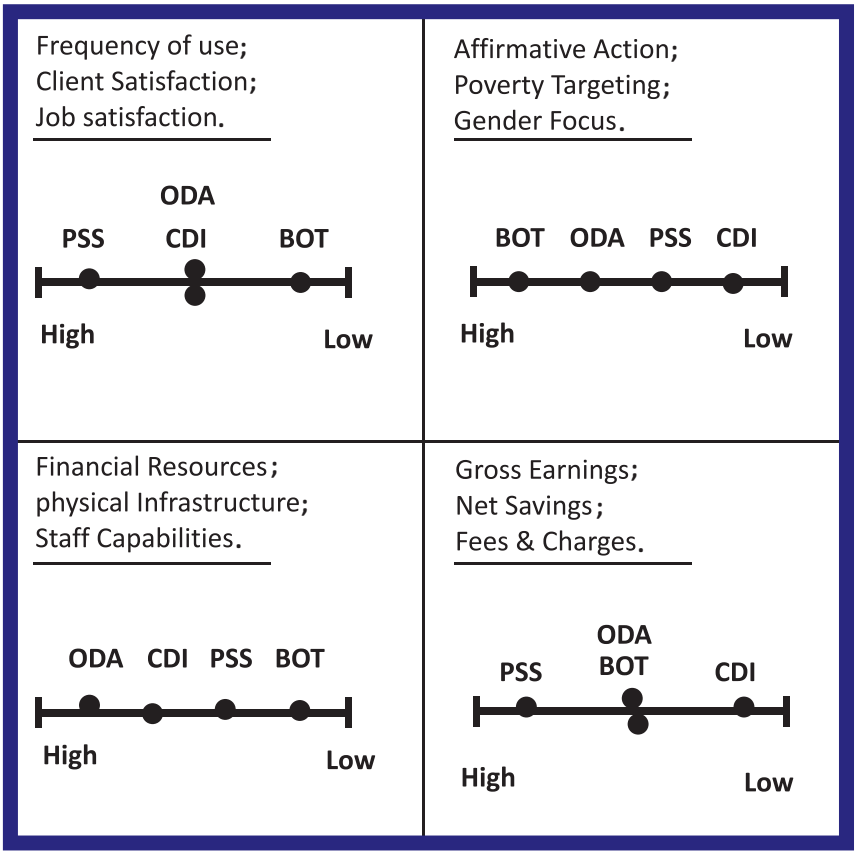
Source: Survey of PPAF Health Facilities, 2009

According to Table 5.38, 73 percent patients were happy with other staff behavior at BOT facilities while in CDI this proportion was at 51 percent. In ODA and PSS only around 32 percent patients ranked staff behavior at the highest level. However, 16 percent patients in PSS think that other staff behavior is largely mediocre.

5.6 Conclusions

Information parameters, derived from data enumerated in the survey, have been analyzed in detail for each of the models separately. In this section the major findings of the survey have been collated and presented in a comparative cross model context. In line with survey objective and design, these findings have been classified in a multidimensional

Figure 5.39: Quality & Performance Matrix: Rating of Models



framework. This analysis used four distinct criteria sets for evaluation. The first set aimed at assessing satisfaction levels of both clients and employees. The second set of criteria was developed to determine the model's impact in terms of equal opportunity and policy. The third set used financial and physical resources as well as staff capabilities to rank the models. Finally, the fourth set used earnings and fees to evaluate efficiency and effectiveness.

- For the first set (i.e. client and employee satisfaction evels and use of facility) it was observed that BOT facilities ranked the highest, followed by CDI and ODA facilities, PSS facilities ranked the lowest.
- For the second set (i.e. affirmative action, poverty targeting and gender focus) CDI facilities ranked the highest followed by PSS and ODA models in that order. BOT models featured at the lowest rank for this criteria set.
- For the third set (i.e. financial resources, physical infrastructure and staff capabilities) BOT models ranked first. PSS and CDI were second and third respectively while ODA ranked last.
- Lastly, for the fourth set (i.e. gross earnings, net savings and fees, charges) CDI ranked highest, followed by both ODA and BOT while PSS ranked last.

While BOT and CDI facilities ranked higher than PSS and ODA models, they did so in differing criteria sets. BOT models fared better in terms of stakeholders' satisfaction levels as well as resources and staff capabilities. CDI models fared better than BOT in terms of affirmative action, poverty targeting and gender focus and also in terms of earning, savings and fees/charges.

References

Accountancy Pakistan 2008-9, *"Economic Survey of Pakistan 2008-2009"*.

Federal Bureau of Statistics. 2007. *"Pakistan Social and Living Standards Measurement Survey 2006-07".*

Federal Bureau of Statistics. 2008. *"Pakistan Social and Living Standards Measurement Survey 2007-08".*

Filmer, Deon, Jeffrey S. Hammer, and Lant H. Pritchett. 2000. *"Weak Links in the Chain: A Diagnosis of Health Policy in Poor Countries."*

Gray, J., 2001. *"Evidence-based healthcare" Churchill Livingstone Publications.*

Grosh, Margaret E., and Paul W. Glewwe, eds. 2000. *"Designing Household Survey Questionnaires for Developing Countries: Lessons from 15 Years of the Living Measurement Study Standards"*

Haddad et al. 2000. *"Patient perception of quality following a visit to a doctor in a primary care unit"*

Hammer S. J. 1996. *"Economic Analysis of Health Projects"*

Independent Evaluation Group, WB. 2007. *"Approach paper: Evaluation of the World Bank's Assistance for Health, Nutrition and Population"*

Ministry of Finance. 2008. *"Gender Aware Policy Appraisal".*

National Institute of Population Studies. 2008. *"Pakistan Demographics and Health Survey 2006-07".*

PIDE Working Papers 2001. *"Healthcare services and Government spending in Pakistan".*

Planning Commission of Pakistan. 2008. *"MDG Status and Initiatives in Pakistan".*

The World Bank. 1998. *"Pakistan Towards a Health Sector Strategy".*

The World Bank. 2008. *"Are You Being Served: New Tools for Measuring Service Delivery".*

The World Bank. 2009. *"World Development Indicators 2008-09".*

UG Study Group. 2007. *"Community Perception and Client Satisfaction about the Primary Health Care Services in Urban Resettlement Colony of New Delhi".*

United Nations. 2008. *"The Millennium Development Goals Report 2008".*

World Health Organization. 2007. *"Country Cooperation Strategy at a Glance: Pakistan".*

World Health Organization. 2007. *"World Health Statistics 2007".*

World Health Organization 2008. *"Primary Healthcare"*

Evaluation of the Quality of Service Delivery
PPAF-Adopted/Funded Health Facilities

CHC Questionnaire

General CHC Information:

Date: ____/____/_____

1. CHC Code: | | | |
2. Partner Organization: _____
3. Name of CHC: _____
4. Address: _____
5. District: _____ Tehsil: _____

6. Union Council: _____ Village: _____

7. Facility functioning since: _____/_____/_____ (Day/Month/Year)

8. Adopted/Funded by PPAF Since (Date): _____ /_____ /_____ (Day/Month/Year)

9. Area: ☐ Rural ☐ Urban

10. CHC Category: ☐ Community ☐ Government Adopted

11. PPAF Funding Status: ☐ Fully funded ☐ Partly funded

12. CHC Type: ☐ Doctor Based ☐ LHV/LHW

13. What are the CHC timings? From: _____ am/pm to _____ am/pm

14. Are patients ever observed overnight? ☐ Yes ☐ No

15. Which lab tests does the CHC facilitate (Tick all appropriate and **list all others not stated below**)?

1. Hemoglobin.....☐	6. Cough.....☐	Others:
2. Blood group.....☐	7. Pregnancy.....☐	_____
3. Blood sugar .....☐	8. Urine.....☐	_____
4. Blood CP.....☐	9. Hepatitis B.....☐	_____
5. Stool.....☐	10. Hepatitis C.....☐	

16. Do you manage following documents? (Circle the appropriate. If the corresponding activity is not being carried out at the CHC circ

'N/A'.)

1.	OPD register	Yes	No	N/A
2.	Stock register(medicine	Yes	No	N/A
3.	Assets register	Yes	No	N/A
4.	Lab register	Yes	No	N/A
5.	Ambulance register	Yes	No	N/A
6.	Delivery cases register	Yes	No	N/A
7.	Attendance register	Yes	No	N/A
8.	Patients records	Yes	No	N/A

17. What is the CHC's user fee (*purchi* fee)? _____Rupees

18. What percentage extra on medicine do you charge the patient? _____% .

19. What are the average delivery (normal) charges/expenses at the CHC?

Sr.	Expense	Charges (Rs.)
1.	Bed charges	
2.	LHV fee	
3.	TBA fee	
4.	CHC fee (that goes to CHC revenues)	
5.	Medicine charges	
6.	Other charges _____	
Total		

20. How many patients benefited from this facility (CHC) in last one year?

Patients	Number
Male	
Female	

21. How many patients (male/female) were given full and partial waivers on charges by the CHC in last 3 months?

Patients	User Fee		Medicine	
	Nos.	Amount	Nos.	Amount
Male				
Female				

22. How many trainings has the CHC conducted during last one year?

Training Type	Nos.
Doctor	
LHV/LHW/TBA	
Health Management Committee (HMC)	
Community	
Other (specify) _____	

23. How much the CHC has spent on staff trainings during last one year?

Trainings Cost Breakup	Amount (Rupees)
Instructor's Fee	
Training Aids	
Lodging	

Traveling	
Food	
Miscellaneous	

24. How many medical camps has the CHC arranged during last three months? _____ Nos.

25. How many patients benefited from these medical camps? _____ male _____ female.

26. How much amount has been spent on these medical camps? _____ Rs.

27. Does the CHC get financial assistance from any sources other than PPAF? (Give their names and addresses on the back of this page)

1. From some charitable person(s)..... ☐
2. From another NGO/Donor Agency..... ☐
3. From some business organization(s)..... ☐
4. Other Source..... ☐ Please Specify:

_____

28. CHC staff & salaries

3.	Trained TBAs	
4.	Untrained TBAs	
5.	Homoeopaths	
6.	Hakims	
5.	Quakes	
6.	Spiritual healers (*aamils*)	
7.	Others _____	

29. What amount the CHC has spent on operational expenses in last one year (This question accounts for all the annual running expense of the CHC except salaries. Petty expenditures may be included in miscellaneous. Any major expense, if head not mentioned, may be specified in the 'Others' category):

Expense type	Amount
Utility bills	
Rents	
Medicine	
Consumables[2]	
Transportation	
Garbage disposal	
Maintenance	
Miscellaneous	
Others _____	
Others _____	

30. Does the CHC have any savings? _____ Rupees.

31. What were the revenues/earnings of the CHC during last year? _____ Rupees.

[2] Soap/Detergent/Disinfectors, syringes, bandages and all the equipment that wares out in less than a year time.

32. How far is any other nearest health facility from this CHC that provides same or better services?

1. In the same village/locality.....☐
2. Up to 2 kilometer .....☐
3. 3 – 4 kilometer.....☐
4. 5 – 6 kilometer.....☐
5. More than 6 kilometer.....☐

33. What is the type of that facility?

1. Government Hospital.....☐
2. Government Rural Health Center.....☐
3. Other donor health facility.....☐
4. Private hospital.....☐

34. How many active health practitioner are there in 3 km radius of the health facility (other than this CHC staff)?

Sr.	Health practitioner type	Nos.
1.	Doctors (MBBS)	
2.	Compounders	

b. Labour Room Equipment		Present (Y/N)			Present (Y/N)
1	Delivery table		8	Drums for gauze pieces/gloves/mackintosh	
2	Table with drawers		9	Covered trays for sterile instruments	
3	Cord clamp		10	Basin/Bowel	
4	Delivery Kit		11	Baby cot	
5	Cabinet for drugs		12	Minor OT light	
6	Instrument trolley		13	I/V stands	
7	Drums for sterile sheets/gowns				

c. Emergency Equipment		Present (Y/N)			Present (Y/N)
1	Emergency Kit		6	Stretcher on wheels with I/V holder and oxygen cylinder	
2	Emergency tray		7	Wheel chair	
3	Cabinet for drugs		8	Patient treatment couch	
4	I/V stands		9	Oxygen cylinder	
5	Chromic catgut and silk sutures				

d. Laboratory Equipment		Present (Y/N)			Present (Y/N)
1	Light microscope		8	Blood gluco-meter	
2	Glass slides		9	Boiling water bath	
3	Cover slips		10	Neubar counting chamber	
4	TLC pipette		11	Cedar wood oil	
5	Hemoglobin pipette		12	Concentrated acetic acid	

6	ESR Stand		13	Concentrated hydrochloric acid	
7	Centrifuge machine		14	Distilled water	
8	Burner		17	Field stain (A&B)	
9	Hemoglobin meter		18	Irma Spectrometer	

42. What is the seating capacity of the patient waiting area? Male: _____ Female:_____ (Nos.)

43. Condition of the patient waiting area (tick all appropriate).

1. Separate male and female waiting areas.....☐
2. Adequate sitting arrangement.....☐
3. Adequate cooling system (fans etc).....☐
4. Adequate heating system.....☐
5. Washroom.....☐
6. Adequate drinking water.....☐
7. Water for washing purpose.....☐
8. Wash basin.....☐
9. Soap.....☐
10. Dust bins.....☐

44. The overall state of cleanliness of the CHC (especially client area, washrooms and garbage bins):

1. Excellent.....☐
2. Good.....☐
3. Average.....☐
4. Poor.....☐

45. How CHC disposes off the garbage?

Type	Dump at some remote location	Burry	Burn
Sharp items (syringes, surgical blades etc)			
Delivery waste			
Used bandages, cotton swabs, plastic bottles etc.			
Other garbage			

46. Does CHC Management Committee (HMC) exist? ☐ Yes ☐ No

47. Number of members of HMC: Male: Female: .

48. What is the designation of the Doctor in the HMC?_____.

49. How often HMC members visit the CHC in one month?

1. Four times or more ☐
2. Three times ☐
3. Twice ☐
4. Once ☐
5. Very rare ☐

50. Does the HMC have access to the CHC's financial records? ☐ Yes ☐ No

51. Can the HMC influence the CHC's policy? ☐ Yes ☐ No

52. Has the HMC resolved any issues/problems faced by the CHC/staff/patients? ☐ Yes ☐ No. Number_____

53. HMC Meetings held in last three months: In the CHC: _____ Outside CHC: _____

54. Any effort of fund raising by the HMC? ☐ Yes ☐ No (If Yes give the details at the back of this page)

55. Give the details of HMC initiatives for fundraising in last one year.

Sr.	Donation	Amount/Value

1.	Land (_____ kanals)	
2.	Labour	
3.	Services	
4.	Charities	

56. Does the HMC have linkages/access to the public services?

1. Yes.....☐ Please explain

2. No.....☐

Evaluation of the Quality of Service Delivery at PPAF-adopted/Funded Government and Community-based Health Centers

CHC Staff Questionnaire

CHC Code: | | | | CHC Name: _____

Note: Questions 1 to 6 are to be filled by the medical officer and the rest by the staff him/herself.

1. Name of the Staff: _____
2. Joining Date: ____/____/_____ (Day/Month/Year)
3. Type: ☐ Doctor ☐ LHV ☐ LHW ☐ Dispenser ☐ TBA
   ☐ Operation Theater Staff ☐ Lab Assistant
4. Gender: ☐ Male ☐ Female
5. No. of days the staff member was absent in last three months: _____
6. No. of days the staff member was on leave in last three months: _____

7. Age: _____ years
8. Maximum education level attained:
   1. Matric.....☐

2. Inter.....☐
3. BA/B. Sc.....☐
4. MBBS.....☐
5. B. Pharmacy.....☐

9. Professional Qualification

1. Specialization.....☐ specify_____
2. Birth Attendant.....☐
3. LHV.....☐
4. LHW.....☐
5. Nursing.....☐
6. Dispenser.....☐
7. Compounder.....☐

10. Experience: _____ years

11. Are you a local resident (w. r. t the CHC's location):

1. Yes.....☐ (If 'Yes' then skip to question 16)
2. No.....☐

12. How much distance do you travel **one way** to CHC?

1. Less than 1 kilometer..... ☐
2. 1 to 2 kilometers..... ☐
3. 2 to 4 kilometer..... ☐
4. 4 to 8 kilometers..... ☐
5. More than 8 kilometers..... ☐

13. What is the mode of traveling?

1. On foot..... ☐

2. Bicycle..... ☐

3. Motorbike..... ☐

4. Tonga/Rickshaw..... ☐

5. Bus/Van..... ☐

6. Other..... ☐ Specify_____

14. Does the CHC support/facilitate you in your daily traveling to CHC?

1. No..... ☐

2. Yes – In the form of subsidy..... ☐ **(15 a.)** if yes give amount _____Rs/month.

3. Yes – In the form of facility..... ☐

15. How much do you spend on traveling for a day's trip (**two-way**) to CHC? _____ Rupees

16. Has the health facility (CHC) provided you accommodation?

1. Yes..... ☐
2. No..... ☐

17. Give the number of in-service trainings acquired: Local: _____ Out-station: _____
(If NO local/out-station trainings attended then skip to Question 24)

18. First time you attended any training after joining the CHC:

1. Within 3 months..... ☐
2. 4 to 6 months..... ☐
3. 7 to 12 months..... ☐
4. After one year..... ☐
5. Never received training..... ☐

19. Last time you attended any training since joining the CHC:

1. Within last 3 months ..... ☐

2. 4 to 6 months ago.....☐
3. 7 to 12 months ago.....☐
4. One year ago.....☐
5. Never received training.....☐

20. Name the trainings that helped you the most

1. _____
2. _____
3. _____
4. _____
5. _____

21. Was the training(s) relevant to the job you are designated at present?

1. Yes.....☐
2. To some extent...☐
3. No.....☐

22. (If Yes/To some extent in Q 25) How is the training helping you in your current job?

23. What type of training(s) do you think you need to acquire further?

1. _____
2. _____
3. _____

24. Basic pay scale (in case of government servant) BPS - _____

25. Salary (Gross): _____ Rupees.

26. Take-home salary (Net): _____ Rupees.

27. What is your satisfaction level with current job.

1. Very High..... ☐
2. High
3. Medium..... ☐

   Reason:_____

4. Low..... ☐

   Reason:_____

5. Not at all..... ☐

   Reason:_____

28. Please give your suggestions for the betterment of CHC/service delivery.

29. Any other suggestions?

In case of 'Doctor' please answer the following questions also.

30. What are the common diseases in the area and what is their cause in your opinion?

Sr	Disease	Cause
1.		
2.		
3.		

4.		
5.		

31. What is the health seeking behavior of the people in the area? (Circle the appropriate response)

Chronic Diseases	Acute Diseases	Child Health	Maternal Health	Immunizations
1. Very high	1. Very high	1. Very high	1. Very high	1. Very high
2. High	2. High	2. High	2. High	2. High
3. Moderate	3. Moderate	3. Moderate	3. Moderate	3. Moderate
4. Low	4. Low	4. Low	4. Low	4. Low
5. Not at all	5. Not at all	5. Not at all	5. Not at all	5. Not at all

32. What is the estimated catchment area of your facility?

1. < 1 km..... ☐
2. 1 – 3 km..... ☐
3. 4 – 6 km..... ☐
4. > 6 km..... ☐

33. What major problems in accessing the CHC do the clients report when they come for visit? (Circle the appropriate response)

Males	Females
1. Transport	1. Transport
2. Financial	2. Financial
3. Time/Opportunity cost	3. Time/Opportunity cost
4. Other _____	4. Restricted mobility by male/society
	5. Male HH members are least concerned about female health

Evaluation of the Quality of Service Delivery at PPAF-adopted/Funded Government and Community-based Health Centers

Exit Client Interview

CHC Code: | | | | CHC Name: _____

1. What is your name:_____
2. Sex:
    1. Male.....☐
    2. Female.....☐
3. Age: _____ Years
4. Education _____ (write educational attainment in number i. e., number of classes/grades graduated. Write 0 for illiterate)

5. Occupation: write code _____
6. In case of child/student/not working in Q 4 give the occupation of father/guardian _____

1=Own farming; 2=Tenant; 3=Business; 4=Small trader; 5=Employed; 6=On-farm labourer; 7=Off-farm labourer; 8=Household work; 9=Still small; 10=Pupil/Student; 11=Jobless; 12=Retired; 13=Incapable of working; 14=Other (specify)

7. Monthly income: _____ (in case of child/not working write income of the HH head/guardian)
8. Why have you chosen to visit this facility? (tick the most relevant)
    1. It is the only available facility.....☐

2. It is nearest.....☐

3. Easy to approach.....☐

4. I have visited before and my disease was cured.....☐

5. My relatives/friends visited and

   their diseases were cured.....☐

6. It is cheap/low cost.....☐

7. People say it is a good facility.....☐

8. Other (specify):_____

9. How much time did you spend waiting for your turn in the CHC? (exclude travel and checkup time)

   1. < 15 minutes.....☐
   2. 15 – 30 minutes.....☐
   3. 31 – 60 minutes.....☐
   4. > 60 minutes.....☐

10. How much time approximately was spent in checkup

    1. < 5 minutes.....☐
    2. 5 – 10 minutes.....☐
    3. > 10 minutes.....☐

11. How would you rate the presence of this CHC in your area? **(for all responses 'Average' or below, record the comments; also probe for the reason)**

    1. Very useful.....☐
    2. Useful.....☐
    3. Average.....☐
    4. Ineffective.....☐

5. Totally useless.....☐

12. How do you rate your satisfaction level with current CHC operations? (for all responses 'Average' or below, record the comments; also probe for the reason)

1. Highly satisfied.....☐
2. Satisfied.....☐
3. Average.....☐
4. Unsatisfied.....☐
5. Totally unsatisfied.....☐

13. How do you rate the doctor's/LHV/LHW behavior during inspection?

1. Excellent.....☐
2. Good.....☐
3. Average.....☐
4. Poor.....☐
5. Very poor.....☐

14. Had the doctor listened to your problem properly and given you enough time to express your problem and feelings?

1. Yes.....☐
2. Partly.....☐
3. Not at all.....☐

15. How do you rate the other staff's behavior?

1. Excellent.....☐
2. Good.....☐
3. Average.....☐

4. Poor.....☐

5. Very poor.....☐

16. Were you provided any information regarding health care and precautionary measures? (tick/circle all appropriate)

1. Water purification/Safe drinking water	5. Child/Maternal immunization
2. Health & hygiene	6. Nutrition during pregnancy
3. Breast/bottle feeding	7. Ante/Post natal checkups
4. Weaning	8. Other_____

17. Have you got all the medicines prescribed from the CHC?

1. Yes.....☐

2. No.....☐

18. Has the doctor explained you the use of this medicine?

1. Yes.....☐

2. No.....☐ => 20

19. Please check the prescription and ask the patient to explain the usage/dosage of medicine. Did it conform with the prescription?

1. Yes.....☐

2. Partly.....☐

3. Not at all.....☐

20. Did you get following physical examinations by the doctor? (tick all relevant)

1. Heart beat.....☐

2. Chest.....☐

3. Blood pressure.....☐

4. Ultrasound.....☐

5. Temperature.....☐

6. Throat.....☐

7. Abdomen.....☐

8. Weight.....☐

9. Other (specify)..... ☐ _____

21. For your treatment what method often you prefer? (Circle one most relevant)

0= Don't take any treatment unless the disease prolongs; 1=Allopathic (visit a doctor/health facility)
2=Hikmat/Unani; 3= Homoeopathic; 4=Self medication;
6=Other (specify) _____

22. Where do you go most often for treatment? (Circle one most relevant)

1=Nowhere; 2=PPAF CHC; 3=Government Hospital; 4=Private Hospital; 5=Private doctor (allopath); 6=Hakim;
7=Homoeopath; 8=Quack; 9=Others (specify) _____

23. How many visits have you made to the CHC for current problem?

1. First visit.....☐ => Q 25
2. 2 – 3 visits.....☐
3. 4 or more visits.....☐

24. Do you feel any improvement in your disease?

1. Yes.....☐
2. No .....☐
3. Not Sure .....☐

25. How many visits have you made to the CHC for your own treatment in last three months?

1. First visit.....☐=>27
2. 2 – 3 visits.....☐
3. 4 or more visits.....☐

26. Was the problem solved satisfactorily?

1. Yes.....☐

2. To some extent.....☐

3. Not at all.....☐

27. What were mainly the problems for which you visited the CHC? (Circle all relevant)

1=Tetanus; 2=Rabies; 3=Cholera; 4=Flu/Cold; 5=Seasonal fever; 6=Cough; 7=Eye infection; 8=Parasitical worms; 9=Jaundice; 10=Dysentery; 11=Acute respiratory infections; 12=Appendicitis; 13= Measles; 14=Malaria; 15=Dengue fever; 16= Pregnancy complications; 17=Typhoid; 18=Diarrhea; 19=Tonsils; 20= Wounds/Burns; 21=Acute bronchitis; 22=Acute pneumonia; 23=Urinary problem; 24=Gynecological disease; 25=Pre/post natal visit; 26= Others (specify);

28. How far is your residence from this facility?

1. Same village (<1 km)..... ☐

2. 2 – 3 km.....☐

3. 4 – 8 km.....☐

4. < 8 km.....☐

29. What are the means of transport you have used/often use to commute to the facility?

1. On foot..... ☐

2. Bicycle..... ☐

3. Motorbike..... ☐

4. Tonga/Rickshaw..... ☐

5. Bus/Van.....

6. Private/rent car..... ☐

7. Other..... ☐ Specify_____

30. What is the condition of most of the road/path from your residence to the CHC?

1. Metal road.....☐

2. Kachi road (useable in/after rain)..... ☐

3. Kachi road (unusable in/after rain)..... ☐

4. Informal path (*Pagdandi*)..... ☐

5. Hilly terrain with no defined path.....☐

31. How much time did it take you to approach the facility

1. < 15 minutes
2. 15 – 30 minutes
3. 31 – 60 minutes
4. > 60 minutes

32. What are the fare/transport charges you have to pay for a round trip to the CHC? _____Rs.

33. Any other expenses you have to bear to visit the facility? _____Rs. (also state)

34. How much have you paid for the treatment related expense?

1. *Purchi* fee:_____ Rs.
2. Medicine:_____ Rs.
3. Medical Tests: _____ Rs.
4. Any other (specify):_____Rs

35. Do you have any suggestions to make the service delivery better at this CHC?

(FORM F-1)
Household Questionnaire for
Evaluation of Quality of Service Delivery at PPAF Funded Health Facilities

Household Identification:

Control **Treatment**

District: _____

Tehsil: _____

UC: _____

Village: _____

PO: _____

Name of HH Head: _____

Respondent Name: _____

Enumerator Name: _____

Date of Enumeration: _____/_____/_____

1. How many members are there in the household? _____ (number). Please list them below:

1	2	3	4	5	6	7	8	9	10
Member Code	Full Name (Ask one at a time. Order by age i. e., oldest to youngest)	Gender 1=Male; 2=Female	Date of Birth dd/mm/yyyy	Marital Status	Literacy	Educational Status	Educational Attainment	Occupation during last 12 months (the one that produces major part of the income)	Does the member have any chronic disease? If (0=None => C22)
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									
	0=Single; 1=Married; 2=Divorced; 3=Separated; 4=Widow/Widower								
	0=Literate; 1=Illiterate								
	0=Currently enrolled; 1=Previously enrolled; 2=Never enrolled								
	Write the number of grades cleared (classes passed); write 0 for Katchi & cross the cell if illiterate								
	1=Own farming; 2=Tenant; 3=Business; 4=Small trader; 5=Employed; 6=On-farm labourer; 7=Off-farm labourer; 8=Household work; 9=Still small; 10=Pupil/Student; 11=Jobless; 12=Retired; 13=Incapable of working								
	0=None; 1=Stomach related; 2=Neurological pain; 3=Asthma; 4=HIV/AIDS; 5=High/low blood pressure; 6=Tumor; 7=Tuberculosis; 8=Chronic dysentery; 9=Tooth decay; 10=Kidney or bile stone; 11=Malnutrition; 12=Arthritis; 13=Diabetes; 14=Cardiovascular disease; 15=Cancer; 16=Hepatitis; 17=Chronic bronchitis; 18=Haemorrhoids; 19=Sinusitis; 20=Muscular pain; **25=Others (specify)**								

11	12	13	14	15	16	17	18	19	20

Member Code	During last 3 months did the member have any attack of this disease? 0=No; => C22 1=Yes	How many days did the member take off from work/school?	What was the wage amount forgone due to absence from job? (Rs.) N/A in case of students	Where did the member go for treatment?* Refer to facility codes below If (0=None => C20)	What was the distance (one way) to the facility visited? (km)	What was the travel expense? (Rs.)	What was the health practitioner + medication fee? (Rs.)	Any other expense in this regard? =>C22 (Rs.)	If did not go to any health facility, why?** (Refer to the codes below)
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									

*Facility Codes: 0=None; 1=PPAF CHC; 2=Government Hospital; 3=Private Hospital; 4=Private doctor (allopath); 5=Hakim; 6=Homoeopath; 7=Quack; 9=Others (specify)

**Reasons for not visiting any health facility: 0=N/A; 1=The available health facility is too far; 2=The disease is incurable; 3=Disease did not improve after more than 2 visits; 4=Household did not have funds for examination and treatment; 5=Did not have enough time to seek treatment; 6=Disease was not severe and the member recovered quickly; 7=Don't believe in doctors; 8=Lack of transportation; 9=Household in debt; 10=Bought medicine according to last prescription; 11=Self medication; 12=Private doctor/health practitioner visited at home; 13=Have to wait for long time at the facility; 14=Other

21	22	23	24	25	26	27	28	29	30
Member Code	During last 3 months did the member have any acute disease?* (Refer to disease codes below) **If (0=None => C32)**	How many days did the member take off from work/school?	What was the wage amount forgone due to absence from job? N/A in case of students (Rs.)	Where did the member go for treatment?** Refer to facility codes below **If (0=None => C30)**	What was the distance (one way) to the facility visited? (km)	What was the travel expense? (Rs.)	What was the health practitioner + medication fee? (Rs.)	Any other expense in this regard? **=> C32** (Rs.)	If did not go to any health facility, why?*** (Refer to the codes below)
01									
02									
03									
04									
05									
06									
07									
08									
09									
10									
11									
12									

* **Acute Diseases Codes:** 0=None; 1=Tetanus; 2=Rabies; 3=Cholera; 4=Flu/Cold; 5=Seasonal fever; 6=Cough; 7=Eye infection; 8=Parasitical worms; 9=Jaundice; 10=Dysentery; 11=Acute respiratory infections; 12=Appendicitis; 13= Measles; 14=Malaria; 15=Dengue fever; 16= Delivery/pregnancy complications; 17=Typhoid; 18=Diarrhea; 19=Tonsils; 20= Muscular Pain; 21=Acute bronchitis; 22=Acute pneumonia; 23=Urinary problem; 24=Gynecological disease; 25= Others (specify);

****Facility Codes:** 0=None; 1=PPAF CHC; 2=Government Hospital; 3=Private Hospital; 4=Private doctor (allopath); 5=Hakim; 6=Homoeopath; 7=Quake; 9=Others (specify)

*****Reasons for not visiting any health facility:** 0=N/A; 1=The available health facility is too far; 2=The disease is incurable; 3=Disease did improve after more than 2 visits; 4=Household did not have funds for examination and treatment; 5=Did not have enough time to seek treatment; 6=Disease was not severe and the member recovered quickly; 7=Don't believe in doctors; 8=Lack of transportation; 9=Household in debt; 10=Bought medicine according to last prescription; 11=Self medication; 12=Private doctor/health practitioner visited at home; 13=Other

2. **Did children (less than 5 years) in the household get diarrhea in last TWO months? (fill for only those children who got diarrhea)**

Child 1		**Child 2**		**Child 3**		**Child 4**	
2.1 Whom did you consult for treatment?							
1. Private hospital 2.Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____	1. Private hospital 2. Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____	1. Private hospital 2. Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____	1. Private hospital 2. Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____
2.2 Did you give *'Nimkole'*/ORS *to* the child?							
1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____	1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____	1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____	1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____

3. What is the total household (annual) income? (probe for each source listed below and add) _____Rs.

i- Crops _____ ii- Livestock_____ iii- Business_____ iv- Shop_____ v- Salary_____ vi- Labour wage_____

vii- Gifts_____ viii- Assets sale_____ ix- Remittances_____ x- Other (specify) _____ Amount_____

2. **Did children (less than 5 years) in the household get diarrhea in last TWO months? (fill for only those children who got diarrhea)**

Child 1		Child 2		Child 3		Child 4	
2.1 Whom did you consult for treatment?							
1. Private hospital 2.Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____	1. Private hospital 2. Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____	1. Private hospital 2. Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____	1. Private hospital 2. Government hospital 3. PPAF CHC 4. Chemist Pharmacy 5. Hakeem/Homoe 6. Self medication 7. Other (specify)	Give the Code Here: _____
2.2 Did you give *'Nimkole'*/ORS *to* the child?							
1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____	1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____	1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____	1. Yes (purchased) 2. Yes (home made) 3. No	Give the Code Here: _____

3. What is the total household (annual) income? (probe for each source listed below and add) _____Rs.

i- Crops _____ ii- Livestock_____ iii- Business_____ iv- Shop_____ v- Salary_____ vi- Labour wage_____

vii- Gifts_____ viii- Assets sale_____ ix- Remittances_____ x- Other (specify) _____ Amount_____

4. Housing Environment and Sanitation (tick the relevant):

3.1 What type of toilet does the household uses? 1. Flush system (with sewerage)..... ☐ 2. Flush system (pit)..... ☐ 3. Flush system (open drain)..... ☐ 4. Pit system..... ☐ 5. Open (in fields)..... ☐ 6. Other (specify): _____	3.2 Type of household infrastructure 1. Cemented..... ☐ 2. Mud plastered..... ☐ 3. Semi-cemented..... ☐ 4. Wooden/straws..... ☐
3.3 Observe the main floor 1. Kacha (mud plastered)..... ☐ 2. Kacha..... ☐ 3. Cemented/pakka..... ☐	
3.4 Which of the following sources of water you have? (tick all relevant) 1. Municipal Tap..... ☐ 2. Canal/river..... ☐ 3. Hand pump ..... ☐ 4. Community tap..... ☐ 5. Dug well..... ☐ 6. Rain water..... ☐ 7. Open pond..... ☐ 8. Other (specify) _____	3.5 Do you use boiled/filtered drinking water or use any method of purification? 1. Yes..... ☐ 2. No..... ☐

After completing this questionnaire please complete the POVERTY SCORECARD for the household.

Annexure 5: Glimpses From PSLM 2007-08

TABLE 3.1 PERCENTAGE OF CHILDREN AGED 12-23 MONTHS THAT HAVE BEEN IMMUNISED

	2005-06 PSLM			2006-07 PSLM			2007-08 PSLM		
	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH
A. BASED ON RECALL – AT LEAST ONE IMMUNISATION:									
URBAN AREAS:	94	98	96	93	92	93	98	97	98
Punjab	93	100	96	94	92	93	98	97	98
Sindh	96	96	96	93	93	93	99	100	100
NWFP	99	87	98	94	92	93	100	98	99
Balochistan	78	98	82	76	79	77	84	87	86
RURAL AREAS:	94	92	93	85	82	84	96	96	96
Punjab	94	91	92	91	91	91	97	96	96
Sindh	95	99	97	70	70	70	100	98	99
NWFP	98	99	98	87	77	82	91	94	93
Balochistan	78	57	64	63	56	59	84	87	86
OVERALL	94	94	94	87	85	86	96	96	96
Punjab	93	93	93	92	92	92	97	96	97
Sindh	95	98	97	80	79	80	100	99	99
NWFP	98	98	98	88	79	83	93	95	94
Balochistan	78	62	68	66	60	63	84	87	86
B. BASED ON RECORD – FULLY IMMUNISED:									
URBAN AREAS:	59	61	60	62	63	63	62	62	62
Punjab	69	70	69	66	68	67	68	69	68
Sindh	38	49	44	60	62	61	55	50	53
NWFP	52	65	58	51	41	47	57	67	62
Balochistan	44	45	44	41	42	42	48	45	46
RURAL AREAS:	45	44	45	45	45	45	48	46	47
Punjab	51	55	53	52	52	52	57	51	54
Sindh	27	20	23	28	30	29	28	25	26
NWFP	48	43	46	47	45	46	46	51	49
Balochistan	37	24	29	30	26	28	31	34	33
OVERALL:	49	49	49	50	50	50	52	50	51
Punjab	56	59	58	56	57	57	59	56	58
Sindh	31	32	32	41	42	42	38	34	36
NWFP	49	46	47	47	44	46	48	54	51
Balochistan	39	28	32	33	29	31	36	37	37
C. BASED ON RECALL AND RECORD – FULLY IMMUNISED:									
URBAN AREAS:	83	86	84	86	85	85	83	81	82
Punjab	84	91	87	87	86	87	83	84	83
Sindh	82	81	82	84	84	84	83	76	80
NWFP	77	79	78	88	86	87	87	88	88
Balochistan	69	70	69	68	72	70	75	74	74
RURAL AREAS:	67	65	66	74	72	73	71	67	69
Punjab	71	71	71	82	81	82	78	68	73
Sindh	64	63	63	52	53	53	64	55	59
NWFP	63	59	61	77	71	74	65	78	72
Balochistan	50	37	41	53	46	49	47	52	50
OVERALL:	72	71	71	77	75	76	75	71	73
Punjab	75	76	76	84	83	83	79	73	76
Sindh	70	71	71	65	65	65	71	62	67
NWFP	65	62	64	79	73	76	69	80	74
Balochistan	56	43	48	56	52	54	55	58	57

NOTES: 1. Based on recall: Children reported as having received at least one immunization expressed as a percentage of all children aged 12-23 months. The data given for PSLM 2006-07 is not exactly comparable with PSLM 2005-06 and 2007-08 as cases of Polio campaign are not covered for PSLM 2006-07.

2. Based on record: Children who reported having received full immunization who also have an immunization card, expressed as a percentage of all

3. Immunizations. To be classified as fully immunized a child must have received: 'BCG', 'DPT1', 'DPT2', 'DPT3', 'Polio1', 'Polio2', 'Polio3' and 'Measles'.

TABLE 3.2 PERCENTAGES OF CHILDREN 12-23 MONTHS THAT HAVE BEEN IMMUNISED BY TYPE OF ANTIGEN - BASED ON RECORD

REGION AND PROVINCE	% IMMUNISED BASED ON RECORD							
	BCG	DPT1	DPT2	DPT3	POLIO1	POLIO2	POLIO3	MEASLE
A. PSLMS 2007-08								
URBAN AREAS:	68	67	67	66	68	68	67	64
Punjab	73	74	73	72	74	74	72	70
Sindh	59	59	59	58	60	60	59	54
NWFP	72	70	69	68	71	69	69	64
Balochistan	47	48	47	48	48	48	47	47
RURAL AREAS:	52	53	52	51	53	52	52	49
Punjab	61	63	61	59	61	60	60	57
Sindh	28	28	27	28	30	30	30	27
NWFP	54	54	54	53	54	54	54	49
Balochistan	34	36	36	37	37	37	37	37
OVERALL:	56	57	56	55	57	57	56	53
Punjab	64	66	64	63	65	64	63	60
Sindh	39	39	39	39	41	41	41	37
NWFP	57	56	56	55	56	56	56	51
Balochistan	37	39	39	40	40	40	40	40
B. PSLMS 2006-07								
URBAN AREAS:	67	67	66	65	67	66	65	63
Punjab	71	71	70	70	71	70	70	68
Sindh	65	65	65	65	65	65	64	61
NWFP	51	51	49	48	51	50	49	47
Balochistan	44	44	44	43	44	44	43	42
RURAL AREAS:	49	49	48	48	49	49	48	45
Punjab	56	56	55	55	56	55	54	53
Sindh	35	35	34	34	35	35	34	29
NWFP	49	49	48	48	49	49	48	46
Balochistan	29	29	29	29	29	29	29	28
OVERALL:	54	54	54	53	54	54	53	51
Punjab	61	60	60	59	60	60	59	57
Sindh	47	47	47	46	47	47	46	42
NWFP	49	49	49	48	49	49	48	46
Balochistan	33	32	32	32	32	32	32	31
C. PSLM 2005-06								
URBANAREAS:	65	64	64	63	65	64	64	63
Punjab	75	74	73	73	74	74	74	72
Sindh	46	46	46	46	46	46	46	46
NWFP	65	65	64	61	68	68	65	59
Balochistan	53	53	53	53	53	53	53	53
RURAL AREAS:	51	51	49	49	53	51	51	48
Punjab	60	61	58	57	62	60	60	57
Sindh	24	24	24	24	24	24	24	24
NWFP	53	53	51	50	55	54	54	46
Balochistan	45	45	45	45	45	45	45	45
OVERALL:	55	55	54	53	56	55	55	52
Punjab	65	65	62	62	65	64	64	62
Sindh	33	33	33	33	33	33	33	33
NWFP	54	54	53	51	57	56	55	48
Balochistan	47	47	47	47	47	47	47	47

NOTES:

1. Based on record: Children who reported having received the specified immunisation who also have an immunisation card, expressed as a percentage of all children aged 12-23 months.

Table 3.3 PERCENTAGES OF CHILDREN 12-23 MONTHS THAT HAVE BEEN IMMUNISED BY TYPE OF ANTIGEN – BASED ON RECORD AND RECALL

	% IMMUNISED BASED ON RECORD							
REGION AND PROVINCE	BCG	DPT1	DPT2	DPT3	POLIO1	POLIO2	POLIO3	MEASLE
A. PSLMS 2007-08								
URBAN AREAS:	91	90	89	88	97	97	96	84
Punjab	91	90	89	88	97	97	95	85
Sindh	90	89	89	87	98	100	99	81
NWFP	98	96	95	93	97	96	96	89
Balochistan	77	80	80	80	86	86	85	79
RURAL AREAS:	79	80	78	76	94	93	92	73
Punjab	85	87	84	81	95	93	91	78
Sindh	66	64	62	62	96	96	96	61
NWFP	81	81	80	79	92	92	91	73
Balochistan	53	64	62	63	86	85	84	63
OVERALL:	82	83	81	79	95	94	93	76
Punjab	86	88	85	83	96	94	92	80
Sindh	75	73	72	71	97	97	97	68
NWFP	83	83	82	81	93	93	92	75
Balochistan	59	68	67	68	86	85	85	67
B. PSLMS 2006-07								
URBAN AREAS:	92	92	91	90	92	92	90	86
Punjab	93	93	92	90	93	92	91	88
Sindh	93	93	92	92	93	93	92	84
NWFP	93	92	91	90	93	93	91	87
Balochistan	77	77	77	75	77	77	76	70
RURAL AREAS:	82	82	80	79	83	82	81	73
Punjab	91	89	88	87	91	90	88	82
Sindh	68	68	66	64	70	69	67	54
NWFP	80	80	79	77	81	81	79	74
Balochistan	57	57	55	54	59	59	58	49
OVERALL:	85	85	83	82	86	85	84	77
Punjab	91	90	89	88	91	90	89	84
Sindh	78	78	77	75	79	79	77	66
NWFP	82	82	81	79	83	83	81	76
Balochistan	61	61	60	58	63	63	62	54
C. PSLM 2005-06								
URBAN AREAS:	93	91	90	89	99	98	98	89
Punjab	96	95	93	92	98	98	98	92
Sindh	88	87	86	86	98	98	98	85
NWFP	90	88	87	83	100	100	98	81
Balochistan	84	84	84	84	99	99	98	84
RURAL AREAS:	78	77	77	73	99	97	96	71
Punjab	85	83	83	78	98	95	94	77
Sindh	67	65	65	66	99	99	98	65
NWFP	71	71	69	66	99	98	96	62
Balochistan	65	65	65	65	99	99	99	64
OVERALL:	82	81	79	77	99	97	96	76
Punjab	88	87	83	82	98	96	95	81
Sindh	75	74	73	73	99	99	98	73
NWFP	73	73	71	69	100	98	96	65
Balochistan	70	70	70	70	99	99	98	70

NOTES:

1. Based on record and recall: Children who reported having received the specified immunisation, whether or not they had an immunisation card, expressed as a percentage of all children aged 12-23 months.

Table 3.4 PERCENTAGE OF CHILDREN AGED 12-23 MONTHS THAT HAVE BEEN FULLY IMMUNISERD-BY QUINTILES

2007-08 PSLM									
	URBAN AREAS			RURAL AREAS			BOTH AREAS		
PROVINCE AND INCOME GROUP	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH
PUNJAB:									
1st Quintile	54	48	51	46	40	42	47	41	44
2nd Quintile	50	45	48	51	47	49	51	46	49
3rd Quintile	87	75	81	47	50	49	58	55	56
4th Quintile	69	67	68	80	67	74	77	67	72
5th Quintile	75	90	82	64	72	68	68	80	74
SINDH:									
1st Quintile	41	16	30	31	14	23	33	15	25
2nd Quintile	42	27	35	15	21	19	24	23	23
3rd Quintile	59	38	51	38	40	39	47	40	43
4th Quintile	54	64	60	30	26	28	40	48	44
5th Quintile	72	79	75	11	59	31	62	77	69
NWFP:									
1st Quintile	60	59	59	40	67	55	43	66	55
2nd Quintile	62	71	66	46	35	40	48	38	42
3rd Quintile	71	75	72	56	56	56	59	59	59
4th Quintile	53	53	53	36	60	48	39	59	49
5th Quintile	28	82	63	54	46	50	49	55	52
BALOCHISTAN:									
1st Quintile	25	33	29	27	34	31	26	34	31
2nd Quintile	52	35	40	36	38	37	39	38	38
3rd Quintile	55	55	55	31	30	31	39	41	40
4th Quintile	66	71	69	37	31	36	48	59	52
5th Quintile	63	58	62	47	8	32	59	40	53
PAKISTAN:									
1st Quintile	48	39	43	40	38	39	41	38	40
2nd Quintile	48	41	45	42	37	39	43	38	40
3rd Quintile	74	63	69	47	48	48	55	52	53
4th Quintile	63	65	64	63	59	61	63	62	62
5th Quintile	72	86	78	60	65	62	65	75	70

Notes

1. Quintiles: Income groups made on the basis of per capita household consumption.

2. The 1st Quintile contains individuals with the lowest consumption level, whereas the 5th quintile contains individuals with the highest consumption level.

3. Children who reported having received full immunisation who also have an immunisation card, expressed as a percentage of all children aged 12-23 months

4. Immunizations: To be classed as fully immunized a child must have received: 'BCG', 'DPT1', 'DPT2', 'DPT3','Polio1', 'Polio2', 'Polio3' and 'Measles'.

Table 3. 5 CHILDREN UNDER Five(5) SUFFERING FROM DIARRHEA IN PAST 30 DAYS - BY REGION AND PROVINCE

REGION AND PROVINCE	PERCENTAGE OF CHILDREN UNDER 5 YEARS								
	2005-06 PSLM			2006-07 PSLM			2007-08 PSLM		
	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH	MALE	FEMALE	BOTH
URBAN AREAS:	12	10	11	10	10	10	10	10	10
Punjab	14	12	13	10	10	10	10	11	10
Sindh	7	6	7	12	11	12	10	9	10
NWFP	14	14	14	6	9	7	8	8	8
Balochistan	9	6	7	5	5	5	8	9	9
RURAL AREAS:	13	13	13	11	11	11	10	11	11
Punjab	15	15	15	12	11	11	11	13	12
Sindh	9	7	8	12	12	12	6	6	6
NWFP	15	14	15	9	8	9	13	12	12
Balochistan	3	4	4	8	8	8	8	8	8
OVERALL:	13	12	12	11	11	11	10	11	10
Punjab	15	14	14	11	11	11	10	12	11
Sindh	9	7	8	12	12	12	8	7	7
NWFP	15	14	15	8	8	8	12	11	12
Balochistan	4	5	4	8	7	7	8	9	8

Notes:

1. Children who suffered from diarrhea in the 30 days prior to the interview expressed as a percentage of all children aged less than 5 years.

2. Diarrhea in past 30 days: All three surveys contained a question addressed to the mothers of all children aged less than 5 years where they were asked if they had suffered from an episode of diarrhea in the past 30 days.

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