# Health Care Services and Government Spending in Pakistan

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# ABSTRACT

The study has been carried out to measure the incidence of government spending on health in Pakistan at provincial, both rural and urban level; using the primary data of the Pakistan Social Standard Living Measures Survey (PSLM), 2004-05, and by employing the three-step Benefit Incidence Approach (BIA) methodology. The paper reviews the national policies emphasising health services as well as the trend in access to and public sector spending on health care facilities in Pakistan. The study explores the inequalities in resource distribution and service provision against the government health expenditures. The rural areas of Pakistan are the more disadvantaged in the provision of the health care facilities. The expenditures in health sectors are overall regressive in rural Pakistan as well as at provincial and regional levels. Mother and Child subhead is regressive in Punjab and General Hospitals and Clinics are regressive in all provinces. Only the Preventive Measures and health facilities sub-sector is progressive in Pakistan. Public health expenditures are pro-rich in Pakistan.

# 1. INTRODUCTION AND BACKGROUND

Health plays the key role in determining the human capital. Better health improves the efficiency and the productivity of the labour force, ultimately contributes the economic growth and leads to human welfare. To attain better, more skilful, efficient and productive human capital resources, governments subsidise the health care facilities for its people. In this regard, the public sector pays whole or some part of the cost of utilising health care services. The size and distribution of these in-kind transfers to health sector differs from country to country but the fundamental question is how much these expenditures are productive and effective? It very much depends on the volume and the distribution of these expenditures among the people of different areas of the country. Besides the nature of the existing circumstances of the human resource, any marginal change in public sector spending on health services may have positive impact on the human capital and economic growth.

Health generates positive externalities for the society as a whole, as well as the equity concerns that without public sector financial support only the wealthy segment of the population would be able to afford reasonable health care services. Lamiraud, *et al.* (2005) argued that social health protection is an important instrument aiming at fair burden sharing and reducing barrier underlining access to health care services.

Another good reason for the government spending in delivering basic health care services is to reduce burden of the diseases (BOD) in the productive years of the life. The social rate of return and the BOD force the policy-makers to transfer the public resources towards basic health care facilities.

According to the Economic Survey of Pakistan (2005-06), the government spent 0.75 percent of GDP on health sector in order to make its population more healthy and sturdy. In this regard, a number of vertical and horizontal programmes regarding health facilities are operative in Pakistan. The federally funded vertical programmes include: Lady Health Worker Programme; Malaria Control Programme; Tuberculosis and HIV/AIDS Control Programme; National Maternal and Child Health Programme; the Expanded Programme on Immunisation; Cancer Treatment Programme; Food and Nutrition Programme, and; the Prime Minister Programme for Preventive and Control of Hepatitis A & B.

To effectively address the health problems facing Pakistan, a number of policies emphasise better health care services. These include: Health related Millennium Development Goals; Medium Term Development Framework;

Poverty Reduction Strategy Papers; National Health Policy, and; Vision 2030. In spite of these policies, to overcome the health related problems in Pakistan seems suspicious and distrustful. The communicable diseases are still a challenge and the statistics reveal that the nutrition and reproductive health problem in communicable diseases are still liable for the 58 percent of the BOD in Pakistan. Non-communicable diseases (NCD), caused by sedentary life styles, environmental pollution, unhealthy dietary habits, smoking etc. account for almost 10 percent of the BOD in Pakistan.

Social Policy Development Centre (SPDC), 2004, demonstrates that out of every 1,000 children who survive infancy, 123 die before reaching the age of five. A large proportion of those who surviving suffers from malnutrition, leading to impaired immunity and higher vulnerability to infections. Malnutrition is big problem in Pakistan. Human Conditions Report (2003) clearly points out that about 40 percent children under 5 year of age are malnutrited. About 50 percent of deaths of children under 5 years old children are due to malnutrition.

Following the introduction to the research theme, Section 2 put forwards the Literature Review. Health is an integral part of the social sector and hence a number of policies emphasising better health service delivery in this area. Section 3 highlights Policy Emphasising Health Care Services followed by Public Health Care Service Delivery in Pakistan. Research methodology and data sources are discussed under Research Focus in Section 5, followed by Results and Discussion, and Conclusion and Policy Recommendations in Sections 6 and 7 respectively.

## 2. LITERATURE REVIEW

A comprehensive review of literature, research materials, articles and evaluation reports is done to assess the existing situation and policy debate. This includes documents and reports available from World Health Organisation (WHO), United Nations Children's Fund (UNICEF), Asian Development Bank (ADB), Centre for Poverty Reduction and Income Distribution (CRPRID), Poverty Reduction Strategy Papers (PRSP), Ministry of Health (Islamabad) and Mehbub ul Haq Human Development Centre.

A large number of the studies have employed the Benefit Incidence Approach (BIA) on household data for their analysis. Findings reveal that public sector expenditures are either progressive or regressive and the share of the different income group differs depending upon the delivery of the benefits of the public expenditures across region, caste, religions, gender etc., see Christian (2002), Rasmus, *et al.* (2001), Younger (1999), Jorge (2001), Roberts (2003), Hyun (2006), David, *et al.* (2000), Gupta, *et al.* (1998, 2002), Lamiraud, *et al.* (2005), SPDC (2004), Norman (1985), Castro, *et al.* (2000), Hamid, *et al.* (2003), Sakellariou and Patrinos (2004) and Shahin (2001). The studies which

exhibit public sector expenditures are progressive such as Younger (1999), in Ecuador used combination of benefit and behavioural approaches showed that public expenditures improves the health indicators in the developing countries. In cross country analysis, Gupta, *et al.* (2002) used 56 country data and concluded that the increase in public expenditures on health reduces the mortality rates in infants and children.

Study by Toor and Butt (2005) shows that socio-economic factors play an important role in determining the health care expenditure in Pakistan. The share of health expenditure in total public sector expenditure is the most significant variable affecting health status in a country. Moreover, literacy rate and GDP growth are also essential variables, which illustrate a positive relationship with health care expenditure.

Other set of studies that establish the regressiveness of incidence of public sector spending such as Norman (1985) concluded that increased government expenditure on health services eventually benefits more to the upper income than the lower income groups. Castro-Leal, *et al.* (2000) analysed the public spending on curative care in several African countries and found that the public sector spending favours mostly the better-off rather than the poor. Hamid, *et al.* (2003) study covers 56 countries analysis from the period 1960–2000 in which benefit incidence approach (BIA) was used, resulted in, on average spending on health is pro rich particularly in sub-Saharan Africa but is well targeted and progressive only in the western hemisphere.

Some points need further consideration; the first point about the impact of the level of public expenditures on human capabilities is a debated point, because not all studies have found an empirical link between the two. The connection between lucratively addressing poverty issues and spending is not first and foremost a function of the percent of GDP that is committed to total spending on health and, but depends on the intra-sectoral allocation to health spending. Evidence shows that infant and child mortality rates become lowest in countries with high shares of health care spending devoted to primary (preventive) health care facilities. Second, the fiscal policy-makers meet head-on the nature and magnitude of fiscal incidence. The policy choices necessitate the knowledge about which groups are prone to pay for and which groups are expected to benefit more from public sector expenditure. Policy-makers have many questions concerning how to alleviate the burden of taxation for the poor and about how to increase the efficiency and efficacy of the public sector spending on health? How to target public spending in order to improve the conditions of the poor? The incidence analysis provides some critical information to facilitate policy-makers regarding equal distribution of income and improvement of efficiency and efficacy of the public policy.

Ample literature is available to understand the questions regarding the nature of incidence of the public sector expenditure in developing as well as

developed countries. Most of the studies have been conducted on old data-sets taken from household surveys which have not been updated. These studies are deficient in comparisons of incidence among the cross countries on one hand and in-comparability of the cross country results on the other hand. Moreover, the impact on different groups such as gender and region has not been taken into consideration in the case of Pakistan, as emphasised by Seldon and Wasylenko (1992). Nevertheless, the literature considering the incidence of the public sector expenditure and its distribution in Pakistan is scarcely available.

The current study is being initiated to explore the nature of incidence of public sector expenditures in Pakistan on health sector by using the primary data of the Pakistan Social and Living Standards Measurement Survey (PSLM), 2004-05, collected and published by the Federal Bureau of Statistics, Pakistan. By using current data, the current research highlights the present scenario of incidence of the public spending on health and indirectly provide the guideline to what extent health policy targets have been successfully achieved, who benefit how much, which kind of inequalities exist in distribution of benefits of government expenditure on health, region and income wise. Additionally, by calculating the inequalities in the distribution of the benefits of expenditures, the study provides policy recommendations to enhance the effectiveness and efficacy.

## 3. POLICIES EMPHASISING HEALTH CARE
## SERVICES IN PAKISTAN

Pakistan is in the middle of epidemiological transition where almost 40 percent of total burden of disease (BOD) is accounted for by infectious/communicable diseases. These include diarrheal diseases, acute respiratory infections, malaria, tuberculosis, hepatitis B&C, and immunisable childhood diseases. Another 12 percent is due to reproductive health problems. Nutritional deficiencies particularly iron deficiency anemia, Vitamin-A deficiency, iodine deficiency disorders account for further 6 percent of the total BOD. Non-communicable diseases (NCD), caused by sedentary life styles, environmental pollution, unhealthy dietary habits, smoking etc. including cardio vascular diseases, cerebro-vascular accidents (hemiplegia), diabetes and cancers account for almost 10 percent of the BOD in Pakistan. With the increase in life-expectancy, diseases/disabilities of old age especially eye problems, paralysis and bone diseases are also on rise. The drug addiction problem is growing especially in the youth. There are approximately 5 million addicts out of which 50 percent are heroin addicts. The growing threat of injecting drug users poses a great challenge when one considers the hidden cases of HIV/AIDS and hepatitis-C amongst the addict population [MTDF (2005–10)].

In Pakistan, the probability of dying under-five child mortality is at 101 per 1,000 live births with a life expectancy of 62 years. Table 1 indicates some

comparative health indicators. It can be seen that child mortality remains the major problem facing Pakistan. In 2004, figures on immunisation of children under 12-months–age show that 33 percent did not get immunisation against measles and 20 percent did not receive immunisation against tuberculosis in Pakistan. The immunisation includes treatment against tuberculosis, diphtheria, pertussis, tetanus, polio and measles. Immunisation is the most cost-effective and highest-impact health intervention that reduces under-five child mortality and hospitalisation and treatment costs during childhood [Pakistan MDG Report (2006)].

Table 1

*Health Related Indicators (Regional Comparison)*

| | Total Population (000) | Life Expectancy at Birth (Years) Both Sexes | Probability of Dying (per 1000) Under Age 5 years Both Sexes | 1 Year Old Fully Immunised (%) | | Population Growth Rate (%) | Physicians (per 100,000 People) |
| --- | --- | --- | --- | --- | --- | --- | --- |
| | | | | Against TB | Against Measles | 1994-2004 | 1990-2004 |
| Bangladesh | 139,215 | 62 | 77 | 95 | 77 | 2.0 | 26 |
| Bhutan | 2,116 | 63 | 80 | 92 | 87 | 2.2 | 5 |
| China | 1,315,409 | 72 | 31 | 94 | 84 | 0.8 | 106 |
| India | 1,087,124 | 62 | 85 | 73 | 56 | 1.7 | 60 |
| Nepal | 26,591 | 61 | 76 | 85 | 73 | 2.3 | 21 |
| Pakistan | 154,794 | 62 | 101 | 80 | 67 | 1.9* | 74 |
| Sri Lanka | 20,570 | 71 | 14 | 99 | 96 | 1.0 | 55 |

*Source:* WHO (2006).

    *Calculated by NIPS (2006).

A number of policies emphasise better health care service provision in Pakistan. These include: Millennium Development Goals; Medium Term Development Framework; Poverty Reduction Strategy Papers, and; National Health Policy. In the following sub-sections, we shall discuss some salient features of these policy documents underlining health related strategy.

## 3.1. Health Millennium Development Goals (2015)

For the attainment of eight millennium goals, the UN Millennium Declaration fixed 18 targets and 48 indicators; of which Pakistan has adopted 16 targets and 37 indicators. Pakistan is a signatory to the UN Millennium Development Goals (MDG), 2000-2015. Three of the eight MDGs emphasise directly to health sector with four targets and sixteen indicators. The MDGs include: Reducing Child Mortality (1 target, 6 indicators); Improving Maternal Health (1 target, 5 indicators) and Combating HIV/AIDS, Malaria and Other Diseases (2 targets, 5 indicators). Following are the targets and indicators by definition, adopted by the government of Pakistan.

Target 5

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

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

Target 6

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

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

Target 7

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

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

Target 8

*HaveHhalted by 2015, and Begun to Reverse, the Incidence of Malaria and Other Major Diseases*

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

## 3.2. Medium Term Development Framework (2005-10)

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

The MTDF acknowledges the MDG targets and puts emphasis to continue and strengthen the shift from curative services to preventive, promotive and primary health care. Moreover, MTDF also addresses the issues of health care financing, health insurance and employees' social security, and public-private partnerships in the health sector.

The MTDF also presents the health system in Pakistan at federal, provincial and district levels (under public health services) and private health services. Ministry of health at the federal level and health departments at the

provincial levels are responsible for public health service delivery in Pakistan. The public provision of medical and health services compromises of primary, secondary and tertiary health care facilities. Primary health care facilities mainly look after out-door patients. These facilities include: rural health centres, basic health units, primary health care centres, dispensaries, first aid posts, mother and child health centres, and lady health workers. Secondary health care services look after out-door patients as well as in-door patients. District and tehsil headquarter hospitals are the secondary health care establishments; each district and tehsil must have this facility. Tertiary health care facilities are mainly present in major cities only. These facilities are affiliated with research and teaching organisations. Both the secondary and tertiary health care services are 24 hours operational.

MTDF also gives the recent figures underlining health workers and facilities in Pakistan. Table 2 shows the national medical and health establishments between 1990-91 and 2005-06. It shows that numbers under each health establishment are increasing, however, due to increasing population growth the number of persons per bed is also increasing.

Table 2

*National Medical and Health Establishments*

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

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

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

1. Organisational Issues
   (a) In-adequacies in Primary/Secondary Health care Services
   (b) Urban/rural imbalances
   (c) Professional and Managerial deficiencies in District Health System
   (d) Gender equity
   (e) Unregulated Private Sector
2. Burden of Disease (BOD)
   (a) Wide spread prevalence of communicable diseases
   (b) Basic nutrition gaps in target population
   (c) Addiction and Mental Health
3. Deficient Health Education System

Realising these challenges and limitations, the MTDF envisages a sound health care system practicing healthy life style, in partnership with private sector including civil society, which is effective, efficient and responsive to the health needs of low socio-economic groups especially women in the reproductive age.

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

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

## 3.3. Poverty Reduction Strategy Papers

Poverty Reduction Strategy Papers (PRSP) describe a country's macroeconomic, structural and social policies and programmes to promote growth and reduce poverty, as well as associated external financing needs. PRSPs are prepared by governments through participatory process, setout national plans and define the terms of cooperation between donors/development partners and the aid recipients.

Pakistan first published its Interim–PRSP (I–PRSP) in 2001-02. I–PRSP mainly focused on three key areas, i.e., engendering growth, improving governance, and human development and social protection. I–PRSP highlighted the challenges in the health service provision. Those were weak policy formulation capacity, centralised management, frequent staff transfers and absenteeism. The first PRSP was published in September 2003 by the PRSP secretariat, ministry of finance. The PRSP put forward its strategy to achieve targets, in line with the MDGs, between 2003-04 and 2005-06. The second PRSP draft is published in April 2007 which offers strategy for the next three years, i.e., 2006-07 to 2008-09.

The PRSP documents mainly provide the annual and quarterly-based public sector budgetary expenditure on all the PRSP sectors, including health. Moreover, it provides expenditure share of sub-sectors of health (i.e., General Hospital and Clinics, Mother and Child, Health Facilities and Prevention Measures, and Other) over the years by province, current and development expenditure. To relate its impact and progress at grass-root level, the PRSP uses the PSLM and CWIQ survey results. Status and trend underlining public sector spending on health are discussed in the following section.

## 3.4. National Health Policy (Health Sector Reform)

The National Health Policy (Ministry of Health, Islamabad), 2001, act as a collective framework and provides guidelines to the provinces while

implementing plans in the health sector in accordance with their requirements and priorities. The present policy document is a blueprint of planned improvements in the overall national health scenario. It will require commensurate investments and interventions by the provincial governments for improving health infrastructure and healthcare services. The federal government will continue to play a supportive and coordinative role in key areas like communicable disease control programmes.

The strategy of the health sector reform is to achieve accessible quality health care for all. The policy document identifies ten key areas:

1. Reducing widespread prevalence of communicable diseases;
2. Addressing inadequacies in primary/secondary health care services;
3. Removing professional/managerial deficiencies in the district health system;
4. Promoting greater gender equity;
5. Bridging basic nutrition gaps in the target-population;
6. Correcting urban bias in health sector;
7. Introducing required regulation in private medical sector;
8. Creating Mass Awareness in Public Health;
9. Effecting Improvements in the Drug Sector; and
10. Capacity-building for Health Policy Monitoring.

In each of these areas, strategic objectives have been identified and implementation modalities determined with an appropriate time frame for implementation and indication of targets wherever possible.

The key to success of the health policy lies in its implementation at all levels with the collaboration of public and private sector, and assistance from international development partners. Within the public sector collaboration between ministry of health and provincial health departments and district and local governments would help in effective implementation of the health policy.

## 4. PUBLIC HEALTH CARE SERVICE DELIVERY IN PAKISTAN

Even though for some of the MDGs Pakistan's progress may have been somewhat satisfactory, for most of the indicators performance is not quite adequate. One of the reasons for slow progress could be low levels of public sector allocations for the social sectors (e.g. Health, Education, and Water and Sanitation).

During the last two decades, living standards of the poor has improved. In the 1980s, it was due to high economic growth, inflow of remittances and foreign aid during the afghan war. The trend was reversed during the 1990s due to unstable political environment, frequent changes in the government leadership and ultimately Pakistan faced economic sanctions after nuclear-tests in 1998. The poverty trend shows that there was 26.1 percent poor in 1990-91 against 32.1 percent in 2000-01. During the same time period, the share of total public

health expenditure as percentage of GDP was 0.7 percent. The GDP growth was declined from 5.6 percent in 1990-91 to 2.2 percent in 2000-01, with the least percentage points in 1996-97, i.e., 1.7 percent; meaning that the constant share of health in real terms was also declined over time.

## 4.1. Access to Health Care Services

In Pakistan, as of 2004-05, the ***child health care*** trend shows that 100 children out of every thousand die before reaching their fifth birthday and 73 infants out of every thousand die before their first birthday. Figure 1 presents the trends in achieving the child health care targets under MDGs. It is clear from the graph that there is a desired need to invest in the child care health to achieve the MDG targets by 2015.
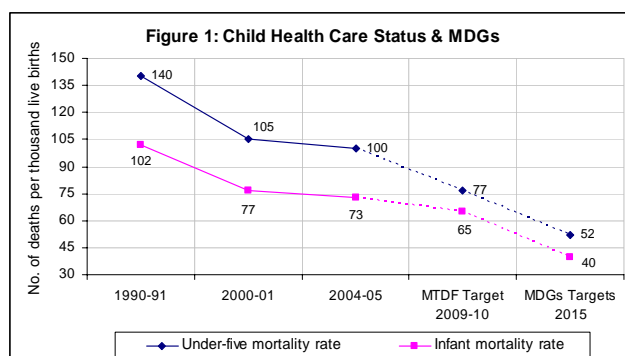


*Source:* PMDGR (2005).

Maternal mortality and morbidity are the major challenges facing Pakistan underlining ***maternal health care***. Progress underlining proportion of women (15–49 years) who had given birth during last 3 years and made at least one antenatal care consultation and proportion of births attended by skilled birth attendants is somewhat satisfactory; however the trend of maternal mortality ratio shows unsatisfactory situation (see Figure 2).
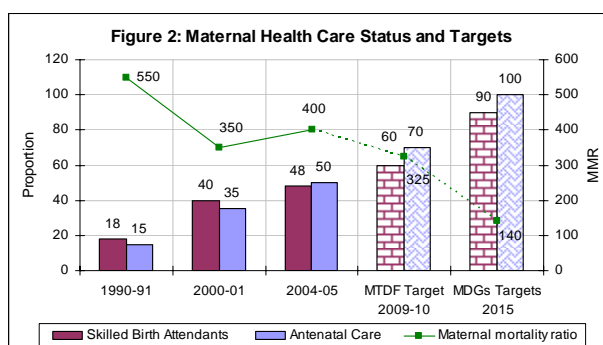


*Source:* PMDGR (2005).

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

The **human capital** available for health care services in Pakistan has gradually improved over the period of time. There are 100,131 doctors and 18,029 specialists, registered with the Pakistan Medical and Dental Council (PMDC). In addition, 6,374 general practitioners and 387 specialists registered as dental surgeons (see Table 3). Though there is annual output of around 5,000 medical graduates from both private and public medical colleges, the current ratio of one doctor per 1,310 persons is below the international recommended ratio, i.e. one doctor per thousand persons.

Table 3

*Registered Medical and Paramedical Personnel*

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

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

According to the WHO international standards, the ratio of doctors to nurses should be 1:3; however this is reversed in the case of Pakistan, i.e., ratio of doctors to nurses is 3:1 in Pakistan. Indeed the government of Pakistan is committed to train and provide door-step health care services through Lady Health Worker (LHW) programme however this would only help the poor and disadvantaged areas in the provision of first aid / primary health care and not the secondary and/or tertiary health care.

In the provision of health care services the private sector plays an important role, i.e., private sector provides almost 80 percent of the outpatient services. According to the PSLM (2004-05), as many as, 77 percent households consult the private sector against only 23 percent to the public sector (see Table 4).

Table 4

*Health Consultations in Past Two Weeks by Type of Health Provider Consulted*

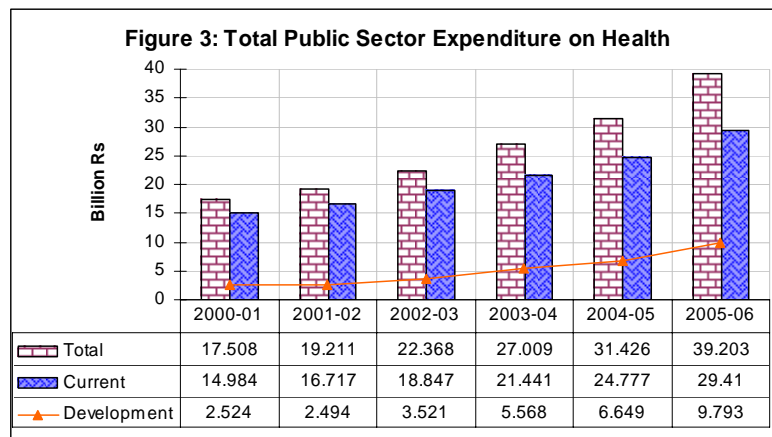| Region / Province | Health Provided/ Consulted | | | | | | | |
|---|---|---|---|---|---|---|---|---|
| | Private Dispn/ Hospt | Public Dispn/ Hospt | RHC/ BHU | Hakeem/ Herbalist | Homeopath | Chemist/ Pharmacy | Saina/ Saini | Other |
| **Urban Areas** | 71.50 | 20.47 | 0.52 | 1.76 | 1.54 | 3.10 |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

*Source:* PSLM 2004-05 (Table 3.3).

These private sector consultants include: private clinics/hospitals, chemist/ medical stores, and/or pharmaceutical industry are the main service providers in the private sector. Moreover, a large number of persons consult homeopathic and tabbibs and the latter especially in the rural areas.

## 4.2. Public Sector Spending on Health Care Services

Health is the fundamental human right and necessary for individual well-being at micro level, and indispensable prerequisite for economic growth and development in a country at the macro level. Like water and sanitation sector, and other social sectors, health is not a priority area of the Pakistani government.

The total public sector budgetary expenditure on health sector shows optimistic but not promising figures in last six years, however, the share of development spending on health is still very low (see Figure 3). The total public sector expenditure on health has increased from Rs 17.5 billion in 2001-02 to Rs 39.2 billion in 2005-06, with a highest jump of Rs 7.8 billion in 2005-06.

**Figure 3: Total Public Sector Expenditure on Health**

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

The share of federal and provinces in total public spending on health sector shows that on average the Balochistan and NWFP are spending the least (see Figure 4). The major share of spending on health has been observed in Punjab, followed by the Federal (due to extensive health care vertical programmes). The trend of public expenditure in Balochistan shows alarming situation where the public spending is declining since 2001-02 with slight development over 2002-03.

**Figure 4: Share in Total Public Sector Health Expenditure**
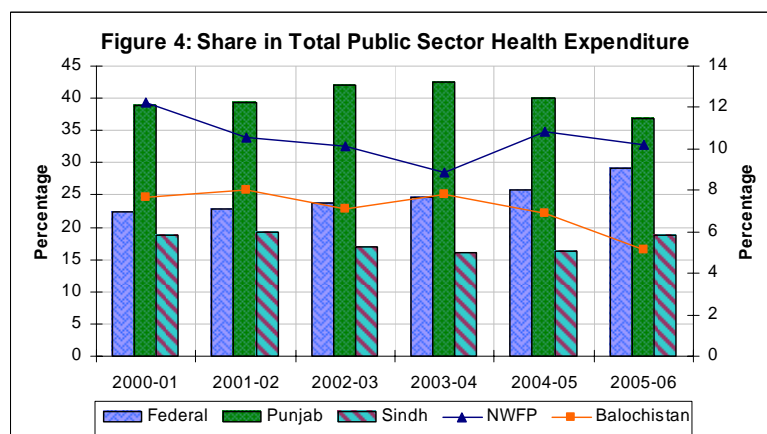
The total public sector expenditure as percentage of GDP shows that the public spending on health sector has improved to 0.75 percent in 2005-06 from 0.45 percent of the GDP in 2000-01; in last six years, i.e. after becoming a signatory to the United Nations' Millennium Declaration in the year 2000, the progress was just 0.30 percent of GDP (see Figure 5). Interestingly, there was only a change of 0.19 percent of GDP between 2000-01 and 2004-05. Moreover,

the public sector development expenditure as percentage of GDP presents worst picture over the same period of time; improvement of 0.13 percentage points.

These percentages are way below those recommended by the WHO. According to a report by WHO Commission on Macroeconomics and Health, US$ 34 per capita is required for a package of essential health services in Pakistan. However, 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. This demonstrates how much the government is committed to invest in the health sector, especially for the poor who do not afford private consultation.

**Figure 5: Public Expenditure on Health as % of GDP**
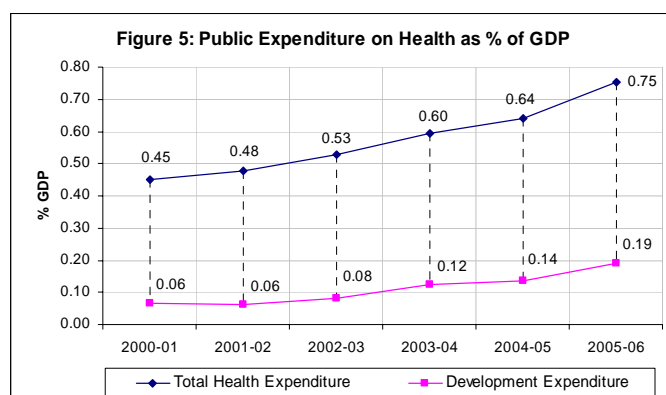


The percentage distribution of the government health expenditure by sector shows that of the total public sector budgetary expenditure in 2005-06 on health, 70.32 percent was spent on general hospitals and clinics, 18.37 percent on health facilities and prevention measures, and only 0.55 percent on mother and child health care facilities (see Table 5). Though, the percentage share of mother and child health care became more than doubled since 2001-02, yet it is still negligible considering the medical facilities required especially for un–served population living in urban slums and rural areas.

Table 5

*Distribution of Health Expenditure by Sub-sectors*

(Percentage)

| Sector | 2001-02 | 2002-03 | 2003-04 | 2004-05 | 2005-06 |
|---|---|---|---|---|---|
| General Hospitals and Clinics | 71.80 | 72.10 | 72.29 | 69.58 | 70.32 |
| Mother and Child | 0.25 | 0.27 | 0.24 | 0.16 | 0.55 |
| Health Facilities and Prevention Measures | 15.00 | 15.00 | 14.67 | 17.62 | 18.37 |
| Other Health Facilities | 13.00 | 12.60 | 12.80 | 12.64 | 10.77 |

*Source:* PRSP Annual Reports (2001–2006).

Pakistan's health care system is inadequate, inefficient, and expensive; and comprises an under-funded and inefficient public sector along with a mixed, expensive and unregulated private sector. These poor conditions in the health sector may be attributed to a number of factors like poverty, malnutrition, unequal access to health facilities, inadequate allocation for health, and high population growth and infant mortality. For equity, efficiency and effectiveness of the health sector, inputs from both the public and private sector would be necessary.

## 5. RESEARCH FOCUS

To explain the nature of the incidence of the public sector spending on health care services in Pakistan, following research questions/hypothesis are raised in the current study:

(i) Are the government expenditures in health sector progressive in Pakistan, both at provincial and regional level?

(ii) Who are the beneficiaries from public sector expenditures in different health sub-sectors?

(iii) What kind of inequalities exists in the distribution of these benefits from the public sector spending on health sector, regionally and income wise?

**Methodology**

To analyse the incidence of the government spending on health sector in Pakistan the benefit incidence technique has been applied. The benefit incidence approach (BIA) is also called the classic approach or non-behavioural approach, which was pioneered by twin World Bank studies conducted by Selowasky (1979), Meerman (1979). Later many authors have used this methodology to analyse the government expenditure incidence such as Chris and Patrinos (2004), Castro-Leal, *et al.* (2000), Jorge (2001) and Sabir (2003). The advantage of benefit incidence analysis is that it permits to focus on the important issues of how effectively public expenditure programmes targeted the poor by focusing on different rates of usage of publicly provided goods and services.

In practice, the conduct of incidence analysis involves three steps:

(1) Obtain the estimates of the unit cost or subsidy implied by the provision of a particular public service. Data for this step usually comes from public expenditure accounts. For example, budget data on per patient cost or subsidy by level of health establishment.

(2) Impute the subsidies to the individual or household, identified as user of the service, by using information available on availing service by different income groups. For example visit to the health

establishments as reported by different households in consumer expenditure surveys ordered by income level ranging from poor to rich.

(3) Aggregate individuals or households in groups ordered by income or expenditure or any other grouping of interests such as race or gender, distribute the benefits among the different groups and arrive at an estimate of the incidence of per capita subsidies accruing to each group.

These steps can be transformed into mathematical equations. The service–specific public sector subsidy received by an individual is:

$$S_k = q_k c_k - f_k$$

Where $S_k$ represents subsidy received by the individual on service $k$, $q_k$ indicates the quantity of service $k$ utilised by individual $c_k$ represents the unit cost of providing $k$ in the region where individual resides and $f_k$ represents the amount paid for k by individual.

$$S_j = \sum_{i=1}^{4} H_{ij} \frac{E_i}{H_i} = \sum_{i=1}^{4} \frac{H_{ij}}{H_i} E_i$$

Where $S_j$ is the value of the total health subsidy imputed to group $j$, $H_{ij}$ represents the number of health visits of group $j$ to the health facilities at the level $i$ ($i$ representing Hospitals and Clinics, Mother and Child and/or Preventive Measures in health), $H_i$ is the total number of such visits (across all groups) and $E_i$ is the government spending on health at level $i$ (with fees and other cost recovery netted out). Note that $E_i/H_i$ is the unit subsidy of funding a health consultation at level $i$ the share of the total health or education subsidy $E_i$ accruing to the group is given by:

$$S_j = \sum_{i=1}^{4} \frac{H_{ij}}{H_i} \left(\frac{E_i}{E}\right) = \sum_{i=1}^{4} b_{ij} \cdot e_i$$

Clearly, this share (and indeed overall inequality in the benefit incidence) is determining two proximate factors: The share of the group in total health consultation at each level of the facility $b_{ij}$ and the share of the each level of the health care in total health spending $e_i$. The value $b_{ij}$ reflect household health care decision where as the value $e_i$ reflects government spending allocation.

**Data Sources**

Data used in the current study has been taken from the following sources:

(1) The information on the use of the publicly provided health services, income of the household and the individual expenditures on the

health have been obtained from PSLM Survey (Round 1) 2004-05, Federal Bureau of Statistics, Government of Pakistan.

(2) To find out per capita expenditure on health care facilities, the data on population has been obtained from the National Institute of Population Study (NIPS).

(3) Total expenditures in different sectors of the Health have been taken from the PRSP Annual Progress Reports; FY 2000-01 to 2005-06, obtained from the PRSP Secretariat, Ministry of Finance, Government of Pakistan.

Results and Discussion based on the above mentioned methodology are articulated in Section 6.

## 6. RESULTS AND DISCUSSION

Per capita public expenditure for general hospital and clinic and preventive measure and health facilities has been calculated by dividing the total government expenditure allocated to the respective health care facility by the total population. While per capital expenditure in mother-child sub-sector has been computed by dividing the total government expenditure allocated to mother-child health facility by the sum of population of reproductive age (women) and children below age five.

Per head individual expenditure on the General Hospitals and Clinics are obtained by taking 60 percent of the average of the expenditure for the curement of all the diseases, which are possible to attack a person. For Mother Child, per capital individual expenditure is obtained by taking 40 percent of the average of the expenditures. This is equal to the average cost of curing all the diseases that can attack a child under age of five years or a woman of a reproductive age. And then this rate has been applied to respective population in the General Hospitals and Clinic and Mother Child heads. However, per capita individual expenditure underlining preventive measures and health facilities has been taken as *zero*; due to free of cost provision of these facilities through vertical programmes.

The net subsidies at household level have been calculated first by subtracting total individual expenditure on the use of the medical facility at household level from the total public sector expenditure in the provision of the medical facility. This net subsidy has been used to analyse the nature of the incidence of the government spending on health care services. Further this has been used to calculate the share of different quintiles and the GINI and concentration coefficients to know that whether health expenditures are progressive or regressive. Variation in the shares of different quintiles measures the inequalities in the benefit of the public expenditures on health received. The results of this analysis are being presented below in Table 6.

Table 6

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

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

According to Economic Survey of Pakistan (2005-06), Pakistan is spending 0.75 percent of GDP on health care services. The World Health Organisation (WHO) in its recent report on macroeconomics has recommended that US$ 34 per-capita is the required package for essential health care services. Currently Pakistan is spending Rs 254 (approximately US$ 4.2) per-capita which is quite low as compared to the per-capita WHO recommendation; per-capita expenditure is almost 12 percent of WHO recommended level in Pakistan.

Prevention is better than the cure. Pakistan is spending 18 percent of its health budget on Preventive Measures and Health Facilities. Public sector expenditures in Preventive Measures and Health Facilities sub-sector are progressive at provincial and regional level, except in overall rural Pakistan. It means the public sector spending on Preventive Measures and Health Facilities are more evenly distributed as compared to the income distribution. This is clear from the Table 6, which shows the GINI coefficient and the concentration coefficient. Concentration coefficient is lower than GINI coefficient implies that the expenditures are more equally distributed than the income. Expenditure on Preventive Measures and Health Facilities are highly subsidised by the federal government in Pakistan through its vertical programmes. These federally funded (in collaboration with the development partners) vertical programmes include: Lady Health Worker Programme; Malaria Control Programme; Tuberculosis and HIV/AIDS Control Programme; National Maternal and Child Health Programme; the Expanded Programme on Immunisation; Cancer Treatment Programme; Food and Nutrition Programme, and; the Prime Minister Programme for Preventive and Control of Hepatitis A & B. Government spending in this sub-sector is more effective and progressive as these facilities are free for all and there is no household out-of-pocket expense is involved.

The share of lower quintile in Preventive Measures is 6 percent and the share of higher quintile is 32 percent in overall Pakistan. Similar kind of behaviour persists at urban and rural level in Pakistan. The share of the lowest income group is 5 times lesser than the highest income group. At provincial level the expenditures in the Preventive Measures and the Health Facilities are progressive. In all the provinces the GINI coefficient are higher than the concentration coefficient. But there exist small variation in upper quintile and lower quintile shares in the expenditures of this sector.

Public expenditures in General Hospitals and Clinics sub–sector of health are regressive in most of the regions in Pakistan. The share of lower quintile in the Hospitals and Clinics expenditures is only 7 percent while it is 36 percent for the higher quintile in Pakistan over all as shown in Table 6. In rural areas share of the lower quintile is almost 10 times lower than the share of the higher quintile but for urban areas lower quintile share is almost 5 times lower than share of higher quintile.

The poor in Pakistan is not only deprived of financial resources but also lack access to secondary and tertiary health care services. The health system in Pakistan shows that the tehsil/ district headquarter hospitals (secondary health care facilities) only exists in tehsil/ town and in city district jurisdiction. People living in rural and remote areas mainly depend on primary health care facilities, like Basic Health Unit, Dispensary and LHWs, provided by the public sector. However, due to absentees and large number of non-functional primary health care facilities, the poor tends to consult the private doctor. Even in case of emergency, transport cost is the main hurdle for the poor to access the secondary and tertiary health facilities. Moreover, the patient himself/herself or the accompanied family head/member has to loose the opportunity cost due to travel and waiting time. All these above mentioned factors contribute to the regressive nature of expenditure in the General Hospitals and Clinics.

The high income groups in major cities or in urban areas have access to hospitals and tertiary specialised medical institutions, however due to low quality of service delivery and medical facilities in the public hospitals they normally prefer to consult and/or to get treatment from private hospitals and clinics.

At provincial level, the expenditures are progressive in Punjab and Balochistan overall; whereas these expenditures are regressive in Sindh, NWFP, urban Balochistan and in rural Punjab. The differences in shares of lower and upper quintiles are very much prominent at provincial level; inequality in upper and lower income group is severe in the rural areas. This may be due to the poor quality of health care services and lack of doctors and medical practitioners in the dispensaries, BHUs and RHCs.

The data on the Balochistan in case of Mother and Child was not available and data on the remaining provinces and Pakistan overall was not sufficient to make the analysis at rural and urban level. The analysis of the available information is presented in the Table 6. Health expenditures on Mother and Child sub-sector is progressive in Sindh, NWFP and in overall Pakistan; that implies that poor are getting more benefit from these expenditures as compared to the rich. But in-kind subsidies are regressive in Punjab. In Punjab, the subsidies in Mother and Child sub-sector increases with the increase of the income. As discussed earlier, the Mother and Child is the most disadvantages and neglected sub-sector of health. The shares of health sub-sectors show that Mother and Child Programme gets the least share in the total health sector budgetary expenditure.

The poor can not afford the high costs of the private maternity hospitals, that is why they intend to consult the government Hospitals and Clinics where the costs are much lower as compared to the private health care centres. On the other hand, the high-income groups prefer to get their medical treatment from the private health care centres where they enjoy better quality of health care

facilities. Share of lower quintile in the Mother and Child health expenditures is only 8 percent and higher quintile share in this sub-sector expenditure is 24 percent. Although the share of the poorest group is very low, however the results show pro-poor spending except in Punjab.

In Punjab the lowest income group is almost 7 times lower than the share of the higher income group. The subsidy increases with the increase of income. These expenditures are pro-rich in case of Punjab. This result is clear from the GINI coefficient and the concentration coefficient shown in the Table 6. The distribution of the health care expenditures in different sub-sectors of the health like Mother and Child, General Hospitals and Clinics, and Preventive Measures are much skewed. The results present high inequalities across region and sectors, and among different quintiles underlining health care service delivery.

## 7. CONCLUSION AND POLICY IMPLICATIONS

**Conclusion**

(1) Pakistan's health care system is inadequate, inefficient, and expensive; and comprises an under-funded and inefficient public sector along with a mixed, expensive and unregulated private sector. These poor conditions in the health sector may be attributed to a number of factors like poverty, malnutrition, unequal access to health facilities, inadequate allocation for health, and high population growth and infant mortality. For equity, efficiency and effectiveness of the health sector, inputs from both the public and private sector would be necessary.

(2) The expenditures in health sectors are overall progressive in Pakistan while it is regressive in some sub-head expenditures of health at provincial and regional levels.

(3) The hypothesis that spending on health is progressive at provincial and regional level is rejected as the results found great disparities and inequalities across regions and among quintiles.

(4) Third hypothesis that there exist large inequalities in the shares of the different quintiles in health expenditures cannot be rejected.

(5) Overall, the public sector spending on health sector is partially progressive in Pakistan. However, the share of the lower quintile is lower than higher quintile in total public expenditures on health.

(6) Public sector expenditures in Preventive Measures and Health Facilities sub-sector are progressive at provincial and regional level, except in overall rural Pakistan. It means the public sector spending on Preventive Measures and Health Facilities are more evenly distributed as compared to the income distribution. Expenditure on Preventive Measures and Health Facilities are highly subsidised by the federal government in Pakistan through its vertical programmes.

(7) The poor in Pakistan is not only deprived of financial resources but also lack access to secondary and tertiary health care services. Public expenditures in General Hospitals and Clinics sub-sector of health are regressive in most of the regions in Pakistan. The share of lower quintile in the Hospitals and Clinics expenditures is only 7 percent while it is 36 percent for the higher quintile in Pakistan over all.

(8) Health expenditures on Mother and Child sub-sector is progressive in Sindh, NWFP and in overall Pakistan; that implies that poor are getting more benefit from these expenditures as compared to the rich. But in-kind subsidies are regressive in Punjab. The Mother and Child is the most disadvantages and neglected sub-sector of health.

(9) The rural urban inequalities are more profound. The rural areas are more disadvantaged regions underlining the health care facilities. In health sector more inequalities prevails in the share of the lower and upper quintiles in government expenditures on health care facilities.

(10) According to the WHO international standards, the ratio of doctors to nurses should be 1:3; however this is reversed in the case of Pakistan, i.e., ratio of doctors to nurses is 3:1 in Pakistan.

(11) In the provision of health care services the private sector plays an important role. According to the PSLM (2004-05), as many as, 77 percent households consult the private sector against only 23 percent to the public sector.

## Policy Implications

On the basis of the empirical results, following policy implication are proposed:

(1) Inequalities in the shares of different quintiles, the benefits of government expenditures on health in Pakistan are widely accepted. Inequality prevails at provincial and regional level. Horizontal and vertical equity in allocation of resources to the health sector both at provincial and regional level can make the health sector service delivery more effective.

(2) Health is the neglected sector in Pakistan. Reallocation of resources and reformulation of the health strategy that target to benefit the disadvantaged groups more and improve the low income people access to medical services is the desired need of the time. Through better health policy with emphasis on the implication side can make a huge difference in the living standards of the poor.

(3) Health policies measures as fee waiver, cash transfers and in-kind transfer or any other public support may result increase of subsidy to poor and will enhance the share of lower quintiles.

(4) The current figures on total and provincial public sector health expenditure present the poor picture of the government commitment on cost-effective and reachable health provision. The sharp increase in the expenditures as percentage of GDP on health besides other social sector expenditures is emphasised.

(5) The government should invest in nursing colleges to overcome the limited human capital in the health sector. Private sector can play a vital role in this regard as well. The government should encourage the private sector to train and produce nurses in Pakistan. Indeed Lady Health Worker (LHW) programme can be effective for pregnant females, but limited knowledge through short training can not cover the place of a professionally trained nurses.

(6) The private sector is playing a vital role in the health care service delivery in Pakistan. However, this sector needs to be regulated and monitored.

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