Health Care Services and Government Spending in Pakistan

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Introduction

- Health plays the key role in determining the human capital
- Better health improves the efficiency and the productivity of the labor; ultimately contributes to the economic growth and leads to human welfare
- A positive relationship exists between the public sector expenditures and the economic growth
  {Rasmus (2001), Robert (2003), ESCAP (2003)}
- To attain better, more skillful, efficient and productive human capital resources, Governments subsidize the health care facilities for its people
- Public sector pays whole or some part of the cost of utilizing health care facilities
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?

Government expenditure policies are implemented in pursuit of the two objectives:

- First, to increase overall efficiency in the allocation of the resources by optimally providing certain goods and services, which private market fail to provide or fail to provide optimally.
- Secondly, government wants to enhance equity and improve distribution of resources.

How much these expenditures are distributed and who is benefiting, and how much?

This very much depends on the volume and the distribution of these expenditures among the people of different areas of the country.
Literature Review

- A comprehensive review of literature, research materials, articles and evaluation reports is done to assess the existing situation and policy debate.

- Public expenditures progressive or Regressive?


- The share of the different segment of income group *varies depending* upon the distribution of the benefits of the public expenditures, Sakellariou (2004)
The basic health expenditures are the *progressive* Jorge (2001) while the specialized hospitals services are *regressive* one Blejer (1990), Castro (2000).

Objectives of the Study

1. To analyze the *incidence* of the government expenditure on health on various income groups in Pakistan.

2. To determine its *progressive or regressive* nature. The expenditures are progressive if it benefits more the poor and regressive if it benefits more the rich.

3. To check *extent of inequalities* that exists in distribution of government expenditures among different levels of income groups.
Policies Emphasizing 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 diarrhoeal diseases, acute respiratory infections, malaria, tuberculosis, hepatitis B&C, and immunizable 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, diabetes and cancers account for almost **10 percent** of the BOD in Pakistan.

Source: MTDF (2005-10)
Policies Emphasizing Health Care Services in Pakistan

<table>
<thead>
<tr>
<th>Health related Indicators (Regional Comparison)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total Population (000)</td>
</tr>
<tr>
<td>------------------------</td>
</tr>
<tr>
<td>Bangladesh</td>
</tr>
<tr>
<td>Bhutan</td>
</tr>
<tr>
<td>China</td>
</tr>
<tr>
<td>India</td>
</tr>
<tr>
<td>Nepal</td>
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<tr>
<td><strong>Pakistan</strong></td>
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<tr>
<td>Sri Lanka</td>
</tr>
</tbody>
</table>

Source: WHO 2006
Policies Emphasizing Health Care Services in Pakistan

- Medium Term Development Framework (2005-10)
- Poverty Reduction Strategy Papers
- National Health Policy (Health Sector Reform)
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.
Public Health Care Service Delivery in Pakistan

- 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.
Public Health Care Service Delivery in Pakistan

- **Access to Health Care Services**
  - Child Health Care
  - Maternal Health Care
  - Human Capital

- **Government Spending on Health Sector**
  - Total Public Sector Spending (2000-01 and 2005-06)
  - Federal and Provincial Share in Total Spending
  - Share of Health Expenditure as % GDP
  - Distribution of Health Expenditure by Sub-Sectors
Child Health Care Service

Figure 1: Child Health Care Status & MDGs

- No. of deaths per thousand live births
- Under-five mortality rate
- Infant mortality rate

<table>
<thead>
<tr>
<th>Year</th>
<th>MDGs Target 2015</th>
<th>MTDF Target 2009-10</th>
<th>2004-05</th>
<th>2000-01</th>
<th>1990-91</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1990-91</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>140</td>
</tr>
<tr>
<td>2000-01</td>
<td></td>
<td></td>
<td>105</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2004-05</td>
<td></td>
<td></td>
<td></td>
<td>100</td>
<td></td>
</tr>
<tr>
<td>MTDF Target</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2009-10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>MDGs Targets</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2015</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>52</td>
</tr>
</tbody>
</table>
Figure 2: Maternal Health Care Status and Targets

- **Maternal mortality ratio**
  - 1990-91: 550
  - 2000-01: 350
  - 2004-05: 400
  - MTDF Target 2009-10: 60
  - MDGs Targets 2015: 100

- **Skilled Birth Attendants**
  - 1990-91: 18
  - 2000-01: 40
  - 2004-05: 48
  - MTDF Target 2009-10: 60

- **Antenatal Care**
  - 1990-91: 15
  - 2000-01: 35
  - 2004-05: 50
  - MTDF Target 2009-10: 325

- **Maternal mortality ratio**
  - 1990-91: 140
  - 2000-01: 325
  - 2004-05: 70
  - MTDF Target 2009-10: 90
  - MDGs Targets 2015: 140
## Human Capital: Health Care Service

### Registered Medical and Paramedical Personnel

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

Source: Economic Survey of Pakistan (2005-06)

- **Doctor to Nurses Ratio**
  - Pakistan: 3 : 1
  - International/WHO: 1 : 3

- **Doctor/Population**
  - International/WHO: 1 000
Public Spending on Health Sector (Total)

Figure 3: Total Public Sector Expenditure on Health

<table>
<thead>
<tr>
<th>Year</th>
<th>Total</th>
<th>Current</th>
<th>Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>2000-01</td>
<td>17.508</td>
<td>14.984</td>
<td>2.524</td>
</tr>
<tr>
<td>2001-02</td>
<td>19.211</td>
<td>16.717</td>
<td>2.494</td>
</tr>
<tr>
<td>2002-03</td>
<td>22.368</td>
<td>18.847</td>
<td>3.521</td>
</tr>
<tr>
<td>2003-04</td>
<td>27.009</td>
<td>21.441</td>
<td>5.568</td>
</tr>
<tr>
<td>2004-05</td>
<td>31.426</td>
<td>24.777</td>
<td>6.649</td>
</tr>
<tr>
<td>2005-06</td>
<td>39.203</td>
<td>29.41</td>
<td>9.793</td>
</tr>
</tbody>
</table>
Public Spending on Health Sector (Share)

Figure 4: Share in Total Public Sector Health Expenditure

- Percentage
- Federal
- Punjab
- Sindh
- NWFP
- Balochistan

Year: 2000-01 to 2005-06
Public Spending on Health Sector (% GDP)

Figure 5: Public Expenditure on Health as % of GDP
## Public Spending on Health Sector (Sub-Sector)

### Distribution of Health Expenditure by Sub-Sectors

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>General Hospitals and Clinics</td>
<td>71.80</td>
<td>72.10</td>
<td>72.29</td>
<td>69.58</td>
<td>70.32</td>
</tr>
<tr>
<td>Mother &amp; Child</td>
<td>0.25</td>
<td>0.27</td>
<td>0.24</td>
<td>0.16</td>
<td>0.55</td>
</tr>
<tr>
<td>Health Facilities and Prevention Measures</td>
<td>15.00</td>
<td>15.00</td>
<td>14.67</td>
<td>17.62</td>
<td>18.37</td>
</tr>
<tr>
<td>Other Health Facilities</td>
<td>13.00</td>
<td>12.60</td>
<td>12.80</td>
<td>12.64</td>
<td>10.77</td>
</tr>
</tbody>
</table>

Source: PRSP Annual Reports
Research Methodology

THE BENEFIT INCIDENCE APPROACH (BIA)

The benefit incidence approach is called the classic approach or non behavioral approach, which was pioneered by twin World Bank studies conducted by Selowasky (1979) for Colombia and Meerman (1979) for Malaysia.

- Chris Sakellariou and H.A Patrinos (2004) also analyzed incidence of public support to the private education sector in Cote d Ivoire.
- F. Castro-Leal, J. Demery, & K. Mehra (2000) have used this methodology to analyze public spending on health care in Africa.
- Jorge Martinez-Vazquez (2001) applied it to measure the impact of budgets on the poor. In practice the conduct of incidence analysis generally involve three steps
Three step procedure of BIA

1. Obtain the estimates of the unit cost or subsidy
   [Data for this step usually comes from public expenditure accounts. For example, budget data on per student cost or subsidy by level of schooling]

2. Impute the subsidies to individual or household identified as user of the service by using information available on use by different income groups.
   [For example clinic visits as reported by different households in consumer expenditure surveys]

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.
Diagrammatic Nature of Incidence
Data Sources

1. Income of the household and the individual expenditures on the health have been obtained from **Pakistan Social and Living Standards Measurement Survey (PSLM)** 2004-05, Federal Bureau of Statistics, Government of Pakistan.

2. Data on population has been obtained from the **National Institute of Population Study (NIPS)**.

3. National, Provincial and Sector-wise expenditures on health has been taken from the **PRSP Annual Report 2000-01 to 2005-06.**
### Distribution of Government Health Expenditure by Sector and Quintile (2005-06)

<table>
<thead>
<tr>
<th>Region</th>
<th>Preventive Measures and Health Facilities</th>
<th>General Hospitals and Clinics</th>
<th>Mother and Child</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Lower 20 % Share in Expenditure</td>
<td>Upper 20 % Share in Expenditure</td>
<td>GINI Coefficient</td>
</tr>
<tr>
<td>Punjab</td>
<td>19.1</td>
<td>21.26</td>
<td>0.42</td>
</tr>
<tr>
<td>Rural</td>
<td>20.17</td>
<td>20.82</td>
<td>0.36</td>
</tr>
<tr>
<td>Urban</td>
<td>18.85</td>
<td>21.37</td>
<td>0.43</td>
</tr>
<tr>
<td>Sindh</td>
<td>20.11</td>
<td>20.68</td>
<td>0.35</td>
</tr>
<tr>
<td>Rural</td>
<td>19.07</td>
<td>22.14</td>
<td>0.28</td>
</tr>
<tr>
<td>Urban</td>
<td>19.58</td>
<td>21.88</td>
<td>0.35</td>
</tr>
<tr>
<td>NWFP</td>
<td>17.97</td>
<td>25.56</td>
<td>0.38</td>
</tr>
<tr>
<td>Rural</td>
<td>17.93</td>
<td>25.53</td>
<td>0.34</td>
</tr>
<tr>
<td>Urban</td>
<td>18.52</td>
<td>24.53</td>
<td>0.41</td>
</tr>
<tr>
<td>Balochistan</td>
<td>19.04</td>
<td>22.17</td>
<td>0.3</td>
</tr>
<tr>
<td>Rural</td>
<td>19.58</td>
<td>22.15</td>
<td>0.27</td>
</tr>
<tr>
<td>Urban</td>
<td>18.94</td>
<td>20.57</td>
<td>0.29</td>
</tr>
<tr>
<td>Pakistan</td>
<td>6.17</td>
<td>31.54</td>
<td>0.31</td>
</tr>
<tr>
<td>Rural</td>
<td>4.95</td>
<td>25.25</td>
<td>0.3</td>
</tr>
<tr>
<td>Urban</td>
<td>6.18</td>
<td>35.77</td>
<td>0.29</td>
</tr>
</tbody>
</table>
Distribution of Subsidy on Preventive Measures and Health Facilities

CPS

CRES, CRIS, EQ Line

CRES

CRIS

eq line

CPS

0 0.21 0.40 0.61 0.80 1

0 0.2 0.4 0.6 0.8 1
Distribution of Subsidy on General Hospitals and Clinic
Distribution of Subsidy on Mother Child

CPS

CRES, CRIS, EQ Line

0 0.21 0.40 0.61 0.80 1

0 0.2 0.4 0.6 0.8 1

CRES CRIS eq line
Findings of the Study

- The hypothesis that spending on health is progressive is rejected.

- The hypothesis that there exist large inequalities in the shares of the different quintiles in health expenditures cannot be rejected.

- The expenditures in health sectors are overall progressive in Pakistan while it is regressive in some subhead expenditures of health at provincial and regional levels.

- Mother and Child sub-head is regressive in Punjab, General Hospitals and Clinics are regressive in Punjab, Sindh, NWFP and in Balochistan. This is because in public hospitals the quality of health care services are of low standard and in rural areas these services are almost non-existent.
In health sector more inequalities prevails in the share of the lower and upper quintiles in government expenditures in health sectors. So expenditure in Preventive Measures sub-sector is progressive. While the expenditures on Mother and Child, and on General Hospitals and Clinics are regressive at least at provincial level.

The rural urban inequalities are more profound. The rural areas are more disadvantaged regions underlining the health care facilities.

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.
Policy Implications

1. Inequalities in the shares of different quintiles, the benefits of public spending on health in Pakistan are widely accepted.

2. Inequality exists at provincial and regional level. Horizontal and vertical equity in allocation of the resources to health both at provincial and regional level can make the expenditure programs in health sector more effective and result oriented.

3. 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.

4. Through better health policy with emphasis on the implication side can make a huge difference in the living standard of the poor.
Policy Implications (Contd.)

5. 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.

6. The hypothesis that public expenditures in health are progressive in Pakistan is rejected.

7. The current indicators of health in Pakistan demonstrate the poor picture of expenditures on health. Pakistan is among those countries that have lowest Human Development Index (HDI) and other health parameter.

8. The increase in the expenditures as percentage of GDP on health besides other social sector expenditures is strongly emphasized.
Thank You