SPECIAL ARTICLE

Costing Structure of Public Hospitals in Pakistan

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PUBLIC HEALTH FACILITIES

Health care facilities in Pakistan can be divided into public and private. In about 77% of all health care facility visits people approach private facilities[2]. The public health services delivery is primarily a provincial matter while the federal government plays a supportive and coordinating role. The federal Ministry of Health (MOH) is mandated with policy making, coordination, technical assistance, training and seeking foreign assistance. It also has a number of vertical public health programmes such as Extended Programme of Immunization, Family Planning & Primary Health Care, National Tuberculosis Control Programme, National Aids Control Programme etc. which are funded by the federal government[3].

According to 2009 government statistics, there were about 14,000 health institutions nationwide with a total of more than 100,000 hospital beds[4]. The number of provincial public facilities can be obtained from provincial Departments of Health (DOH) for each of the four provinces in Pakistan.

Table 1: Health facilities on federal and provincial level 2009

	Hospital	BHU/Sub Health Centres	RHCs	T.B. Clinic	Dispensaries	Maternity & Child Welfare Centres	Total
Punjab	306	2457	353	73	1496	515	5,127
Sindh	330	1477	50	73	2117	150	4,074
KPK	202	873	94	123	562	145	1,999
Balochistan	118	524	72	23	561	91	1,389
Federal (DOH)	71	14	3	1	77	5	107
Total	963	5,345	522	147	4,813	906	12,892
Beds	84,257	6,555	9,612	184	2,845	256	103,709

Source: Provincial Departments of Health and Federal Bureau of Statistics, Social Statistics Wing, Health.

Health care services can be broadly divided into promotive, preventive and curative types of care. Health promotive services apply health education as a tool to inform people about healthier choices in life. Preventive services aim at interventions to prevent diseases. Curative services are services to treat diseases once they occurred. In addition to the types health care services can be categorised into three levels of care. Primary health care is implemented through Basic Health Units (BHUs), Rural Health Centres (RHCs), Maternal and Child Health Centers (MCHCs) and Dispensaries. Secondary health care includes first and second level referral facilities providing acute, ambulatory and inpatient care provided through Tehsil Headquarter Hospitals (THQs), and District Headquarter Hospitals (DHQs). The primary and secondary health care constitutes the District Health System. Basic Health Units (BHU) cover 10,000 and Rural Health Centres (RHCs) cover 25,000 to 50,000 persons respectively. Tehsil Headquarter Hospitals (THQs) cover 100,000 to 300,000 persons and District Headquarter Hospitals (DHQs) 1-2 million persons respectively[5]. Tertiary health care is provided through major hospitals with specialized facilities which are under the administrative jurisdiction of provinces (usually in capitals). Tertiary health care is the most advanced and expensive level of health care compared to primary and secondary health care.

HOSPITAL COSTING STRUCTURE

The costing structure of public hospitals in Pakistan is unknown, since so far no costing study analysing expenditures in hospitals has been carried out. For the conduction of National Health Accounts (NHA), which estimates expenditures on health, such a hospital costing study would be very useful. NHA estimate public hospital expenditures by taking household survey out of pocket (OOP) results, since they show the

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shares of consumption on public and private facilities. Then from the provider survey of health care facilities the costing structures for private facilities is known, which can be applied for public facilities as well under the assumption, that costing structures of private and public are similar. The costing structure of private hospitals will be known soon, since Federal Bureau of Statistics in collaboration with GIZ is carrying out a hospital census in 2010/11 which includes all big hospitals with more than fifty beds.

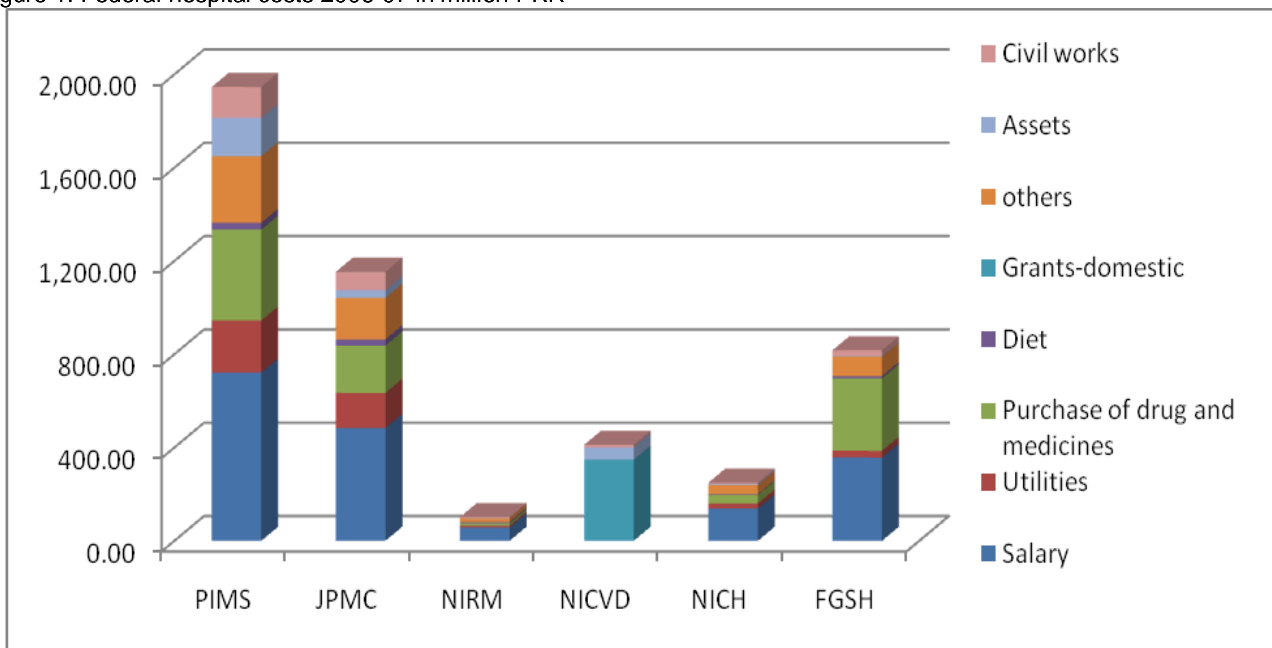
In December 2010 the National Assembly's Standing Committee on Health has asked the MOH to provide the break-up of the expenditures incurred on the Parliamentarians as well as the per bed expenditures at PIMS and Policlinic Hospital in Islamabad. The Committee was also briefed about the hospital wise budget of six federal government hospitals including the budget allocation for drugs and medicines[3].

Data on public health facilities are available in the Project to Improve Financial Reporting and Auditing (PIFRA) database, which has been introduced to make the accounting system more productive, efficient and timely available. This system runs on fully automated SAP computer program, which has the capacity to handle data on runtime basis. The PIFRA project has been launched at federal and all provincial levels. Federal data for fiscal year 2009-10 even allow for analysis at detailed minor object level as well, which lacks in previous annual appropriation accounts. To demonstrate the value of electronic PIFRA access points, we take the expenditures at function levels of public health facilities. To extend this analysis further, the disaggregation of each function has been made at major object level expenditure categories (A01-A13, salaries, physical assets etc.).

In this article we first show the costing structure of tertiary hospitals, which include provincial and federal hospitals. Second, we compare the costing structure of tertiary and secondary hospitals on provincial level.

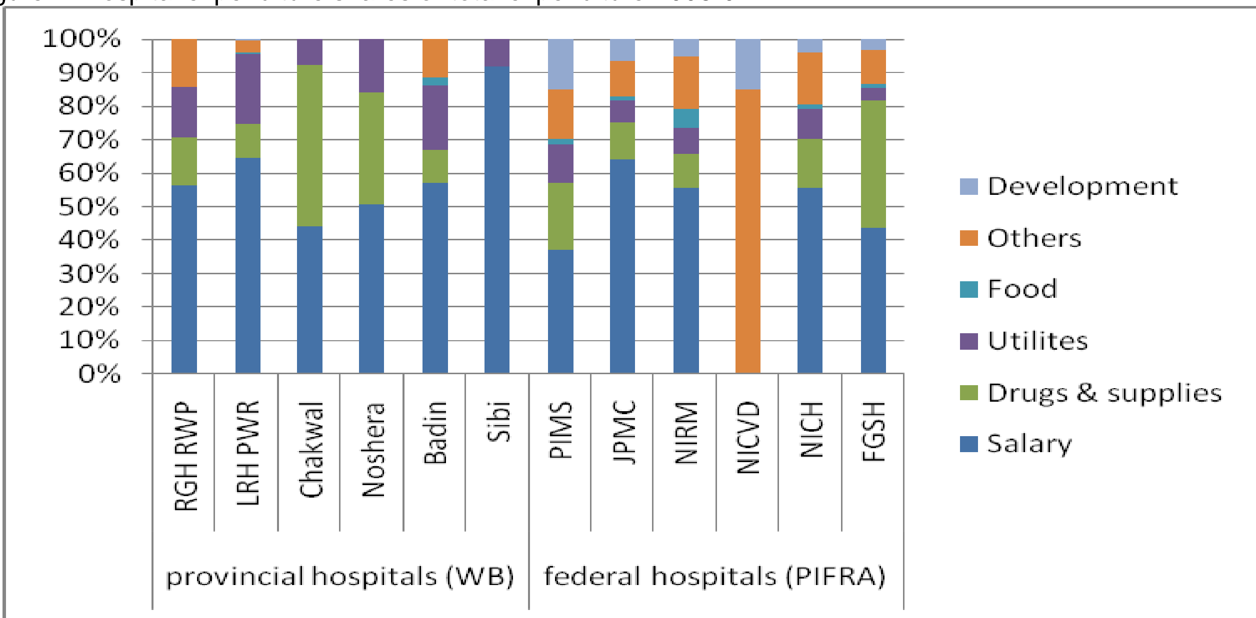
Comparing the federal facilities it has been observed that PIMS expenditure has been the highest amongst rest, which follows JPMC, FGSH, NICVD, NICH and NIRM respectively. Similarly if we look at the individual hospital disaggregation of expenditure it is quite noticeable that major share of expenditure goes for salaries. JPMC, NIRM and NICH have 64.22, 55.63 and 55.57 percentage of total expenditure goes for salary and is amongst the highest. Similarly the share of drugs and medicines is highest in FGSH, NICH and PIMS which is 38.01, 36.67 and 20.03 respectively. NICVD has grant from federal and it makes the grant figure quite high. Also if we look at assets and vivil works PIMS lies amongst the highest as it is 8.43 and 6.81 respectively, irrespective of NICVD where assets figure is 12.64 percent. The six federal hospitals included in the PIFRA database are all tertiary level hospitals, whereas the World Bank study includes two tertiary level hospitals[11] and four secondary level hospitals i.e. District Headquarter Hospitals[12].

Figure 1: Federal hospital costs 2006-07 in million PKR[9]



Source: Own calculations based on data from Project to improve financial reporting and auditing (PIFRA) Integrated Financial Management Information System 2006-07[10].

Figure 2: Hospital expenditure shares of total expenditure 2006-07



Source: Own calculations based on data from Project to improve financial reporting and auditing (PIFRA) Integrated Financial Management Information System and World Bank[13].

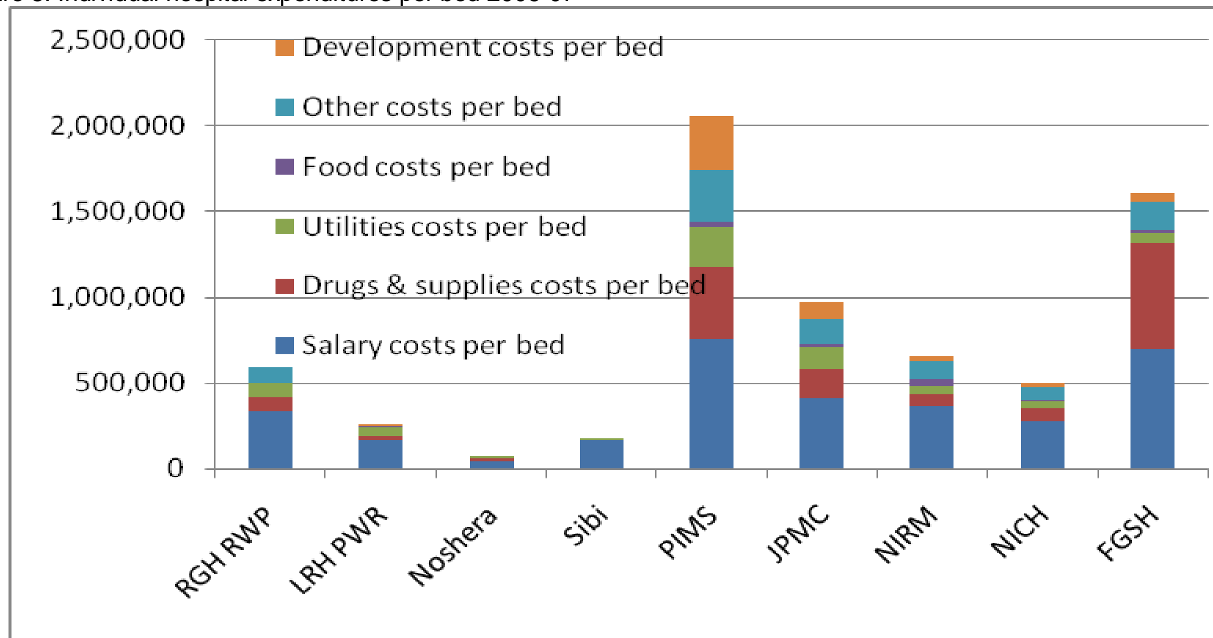
Comparing all facilities on federal and provincial level, it becomes evident that a large proportion of the expenditures go to salaries (except for NICVD, which states to have only 0.3% salary expenditure. NICVD is an exception because it is an autonomous body and gets only grants from the government while generating revenue themselves). The salary head includes pay and allowances for all hospitals and ranges from 37 to 64%[14]. For provincial hospitals the salary costs are with 61% on average higher than for federal hospitals with 43%. For most hospitals the expenditure for drugs and supplies has a share between 10 up to 48% of the total expenditure. For the hospitals in Chakwal, Noshera and FGSH, expenditures on drugs and supplies is the second highest expenditure item after salaries. Utility costs range from 4 to 21%. The utility costs seem to be higher in provincial hospitals (8-21%) than in federal ones (4-12%). Surprisingly, for all provincial hospitals the development expenditure is nil except LRH, PWR. It is also noticeable that the federal tertiary hospitals have higher expenditure on food (on average 1.8%) than provincial hospitals (average 0.5%) which might be an indication for higher service quality.

HOSPITAL PERFORMANCE INDICATORS

Pakistan's health care system is mainly run by the provincial and district authorities and its funding comes from provincial governments through annual health budget allocations. Due to current economic developments, government funds specifically for welfare programmes have been reduced. The government has to pay out more for essential non-developmental expenditures like salaries and administrative costs. A smaller portion of the allocated funds go to consumables and supplies leading to a downward spiral of quality of health care services. Hospital budgets are the largest expenditure area in the government health care budget. Every year millions of rupees are allocated to various hospitals in Pakistan. However, the money allocated to different hospitals with the same bed strength varied from each other.

With the available data on costs and beds we are able to calculate some general rough performance indicators on cost efficiency of hospitals. Indicators on costs per patient, staff strengths, bed utilisation, inpatient costs etc. can only be shown after a fully fledged hospital costing survey. The following table shows differences between hospitals in Pakistan on their cost efficiency, measured by hospitals ability to deliver health services efficiently, which is operationalised by the indicator total costs per bed. In order to estimate the service quality the indicator salaries per bed is applied, assuming that staff per bed numbers including the quality level of the employees are reflected in their salaries. A third indicator is the ratio of employee costs versus non-employee costs per hospital bed, which takes into account the employment costs and the size of the hospital via economies of scale.

Figure 3: Individual hospital expenditures per bed 2006-07



Source: expenditures: PIFRA, bed numbers: personal communication and websites.

Overall, the bed numbers are only available for some hospitals. The degree of bed utilisation is not known so far and might bias the results. Nevertheless we are able to give some rough figures on the hospital performance; these results might also show differences in the service quality between federal and provincial hospitals. The salary costs per bed range from 38,000 PKR per bed in Noshera up to 760,000 PKR in PIMS. The average salary costs per bed are higher in federal hospitals with about 500,000 PKR compared to provincial hospitals with about 175,000 PKR. The same holds for the total costs per bed with 1.1 million PKR in federal compared to 275,000 PKR in provincial hospitals. Also the expenditure for drugs and medicines are relatively higher in federal hospitals.

CONCLUSIONS

Assessing the efficiency of hospitals is an important task since allocations to federal and provincial hospital budgets are the largest expenditure area in the government health care budget. Cost data are not always available from routine data systems, due to poor information systems and lack of resources devoted to hospital management, and in the absence of the above, there has been an over-reliance on expenditure review data. Unfortunately this kind of data is only good for accounting purposes but not adequate to assess efficiency levels or accurate estimation of costs per patient for the services provided. Without quality cost data it is not possible to make accurate projections, improve technical efficiency, control expenditure and enhance accountability of managers.

With already available data we were able to answer the questions of the National Assembly's Standing Committee on the per bed expenditure and the share of expenditures on drugs and medicine for twelve hospitals. Per bed total expenditure was found to be much higher in federal hospitals than in provincial ones except RGH in Rawalpindi. For most hospitals the expenditure for drugs and supplies has a share between 10 up to 48% of the total expenditure. For the hospitals in Chakwal, Noshera and FGSH, expenditures on drugs and supplies is the second highest expenditure item after salaries.

Overall, with available data we were able to assess some hospitals by some rough hospital performance indicators with the results of varying money allocations to hospitals with the same bed strength. A more detailed analysis of hospital performance should be carried out in future after the completion of the health care facility survey and hospital census on private providers and a hospital costing survey of public hospitals.

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3. See Lorenz; Akthar, Functional budget allocation in Pakistani provinces – Public expenditure with special focus on vertical programs.
4. http://www.statpak.gov.pk/depts/fbs/statistics/social_statistics/health2.pdf.
5. Figure estimated since according to available data Punjab and Sindh together have 146 TB clinics.
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10. Salaries include pay and allowances. The category others includes communication, occupancy costs, motor vehicle, computer, transportation, petrol and oil, stationary and printing, financial assets to families of government servants, scholarship, entertainment and gifts, and advances to government servants etc.
11. Rawalpindi General Hospital (RGH) and Lady Reading Hospital, Peshawar (LRH,PSH). For Chakwal, Noshera, Badin, Sibi.
12. Development expenditure include assets and civil works. Benazir Bhutto Hospital Rawalpindi (Preveiously Rawalpindi General Hospital (RGH)), Lady Reading Hospital Peshawar (LRH), District head quarter hospitals of Chakwal, Noshera, Badin and Sibi, Pakistan Institute of Medical Sciences Islamabad (PIMS), Jinnah Post-Graduate Medical College Karachi (JPMC), National Institute of Rehabilitative Medicine Islamabad (NIRM), National Institute of Cardiovascualr Diseases Karachi (NICVD), National Institute of Child Health (NICH), Federal Government Services Hospital Islamabad (FGSH). NICVD is a hospital of an autonomous body and gets a total grant from the federal budget, which cannot be assigned to the above categories.