

Hospital Efficiency in West Bengal

A Study on Secondary level Hospitals

Funded by

Department of Health and Family Welfare

Government of West Bengal

2011

Hospital Efficiency in West Bengal

A Study on Secondary level Hospitals

The Team

Dr Arijita Dutta, Department of Economics, University of Calcutta

Dr Arpita Ghose, Department of Economics, Jadavpur University

Ms Satarupa Bandyopadhyay, Department of Economics, Bethune College

Dr Aniruddha Mukherjee, Technical Officer, SPSRC, DH&FW, GoWB

Dr B R Satpathi, Deputy Director of Health Services (Hospital
Administration Cell) DH&FW, GoWB

Additional Academic Support

Neelanjan Sen

Background of the Project: Secondary Hospitals in West Bengal is primarily consisted of District Hospitals (DH), Sub-Divisional Hospitals (SDH) and State General Hospitals (SGH), which are located in district and sub-division head quarters and in small urban towns across the districts. Given the heavy load of patients in the tertiary sector often being attributed to the lack of treatment facilities in the districts, a thorough analysis of these secondary hospitals to locate their specific inefficiencies was the need of the hour. On the other hand, while lots of academic and action oriented research has been already carried out both at the primary health care level and tertiary health care tiers, there has been hardly any serious research on the secondary hospital services in India in general and in West Bengal in particular. In an attempt to cater to these two gaps in research and hence to make directions towards policy, the present study of “Hospital Efficiency in West Bengal” is being conducted with financial support from Department of Health & Family Welfare, Government of West Bengal.

Main objectives of this study are:

1. To analyse the availability of various inputs and performance of outputs of each hospital in the sample.
2. To locate the barriers to receive different types of services in the hospitals.
3. To assess the perception of the patients about the services they receive in the hospital.
4. To have efficiency analysis across the hospitals to identify the hospitals providing best services compared to others in the sample and also to identify the over or under utilization of resources in these hospitals.

Data and Methodology:

The study covers 81 secondary hospitals (DH, SDH, SGH) across 19 districts. We did not include the sub-divisional hospitals in Gorkha Hill Council and in Khatra in Bankura , any speciality hospital (for maintaining homogeneity in the sample) and any tertiary hospitals in the state. We had run patient survey for 2000 patients across these hospitals, each hospital’s share being determined by its bed strength. Then the quota was given a ceiling of 50 patients and a floor of 10 patients. We divided the sample for each hospital

within Out-Patient-Department (OPD) and In-Patient Department (IPD) according to the ratio of OPD patients and IPD admissions in the hospital in the previous year (2008-09). We had collected detailed input and output status for these hospitals through our special investigating team. We received full data after an untiring effort from both the agencies after one long year, with the exception of two hospitals (Kaliaganj SGH, Uttar Dinajpur and B N Bose SDH, Barrackpur in North 24 Parganas).

As part of the **Methodology**, we have used different types of research tools for Quantitative and Qualitative analysis. In the first half we had extensively used Focus Group Discussions (FGD) in small workshops with government authorities and several hospital superiors to identify the main problems. Then we developed the questionnaires for hospital reports as well as for patient survey primarily in consultation with the team members from the DH&FW, GoWB. After receiving the full field information, we have used simple statistical tools as well as some advanced econometric models (both parametric and non-parametric) to analyse the data.

Results:

We first list some of the general myths about the existing health care facilities in West Bengal in the Secondary level and add the actual backdrop herein.

1. There is extreme shortage of all types of infrastructure at the districts.

However, the project and its analysis have pointed out that though there is definite scarcity of all types of resources, including beds, doctors, equipment, support staffs etc compared to their global averages, the main problem does lie on the **utilization** of those infrastructures, rather than in their **creation**.

2. These facilities are grossly under-funded.

Report proved that according to the norms set by the Commission on Macroeconomics and Health, most of the hospitals are overfunded if we take in to consideration of their outputs. This result emerges after we adjust the current

year's expenditures by general inflation rate. Only a small sub-set of 20 hospitals do not receive enough grant as per their outputs.

3. *Inducting a doctor or two or buying specific equipment in the hospital definitely improves the quality and quantity of care.*

Unless the existing infrastructure is being properly used, induction of new manpower or equipment would not actually add significantly to the output because of lack of monitoring and absenteeism.

4. *Hospitals should expand their scale of operation to cater more people.*

On the whole, we do need more hospitals within the range of **optimum bed size** (which is around 150) as most of the existing hospitals operate on decreasing returns to scale. That means that they are already catering to too many people and increase in number of beds beyond a point adds only to inefficiencies.

5. *All problems can be solved by Public Private Partnership models.*

Actually for the success of PPP, certain pre-requisites are to be satisfied. Otherwise, PPP in health care is bound to result in 'Private Profit at Public Risk'.

6. *Patients are absolutely dis-satisfied with the quality of services.*

Actually, majority of the patients report that the services they received was '*above the average*'. In fact, there was almost no complaint of bad behaviour of doctors from the patients, though they did speak out about negligence and rough behaviour from non medical staffs, particularly of Group D.

On the contrary, **certain positive points** that emerge out of the whole exercise are

- ⊕ Patients do come to these hospitals with expectations of good treatment, in spite of reported onslaught on the reputation of service quality in the daily print media.
- ⊕ There are some hospitals that that perform almost efficiently.

However, this is not the end of the story for sure. There are problems associated with unequal distribution of facilities, gross neglect of duty of the doctors and other support staffs, improper maintenance of equipments, lack of political will, dual nature of services and of course bad targeting.

The **major findings** that highlight the urgent need of action and policy implementation are:

1. There is severe *inequality in distribution* of secondary hospital beds, equipments and manpower across the districts and across the sub-divisions within the districts. North Bengal, contrary to our general perception, has the highest density of beds, equipments in stock and in use, nurses and Group D staffs (all indicators normalized by population), though the region of adjoining Kolkata tops with density of doctors, administrative staffs. Kolkata region also has the highest gap of stock and use of equipments, indicating a gross neglect from both hospital authorities and medical staffs. Also Western Rarh region consisting of Bankura, Birbhum, Puruliya and West Medinipur does not have any lowest value, as normally perceived. Interestingly, Central Plains (consisting of Malda, Murshidabad, Nadia, Bardhaman and Purba Medinipur) has the lowest figures for all the manpower indicators and beds. Within districts the specific vulnerable regions have poor infrastructure, though often the sadar subdivisions enjoy greater input facilities. The regions with low human development (represented by high female illiteracy) unfortunately possess relatively bad health infrastructure, directly violating the principle of vertical equity.
2. Detailed *data from hospitals* reflect that District Hospitals (DH) have lowest investment per bed compared to SDH and SGH. In fact smaller hospitals in terms of beds receive the highest funds per bed from the state government, showing a large volume of fixed funds in nature which do not change much with size. Availability of manpower per bed and equipments are highest among the SGH, which shows that they are not at all disadvantaged with lack of infrastructure.

3. On the other hand, the **admission per bed** is lowest in the SGH, while it tops in *OPD visits per bed*, as well as per doctor. Indicators of complexity in treatment (measured by share of several diagnostic tests out of total admission) are highest in DH. Serious thought and policy should be aimed at the small SGH.
4. Data on sanctioned post for doctors and the doctors in position reflect that there is a huge shortage of this crucial manpower in government run health facilities in West Bengal. If we juxtapose the alleged absenteeism of doctors on the top of this, the situation is bound to deteriorate. However, this is an issue which is difficult to be documented. At the hospital level we have calculated the ratio of total OPD doctor hours actually held to total OPD doctor hours as per norm with given doctors in position, which measures the *index for doctor's involvement (IDI)*. Shockingly, the average of that ratio is 0.44 across hospitals, with the maximum being in Mal SDH (Measure for doctor's involvement being 0.99) and minimum in Ashoknagar SGH (Measure being 0.143). Moreover, this index appears to be less particularly in those hospitals where there are more doctors in position. Apparently, when a large number of doctors are posted in a specific hospital, they create 'mini shifts' among each other and create their weekly roster (though they are required to be present in hospitals all six days, with one weekly off). Thus if the health officials induct more doctors in a hospital, they also run the risk that the total man-hours will not increase as expected.
5. The *six SGH around Kolkata* have all types of infrastructure (per bed) above the state average, but their overall BOR is as low as 52.93, though the visit of outdoor patients is quite high. The average IDI in these hospitals is abysmally low at 0.39.
6. *Patient Survey data* reveal that a sizeable share of both above-the-poverty-line and below-the-poverty-line groups come to these hospitals for multi-speciality treatment, good doctor and reference from earlier doctors. This directly

contradicts the general view that they avail of these services only if they do not have any options left.

7. IPD patients from better economic background had better *access to hospital beds* at free of cost in DH, where they can get services with technical complexity and higher specialization. This class also uses their personal reference network and BPL cards (though they are not eligible) to make their services free. In all types of hospitals, this economically better class manages to get more separate, but officially free beds, compared to the poorer class. This access to separate bed is influenced heavily by ayas of the hospital, whom only better-off people can afford to have. The system turns out to have a *reference system, rather than a referral system*.
8. The *entire process* of registration, doctor consultation, receipt of drugs, doing tests etc for OPD patients and getting admitted in IPD are quite convoluted and time demanding. Those who manage to understand this process with or without touts/hospital staffs etc, only come repeatedly. This process appears to pose a serious barrier to most of the illiterate and poor patients.
9. An overwhelming per cent of patients surveyed suggested that the very first step to be taken for improvement of hospital services would be to increase the *availability of medicines* in hospitals for free dispensing. However, only 10 per cent of all OPD patients received all the medicines prescribed, where as the share is 7 per cent for inpatient. Majority of the patients received only some medicines. Whereas Cooch Bihar and Bankura offered most *all* medicines in OPD, Malda and Hugli offers most *all* medicines in IPD. Interestingly no IPD patient received all medicines free in 7 districts.
10. Across the types of hospitals, DH has lowest share in the group of patients receiving *all* medicines, followed by SDH and SGH. Surprisingly only 8 per cent of the patients coming for *maternity and gynaecology* related problems in OPD

and 4 per cent in IPD received all medicines free, though this is a sphere of focus intervention according to Ministry of Health and Family Welfare in India.

11. Most of the hospitals do not have enough *stock of essential medicines* at the point of survey, neither do they have proper storage facility, computerized inventory management and nor the system of regular update of stocks to the doctors. The hospitals also lack any proper system to record the morbidity pattern of the patients that come to the hospital and hence many a times their stocks of drugs *do not* match their required medicine list.
12. At the time of survey, a part of the hospitals had already implemented the model of outsourcing certain non-clinical services like diet, security and scavenging under *Public Private Partnership (PPP)*. Though on the average, majority of hospital patients were satisfied with quantity and variation in diet, a sizeable proportion of economically better patients do express their dissatisfaction in quality and hygiene of the food served. In terms of sweeping wards and toilets, most of the patients report that the sweepers are seen doing their jobs only once, though as per contract they are supposed to do it thrice a day. In terms of security, there are several cases of political interventions in choosing contractors outside the list of ex-servicemen from Zilla Sainik Board.
13. From here it seems that *output based contracts* perform well though the *method based contracts* often fail to deliver. Also the very two pre-requisites for success of PPP model are existence of enough competition and of strong monitoring framework and enthusiast political will. All of them appear to be absent in these hospitals.
14. We calculated the perception score for each patient and then average it over each hospital to represent the *quality of services*. Interestingly, we found that better endowed people with higher background characteristics and education report to have better perception of the hospital services, thus hinting towards a *'dual*

structure of services’ in these hospitals. While the better endowed patients (with higher social and economic characteristics) somehow manage the better services either by paying tips to Gr D staffs or they are themselves offered better response and behaviour by other manpower.

15. Finally we run Data Envelopment Analysis for *overall relative efficiency* for 78 secondary hospitals (leaving Garden Reach Hospital for incomplete data). 26 hospitals turn out to be efficient relative to other hospitals and mean efficiency is 0.728, while the mean score of inefficient hospitals is 0.59. District-wise, North 24 Parganas have the highest share of efficient hospitals, followed by Jalpaiguri.

16. *Highest input slack* as a per cent of total of that input across the hospitals occurs in case of doctors and Gr D staff (both at 25 per cent) showing that the two of the so-called most scarce resources are sub-optimally utilized. This essentially means that a quarter of all the doctors at this tier is not being utilized. 24 per cent of nurses too are inefficiently utilized.

17. The efficiency in the hospitals have occurred primarily due to two kinds of factors:

- i) **Internal factors** : Factors under hospital’s control (Quality indices)
- ii) **External factors**: Factors beyond hospital’s control (Low input and low demand)

18. In the first set of operating efficiency we choose those hospitals which do not suffer from any input crunch, *both the quality indices at least average and at least one index above average* (very high or high) and *catering to a large number of patients (both the outputs at least average and at least one is above average)*. Satisfying these three criteria, we get five “**Best Practising Hospitals**”. They are ***Mathabhanga SDH, Basirhat SDH, Santipur SGH, Tehatta SDH, Contai SDH.***

19. In another set we chose those hospitals that are efficient in spite of one or more input crunch. These hospitals have *low input, at least one above-average quality*

*index and catering to a considerable number of patients (both the outputs at least average). They are seven “Hospitals Needing Special Care” and they are **Gangarampur SDH, Mal SDH, Tufanganj SDH, South 24 pgn’s DH, Habra SGH, South Haora SGH and Panihati SGH.***

Finally, it should be added that health care is a special good, which has the characteristics of being merit good, public good and also a good with high externality. In this scenario, with still large share of population living below or close to poverty line, the government’s role has to be maximized. After the initial wave of health reform where more importance was given to private finance, all developing and majority of developed countries are reverting back to their original model of Welfare State. Under this scenario, the government of West Bengal must take specific steps to reach the vulnerable population more with higher quality of care.