

STUDY ON COST STRUCTURE AND STAFF UTILIZATION OF NSDP CLINICS

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Executive Summary

Background

NGO Service Delivery Program (NSDP) is one of the largest NGO health services delivery network in Bangladesh providing ESP services in both urban and rural areas through the '*Smiling Sun*' clinics. It is engaged in providing ESP services in partnership with 37 NGOs and covers all administrative districts except the hill districts of Chittagong Division. A total of 317 static clinics and over 8,000 satellite clinics are functioning in both the rural and urban settings under the NSDP NGOs. Therefore, considering the increasing demand for ESP services in Bangladesh and scarcity of resources to meet the demand, and huge coverage of NSDP NGOs, the NSDP initiative to conduct an in-depth research on cost structure and staff utilization should be deemed as a high-utility one. Estimation of unit and average costs of services, assessment of cost structure and degree of staff utilization in offering high quality health services are key components for assessing efficiency, estimating additional resources for expansion of service coverage, and devising means and ways towards sustainability. The results of the study are supposed to contribute significantly in the formulation of policies to enhance economic and operational efficiency of the program and sustainability of the service delivery mechanisms including the ones provided by NSDP NGOs.

Objectives

The overall objective of the study is to understand, estimate and analyze cost structure of services delivery and explore the scenarios of staff utilization in NSDP clinics. The specific objectives of the study are: (1) to measure the economic efficiency – in terms of cost of services and staff utilization of the clinics in providing health services; (2) to analyze the underlying factors that determine the economic efficiency – in terms of cost of services and staff utilization – of clinics; and (3) to suggest management changes that could improve economic efficiency in terms of cost and staff utilization.

Research Outcome

The study report produced through this research provides an in-depth understanding about the cost structure of health services delivery and scenarios of staff utilization in NSDP clinics. This, in turn, provides a basis to broaden the understanding about the relationships between various agents of cost and staff time utilization. The study findings will be of high utility for the NSDP NGOs to improve their efficiency and facilitate their sustainability. This research outcome will enable the NGOs to see more clearly about the complex interrelationships among cost of services, pattern of staff utilization, standard contact time by services, and flow of customers in peak and off-peak hours. This study will have significant methodological utility for the relevant research community, and practical utility for the practitioners in NGO and development partners.

Methodology

The study covered all NSDP partner NGOs and sample clinics all over Bangladesh. Three types of surveys were conducted: Facility Survey, Time Motion Survey, and Customer Survey. Clinics, service providers, and customers were captured in the sample.

The samples included 55 NSDP clinics as primary sampling units in the facility survey, 190 service providers as primary observation points in the time-motion survey, and 516 customers in customer survey. The sample ensured representativeness of urban and rural locations, static and satellite clinics, doctors, paramedics and counselors/clinic aides. The randomness of the samples has been ensured.

The facility survey conducted inventory of personnel and material resources, and collected information on their utilization using eight specially designed formats. The time motion survey observed and recorded all activities of the providers including time spent in each and every activity and sub-activity through out the entire day. Therefore, all customers of the service provider along with activities of the provider in connection with them on the day of observation were captured. Moreover, all other work related and non-work related activities of the provider during the day of observation were also recorded including the duration of each of them. The customer survey dealt with issues related to the perception and observation of the respondents about the peak and non-peak hours, and their willingness to visit the clinics during non-peak hours along with perceived preconditions.

The data thus collected have been collated separately for providers of static and satellite clinics in urban and rural locations. Then, at the second level, required analyses were performed for cost and staff utilization analysis of NSDP clinics.

Key Findings

The study reveals that the NSDP health service delivery mechanism poses a complex system with the provision of wide range of services. The system comprises two major subsystems: (i) the service delivery in urban locations, and (ii) service delivery in rural locations. Both the subsystems, besides their structural differences, have the common feature that the services are targeted to the disadvantaged people through its static and satellite clinics.

The staffing pattern, especially the number of staff in various categories, in both urban and rural locations, varies across the system. However, about half of the staff in urban and rural clinics is direct service providers. The rest staff-members, in almost each and every clinic, are overhead staff.

Average number of customers in clinic varies by type and location of the clinic. Urban static serves on average 45 customers per day, and it is 26 for rural static. While urban satellite serves 20 customers, the rural satellite 27 customers, on average per day.

NSDP clinics serve customers, of which 64% are poor. This is in a situation where nationally poverty ratio is 44%. This implies that NSDP service delivery system is much sensitive to the poor.

The highest number of customer in urban and rural static clinic is for treatment of LCC (11 and 7 customers per day respectively). In satellite clinics, both urban and rural locations, highest numbers of visits are for injectable (5 and 11 customers per day respectively). On the average, a doctor in urban static serves 19 customers per day, while doctor in rural static serves 15 customers per day. For paramedic, in urban static, the average number is 24 customers per day and in rural static paramedic serves 20 customers. Counselors in both urban and rural static serve less than 2 family planning customers per day. Paramedics in urban and rural satellite serve 20 and 27 customers per day, respectively.

Although the service providers in both urban and rural locations provide a wide range of health services, the highest number of customers' visits to doctors is for LCC (8.3 in urban static and 6.5 in rural static). The paramedics in urban static serve more clients of EPI than any other services (5.8 customers per day). A paramedic in rural static on average serves more customers of LCC than other services (5.6 customers). However the highest number of visits in satellite clinics is related to injectables.

About 8% of fulltime equivalent (FTE) of all urban clinic staff accounts for direct services, 74% for overhead activities, 9% for support services, and 10% is lost due to down time. About 55% of full time equivalent of all urban clinic staff is used in static clinic and it is 35% in satellite clinics (excluding down time). About 84% of total FTE in a rural clinic is accounted for overhead activities, 6% in direct services, 4% in support services and 7% is lost due to downtime. On the whole, for rural clinic, 53% of FTE is used in static and 40% in satellite (excluding downtime).

A doctor in urban static spends 153 minutes a day for direct services, 147 minutes for non-contact time and 170 minutes for down time (mainly waiting for clients). A paramedic in urban static clinic spends 142 minutes for direct services, 178 minutes as non-contact time, and 158 minutes are downtime. A counselor in urban static spends 10 minutes for direct services, 457 minutes as non-contact time and down time is 13 minutes. A doctor in rural static spends 182 minutes for direct services, about 112 minutes as non-contact time and 188 minutes for down time. For paramedic in rural static clinics, 197 minutes account for direct services, about 106 minutes as non-contact time, and 178 minutes account for downtime. A clinic aide/counselor in rural static spends 14 minutes for direct services, 443 minutes as non-contact time and 23 minutes on down time. A paramedic in urban satellite clinic spends 116 minutes for direct services, 264 minutes for non-contact time, and 100 minutes on downtime. For paramedics in rural satellite, 158 minutes are direct service time, 249 minutes are non-contact time and 73 minutes are downtime.

The downtime mainly consists of waiting time for customer (range 67% - 77%). The average lunch break across the providers by type of clinics and locations does not exceed 30 minutes. Average downtime between two customer visits for doctor in urban static is 6 minutes and for doctor in rural static is 9 minutes. The same for paramedic in urban static is 5 minutes and in rural static 6 minutes. In urban satellite, the average downtime between two customers is 2 minutes, while in rural satellite it is 3 minutes.

Unit cost of services type varies across the providers, clinic type and location. Unit cost of doctor-delivered ANC 1st visit in urban static is Tk. 98, the same in rural static is Tk. 179. For paramedic in urban static, ANC 1st visit costs Tk. 75 (Tk. 132 in rural static). The ANC 1st visit in urban and rural satellites costs Tk. 75 and Tk. 87 respectively. Unit cost also varies by services type. The unit cost of doctor-delivered services in urban static ranges between Tk. 40 (TB) and Tk. 292 (PLTM).

The unit cost of any service is a joint cost of three cost centers: Direct Service Cost (DS), Overhead Cost (OH), and Support Service Cost (SS). The share of OH in unit cost is high across the type of provider, clinic, and location. For doctor-delivered services in urban static, the OH share ranges between 52% (PAC) and 81% (EPI) of the unit cost. OH share in unit cost of paramedic-delivered services in rural static varies between 90% (IUD) and 93% (CDD). The same is similarly high for other providers in different types of clinic and locations.

The unit cost of service largely depends upon the number of customers. The unit cost of doctor-delivered LCC is highest at Tk. 166 in a clinic where the doctor has only 2 LCC customers, and it is lowest at Tk. 26 in another clinic where the doctor has as many as 10 LCC customers. OH part in total cost of LCC for the day in these two clinics are Tk. 210 and Tk. 140 respectively. The share of OH in unit cost in the highest-cost clinic is Tk. 105 (63%) and that in the lowest-cost clinic is Tk. 14 (53%).

The observed unit costs of doctor-delivered LCC in urban and rural static clinics respectively are Tk. 63 (8.32 customers) and Tk. 89 (6.52 customers). Estimates reveal that if the number of customers in both clinics increases from their observed respective numbers (8.32 and 6.52) to 10, the unit cost will decrease. The newly estimated unit cost (as a result of increase in number of customer) for doctor-delivered LCC in urban static will decrease by about 12% and in rural static by 29%.

Average cost as well as the cost of downtime of services type follows the pattern similar to the respective unit cost by services type.

Irrespective of providers and services type, the actual time devoted to the customers (as direct contact time) is less than that required as per the standard time. As compared to the standard time, an urban doctor spends 84 minutes less contact time a day, and this is as high as 162 minutes for urban paramedic, 60 minutes for rural doctor, and 44 minutes for rural paramedics. Since observed down time much outweigh the above time, it is possible to comply with the standard time.

On the whole, about 87% of customers in NSDP clinics arrive between 09: 00 hrs and 13:00 hrs (peak hours), and 58% of customers arrive between 10:00 hrs. and 11:00 hrs. However, 94% rural and 84% urban customers visit clinics during this peak hours. A noticeable urban-rural difference also exists in customer flow during non-peak hours: about 5% rural customers and 14% urban customers visit clinics during these hours. 90% of customers consider their present visiting time convenient. About 80% of those who consider present visiting time convenient, reported to have less pressure of housework during these hours. About 25% has reported that the clinic is less crowded during their visits and thereby the visiting time is convenient for them. Over 10% of the customers reported that their current time of visit is inconvenient, and it is because of (i) too much housework, (ii) doctors not available, (iii) too much crowd.

Over 75% of urban and 80% of rural customers expressed their willingness to take services in off-peak hours. According to them, the reasons behind such willingness are (i) less crowd during the off-peak, (ii) doctors will be available to give more time, (iii) availability of better services, and (iv) less household work. According to the customers if clinic can ensure giving more time to customer (increase direct contact time), ensure presence of qualified doctors, and introduce no or low (reduced) service charge for the poor during non-peak hours, the customer flow will increase.

Policy and Program Implications

The five major issues having policy and program implications emerging from this study are as follows:

- (i) **Issue of customer volume:** The volume of customers in NSDP clinics is generally low. Urban static clinic serves on average 45 customers per day, rural static 26 customers, urban satellite 20 customers and rural satellite 27 customers. Findings reveal that a low volume of customers increases the relative share of

overhead and downtime, which in turn affect the unit cost, cost of down time, and average cost.

One of the major solutions would be to adopt all possible measures towards increase in the volume of customers.

The benefits of increased customer volume will impact directly in decreasing unit cost and downtime; thereby, the average cost will also decrease. Simulation of the number of customers shows that a 17% increase in customer volume will reduce the unit cost by 12%, and share of overhead in unit cost by 17%.

- (ii) **Issue of contact time (DS time):** The providers' actual contact time with customers compared to standard time is low for all services. As compared to standard time, an urban doctor spends 84 minutes less contact time a day. The time deficit is as high as 162 minutes for urban paramedics, 60 minutes for rural doctors, and 44 minutes for rural paramedics. Since the observed downtime much outweighs the above time, it would be possible to comply with the standard time.

The key solution to resolve this issue of low contact time, NGOs and clinics should ensure providers spend more time in congruence with the standard time.

The benefits of increased contact time will be reflected directly in customer satisfaction. More customers will be attracted to clinics because of better quality, and as such, NSDP clinic's image will be enhanced, which will contribute to the sustainability of NSDP NGOs. The cost of downtime also will be reduced due to increased contact time.

- (iii) **Issue of overhead:** Overhead in NSDP clinics is generally high. Share of overhead in staff utilization is high. About 74% of full time equivalent (FTE) of all urban clinic staff is overhead, and about 84% in rural clinics. Provider's overhead time is also high. Overhead time constitute 30% of an urban doctor's time and 28% of an urban paramedic's time. Moreover, the share of overhead in unit cost is also high. The share of overhead in unit cost of LCC delivered by an urban doctor is about 72% and about 83% for a rural doctor.

The key solutions would be to minimize providers' overhead time (e.g. doctor's time in administration) and increase in volume of customers.

The benefit of decreased overhead will be decrease in unit cost. As a result of reduced overhead, the providers and the clinics will be more efficient. The decrease in unit cost, in turn, will contribute to the clinic's sustainability.

- (iv) **Issue of use of non-peak hours:** Customer flow in the non-peak hours is low. About 1% of customers arrive at NSDP clinics between 08:00 and 09:00 hours, and about 11% visit the clinics between 15:00 and 16:00 hours. The clinics serve only 12% of customers in 50% of their working time. It implies high downtime and low capacity utilization during the non-peak hours.

Many customers are willing to come during non-peak hours provided the doctors are available to give more time and better services are ensured. Therefore, all possible measures should be adopted to attract customers during non-peak hours. Introduction of free-of-cost or reduced service charges for the poor during non-peak is one of the plausible solutions.

The many potential benefits of increased use of non-peak hours include increased capacity utilization, reduced downtime, smoother customer flow during the day, increased contact time, enhanced customer satisfaction, and increased volume of customer.

(v) Issue of utility of “cost analysis” for the NGOs and clinics

The NGOs and clinics are not well conversant about unit cost and average cost including costs of overhead, support services, direct services and downtime. Their lack of knowledge about cost analysis impedes designing comprehensive sustainability plans to reduce the cost of services.

The key solutions would be to develop a simple and computerized cost analysis tool, and impart training on the subject to the NGOs.

The benefits will include, among others, (1) the NGOs and the clinics will learn simple form of cost analysis, and (2) they will be able to relate that with sustainability planning. By learning cost analysis, NGOs will improve their capabilities for strategic thinking.