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Projecting the cost of the Essential Service Package

Research Paper 26

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Also available;

Public-private mix for health sector development: proceedings of the fourth annual conference, 25-26th July 1999

Bangladesh National Health Accounts 1996/97, Final report, Data International/ Health Economics Unit.

Contents

Abbreviations

ARI	Acute Respiratory Infection
CIET	Community Information Epidemiological Technology
DGFP	Directorate General of Family Planning
ESP	Essential Services Package
EOC	Emergency Obstetric Care
GDP	Gross Domestic Product
GOB	Government of Bangladesh
HRD	Human Resource Development
HEU	Health Economics Unit
HLSP	Health and Life Sciences Partnership
HPSP	Health and Population Sector Programme
ICDDR,B	International Centre for Diarrhoeal Disease Research, Bangladesh
LGED	Local Government Engineering Department
MAU	Management Accounting Unit
MCH	Mother and Child Health
MOHFW	Ministry of Health and Family Welfare
NIPORT	National Institute for Population Research Training
NGO	Non-Government Organisation
PER	Public Expenditure Review
PIP	Project Implementation Plan
PCC	Programme Co-ordination Cell
RIBEC	Reforms in Budgeting and Expenditure Control
SWAp	Sector Wide Approach
WDR93	World Development Report, 1993

Executive summary

The Essential Service Package (ESP) provided mainly through upazila, union and community health facilities is pivotal to the current sector-wide strategy (Health and Population Sector Programme, HPSP). In research paper 25 estimates of the cost of current ESP services provided at Government facilities within upazilas were provided. The study provides a detailed picture of the current services provided in upazilas.

In this paper we use these data to project the likely costs of extending the essential service package to the entire rural population. To do this we adjust the estimates provided in the earlier paper to reflect required essential service needs that might be expected in a typical upazila. The cost structure obtained from the upazila survey was adjusted to incorporate the full costs of services. These baseline costs suggest that the average cost of ESP per patient is 74 Taka while the per capita cost (for the rural population) is 68 at upazila based facilities.

Based on a typical upazila the ESP needs for the population were projected using norms for expected utilization across each of the main ESP components: child health, maternal health, family planning and limited curative care/control of communicable diseases. These projections suggest that utilization would need to rise by around 40 percent overall.

This structure was then used to simulate the cost impact of increasing services to the specified population groups. Dis-aggregation of costs by service was important since, for example, it is significantly more expensive to provide care to an average maternal health patient compared to a family planning user.

The projections indicate that increasing utilization of services to the planned levels would increase the real cost of services by around 45 percent. This implies a per capita cost of ESP of 171 taka per capita or around 3.3 US dollars. Assuming that non-ESP spending increases in line with inflation and growth in real wages, per capita national spending of 198 taka (1999/2000 prices) is required to cover the rural population for ESP. Based on equivalent costs in urban areas, spending would need to rise to 230 taka per capita to finance urban and rural costs.

Resource envelope projections, reported in an earlier research paper (23), indicate that when combined with projected non-ESP spending, the additional costs of the ESP could not be covered until 2004/2005.

It is important to stress that increasing utilization of services is not only a supply side activity. People have to be willing and able to use services. Information and education, as developed through the BCC strategy, is an important dimension of this although there is inadequate evidence on the success of different approaches. Also important are economic barriers, such as transport cost and lost wages, to users. One way to stimulate demand is to provide some financial subsidy for these costs. Such subsidy, which might be programmed through the Local Level Planning Initiative, has potential to increase access but would add to the cost of the ESP as a whole.

Introduction

The Essential Service Package (ESP) provided mainly through upazila, union and community health facilities is pivotal to the current sector-wide strategy (Health and Population Sector Programme, HPSP). Although various issues have hindered the full implementation of the programme, financial indictors suggest some success in channeling resources towards essential services (HEU and MAU, 2000). Surveys continue to show, however, that government facilities are often under-utilised and much treatment need, particularly of the poor, continues to be un-met. Good estimates of the cost of extending the package to more of the population are important if the government is to accurately plan the health sector budget over the next five years.

In research paper 25 estimates of the cost of current ESP services provided at Government facilities within upazilas were provided (Ferdousi, 2001). These were based on detailed costing of supplies, equipment used and depreciated capital assets. The study also indicated the way in which staff use their time to provide the services and permits an apportionment of staff costs to the main ESP components.
The study provides a detailed picture of the current services provided in upazilas. In this paper we use these data to project the likely costs of extending the essential service package to the entire (rural) population. To do this we adjust the estimates provided in the earlier paper to reflect the required essential service needs that might be expected in a typical upazila.

Costs of the Essential Service Package (ESP)

In this section we investigate the impact on the cost of the ESP from increasing coverage and deepening the quality of service. A recent study commissioned by the Health Economics Unit suggest that the costs of providing ESP services at upazila and below in both UHCs, Union and community facilities are currently around 43 Taka per capita in a typical area (Ferdousi, 2001). This excludes the costs of providing some ESP services outside upazila facilities such as TB dispensaries and the BCC Centre.

These estimates provide a good indication of the monetary value of services accruing to people obtaining care at upazila and below. By including only actual costs, it provides a measure of actual benefits. It does not provide information on the characteristics of these beneficiaries - whether services actually get to priority vulnerable groups. Further benefits incidence analysis is required as provided, for example, in an earlier research paper (Begum, Ensor et al., 2001).

In projecting the cost of the ESP it is important to have an accurate assessment of the actual burden on the public budget from providing services. The estimates described above are likely to under-estimate the 'true' cost of ESP service delivery in at least three ways. First, ESP does not yet cover the entire rural population. For example, childhood vaccination cover is around 60 percent while only around 13 percent of women receive care from a trained attendant during delivery (NIPORT, Mitra et al., 2000). Extending services to unreached communities is a key objective in the development of the effectiveness of ESP services. Second, the services provided are not yet at an adequate level of quality. Funding during the first three years of HPSP is

significantly below what was projected to be required in the original PIP. Third, many of the costs of ESP are, according to surveys, borne by consumers. If services are to truly reach the most vulnerable and remote communities, public spending must address at least some of these hidden costs of service delivery.

The cost figures obtained from the sample were first adjusted in a number of ways. The figures provided in research paper 25 only include the cost of time actually used for patient care plus an allowance for necessary rests and reasonable slack for waiting for patients. This provides a good indication of the actual use of resources but under-estimates the system costs since staff must be paid whether or not their time is fully used. To provide an estimate of actual allocated spending the slack time (less a 10 % allowance for flexibility) of staff were included in the salary costs. The previous study estimated that usable slack time accounts for around 28 percent of total staff time.

Second, the survey figures suggest that a relatively small share of costs are on medical supplies, consumables and equipment. This reflects the historic under-funding of these items and the inability, mostly due to procurement problems, to provide the level of resources suggested by the original HPSP documents ((GOB, 1998), annex). In order to reflect the true costs the proportion devoted to these items is increased to levels suggested by the bottom-up costing of HPSP for equipment and supplies. To provide for maintenance and replacement the items have been annualized using a process described in an earlier paper (Ensor, 1999).

Making these adjustments increases the average cost per patient to 74 Taka (from the 54 Taka suggested in the sample) and the per capita cost to 68 Taka (details are provided in Annex 1.1).

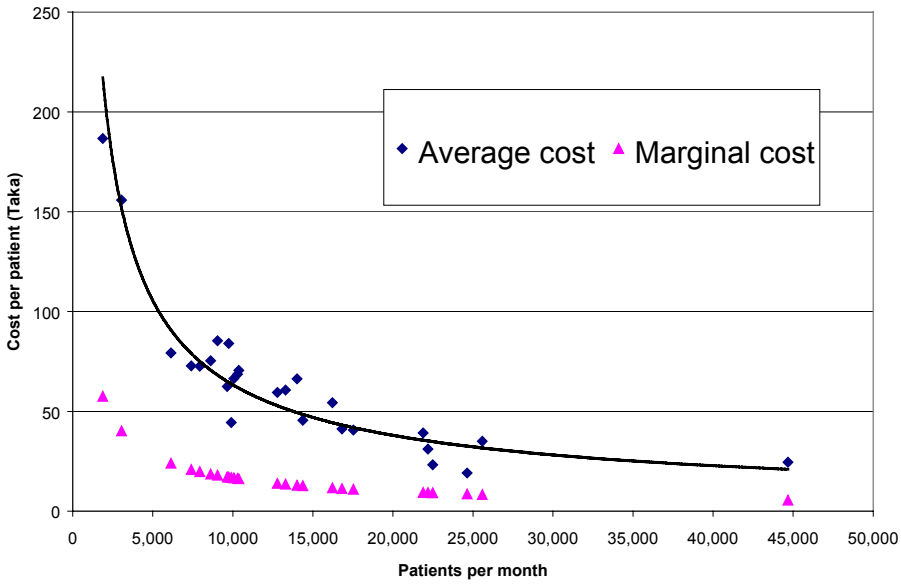
Expanding service delivery

The next stage of the analysis is to estimate the impact of costs resulting from an expansion of service provision. In order to do this it is necessary to make an assumption about the marginal cost of service delivery – i.e. how much total costs increase when one more patient is treated. It is recognized, for some increase in utilization, that many costs are effectively fixed. The same buildings and administrative overhead (super-overhead) could serve a significantly larger number of patients. The same is true, to a lesser extent, of some equipment and staffing.

One way of investigating the effect of increasing activity is to look at the average costs across the upazilas in the sample survey. A striking feature of the cost of current services is that the average cost of the package is determined largely by the numbers of patients treated at a facility. The unit (average) cost of treating patients declines as the number of patients increase (figure one). This implies a marginal cost that is substantially lower than average[1]. In many facilities increasing the level of services to a larger population group could be achieved at relatively little cost - just over 10 taka per patient. This reflects the fact that many health centers are not fully utilized, most staff have slack time and the system cost of extending coverage need only cover medical supplies and other consumable.

[1] To derive marginal costs, a function was fitted to the average cost values shown in figure one. Marginal costs were then derived as the first derivative of total costs = average costs times quantity.

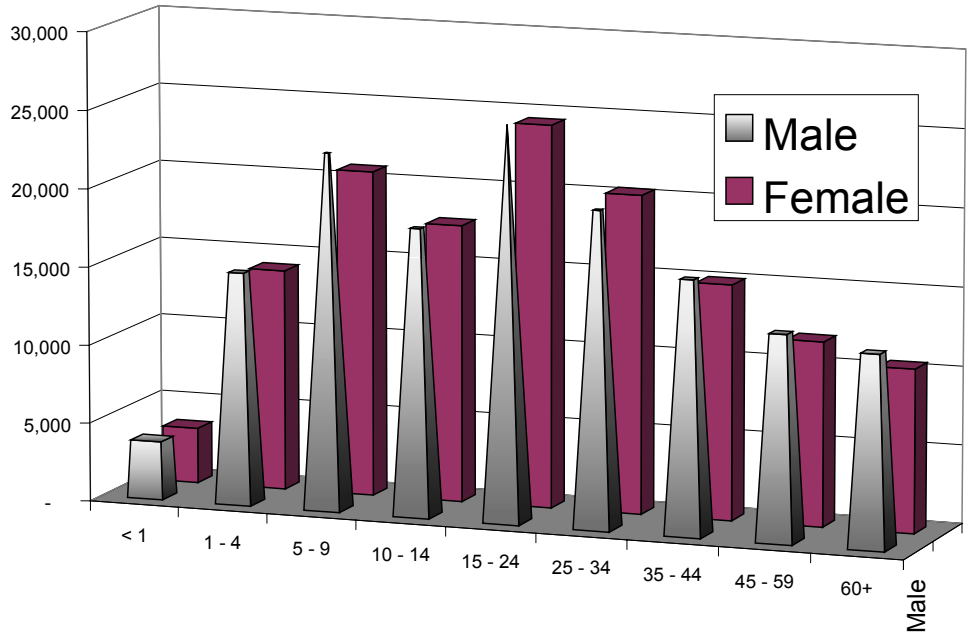
Figure one: the average and marginal cost of extending coverage in sample upazilas.



The costs implied by a comparison of upazilas are based on an expansion in the number of 'average patients'. One reason why this probably under-estimates the true cost, is that the average is dominated by the main users of services at thana and union level – family planning patients (30 per cent of average use) and child health (42 percent of patients). Yet it is not clear that expansion of services to better match the needs of the local population would necessarily increase all ESP sub-components at the same rate. In particular, the objective of improving maternal care would suggest that these are the services that are emphasized during any service expansion. According to the cost-estimates the average cost of a maternal patient is almost three times the overall average for upazila services (Annex A.1).

To simulate a service expansion we predicted use by age group in an average upazila from the sample. The average population in the sample was 284,000. Assuming a composition similar to other rural areas produces a structure shown in figure two.

Figure two: age-sex structure of a 'typical' upazila



Source: cost survey and (BBS, 1999)

Applying this structure we make a number of assumptions about the needs for services in the sample upazila (see table one for details). Most of these are in line with those proposed to construct the ESP in the original documents for HPSP, subsequent protocols and estimates prepared by the World Bank for low income countries ((GOB, 1998), (Operations_Research_Project, 1997), (Cowley, Bobadilla et al., 1995)).

- ***Family planning***: there around 60,000 potential couples in the 15 to 44 age group. There are around 90,000 family planning contacts a year in the sample upazila (1.5 per potential couple). According to the 1999 DHS government provides around 64 percent of modern contraceptive supply (NIPORT, Mitra et al., 2000). It also estimates that unmet need is around 15 percent. Assuming that government provides the additional unmet need this implies a 23 percent increase in required service.
- ***Maternal health***: based on a crude birth rate of 24 for rural areas this suggests around 6000 births per year. Protocols produced by ICDDR,B suggest that women should have a minimum of 3 antenatal and at least one postnatal visits in addition to the delivery (Operations_Research_Project, 1997). These are similar assumptions to those used by the WDR93[2] team in assessing the cost of essential obstetric services for low income countries (Cowley, Bobadilla et al., 1995). Based on a total of five visits, including delivery, an increase of 122 percent in the number of maternal contacts is implied.
- The current mix of maternal health services is biased towards cheaper services such as antenatal visits rather than more resource intensive delivery services. Across the sample upazilas around 5 percent of visits are for delivery. We assume that this proportion increases to 20 percent to reflect the greater

[2] World Development Report, 1993 and subsequent publications proposed and costed an essential service package based on a typical population.

expected proportion of women receiving trained support during delivery either in the health complex, union facility or field level (community clinic).

- ***Child Health***: based on a normative of 6 visits in the first year - four for immunizations and vitamin A supplementation and two (average) for other illness - plus 2 visits in each year from 1 to 5, would require a 12 percent increase in child health services. The non-regular visits would provide care for priority common child illness such as ARIs, diarrhoea and measles. Necessary health facility contacts is clearly much determined by knowledge of correct home treatment (e.g. ORS for acute diarrhoea) and indications for seeking treatment (e.g. fast/difficult breathing for ARI).
- ***Limited Curative Care and Communicable Diseases***: based on communicable disease attack rates from TB & Malaria and curative care needs including skin diseases, ophthalmological problems and first aid for injuries suggests that the average adult contact rate should be around 50 per 1000. To include the much larger number coming to facilities for diagnostics, we assume an average contact rate of 0.5 visits per person, per year (WDR proposes 0.1 visits per person). This requires a 109 percent expansion in existing provision.
- It is assumed that the increase is shared between upazila health complexes and the union facilities. For child health this implies that 65 percent of cases are seen at upazila level and 35 percent at the union level. Changing this proportion makes little differences to the final costs.

Table one: increase in patients required to meet needs of sample Upazila

	Target group	Number in target group.	Existing patients	Revised patients	Percent increase	Visits per person
Family planning	ELCOs (assumes all 15-44 are eligible)	60,567	88,727	109,135	23.0%	1.80
Maternal Health	Pregnant women	6,082	13,680	30,410	122.3%	5.00
Child Health	Children under 10 (focused on the under fives)	79,549	109,194	122,746	12.4%	1.54
Limited Curative Care/Control of Communicable Diseases	Adults over 10	204,658	48,931	102,329	109.1%	0.50
Total	Population	284,207	260,532	364,620	40.0%	1.28

In simulating the increase in cost we assume that commodities and equipment use are variable costs – the costs increase in direct proportion to the number of patients treated. While for commodities this is easily justifiable, it is more questionable for equipment. It can certainly be argued that some items of equipment are fixed - particularly items of long durability such as weighing scales and anesthesia machines. The cost of other items, such as stethoscopes are much more closely related to patient use. The assumption that costs rise proportionately is, therefore, a slightly generous one but perhaps justifiable given the historic lack of provision for the maintenance and replacement of such items.

The survey of costs calculated total time available for all staff and also time actually used in performance of their duties. The difference represents usable free time that

could be used to treat additional patients at zero additional cost[3]. Staff costs are assumed to be fixed up the point that usable free time is exhausted. Once this free-usable time is used up staff costs are allowed to increase in proportion to additional patients. This does not necessarily imply additional staff working in the facilities. It may, instead, require that existing staff are paid more in order to treat more patients. Whether this is possible within the existing civil service rules is a question left open for discussion.

It is assumed that more patients are treated with the existing staff skill mix. This begs the question whether this mix can be regarded as optimal. Further investigation of this issue is outside the scope of this study but must be pursued in future studies. Some research in this area is being developed by the HRD section of the Policy and Research Unit.

Other costs, such as large capital items, particularly buildings, and super-overhead administrative costs are assumed to be sufficient and therefore fixed for the larger number of patients treated.

Results of simulations – the cost of ESP

The scenario norms for utilization discussed above imply that the number of patients treated by Government upazila health facilities would increase by around 40 percent. As stated earlier the impact on cost depends on the patient mix. If all the increase for patients came in the form of family planning contacts the increase in cost would be around 6 percent (table two) while the marginal (extra) cost of treating patients is only 13 Taka per visit (close to the 10 Taka used for the comparison of UHC costs in figure one). In contrast if all the increase was through maternal health visits the increase would be more than 82 percent and the marginal cost is 171 Taka. Based on the mix described above we estimate that costs to government would rise by around 33 percent with a marginal cost of 62 Taka per visit.

Table two: costs of upazila health services per capita

Mix of new patients	Total increase in patients	Increase in costs	Marginal cost (TK)	Average cost (TK)
All family planning	40%	6%	13	56
Maternal Health	40%	82%	171	96
Mix based on structure	40%	45%	84	76

Extrapolating these results to the entire rural population implies an increase in overall ESP costs of service delivery of 45 percent and a per capita cost of 171 Taka per person in the rural population (see table three)[4]. This assumes that ESP costs at Thana and above, BCC and MCH centres, do not increase. This amounts to around 3.3 US dollars per capita and is comparable to estimates put forward in earlier publications (Hicks, 1996). In May 2001 the exchange rate was devalued and the converted cost is

[3] All staff are assumed to require a certain amount of time for refreshment breaks and waiting for patients. This is not included in the usable time.

[4] The increased marginal costs for the mix based on the structure of the population is largely accounted for by the increased level of maternal health care and, within this component, the increased proportion of women delivering in a health facility.

slightly less. In order to take account of increased import prices, however, it is probably safer to base estimates on the taka equivalent of 3.3 dollars per capita.

Table three: total implied costs of ESP delivery (Crore Taka)

	1999/2000			
	Actual current [1]	Adjusted current [2]	Required for full coverage [3]	Per capita
Upazila	589	718	1,043	98
Above Upazila	616	780	780	73
Total	1,205	1,498	1,823	171
Increase		24.3% (actual to adjusted)	21.7% (adjusted to full)	
Per capita (Taka)	113	140	171	

Source: MAU.
Notes:

1. Actual spending based on 1999/2000 expenditure and cost estimates from survey.
2. Adjusted spending incorporating more realistic costing of equipment items particularly maintenance and replacement and spending in idle time.
3. Spending required in order to provide the 40% expansion of ESP care to encompass most rural areas.

Improving efficiency

The results presented above provide estimates on the supply-side cost of the ESP expanded to the majority of the population. The projections are based on the average level of efficiency in the sample upazilas. Increased intensity of resource use, particularly capital items such as buildings and equipment, implies some improvement in technical efficiency. The reduction in the average cost of treatment provides some indication of this improvement.

Other potential efficiency or productivity improvements are not captured. In particular it is assumed that the skill mix of staff does not change. The estimates are also based on the existing staff salary structure although allowance for more funding for staff is made when staffing required goes beyond what is available in usable free time. How this funding is used is of critical importance for the successful delivery of the package. Without fundamental changes in the skill mix and incentive structure it is unlikely that the productivity increases required by service expansion will be realized.

The analysis has deliberately taken the average upazila as a starting point for projections. Further efficiency gains might be achieved if, instead, the best performing upazilas were taken as the standard at different levels of output. Other upazilas would then be helped to achieve similar levels of productivity. Such frontier analysis using, for example, data envelopment techniques provides a useful way of examining total system loss from less than optimal use of resources[5]. It seems less useful for

[5] Frontier analysis encompass a series of techniques that attempt to estimate the production possibility frontier described by microeconomic theory. A frontier describes the highest level of production for a given cost (resource use). Those units performing within the frontier are determined to be relatively

providing realistic predictions of cost. In addition, examination of figure one shows that, for given levels of output, upazilas are remarkably close to one another so that the average regression fit is high. This suggests that any gains of efficiency shown up by frontier analysis would be relatively small. For these reasons frontier efficiency analysis is not pursued further here.

The extension of the ESP in areas that are considered to be a health priority from a public health perspective provides the finance for improving access to essential services. For these resources to feed through into genuine improvements in health status (***allocative efficiency***) the resources must be used in a way that creates good quality services for vulnerable groups. The projections above are based on the implicit assumption that use of services is primarily supply constrained. The implication hidden demand exists but is suppressed through lack of supply. It is possible, and indeed likely, that less than desired utilization is a product of demand as well as supply factors. In these circumstances simply providing more services does not guarantee that they will be used.

The most recent CIET survey on service delivery under HPSP offers some clues on the determinants of demand (CIETcanada, 2000). The survey indicates (page 18, table 7) that the main factors determining a person's choice of service are accessibility (proximity and access to cheap transport), quality and cost (cheap service). Having no choice of service was also stated as an important determinant. The survey does not provide information on why some patients did nor seek treatment when sick (either in the private or public sector). It is likely, however, that similar reasons also determine non-use in addition to social, cultural and information factors. A further study of these factors, particularly a multivariate analysis of non-use, is recommended.

The CIET survey also makes clear that only around 20 percent of those utilizing health services attend government facilities. The reasons for using particular non-government services also provide clues on the reasons for not using government facilities. If quality and accessibility are key factors then further demand 'inducement' might rely on improvements in these areas. Improving quality is partly a resource issue and it is anticipated that by incorporating the full cost of equipment, including maintenance and replacement, and commodities the quality of service will also improve. But quality is also a staffing issue. In particular, the CIET survey makes clear that staff attitude is an important factor particularly in choosing a private rather, perhaps, than a public provider. Changing attitudes is difficult to cost but clearly important if attempts to widen service provision is to be successful.

The hidden costs of accessing services, including transport charges and opportunity costs of time off work, are likely to be important factors in deterring people from obtaining service. The CIET survey indicates that 57 percent of government service users pay for transportation (second only to medicines, paid for by 62 percent) against only 27 percent that access unqualified providers. In this context it is clear that increasing access may require that some of these costs are subsidized by the public sector for certain groups in the population. Incorporating a discretionary fund (administered by Upazila managers perhaps in collaboration with community groups)

inefficient. They could employ resources in a more effective way to increase production. A well known technique used to estimate the frontier is Data Envelopment Analysis (DEA).

into the cost of the essential package is one way of financing some of these demand side costs.

Box one provides an example of the impact of per capita and national costs of incorporating an 'access' fund. How such funding is be used could be determined by local priorities. In some areas a transportation subsidy for the very poor might be appropriate. In other areas it might be more effective to provide transportation or even improve the local infrastructure to give greater access[6]. While embodying such local priorities into the current system of national allocations is difficult, the development of local level planning should provide the opportunity for using health service funds in innovative ways in order to improve access to services. This process involves consultation with a range of stakeholders to develop a needs based action plan that can later be linked to prioritized budgets (MCU/HLSP, 2000). It is the obvious way of pursuing such local needs provided that the management systems are adapted to permit financial resources to follow identified local priorities.

Box one: financial implications of a transport access fund
The CIET survey suggests that the average transport cost is 26 taka. If a subsidy was extended to all those found to be below a poverty line - some 28 percent of baseline survey households assuming a line of extreme poverty estimated by BIDS - implies an average subsidy of just over 7 taka per patient. It is likely that many non-users would incur much higher transport costs if they visited the facility. So a 10 Taka subsidy might be more realistic.

On a per capita basis, at the revised utilization rates, this implies an increase in overall funding for ESP from 171 to 184 Taka per person living in rural areas.

Basis of calculations: CIET survey, 2000 and author calculations.

Overcoming information, social and cultural impediments to health service use is a more challenging task and further discussion is outside the remit of this paper. An important part of the strategy concerns the use of Behavioural Change Communication (BCC) which is a key component of HPSP. There are many innovative strategies being used within the government and non-government sector. Yet there is very little either local or international evidence on the cost-effectiveness of these various strategies. Given that extending basic health service to the currently un-reached groups is likely to be largely a demand side activity it is vital that further work on the evaluation of BCC approaches is undertaken.

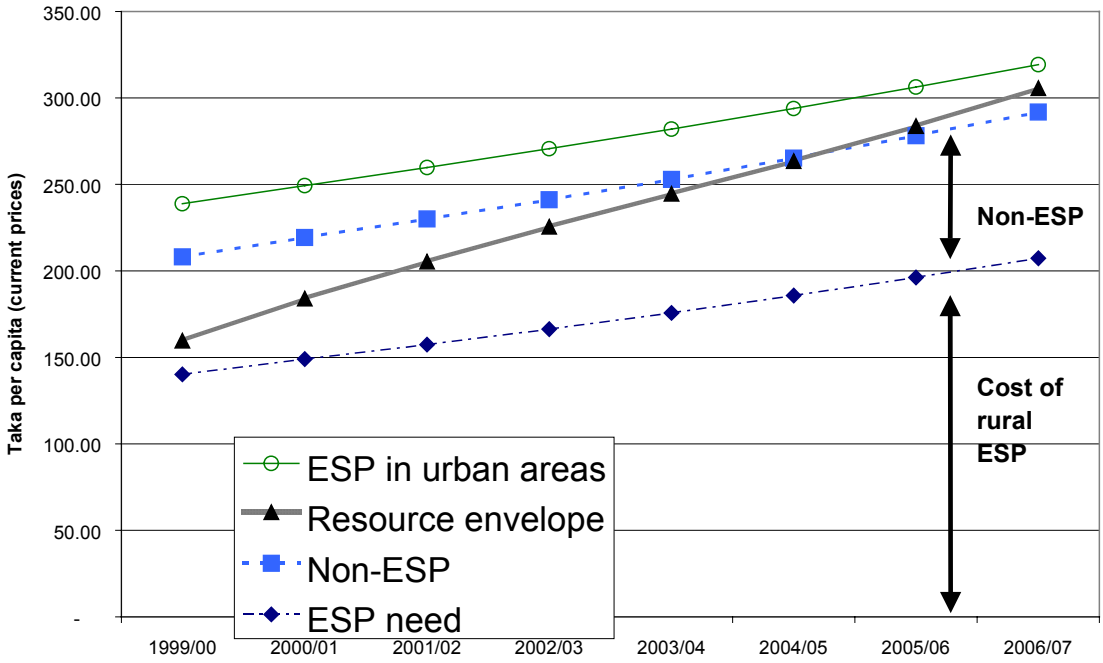
Projecting total costs

The projections suggest that to extend the ESP to the majority of the rural population would require a 33 percent increase in real spending - to around 171 Taka per person. If the ESP costing is confined to the rural population then this implies a country-wide spend of 140 Taka per person. Assuming that non-ESP costs rise with inflation and growth in real wages, this implies a total per capita requirement for health financed from the public budget (1999/2000 prices) of 198 taka per capita (based on estimates in the 1999/2000 Health PER).

[6] A participant at a recent seminar hosted by the World Bank suggested that access would be improved in one upazila known to him by building a bridge to get people to the facility more quickly.

A key question is whether this is likely to be affordable given the projected resource envelope for funding of the sector. A recent paper developed projections based on optimistic and pessimistic (baseline) scenarios for funding (Miller, 2001). The baseline resource envelope (excluding user charges and insurance revenues projected in the original paper) is shown in figure one. Also shown are projections for per capita ESP and non-ESP costs. Both are adjusted for expected inflation. The ESP costs are based on the projections detailed in this paper adjusted for expected inflation and increasing real wages. The non-ESP costs are based on current (1999/2000) spending adjusted for inflation and real wage increases.

Figure three: projections of ESP and non-ESP costs compared to resource envelope



Source: Miller, 2001 and author calculations based on Ferdousi, 2001.

The projections indicate that the resource envelope should be able to cover the costs of expanding ESP by 2004/2005. The upper line indicates the resources that are required to provide comparable ESP services in urban areas in addition to the rural areas[7]. National per capita spending of 230 taka is required in order to cover costs of urban and rural population based on the assumption that the costs of urban and rural care is similar. It is important to realize, however, that the implied resource envelope would then be larger since much of the urban health care costs are financed by the Local Government Engineering Department (LGED) the finance for which is not included in the resource estimates.

These projections do not incorporate any absorption of patient borne costs. If the 10 taka per patient allowance is included then the time horizon for covering the full costs of ESP extends to 2006/07 while the total per capita cost (excluding provision for urban areas) rises to around 209 taka.

[7] All costs are per capita. The numbers in urban areas are growing faster than in rural areas which implies that the overall cost of urban care will also rise more rapidly.

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Data annex

Table A.1: Baseline data costs of ESP at upazila and union facilities (including field workers)

		Average monthly patients	Staff time	Staff cost Tk.	Staff cost Tk (including idle time).	Commodities & consumables cost	Usage cost of equipment Tk.	Usage cost of Furniture & physical structures	Overhead cost at UHC	Super-overhead cost	Total ESP cost	%	ESP cost per patient Tk.
Upazila Health Complex													
Reproductive Health Care	42.6%	6,052	3,078	120,924	168,053	87,610	120,255	6,462	25,606	18,710	426,696	40.1%	70.50
Maternal Health	8.0%	*1,140*	*1,392*	*54,837*	76,209	*28,645*	*115,825*	*1572*	*5,786*	*4,248*	232,285	21.8%	203.76
Family Planning	29.4%	*4,179*	*1,070*	*41,976*	58,336	*48,062*	*4375*	*3,981*	*15,743*	*11,995*	142,492	13.4%	34.10
Others	5.2%	*734*	*616*	*24,112*	33,509	*10,901*	*50*	*906*	*4,076*	*2,467*	51,909	4.9%	70.72
Child Health Care	42.0%	5,967	3,563	138,909	193,047	111,123	20,465	8,121	33,771	24,890	391,418	36.8%	65.60
Communicable Diseases Control	2.1%	297	386	14,787	20,550	15,824	23,040	675	1,949	1,854	63,892	6.0%	215.12
Limited Curative Care	13.2%	1,876	2,108	82,280	114,348	33,894	5,325	3,327	12,878	9,074	178,846	16.8%	95.33
Support Service	0.1%	18	17	823	1,144	1,726	-	12	0	22	2,904	0.3%	161.34
UHFWC (6 facilities)		7518		110,244	153,211	306,125	31,050.00	31230	10140		531,755		70.73
Total ESP		21,729	9,152	467,968	650,354	556,301	200,130	49,824	84,343	54,550	1,595,502	100.0%	73.43
Per patient					29.93	25.60	9.21	2.29	3.88	2.51	73.43		
Percent					40.8%	34.9%	12.5%	3.1%	5.3%	3.4%	100.0%		

Source: (Ferdousi, 2001) but adjusted for idle time and greater spending on equipment items.

Table A.2: Costs of expanded Upazila and Union health services

	Base monthly patients	% increase	Revised patients (per month)	Base staff time	Revised staff time	Staff cost Tk.	Commodities & consumables cost	Usage cost of equipment Tk.	Usage cost of Furniture & physical structures	Overhead cost at UHC	Super-overhead cost	Total ESP cost	%	ESP cost per patient Tk.
Reproductive Health Care	6,052													
Maternal Health	*1,140*	110%	2,394	1,392	2,923.20	136,854	88,648	358,448	1,572	5,786	4,248	595,556	36.1%	248.77
Family Planning	*4,179*	23%	5,140	1,070	1,316.10	71,085	59,117	5,381	3,981	15,743	11,995	167,302	10.1%	32.55
Others	*734*		734	616	616.00	40,833	10,901	50	906	4,076	2,467	59,233	3.6%	80.70
Child Health Care	5,967	5%	6,265	3,563	*3,741.15*	235,238	*116,679*	21,488	8,121	33,771	24,890	440,188	26.7%	70.26
Communicable Diseases Control	297	100%	594	386	*772.00*	25,041	*31,648*	46,080	675	1,949	1,854	107,247	6.5%	180.55
Limited Curative Care	1,876	190%	5,440	2,108	*6,113.20*	139,339	*98,294*	15,443	3,327	12,878	9,074	278,354	16.9%	51.16
Support Service	18		18	17	*17.00*	1,394	*1,726*	0	12	0	22	3,154	0.2%	175.23
UHFWC	7518	30%	9,773	0	-	186,695	*397,962*	40,365	31,230	10,140	0	666,392		68.18
Total ESP	**21,729**		**30,359**	**9,152**	**15,499**	**836,479**	**804,975**	**487,255**	**49,824**	**84,343**	**54,550**	**2,317,426**	100.0%	**76.33**
Per patient						27.55	26.51	16.05	1.64	2.78	1.80	76.33		
Per capita						35.32	33.99	20.57	2.10	3.56	2.30	97.85		