Health Economics Unit
Policy Research Unit,
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Public Expenditure Review (2000/01) of the Health and Population Sector Programme

Research Paper 29

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Health Economics Unit (HEU)
Financial Management Unit (FMU)

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Executive summary

1. Macro overview of spending

- Total spending on HPSP for 2000/01 was 2,046.5 Crore Taka. Expenditure amounted to 78% of the original budget; slightly lower than the previous years figure of 85%.

- Actual expenditure on health under HPSP has fallen far short of the approved budgets. Underspending is especially extreme for RPA (other) with underspending running at more than 60% of the budget.

- There is a slight decrease in real per capita expenditure this year. Expenditure remains significantly below pre-HPSP levels.

- The failure to increase per capita expenditures in real terms seems to be one of absorption capacity rather than a failure to allocate sufficient funds.

- Spending on the Essential Service Package (not including overheads) remains above 60%, and at 66% is up from last years figure.

Financial Indicators of the HPSP[1]

Indicators	Base Level 1997 (%)	Final Level 2003 (%)	98/99 (%)	99/00 (%)	00/01 (%)
Total Spending on the Essential Services Package as a proportion of total health sector spending (without overhead costs)	60	65	65	60	66
Total Spending on the Essential Services Package as a proportion of total health sector spending (including overhead costs[2])				70	78
Proportion of health sector recurrent expenditure going to important non-salary components (esp. medicine, maintenance) versus going into salary component	23	30	43	51	53
Proportion of health sector expenditure for recurrent rather than capital expenditure	75	80	85	91	88

- Spending by main ESP component is estimated as Family Planning (15%), Child Health (40%), Maternal Health (21%), Limited Curative Care (14%), Communicable Disease Control (4%), Reproductive Health (Other) (5%) and BCC (1%).)

[1] The second and third indicator definitions have both changed since the original baselines were set. This means that comparison of the current indicator with the baseline is somewhat misleading. The indicators may, however, be useful in their own right at monitoring the input composition of HPSP spending.

[2] Overhead costs include costs which support both ESP and non-ESP service delivery, such as MOHFW and medical training etc

Authorship and acknowledgements

A large number of people contributed to the production of this report. This includes staff of the Financial Management Unit (FMU) (particularly Mr Md Aminul Mohaimen, IT consultant and Ms Diane Northway, Consultant), DGHS (Dr. Tofael Ahmed, Programme Manager, MIS), PCC (Mr Md. Shahjahan), Data International (Ms Tahmina Begum).

Data collection was facilitated by Mr Hamid Morel and Dr Shamim Ara Begum of the HEU.

The data for section one was analysed by HEU and FMU. The report was put together by Ms Atia Hossain, Ms Priti Dave Sen and Mr Geoff Hoare under the leadership of Mr Abul Qasem, Joint Chief and Line Director, PRU.

Abbreviations

Abbreviations included in this report are taken from the following HEU list:

ADP	Annual Development Programme
ALOS	Average Length of Stay
ANC	Ante Natal Care
ARI	Acute Respiratory Infection
BBS	Bangladesh Bureau of Statistics
BCC	Behavioural Change Communication
BIA	Beneficiary Incidence Analysis
BINP	Bangladesh Integrated Nutrition Project
CCD	Control of Communicable Diseases
CGA	Controller General of Accounts
CH	Child Health
CIET	Community Information Epidemiological Technology
CMMU	Construction Management & Maintenance Unit
CMR	Crude Mortality Rate
CPR	Contraceptive Prevalence Rate
DDO	Drawing and Disbursing Officer
DGFP	Directorate General of Family Planning
DGHS	Directorate General of Health Services
DPA	Direct Project Aid
ELCO	Eligible Couple (for family planning)
ESP	Essential Services Package
EOC	Emergency Obstetric Care
EPI	Expanded Programme of Immunisation
EU	European Union
FMU	Financial Management Unit (formerly Management Accounting Unit)
FYP	Five Year Plan
GDP	Gross Domestic Product
GIO	Gender Issues Office
GOB	Government of Bangladesh
HDI	Human Development Index
HEU	Health Economics Unit
HPSP	Health and Population Sector Programme
IEPSD	Institute for Economic and Private Sector Development
IMR	Infant Mortality Rate
JICA	Japan International Cooperation Agency
LCC	Limited Curative Care
MACS	Management Accounting System
MAU	Management Accounting Unit
MIS	Management Information Systems
MOHFW	Ministry of Health and Family Welfare
NHA	National Health Accounts
NGO	Non-Government Organisation
PER	Public Expenditure Review
PFC	Project Finance Cell
PIP	Project Implementation Plan
PCC	Programme Co-ordination Cell
PNC	Post Natal Care
RH	Reproductive Health
RPA	Reimbursable Project Aid

SOE	Statement of Expenditure
SWAp	Sector Wide Approach
STD	Sexually Transmitted Disease
TFIPP	Thana Functional Improvement Project
UHC	Upazila Health Complexes (formerly Thana Health Complexes)
UHFWC	Union Health and Family Welfare Centre
UNDP	United Nations Development Programme
UNICEF	United Nations International Children's Emergency Fund

Introduction

The Health and Population Sector Programme (HPSP) completed its third year of a five-year programme at the end of June 2001. This report looks back at the financial allocations for the core HPSP activities over the past year. This is the sixth Public Expenditure Review (PER) conducted by the Health Economics Unit and the Financial Management Unit (FMU)

HPSP places a strong emphasis on delivery of an Essential Service Package (ESP), particularly to vulnerable groups. For continuity of analysis with previous PERs, ESP has been defined as all primary care interventions delivered at Upazila level and below.

Section 1 presents a national review of spending under HPSP. This includes an analysis of aggregate trends in public health and population spending, as well as levels of spending on the ESP. It reports against the three key financial monitoring indicators for HPSP: i.) total spending on the ESP, ii.) proportion of total health and population spending on capital and recurrent items; and iii.) proportion on salary and non-salary items.

Section 2 focuses on the question of efficiency of ESP provision. The last PER examined the equity impact of ESP provision and noted that being more efficient can also enhance equity. Firstly, improved efficiency frees up scarce resources that can be used for extending ESP to the un-served poor. Secondly, efficiency influences the quality of care that can be provided. For example, an optimal mix of salary and non-salary inputs is required to provide care of a technically acceptable standard, as well as stimulate desired provider behaviours.

Section 3 updates the resource projections presented in the last PER. It uses a more refined methodology for predicting likely availability of resources from a number of sources up to 2006/07. This includes government and donor funds, and alternative revenue sources such as user fees and insurance. The equity impact of the financing strategies is assessed next. Specifically, whether sources represent contributions that are progressive, regressive or proportional. Finally, resource projections are used to assess feasibility of extending coverage of the ESP during the next phase of the sector programme.

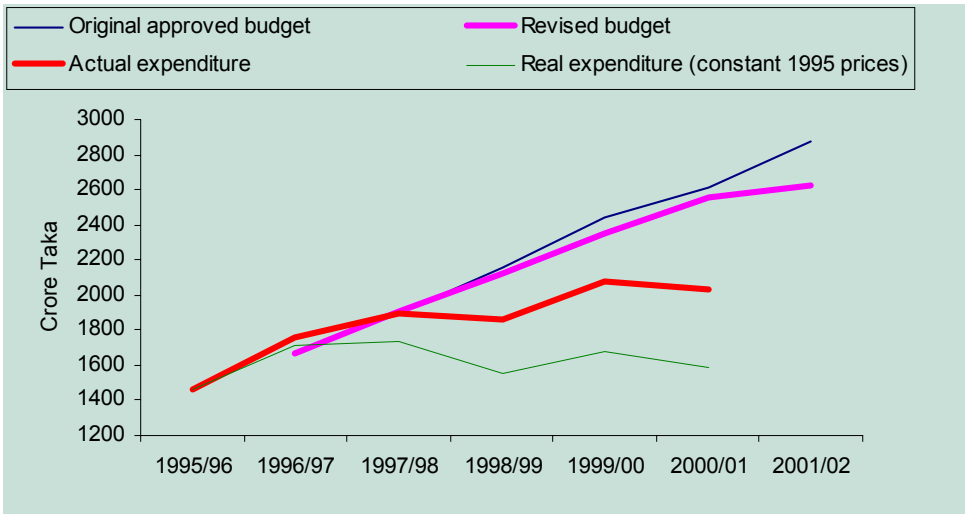
1. National expenditure review of HPSP

Although the vast proportion of public health and population spending falls within the budget of the Ministry of Health and Family Welfare (MOHFW), there are health activities funded by other line ministries. Here though, reporting is limited to health expenditures incurred by the MOHFW[3]. Estimates are based on figures provided by the Financial Management Unit.

Macro overview of spending

For the 2000/01 financial year, the Ministry of Health was originally allocated 2609 crore taka as the revenue and development allocation for HPSP (Health and Population Sector Programme). The budget was revised downwards to 2558.5 crore taka. The revised budget represents 6.7 per cent of the total revised government budget and represents a slight rise (of 0.1%) from the previous year's allocation (1999/00). However, that year saw a significant fall in health's share in the government budget, from 7.5% to 6.6%. (annex table A1.3).

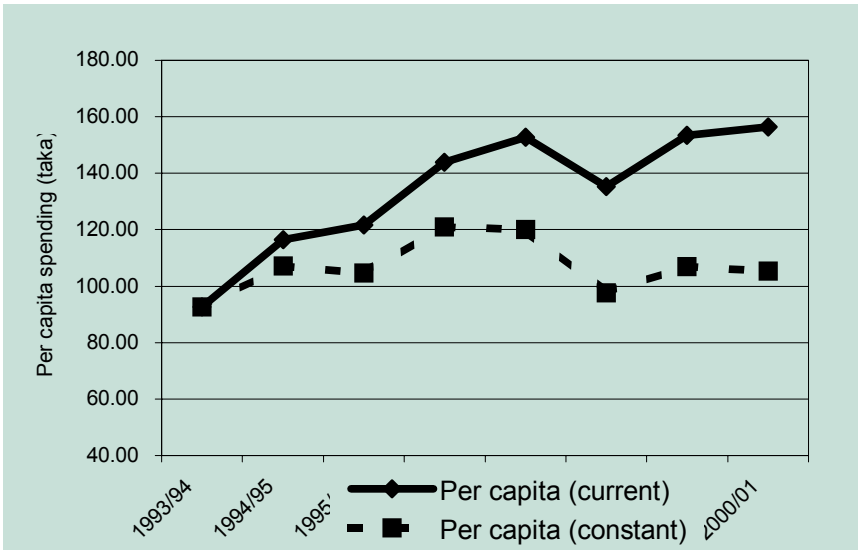
Figure 1.1: revenue and development spending 1995 – 2001, original and revised budget



There is a significant reduction in total spending on HPSP as a proportion of total government expenditures. HPSP comprises only 5.2% of total government expenditures in 2000/01 compared to 6.1% in the previous year. Expenditures were 2046.5 crore taka based on SOE (statement of expenditures) of line directors and reports from CGA and PFC. Most of the reduction in health expenditure is a result of higher levels of under spend. Only 80% of the revised health budget was spent this year compared to 88% last year (figure 1.1). In real terms health expenditure is actually less than last year, implying that expenditures need to increase significantly if they are to reach pre HPSP expenditure levels.

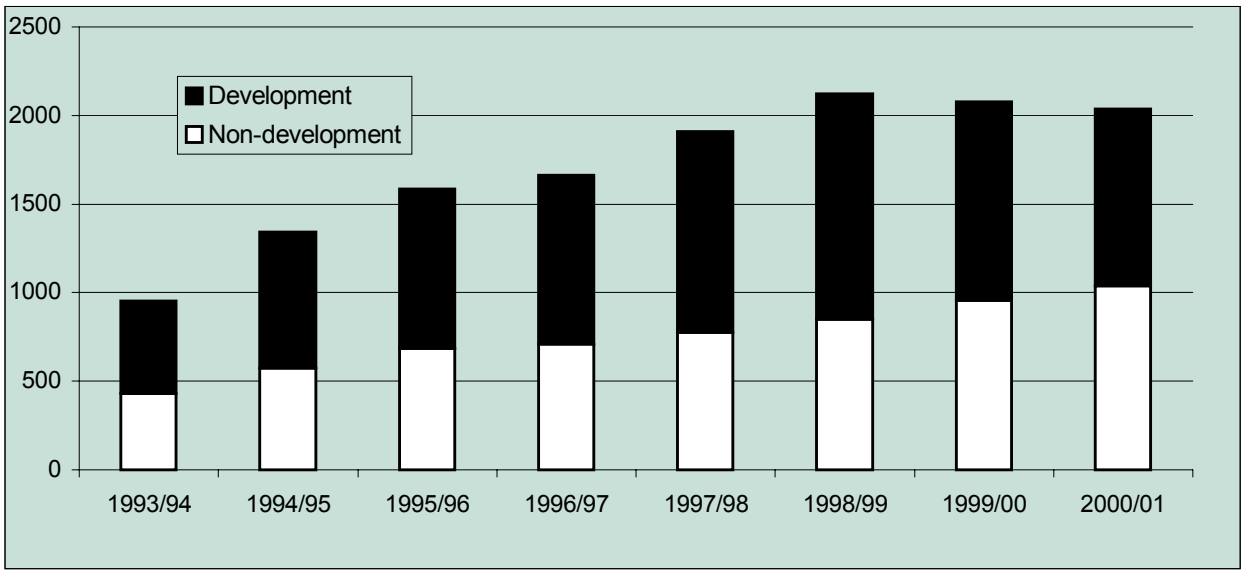
Figure 1.2: MOHFW per capita spending (1993-2001), current and constant (1993) prices

[3] Health expenditures incurred by other government departments will be estimated in the upcoming National Health Accounts exercise.



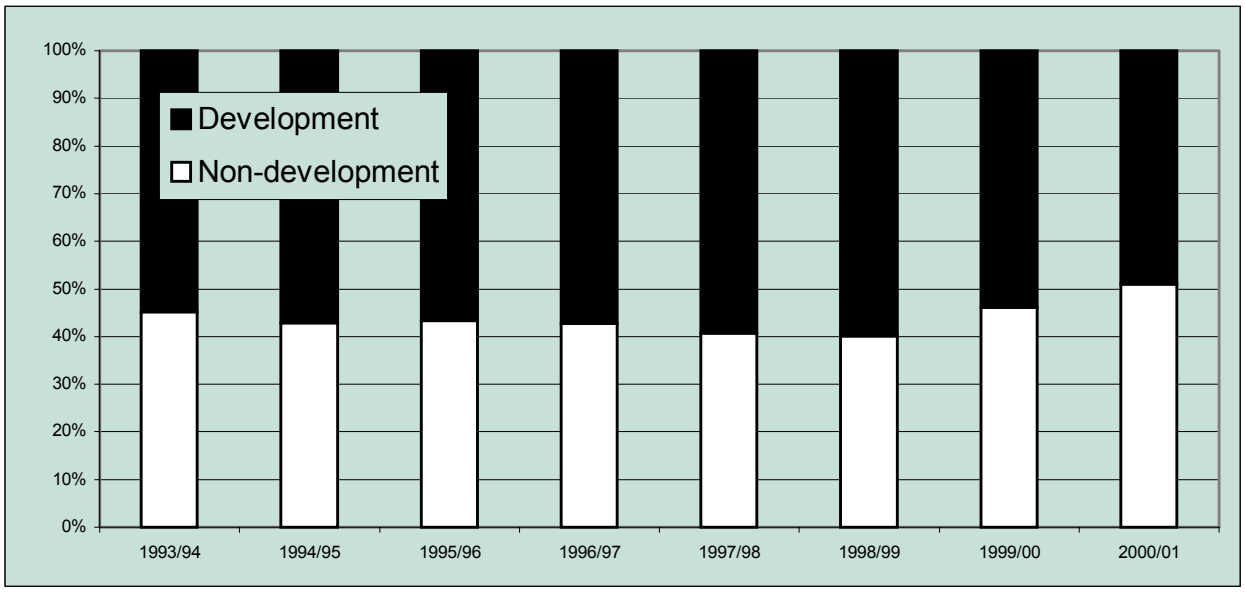
Expressed in per capita terms, health expenditures are slightly higher than last year. However, when expressed in real terms, per capita expenditure is actually lower than in the previous year (figure 1.2).

Figure 1.3: trend in health spending under development and non-development budgets (1993/94 to 2000/01) (crore taka)



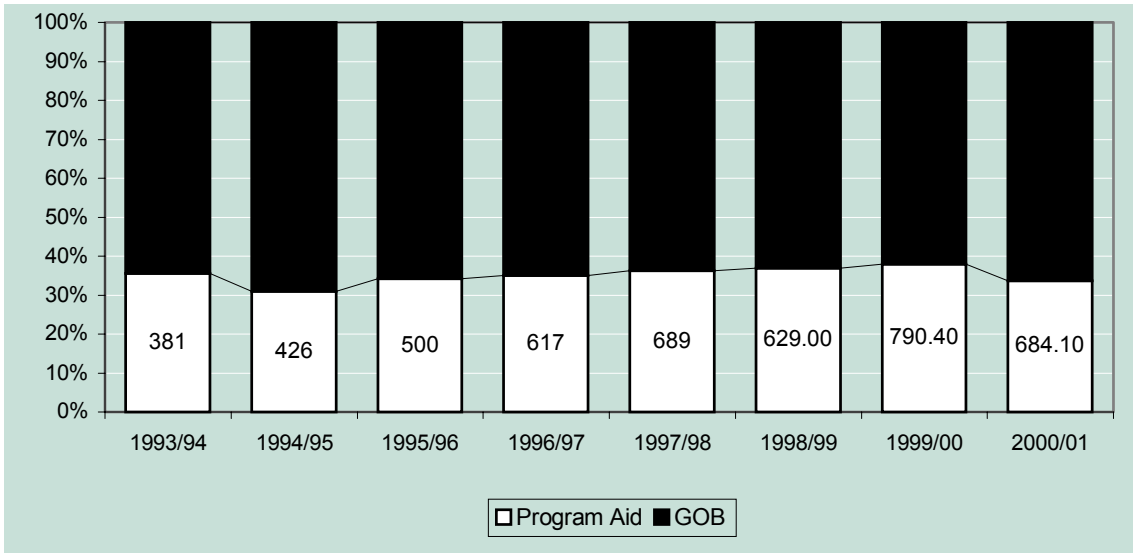
In nominal (i.e. cash) terms total expenditures more than doubled in the period 1993/94 to 2000/01 (figure 1.3)

Figure 1.4: trends in proportionate health spending under development and non-development budgets (1993/94 to 2000/01)



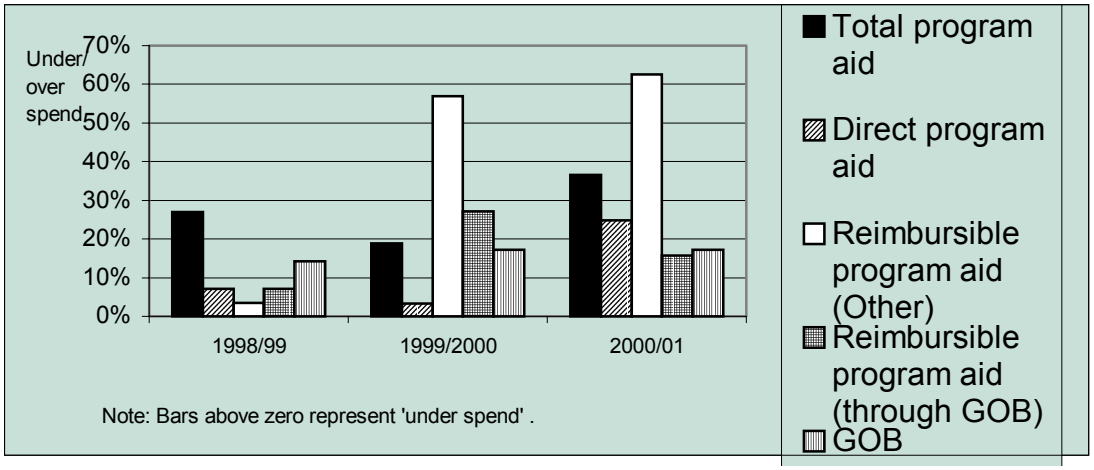
Expressed in relative terms, the development share of total expenditure has fluctuated over this same period, but has fallen with a broad range of 50% to 60% of the total (figure 1.4). From a peak of approximately 60% in the years 1997/98 and 1998/99 the development share has fallen in the last two years so that in 2000/01 it approached 50% of total expenditures.

Figure 1.5: trend in government and donor share of total expenditure



The last five years has seen a small but consistent rise in donor share of health expenditures. However, the trend has been reversed this year with share of programme aid expenditures falling to 33.6% (figure 1.5). Much of this decline is due to higher levels of under spend on the programme aid budget (figure 1.6)

Figure 1.6: trend in underspend in development budget by source of funding (1998/99 to 2000/01)

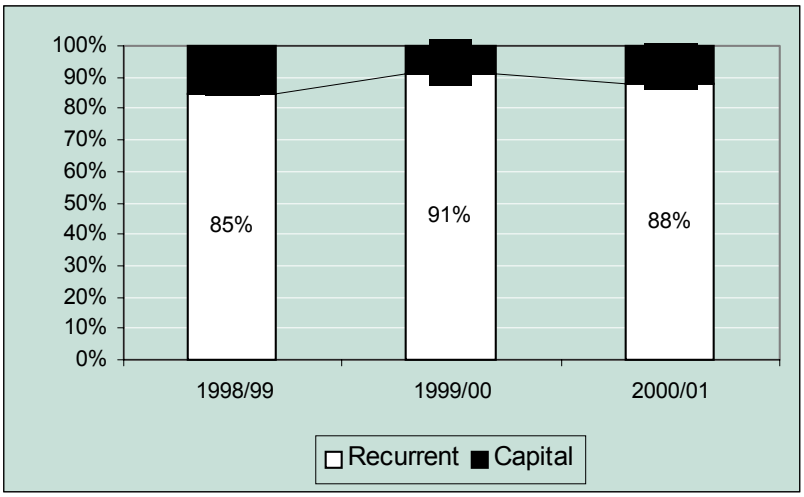


No consistent pattern emerges from an examination of development underspending by source although the last two years has seen huge levels of underspending on RPA (other).

Figure 1.7: proportionate spending on salary and non-salary items under development and non-development budgets

Analysis of expenditures by input type reveals that salaries account for less than half of total expenditures (figure 1.7). However, there are marked differences in expenditure patterns across development and non-development budgets. Salaries account for almost 70% of the non-development budget (a figure largely identical to the previous year). Marked changes can be observed on the development budget since last year with the salary component falling from just under 30% to 20% this year.

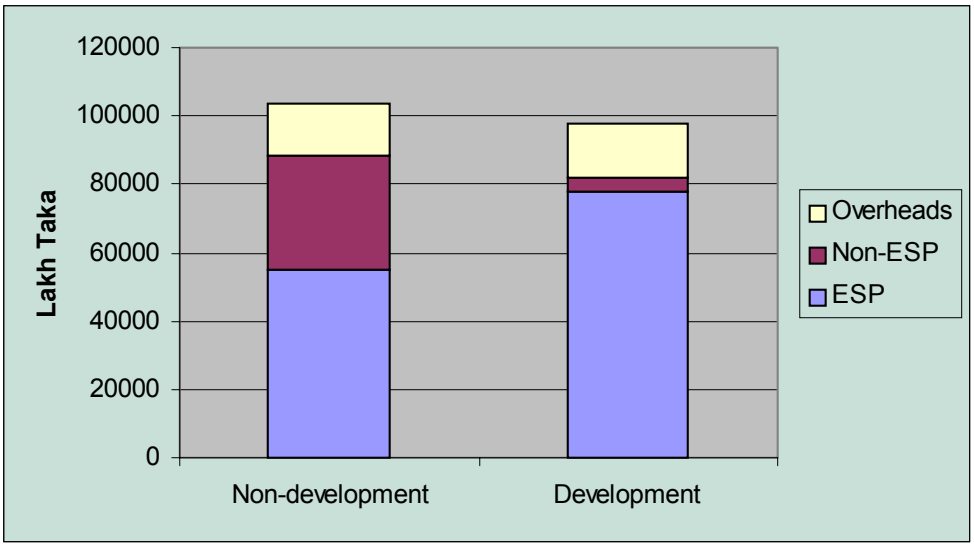
Figure 1.8: trends in spending on recurrent and capital items (1998/99 to2000/01)



As a proportion of total expenditure, capital expenditure fell markedly in 1999/00 and although it has risen this year, this rise was less than half of the previous year's fall (figure 1.8).

Spending on the Essential Service Package (ESP)

Figure 1.9: spending on ESP, non-ESP and overheads under development and non-development budgets (lakh taka)



Analysing programme expenditures by function one can differentiate between three cost elements: ESP services, non-ESP services and overhead costs (Table A1.8). Functionally ESP has been defined as comprising all services delivered at the Upazila level and below, and this definition is used to disaggregate expenditures within the various budgets. The relative importance of these three components is shown in figure 1.9 above.

Figure 1.10: proportionate spending on ESP and non-ESP services (with overheads apportioned) under development and non-development budgets (lakh taka)

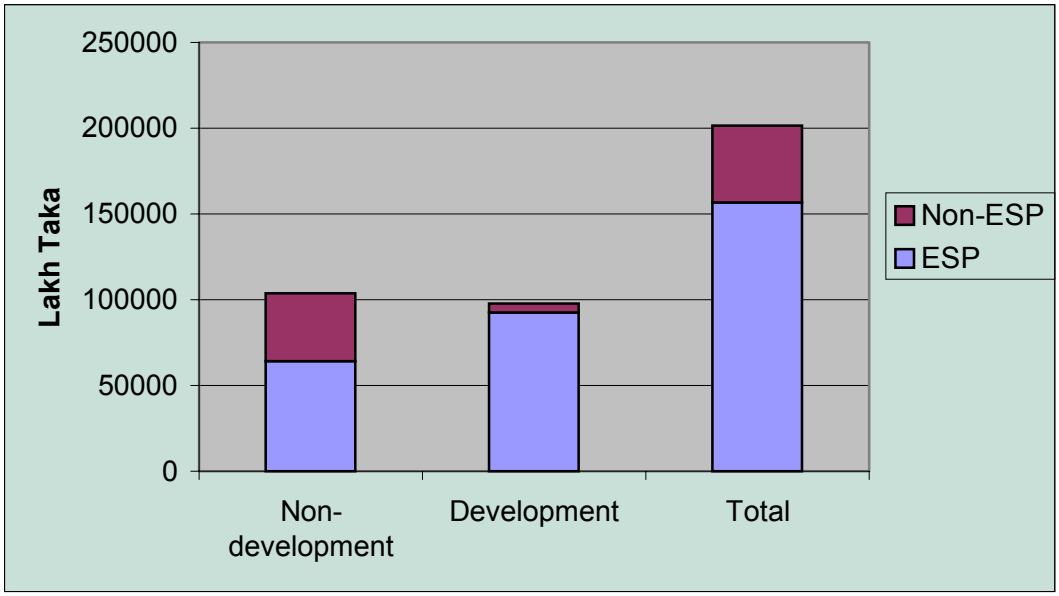
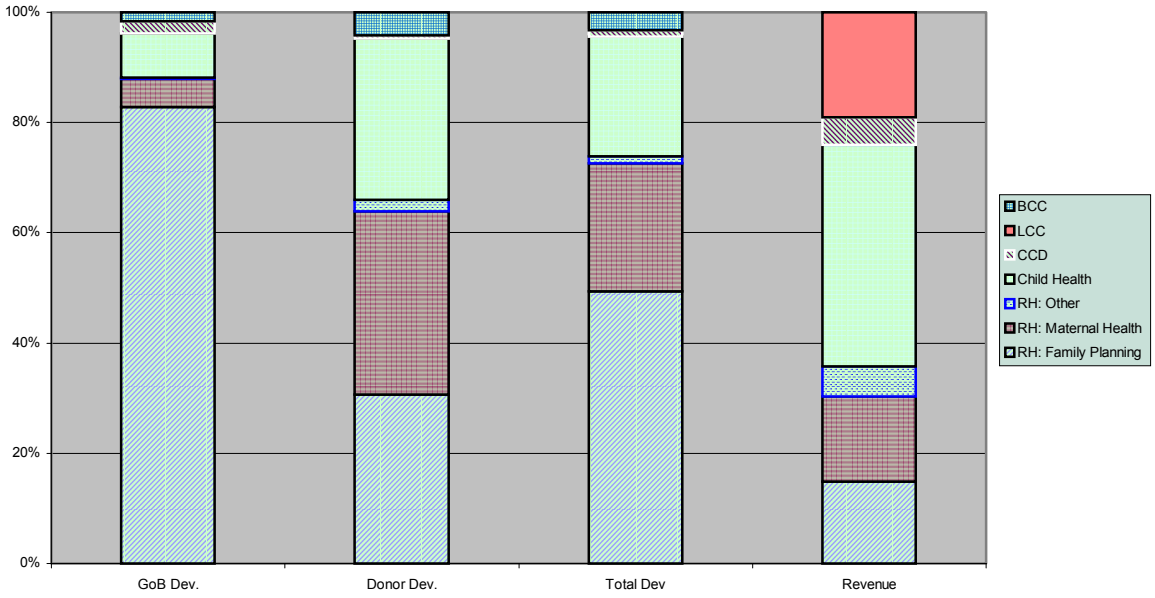


Figure 1.10 shows the effects of apportioning the overhead costs identified separately above to the ESP and non-ESP. Expressing total expenditure in functional terms ESP accounts for 66% without overheads and 78% with overheads included.

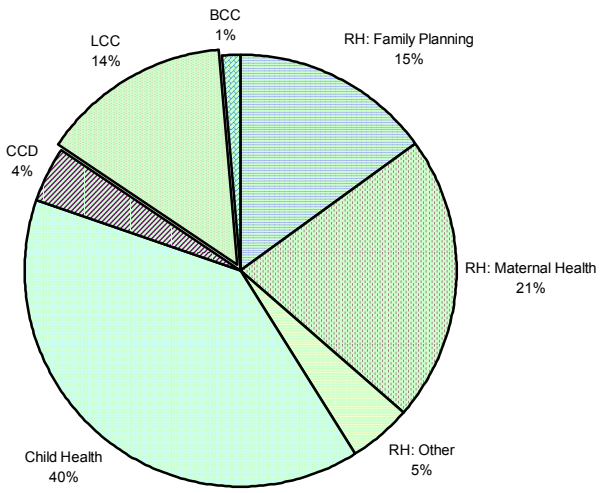
Figure 1.11 disaggregates ESP components by activity and by source of funding. The disaggregation of expenditure by activity was achieved by using observed time allocations as a proxy for overall resource utlisation patterns as detailed in HEU (2001). Of note is the fact that limited curative care (LCC) is funded almost wholly from the revenue budget. The revenue budget is also a major source of funding for child health (CH).

Figure 1.11: spending on ESP components for non-development and development budgets (by source)



On the development budget side, the GOB contribution is almost exclusively for family planning activities. Donor support to the development budget is the major source of funding for maternal health services. In total, reproductive health services account for over three quarters of development spending.

Figure 1.12: Spending on ESP components (development and non-development budgets combined) for 2000/01



Combining development and non-development ESP spending, Child health accounts for the largest programme, accounting for 40% of total ESP expenditure (figure 1.12). The second largest programme is maternal health at 21% of total expenditures. In fact maternal health shows the largest increase in relative ESP spend rising from last years figure of 13%. Conversely the largest proportionate fall has been in family planning down to 15% from 28% last year.

2. Efficiency of ESP expenditures

This section examines the operational efficiency of government facilities in delivering the ESP, identifies some sources of inefficiency and considers possible means of improving resource use. Expressed simply, efficiency can be thought of in two ways: doing the right things (allocative efficiency), and doing things right (technical efficiency). Within the HPSP allocative efficiency is promoted through prioritising spending on a package of proven cost-effective interventions (i.e. the ESP). A minimum of 60% of HPSP resources is to be committed to the ESP. This leaves the question of technical efficiency to be considered.

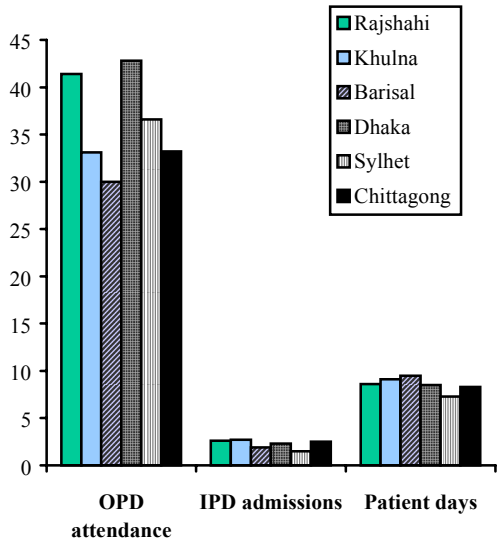
Technical efficiency is most easily assessed by comparing the relative performance of different providers of ESP services. Comparisons can meaningfully be made across facilities of the same type; across different levels of care; and, across different types of provider. A variety of performance indicators relating to outputs and unit costs are used to answer the following specific questions.

- How efficiently do ESP facilities of the same type (e.g. UHCs or UHFWCs) provide services?
- How efficient is the UHC in delivering ESP services relative to higher-level government facilities, such as district hospitals and medical college hospitals?
- What is the respective performance of government and NGOs in respect of the ESP?

Upazila Health Complex efficiency

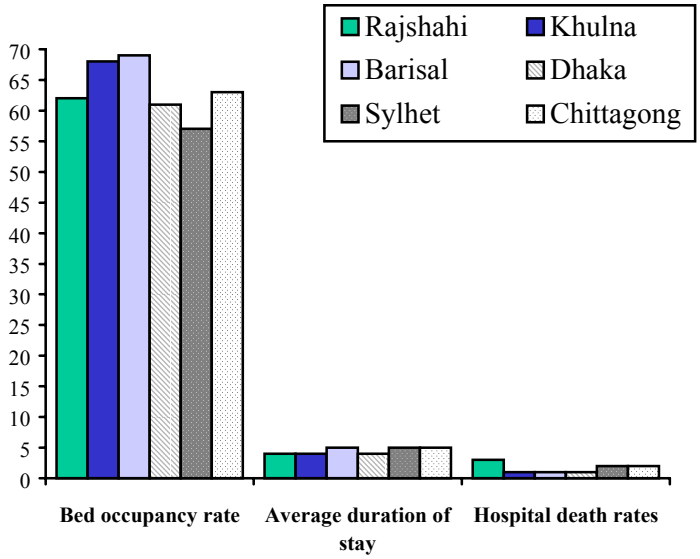
Key service indicators for UHCs indicate significant variations in facility performance across geographic divisions (figures 2.1 and 2.1.1). Indicators include, number of outpatients, inpatient admissions, bed days, bed occupancy, average length of staff (ALOS), number of patient days, bed throughput (or number of patients per bed per year) and death rates.

Figure 2.1: geographic variation in UHC performance (service indicator: annual number of outpatients, inpatients and patient days in thousands)



source: MIS 1999 (DGHS)

figure 2.1.1: geographic variation in UHC performance: (service indicators: bed occupancy (%), ALOS (number of days), and death rates (%))

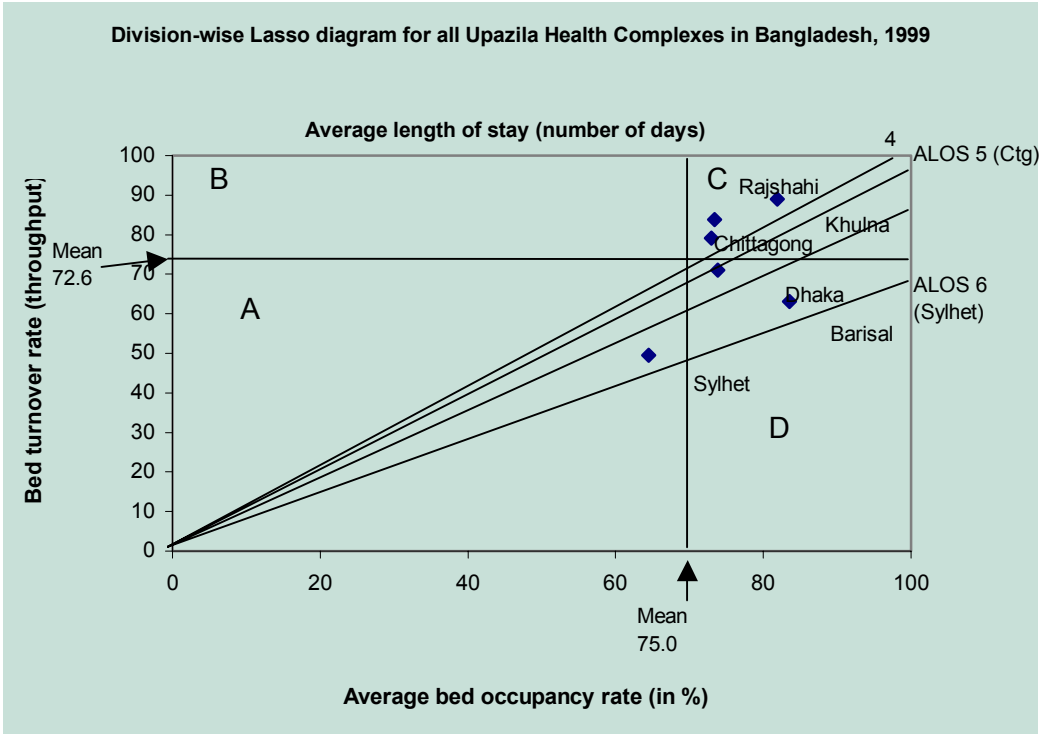


Source: MIS 1999 (DGHS)

To better understand the reasons for these variations it is necessary to consider how resources are allocated. Since all UHCs receive similar levels of funds (based on fixed staff and bed norms) and are assumed to treat patients of similar case mix, this variation in service indicators implies relative inefficiency between facilities. Some of the variation will be due to staff vacancies, and variations in catchment population size, disease patterns, demand for health care and physical accessibility of the facility. For example, death rates maybe higher in a UHC located near a main road and receiving a high proportion of road traffic accidents. Reasons for variations in service and outcome indicators need to be investigated more carefully.

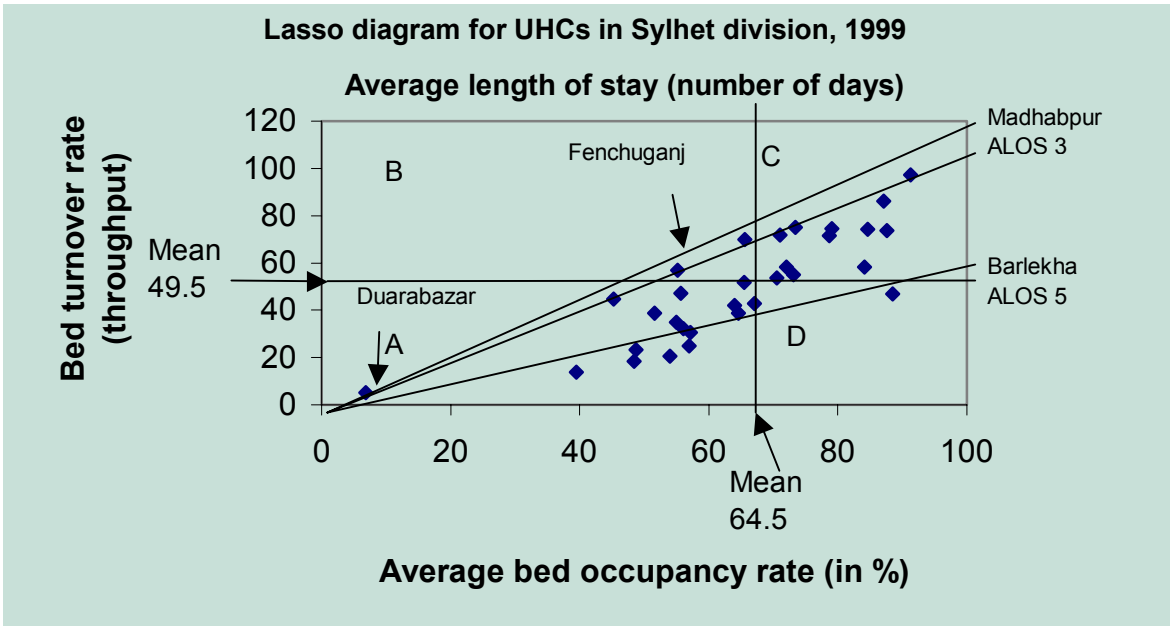
Efficiency of inpatient provision at UHCs is further assessed through the lasso diagram (figures 2.1.2 and 2.1.3) (Barnum and Kutzin). This combines and represents graphically three service indicators – occupancy rates, bed throughput and ALOS. Bed occupancy is shown on the horizontal axis and throughput on the vertical axis. Their numeric relationship means that ALOS can be depicted by a ray drawn from the origin through any point. ALOS decreases as the ray moves upwards. The graph is divided into four quadrants corresponding to the mean value of occupancy and throughput. Quadrant A (low occupancy and low throughput) represents facilities with excess bed availability, due to either low demand relative to installed capacity or diversion of patients to other facilities. Quadrant B (low occupancy, high throughput) with facilities that either have excess bed availability, unnecessary admissions or beds used for patient observation. Quadrant C (high occupancy, low ALOS, high throughput) ostensibly has the most efficient facilities, although they may still be admitting patients unnecessarily. Quadrant D (high occupancy, long ALOS) has facilities that are either treating a high proportion of ill patients (which in this case shouldn't be treated at this level of the health delivery network) or have unnecessarily high ALOS.

figure 2.1.2:



source: MIS 1999 (DGHS)

Figure 2.1.3:

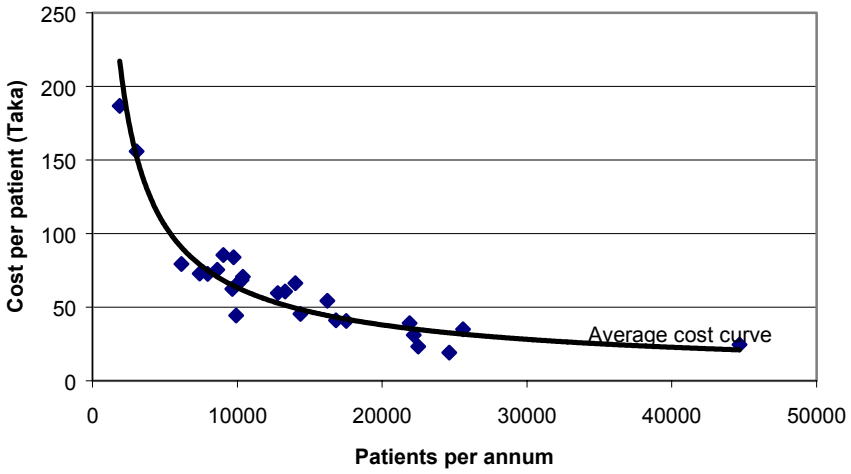


Source: MIS 1999 (DGHS)

UHCs across divisions and within divisions show great variation in efficiency. UHCs in Sylhet appear to be the least efficient, while those in Khulna the most efficient. However, further investigation is required of the causes for this variation. For example, it may be due to lower demand (caused either by differing catchment population size, health needs, physical or socio-cultural factors) or as already mentioned un-necessary admissions. An analysis to identify the determinants of variations in occupancy and throughput indicated population density to be the most important variable. This suggests economic efficiency would be enhanced if resources were allocated to UHCs on the basis of population size (and other criteria of need) rather than on input based norms.

Technical efficiency of UHCs is investigated by comparing unit cost variations across facilities. Unit costs measure how much it costs a facility to produce a particular output, in this case an ESP service contact. Here outpatient and inpatient contacts are combined. Unit cost helps assess whether inputs (staff, drugs, fixed costs etc.) are being optimally utilised. Costs and outputs were analysed for a representative sample of UHCs. For details of costing methodology adopted see HEU Research Paper 25 (2001).

figure 2.1.4 average cost curve for UHCs



Unit (average) costs vary greatly across the sampled UHCs. Figure 2.1.4 shows an average cost curve for the UHCs (cost per patient plotted against number of patients served). This indicates that the average cost of the ESP package is determined largely by the numbers of patients treated at a facility. The average cost of treating patients declines as the number of patients increases. This suggests surplus capacity in many facilities. Indeed, the costing study observed substantial slack time amongst UHC staff. Since the marginal cost (i.e. the cost of treating one more patient) is lower then average, in theory ESP services could be extended at relatively little cost. It is estimated that 10 taka would be needed per additional patient to cover medical supplies and consumables (Ensor et al 2001). However, this assumes effective demand for ESP services exists. Alternatively, efficiency could be improved by adjusting staffing patterns within UHCs . Currently, individual UHCs are prescribed uniform staffing norms and have no power to alter staffing levels. This needs to be investigated further.

Table 2.1.1 shows recurrent cost structure of UHCs prior to and during HPSP. Support to non-salary costs appears to have increased during the sector programme. This would imply improved efficiency since historically non-salary recurrent costs have been under-funded.

Table 2.1.1: recurrent input mix in UHCs before and during HPSP

Cost Item[4]	Cost structure of UHC Pre-HPSP (1997)	Cost structure of UHC during HPSP (2000)
Salary (% of total cost)	82%	68%
Non- Salary (% of total cost)	18%	32%

Sources: IPS and HEU (1999), HEU Research Paper 25 (2001)

Comparing UHC efficiency with higher level government facilities

Table 2.2.1 compares key UHC indicators (structural, service, outcome and cost) with those at higher-level government health facilities.

As would be expected, death rates are higher at higher-level facilities. This reflects greater severity of illness of patients treated at secondary and tertiary facilities. The service-mix at different levels (in terms of the ratio of outpatient to inpatient admissions) appears appropriate. There are a higher number of outpatients to inpatients at UHCs (ratio 1:16) compared to district and medical college hospitals (ratio =1:7). More specialized hospitals have fewer inpatient admissions and a longer length of stay.

Bed occupancy rates are much higher at the district hospital compared to UHCs. This suggests that a substantial number of patients may be passing the Upazila and accessing care directly at the district facility. ALOS generally increases with the level of care, reflecting treatment of more complex cases. In this case, ALOS at the UHC is slightly higher than at the district hospital (and bed throughput at UHCs is substantially lower). This suggests that either UHCs keep patients for too long or conversely district hospitals for too short a period.

[4] Non-salary cost comprises consumables and commodities and UHC overhead (excludes central overhead). Salary cost includes staff idle time.

Table 2.2.1: key descriptive and performance measures for government health facilities (1999)

	Upazila Health Complexes	District Hospitals	Medical College Hospitals	Specialised Hospitals
Number of beds	31	68	470	77
Number of doctors	9	15	122	38
Number of nurses	11	27	311	44
Annual outpatients (000's	36.18	57.44	170.74	86.09
Annual patient admissions (000's)	2.23	8.06	23.65	1.45
Bed occupancy (%)	74	138	93	75
Average length of stay (days)	4.8	4.5	7.7	41
Bed throughput	73	120	48	17
Death rates	1.8	4.9	5.4	5.8
Unit cost per outpatient contact (taka)	81(HEU forth) 68 (IPS/HEU)	101 (HEU forth) 51 (IHE) 57(IPS/HEU)	106 (IPS/HEU)	293 (IPS/HEU)
Unit cost per or admission (taka)	537(HEU forth) 539 (IPS/HEU)	1047 (HEU forth) 1175 (IHE) 873 (IPS/HEU)	3363 (IPS/HEU)	12240 (IPS/HEU)
Unit cost per inpatient day (taka)	233 (HEU forth) 521(IPS/HEU)	299 (HEU forth) 195 (IPS/HEU)	287(IPS/HEU)	456(IPS/HEU)

Note: All costs adjusted for 1999 prices (inflation rate 3.5% source: BBS)
Sample size of facilities costed varies across studies

Sources: MIS 1999 (DGHS), HEU (forthcoming), (IHE 2000) and (IPS/HEU1999).

With respect to unit costs, costs usually increase with the level of facility as more specialized care is provided, such as staff and equipment. One study (IPS/HEU 1999) found higher unit costs for an outpatient visit at UHCs compared to district hospitals. While another study (HEU forthcoming) found the reverse (i.e. lower unit costs at the UHC). This needs investigating further since the skill-mix (nurse to doctor) and doctor to bed ratio at UHCs suggests a more expensive model of provision. UHCs have a doctor to bed ratio of 3.4, compared to 4.5 at district hospitals. Staff-mix and productivity is explored further in table 2.2.2.

Table 2.2.2: staffing structure and productivity indices

	Upazila Health Complex	District Hospital	Medical College Hospital	Specialised Hospitals
Doctors	9	15	122	38
Nurses	11	27	311	44
Class 2	10	6	32	14
Class 3 and 4	149	34	36	169
Nurse:Doctor ratio	1.2	1.8	2.5	1.2
Outpatient per day to doctor ratio	12.8	12.2	4.5	7.2
Occupied bed to doctor ratio	3.8	7.7	4.8	5.0

Source: MIS 1999(DGHS)
Note: estimates are based on 313 working days (other public holidays are excluded). Does not include administrative duties of clinical staff.

UHCs have a lower nurse to staff ratio than district and medical college hospitals (i.e. relatively more doctors to nurses). This is counter-intuitive since one would expect that at primary levels of care higher clinical skills could be substituted for lower skills.

Productivity levels are slightly lower at UHCs compared to district hospitals. At the UHC, a doctor on average sees 13 outpatients a day, and is responsible for 4 inpatients, compared to 12 outpatients and 8 inpatients at the district hospital.

Comparing efficiency of ESP provision by government and NGOs

Table 2.3.1 shows unit cost estimates for ESP services provided by government UHFWCs and a selection of NGOs. Most of the NGOs provide outpatient ESP services through a fixed clinic and outreach services through satellite clinics and/or domiciliary services. For this reason it was felt they are more comparable to ESP services provided at the UHFWC.

Table 2.3.1: ESP Unit costs in government and NGO facilities (constant 1999 prices)[5]

ESP service	Unit cost including capital costs (taka)		Unit cost excluding capital costs (taka)					
	UHFWC	NGO1	UHFWC	NGO1	NGO2	NGO3	NGO4	NGO5
Reproductive Health								
ANC	298	242	122	62	164	231	83	78
PNC	135	296	76		139		40	
Safe Delivery (normal)	939	38						
Family planning	81		61					
-pill/condom		158		35	49	151		
- injectables		96		34	130	92		
Child Health								
EPI	29	236	17	22		221	23	37
ARI	40		21	60				
Diarrhea	32		18	74				
Limited Curative Care	55	512	53	65		113	43	80

Sources: HEU (2001), Interact (2000), UFHP (2000), Khan et al (1997), Anon (2000). For UHFWC cost estimates see annex 2

The unit cost of ESP services varies greatly across government and NGO facilities, as well as across the individual NGOs. In some cases government appears to provide some ESP services at lower cost (such as ARI and EPI), and other services (such as ANC) at higher cost. Such differences need to be interpreted with caution since lower costs may be attributed to differences in the quality of care. For example, under funding of drugs in the government sector is well documented. Also salary levels in government tend to be lower (and working conditions differ), and as a result the incentive to provide care varies greatly between government and non-government providers. Another reason for cost differences may be attributed to the physical conditions of the area served. For example, it is more costly to provide services in remote and more inaccessible areas. All these factors need to be considered in an assessment of comparative efficiency of providers.

Comparable cost data (supported with information on quality of care) can help decide under what conditions it is more efficient for government to contract out ESP provision. Unit cost data is also

[5] An effort has been made to make costs comparable. However, in some cases this was difficult. For example, some studies do not mention whether costs of government inputs (such as pills and condoms) were imputed. Overhead costs are another source of difficulty. Some NGOS include overhead costs of the facility as well as cost of support from an umbrella NGO, while others do not. Super overhead costs (i.e. cost of MOHFW and DGs) are excluded from UHFWC costs. UHFWC costs include costs of idle staff time. The sample includes NGOs serving both urban and rural populations.

useful for establishing contract prices. There is a need for more standardised cost data of different ESP providers under different settings to inform government policy.

3. Resource projections, financing equity and ESP sustainability

In order to facilitate planning for the second Health and Population Sector Programme, it is important to obtain reliable estimates of the expected resources available for health and population services. It is crucial to know the extent to which it will be possible to extend coverage of the ESP. This section projects likely financial resources available to health sector up to 2006/7. Sources considered include tax revenue, donor funds, and revenues from user fees and insurance. The equity consequences of these funding sources are examined. Specifically, whether sources are progressive, regressive or proportional.

Finally, Resource projections are used to determine the feasibility of extending ESP services to the entire rural population and/or the urban population.

Medium term resource projections[6]

Government and donor funds

Government funding is projected using a model based on the following key determinants:

- The underlying macro economy (including GDP, trade growth, inflation and the budget deficit)
- The extent and efficiency of tax collection
- The share of the national budget negotiated by the Ministry of Health and Family Welfare

Two scenarios are presented by changing the values of the key parameters. These include "best-case" or adjustment scenario and a "worst case" or baseline scenario.

In the baseline scenario, the following assumptions are made:

- The annual rate of growth is projected at 4.5% for each year of the projection period; marginally lower than average for the 1990s.
- Projected inflation is significantly higher than the 90s average, at 6.50% per annum in each year.
- Real growth in exports and imports is assumed to be 6% and 5% per annum in real terms, again significantly lower than in the previous decade.
- Fiscal management is assumed to be weak, with the budget deficit sustained at the 1990s high of 6% GDP.
- In respect of revenue collection, the trade adjustment factor is set such that trade revenues are discounted at 2.5% per annum. Assuming zero efficiency gains in non-trade collection, this

[6] Taken from Miller (2001), Financing the health and population sector – resource projections, Research Paper 23, Health Economics Unit, MOHFW

causes a decrease in the share of trade to total revenue from 57% in 2000 to 53% in 2006, reasonable in light of governments continued commitment to reduce customs duties[7].

- The only optimistic projection is that MOHFW negotiates an increasing share of the national budget (excluding external assistance), rising from 4% in 2000/01 to 5% in 2006/07. This represents an annual growth of nominal health expenditures of approximately 13% against growth in total government expenditure and economic growth of 8.3% and 4.5% respectively. Whilst relatively optimistic, this represents in part, a reversal of the downturn in government spending observed in the last two years of the 1990s.
- By contrast, donor expenditure on health is projected to grow at the rate of inflation, representing a marked decline in the relative contribution of donor aid in the 1990s, where real growth was approximately 10% per annum.

On the basis of these assumptions, it is projected real growth in government and donor expenditure is 3.5%, with actual expenditure in 2006/07, 2395 crore taka (in 1995/96 prices). In per capita terms, real spending grows by 2 per cent per annum or 298 per capita at current prices.

In the adjustment scenario the following assumptions are made:

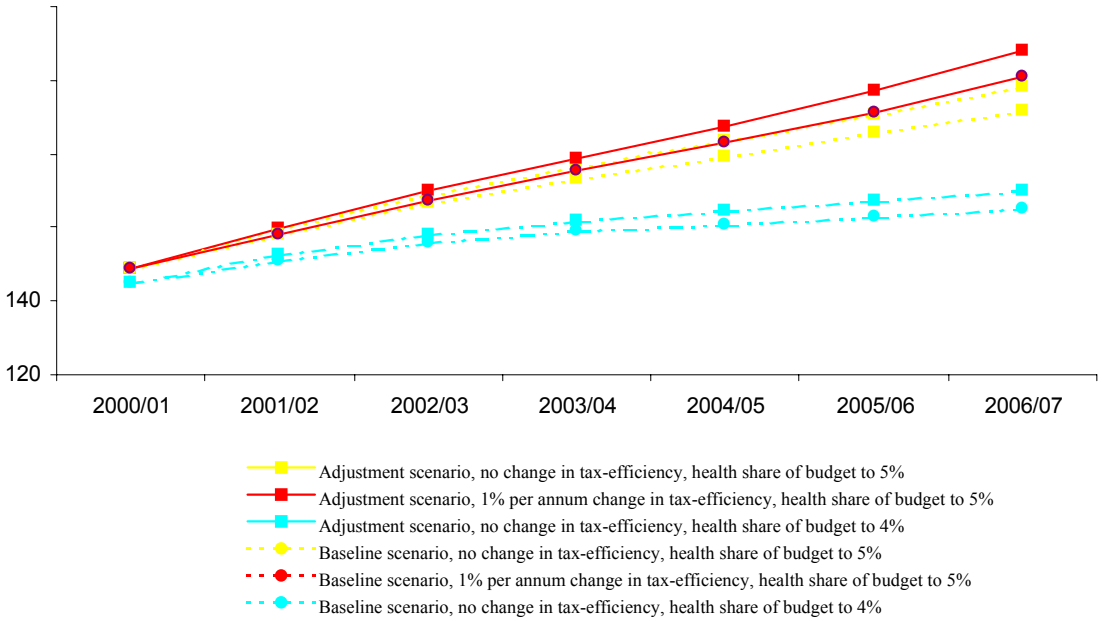
- In every year of the projection period, GDP growth is 6.5%.
- Inflation is 4.10%.
- Exports and import growth is significantly higher than in the baseline scenario, at approximately 10% and 9% respectively.
- The budget deficit is assumed to close over the period to 4.50%, as the result of stronger fiscal management.
- In order to isolate the impact of the macro-economy on health expenditures, all other parameters are the same as those in the initial baseline scenario (i.e. not tax efficiency gains, no increases in the donor budget etc).

Under the adjustment scenario, donor and government expenditures grow at approximately 6.5% in real terms, increasing to 3022 crore taka (in 1995/96) prices by 2006/07. In per capita terms real spending grows by 6 % per annum or 376 taka per capita at current prices. See tables in annex 3 for detailed projections for baseline and adjustment scenarios.

Figure 3.1.1 presents the projections in per capita spending for adjustment and baseline scenario's on the basis of the assumptions described. In addition, two more scenarios are depicted for each of baseline and adjustment scenarios – improving tax efficiency and varying share of health in the national budget (4% and 5%).

[7] The ratio of total revenue to GDP falls by 0.7% over the period to 1991 levels at 8%

Figure 3.1.1: Per Capita Real Government and Donor Health Expenditure (taka 1995/96 prices)[8]



Alternative financing sources

The revenue potential of three alternative financing sources: insurance (community and social insurance), and user fees are estimated. In each case projections are based on the baseline macroeconomic scenario, referred above.

Community Insurance

Income from this source is projected from three sample groups (distinguished by quality of care). NGOs and TFIPP[9] areas serving largely a rural population, and district capitals (with relatively high quality care to largely urban population).

To estimate the number of households that purchase insurance within these groups, first the expenditure that an average household (in each of 19 rural and urban income groups) is willing to pay for health insurance is estimated. If this is greater/lower than the projected household premium it is assumed the household is willing/unwilling to purchase insurance. It is calculated lowest earners will set aside approximately 0.5% of total household income for insurance. For a household premium of 220 taka per household member (which is approximately the per capita cost of secondary services in Bangladesh (NHA 1996/7), 89% of the urban and 19% of rural population will purchase insurance. The proportion of rural population purchasing health insurance is projected to arise to 45% in 2006/07.

The assumptions for insurance coverage are based on following:

[8] Based on population growth rate of 1.57% per annum
[9] Thana Functional Improvement pilot Project – this EU project helped to upgrade the quality of services through selective investments in infrastructure, management and clinical skills.

- Coverage in TFIPP areas grows at projected national rate of population growth (1.57%) and each year proportion buying insurance will increase by 15%
- NGO coverage is faster than population growth, reaching 40% of total rural population by 2006.
- For district capitals, the proportion targeted for community insurance excludes proportion of population in formal employment and thus targeted by social insurance. Coverage for those eligible for community insurance increases gradually.

See tables in annex 3 for details.

Combining all sub-groups together (and using poor macroeconomic performance assumptions), it is projected by 2006/07 that 17% of the national population will have access to voluntary community health insurance and 6% of the population is covered.
Total revenues by 2006/07 are 7% of total government and donor expenditure on health. If rural premium is decreased (to 120 taka per household member) to capture a larger population, then enrolled population rises but revenue is barely affected (only marginally higher then in baseline scenario).

Social Insurance

Since social insurance contributions are dependent on compulsory payroll deductions, revenues therefore depend on extent of formal workforce. In 1995, 5.3% of the total population and 13% of working population is formally employed (Labour Force Survey 1996). This is projected to increase from 15.6% of workforce in 2001 to 20% in 2006/01. This is driven largely by high projected growth of the large scale manufacturing sector.

Revenues from social insurance are projected on basis of numbers in formal workforce (stated above), rate of coverage and per capita premium (set conservatively at 10 dollars). It is estimated that 50% of eligible population will be covered by 2006.

Revenues from social insurance are sizable, amounting to 401 crores by 2006/07. These are roughly equivalent to community insurance revenues.

User fees

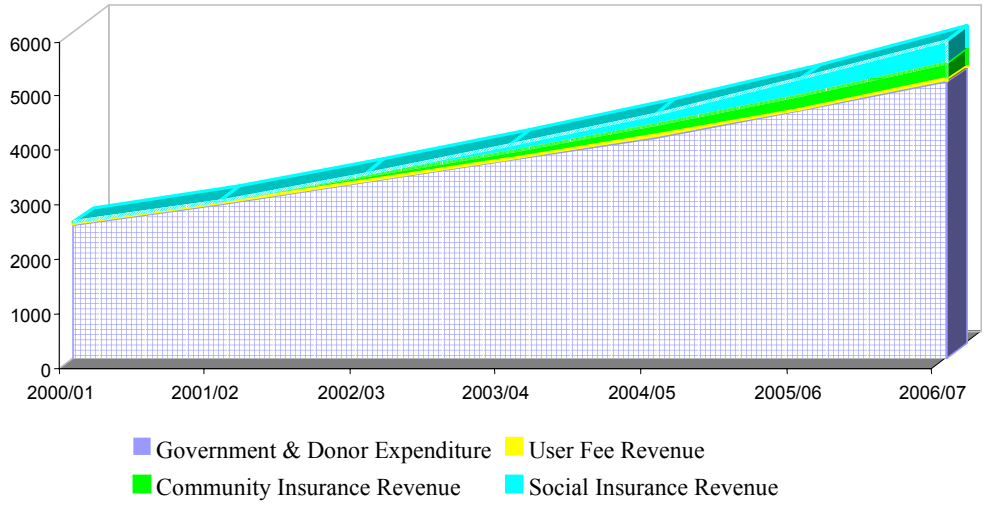
Estimates of user fees revenues are based on inpatient and outpatient attendance, per capita charges and levels of exemption. Inpatient and outpatient tickets for 2000/01 are set at existing TFIPP levels, while tickets and charges for other levels of facility are assumed to be increasing in the level of facility (both to reflect increased cost of care and also to meet the objective of re-allocating resources to primary care. Exemption levels decrease with level of care and are set so as all are able to pay for tertiary care. Exemptions apply to the poorest sections of the population, and it is assumed households are willing to spend 30% of current health expenditures on user fees for one individual per annum.

Revenue potential from user fees is small compared to insurance, a total of 57 crore taka from all levels of care by 2006/07. This suggests user fee introduction needs to meet other objectives apart from revenue generation.

Summary of resource projections

Figure 3.1.2 illustrates projections of government and donor finances based on the baseline macroeconomic scenario and additional source of finance (user fees and insurance[10]).

Figure 3.1.2: Projected resource envelope for the health sector baseline scenario (current prices, Crores)



This indicates government and donor funds will continue to dominate the financing of the health sector, although alternative sources of funding can if implemented seriously make a significant difference. This is equivalent to approximately 13% of total health resources in 2006/07, the bulk of which deriving from insurance. In terms of per capita spending, spend is projected to increase to 405 taka in 2006/07 current prices (or 224 in 1995/96 prices).

It is estimated, significant additional revenue could be raised from reforming local government property taxes (approximately 6% of central government revenue). This could meet costs of extending health services to urban areas.

Equity of financing sources[11]

Each of the financing methods identified above can be classified according to how equitable they are in the way they obtain contributions. The Kakwani index is used to assess whether methods are:

- Progressive (index greater than one) - the rich pay proportionately more than the poor

[10] Assumes a per capita premium of 220 taka. T
[11] Taken from Ensor et al (2001), Funding health care in Bangladesh – assessing the impact of new and existing financing, Research Paper 24, Health Economics Unit, MOHFW

- Regressive (index less than one) - the poor pay proportionately more than the rich, or
- Proportional (index equal to zero) - all pay the same percentage of income

Box 1 shows the assumptions used to estimate Kakwani indexes for government tax revenue, social insurance, community insurance and user fees. Assumptions are varied for the last three sources to produce several scenarios. Table 3.2.1 displays estimated Kakwani indices for each financing source.

Box 1

Assumptions used for calculation of Kakwani index

Government taxes: based on 1985 estimates, a tax financing curve was derived based on urban and rural tax incidence (weighted for urban and rural population proportion in 1999).

Social insurance: includes first three employment groups under household expenditure and labour survey, premium of 1.5% of payroll, those earning less than 4,000 taka a month are exempt (around 8% of household) but still enrolled through their employer, second and third scenario a higher premium (2% is imposed) for those earning more than 15,000 taka per month.

Community insurance: assumes cross subsidy is not possible. First scenario assumes a standard household premium (covering up to 5 family members) of 800 taka per annum, scenario 2 a lower premium of 400 taka, and no premium under scenario 3 for those with income below 4000 taka per month.

User fees: are implemented on a sliding basis, those households earning below 2000 taka per month) are exempted, those earning between 2000 and 4000 taka per month are charged half the normal fee. Three scenario's are developed based on levels of exemptions (first with no exemptions, second with 100% exemptions of poor, and third with 100% poor, and 50% middle income.

Table 3.2.1: Kakwani index

Financing source	**Kakwani index**		
	Scenario 1	Scenario 2	Scenario 3
Government taxation	-0.019		
Social insurance	0.371	0.405	0.280
Community insurance	-0.487	-0.343	-0.102
User fees	-0.436	-0.387	-0.226

Existing or future tax funding of health is found to be proportional or mildly regressive. The main reason for this is that unlike in many developed countries where the bulk of revenues is from income tax, in Bangladesh the majority of taxes are on commodities which have a greater impact on the poor.

In contrast, social insurance could represent a strongly progressive system of funding. This is because it is related to wage levels. Community insurance tends to be regressive form of finance since contributions are usually flat rate and unrelated to income. This remains true even when discounted and free policies/cards are provided to the poor through subsidy.

User fees (as in most countries) appear to be regressive. This is true even when generous exemptions are introduced for the poor. However, this needs to be seen in the light of substantial existing un-official payments. If these were to be significantly reduced or eliminated equity of user fees would improve.

Feasibility of extending ESP coverage[12]

The resource projections estimated under the baseline scenario above is used to explore the extent to which it will be possible to expand the ESP to un-served populations. In order to do this, the levels of un-met ESP need and cost of service expansion are estimated.

Levels of ESP need

Coverage needs are estimated for individual ESP components - family planning, maternal health, child health, limited curative care and communicable diseases. Service expansion is predicted for an average upazila with population 284,000 and typical age/gender structure. For each ESP component, total numbers in each ESP target group and numbers in target group currently served is estimated, and the coverage gap identified (table 3.3.1). For example, for family planning, it is estimated services would need to increase by 22 per cent to meet unmet needs. This is estimated on the basis there are around 60,000 couples in 15 to 44 age group and approximately 90,000 family planning contact a year (roughly 1.5 per eligible couple). Government provides about 64% of modern contraceptive supply, and un-met need is 15%. It also assumes government meets all of this need. Overall, number of patients treated at a upazila health facilities would have to increase by 40%.

Table 3.3.1: 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

Costs of expansion

Costs of ESP expansion are based on cost estimates derived from HEU (2001). In simulating the increase in cost of ESP expansion it is assumed that commodities and equipment use are variable costs (i.e. costs increase in proportion to number of patients). Staff costs are assumed to be fixed up to the point usable free item is exhausted (the study noted substantial idle time amongst health staff), and then

[12] from Ensor et al, Projecting the cost of the essential service package, Research Paper 26, Health Economics Unit, MOHFW

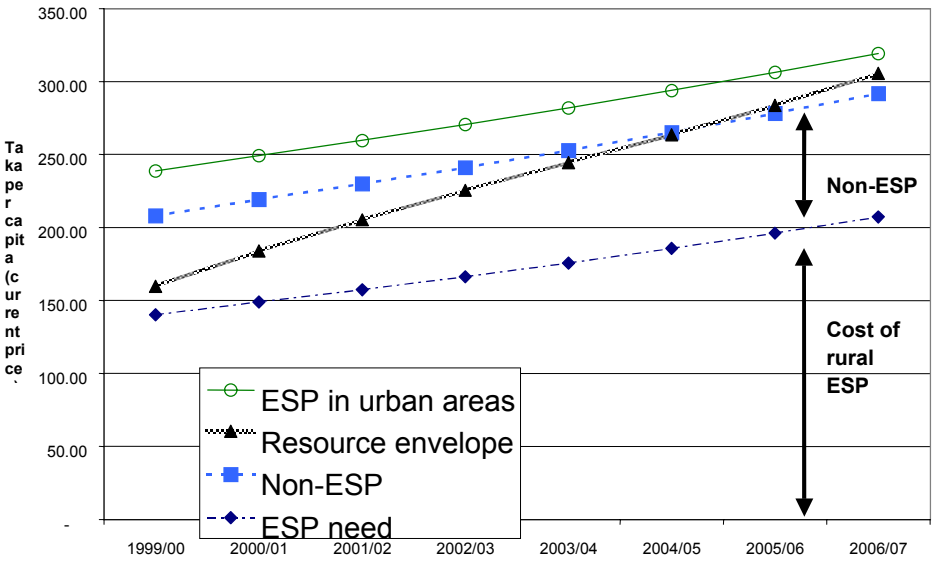
allowed to increase in proportion to additional patients. Large capital items such as buildings are treated as fixed costs.

Based on specific ESP service expansion needs (depicted in table 3.3.1), it is estimated that costs to government would rise by 33 per cent, with a marginal cost of 62 taka per ESP visit. Extrapolating these results to the entire rural population implies an increase in overall ESP cost of service delivery of 45 per cent and a per capita cost of 171 taka.

Affordability of ESP expansion

Figure 3.3.1 displays baseline resource envelope (excluding user fee and insurance revenues), and costs of ESP expansion. Costs are adjusted for expected inflation and increasing real wages. Non-ESP costs are based on current (1999/2000) spending adjusted for inflation and real wage increases. The figure also indicates resources required to extend ESP to urban areas (upper line includes costs of rural and urban ESP provision). Per capita spending of 230 taka is required to cover costs of urban and rural (on assumption costs of provision in urban areas is similar to rural).

Figure3.3.1: feasibility of expanding the ESP



The projections indicate the resource envelope should be able to cover the costs of expanding rural ESP by 2004/05. It also indicates that most of costs of expanding ESP provision to urban areas could be met by2006/07. In fact the resource envelope for urban ESP would be larger since the projections do not include existing resources from Local Government Division.

Any efficiency gains (either through changing the skill mix, or provider incentive structure or contracting out) would allow an even more rapid rate of ESP expansion than indicated by figure 3.3.1.

Conclusion

This report examines some of the problems currently being faced in the health and population sector in respect of the delivery of basic services, especially to poor and vulnerable target beneficiaries.

One cause for concern is the problems identified at the Upazila level, specifically the methods for allocating resources in relation to needs and local circumstances. An examination of unit cost variations at the UHC level reveals extreme differences. Within the sample ESP unit costs varied more than fourfold. Preliminary analysis suggests that this is primarily a failure to realise potential economies of scale because of current resource allocation norms. Put simply a very busy UHC serving a large population does not receive sufficient additional resources to reflect its higher cost structure. It is crucial that the Ministry revise its resource allocation practices to better reflect needs and costs, otherwise hoped for improvements in quality and service coverage will be unattainable.

The operational efficiency of the UHC level is a particular concern. Comparison of average unit costs across facility types (i.e. UHC and district hospitals) shows less variation than might have been expected, especially given the higher skill-mix, case-mix, and input-mix of the higher level facility. A likely explanation is that the average unit costs of ESP at the UHC level is being unnecessarily inflated by those facilities with high unit costs resulting from, amongst other factors, low utilisation levels, inappropriate skill mix and low productivity. Again, more work to urgently address these problems is required.

These problems notwithstanding one can highlight several positive features. First, overall levels of ESP spending are within planned target levels. Second, within this expenditure framework the share of spending on non-salary items has increased albeit slightly. Within the ESP programme there has been a noticeable proportionate increase in expenditure on maternal health. Underspending continues to be problematic, however, it appears to be more a problem of absorptive capacity rather than under-funding per se and merits further investigation of the underlying causes.

Clearly there is some way yet to go to make ESP available to all target groups. An analysis of likely resource availability and of the marginal costs of extending coverage suggests that much is possible and an extension of coverage to target groups in both rural and urban areas is foreseeable. Alongside a broadening of the resource base, one also requires the aforementioned improvements in operational efficiency are in order to free up additional resources to realize this potential.

References

Barnum and Kutzin (1993). Public Hospitals in Developing Countries: resource use, cost, financing, Baltimore, Johns Hopkins University Press.

Ensor et al (2001). Projecting the cost of the Essential Service Package, Research Paper 26, Health Economics Unit, MOHFW.

Ensor et al (2001). Funding health care in Bangladesh – assessing the impact of new and existing financing, Research Paper 24, Health Economics Unit, MOHFW.

Health Economics Unit (2001). The current costs of essential health services – a study of government facilities by Ferdousi, Research Paper 25, Health Economics Unit, MOHFW.

Health Economics Unit (forthcoming). Assessing health service efficiency: hospitals in Bangladesh, Health Economics Unit, MOHFW

Institute of Health Economics (2000). Output and costs of health care provided at District Hospital: a case study in two districts by Z. Quayyum et al, Dhaka University.

Interact (2000). Cost analysis of essential service package delivery by BPHC public NGO partnership funded NGOs, BPHC.

Khan et al (2001). Cost of Providing Services and Willingness and Ability to Pay for ESP Services in RSDP Areas of Bangladesh, Health Economics Programme, ICDDR,B

Miller (2001). Financing the health and population sector – resource projections, Research Paper 23, Health Economics Unit, MOHFW

IPS/HEU (1999). Bangladesh facility efficiency survey by Rannan-Eliya et al, Working Paper 16, Health Economics Unit, Bangladesh MOHFW and Institute of Policy Studies, Sri Lanka

UFHP (2000) Pricing Strategy for clinical services: study findings and action programme

Annex 1: Detailed expenditure tables

A1.1 Health and Population Allocation and Expenditure in Five-Year Plans (Crore Taka)

Categories	First FYP (1973-78)	Two Year Plan (1978-80)	Second FYP (1980-85)	Third FYP (1985-90)	Fourth FYP (1990-95/97)	Fifth FYP (1997-2002)
Total FYP Allocation	3,952	3,261	16,060	25,000	34,700	85,894
Health and FW Allocation	147.8	117.6	781.0	1,420.0	2,658.0	9,086.2
Share of H&FW Allocation in Total FYP Allocation	3.74%	3.61%	4.86%	5.68%	7.66%	10.58%
Total FYP Expenditure	1,635	2,402	13,929	16,757.3	32,244	
Health & FW Expenditure	133.17	114.57	717	917.5	2,499	n.a. 7868.8 (cumulative of 1997/98 - 2000/01)
Share of H&FW Expenditure in Total FYP Expenditure	8.14%	4.77%	5.15%	5.48%	7.75%	n.a.

Source: Various Five -Year Plans

* The figures are based on the prices of the first year of the Five-Year Plans

Shaded cells are cumulative expenditure figures for the first four years of the Fifth FYP.

A1.2 Per Capita Expenditures by MOHFW, 1993/94-1999/2000

Period	Per capita expenditures on health and family welfare		Share in GDP
	At current price	At constant price (1993-94=100)	
1993-94	92.71	92.71	1.12
1994-95	116.58	107.09	1.27
1995-96	121.63	104.75	1.21
1996-97	143.95	120.93	1.36
1997-98	152.82	119.99	1.34
1998-99	135.30	103.80	1.15
1999-00	153.50	115.18	1.10
2000-01	156.36	105.27	

Source: FMU and HEU estimates

A1.3: Trends in MOHFW Non-development and ADP Expenditures (Crore Taka)

Categories / Year	1993/94		1994/95		1995/96		1996/97		1997/98		1998/99		1999/00 (revised budget)		2000/01 (revised budget)	
	Allocation	Expend.	Allocation	Expend.	Allocation	Expend.	Allocation	Expend.	Allocation	Expend.	Allocation	Expend.	Net accounts			
													Allocation	Expend.	Allocation	Expend.
Total GOB non-development	7,063	7,595	8,555	9,623	10,073	10,751	11,497	11,908	14,544	13,108	14,708	14,596	18,443.9	21,510.7	19,625.51	22,896.58
MOHFW non-development	431	504	575	593	686	647	711	733	776	786	851	876	972.4	957.7	1,099.1	1,036.8
MOHFW share in total non-development (in %)	6.1%	6.6%	6.7%	6.2%	6.8%	6.0%	6.2%	6.2%	5.3%	6.0%	5.8%	6.0%	5.3%	4.5%	5.6%	4.5%
Total GOB ADP	6,740	8,549	9,460	9,589	11,011	9,507	11,875	11,115	12,890	12,324	13,695	14,122	17,056.0	12,351.5	18,723.0	16,580.47
MOHFW ADP *	523	569	768	781	897	812	953	1,025	1,131	1,112	1,272	981	1,373.0	1,120.7	1,459.5	1009.7
MOHFW share in total ADP (in %)	7.8%	6.7%	8.1%	8.1%	8.1%	8.5%	8.0%	9.2%	8.8%	9.0%	9.3%	6.9%	8.0%	9.1%	8.1%	6.1%
Total GOB expenditure (non-dev + ADP)	13,803	16,144	18,015	19,212	21,084	20,257	23,372	23,023	27,434	25,432	28,403	28,718	35,499.9	33,862.2	38,348.51	39,477.05
Total MOHFW expenditure (non-dev + ADP)	954	1,072	1,343	1,374	1,583	1,459	1,664	1,758	1,907	1,898	2,123	1,857	2,345.4	2,078.4	2558.5	2,046.5
MOHFW share in total GOB expenditure (in %)	6.9%	6.6%	7.5%	7.2%	7.5%	7.2%	7.1%	7.6%	7.0%	7.5%	7.5%	6.5%	6.6%	6.1%	6.7%	5.2%

Source: Budget documents 2001-2002, ADP report 2001-2002 and FMU (CGA, PFC and LD SOEs).

Notes: 1. Total GOB / MOHFW ADP figures include GOB and Project Aid.

2. GOB Non-Development (or Revenue) Budget / Expenditure has two components: 'revenue account' and 'capital account'. While 'revenue account' considers all accounts falling under RIBEC code number 4500 to 6700. The 'capital account' comprise those falling under RIBEC code number 6800 upto 7000. Moreover, there is another account known as 'income account' (such as CD/VAT or Loans, etc.) that includes all entries under RIBEC code number 7100 and onward.
When the budget includes all allocations including those in CD/VAT or other forms of investment incomes, it's called the '*Gross Budget*'. On the other hand, the budget or expenditure of the 'income earning sectors' or alternatively, known as, 'lending sectors' (for example, T&T board; Railway department, etc) are excluded in '*Net Budget'* calculation.
Both the non-development and development data are 'net' figures. CD/VAT as well as, various other forms of investments (RIBEC code number 7100+) are not reported in '*Non development'* allocation or spending. That is, non-development accounts report only 'net capital' figures. On the other hand, the *'development* budget or spending includes RIBEC codes 7100+, which in other words, implies 'net capital' data.
The reason is that the share of 'income account' (RIBEC 7100+) is larger under non-development accounts than ADP. Therefore, if income account is considered under non-development accounts, it tends to bias the comparison between the share of non-development or ADP in total budget or spending.

* MOHFW ADP budget is spilt into three components: Taka 1,459.5 crore allocated for HPSP and the rest for non-HPSP (Secretariat and Autonomous bodies).

A1.4: GOB and Donor Expenditure in MOHFW Financing (Crore Taka)

Categories / Year	1993/94	1994/95	1995/96	1996/97	1997/98	Budget			Expenditure		
						1998/99	1999/00	2000/01	1998/99	1999/00	2000/01
Total MOHFW expenditure (non-dev. + Devt.)	1,072.4	1,373.7	1,458.9	1,758.2	1,897.9	2,160.0	2,346.2	2,558.6	1,856.9	2,078.4	2,046.5
GOB contribution in MOHFW expenditure (non-dev. + Devt.)	691.7	947.9	960.0	1,142.8	1,208.9	1,298.3	1,371.2	1,479.1	1,227.8	1,287.9	1,351.7
Total donor contribution in MOHFW expenditure	380.7	425.9	500.4	617.1	688.9	861.7	975.0	1,079.5	629.2	790.5	694.8
GOB share in total MOHFW expenditure (%)	64.5%	69.0%	65.8%	65.0%	63.7%	60.1%	58.4%	**57.8%**	66.1%	62.0%	**66.1%**
Donor's share in total MOHFW expenditure (%)	35.5%	31.0%	34.3%	35.1%	36.3%	39.9%	41.6%	**42.2%**	33.9%	38.0%	**33.9%**

Source: PCC and FMU (CGA, PFC and LD SOEs).

A1.5: Government and Donor's Contribution in the MOHFW Expenditure and Allocation in Health and Population Sector (Crore Taka)

Source of Fund	Non-development					Development		Total	
	Approved Budget (1)	Revised Budget (2)	Expenditure (3)	Approved budget (4)	Revised budget (5)	Expenditure (6)	Approved budget allocation (1+4)	Revised budget (2+5)	Expenditure (3+6)
				Made up of					
GOB *(% of d)*	**1111.5**	**1,099.1**	**1,036.8**	**459.7** *(30.7%)*	**380.0** *(26.0%)*	**314.9** *(31.5%)*	**1,558.7** *(60.0%)*	**1,479.0** *(57.8%)*	**1,351.7** *(66.1%)*
Reimbursable program aid (through GOB) (a)				166.1	144.9	122.2	166.1	144.9	118.2
Reimbursable program aid (other) (b)				371.4	371.9	139.5	371.4	371.9	139.5
Direct program aid (c)				500.6	562.5	422.5	500.6	562.5	437.1
Total Program Aid (a+b+c) *(% of d)*				**1038.1** *(69.3%)*	**1,079.5** *(73.9%)*	**684.1** *(68.5%)*	**1038.1** *(40.6%)*	**1,079.5** *(42.2%)*	**694.8** *(33.9%)*
Total (d)	1111.5	1,099.1	1,036.8	1,497.8	1,459.5	999.0	2609.3	2,558.6	2,046.5

Source: GOB Budget Documents 2000-2001, PCC and FMU.

Notes:

1. Reimbursable Program Aid (GOB) - directly reimbursed by development partners to GOB. The reimbursement value for fiscal year 2000/01 has been set at 6%.
2. Reimbursable Program Aid (other) – pooled funding allocated by the donor consortium.
3. Direct Program Aid – other bilateral aid from development partners.

A1.6: Distribution of Total Salary and Non-Salary Recurrent and for Capital Expenditures, 1998/99 - 2000/01 (Crore Taka)

Categories	Non-development (1)			Development (2)			Total Expenditure (1+2)		
	1998/99	1999/00	**2000/01**	1998/99	1999/00	**2000/01**	1998/99	1999/00	**2000/01**
Recurrent	793.4	945.6	**1,030.5**	662.7	943.1	**773.3**	1,456.1	1,888.7	**1,803.8**
(% in Total)	(91.6%)	(98.7%)	**(99.4%)**	(67.5-82.2%)	(84.2%)	**(76.6%)**	(85.0%)	(90.9%)	**(88.1%)**
Salary	581.5	632.4	694.24	246.5	326.8	157.2	828.0	959.2	851.4
Non-salary	211.9	313.2	336.3	416.2	616.3	605.4	628.1	929.5	941.7
Capital	82.6	12.0	**6.3**	175.0	177.6	**236.4**	257.6	189.6	**242.7**
(% in Total)	(9.4%)	(1.3%)	**(0.6%)**	(17.8-32.4%)	(15.8%)	**(23.4%)**	(15.0%)	(9.1%)	**(11.9%)**
Total sector (available breakdown)	*876.0*	*957.6*	***1,036.8***	*837.8*	*1,120.7*	***1009.7***	*1,713.8*	*2,78.3*	***2,046.5***

Source: FMU (CGA, PFC and LD SOEs) and PCC.
Note: ADP figures include GOB and Project Aid.

A1.7: Development Expenditure by Source and Operational Plan for 2000/01 (Million Taka)

Operational Plan	Yearly Budget					GOB Development	RPA Other	DPA	Total
	GOB	RPA (GOB)	RPA Others	DPA	Total	Expenditure	Expenditure	Expenditure	Expenditure
ESP (Other than Reproductive Health)	365.23	0.00	613.80	1,440.17	2,419.19	236.59	150.79	1,175.56	1,562.93
ESP (Reproductive Health)	851.25	1,172.73	1,223.26	2,685.31	5,932.55	1,719.75	17.44	2,122.79	3,859.98
Reorganisation of Service Delivery: Management Change Unit	0.00	0.00	0.00	87.52	87.52	0.00	0.00	89.77	89.77
Human Resource Management, MOHFW	2.45	0.00	0.00	27.95	30.40	0.75	0.00	23.12	23.86
Pre-Service Education	10.62	0.00	4.70	51.92	67.25	6.30	2.30	37.78	46.37
In-Service Training	54.36	0.00	332.63	298.80	685.79	38.28	166.91	200.00	405.19
Nursing Services and Education	6.10	0.00	0.00	32.40	38.50	2.26	0.00	30.70	32.96
Construction, Repair & Maintenance	1,584.87	268.71	282.00	117.39	2,252.97	1,691.71	207.69	98.09	1,997.49
Procurement, Storage and Supply-DGFP	206.58	0.00	1.00	120.20	327.78	155.55	0.00	54.60	210.15
Procurement, Storage and Supply-DGHS	293.48	0.00	17.20	0.00	310.68	189.33	7.07	0.00	196.40
Quality Assurance	2.09	0.00	8.81	0.00	10.90	1.31	4.40	0.99	6.70
Unified BCC	39.35	0.00	22.50	142.47	204.33	30.95	3.30	141.72	175.97
Unified MIS	115.23	0.00	0.00	2.60	117.83	37.51	0.00	0.60	38.11
Research and Development-DGHS	4.90	0.00	56.75	286.39	348.04	2.82	39.47	196.30	238.58
Hospital Services	215.49	0.00	268.37	157.98	641.84	177.32	43.80	72.18	293.30
Alternative Medical Care Facilities	4.54	0.00	1.76	1.93	8.23	2.70	0.43	2.59	5.72
Sector-Wide Management (MOHFW)	3.08	0.00	17.68	52.67	73.42	11.17	14.42	38.06	63.65

A1.7: Development Expenditure by Source and Operational Plan for 2000/01 (Million Taka) (Contd.)

Operational Plan	Yearly Budget					GOB Development	RPA Other	DPA	Total
	GOB	RPA (GOB)	RPA Others	DPA	Total	Expenditure	Expenditure	Expenditure	Expenditure
Improved Financial Management, MOHFW	8.29	0.00	3.50	18.60	30.39	6.57	0.14	16.22	22.93
Policy Research Unit (PRU)	6.50	8.24	1.25	39.95	55.94	4.18	0.40	49.03	53.61
Drug Administration	0.24	0.00	0.00	0.00	0.24	0.05	0.00	0.00	0.05
Regulation	4.48	0.00	16.67	0.00	21.15	0.41	0.00	0.00	0.41
Environmental and Occupational Health	0.74	0.00	3.10	15.17	19.01	0.63	0.59	8.45	9.67
Inter-Sectoral Multi-Sectoral Collaboration	0.18	0.00	1.21	0.00	1.38	0.05	0.40	0.00	0.45
Pilot Programme for Community and Inter-Sectoral Nutrition Activities (BINP)	19.72	0.00	839.66	30.60	889.98	14.24	735.15	0.00	749.39
Micro-Nutrient Supplementation	0.24	0.00	4.00	15.29	19.53	0.38	0.00	12.55	12.93
TOTAL	3,800.00	1,449.68	3,719.83	5,625.29	14,594.80	4,330.80	1,394.68	4,371.07	10,096.55

Source: FMU (Budgets from revised Operational Plan, 2000-01.
Note:

1. The figures differ from those provided in the earlier tables because of the difference between the sources of information.
2. The development budget/expenditures presented in this table include only the budget or expenditures incurred under HPSP. Allocations or expenditures in other categories (such as Secretariat; Autonomous Body, and Red Crescent Hospital) are non-HPSP and hence not considered here.

A1.8: Allocation of operational plan sub-components to the ESP spending

Development/non-development	**Level 2**	**Level 3**	*Allocation*
Non-Development	Secretariat	Secretariat	Overhead
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Homeopathy Board	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Unani and Ayurvedic Board	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Medical Research Council	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh National Medical Institute	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh College of Physicians and Surgeons	0%
Non-Development	Autonomous Bodies & Other Institutions	Dhaka Shishu Hospital	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Child Health Institute	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Medical and Dental Council	Overhead
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh National Nutrition Council	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangabandhu Seikh Mujib Medical University	0%
Non-Development	Autonomous Bodies & Other Institutions	Chittagong Eye Hospital and Training Complex	0%
Non-Development	Autonomous Bodies & Other Institutions	Inst. of Applied Health Science & Bangabandhu Memorial Hospital, Chittagong	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Association for the Aged	0%
Non-Development	Autonomous Bodies & Other Institutions	ICDDR-B	Overhead
Non-Development	Autonomous Bodies & Other Institutions	National Heart Foundation	0%
Non-Development	Autonomous Bodies & Other Institutions	Shishu Sasthya Foundation, Bangladesh	0%
Non-Development	Autonomous Bodies & Other Institutions	Khulna Shishu hospital	0%
Non-Development	Autonomous Bodies & Other Institutions	Dr. Zahed Shishu Hospital, Faridpur	0%
Non-Development	Autonomous Bodies & Other Institutions	Society for Assistance to Hearing Impaired Children	0%

Non-Development	Autonomous Bodies & Other Institutions	Moulavibazar BNSB Eye Hospital	0%
Non-Development	Autonomous Bodies & Other Institutions	Khulna BNSB Eye Hospital	0%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Family Planning Association	100%
Non-Development	Autonomous Bodies & Other Institutions	Abeda Noor Hospital for Distressed Mother	50%
Non-Development	Autonomous Bodies & Other Institutions	Bangladesh Diabetic Association	0%
Non-Development	International Organisations	WHO	Overhead
Non-Development	International Organisations	Eye Programme	0%
Non-Development	International Organisations	Population & Development	Overhead
Non-Development	Department of Health Services	Department of Health Services	Overhead
Non-Development	Divisional Establishments	Divisional Establishments	Overhead
Non-Development	Civil Surgeons Offices	Civil Surgeons Offices	Overhead
Non-Development	Thana Health Offices	Thana Health Offices	100%
Non-Development	Directorate of Drug Administration	Directorate of Drug Administration	Overhead
Non-Development	Directorate of Nursing	Directorate of Nursing	Overhead
Non-Development	Medical Colleges	Dhaka Medical College, Dhaka	0%
Non-Development	Medical Colleges	Sir Salimullah Medical College, Dhaka	0%
Non-Development	Medical Colleges	Rajshahi Medical College, Rajshahi	0%
Non-Development	Medical Colleges	Rangpur Medical College, Rangpur	0%
Non-Development	Medical Colleges	Mymensingh Medical College, Mymensingh	0%
Non-Development	Medical Colleges	Chittagong Medical College, Chittagong	0%
Non-Development	Medical Colleges	Sylhet Medical College, Sylhet	0%
Non-Development	Medical Colleges	Sher-e-Bangla Medical College, Barisal	0%
Non-Development	Paramedical Institutes	Para Medical Institutes	100%
Non-Development	Medical Assistant Training Schools	Medical Assistant Training Schools	Overhead
Non-Development	TB Control and Training Institute	TB Control and Training Institutes	100%
Non-Development	Dental Colleges	Dhaka Dental College	0%
Non-Development	College of Nursing	College of Nursing	Overhead
Non-Development	Sylhet Ayurved & Tibbia College	Sylhet Ayurved & Tibbia College	0%
Non-Development	Govt. Unani and Ayurvedic Degree College	Govt. Unani and Ayurvedic Degree College	0%
Development/non-development	**Level 2**	**Level 3**	*Allocation*
Non-Development	Dhaka Homeopathic Medical College	Dhaka Homeopathic Medical College	0%
Non-Development	Center for Medical Education & research	Center for Medical Education & research	0%

Non-Development	Center for Medical Education	Center for Medical Education	0%
Non-Development	Medical College Hospitals	Dhaka Medical College Hospital	0%
Non-Development	Medical College Hospitals	Sir Salimullah Medical College Hospital	0%
Non-Development	Medical College Hospitals	Rajshahi Medical College Hospital	0%
Non-Development	Medical College Hospitals	Rangpur Medical College Hospital	0%
Non-Development	Medical College Hospitals	Mymensingh Medical College Hospital	0%
Non-Development	Medical College Hospitals	Chittagong Medical College Hospital	0%
Non-Development	Medical College Hospitals	Sylhet Medical College Hospital	0%
Non-Development	Medical College Hospitals	Sher-e-Bangla Medical College Hospital, Barisal	0%
Non-Development	District Hospitals	District Hospitals	0%
Non-Development	Other District Hospitals	Thana Hospitals	100%
Non-Development	Other District Hospitals	Narayanganj Hospital (200 bed)	0%
Non-Development	Other District Hospitals	Comilla (250 bed)	0%
Non-Development	Thana Health Complex and Sub Centres	Thana Health Complex and Sub Centres	100%
Non-Development	Specialised Hospitals and Institutions	Shaheed Suhrawardy Hospital , Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Rehabilitation institute and Hospital for disabled, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Institute of Ophthalmology	0%
Non-Development	Specialised Hospitals and Institutions	Institute of Diseases of the Chest & Hospital, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Infectious Diseases Hospital, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Institute of Cardiovascular Diseases, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	National Institute of Preventive and Social Medicine, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Institute of Public Health Nutrition, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Institute of Public Health	0%
Non-Development	Specialised Hospitals and Institutions	Mental Hospital , Pabna	0%
Non-Development	Specialised Hospitals and Institutions	Inst. of Epidermiology, Disease Control & Research	0%
Non-Development	Specialised Hospitals and Institutions	National Centre for Control of Rheumatic Fever	0%
Non-Development	Specialised Hospitals and Institutions	Cancer Institute and Research Hospital, Dhaka	0%
Non-Development	Specialised Hospitals and Institutions	Institute of Mental Health & Research	0%

Non-Development	Specialised Hospitals and Institutions	TB Segregation Hospitals	100%
Non-Development	Specialised Hospitals and Institutions	Other TB Hospitals	100%
Non-Development	Specialised Hospitals and Institutions	Leprosy Hospitals	100%
Non-Development	Epidemic Disease Control Centres	Airport Health , Dhaka	0%
Non-Development	Epidemic Disease Control Centres	Port Health, Chittagong	0%
Non-Development	Epidemic Disease Control Centres	Port Health, Chalna	0%
Non-Development	TB Centres (42)	TB Centres	100%
Non-Development	School Health Centres	School Health Clinics	100%
Non-Development	Other Facilities	Skin and Social Hygiene Centre , Chittagong	0%
Non-Development	Other Facilities	Secretariat Hospital	0%
Non-Development	Other Facilities	Prime Minister Secretariat Clinic	0%
Non-Development	Other Facilities	Shangshad Bhaban Dispensary	0%
Non-Development	Other Facilities	Maternity Centre, Motijheel	0%
Non-Development	Other Facilities	Model Family Planning Clinic (8)	100%
Non-Development	Other Facilities	Government Employees Hospital , Dhaka	0%
Non-Development	Other Facilities	National Library and Documentation Centre	0%
Non-Development	Other Facilities	Transport and Equipment Maintenance Organisation	0%
Non-Development	Other Facilities	Electro-Medical Equipment Maintenance Centre	0%
Non-Development	Department of Family Planning	Department of Family Planning	Overhead
Non-Development	Divisional Offices	Divisional Offices	Overhead
Non-Development	District Offices	District Offices	Overhead
Non-Development	Thana Offices	Thana Offices	100%
Non-Development	Hospitals and Dispensaries	Hospitals and Dispensaries	Overhead
Non-Development	Other Family Welfare Facilities	Model Family Planning Clinic	100%
Non-Development	Other Family Welfare Facilities	NIPORT	Overhead

Development/non-development	**Level 2**	**Level 3**	**Allocation**
Development	HPSP	Support Services and NGO Grant	100%
Development	HPSP	Reproductive Health	100%
Development	HPSP	Child Health	100%
Development	HPSP	Limited Curative Care	100%
Development	HPSP	Communicable Disease Control	100%
Development	HPSP	STD/AIDS	100%
Development	HPSP	Support Services and NGO Grant	100%
Development	HPSP	Clinical F. P. Service Delivery	100%
Development	HPSP	Maternal Health Care	100%
Development	HPSP	Maternal Nutrition Services	100%
Development	HPSP	Adolescent Health Services	100%

Development	HPSP	Family Planing Service Delivery	100%
Development	HPSP	Muhammadpur Fertility Services and Training Centre	100%
Development	HPSP	Strengthening of Logistics Management System	100%
Development	HPSP	Build Procurement Capacity	Overhead
Development	HPSP	Improve and Strengthen Storage and Distribution System	Overhead
Development	HPSP	Structured Monitoring and Supervision System	Overhead
Development	HPSP	Continue and Strengthening of Logistics Operation System	Overhead
Development	HPSP	Procurement Processing	Overhead
Development	HPSP	Build Procurement Capacity	Overhead
Development	HPSP	Improve Storage and Distribution System	Overhead
Development	HPSP	Develop and Strengthen Logistics Monitoring System	Overhead
Development	HPSP	Support Services (SS)	Overhead
Development	HPSP	Community Surveillance System (CSS)	Overhead
Development	HPSP	Epidemiological Information System (EIS)	Overhead
Development	HPSP	Other MIS Management	Overhead
Development	HPSP	Strengthening the BCC Unit	100%
Development	HPSP	Subcontract different activities related to BCC production and development	100%
Development	HPSP	Monitoring and Evaluation	100%
Development	HPSP	Health and Population Nutrition Cell (Radio)	100%
Development	HPSP	Strengthening In-service Training	Overhead
Development	HPSP	National Institute of Population Research and Training (NIPORT)	Overhead
Development	HPSP	Regional Training Centre (RTC)	Overhead
Development	HPSP	FWV Training Institute (FWVTI)	Overhead
Development	HPSP	National Institute of Kidney Diseases and Urology, Dhaka	0%
Development	HPSP	National Institute of Cardio Vascular Disease (NICVD), Dhaka	0%
Development	HPSP	National Institute of Mental Health Research and establishment of 100 bed hospital at Pabna	0%
Development	HPSP	Strengthening HRM -Health Service	Overhead
Development	HPSP	Strengthening HRM -Family Planning	Overhead
Development	HPSP	Continue Public Sector Hospital Services	0%
Development	HPSP	Strengthen and upgrade hospitals selected for Improved Hospital Management	0%
Development	HPSP	Establishment of Blood Bank Agency and make it fully operational	0%
Development	HPSP	Preparation of proposal and legal charter for NEMEW along with regional repair & maintenance workshops to be a Public Limited Company	0%
Development	HPSP	Strengthening of MCH care in district Hospitals	0%
Development	HPSP	Establishment of 250 bed Medical College at Dinajpur	0%
Development	HPSP	Khulna Medical College Hospital	0%
Development	HPSP	8 Trauma Unit at Different Accident Prone Area Near Highway	100%
Development	HPSP	National Asthma Centre	0%
Development	HPSP	Sir Salimullah Medical College Hospital	0%
Development	HPSP	National Institute of Mental Health Research 100 bed Hospital	0%
Development	HPSP	National Institute of Cardiovascular Diseases	0%
Development	HPSP	100 bed District Hospital at Norsingdhi	0%

Development	HPSP	Comilla Medical College Hospital	0%
Development	HPSP	Bogra Medical College Hospital	0%
Development	HPSP	ADB Assisted 2nd Health and Family Planning Service	0%
Development	HPSP	Bangabandhu Sheikh Mujib Medical University	0%
Development	HPSP	Strengthening Nursing Directorate	Overhead
Development	HPSP	Strengthening Nursing Education	Overhead
Development	HPSP	Bangladesh College of Nursing	Overhead
Development	HPSP	Strengthening Quality Assurance Services	Overhead
Development	HPSP	Strengthening of Medical Educaiton	Overhead
Development	HPSP	Dhaka Medical College, Dhaka	Overhead
Development	HPSP	Rajshahi Medical College, Rajshahi	Overhead
Development	HPSP	Rangpur Medical College, Rangpur	Overhead
Development	HPSP	Mymensingh Medical College, Mymensingh	Overhead
Development	HPSP	Chittagong Medical College, Chittagong	Overhead
Development	HPSP	Pabna Medical College, Pabna	Overhead
Development	HPSP	Faridpur Medical College, Faridpur	Overhead
Development	HPSP	Bogra Medical College, Bogra	Overhead
Development	HPSP	Comilla Medical College, Comilla	Overhead
Development	HPSP	Development & Strengthening capacity for research	Overhead
Development/non-development	**Level 2**	**Level 3**	**Allocation**
Development	HPSP	Bangladesh Medical Research Council (BMRC)	8%
Development	HPSP	Institution of Epidemiology and Disease Control Research (IEDCR)	Overhead
Development	HPSP	CME	Overhead
Development	HPSP	ICDDR-B	Overhead
Development	HPSP	Other NGO Research	Overhead
Development	HPSP	Strengthening SWM -Health Service	Overhead
Development	HPSP	Establishment of Centre for Environmental and Occupational Health	0%
Development	HPSP	Improving Environmental and Occupational Health	0%
Development	HPSP	Arsenic Related Services	0%
Development	HPSP	Poultry Nutrition	100%
Development	HPSP	Household food security through Nutrition Gardening	100%
Development	HPSP	Publicity campaign on nutrition in the news media (PID)	100%
Development	HPSP	Nutrition communication activities	100%
Development	HPSP	Nutrition Information & Communication activities through BTV	100%
Development	HPSP	Development of nutrition programme through intensive publicity and exhibition of documentary films	100%
Development	HPSP	Reduction of Malnutrition of Women and Children in Bangladesh	100%
Development	HPSP	Strengthening of Nutrition unit of DGHS	100%
Development	HPSP	BMS code monitoring and promotion of Iodised salt	100%
Development	HPSP	Pilot alternative medical care (Homeo, Unani and Ayurvedi) in selected Hospitals	0%
Development	HPSP	Up gradation of District Hospitals	0%

Development	HPSP	Construction of Community Clinics	100%
Development	HPSP	Construction of NTCs	Overhead
Development	HPSP	Construction of Health & Population Bhaban	Overhead
Development	HPSP	Programme Coordination Cell	Overhead
Development	HPSP	Up gradation of Health and Family Welfare Centers -HFWCs at Union Level	100%
Development	HPSP	50 Bedded Burn Unit at Dhaka Medical College Hospital	0%
Development	HPSP	Construction of MCWCs	100%
Development	HPSP	Up gradation of Thana Health Complex	100%
Development	HPSP	Management Change Unit	Overhead
Development	HPSP	Strengthening Capacity in Health Economics	Overhead
Development	HPSP	Establish Institute for Health Economics at Dhaka University	Overhead
Development	HPSP	National Health Accounts	Overhead
Development	HPSP	HRD Policy Unit	Overhead
Development	HPSP	Gender Unit	Overhead
Development	HPSP	Stakeholder Unit	Overhead
Development	HPSP	PRU Support Service	Overhead
Development	HPSP	Improved Regulatory Service	Overhead
Development	HPSP	Population	Overhead
Development	HPSP	Improvement of Drug Administration	Overhead
Development	HPSP	Strengthening HRM -MOHFW	Overhead
Development	HPSP	Strengthening Planning and Research	Overhead
Development	HPSP	Coordination of research activities of NIPORT	Overhead
Development	HPSP	Coordination of research activities of BIRPERHT	Overhead
Development	HPSP	Coordination of ORP's, ICDDR-B activities	Overhead
Development	HPSP	Coordination of EOC's, ICDDR-B activities	Overhead
Development	HPSP	Strengthening Planning Unit of DGFP for SWM	Overhead
Development	HPSP	Capacity building for SWM	Overhead
Development	HPSP	Strengthening Financial Management System -DGFP	Overhead
Development	HPSP	Establish FMU & implement financial management system including traininig	Overhead
Development	HPSP	Institute of Child and Maternal Health - ICMH	Overhead
Development	HPSP	Construction of Thana Stores	100%
Development	HPSP	ICU & Casualty Unit at Chittagong Medical College Hospital	0%
Development	HPSP	Consultant	Overhead
Development	HPSP	Up-keeping and Periodical Maintenance	Overhead
Development	HPSP	Equipment Repair and Maintenance System	100%
Development	HPSP	Centre For BCC	100%
Development	HPSP	Establishment of a Regulatory Unit in DGHS for accreditation and medical audit	Overhead
Development	HPSP	Hospital Waste Management	0%
Development	HPSP	Sylhet Medical College, Sylhet	Overhead
Development	HPSP	Dinajpur Medical College	Overhead
Development	HPSP	Technical Unit, Pre-service Education, DGHS	Overhead
Development	HPSP	Remodeling of Union Health and Family Welfare Centres -HFWCs	100%

Development	HPSP	Remodeling of District Hospitals	0%
Development	HPSP	Construction of Doctors Quarter at Thana Level	0%
Development	HPSP	Supervision and Management	Overhead
Development	HPSP	Up gradation of 250 bedded Khulna Medical College Hospital to 500 bedded Medical College Hospital	0%
Development	HPSP	Establishment of 250 bedded Specialised Hospital at Khalishpur, Khulna	0%
Development	HPSP	Expansion of vaccine Testing Unit of DTL	Overhead
Development	HPSP	Expansion & Modernization of Sir Solimullah Medical College	0%
Development	HPSP	Establishment of 5 Medical Colleges at Comilla, Dinajpur, Bogra, Faridpur and Khulna	0%
Development	HPSP	Establishment of Health Complexes with 31 bed at Godagari, Fulgazi and Dumki	100%

Development/non-development	**Level 2**	**Level 3**	**Allocation**
Development	HPSP	Establishment of 20 bedded hospital in Godara, Bagerhat (SDF Funded)	100%
Development	HPSP	Block Allocation for Post Flood Rehabilitation	Overhead
Development	HPSP	Accounts, Report and IT Cell (ARIT)	0%
Development	HPSP	Program Finance Cell (PFC)	0%
Development	HPSP	Establishment of 50 bedded Burn Unit at Dhaka Medical College Hospital	0%
Development	HPSP	Maternal and Child Health Institute, Azimpur	100%
Development	HPSP	National Institute of Preventive and Social Medicine (NIPSOM)	0%

Source: FMU and HEU calculations

A1.9: ESP development spending by component and apportioned revenue spending (Crore Taka)[13]

ESP Sub-Component	1	2	3	4	5	6	7
	GOB Dev	RPA (other)	DPA	Total Dev	(%)	Total (Dev plus Rev)	%
RH: Family Planning	163.32	1.74	105.42	270.48	36.7%	193.22	15.1%
RH: Maternal Health	10.18	5.58	111.04	126.80	17.2%	273.25	21.3%
RH: Other	0.28	1.21	5.83	7.31	1.0%	59.35	4.6%
Child Health	15.99	0.03	102.75	118.78	16.1%	500.94	39.1%
CCD	4.18	0.11	1.87	6.16	0.8%	52.88	4.1%
LCC	0.20	-	-	0.20	0.0%	183.25	14.3%
BCC	3.10	0.33	14.17	17.60	2.4%	17.60	1.4%
Direct overhead	152.48	28.93	7.63	189.04	25.7%		
Total	349.72	37.92	348.71	736.36	100.0%	1,280.48	100.0%

Notes to columns:

Column 1: GoB and RPA through government development spending.
Column 2 and 3: Pooled funding and DPA development spending.
Column 4: Total Development spending
Column 5: Sub-component shares based on development spending.
Column 6: Apportioned revenue spending and salary component of development spending, according to work pattern analysis[14].
Column7: Sub-component shares based on total ESP spending.

Note also: there is a BCC component in many of the other sub-components that is hard to separate. Total spending on BCC is, therefore, likely to be under-estimated.

[13] Excludes BINP.
[14] Refer to Health Economics Unit (2001) Research Paper 25

Annex 2: ESP Cost at UHFWCs

Annex table 2.1

ESP costs at Union Health and Family Welfare Centres

ESP Sub-Component	Number of Patients	Staff Cost	Staff Cost including idle time	Commodities and Consumables	Usage Cost of Equipment	Usage Cost of Furniture and Physical Structures	Overhead Cost at UHFWC	Total ESP sub-component cost including capital	Unit Cost including capital	Total ESP sub-component cost excluding capital	Unit Cost excluding capital
REPRODUCTIVE HEALTH	7,744.00	87,657.00	121,843.23	413,720.00	14,690.00	11,030.00	10,841.00	572,124.23	73.88	546,404.23	70.56
Ante-natal Care	30.78	1,395.39	1,939.59	1,644.29	2,646.99	2,762.61	172.58	9,166.06	297.81	3,756.46	122.05
Post-natal Care	10.67	161.35	224.28	569.86	306.07	319.44	19.95	1,439.61	134.96	814.09	76.32
Safe Delivery (normal)	1.83	301.33	418.85	97.95	571.62	596.58	37.27	1,722.27	939.42	554.07	302.22
Family Planning	220.28	1,135.67	1,578.58	11,768.25	2,154.31	2,248.41	140.45	17,890.00	81.22	13,487.28	61.23
CHILD HEALTH	9,195.00	99,198.00	137,885.22	57,362.00	766.00	11,668.00	11,756.00	219,437.22	23.86	207,003.22	22.51
Immunisation (EPI)	101.78	696.11	967.59	634.93	57.99	1,227.83	82.50	2,970.84	29.19	1,685.02	16.56
ARI	68.11	683.78	950.45	424.90	56.96	1,206.08	81.03	2,719.43	39.93	1,456.39	21.38
Diarrhorea	146.06	1,113.72	1,548.07	911.15	92.78	1,964.43	131.99	4,648.42	31.83	2,591.21	17.74
Vitamin A											
LIMITED CURATIVE CARE	5,452.00	140,300.00	195,017.00	86,524.00	3,166.00	8,251.00	7,671.00	300,629.00	55.14	289,212.00	53.05

Notes: staff costs apportioned on basis of time spent, idle staff equals 31% of total staff cost

Equipment, furniture and overhead cost apportioned on basis on number of patients

Annex 3: Resource Projections

Table A3.2: Projections, 'baseline scenario'

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Total Revenues	23191	25230	27775	30560	33603	36927	40556
As % GDP	8.7%	8.5%	8.4%	8.3%	8.2%	8.1%	8.0%
Total Expenditure	38524	43024	47580	52600	58133	64227	70938
As % GDP	14.5%	14.5%	14.4%	14.3%	14.2%	14.1%	14.0%
Health Expenditures							
Government Revenue Expenditure	1112	1278	1582	1946	2378	2723	3112
Real Growth in Revenue Expenditure	10.9%	7.9%	16.3%	15.5%	14.8%	7.5%	7.3%
Government Development Expenditure	423	509	475	417	332	380	434
Real Growth in Development Expenditure	22.5%	13.0%	-12.5%	-17.5%	-25.5%	7.5%	7.3%
Donor Expenditure	898	1011	1135	1233	1313	1399	1489
Real Growth in Donor Expenditure	8.5%	5.7%	5.4%	2.0%	0.0%	0.0%	0.0%
Total Health Expenditure	2434	2799	3192	3596	4023	4501	5036
Real Growth in Total Health Expenditure	11.9%	8.0%	7.1%	5.8%	5.1%	5.1%	5.1%
As % Total Expenditure	6.32%	6.50%	6.71%	6.84%	6.92%	7.01%	7.10%
As % of GDP	0.91%	0.94%	0.97%	0.98%	0.98%	0.99%	0.99%

International Monetary Fund Bangladesh. (1999), and author's own assumptions

Table A3.3: Baseline Scenario with Improved Tax-Efficiency

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Total Revenues	23587	25996	29127	32753	37016	42004	47915
As % GDP	8.90%	8.80%	8.80%	8.90%	9.10%	9.20%	9.50%
Total Expenditure	38522	43786	48923	54796	61543	69303	78297
As % GDP	14.50%	14.80%	14.80%	14.90%	15.10%	15.20%	15.50%
Health Expenditures							
Government Revenue Expenditure	1112	1301	1627	2027	2517	2938	3435
Real Growth in Revenue Expenditure	10.90%	9.80%	17.50%	17.00%	16.60%	9.60%	9.80%
Government Development Expenditure	423.000	518	488	435	351	410	480
Real Growth in Development Expenditure	22.50%	15.00%	-10.50%	-15.50%	-22.00%	9.60%	9.80%
Donor Expenditure	898.000	1011	1135	1233	1313	1399	1489
Real Growth in Donor Expenditure	8.50%	5.70%	5.40%	2.00%	0.00%	0.00%	0.00%
Total Health Expenditure	2434.000	2830	3250	3695	4182	4747	5404
Real Growth in Total Health Expenditure	11.86%	9.20%	7.80%	6.80%	6.30%	6.60%	6.90%
As % Total Expenditure	6.32%	6.50%	6.60%	6.70%	6.80%	6.80%	6.90%
As % of GDP	0.91%	0.94%	0.97%	1.01%	1.02%	1.04%	1.07%

Table A3.4: Key Parameters of the Adjustment Scenario

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Growth	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%	6.50%
Inflation	4.10%	4.10%	4.10%	4.10%	4.10%	4.10%	4.10%
Real Export Growth	11.40%	10.95%	10.50%	10.05%	9.60%	9.15%	8.70%
Real Import Growth	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
Budget Deficit	-6.00%	-5.75%	-5.50%	-5.25%	-5.00%	-4.75%	-4.50%
Growth in Tax Efficiency	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
Trade Share Adjustment Factor	-2.38%	-2.43%	-2.50%	-2.56%	-2.63%	-2.70%	-2.77%
GoB Health Exp./National Exp.	3.99%	4.15%	4.32%	4.49%	4.66%	4.83%	5.00%
Real Growth in Donor Exp.	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%

Table A3.5: Adjustment Scenario. Government and Donor Health Expenditure

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Total Revenues	23191	25708	28443	31451	34756	38383	42362
As % GDP	8.7%	8.7%	8.7%	8.7%	8.6%	8.6%	8.6%
Total Expenditure	38524	42696	46459	50516	54886	59585	64631
As % GDP	14.5%	14.5%	14.2%	13.9%	13.6%	13.3%	13.1%
Health Expenditures							
Government Revenue Expenditure	1112	1268	1545	1869	2245	2526	2836
Real Growth in Revenue Expenditure	10.9%	9.6%	17.0%	16.2%	15.4%	8.1%	7.8%
Government Development Expenditure	423	506	464	401	313	353	396
Real Growth in Development Expenditure	22.5%	14.7%	-11.9%	-16.9%	-24.9%	8.1%	7.8%
Donor Expenditure	898	988	1084	1152	1199	1248	1299
Real Growth in Donor Expenditure	8.5%	5.7%	5.4%	2.0%	0.0%	0.0%	0.0%
Total Health Expenditure	2434	2762	3093	3421	3757	4127	4531
Real Growth in Total Health Expenditure	11.9%	9.0%	7.6%	6.3%	5.5%	5.5%	5.5%
As % Total Expenditure	6.3%	6.5%	6.7%	6.8%	6.8%	6.9%	7.0%
As % of GDP	0.91%	0.93%	0.94%	0.94%	0.93%	0.92%	0.92%

		2000	2001	2002	2003	2004	2005	2006
TFIPPs	Target Population (mn)	14	14	14	15	15	15	15
	Proportion of Target Population Approached	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%
	Revenues	8	12	23	30	38	47	57
NGOs	Target Population	16	19	22	26	29	32	36
	Proportion of Target Population Approached	10.0%	15.0%	20.0%	25.0%	30.0%	35.0%	40.0%
	Revenues	9	16	38	58	84	117	158
DCs	Target Population	23	23	23	23	23	23	23
	Proportion of Target Population Approached	0.0%	5.0%	10.0%	15.0%	20.0%	25.0%	25.0%
	Revenues	0	14	31	49	70	94	100
TOTAL	Total Revenue	17	42	92	138	192	257	315
	Proportion of National Population Approached	2.3%	4.4%	6.7%	9.2%	11.9%	14.7%	16.9%
	Proportion of National Population Covered	0.6%	1.3%	2.3%	3.2%	4.1%	5.0%	5.5%

Table A3.6: Revenue from Community Insurance (per capita premium 220 taka, 'baseline')

		2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
TFIPPs	Target	14000000	14219800	14443051	14669807	14900123	15134055	15371659
	Proportion of Target Population	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%	14.4%
	Revenues	4	16	26	34	43	53	64
NGOs	Target	16310216	19284656	22342376	25485948	28717850	32040505	35456314
	Proportion of Target Population	10%	15%	20%	25%	30%	35%	40%
	Revenues	5	22	43	66	95	132	178
DCs	Target	22713750	22814019	22911837	23007103	23099713	23189561	23276535
	Proportion of Target Population	0.0%	5.0%	10.0%	15.0%	20.0%	25.0%	25.0%
	Revenues	0	14	31	49	70	94	100
TOTAL	Total	9	53	100	149	208	278	342
	Proportion of National Population	2.3%	4.4%	6.7%	9.2%	11.9%	14.7%	16.9%
	Proportion of National Population	1.4%	2.7%	4.2%	5.7%	7.2%	8.8%	10.0%

Table A3.7: Revenue from Community Insurance (per capita rural premium, 120 taka, baseline)

Table A3.8: Revenue from Social Insurance (baseline scenario)

	2000/01	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07
Projected Revenue	0	0	0	114	193	289	401
Proportion of Eligible Pop. Enrolled	0.0%	0.0%	0.0%	20.0%	30.0%	40.0%	50.0%
Proportion of Total Pop. Enrolled	0.0%	0.0%	0.0%	1.4%	2.2%	3.0%	3.9%