Ministry of Public Health

General Directorate of Policy and Planning

Health Economics and Financing Directorate

Normative Costing of Basic Package of Health Services (BPHS)

February 2020

Contents

Executive Summary

Providing sufficient resources to finance implementation of the BPHS is a key challenge. A key challenge in raising revenue that is more domestic is that investment in health is not seen as a key component of macro-economic policies to foster economic growth. To facilitate the implementation of a financially sustainable BPHS, the Health Economics and Financing Directorate (HEFD) of the MoPH costed services at 5 different levels of the health system in the BPHS. This is helping identify areas where greater efficiency might be achieved, as well as informing the quantity of domestic and donor funding that it requires offering BPHS services at a level of access and quality sufficient to meet the basic health needs of the population and provide financial protection for the poor and vulnerable.

The objective of this costing exercises is to identify the estimates of individual services costs, individual program cost, individual health facility total cost as well as the total cost of the BPHS aiming to inform efficiency and support contracting for the BPHS services, demonstrating value for money, planning the allocation of resources and advocating for government and donor financing.

The HEFD used the cost and revenue analysis tool, CORE Plus, to undertake the cost analysis of the BPHS. CORE Plus is a Microsoft Excel based dynamic costing tool developed by the Management Sciences for Health (MSH). It is specifically designed for costing primary health care facilities and has been validated by the WHO and used in many countries. The tool allows users to calculate the total cost of a health facility broken down by individual service, programme, and service category and resource type. CORE Plus uses a method of bottom-up costing to determine the actual and normative costs. Costs are estimated under two different scenarios: (1) actual services and actual costs; (2) actual services and normative costs

However, we used CORE Plus tool to estimate direct cost of BPHS all services for MHT, HSC, BHC, CHC, and DH. Total direct cost of BPHS all services calculated in CORE Plus estimated to be 153,515,356 USD for actual scenario (Scenario A) and 362,088,642 USD for normative scenario (Scenario B). It is realized that standard cost reflected in scenario B is more than two times higher comparing the actual cost presented in scenario A. Undepreciated capital cost and all health posts total cost were added to the total direct cost of BPHS in order to estimate the total BPHS cost. Total BPHS cost estimated to be 178,577,814 USD for Scenario A and 433,384,691 USD for scenario B. Estimates show that total normative cost of BPHS is almost two times higher than actual cost.

Analysis illustrates that total direct cost of services provided at the health facility level constitutes 86% of total health facility cost. Undepreciated capital cost account for 8% of the cost and CHW program cost that is mostly linked with number of HPs in each health facility account for 6 % of total health facility cost. As well as analysis of total cost by health facility type shows that, HSC with USD 27,165 has the lowest actual cost among all health facility types while DH with 365,597 USD has the highest cost.

We also analysed the total cost to identify share of each health facility type in total BPHS cost. In addition to health facility size, the current number of each type were factors associated with their

comparative share in total BPHS cost. As indicated above, CHC with 32% has the highest share in BPHS total cost followed by BHC with 25% under the actual cost scenario. Using standard/ normative approach, our analysis indicates that it requires us almost more than two times the actual cost to run the same number of CHCs.

All health services provided in the framework of BPHS can be categorized in three types: curative services, preventive and promotional. Analysis of share of service cost categories in BPHS total cost indicates that, actual curative services with 52% of total BPHS cost has the higher share and followed by preventive care with 45% share in total BPHS cost. Share of promotional services is around 2% of total BPHS cost. In normative cost scenario share of curative services increased by 3%. However, the share of preventive and promotional services has reduced by 1% and 1% respectively.

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Regards,

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1 Introduction

After decades of conflict, health indicators in Afghanistan were extremely poor. To rebuild the country's health system and improve the country health outcomes, the Ministry of Public Health of the Government of Afghanistan implement the Basic Package of Health Services (BPHS) as core strategy to provide a standardized package of primary health care services across the country. This was complemented by the Essential Package of Hospital Services (EPHS), which provides secondary care to the population, to increase referrals and access to hospital services. The BPHS and EPHS, designed in 2003 and 2005, respectively, have served as cornerstones in establishing the Afghanistan health system.

The objective of the BPHS was to cover the majority of the Afghanistan population with primary health care including maternal and new born care, child health and immunization, public nutrition, communicable disease treatment and control, mental health, disability care and a supply of essential drugs. There has been a marked change in the causes of illness and death in Afghanistan since the design of the BPHS and EPHS. The primary focus 2002 onwards was on the control and prevention of communicable diseases and reducing the very high mortality among mothers and children.

BPHS is offered at six standard types of health facilities, ranging from community outreach provided by Community Health Workers (CHWs) at health posts, through outpatient care at Health Sub Centres (HSCs), Basic Health Centres (BHCs) and provided by Mobile Health Teams (MHTs) and Comprehensive Health Centres (CHCs) and inpatient services at District Hospitals (DHs).

For over a decade, the World Bank (WB), the United States Agency for International Development (USAID), and European Union (EU) have been supporting BPHS service delivery in the 34 provinces of Afghanistan. These donors extended their supports through the System Enhancement for Health Action in Transition (SEHAT) Project within the last three years June 2015-June 2018 and form June 2018 onward through Sehatmandi project to finance the implementation of the BPHS through contracting out and contracting in arrangements both in rural and urban areas.

Essential health service packages have been developed in many countries with the intention of ensuring that the population has knowledge of, and access to, a standard set of the highest priority health services. However, these packages have not always been fully implemented nor costed. Similar to other countries, access to BPHS services remains a problem due to geography and security. Additionally, there are facilities have insufficient trained health workers, equipment and medicines. Some of these issues are attributable to insufficient resources being devoted to these basic facilities because the package of services were not properly costed.

Challenges to adequately funding for BPHS implementation remain. To facilitate the on-going funding of BPHS service provision and development and implementation of a sustainability strategy for BPHS funding, it is necessary to have a good understanding of the cost of current and future services at all levels so that areas can be identified where greater efficiency and cost-

Effectiveness might be achieved as well as facilitating the identification of the quantity of domestic and donor funding that can be provided. The results of the BPHS costing can also be used to help secure the funding needed to provide access to quality services to meet the basic health needs of the population.

Providing sufficient resources to finance implementation of the BPHS is a key challenge. To facilitate the implementation of a financially sustainable BPHS, the Health Economics and Financing Directorate of the MoPH is costing current and future services at five different levels of the health service delivery facilities in the BPHS. This is helping identify areas where greater efficiency might be achieved, as well as informing the quantity of domestic and donor funding that it needed in order to offer BPHS services at a level of access and quality sufficient to meet the basic health needs of the population. A key challenge in raising more domestic revenue is that investment in health is not seen as a key component of macro-economic policies to foster economic growth.

2 Objective

The objective of this costing exercises is to identify the estimates of individual services costs, individual program cost, individual health facility total cost as well as the total cost of the BPHS aiming to inform efficiency and support contracting for the BPHS services, demonstrating value for money, planning the allocation of resources and advocating for government and donor financing.

3 Method

3.1 Data Analysis Tool

The Health Economics and Financing Directorate (HEFD) of the MoPH used the cost and revenue analysis tool, CORE Plus, to undertake the cost analysis of the BPHS and model the two scenarios. CORE Plus is a Microsoft Excel based dynamic costing tool developed by Management Sciences for Health (MSH). It is specifically for costing primary health care facilities and has been validated by the WHO and used in many countries.

The tool allows users to calculate the total cost of a health facility broken down by service, programme, and service category and resource type. CORE Plus uses a method of bottom-up costing to determine the actual and normative costs. Costs are estimated under two different scenarios: (1) actual services and actual costs; (2) actual services and normative costs.

3.2 Reclassification of services

Health facility utilization data for the year 2018, obtained from the MoPH data warehouse, DHIS2, was used to perform the costing exercise. The list of priority conditions for outpatient and inpatient admissions were retrieved from the monthly integrated activity report and the hospital monthly integrated report. However, these are useful in indicating morbidity conditions, they are not

specific enough for costing individual services. A further breakdown of morbidity into specific services was therefore required.

In order to agree on reasonable assumptions, a panel was convened. It included doctors, midwives and nurses representing health workers in existing health facilities. The panel helped establish standard treatment guidelines for each disaggregated outpatient intervention. The panel reclassified 31 priority conditions for outpatient morbidity into a total 80 interventions including 'other unlisted diseases.

A separate panel was convened to develop standard treatment guidelines for each disaggregated inpatient service. The panel was comprised of surgeons, general physicians, midwives and nurses representing health personnel in district hospitals. The panel reclassified 44 inpatient morbidity conditions included in the hospital monthly integrated report into 68 inpatient services including 'all other new inpatient cases.

3.3 Development and allocation of costs

The direct costs of services were estimated based on the standard treatment guidelines developed in consultation with the two panels of health personnel. The guidelines for each service are comprised of the quantities of resources required to provide a good quality service. These quantities are then multiplied by the price of each resource to produce a total cost for each service. For each service members of the two panels determined which facility staff member is expected to provide the service and how much of their time is needed.

The two panels also determined which medicines, supplies and laboratory tests are commonly required to diagnose and treat each condition. All the standard treatment guidelines developed for the services are considered established norms for the purposes of the specific application of the data analysis tool CORE Plus.

As required by the data analysis tool the following steps have been taken:

- Classification of each intervention under relevant programmes based on the type of interventions included in the costing;
- Identification of the type of service (curative, preventive, and promotional services) the target population, and the level of service delivery (primary and secondary) for each intervention

The costing comprises total costs from the provider perspective which are financial costs incurred by the providers. However, the costs were also estimated in a way, which excluded donations for medicines, medical supplies and laboratory tests. Recurrent costs were included in the modelling since these are directly relate to the on-going costs of service provision. The average annual capital costs by facility type, obtained from the Expenditure Management Information System (EMIS), were added later on to the health facility total cost. Lastly, the cost of the Health Post (HP)

providing community based services obtained from the Evaluation of the Community Based Health System study in Afghanistan[1] and was added to the total cost produced by CORE Plus.

3.4 Sample of health facilities

In consultation with the MoPH Grant and Contract Management Unit, the geographic distribution of provinces and shared borders with other provinces with similar context was considered. This resulted in 15 out of 34 provinces being included in the costing sample. To ensure completeness of data and that selected health facilities represent similar types of health facilities in a province, health facilities were listed based on completeness of their health management information system (HMIS) quarterly reports.

As a second step in getting a sample of health facilities one health facility with history of good reporting was randomly selected from each type to get a total of five health facilities per province. This resulted in a total sample of 67 health facilities, including 15 sub-health centres, 15 basic health centres, 15 comprehensive health centres, 15 district hospitals, and seven mobile health teams. Separate CORE Plus models were established for each facility type to reflect the different package of services that should be provided at each one.

3.5 Data collection and organization

A semi-structured questionnaire was developed and shared with the government contracted health service providers in the sampled provinces. The service providers gave general information on health facilities while data on salaries, drug costs and operating costs were provided by the Expenditure Management Information System (EMIS) for 2018. Average supply and lab test unit prices was based on data collected from implementer NGOs. Pharmaceutical and Logistics Information System (PLIS) 2016 median scores was used to allocate each drug unit price for the analysis.

[1] Evaluation of the Community Based Health System study in Afghanistan, MoPH, Afghanistan.

4 Result

In addition to the estimate of costs, the CORE Plus tool provide us with basic statistics for MHT, HSC, BHC, CHC, and DH. According to the BPHS a HSC is intended to cover a population of about 3,000 to 7,000, The catchment population for a BHC should be within the range of 15,000 to 30,000 people, a CHC should cover a catchment area of about 30,000 to 60,000 people, while a DH should cover a population of 100,000 to 300, 000 people.

Table 01 indicates basic statistics by type of health facility. Overall the average of catchment population for a HSC is within the range of rule, while, BHC and DH with 13,201 and 52,775 people in the coverage area are not within the range of proposed in the strategies. CHC has the lowest range of proposed population. Total type of services in full package is based on number of services identified to be provided by each health facility type while number of all services delivered from the package denotes number of services actually provide by the health facility against full package. Except DH, all other health facility types have not provided total types of services based on the full package. Different reasons can cause for lower level of services coverage from the package.

Table 01: Overall Statistics

Indicator	Facility Type	Actual Scenario
Average Catchment Population	MHT	7,500
	HSC	6,561
	BHC	13,201
	CHC	30,123
	DH	52,775
Total Type of Services in Full Package	MHT	75
	HSC	79
	BHC	79
	CHC	80
	DH	149
Average Number of all Services Delivered from the Package	MHT	37
	HSC	43
	BHC	43
	CHC	62
	DH	114
Average Number of all Services Provided	MHT	29,963
	HSC	18,840
	BHC	28,679
	CHC	51,876
	DH	128,265

Average Number of Services Per Capita	MHT	4
	HSC	2.87
	BHC	2
	CHC	2
	DH	2

The average number of services per capita are 4 and 2.87 for MHT and HSC. The rest of the health facilities provided same number of services per capita.

Table 02 in the bellow shows total number of services and number of services per capita by service type namely, curative, preventive and promotional services. As analysis show on average more preventive services provided per capita comparing to curatives and promotional services. Service utilization for promotional services represent number of health education conducted.

Table 02: Total number of services and number of service per capita by Services type

Indicator	Facility Type	Actual Scenario
Curative Services	MHT	7,934
	HSC	7,471
	BHC	10,934
	CHC	22,827
	DH	52,693
Number of Curative services Per capita	MHT	1.06
	HSC	1.14
	BHC	0.83
	CHC	0.76
	DH	1.00
Preventive Services	MHT	21,727
	HSC	10,765
	BHC	16,767
	CHC	27,523
	DH	69,233
Number of Preventive services Per capita	MHT	2.90
	HSC	1.64
	BHC	1.27
	CHC	0.91
	DH	1.31
Promotional Services	MHT	300
	HSC	600
	BHC	800
	CHC	1,000
	DH	2,000
Number of Promotional Services per Capita	MHT	0.04
	HSC	0.09
	BHC	0.06
	CHC	0.03
	DH	0.04

Different types of health, medical interventions in BPHS and associated costs under the actual and normative cost scenarios are listed under the following 10 health service headings:

1. Maternal and Newborn Health

2. Child Health and Immunization

3. Nutrition

4. Communicable Disease Treatment and Control

5. Mental Health

6. Disability Services

7. Information, Education and Communication

8. Dental health

9. Non-communicable diseases

10. Family Planning

Findings in table 03 shows that Child Health and Immunization program had the highest number of utilization in all health facility types followed by reproductive, maternal, and newborn health and nutrition. According to BPHS, disability services interventions only provided at DH level because Physiotherapist will be available only at DH level; this is while none of the DH reported to provide disability services.

Dental health program with low number of interventions had the lowest number of services utilization. Physiotherapist will be available only at DH level while none of the DH reported to provide rehabilitation services.

Table 03: Total Number of Service by Program

Program	Facility Type	Actual Scenario
Maternal and Newborn Health	MHT	2,859
	HSC	1,501
	BHC	3,592
	CHC	6,355
	DH	20,183
Child Health and Immunization	MHT	17,783
	HSC	6,979
	BHC	11,477
	CHC	18,007
	DH	42,734
Nutrition	MHT	2,859
	HSC	2,927
	BHC	5,131
	CHC	9,509
	DH	23,067
Communicable Disease Treatment and Control	MHT	2,957
	HSC	2,551
	BHC	3,866
	CHC	8,943
	DH	17,070

	MHT	30
	HSC	74.20
Mental Health	BHC	161
	CHC	581
	DH	438
	MHT	0
	HSC	0
Disability Services	BHC	0
	CHC	0
	DH	0
	MHT	300
	HSC	560.00
Information, Education and Communication	BHC	800
	CHC	1,000
	DH	2,000
	MHT	220
	HSC	202
Dental health	BHC	305
	CHC	633
	DH	3,041
	MHT	2,437
	HSC	1,582
Non-communicable Diseases	BHC	2,862
	CHC	5,843
	DH	14,824
	MHT	519
	HSC	315
Family Planning	BHC	434
	CHC	1,006
	DH	1,804

Table 04 in the bellow shows Summary and Average Number of Services and Annual Cost per Technical staff. All staff at all health facility types can be categorized in to two categories: admin staff and technical staff. Table 04 provide summary of technical staff at all health facility types in two scenarios. As data show there is required more staff at MHT, HSC, BHC and CHC for provision of services in accordance to standard treatment guidelines while, total number of staff in normative scenario is lower comparing to the actual scenario at DH level. On average number of services per technical staff per day is higher in actual scenario for MHT, HSC, BHC and CHC. In contrast average number of services per technical staff per day is reduced in normative scenario comparing to actual scenario at DH level. Average pay per technical staff per year is lower among MHT and HSC comparing to DH and CHC.

Table 04: Summary and Averages Number of Services and Annual Cost per Technical staff

Indicator	Facility Type	Scenario	
		Actual	Normative
Average Number of Technical Staff	MHT	4	6
	HSC	4	6
	BHC	5	9
	CHC	11	18
	DH	30	24
Average Number of Services Per Technical Staff Per Day	MHT	25	16
	HSC	14	11
	BHC	19	11
	CHC	15	9
	DH	14	17
Average Pay Per Technical Staff Per Year	MHT	3,299	4,733
	HSC	3,724	4,693
	BHC	4,354	4,051
	CHC	5,613	4,576
	DH	6,564	3,514

Table 05 provides BPHS total cost by scenario. However, we used CORE Plus tool to estimate direct cost of BPHS all services for MHT, HSC, BHC, CHC, and DH. Total direct cost of BPHS all services calculated in CORE Plus estimated to be 153,515,356 USD for Scenario A and 362,088,642 USD for scenario B. Standard cost reflected in scenario B is more than two times higher comparing the actual cost presented in scenario A

Table 05: BPHS Total Cost by Scenarios

Cost Category	Scenario	
	Actual	Normative
Total Direct Cost of All Services (CORE Plus)	153,515,356	362,088,642
Total Capital Cost	14,086,346	39,223,033
CHW Program Cost	10,976,112	32,073,016
Total BPHS Cost	178,577,814	433,384,691

Undepreciated capital cost and all health posts (functional under health facility coverage area) total cost were added to the total direct cost of BPHS in order to estimate the total BPHS cost.

Table 06: Total Health Facility Cost by Scenario

Cost Category	Scenario	
	Actual	Normative
Mobil Health Team (MHT)	29,957	47,171

Sub Health Center(SHC)	27,165	76,234
Basic Health Center (BHC)	42,064	116,501
Comprehensive Health Center (CHC)	112,896	228,979
District Hospital (DH)	365,597	814,984

Table 06 in the above shows total actual and total normative costs by health facility type. HSC with 27,165 USD has the lowest actual cost among all health facility types, while DH with 365,597 USD has the higher total cost

We analysed the total cost from another perspective that is to identify share of each health facility type in total BPHS cost - Table 07. In addition to facility cost, current number of each health facility type resulted in comparatively higher or lower share in total BPHS cost.

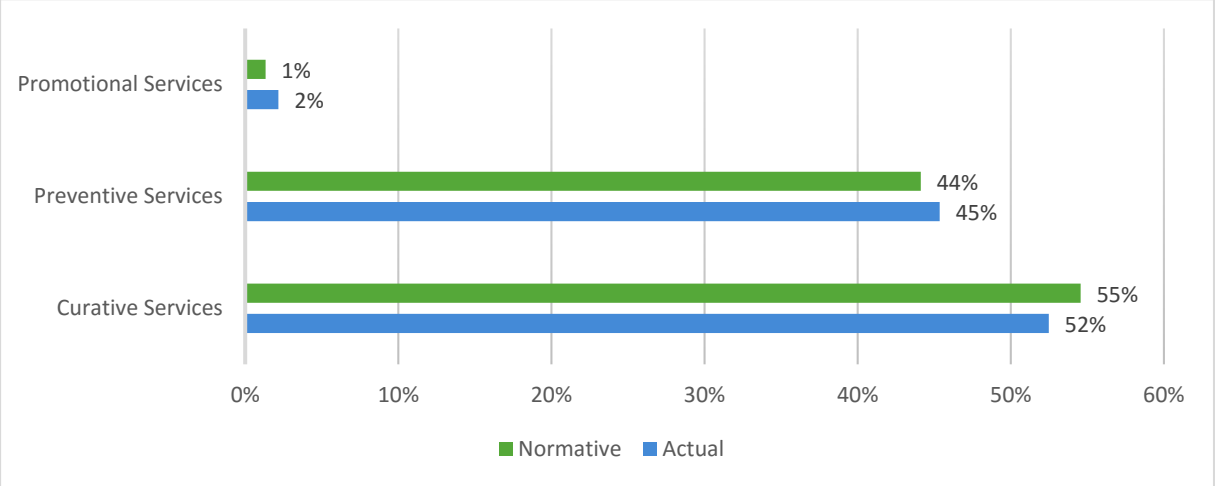
Table 07: Share of Health Facilities Cost in BPHS Total Cost by Health Facility Type

Cost Category	**Scenario**	
	Actual	**Normative**
Share of MHTs Cost in Total BPHS Cost	6%	4%
Share of HSCs cost in total BPHS cost	17%	20%
Share of BHCs cost in total BPHS cost	25%	29%
Share of CHCs cost in total BPHS cost	32%	28%
Share of DHs cost in total BPHS cost	20%	19%

As indicated above, CHC with 32% has the highest share in BPHS total actual cost followed by BHC with 25%.

All health services provided in the framework of BPHS can be categorized in to three types: curative services, preventive and promotional. Figure 01 shows share of service categories cost in BPHS total cost. Actual curative services with 52% of total BPHS cost has the higher share and followed by preventive care with 45% share in total BPHS cost. Share of promotional services is around 2% of total BPHS cost. In normative cost scenario share of curative services increased by 3% while share of preventive and promotional services decreased by 1%.

Figure 01: Share of Service Category as % of Total BPHS Cost by Scenario



As table 08 shows, curative service category has the highest cost per service (15 USD) comparing with preventive and promotional services category. The same difference followed in normative cost as well.

Table 08: Cost per Service by Service Category

Service Category	Scenario	
	Actual	Normative
Cost per Curative service provided	15	34
Cost per Preventive service provided	1	3
Cost per Promotional service provided	1	2

The BPHS has seven primary elements that was selected among many priorities to cover the majority of the Afghanistan population with primary health care including maternal and newborn care, child health and immunization, public nutrition, communicable disease treatment and control, mental health, disability care and a supply of essential drugs. In order to provide more detailed cost, we estimated cost for information and education, dental health, non-communicable disease and family planning programs in addition to the six elements mentioned above, Different types of health, medical and surgical interventions are listed under the 10 health service headings indicated in figure 02.

Figure 02 below provides percentage share of each program in total BPHS cost. Child health and immunization with 27% and maternal and new born care with 25% share in total BPHS cost constituted the main portion of the cost among other programs followed by Nutrition, and communicable diseases with 18% and 16% respectively

Figure 02: Share of Program as % of Total BPHS Cost by Scenario

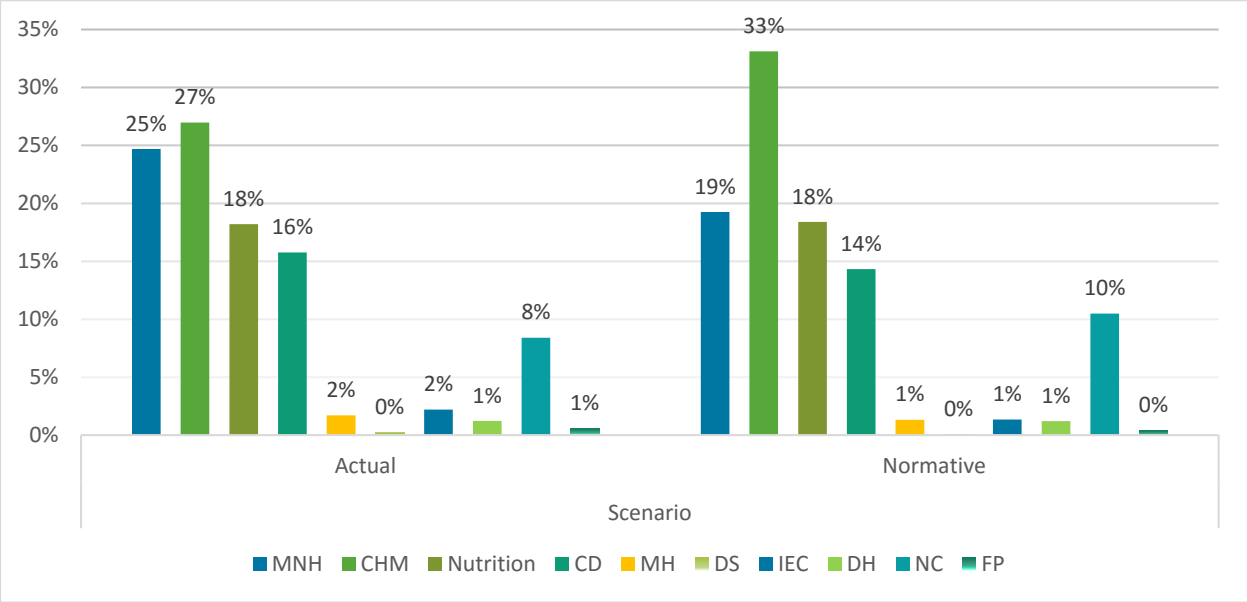


Table 09 in the below provides cost per services by program. Mental health, with 5.2 USD has the highest cost per services, while maternal and new-born health and communicable diseases treatment and control with 3.7 USD and 2.3 USD are in second and third step.

Table 09: Cost per Services by Program

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	3.7	8.3
Child Health and Immunization	1.0	2.5
Nutrition	1.8	3.2
Communicable Disease Treatment and Control	2.3	4.5
Mental Health	5.2	9.3
Disability Services	0	0
Information, Education and Communication	1.4	1.9
Dental health	1.8	3.2
Non-communicable Diseases	1.8	4.8
Family Planning	0.4	0.8

The CORE Plus tool identifies primary and secondary level of each service as per information given to the tool. Analysis displayed in table 10 shows that all cost at MHT level allocated to provide the primary level services. As we go to the higher level of health facilities the share of secondary level services cost increases. Share of total cost of secondary health services are 7 %, 16 %, 14 % and 50 % at HSC, BHC, CHC and DH level respectively.

Table 10: Share of Primary and Secondary Services cost as % of Total BPHS Cost by Scenario

Service Type	HF Type	Scenario	
		Actual	Normative
Total Cost of all Primary (Ambulatory) Services	MHT	100%	100%
	HSC	93%	84%
	BHC	84%	81%
	CHC	86%	84%
	DH	50%	46%
Total Cost of all Secondary (Hospitalization) Services	MHT	0%	0%
	HSC	7%	16%
	BHC	16%	19%
	CHC	14%	16%
	DH	50%	54%

Table 11: shows cost per service and cost per capita by health facility Type and Scenario Overall average cost per service and average cost per capita for scenario A are 2.6 USD and 6.1 USD respectively. However, the same costs for scenario B are approximately three times higher than scenario A - USD 5.9 and USD 13.9 respectively. District hospitals with 2.9 USD has the highest actual cost per service and MHT with 1 USD has the lowest cost per service. Normative costs show the same ranking as showed in actual costs. Average cost per capita is a bit higher at MHT comparing to its average costs per service in both scenarios. Similar to average cost per service, DH has had the highest cost per capita (6.9) for scenario A and (15.4) for scenario B.

Table 11: Average Cost Per Service and Average Cost Per Capita by HF Type and Scenario

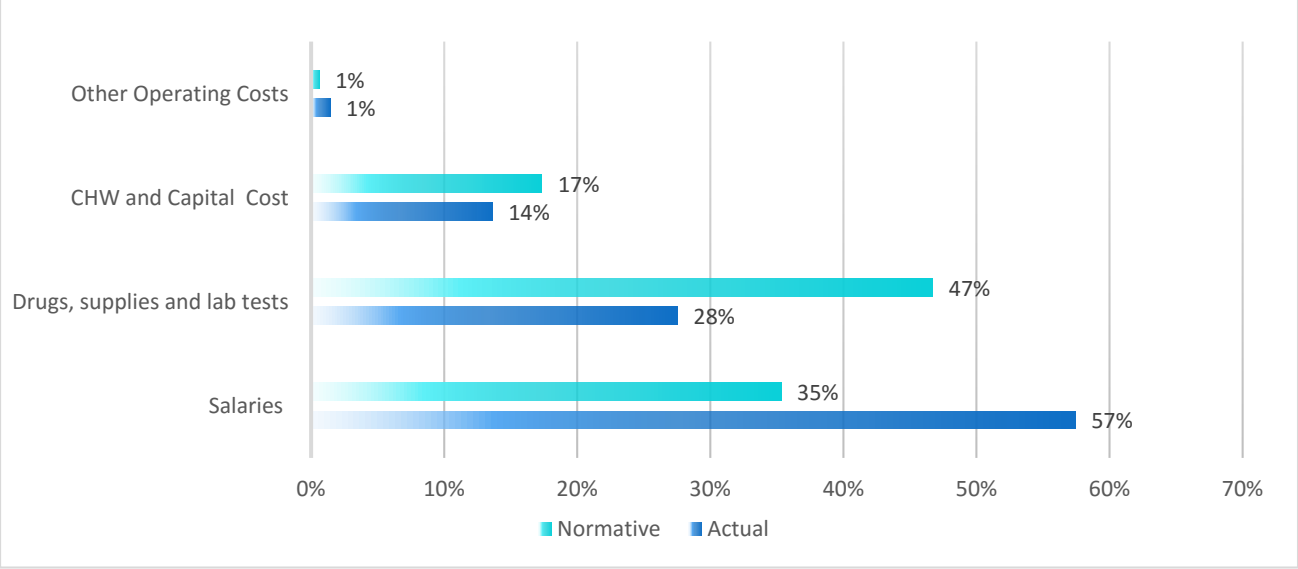
Service Type	HF Type	Scenario	
		Actual	Normative
Cost Per Service	MHT	1.0	1.6
	HSC	1.4	4.0
	BHC	1.5	4.1
	CHC	2.2	4.4
	DH	2.9	6.4

Cost Per Capita	MHT	4.0	6.3
	HSC	4.1	11.6
	BHC	3.2	8.8
	CHC	3.7	7.6
	DH	6.9	15.4
Overall Average Cost Per Service		2.6	5.9
Overall Average Cost Per Capita		6.1	13.9

The lowest actual cost per service found among the MHTs. While the highest average cost per services found among the DH – which might be partially due to the influence of inpatient services costs.

Actual cost per capita is also the highest among the DHs and followed with 4.0 USD, 4.1, 3.2 USD and 3.7 for MHT, HSC, BHC, and CHC respectively. Normative cost per capita is much higher than actual cost per capita for all health facility types.

Figure 03: Break-down of Total Direct Services and Indirect Costs by Scenario



The CORE Plus tool provide cost estimations of a health facility total cost from another perspective that is breakdown of total cost by heath facility staff, drugs, supplies and lab test cost. Average of undepreciated capital cost was estimated separately using EMIS data for the year 2018. Cost of Community Health Workers (CHW) activities at community level and Health Post (HP) level were

projected for each health facility using HP evaluation report[2]. Figure 04 shows break-down of total direct service cost and indirect services in actual cost scenario.

Figure 03 in the above indicates break-down of total direct services and indirect services costs in actual and normative cost scenarios for health facilities lower than DH. Share of drugs, supplies and lab test cost get increasing from 28% in actual cost to 47% in normative cost scenario. Providing standard treatment services causes higher cost of drugs, supplies and lab tests in normative cost scenario. In contrast, total salaries decreased from57% in actual cost scenario to 35% in normative costs scenario. Share of operating cost decreased while share of capital and community level cost increased by 3%. Capital cost was projected for each scenario based on share of capital cost in total health facility cost that was provided by EMIS. Community based health services cost was projected for each health facility type based on total number of health post (HP) in each health facility type and cost per HP using allocation factor extracted from ratio of normative and actual cost created by CORE Plus tool.

Figure 04: Break-down of Total Direct Services and Indirect Costs by Scenario in DH

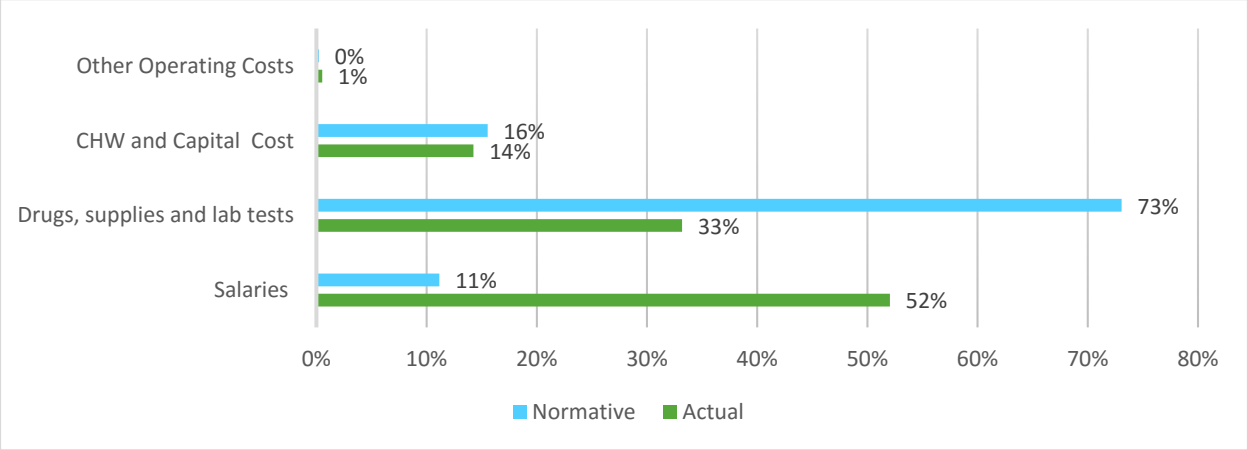


Figure 04 in the above indicates breakdown of total direct services and indirect services costs in actual and normative cost scenarios in district hospitals. Share of drugs, supplies and lab test cost get increasing from 33% in actual cost to 73% in normative cost scenario. Providing standard treatment services causes higher cost of drugs, supplies and lab tests in normative cost scenario. In contrast, total salaries decreased from52% in actual cost scenario to 11% in normative costs scenario. Share of operating cost decreased while share of capital and community level cost increased by 2%. Capital cost was projected for each scenario based on share of capital cost in total health facility cost that was provided by EMIS. Community based health services cost was projected for each health facility type based on total number of health post (HP) in each health

[2] Evaluation of the Community Based Health System study in Afghanistan, MoPH, Afghanistan

facility type and cost per HP using allocation factor extracted from ratio of normative and actual cost created by CORE Plus tool.

5 Study Limitation

Some challenges and limitations have been experienced in this costing study that should be acknowledged. These limitations include the followings:

a) The standard operating costs and administrative staff salaries were not available so the actual operating and admin staff salaries costs used for normative scenario as well. This might cause some lower operating and staff cost in normative cost scenario.
b) However, endeavored to identify the true cost of donations to the health facilities, due to associated difficulties that made it almost impossible to draw the true picture of donations to health facilities, we excluded the cost of donations for medicines, medical supplies and laboratory tests for both actual and normative costs.
c) Undepreciated capital cost was estimated separately using EMIS data for the year 2018 that might be overestimated to some degree.
d) The tool has no capacity to estimate Community Based Health Services (CBHC) cost. Estimates form the Evaluation of the Community Based Health System study in Afghanistan, MoPH, Afghanistan used to project cost of CHBC at health facility level.
e) Due to unavailability of incidence and prevalence rates we couldn't estimate projected costs for full and target coverage.
f) Since most of the BHCs and all HSCs and MHTs are not providing lab test facilities, therefore lab test cost for BHC and lower level health facilities have not been considered in this costing study.

6 Discussion

This costing study demonstrates some potential areas where improvements in resource allocation could lead to more qualified health service provision within the framework of BPHS. The study found that total direct cost of BPHS all services calculated in CORE Plus estimated to be 153,515,356 USD for actual scenario and 362,088,642 USD for normative scenario. After adding undepreciated capital cost, all health posts total cost and total direct cost of BPHS in order to estimate total BPHS cost, findings show that we will need an amount of 178,577,814 USD for actual scenario and 433,384,691 USD for normative scenario. It is realized that standard cost reflected in normative scenario is more than three times higher comparing the actual cost presented in actual scenario. There is huge difference between available funding and our need for providing standard health services.

Analysis show that HSC with USD 27,165 has the lowest actual cost among all health facility types while, DH with 365,597 USD have the highest total actual cost respectively. Further analysis was done to identify share of each health facility type in total BPHS cost. CHC with 32% has the highest share in BPHS total cost followed by BHC with 25% under the actual cost scenario. In addition to health facility size, the current number of each type were factors associated with their comparative share in total BPHS cost.

All health services provided in the framework of BPHS can be categorized in three types: curative services, preventive and promotional. Actual curative services with 52% of total BPHS cost has the higher share and followed by preventive care with 45% share in total BPHS cost. Share of promotional services is around 2% of total BPHS cost. In normative cost scenario share of curative services increased by 3%. However, the share of preventive and promotional services has reduced by 1% and 1% respectively.

Comparison analysis of share of each program in total BPHS cost at (MHT-DH level) indicates that Child Health and Immunization with 27% share in total BPHS cost constituted the main portion of the cost among other programs followed by reproductive, maternal, and new-born health with 25% share in total BPHS actual cost.

Comparison analysis of share of primary and secondary level services in total BPHS cost shows that, all cost at MHT level allocated to provide the primary level services while share of secondary level services found to be 50% in distract hospital. As we move to the higher level of health facilities the share of secondary level services cost increases.

Overall average cost per service and average cost per capita for actual scenario are USD 2.6 and USD 6.1 respectively. However, the same costs for normative scenario are approximately three times higher than actual scenario at USD 5.9 and USD 13.9 respectively. District hospitals with

USD 2.9 has the highest actual cost per service. However, per service cost for MHT is the lowest of all at USD 1.0, its per capita cost is the second highest at USD 6.9 after DH at USD 4.1 in HSC.

Total cost breakdown by cost categories (at MHT-CHC level) show there is huge difference between actual and normative cost scenarios in share of drug, supplies and lab test, salaries and operating cost. Share of drugs, supplies and lab test cost increased by 19% in normative scenario while share of staff salaries decreased by 22%. Providing services in standard manner requires additional drugs and supplies as well as required lab tests. Overall increase in drugs, supplies and lab tests cost affects share of salaries and share of operating cost in total cost. Since, summary of staff analysis showed that in normative scenario there is need for less number of technical staff at DH level so we analyzed cost breakdown for DH separately as the analysis of total DH cost breakdown show that share of staff cost decreased to a considerable manner.

7 Conclusion and Recommendation

For full implementation of the BPHS overall resource requirement estimated to be 178,577,814 USD for actual scenario and 433,384,691 USD for normative scenario. It is realized that standard cost reflected in normative scenario is more than three times higher comparing the actual cost presented in actual scenario. Considering prevailing financing scenario, relatively huge amount of funding gap is foreseen for implementing of BPHS in standard scenario. Total estimated gap is 254,806,877 USD.

By cost category, the largest share of the fund is estimated to be required for the salaries which is 54% of total cost in actual scenario. This category includes all kinds of directs costs on human resources including salary and benefits. Drug, supplies and lab test comprise the second largest component in terms of resource requirement accounting for 31% of total resource requirement for the same scenario which, comprises of all kinds of pharmaceutical products, commodities and supplies necessary for the delivery of health interventions. In normative scenario human resources accounts only for 20% of total BPHS cost in contrast Drug, supplies and lab test estimated to be 63% of total BPHS cost in normative scenario. Other two major categories of costs are capital and community based health services through health posts and operational costs which respectively demand 16% and 1% of the total costs.

Based on these findings, we consider the following points as some areas to be improved:

- The findings of the costing provide evidences to raise awareness on importance of considering the health sector in national planning and of using national health plans as a mechanism for coordination and for ensuring that funding harmonized with the MoPH priorities.
- The findings show a big funding gap between required budget for the implementation of the BPHS in standard approach and the available resources. MoPH needs to work on advocacy for increasing the share of health budget from national budget and work on other

resource generation strategies for health. The current health indicators and the estimated required resources for implementation of the BPHS, urges policy maker to take proper measures for ensuring sufficient fund in order to get to the possible impact.

- Findings helps to make the planning more realistic, as opposed to setting very ambitious targets that may not achievable or over costed. Thus improves budget planning, and execution.
- Findings support better-coordinated and more comprehensive planning process and potentially improved health outcomes due to evidence-based decision making. The different programs have to align their strategies and mobilized resources with findings from BPHS costing study and overall MoPH strategic framework.
- Considering the significant share of maternal and child health services in total BPHS cost the MoPH needs to improve the coverage of key maternal and child health service
- Health promotional services should be promoted.
- Improve absorptive capacity of donor funding for full filling the gap.

8 Annexes

Annex 01: MHT Costs

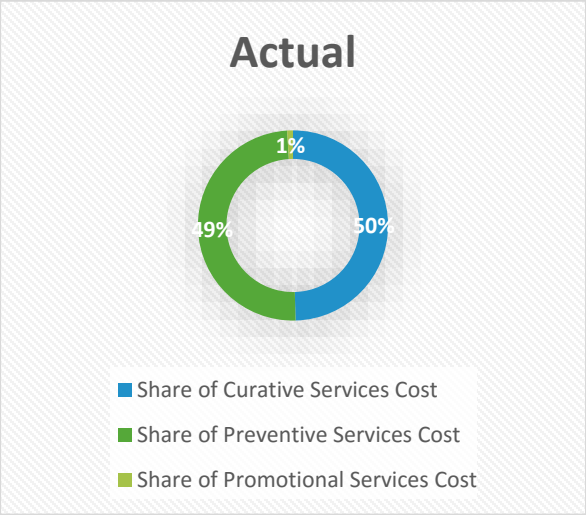
Table 12 in Annex: Total Costs of MHT by Scenario

Cost Category	Scenario	
	Actual	Normative
Total Direct Cost of All Services (CORE Plus)	29,957	47,171
Share of Capita Cost	1,905	6,092
Share of CHW Cost	764	2,444
Total Cost	32,626	55,707

Table 13 in Annex: Cost per services by service category

Service Category	Scenario	
	Actual	Normative
Cost per Curative services provided	1.9	2.6
Cost per Preventive services provided	0.7	1.2
Cost per Promotional services provided	1.0	1.6

Figure 04 in Annex: Share of Service Type in Total Health Facility Cost by Scenario



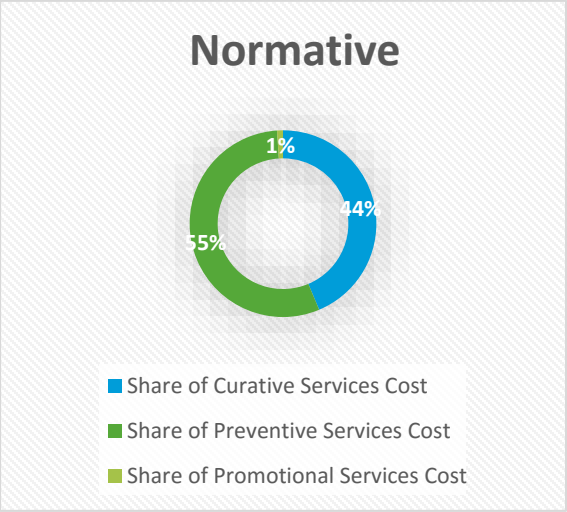


Figure 05 in Annex: Share of Service Type in Total Health Facility Cost by Scenario

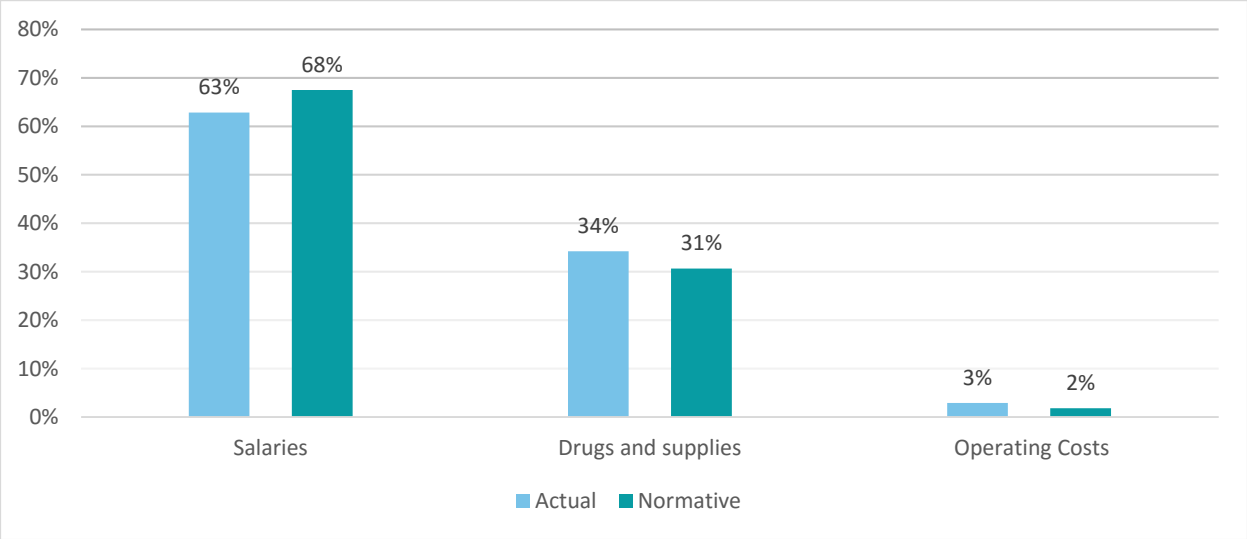


Table 14 in Annex: Share of Program Cost in Total Health Facility Cost by Scenario

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	16.78%	14.28%
Child Health and Immunization	37.08%	43.47%
Nutrition	17.57%	15.57%
Communicable Disease Treatment and Control	15.40%	13.53%
Mental Health	0.87%	0.57%
Disability Services	0.00%	0.00%
Information, Education and Communication	1.00%	1.02%
Dental health	1.38%	1.22%
Non-communicable Diseases	9.17%	9.58%
Family Planning	0.74%	0.76%

Table 15 in Annex: Cost per Service by Program

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	1.8	2.4
Child Health and Immunization	0.6	1.2
Nutrition	1.8	2.6
Communicable Disease Treatment and Control	1.6	2.2
Mental Health	8.8	9.0
Disability Services	0.0	0.0
Information, Education and Communication	1.0	1.6
Dental health	1.9	2.6
Non-communicable Diseases	1.1	1.9
Family Planning	0.4	0.7

Annex 02: HSC Costs

Table 16 in Annex: Total Cost of HSC by Scenario

Cost Category	Actual	Normative
Total Direct Cost of All Services (CORE Plus)	27,165	76,234
Share of Capita Cost	2,687	7,436
Share of CHW Cost	133	369
Total Cost	29,985	84,040

Table 17 in Annex: Cost per Services by Service Category

Service Category	Scenario	
	Actual	Normative
Cost per Curative service Provided	1.4	4.6
Cost Per Preventive service Provided	1.5	3.8
Cost per Promotional service Provided	0.8	1.7

Figure 06 in Annex: Share of Service Type in Total Health Facility Cost by Scenario

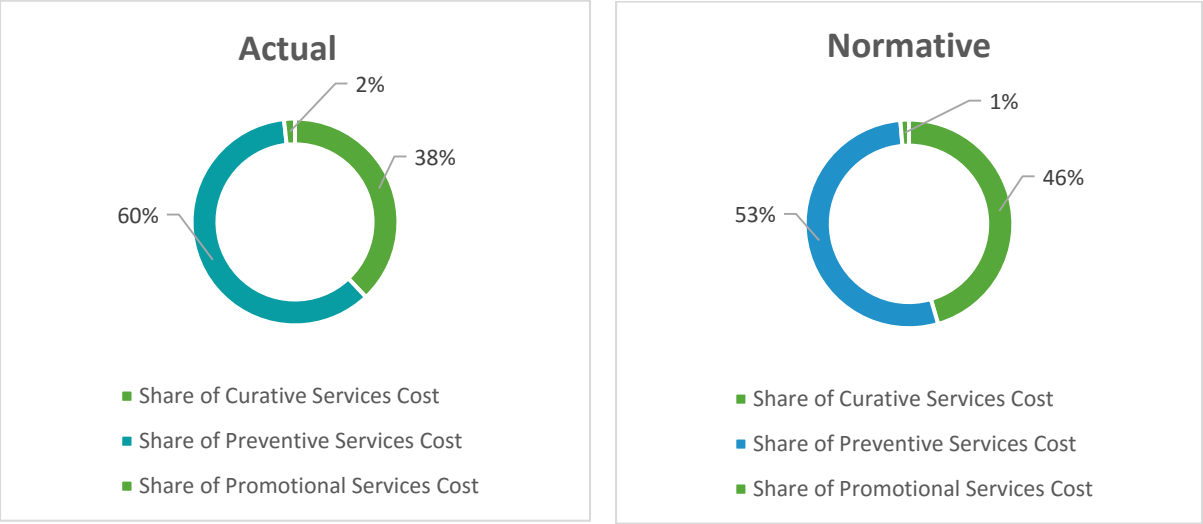


Figure 07 in Annex: Break Down of Total Health Facility Cost by Scenario

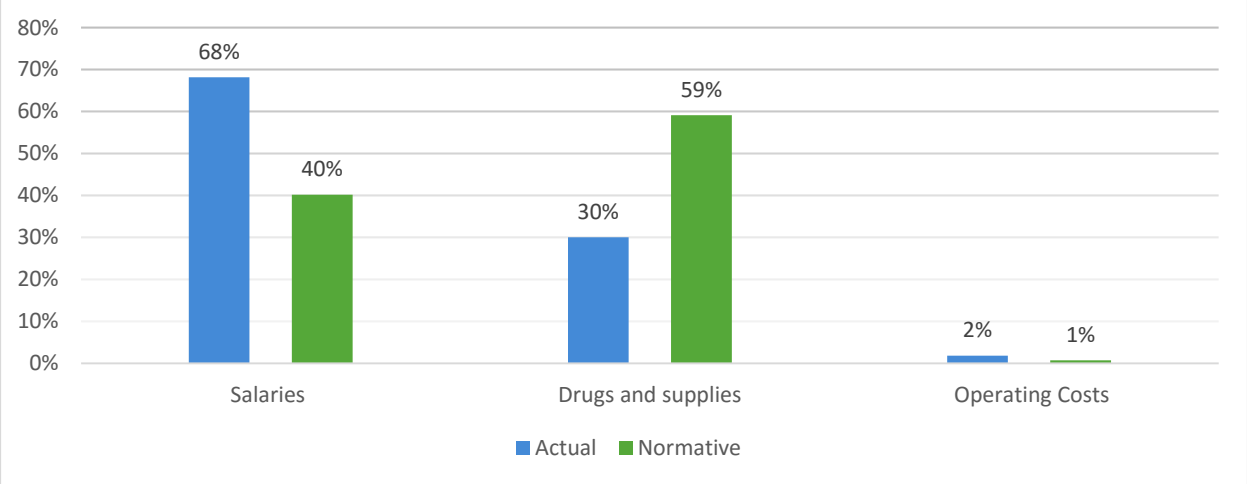


Table 18 in Annex: Share of Program Cost in Total Health Facility Cost by Scenario

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	30.63%	9.99%
Child Health and Immunization	28.82%	45.36%
Nutrition	20.12%	25.57%

Communicable Disease Treatment and Control	10.92%	9.16%
Mental Health	2.00%	1.06%
Disability Services	0.00%	0.00%
Information, Education and Communication	1.80%	1.40%
Dental health	0.61%	0.89%
Non-communicable Diseases	4.20%	6.16%
Family Planning	0.90%	0.41%

Table 19 in Annex: Cost per Service by Program

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	5.1	4.5
Child Health and Immunization	1.0	4.4
Nutrition	1.7	6.0
Communicable Disease Treatment and Control	1.1	2.4
Mental Health	6.7	9.7
Disability Services	0.0	0.0
Information, Education and Communication	0.8	1.7
Dental health	0.8	3.0
Non-communicable Diseases	0.7	2.7
Family Planning	0.7	0.9

Annex 03: BHC Costs

Table 20 in Annex: Total Cost of BHC by Scenario

Cost Category	Scenario	
	Actual	Normative
Total Direct Cost of All Services (CORE Plus)	42,064	116,501
Share of Capita Cost	3,390	10,236
Share of CHW Cost	5,922	17,908
Total Cost	51,375	144,644

Table 21 in Annex: Cost per services by Service Category

Service Category	Scenario	
	Actual	Normative
Cost per Curative service Provided	1.6	5.2
Cost per Preventive service Provided	1.3	3.3
Cost per Promotional service provided	3.4	4.2

Figure 08 in Annex: Share of Service Type in Total Health Facility Cost by Scenario

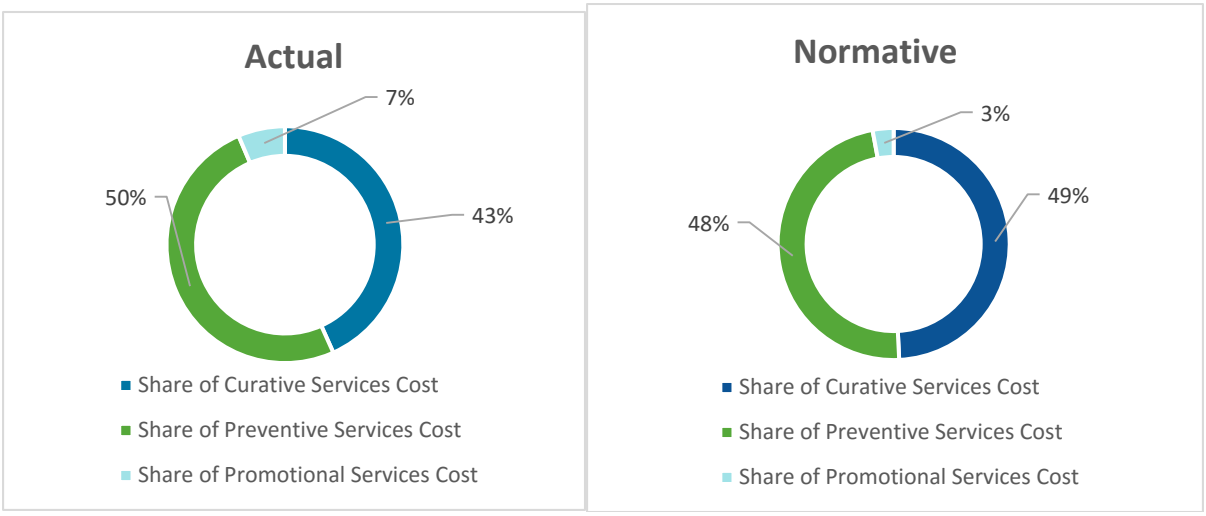


Figure 09 in Annex: Break Down of Total Health Facility Cost by Scenario

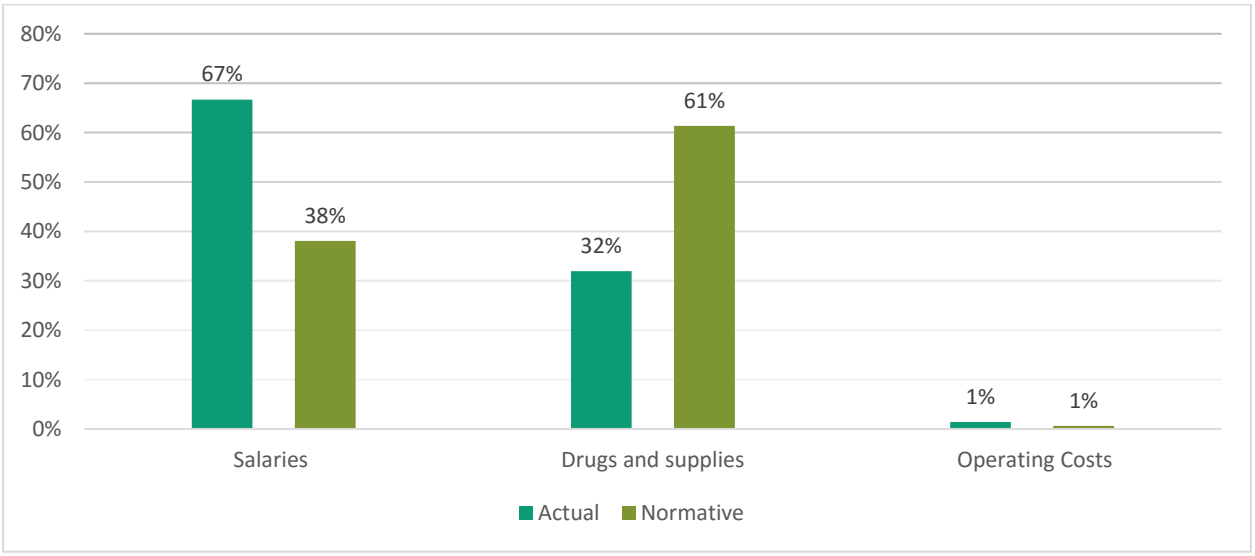


Table 22 in Annex: Share of Program Cost in Total Health Facility Cost by Scenario

program	Scenario	
	Actual	Normative
Maternal and Newborn Health	23.61%	14.54%
Child Health and Immunization	35.69%	41.92%
Nutrition	17.03%	21.71%
Communicable Disease Treatment and Control	10.08%	10.12%
Mental Health	1.23%	1.39%
Disability Services	0.00%	0.00%
Information, Education and Communication	6.45%	2.92%
Dental health	0.64%	0.83%
Non-communicable Diseases	4.88%	6.27%
Family Planning	0.38%	0.30%

Table 23 in Annex: Cost per Service by Program

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	2.7	4.7
Child Health and Immunization	1.3	4.2
Nutrition	1.4	4.9
Communicable Disease Treatment and Control	1.1	3.0
Mental Health	3.2	10.1
Disability Services	0.0	0.0
Information, Education and Communication	3.4	4.2
Dental health	0.9	3.1
Non-communicable Diseases	0.7	2.5
Family Planning	0.4	0.8

Annex 04: CHC Costs

Table 24 in Annex: Total Cost of CHC by Scenario

Cost Category	Scenario	
	Actual	Normative
Total Direct Cost of All Services (CORE Plus)	112,896	228,979
Share of Capita Cost	8,479	24,572
Share of CHW Cost	10,136	29,372
Total Cost	131,511	282,923

Table 25 in Annex: Cost per Service Category

Service Category	Scenario	
	Actual	Normative
Cost per Curative service Provided	3.1	6.2
Cost per Preventive service Provided	1.4	2.9
Cost per Promotional service Provided	1.5	2.3

Figure 10 in Annex: Share of Service Type in Total Health Facility Cost by Scenario

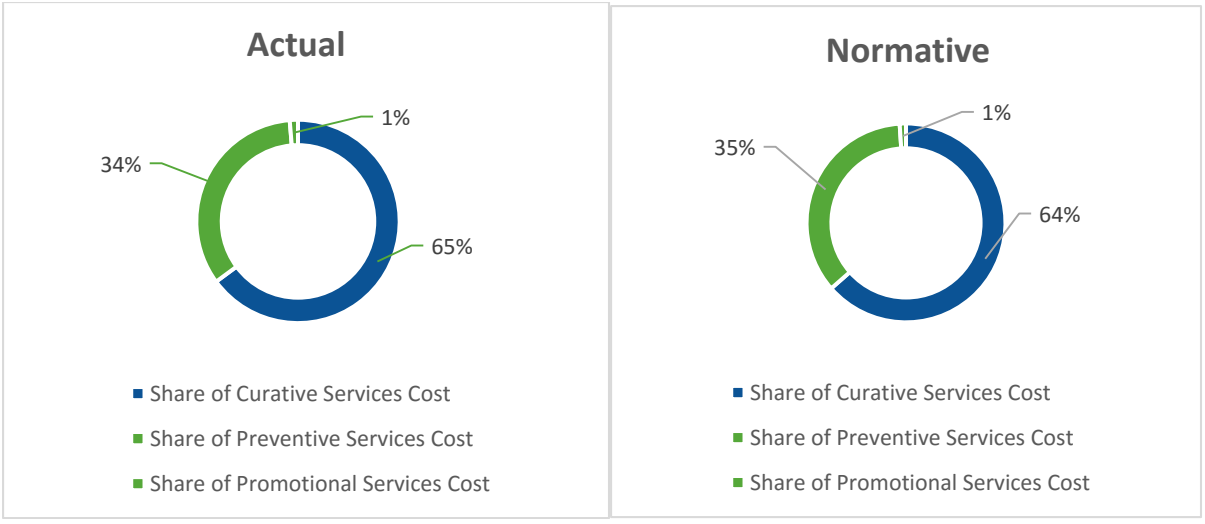


Figure 11 in Annex: Break Down of Total Health Facility Cost by Scenario

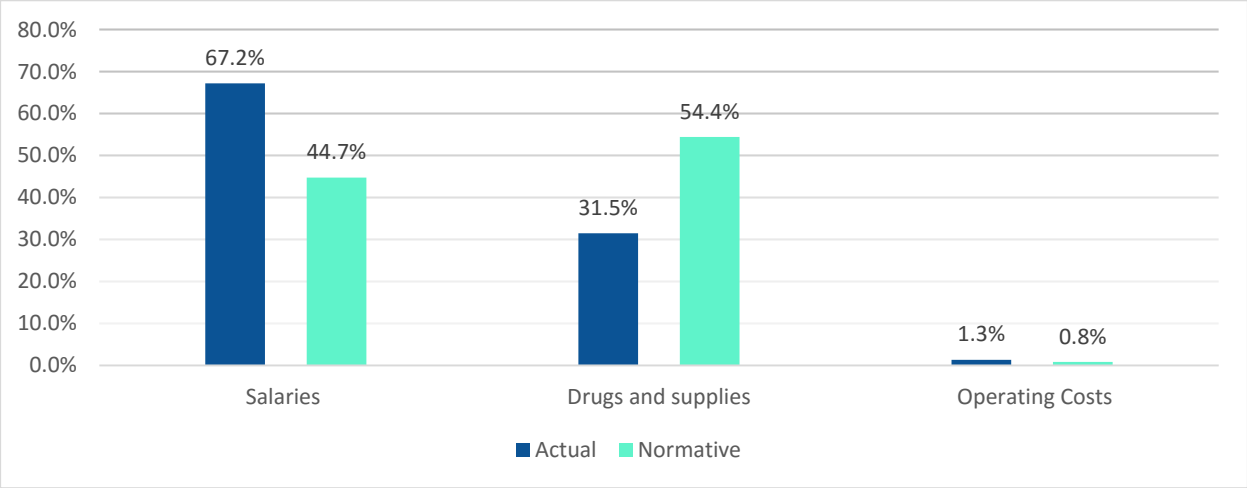


Table 26 in Annex: Share of Program Cost in Total Health Facility Cost by Scenario

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	27.25%	32.61%
Child Health and Immunization	15.92%	13.26%
Nutrition	17.38%	18.42%
Communicable Disease Treatment and Control	22.64%	19.23%
Mental Health	4.23%	3.19%
Disability Services	0.00%	0.00%
Information, Education and Communication	1.30%	1.02%
Dental health	1.01%	0.94%
Non-communicable Diseases	9.85%	10.99%
Family Planning	0.42%	0.34%

Table 27 in Annex: Cost per Service by Program

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	4.8	11.8
Child Health and Immunization	1.0	1.7
Nutrition	2.1	4.4
Communicable Disease Treatment and Control	2.9	4.9
Mental Health	8.2	12.6
Disability Services	0.0	0.0
Information, Education and Communication	1.5	2.3
Dental health	1.8	3.4
Non-communicable Diseases	1.9	4.3
Family Planning	0.5	0.8

Annex 05: DH Costs

Table 28 in Annex: Total Cost of DH by Scenario

Cost Category	Scenario	
	Actual	Normative
Total Direct Cost of All Services (CORE Plus)	365,597	814,984
Share of Capita Cost	48,731	120,246
Share of CHW Cost	12,037	29,672
Total Cost	426,364	964,901

Table 29 in Annex: Cost per services Category

Services Category	Scenario	
	Actual	Normative
Cost per Curative service Provided	4.3	10.1
Cost per Preventive service Provided	1.2	2.4
Cost per Promotional service Provided	0.7	0.9

Figure 12 in Annexe: Share of Service Type in Total Health Facility Cost by Scenario

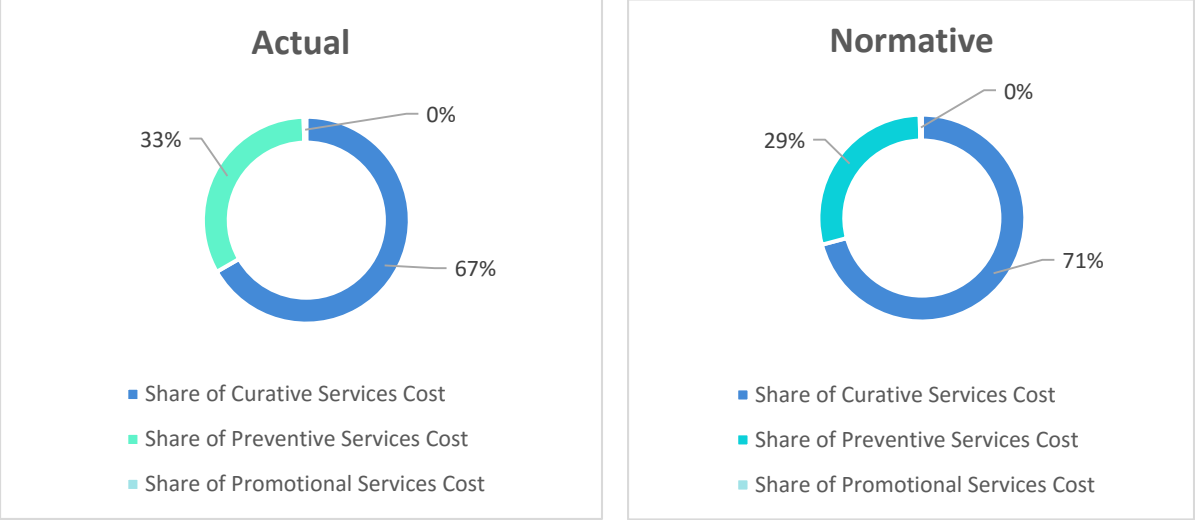


Figure 13 in Annex: Break Down of Total Health Facility Cost by Scenario

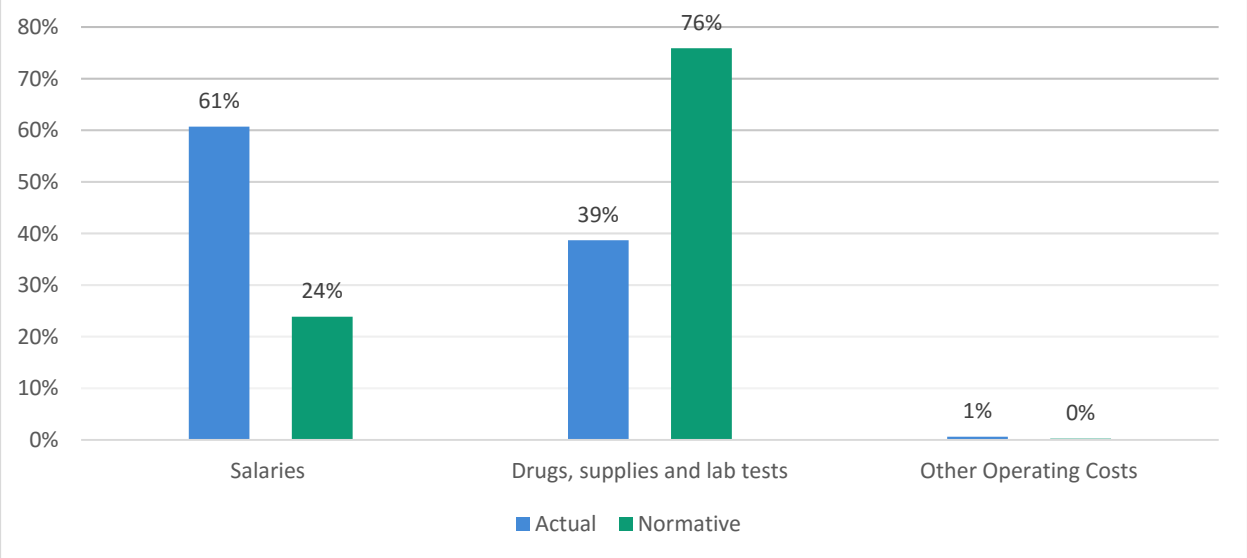


Table 30 in Annex: Share of Program Cost in Total Health Facility Cost by Scenario

Program Category	Scenario	
	Actual	Normative
Maternal and Newborn Health	25.19%	24.85%
Child Health and Immunization	17.33%	21.58%
Nutrition	18.96%	10.71%
Communicable Disease Treatment and Control	19.81%	19.59%
Mental Health	0.21%	0.45%
Disability Services	0%	0%
Information, Education and Communication	0.52%	0.40%
Dental health	2.50%	2.18%
Non-communicable Diseases	13.93%	19.48%
Family Planning	0.48%	0.33%

Table 31 in Annex: Cost per Service by Program

Program	Scenario	
	Actual	Normative
Maternal and Newborn Health	3.5	8.6
Child Health and Immunization	0.9	2.2
Nutrition	1.9	2.0
Communicable Disease Treatment and Control	2.6	5.1
Mental Health	1.5	4.5
Disability Services	0	0
Information, Education and Communication	0.7	0.9
Dental health	2.0	3.2
Non-communicable Diseases	2.1	5.8
Family Planning	0.4	0.8