Afghanistan Basic Package of Health Services (BPHS) Study: Cost-Efficiency, Quality, Equity and Stakeholder Insights into Contracting Modalities

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Afghanistan Basic Package of Health Services (BPHS) Study: Cost-Efficiency, Quality, Equity and Stakeholder Insights into Contracting Modalities

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Director
HEFD

EXECUTIVE SUMMARY

Background

One of the key innovations in the reconstruction of Afghanistan's health care system since 2001 is the design of the health service delivery structure, including the Basic Package of Health Services (BPHS). The Ministry of Public Health (MoPH) manages, finances, and provides the BPHS through two service delivery mechanisms: contracting-out to nongovernmental organizations (NGOs) and through the MoPH-Strengthening Mechanism (SM) model (contracting-in). Despite the MoPH's oversight, governance, and stewardship over both delivery mechanisms, inevitably there are differences (as well as shared experiences) between both contracting modalities. Although there have been a few studies conducted on comparing these modalities, important policy and implementation questions remain, including: (1) Are there differences in BPHS indicators (effectiveness and relative cost-efficiency) achieved under the two models? (2) Are there differences in the relative cost and quality of BPHS services delivered under the two models? (3) Is there a correlation between contracting mechanisms and equity in service utilization among income quintiles of Afghanistan households? To address these questions, this study investigates important issues related to cost, quality and equity of BPHS services under the two contracting modalities.

Aim

The primary aim of this study is to understand the differences between the two BPHS implementation models (contracting-in and contracting-out) with regard to cost, quality, and equity of services.

Methods

Multi-component quantitative and qualitative methods are applied in this study using both primary data and secondary datasets from 2010. Primary data include qualitative survey data from 93 central and provincial level stakeholders, while secondary data include data from the MoPH Health Management Information System (HMIS), the Balanced Scorecard (BSC) 2004 and 2010, and the Afghanistan Mortality Survey (AMS). Cost data were also collected from both the Strengthening Mechanisms (SM) department of the MoPH and from the three main BPHS development partner implementers (USAID, EU, and World Bank) to obtain updated cost estimates of SM for 2010. Quantitative analyses include a comparison of all BPHS implementers (USAID, EU, World Bank and SM) in the 34 provinces of Afghanistan. For comparison purposes between the BPHS implementers, measures are "normalized" (the average raw score for the implementer divided by the national average) on a relative scale with the national average = 1. Benefit Incidence Analysis (BIA) is applied to examine "equity" differences in NGO and SM provinces.

Results

Costs. BPHS Implementers incurred expenditures accordingly from highest to lowest during 2010: USAID ($37,869,817), EU ($24,564,432), WB ($19,780,567), SM ($5,026,838).

Unit Costs: The simple average cost per capita 2010 for EU ($4.69) is 15% higher relative to USAID-supported provinces ($4.07), 2% higher (relative to WB-supported provinces/$4.61), and 1% higher (relative to SM supported provinces/$4.64). These costs serve as the denominator for all relative cost-efficiency analyses.

Cost-Efficiency. When examining the relative cost efficiency of cost per visit per year, USAID generally appears to be the most cost-efficient BPHS implementer, achieving the highest relative efficiency ranking on 12 out of 14 indicators. Rankings for the other implementers appear more mixed with no clear distinction overall between NGO and SM implementation.

Cost-Quality. The cost-quality measure "relative efficiency of 2010 Balanced Scorecard results" shows that USAID (1.13) reflected slightly higher quality relative to cost than the other three implementers, EU (0.99) and WB (0.88), and SM (1.05).

Equity. Equity measures indicate mixed results between NGO and SM mechanisms with regard to implementing a "pro-poor strategy" within BPHS. SM appears to exhibit greater pro-poorness when examining antenatal care visits, but also experiences higher amounts of infant mortality, particularly in wealth quintiles 1 and 3[1].

Qualitative Analyses. Qualitative analyses highlight important issues related to the implementation of BPHS and the two models. Respondents expressed that burdensome bureaucratic processes seemingly impact the implementation of BPHS under SM (particularly procurement) and that the NGO model manages human resources more efficiently. Stakeholders also highlight that both models face constraints in achieving full BPHS implementation including political pressure, system referral and linkage problems, as well as administrative barriers. In addition, an independent samples t-test of the parliamentary survey results indicate that none of the means of 17 likert scale measures were statistically significant at the $p<.05$ or $p<.10$ levels. Accordingly, we conclude that either the sample size is too small to identify any differences or that there are no differences in responses related to the two BPHS implementation mechanisms.

Discussion and Recommendation

This study involved an assessment of cost, cost-efficiency, cost-quality, and equity of BPHS services under both SM and NGOs contracting mechanisms in Afghanistan using both quantitative and qualitative research methods. From each of these perspectives, although some differences are highlighted and lessons are learned, there appears to be no clear collective difference between SM and NGOs on the implementation of BPHS. The authors recommend that as the MoPH and development partners move forward with the BPHS, "best practices" are further examined and applied to overall implementation.

[1] The dataset provided by the MoPH at the time of the analysis had some data cleaning limitations that restricted the level of analysis.

ABBREVIATIONS

ANC	Antenatal Care
AMS	Afghanistan Mortality Survey
BHC	Basic Health Center
BIA	Benefit Incidence Analysis
BPHS	Basic Package of Health Services
BSC	Balanced Scorecard
CHC	Comprehensive Health Center
CHW	Community Health Worker
CME	Continuous Medical Education
EU	European Union
HEFD	Health Economics and Financing Directorate
HMIS	Health Management Information System
IRB	Internal Review Board
MoPH	Ministry of Public Health
NGO	Non-governmental Organization
NHA	National Health Accounts
NMC	National Monitoring Checklist
NRVA	National Risk and Vulnerability Assessment
PPHD	Provincial Health Directorate
PNC	Postnatal care
REAN	Relative efficiency of coverage percent of first ANC of population
REAN2	Relative efficiency of coverage percent of first ANC of population
REDC	Relative efficiency of cost per daily served client per year ($)
REDS	Relative efficiency of coverage percent of daily served clients of the population
REID	Relative efficiency of coverage percent of institutional deliveries of population
RELD	Relative efficiency of coverage percent of live deliveries of population
REPENTA	Relative efficiency of coverage percent of children <2 years received PENTA3
REPN	Relative efficiency of coverage percent of first PNC of population
REPV	Relative efficiency of coverage percent of visits of the population
REQ	Relative efficiency of 2010
REU1	Relative efficiency of coverage percent of immunized children <1 year of population
REU1A	Relative efficiency of percent of <1 year immunization of all visits
SM	Strengthening Mechanism
USAID	United States Agency for International Development
WB	World Bank

BACKGROUND

Afghanistan's health care system has been undergoing reconstruction since 2001. One of the key innovations in the reconstruction is the design of the health service delivery structure, including the Basic Package of Health Services (BPHS). At present, the Ministry of Public Health (MoPH) manages, finances, and provides the BPHS through two service delivery mechanisms: contracting-out to nongovernmental organizations (NGOs) in 31 provinces, and the provision of services through the MoPH-Strengthening Mechanism (SM) model, also known as "contracting-in" in three provinces. Although a few studies have been conducted to understand the differences in cost and outcomes between the two models[2], important policy and implementation questions remain. These questions include:

1. Are there differences in BPHS indicators (effectiveness and relative cost-efficiency) achieved under the two models?
2. Are there differences in the relative cost and quality of BPHS services delivered under the two models?
3. Is there a correlation between contracting mechanisms and equity in service utilization among income quintiles of Afghanistan households?

To address these questions, the Health Economics and Financing Directorate (HEFD) of the MoPH, with technical and financial support from the USAID-funded Health Policy Project, conducted a comparative analysis of the strengths and weaknesses of the contracting-in and contracting-out modalities.

PRIMARY STUDY AIM

The primary aim of this study is to understand the differences between the two BPHS implementation models (contracting-in and contracting-out) with regard to cost, quality, and equity of services.

METHODS

Multi-component quantitative and qualitative methods were applied in this study using both primary data and secondary datasets. First, an updated cost analysis for Strengthening Mechanisms (contracting-in) was conducted using data from 1390/2010, to compare with recent estimates of contracting-out. This analysis involved examining the annual BPHS costs of SM as implemented in Parwan, Panjshir, and Kapisa. Subsequently, these data were compared with contracting-out cost data conducted for the 31 donor-supported provinces of Afghanistan. As a result, cost analyses now reflect implementation of the BPHS across Afghanistan during this period[3].

Secondly, an analysis of Health Management Information System (HMIS) and other secondary data was conducted to examine differences in effectiveness and relative cost-efficiency of the NGO and SM

[2] Blaakman, AP., Salehi, AS, and Boitard, R., A cost and technical efficiency analysis of two alternative models for implementing the basic package of health services in Afghanistan. *Global Public Health* (in press 2013).

Arur, A, Peters, D, Hansen P, Mashkoor, MA, Steinhardt, LC, Burnham, G, (2010). Contracting for health and curative care use in Afghanistan between 2004 and 2005. Health Policy and Planning, 25(2):135-144.

[3]Since a level of variation in the BPHS was implemented among BPHS partners (USAID, EU, WB, and SM) during 2010, the comparative analysis separates out results among the NGO implementers to compare with SM while also indicating some averages among NGOs.

models on 14 BPHS key indicators. This analysis involved the adaptation of SM provincial BPHS data into a recently-developed NGO dataset related to the primary BPHS indicators within the MoPH's HMIS and other secondary data. Normalized measures were developed to examine comparative effectiveness and relative cost efficiency using these data.

Next, an analysis of quality of care, comparing contracting-in and contracting-out modalities, was conducted. This analysis involved an examination of Balanced Scorecard (BSC) data (2010) from both SM and NGO provinces (similar to analyses of effectiveness and relative cost-efficiency outlined above).

To complement these analyses and to address important concerns of the MoPH with regard to equity, comparative equity analyses between the two models were conducted using the Afghanistan Mortality Survey (AMS). This analysis involved a specific examination of key BPHS variables according to the economic status of patients (indicated by wealth quintiles) in both SM and NGO-supported provinces as related to receiving BPHS services. The primary analytical approach applied was Benefit Incidence Analysis (BIA).

Lastly, a qualitative study on stakeholder impressions regarding the relative strengths and weaknesses of contracting-in and out of the BPHS in Afghanistan was conducted. This study involved the development of two questionnaires that were administered to 97 respondents, including 76 key stakeholders (non-parliamentarians) in the Afghanistan health system at central and provincial levels and 21 parliamentarians. These stakeholders are listed in Table 1. A convenience sub-sample of corresponding NGO-supported provinces was selected for these interviews including Urozgan (EU-supported), Jawzjan (USAID-supported), and Wardak (WB-supported).

Table 1 below indicates the list of stakeholder interviewed for the qualitative study. As there were originally 97 stakeholders to be interviewed, the study achieved a response rate of 95.8%

Table 1. Stakeholder List for the Qualitative Study

Representative Category	Number of Representatives
Central Level	
MoPH Leadership	2
Director Generals (MoPH)	3
MoPH Directors	5
Ministry of Finance Representatives	1
Development Partners	3
Strengthening Mechanisms Reps	3
GCMU Staff	1
NGOs	3
Mustufiat	3
Parliamentarians	21
Central Total	**45**
Provincial Level	
Provincial Public Health Directors (PPHDs)	6
NGO Offices	6
Health Facility Representatives	24
Community Individuals	12
Provincial Total	**48**
Grand Total	**93**

Secondary Data Sources

Secondary data sources used and examined in this study for either reference or detailed analysis include MoPH HMIS, National Risk and Vulnerability Assessment (NRVA), Multiple Indicator Cluster Survey data (MICS), AMS, BSC, National Monitoring Checklist (NMC), World Bank Aide Memoire, and other Monitoring Reports and National Health Accounts (NHA).

The quantitative analyses outlined above were led by Dr. Aaron Blaakman and Dr. Aung Lwin, and supported by staff at MoPH/HEFD. The qualitative study data collection was outsourced to a local data collection firm based in Kabul. The international and MoPH/HEFD research team developed primary data collection questionnaires and protocols for the qualitative study and submitted documentation as necessary to the Afghanistan Internal Review Board (IRB) as standard research protocol. IRB approval was received shortly after submission.

QUANTITATIVE RESULTS

Costs and Cost-Efficiency

Costs: Table 2 highlights the Afghanistan BPHS General Population Coverage and Annual Expenditure Estimates for 2010 for all 34 provinces in Afghanistan. It is important to clarify that the BPHS coverage of Kabul population at this time was 15% of the total Kabul population. As a result, the total population is an estimate of the BPHS-covered population within Afghanistan, not the total population of the country. USAID continues to cover the largest proportion of the BPHS-covered population (49%), while SM covers the smallest proportion of the BPHS covered population (5%). BPHS implementers incurred expenditures accordingly from highest to lowest: USAID ($37,869,817), EU ($24,564,432), WB ($19,780,567), SM ($5,026,838). It should also be noted that since contractual periods are different among the three primary donors and MoPH/"strengthening mechanisms," actual 12-month fiscal time periods can range from over the period 2009-2012. Lastly, it is important to recognize that the EU was the only BPHS implementer to apply the revised Afghanistan National Salary Policy to BPHS contracts in 2010. This notably increased the costs of EU relative to the other implementers. As a result, for comparative purposes, an estimated reduction of $2.6 million USD (or approximately 10%[4]) was made from its total annual expenditures/costs for the proceeding analyses.

[4]This estimate is based on the following calculation: .35 (NSP reduction) x .55 (human resource percent of total cost) x .5 (provincial application) x $USD 27,164,000

Table 2. BPHS General Contracted-Out Population Coverage and Annual Expenditure Estimates 2010

	Number of Provinces	Total Pop	Total Annual Exp/Cost	Proportion of Afghan Population Covered within supported BPHS areas	Percent of costs
EU*	10	5,241,350	$24,564,432	25%	28%
US	13	10,272,188	$37,869,817	49%	43%
WB	8	4,498,448	$19,780,567	21%	23%
SM	3	1,148,450	$5,026,838	5%	6%
All	34	21,160,436	$87,241,653	100%	100%

* Adjustment based on National Salary Policy - with estimated reduction

Unit Costs: Table 3 presents unit cost estimates of BPHS 2010 by implementer (donors and MoPH/SM), including simple provincial averages and provincial population weighted averages for both cost per capita and cost per BPHS visit. The simple average cost per capita 2010 for EU ($4.69) is 15% higher relative to USAID-supported provinces ($4.07), 2% higher (relative to WB-supported provinces/$4.61), and 1% higher (relative to SM supported provinces/$4.64). These proportions generally remain the same when examining the BPHS population weighted[5] per capita cost per year estimates.

Table 3. Contracted-Out Unit Cost Estimates of BPHS 2010 by Implementer (Simple Average and Population Weighted Average)

	Average Per Capita Cost 2010	Relative per capita cost 2010	Population Weighted Per Capita Cost 2010	Relative Weighted Per Capita Cost 2010	Cost Per Visit 2010	Relative Cost Per Visit 2010	Weighted Cost Per Visit 2010	Relative Weighted Cost per Visit Per Year 2010
EU*	$ 4.69	1.25	$ 5.03	1.15	$ 3.38	1.13	$ 2.86	0.96
US	$ 4.07	0.84	$ 3.69	0.84	$ 2.72	0.91	$ 2.61	0.87
WB	$ 4.61	0.96	$ 4.40	1.01	$ 3.17	1.06	$ 3.28	1.10
SM	$ 4.64	0.96	$ 4.38	1.00	$ 2.37	0.79	$ 2.34	0.78

Cost-Efficiency: Table 4 shows "relative cost-efficiency measures" for 10 BPHS indicators relative to cost per capita per year (see Annex A for all key BPHS variables). For comparison purposes between the BPHS implementers, both the BPHS indicator and cost per capita measures are "normalized" (meaning the average raw score of each measure for the implementer is divided by the national average), resulting in a relative scale with the national average = 1 (see Annex B). Subsequently, for each implementer the normalized BPHS indicator is then divided by the normalized cost per capita to obtain the final cost-efficiency measure. Accordingly, results of the final cost-efficiency measure above 1 indicate higher levels of cost, while results below 1 indicate lower costs relative to the national average. The mean for NGOs is also computed to compare with SM. Accordingly, the implementer with higher relative cost-

[5]The weighted average is similar to the arithmetic average where instead of each of the data points contributing equally to the final average, some data points contribute more than others. In this instance, this contribution varies by the proportion of provincial population to the total population of Afghanistan.

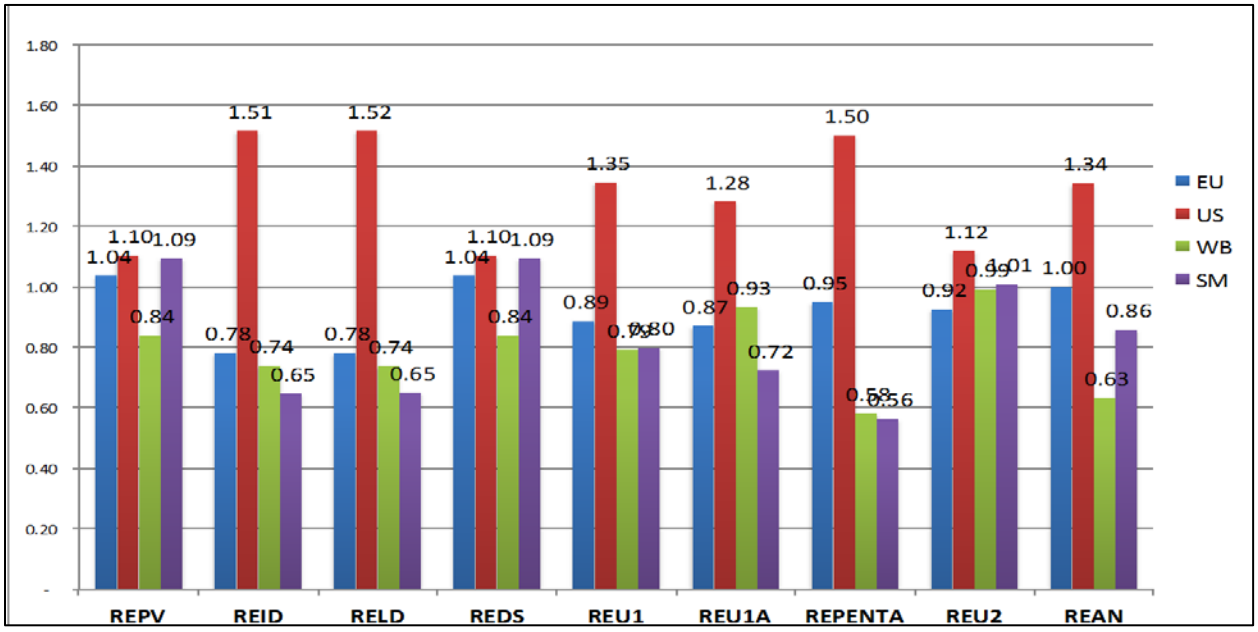
efficiency (on specific measures) is highlighted in grey.[6]

Table 4. Key Cost-Efficiency Measures (Averages) - Relative BPHS Measure/Relative Cost Per Capita

Code Implementer	Rel. efficiency of coverage percent of visits of population REPV	Rel. efficiency of coverage percent of instituional deliveries of population REID	Rel. efficiency of coverage percent of live deliveries of population RELD	Rel. efficiency of cost per daily served client per year ($) REDC	Rel. efficiency of coverage percent of daily served clients of population REDS	Rel. efficiency of coverage percent of immunized Children <1 year of population REU1	Rel. efficiency of percent of <1 year immunization of all visits REU1A	Rel. efficiency of coverage percent of children <2 yr received PENTA3 REPENTA	Rel. efficiency of percent of possible drop-outs in <2 year immunization of <1 year immunization REU2	Rel. efficiency of coverage percent of first AN care of population REAN
EU	1.04	0.78	0.78	1.09	1.04	0.89	0.87	0.95	0.92	1.00
US	1.10	1.51	1.52	1.01	1.10	1.35	1.28	1.50	1.12	1.34
WB	0.84	0.74	0.74	1.04	0.84	0.79	0.93	0.58	0.99	0.63
SM	1.09	0.65	0.65	0.77	1.09	0.80	0.72	0.56	1.01	0.86
NGOs - Mean	0.99	1.01	1.01	1.04	0.99	1.01	1.03	1.01	1.01	0.99

Figure 1 provides a graphical representation of the above measures, with the corresponding cost-efficiency measure by code (shown in Table 4) on the x-axis and the normalized measure on the y-axis. Among the 10 measures, results indicate that USAID-supported provinces show greater cost-efficiency relative to the other three implementers on most measures. Tighter distributions around the average (1) for all implementers resulted as related to the following measures: relative efficiency of coverage percent of visits of the population (REPV), relative efficiency of coverage percent of daily served clients of the population (REDS), and relative efficiency of percent of possible dropouts <2 year immunization of children <1 year old.

Figure 1. BPHS Relative Cost-Efficiency Measures by Implementer - 2010



[6]The distribution of these measures for NGOs is skewed and as a result, the mean should be considered a collective representation of the NGO implementers with caution.

Cost-Efficiency and Cost-Quality

Cost-Efficiency and Cost-Quality: As in Table 4, Table 5 indicates additional key efficiency measures on a "normalized" scale with the national average = 1 for several BPHS measures from HMIS and Balance Score Card (along with Raw BSC scores), related to implementer cost. Again, results above 1 indicate higher levels of efficiency, while results below 1 indicate lower efficiency relative to the national average. In this table, cost-efficiency measures such as "relative cost efficiency of 2010 BSC results/cost per capita" show that USAID (1.13) contracting-out is more cost efficient than EU (0.99) and WB (0.88), and SM (1.05). Table 5 also indicates simple averages for key relative efficiency measures for remaining BPHS indicators from the HMIS and BSC results as related to cost for all BPHS implementers (NGO and SM). Again, the implementer with higher relative cost-efficiency (on specific measures) is highlighted in grey.[7]

Table 5. Key Cost-Efficiency and Quality Measures (Averages) - Relative BPHS Measure/Relative Cost Per Capita

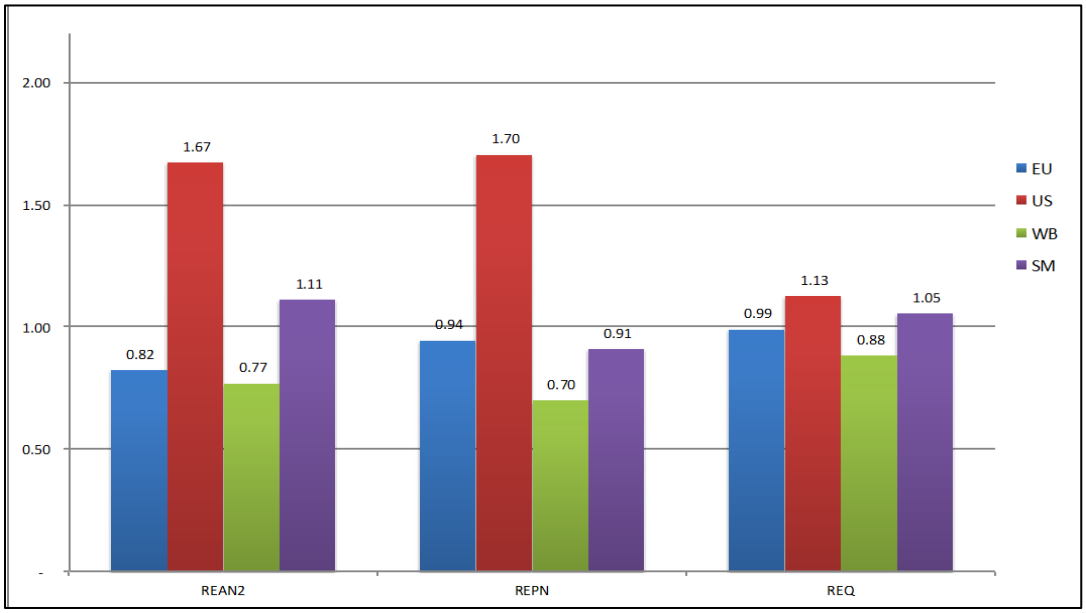
Code Implementer	Rel. efficiency of coverage percent of first AN care of population REAN2	Rel. efficiency of coverage percent of first PN care of population REPN	Rel. efficiency of percent of possible drop outs in PN care of first AN patients	Raw BSC composite score 2004	Raw BSC composite score 2010	Raw BSC change, 2004-2010	Relative BSC score of 2010	Relative BSC change (BSC change vs. nat. avg)	Rel. efficiency change	Rel. efficiency of 2010 (Rel BSC of 2010/Rel per capita cost) REQ
EU	0.82	0.94	0.80	52.29	70.88	0.38	1.04	1.03	0.89	0.99
US	1.67	1.70	1.36	49.85	67.71	0.38	0.99	1.02	1.41	1.13
WB	0.77	0.70	1.15	48.96	65.41	0.33	0.96	0.90	0.96	0.88
SM	1.11	0.91	1.28	50.07	69.80	0.40	0.99	1.09	1.19	1.05
NGOs - mean	1.09	1.11	1.11							1.00

It should be noted that raw BSC results changes from 2004-2010 were close (range .33-.40) among all implementers (NGO and SM). Figure 2 provides a graphical representation of the remaining BPHS relative cost-efficiency/cost-quality measures by implementer 2010. USAID-supported provinces show greater relative cost-efficiency compared to other implementers on related variables REAN2 and REPN. The cost-quality measure REQ shows much less difference between them.

Within the context of the limitations of comparing by means, it should be noted that NGOs, on average, appear to be more cost-efficient on 8 of 14 BPHS measures, while SM appears to be more cost-efficient on 5 of 14 BPHS measures. The two models are equivalent on one measure (REU2), relative efficiency of percent of possible dropouts from under 2-year-old immunization.

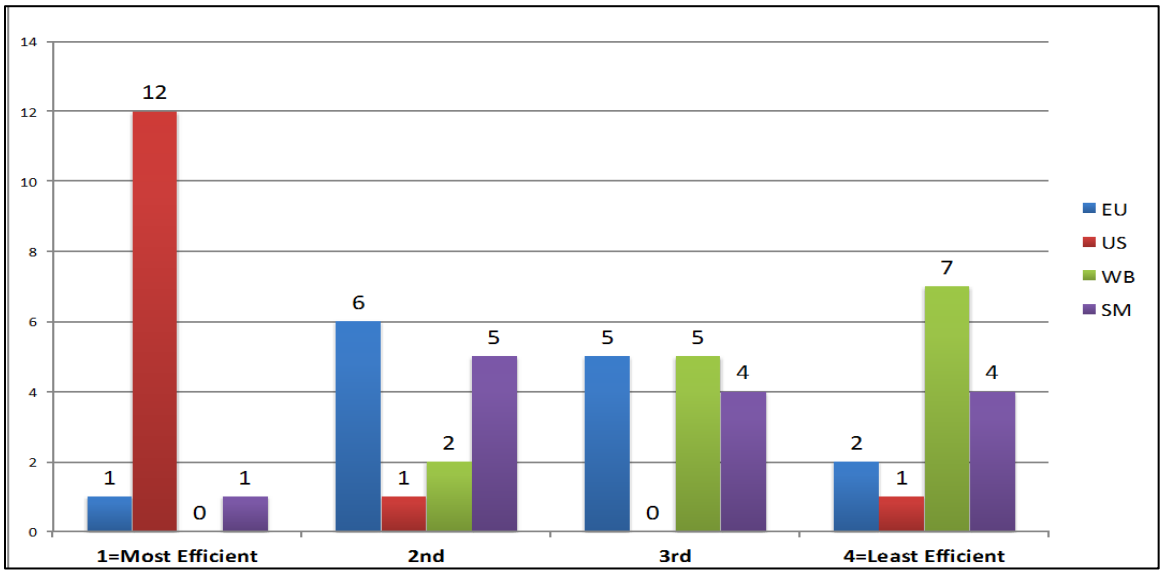
[7] Again, the distribution of these measures for NGOs is skewed and as a result, the mean should be considered a collective representation of the NGO implementers with caution.

Figure 2. BPHS Relative Cost-Efficiency/Cost-Quality Measures by Implementer - 2010



Finally, Figure 3 shows the relative BPHS measure cost-efficiency ranking counts by implementer. For example, comparing among BPHS implementers, EU ranked second among them on 6 out of 14 relative cost-efficiency measures during 2010. The figure highlights USAID-supported provinces as an outlier, while cost-efficiency among the EU, WB, and SM appear to be more mixed.

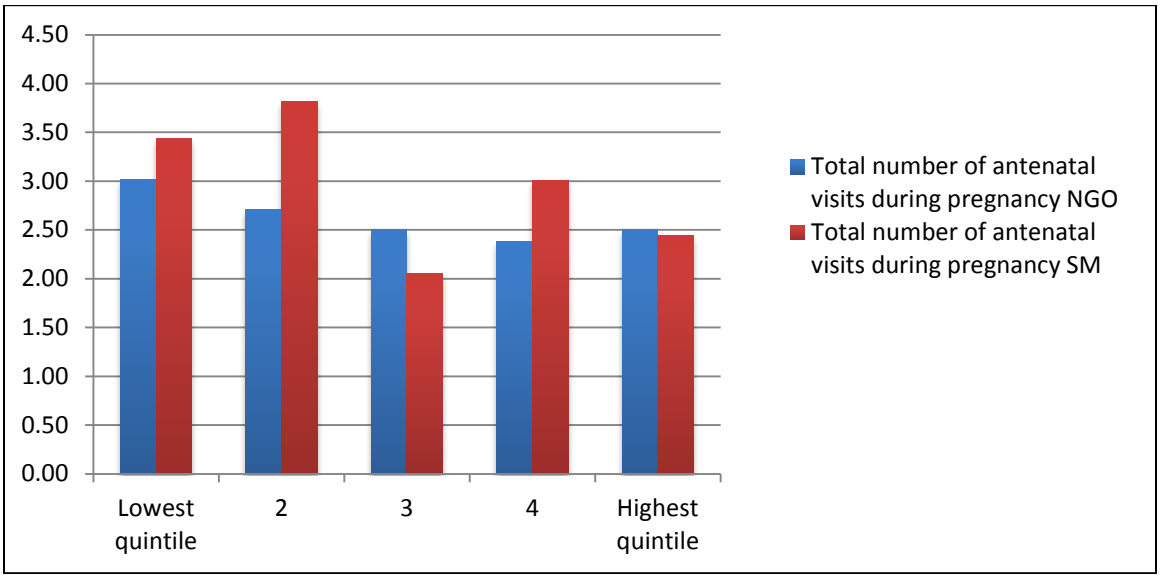
Figure 3. Relative BPHS Measure Cost-Efficiency Ranking Counts by Implementer - 2010



Equity

In addition to the above described cost-efficiency and quality analysis of the BPHS during 2010, an analysis of the equitability of the delivery of the BPHS was conducted using available AMS data for several public health and BPHS variables as related to wealth (indicated by wealth quintiles) in all 34 provinces[8]. In the equity-related analysis, we explored generally if SM and NGO mechanisms were more or less "pro-poor" in their approach, focusing on the middle to lower income quintiles with regard to service delivery. We also examined some associated public health indicators[9]. It should be noted that this analysis is limited also in the context of not fully understanding the variation of patient needs in different communities and among different wealth quintiles. Such data limitations are outlined in the AMS report. Subsequently, we can only make general interpretations with regard to the observation of the data. For example, Figure 4 indicates the average number of antenatal care (ANC) visits during pregnancy by patients to NGO and SM BPHS services throughout Afghanistan during 2010[10]. Comparing NGO and SM implementation, both NGOs and SM appear to provide a greater amount of ANC visits to the lower two quintiles relative to other quintiles, while SM, on average, appears to provide a greater number of visits relative to NGOs.

Figure 4. Average number of antenatal care visits during pregnancy (NGO and SM BPHS implementation) by wealth quintile 2010



[8]The overall equity analysis conducted during January 2013 had limitations due to data constraints of the dataset at the time. More recent, updated data, cleaned during May 2013, were not analyzed for this report and as a result, may show different findings.

[9]Summary statistics such as the Concentration Index (CI), a measure of understanding the magnitude of difference among wealth quintiles, are not reported here due to data limitations within the available dataset at the time of this analysis.

[10]At the time of this analysis, data related to the number of antennal care visits during pregnancy required adjustment due to missing data and some data entry errors in the version of the AMS dataset that was provided to the research team. Adjustments were made by the research team based on a relative assessment of the BPHS protocol for the number of antenatal care visits conducted during pregnancy.

Figure 5 shows the percentage of utilization of a health facility for ANC NGOs and SM within type of care. NGOs appear to be slightly more pro-poor as related to delivery to the lowest income quintile at CHCs/Public Polyclinics, while both NGOs and SM appear to be pro-poor (as related to the lowest two income quintiles) at the BHC level. Furthermore, both appear to be pro-poor at the health post level.

Figure 5. Percentage of Utilization of Health Facility for ANC by BPHS Modality (NGO/SM) and Type of Care

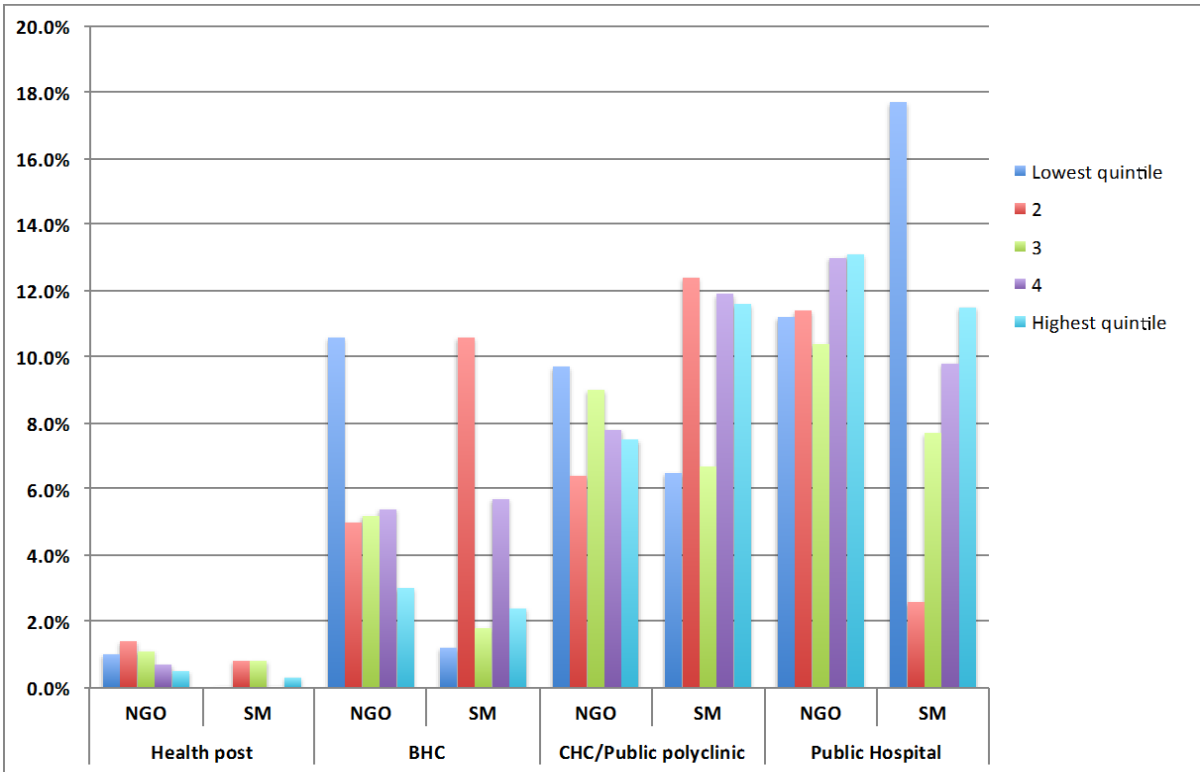
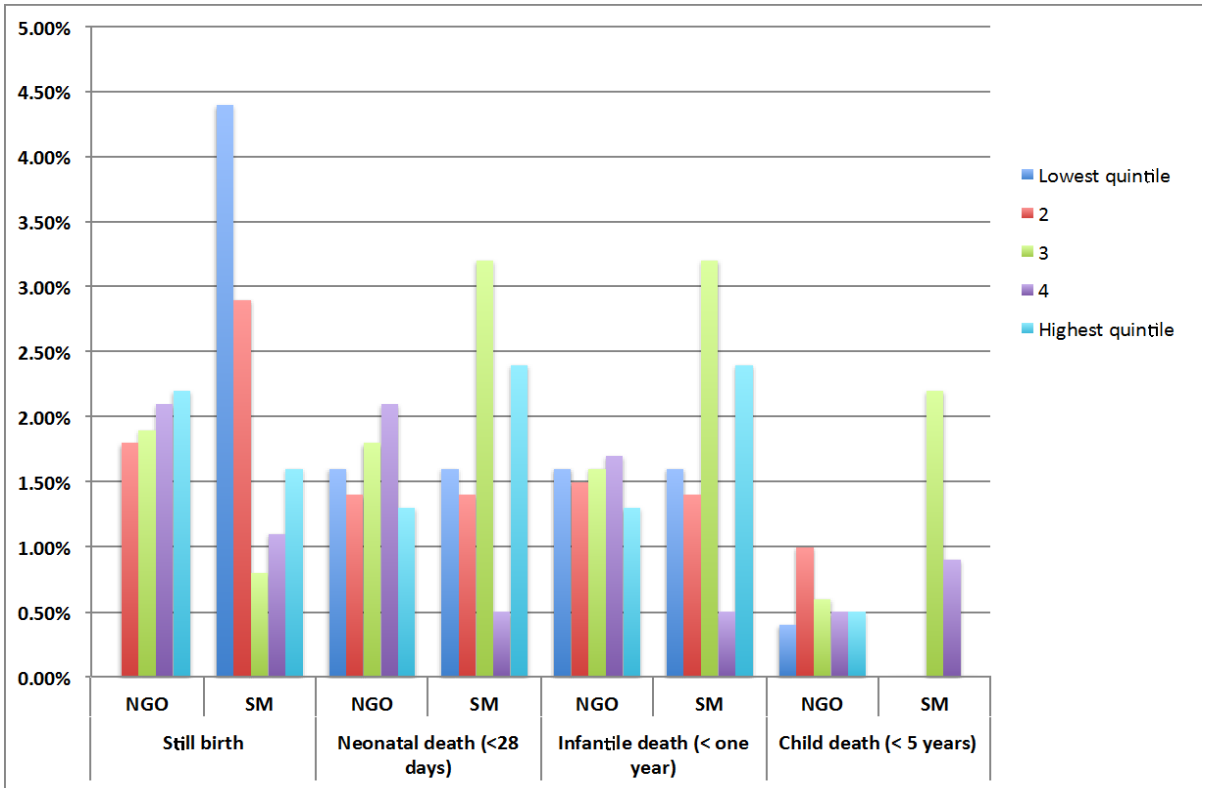


Figure 6 highlights infant mortality by wealth quintile within NGO and SM-supported BPHS provinces for 2010. In this case, we note that these public health indicators are clustered among quintiles for NGOs while SM indicators show greater variation. It is important to highlight that stillbirth is most pronounced within the lowest quintile of SM. Furthermore, the middle quintile experienced higher rates of neonatal death and infantile death relative to other quintiles in NGO implemented BPHS provinces.

Figure 6. Infant Mortality % by Wealth Quintile within NGO and SM-supported BPHS Provinces



QUALITATIVE RESULTS

Stakeholder Survey: Central and Provincial Level (non-parliamentarian)

To complement the quantitative comparative analysis between SM and NGO BPHS implementers, a qualitative study on stakeholder impressions regarding the relative strengths and weaknesses of contracting-in and out of the BPHS in Afghanistan was conducted. A questionnaire was administered to 76 key stakeholders in the Afghanistan health system, at both central and provincial levels, to examine the following aspects of BPHS implementation by NGOs and SM:

1. Applying evidence for decision-making in BPHS implementation
2. Political influence in NGO and SM BPHS implementation
3. Application of continuous medical education and training for staff
4. Linkages between BPHS and EPHS
5. Resource allocation and management
6. Staffing Capacity
7. Qualification and referral rates of Community Health Workers
8. Pharmaceutical supplies availability

The following provides a summary of findings from a survey of central and provincial level stakeholders (non-parliamentarians) as related to impressions of BPHS implementation under both SM and NGO mechanisms.

Component 1: Applying evidence for decision-making in BPHS implementation

Stakeholders generally noted that every province should have a resource center for documenting evidence for action or decision-making and encouragement should also be given for using data locally in making decisions for the health sector. Overall, stakeholders indicate that client satisfaction should be evaluated, that there are blockages in the government reporting system and that BSC indicators have their own limitations and are not fully accepted.

Comparing SM and NGOs on this measure, stakeholders highlight that SM has more paperwork, and as a result, this mechanism has more reliable accountability and transparency. SM has health councils for providing informed evidence, while NGOs use new and more effective methods for reporting. A few stakeholders also indicated that NGOs are not as transparent in their reporting as before. Alternatively, some stakeholders found that the independent nature of NGOs allows them to report more independently and transparently. Overall, stakeholders gave the impression that NGOs are more transparent relative to SM.

Component 2: Influence of the Political Process on SM and NGO BPHS implementation

Stakeholders noted that political influence is an overall issue throughout the country. In the health sector, stakeholders indicate that such pressures influence a health facility and its implementation, but primarily, high-level persons influence the system as well as parties, commanders, directors of government departments, provincial representatives, provincial Shura members, and provincial health directors. Importantly, it was noted that political pressures can override the standardized criteria in activation of a health facility and that those with political influence propose that clinics be built in certain locations. It was noted that these authorities may also influence hiring practices.

Respondents also indicated that MoPH should define clear standards and strive to be more independent of the political process. Comparing NGOs and SM, stakeholders suggested that there is less political influence in NGO hiring of staff compared to SM. Furthermore, respondents noted that NGOs can reduce political influence as it is part of civil society and that such a mechanism deals with lower level authorities. Alternatively, others believe that SM has government power to minimize the problem.

Component 3: Application of Continuous Medical Education (CME) and Training for Staff

With regard to continuous medical education and training for staff, respondents indicated that different providers operate separate packages making it difficult for continuous medical education and training to be standardized.

Other elements noted for this component include:

- High-level staff have no incentive to visit lower levels.
- CME is less respected in SM compared to NGOs.
- SM's primary problem is that its focus is more on the documentation process than technical implementation.
- SM government offices are slow in learning and coordinating.
- SM has procurement problems impacting CME.
- NGOs are more efficient for facilitating the communication between high-level staff with low-level staff.

Component 4: Linkages between BPHS and EPHS

Stakeholders noted that if different "BPHS and EPHS packages" are offered by different providers, linkage and coordination is more difficult in the system overall and that it is recommended that one level of leadership should be conducted for both the BPHS and the EPHS. At present, coordination from top to bottom is very weak and requires strengthening. For example, TB cases referred to lower level not followed by Community Health Workers (CHWs) properly. Alternatively, it was noted that linkages from bottom to up is good, particularly from Comprehensive Health Centers (CHCs) to upper levels. On the other hand, it was noted that no proper system of feedback and follow-ups is available. For example, there is no feedback for referred patients. Some stakeholders noted that complicated cases are not referred up in the system. Lastly, for NGOs, it was highlighted that USAID-supported provinces provide better linkages than EU-supported and WB-supported provinces.

Component 5: Resource Allocation and Management

Respondents highlighted some comparative differences between SM and NGO mechanisms on resource allocation and management including the following:

- SM has recurring problems with salaries and payments.
- SM has recruitment problems.
- SM has problems with consistent staff attendance.
- NGO has additional financial resources compared with SM.
- NGO hires staff from neighbors around the NGO.
- Staff in both models is not skilled-enough.
- Many specialty services in both models are considered "weak."

Component 6: Staffing Capacity

The following summary points where indicated with regard to BPHS staffing capacity at different levels in the system:

Comprehensive Health Centers

- Two more staff members are necessary for adequate staffing.
- Two nurses should be recruited: one nurse should be attached to BHC.
- Female staff has challenges working during night shifts.
- Maternal care for staff should be extended.
- CHC is underutilized.
- CHC is overstaffed.
- One dentist necessary at this level.
- SM is better for coverage relative to NGOs.

Basic Health Centers

- Female staff is necessary to address women's issues.
- Male nurses are preferred for night shifts and security concerns.
- One more nurse is necessary than is currently allocated.
- One pharmacist is necessary.
- One additional lab technician is necessary.
- BHCs should have a doctor on staff.
- In order to improve quality in both SM and NGO models it is necessary to in salary and support necessary

Component 7: Qualification and Referral Rates of Community Health Workers

With regard to Component 7, several important items were to note from respondents, including:

- Overall, unqualified staff is often recruited for both SM and NGO mechanisms. (More training is necessary.)
- Illiteracy is an issue among staff, including CHWs.
- Incentives for CHWs are not enough.
- Under SM, recruitment of CHWs is a long, enduring process.
- NGOs are better for human resource hiring and faster implementation.

Component 8: Pharmaceutical Supplies Availability

With regard to pharmaceutical supply availability, in summary, several important items were to note from respondents including the following:

- SM has a much longer procurement process for pharmaceuticals compared with NGOs.
- CHWs' knowledge is not sufficient so that provision should be modest
- There are also often stock-outs of medicines, particularly under SM.

Parliamentarian Survey Results (n=21)

Summary Descriptive Statistics

In addition to the above qualitative assessment of central and provincial level staff regarding BPHS implementation issues and SM and NGO mechanisms, a parliamentary survey (n=21) was administered to compare impressions of SM and NGO BPHS implementation at this level. The survey inquired the extent to which parliamentarians agreed with a series of statements related to BPHS implementation under SM and NGO mechanisms (using a Likert scale of 1-4, where 4=strongly agreed, 3=agreed, 2=disagreed, or 1=strongly disagreed). Table 6 highlights the relevant descriptive statistics associated with the results of the analysis of this survey. Overall there were 21 respondents, with 8 parliamentarians coming from SM-related provinces, and 13 coming from NGO-supported provinces. Average/mean scores (along with standard deviation and the mean standard error) were established for each mechanism (SM/NGO) associated with each question.

SM representatives most strongly agreed with the statements “People’s access to health services has significantly increased in my province in recent years (mean=3.75)”, and “the Ministry of Public Health has been successful in controlling the private hospitals in my province (mean=3.75)”. NGO representatives most strongly agreed with the statements “the Ministry of Public Health has been successful in managing the private hospitals in my province (mean=3.46),” and “the Ministry of Public Health promptly responds to requests and health needs of my province (mean=3.62).”

Alternatively, SM representatives most strongly disagreed with the statements “the Ministry of public health should deliver health services directly by itself (mean=1.62),” and “the senior officials of the provincial public health directorate are very competent in my province (mean=1.88).” NGO representatives most strongly disagreed with the following statements “the Ministry of public health should deliver health services directly by itself (mean=1.54),” “the senior officials of the provincial public health directorate are very competent in my province (mean=2.00)” and the statement” the Ministry of public health should continue delivering services though contracts with NGOs (mean=2.00)”.

Analysis of Difference of Means (SM and NGO)

An independent samples t-test was conducted to examine differences in means between the responses of Parliamentarians from representative NGOs and SM provinces. Results indicate that none of the means of 17 likert scale measures were found to be statistically significant at the $p<.05$ or $p<.10$ levels. Accordingly, we conclude that either the sample size is too small to identify any differences or there are no differences in responses related to the two BPHS implementation mechanisms. The full table of results can be found in Annex C of this report.

Table 6. Afghanistan Parliamentary Survey 2012 - Descriptive Statistics by SM and NGO

	Model	N	Mean	Std. Deviation	Std. Error Mean
The quality of health service has significantly improved in my province in recent years.	SM	8	2.88	1.458	.515
	NGO	13	2.38	.768	.213
The coverage of public health services has significantly increased in my province in recent years.	SM	8	2.88	1.458	.515
	NGO	13	3.08	1.320	.366
People's access to health services has significantly increased in my province in recent years.	SM	8	3.75	3.105	1.098
	NGO	13	2.31	.855	.237
People are happy with the public health services in my province.	SM	8	3.00	1.414	.500
	NGO	13	3.00	1.080	.300
The senior officials of the provincial public health directorate are very competent in my province.	SM	8	1.88	1.356	.479
	NGO	13	1.54	.519	.144
People in my province in recent years are more seeking to recieve health services.	SM	8	3.25	1.389	.491
	NGO	13	2.92	1.188	.329
People have enough information about what the Ministry of Public Health is doing in my province.	SM	8	3.50	1.690	.598
	NGO	13	3.08	.954	.265
The Ministry of Public Health has been successful in controlling the private clinics in my province.	SM	7	3.43	1.272	.481
	NGO	12	3.33	1.155	.333
The Ministry of Public Health has been successful in controlling the private pharmacies in my province.	SM	8	2.50	.756	.267
	NGO	13	3.08	1.256	.348
The Ministry of Public Health has been successful in controlling the private hospitals in my province.	SM	8	3.75	1.389	.491
	NGO	13	3.46	1.050	.291
The Ministry of Public Health promptly responds to requests and health needs of my province.	SM	7	3.43	1.397	.528
	NGO	13	3.62	.961	.266
The Ministry of Public Health has been successful in improving coordination & trust within the health providers and improving trusts between the people.	SM	8	2.88	1.553	.549
	NGO	13	3.00	.913	.253
There is high level of people's participation in public health services in my province.	SM	8	2.25	1.282	.453
	NGO	13	2.23	1.235	.343
The Ministry of Public Health successful in Response to natural disasters in my province.	SM	8	2.75	1.165	.412
	NGO	13	2.92	1.441	.400
The Ministry of Public Health has been successful in improving health services for volnerable and isolated people.	SM	8	3.13	1.246	.441
	NGO	13	2.92	1.115	.309
The Ministry of public health should continue delivering services though contracts with NGOs	SM	8	2.63	.916	.324
	NGO	13	2.00	1.080	.300
The Ministry of public health should deliver health services directly by their won selves	SM	8	1.63	.518	.183
	NGO	13	2.00	1.155	.320

STRENGTHS AND LIMITATIONS

Although several important issues related to BPHS implementation were addressed in this study, it is important to highlight both the strengths and weaknesses of the methodology to provide context for discussion and recommendations.

With regard to strengths, the investigators of the study emphasize that the data for the quantitative analyses come from all 34 provinces of Afghanistan. Prior cost-efficiency analyses were conducted in only six provinces. Furthermore, the study builds upon previous work conducted by the investigators in a comparative study of BPHS contracting-out implementers funded by the European Union in 2011. Lastly, this study involves detailed verification of SM cost data from three sources of data including interviews with the SM department within the MoPH, extracted SM invoice data, and provincial data.

The study also has limitations. First, although the study examines important ratios related to cost-efficiency and cost-quality, explanatory variables are missing, largely due to a lack of data availability. For example, this study could be advanced if the researchers investigated how differences in security, remoteness, type of facility, and other geographical and social variables impact relative cost-efficiency, cost-quality, and equity indicators. Furthermore, the equity analysis is limited due to data limitation factors previously highlighted in this report. Additional data elements would be required to conduct a more detailed equity assessment at the provincial level.

With regard to the qualitative study, the samples sizes are adequate for understanding collective impressions of stakeholders of BPHS implementation, but the sample size of the parliamentary survey is small and, as a result, may not fully reflect any existing differences in means.

DISCUSSION AND RECOMMENDATIONS

Applying key economic variables for decision-making and planning the next steps in the Afghan health sector is critical for moving Afghanistan beyond an emergency phase and achieving a sustainable health system. Furthermore, economic variables can be used for strengthening health system functioning overall.

This study involved an assessment of cost, cost-efficiency, cost-quality, and equity of BPHS services under both SM and NGOs contracting mechanisms in Afghanistan using both quantitative and qualitative research methods. From each of these perspectives, although some differences are highlighted and lessons are learned, there appears to be no clear collective difference between SM and NGOs on the implementation of BPHS.[11] The **cost-efficiency analysis** highlights that, among the NGO implementers, USAID-supported provinces appear to be most cost-efficient while the other three implementers (EU, WB, and SM) show mixed results depending on the BPHS related indicator. However, it should be noted that several factors might contribute to cost-efficiency, including security, remoteness, type of contacting mechanism, auditing procedures, level of monitoring and evaluation, strength of management and administration, etc. These factors are not examined in this study because of lack of data and resource constraints, but could be modeled and examined in future analyses.

With regard to **cost-quality,** the primary cost-quality measure "relative efficiency of 2010 BSC results shows that USAID (1.13) reflected slightly higher quality relative to cost than the other three implementers, EU (0.99) and WB (0.88), and SM (1.05). These data show no significant difference between NGO and SM BPHS implementation on relative cost and quality at this point in time. Also,

[11]This conclusion most likely would change if comparing USAID alone with SM given the relative cost-effectiveness of USAID.

quality measures are limited and additional data would strengthen an understanding of the relationship between quality and cost.

Equity measures indicate mixed results between NGO and SM mechanisms with regard to implementing a "pro-poor strategy" within BPHS. There are also limitations with regard to more complete equity analyses including the a skewed sample towards NGO-supported provinces, a lack of knowledge or data about community needs and limited understanding if NGOs/SM address the variation of health needs across the country.

Qualitative analyses highlight important issues related to the implementation of BPHS and the two models but also show not significant difference between the implementation modalities (NGOs and SM). Stakeholders indicated that both models face constraints in achieving full BPHS implementation including political pressure, system referral and linkage problems, as well as administrative barriers. As previously noted, with regard to the independent samples t-test of parliamentary data, we conclude that either the sample size is too small to identify any differences or that there are no differences in responses related to the two BPHS implementation mechanisms.

As the MoPH and development partners move forward with the BPHS, "best practices" should be further examined and applied to overall implementation. For example, as highlighted in this study, USAID shows strength on relative cost-efficiency on numerous indicators. Components of USAID-supported BPHS should be further examined, along with strengths of the other implementers (EU, WB, and SM). Weaknesses of BPHS highlighted by stakeholders in the qualitative study should also be addressed as necessary from policy and management levels.

Lastly, decision-making with regard to future BPHS implementation modalities can be further informed with public health and economic evidence, but the way forward is also a political, administrative, and social process. Taking into consideration these perspectives can also aid the government and development partners in improving and strengthening the value for investment in the BPHS in Afghanistan in the future.

ANNEX A: KEY BPHS VARIABLES LIST

Codes and titles of key BPHS variables associated with BPHS implementers:

1. REPV - Percent of visits of catchment population
2. REID - Percent of institutional deliveries of catchment population
3. RELD - Percent of live deliveries of the catchment population
4. REDC - Cost per daily served client per year ($)
5. REDS - Percent of daily served clients of the catchment population
6. REU1 - Percent of immunized Children under 1 year old of the catchment population
7. REU1A - Percent of under 1 year old children immunized of all visits
8. REPENTA - Percent of children under 2 years old receiving PENTA3
9. REU2 - Percent of possible drop-outs in the under 2 year population of those having received under 1 year immunization
10. REAN - Percent of patients receiving the first ANC of the catchment population
11. REAN2- Percent of patients receiving additional ANC of the catchment population
12. UNCODED - Percent having received the first PNC of catchment population
13. UNCODED - Percent of possible drop outs of PNC of the first ANC patients
14. UNCODED - Raw BSC composite score 2004
15. UNCODED - Raw BSC composite score 2010
16. UNCODED - Raw BSC change, 2004-2010
17. UNCODED - Relative BSC score, 2010
18. REQ - Relative BSC Score 2010/per capita cost

ANNEX B: EXPLANATION ABOUT RELATIVE PER CAPITA COST AND RELATIVE EFFICIENCY VALUES

We measured cost-efficiency by calculating two kinds of parameters: relative per capita cost and relative efficiencies. The relative per capita costs is set as the only variable to serve as the denominator while efficiency indicators of various kinds serve as numerators. The term "relative" indicates the process of standardization of measurement among different provinces by calculating how much is the value of a parameter in one individual province is relative to the overall mean of that parameter in all 34 provinces.

Step 1: Derivation of the denominator (cost parameter)

$$\text{Relative cost per capita} = \frac{\text{individual province's cost per capita}}{\text{mean cost per capita of all provinces}}$$

Step 2: Derivation of a numerator (efficiency parameter)

$$\text{Relative efficiency} = \frac{\text{individual province's BPHS indicator}}{\text{mean BPHS indicator of all provinces}}$$

Step 3: Derivation of cost-efficiency of the province (cost-efficiency result)

$$\text{Rel. efficiency of BPHS indicator} = \frac{\text{Rel. BPHS indicator}}{\text{Rel. cost per capita}}$$

As seen in the formula in Step 1, we divide the individual province's cost per capita cost by mean cost per capital of all provinces. This implies that if the value of relative per capita cost is above 1, this indicates the province has a higher cost than the mean per capita cost of all provinces. Similarly, if the value of relative per capita cost is below 1, this indicates the province has a lower cost than the mean per capita cost of all provinces. In principle, a comparatively higher value in relative per capita cost in its position of the denominator indicates the province is more likely to demonstrate a lower efficiency (cost-efficiency) result.

If the efficiency parameter that occupies the numerator position is a "normalized indicator", the higher value over there will be more likely to demonstrate a higher efficiency (cost-efficiency result).

ANNEX C: RESULTS FROM INDEPENDENT SAMPLES TEST OF DIFFERENCES BETWEEN SM AND NGOS (PARLIAMENTARIAN SURVEY)

Independent Samples Test

		Levene's Test for Equality of Variances		t-test for Equality of Means						
									95% Confidence Interval of the Difference	
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	Lower	Upper
The quality of health service has significantly improved in my province in recent years.	Equal variances assumed	3.473	.078	1.015	19	.323	.490	.483	-.521	1.501
	Equal variances not assumed			.879	9.435	.401	.490	.558	-.762	1.743
The coverage of public health services has significantly increased in my province in recent years.	Equal variances assumed	.072	.791	-.327	19	.747	-.202	.617	-1.493	1.089
	Equal variances not assumed			-.319	13.801	.754	-.202	.632	-1.560	1.156
People's access to health services has significantly increased in my province in recent years.	Equal variances assumed	5.724	.027	1.602	19	.126	1.442	.900	-.442	3.327
	Equal variances not assumed			1.284	7.658	.237	1.442	1.123	-1.168	4.053
People are happy with the public health services in my province.	Equal variances assumed	.497	.531	.000	19	1.000	.000	.546	-1.142	1.142
	Equal variances not assumed			.000	12.024	1.000	.000	.583	-1.270	1.270
The senior officials of the provincial public health directorate are very competent in my province.	Equal variances assumed	1.986	.175	.813	19	.426	.337	.414	-.529	1.202
	Equal variances not assumed			.672	8.279	.520	.337	.501	-.811	1.484
People in my province in recent years are more seeking to recieve health services.	Equal variances assumed	.052	.823	.575	19	.572	.327	.569	-.863	1.517
	Equal variances not assumed			.553	13.163	.590	.327	.591	-.949	1.603
People have enough information about what the Ministry of Public Health is doing in my province.	Equal variances assumed	9.266	.007	.738	19	.470	.423	.573	-.777	1.623
	Equal variances not assumed			.647	9.794	.532	.423	.654	-1.037	1.883
The Ministry of Public Health has been successful in controlling the private clinics in my province.	Equal variances assumed	.177	.679	.167	17	.869	.095	.570	-1.106	1.297
	Equal variances not assumed			.163	11.679	.873	.095	.585	-1.184	1.374
The Ministry of Public Health has been successful in controlling the private pharmacies in my province.	Equal variances assumed	.602	.447	-1.169	19	.257	-.577	.494	-1.610	.456
	Equal variances not assumed			-1.314	19.000	.204	-.577	.439	-1.496	.342
The Ministry of Public Health has been successful in controlling the private hospitals in my province.	Equal variances assumed	3.093	.095	.541	19	.595	.288	.533	-.827	1.404
	Equal variances not assumed			.505	11.930	.623	.288	.571	-.956	1.533
The Ministry of Public Health promptly responds to requests and health needs of my province.	Equal variances assumed	.786	.387	-.354	18	.727	-.187	.528	-1.295	.921
	Equal variances not assumed			-.316	9.147	.759	-.187	.592	-1.522	1.148
The Ministry of Public Health has been successful in improving coordination & trust within the health providers and improving trusts between the people.	Equal variances assumed	2.445	.134	-.234	19	.818	-.125	.534	-1.244	.994
	Equal variances not assumed			-.207	10.030	.840	-.125	.605	-1.471	1.221
There is high level of people's participation in public health services in my province.	Equal variances assumed	.027	.870	.034	19	.973	.019	.563	-1.159	1.197
	Equal variances not assumed			.034	14.521	.973	.019	.568	-1.195	1.234
The Ministry of Public Health successful in Response to natural disasters in my province.	Equal variances assumed	.973	.336	-.286	19	.778	-.173	.605	-1.439	1.093
	Equal variances not assumed			-.302	17.394	.767	-.173	.574	-1.382	1.036
The Ministry of Public Health has been successful in improving health services for vulnerable and isolated people.	Equal variances assumed	.056	.815	.386	19	.704	.202	.524	-.894	1.298
	Equal variances not assumed			.375	13.661	.713	.202	.538	-.955	1.359
The Ministry of public health should continue delivering services though contracts with NGOs	Equal variances assumed	.030	.865	1.360	19	.190	.625	.460	-.337	1.587
	Equal variances not assumed			1.417	16.889	.175	.625	.441	-.306	1.556
The Ministry of public health should deliver health services directly by their won selves	Equal variances assumed	1.008	.328	-.860	19	.400	-.375	.436	-1.287	.537
	Equal variances not assumed			-1.017	17.852	.323	-.375	.369	-1.150	.400

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