Afghanistan Technical Report: Interim Findings and Conclusions of Drug Financing

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About SPS

The Strengthening Pharmaceutical Systems (SPS) program strives to build capacity within developing countries to effectively manage all aspects of pharmaceutical systems and services. SPS focuses on improving governance in the pharmaceutical sector, strengthening pharmaceutical management systems and financing mechanisms, containing antimicrobial resistance, and enhancing access to and appropriate use of medicines.

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ACRONYMS

BPHS	Basic Package of Health Services
CIA	Central Intelligence Agency
CMS	Central Medical Stores
DFID	Department for International Development (UK)
EC	European Community
EPHS	Essential Package of Hospital Services
EPI	Expanded Program of Immunization
GoA	Government of Afghanistan
GDAA	General Directorate of Administrative Affairs
GDPA	General Department for Pharmaceutical Affairs
MOPH	Ministry of Public Health
MSH	Management Sciences for Health
NGO	Non-governmental Organization
NTP	National TB Program
PE	Pharmaceutical Enterprise
RMU	Rational Medicines Use
SAF	Solidarity with Afghan Families
SCA	Swedish Committee for Afghanistan
SPS	Strengthening Pharmaceutical Systems
USAID	United States Agency for International Development
USG	United States Government
WHO	World Health Organization
WHO SEARO	WHO South East Asian Regional Office

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BACKGROUND

Problems associated with the availability and use of pharmaceutical products were identified as soon as donors and implementing partners returned to Afghanistan early in 2002. The 2002 Afghanistan Pharmaceutical Sector Assessment conducted by MSH, as well as the World Health Organization (WHO) Preliminary Assessment conducted in the same year confirmed the anecdotal information circulating about the presence and use of products of unacceptable quality, poor access to life saving medicines, and irrational prescribing and use.

Since 2002, USAID has financed the purchase of pharmaceuticals for use by grantees providing the Basic Package of Health Services (BPHS) and Essential Package of Hospital Services (EPHS). The World Bank and European Commission (EC) have provided similar financial backing to the non-governmental organizations (NGOs) they support in the BPHS and EPHS.

During the course of its work in Afghanistan, the SPS program has identified multiple challenges confronting the pharmaceutical system in Afghanistan that combine to limit the access to quality pharmaceuticals by the Afghan population. These challenges include weak enforcement of pharmaceutical policy and regulations and increased availability of pharmaceutical products of low and/or questionable quality from neighboring countries. To further compound these access problems, during work conducted for USAID in late 2008 SPS unearthed evidence that funding for essential medicines for BPHS and EPHS was insufficient.

In order to examine this issue further, SPS sought and was granted approval from USAID to conduct further investigations into the financing of essential medicines in Afghanistan. Although data quality and availability was less than ideal for this study, especially for the private sector, the findings are in line with the initial suspicion that there is insufficient funding for essential medicines in the public sector. The implication of the data is that the public sector requires an additional $7 million investing in pharmaceuticals from all donor and government sources to raise the level to that of the average found in countries at a comparative level of development. In spite of the data problems, SPS believes that confidence can be placed in the findings and conclusions presented.

Interim Conclusions and Recommendations of SPS Drug Financing Analysis

1. Benchmarking pharmaceutical spending

How much should a country spend on pharmaceuticals? Experts have tried to indicate the possible effects on access of different levels of spending on pharmaceutical. In lower income countries, for example[1],

- Less than $5 per capita per year is unlikely to provide a regular supply of drugs to the entire population.
- An expenditure of $5 to $10 per capita should supply a large part of the population.
- With an expenditure of $10 to $50 per capita, the needs of the entire population should be satisfied.

These figures are based on national averages and allow for a considerable degree of unevenness in access to drugs.

More recently, the latest WHO World Medicines Situation (2004) indicates that low income countries spend about $4.4 per capita per year, $1.1 of which is in the public sector. See Table 1 below.

For the purposes of this analysis, two yardsticks will be used: the WHO reported figures for low income countries and the $5 benchmark cited in the WHO SEARO paper. It should be noted that these are low and quite old benchmarks, dating from 2000 and 1997. If anything, therefore, these are conservative benchmarks for 2010.

Table 1: Private and government per capita expenditure on pharmaceuticals, 1990-2000
(US$ at exchange rate)

Income clusters	1990			2000		
	Private	Govt.	Total	Private	Govt.	Total
WHO Member States	28	21	49	45	29	74
High-income	130	110	240	229	167	396
Middle-income	13	5	18	22	8	30
Low-income	2.6	1	3.6	3.2	1.1	4.4

Source: Table 5.4, World Medicines Situation, WHO, 2004
http://apps.who.int/medicinedocs/en/d/Js6160e/7.html#Js6160e.7

2. Summary of current per capita spending in Afghanistan

a. Public Sector

Table 2 provides a summary of the per capita funding passing through various public sector channels in Afghanistan. The data reflects the broad scale of financing for drugs being channeled into the public health system through the various funding streams. As can be seen, it is estimated that overall spending is about $0.86 per capita. This compares unfavorably with the average per capita spending reported by WHO for low income countries of $1.10.

Table 2: Summary of per capita spending in the public sector in Afghanistan

Source	Program	Per Capita ($)	
Donor	BPHS[2]	0.75	
	Global Fund[3]	0.05	
	EPI[4]		0.94
	EPHS[5]	0.06	
MOPH[6]	CMS	0.03	
	PE	0.03	
Total		**0.86**	

A table of population figures used in this analysis can be found at the end of the paper (Table 8).

b. Private Sector

There is essentially no useful data available on private spending on pharmaceuticals in Afghanistan. The United Kingdom's Department for International Development's (DFID) 2005 study on the pharmaceutical sector estimated the total value of the private market to be about $200 million, amounting to 70% to 80% of the total value of pharmaceuticals to the population

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[1] For example, Dumoulin, Kaddar, and Velásquez , WHO SEARO Working Group on Drug Financing, Health Economics and Drugs, DAP Series No. 8, Yogyakarta, November 1997.
http://apps.who.int/medicinedocs/en/d/Js2239e/7.1.html
[2] Techserve = $0.76, Swedish Committee for Afghanistan (SCA) = $0.73. Data from other donors and NGOs supporting BPHS was not available.
[3] Includes HIV (R7), Malaria (R5 and R8), and TB (R4 and R8). The TB and malaria programs rely exclusively on the Global Fund for their essential medicines.
[4] Expanded Program on Immunization (EPI) spending on vaccines is not included in the WHO per capita figure from the World Medicines Report. It is reported here in order to make the data as complete as possible, but is excluded from the comparison with the WHO for low income countries so that a direct comparison can be made.
[5] EPHS estimate based on Techserve distribution to 5 EPHS provinces from October 2009 to March 2010.
[6] Estimates for the Central Medical Stores (CMS) and the Pharmaceutical Enterprise (PE) were reported in the December 2009 report.

in Afghanistan. This would put private sector spending at around $6 per capita. Given the current economic circumstances of the country, however, together with the data reported by WHO for Afghanistan and neighboring countries, it would seem that even if this was the case in 2005, it must now be considered an overestimate.

Table 3 provides a summary of the per capita spending in three neighboring countries together with per capita income for those countries. Assuming that levels of spending will be similar across the region, this data suggests that a more likely figure of private spending in Afghanistan to be between $2 and $3 per capita. For the purposes of this analysis, the figure of $2.50 is used as a reasonable estimate. Much further work would be required to gain a better understanding of the actual situation, but the presented figure is probably reasonable to establish a working base.

Table 3: Per Capita Spending and Income in Neighboring Countries

Country	World Medicines Situation (WHO) Per Capita Spending (2000)			Per Capita Income	
	Public	**Private**	**Total**	**US$**	**Source, Income Date[7]**
Pakistan	3	2	5	1,013	World Bank, 2008
Turkmenistan	5	1	6	3,633	World Bank, 2008
Uzbekistan	1	1	2	1,022	World Bank, 2008
Afghanistan	NA	1	NA	500	CIA, 2009

c. Total

Based upon the data presented, the total estimated per capita spending on pharmaceuticals in Afghanistan is $3.36, made up of $0.86 in the public sector and an estimated $2.50 in the private sector.

d. Gap Analysis

Table 4 compares this estimate to the average situation reported by WHO for low income countries. Overall, it appears that Afghan spending is $1.05 lower than this point of comparison, $0.25 in the public sector and $0.80 in the private.

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[7] Sourced: http://en.wikipedia.org/wiki/List_of_countries_by_GDP_(nominal)_per_capita (Accessed, May 24, 2010)

Table 4: Estimated gap between average per capita spending in low income countries and Afghanistan

	Per Capita Expenditures		
	Public	**Private**	**Total**
WHO (2000)	1.10	3.30	4.40
Afghanistan (2009/10)	0.86	2.50	3.36
Gap	**0.25**	**0.80**	**1.05**

Using this as a guide together with national population figures from 2008 and Techserve estimates of the population supported by its services (Table 8), the implication is that the public sector requires an additional $7.11 million investing in pharmaceuticals from all donor and government sources to raise the level to that of the average found in countries at a comparative level of development. For USAID supported health programs, an additional $1.72 million is implied over and above current funding through Techserve.

If, however, the objective was to also plug the gap in private spending, then the additional funding required would be $30 million for the country as a whole from all funding sources, including private, and $7.31 million for USAID supported areas.

It should, of course, be recognised that the WHO figures themselves report very low levels of expenditure on pharmaceuticals. In terms of assuring reasonable access, a good case can be made for setting a target of at least $5 per capita as was cited above. In this case, the gap between where Afghanistan is now and attaining that $5 target is about $1.65 per capita. This would imply that the total additional funding required for the country, both public and private sectors, from all funding sources, would be of the order of $48 million.

For the public sector, representing 25% of the total spending, an additional $11.2 million would be required from all funding sources. For USAID, this implies an additional $2.7 million for the public services it supports. Table 5 summarises the increased funding required for both USAID and the country as a whole to meet increased per capita spending targets.

Table 5: Additional funding required to meet increased per capita spending targets

	USAID		Whole Country (all donors & Government of Afghanistan (GoA)	
Target	**Public Only**	**Public & Private**	**Public Only**	**Public & Private**
Low Income Country Average	1,714,857	7,314,390	7,110,169	30,327,048
$5 Per Capita	2,699,464	11,514,039	11,192,563	47,739,708

3. Impact of underfunding

Table 6 summarizes the stock out data collected by the SPS Rational Medicines Use (RMU) study broken down by source of funding, including USAID through Techserve. Included in the table is data collected for this study by the Swedish Committee for Afghanistan (SCA)[8].

The overall situation found by the RMU study was that health facilities were out of stock 22% of the time. There was considerable variation depending on funding source, with Techserve supported health facilities being found to be out of stock 11% of the time while the Ministry of Public Health (MOPH) facilities were out of stock 66% of the time. EC supported facilities were out of stock 14% of the time while for those supported by the World Bank the figure was 21%.

Although the sample size was relatively small, some confidence can be placed in the findings, especially for Techserve, as the RMU finding correlates closely to an out of stock situation of 13% reported by Techserve through their own monitoring data.

To a greater or lesser extent, it is reasonable to ascribe part of the reason for the reported stock outs to underfunding. Stock outs are what would be expected to occur in a situation where there was insufficient funding for pharmaceutical procurement.

However, in addition to funding problems, there are clearly other factors at play as can be seen when the out of stock situation in the SCA facilities is compared to that discovered by the RMU study. For SCA facilities, the overall figure was only 4% as compared to 22% for all RMU facilities and 11% to 13% for Techserve. Per capita spending for SCA facilities is $0.73, not dissimilar from that of Techserve at $0.76.

In relation to Techserve, while it is difficult to ascribe reasons for stockouts with any degree of certainty, the problem would appear to be a result of some combination of the following:

- Medicines supplied by Techserve treat more patients than targeted due to a failure of health service delivery in neighboring areas;
- Diversion of medicines away from targeted health facilities;
- Problems related to diagnosis and rational prescribing; and
- Rationing on the part of Techserve as and when central stocks are insufficient to meet demand.

In relation to health facility stock outs, it is interesting to compare their stock situation with that at the Techserve central warehouse for the same period (March 2008 to February 2009). Table 7 presents the data from this comparison using health facility data collected for the RMU study with the stock situation at the Techserve central warehouse for the same period, which was collected as part of this drug financing analysis. While there is some correlation between the two stock positions for many products, such as chloramphenicol, cotrimoxazole, and magnesium trisilicate there is clearly no correlation for a number of important drugs, including amoxicillin,

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[8] Sample size: RMU Study, 14 health facilities; SCA, 20 health facilities

ampicillin, gentamycin, and paracetamol[9]. While it is not possible to be certain why this should be the case, it would seem reasonable to ascribe some combination of the above points by way of explanation.

In trying to understand the difference in performance between SCA and Techserve, it became apparent through discussions with SCA that their drug management system has flexibilities built into its system that are not enjoyed by Techserve, which is at least in part due to restrictions imposed by US government procurement regulations. It is reasonable to hypothesize that this flexibility is at least part of the reason for the overall better performance of SCA.

The flexibilities include:

- Budget Flexibility

SCA, with World Bank approval, can switch funds between budget lines to maintain medicine supply, which is a priority, as long as they don't go over the ceiling.

- Provincial Buffer Stocks

Although they principally supply health facilities directly from their central warehouse in Kabul, they also maintain a provincial level buffer stock, which enables them to respond rapidly to unforeseen shortages and demand.

- Provincial Purchasing Supplements Central Procurement

Provincial Project Management Teams are authorised to purchase from wholesalers in their region, such as from Mazar or Herat, if need be.

- Internal Transfers between Health Facilities

Internal transfers between health facilities are also carried out under the direction of the Provincial supervisors, who also direct the preparation of health facility orders.

- Central Procurement though Afghan Importers

Central procurement is all done through Afghan-based companies, which gives very short lead times (one month). Penalties are imposed for late delivery, which SCA reports has disciplined suppliers. While they are unable to test products, they have in place a series of physical and document checks to assure quality. Additional, emergency procurements can be done centrally from the same sources if need be. In terms of prices, SCA prices are, on average, 60% higher than those paid by Techserve.

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[9] The out of stock situation at the Techserve central warehouse improved during 2009 to the point where there were no stock outs of medicines in the tracer list at all during that time. However, the stock out situation in health facilities remained largely unchanged with Techserve monitoring data reporting 12% as the period for stock outs in 2009.

- Health Facility Distribution Largely Based on Demand

Regarding health facility orders, SCA mainly supply what is ordered, except where they ask for drugs not on the BPHS approved list. Even then, however, SCA will sometimes be flexible if a good clinical case is made for the drug. Although they do report RMU problems, they tend to make quantity adjustments only if the quantity requested is more than what was in the procurement plan, which means that health facilities by and large get what they ask for.

It will be apparent that, while funding is an important factor in ensuring access, flexible management systems can also be of real value in making the most of the funding that is available. This echoes some of the ideas implicit in the recommendations made in an earlier report[10] discussing post-Techserve options for USAID. While USG procurement rules make it difficult to change the method of procurement, some ideas that could be explored for introducing greater flexibility into the supply operations include, for example:

- Reducing lead times, e.g. by increasing the number of scheduled deliveries, consolidating stock in, say, India and air freighting into Kabul monthly, operating a bonded store at Kabul airport and clearing customs there;
- Holding regional stocks to improve service to health facilities; and
- Moving to a more clear-cut demand based supply system for supplying health facilties.

In making future plans for improving drug supply to the provinces it supports, USAID would be well advised to consider both an increase in drug funding on a per capita basis, at least to cover the public sector, and investigating the feasibility of introducing greater operational flexibility into the procurement, distribution, and funding regulations of their drug supply system.

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[10] Clark, M, and A. Barraclough. 2009. *Afghanistan Technical Report: Post Techserve Options Analysis, December 2009.* Submitted to the U.S. Agency for International Development by the Strengthening Pharmaceutical Systems program. Arlington, VA: Management Sciences for Health.

Table 6: Out of Stock situation reported by SPS RMU Study and the Swedish Committee for Afghanistan

Tracer Item	RMU Study Data (March 08 - Feb 09)					SCA Data (World Bank)
	Overall % Time OOS (All facilties)	Techserve % time OOS	EC % time OOS (HN-TPO)	WB % time OOS	MOPH % time OOS	SCA Facilities 2009
Paracetamol Tablet 500 mg	23%	17%	4%	40%	58%	3%
Ibuprofen Tablet 200 or 400 mg	38%	19%	44%	38%	99%	4%
Amoxycillin Tablet 250 or 500 mg	24%	11%	18%	37%	56%	4%
Amoxycillin Powder for Oral suspension, 125 or 250 mg/5 ml	24%	25%	13%	28%	55%	4%
Ampicillin powder for Injection 500 mg or 1gram (as sodium salt) in vial	28%	20%	17%	20%	95%	8%
Gentamicine Injection 20 , 40 or 80 mg (as sulfate)/ ml in 2-ml vial	27%	27%	5%	9%	92%	5%
Chloramphenicol capsule 250 mg	18%	9%	6%	8%	38%	6%
Metronidazol Tablet 200 or 250 mg	20%	8%	10%	19%	80%	3%
Co-timoxazole (sulfamethoxazole + trimethoprime) Tablet 100 mg + 20 mg or 400 mg + 80 mg	14%	1%	14%	25%	39%	3%
Ferrous Sulphat+Folic acid Tablet, equivalent to 60 mg iron + 400 Microgram Folic acid	13%	0%	4%	21%	24%	1%
Methyl dopa Tablet 250 mg	24%	0%	38%	6%	83%	4%
Aluminium hydroxide + Magnesium Hydroxide Chewable Tablet 200 mg + 200 mg	19%	20%	6%	13%	58%	2%
Oral Rehydration Salt Powder, 27.9 g/l	10%	8%	0%	11%	41%	1%
Hydrocortisone powder for Injection	27%	1%	23%	22%	99%	1%
Tetracycline Eye Ointment, 1% (hydrochloride)	18%	0%	5%	25%	75%	1%
All Tracer Items	**22%**	**11%**	**14%**	**21%**	**66%**	**4%**

Table 7: Stock situation in health facilities and Techserve central store from March 2008 to February 2009

Tracer Item	RMU - Techserve % time OOS	Techserve Warehouse % time OOS (March 08 to Feb 09)
Paracetamol Tablet 500mg	17%	0%
Ibuprofen Tablet 200 or 400 mg	19%	11%
Amoxycillin Tablet 250 or 500mg	11%	0%
Amoxycillin Powder for Oral suspension, 125 or 250 mg / 5 ml	25%	0%
Ampicillin powder for Injection 500 mg or 1gram (as sodium salt) in vial	20%	0%
Gentamicine Injection 20 , 40 or 80mg (as sulfate)/ml in 2-ml vial	27%	0%
Chloramphenicol capsule 250mg,	9%	12%
Metronidazol Tablet 200 or 250mg	8%	0%
Co-timoxazole (sulfamethoxazole + trimethoprime) Tablet 100mg +20mg or 400mg+80mg	1%	0%
Ferrous Sulphat+Folic acid Tablet, equivalent to 60 mg iron +400 Microgram Folic acid	0%	0%
Methyl dopa Tablet 250 mg	0%	0%
Aluminium hydroxide+Magnesium Hydroxide Chewable Tablet 200mg +200 mg or Magnesium Trisilicate	20%	21%
Oral Rehydration Salt Powder, 27,9 g/l	8%	0%
Hydrocortisone powder for Injection,	1%	0%
Tetracycline Eye Ointment, 1% (hydrochloride)	0%	1%
All Tracer Items	**11%**	

Table 8: Population denominators used in analysis

Population Coverage	Population Figure	Source
National Population	29,021,099	World Bank (2008)
Techserve provinces (BPHS)	6,999,416	Techserve (2009)
Techserve (EPHS, 5 provincial hospitals)	3,328,300	MOPH provincial population data (2009)
SCA provinces	513,000	SCA (2009)