

Nepal Health Sector Support Programme

**Assessing the Value for Money of Technical Assistance provided
by NHSSP to the Nepal Health Sector**

**Three Case Studies on the VfM achieved through improvement
of Logistics Management Division's Procurement Activities**

July 2013



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Dr Astrid Thygesen, Crown Agents

Executive Summary

The Nepal Health Sector Support Programme (NHSSP) is a Department for International Development (DFID) funded programme of technical assistance (TA) designed to support the Nepal Health Sector Programme II (NHSP-2) led by the Ministry of Health and Population (MoHP). The programme began in September 2010 and is managed by a consortium led by Options Consultancy Services Ltd (Options). Crown Agents leads the TA to the LMD with a focus on improving the procurement process, the functionality and effectiveness of the division. This would contribute to the impact outlined in the NHSSP logframe of supporting a strengthened health system to increase access to sustainable, quality, essential health care services (EHCS) for women, the poor and excluded populations.

Following on from three NHSSP publically available case studies highlighting value for money (VfM) achieved, Crown Agents (CA) has undertaken a VfM assessment for the TA activities to the LMD as well as transactional procurement conducted by the Logistics Management Division (LMD) of Directorate of Health Services (DoHS).

The report also highlights limitations and caveats of the study, for example, the fact that no baseline data was collected at the start of the project and that access to data was at times difficult and not possible for some activities. Nonetheless, with the data collected, this report presents three cases studies:

Case Study 1: Price savings due to improved procurement processes and procedures implemented in LMD;

Case Study 2: Savings following the introduction of the LMD Technical Specification Bank;

Case Study 3: Savings following the improvements of the LMD Bid Opening Session procedures.

The report also provides an overview of the TA activities to the LMD for the period 2010-2013 and, with a quantitative approach, estimates the consequent efficiency and effectiveness gains. The report also presents a list of expected activities for the extension of NHSSP to August/September 2015 and suggests the nature of baseline data which should be collected and from which VfM can be further measured.

For Case Study 1, though it is not possible to provide a total discounted figure for the savings obtained through procurement due to limitations in LMD procurement data prior to NHSSP, for items which have been procured more than one time during NHSSP, a price comparison has been made and this comparison shows that in most cases price savings have been obtained.

Case Study 2 looks into the introduction of the Technical Specification Bank with 800+ specifications (exceeding the target of 400) available for all MoHP staff, and the report estimates that for a ten year period, the total saving measured as present value will come to between GBP 346,743 and GBP 405,447 (2012/13 figures), but under a range of assumptions.

Case Study 3 focuses on improvements of Bid Opening Session procedures with the study considering a future two year period, as the sustainability of changes after the NHSSP's finalisation is doubtful. Still, the report estimates the total saving for the period 2012/13 to 2014/15 to be GBP 4,581.

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Acronyms and Abbreviations

CA	Crown Agents
CAPP	Consolidated Annual Procurement Plan
CHD	Child Health Division
DFID	Department for International Development
DG	Director General
DoHS	Department of Health Services
EDP	External Development Partners
EHCS	Essential health care services
JFA	Joint Financing Arrangement
FHD	Family Health Division
GoN	Government of Nepal
HP	Health Post
ICB	International Competitive Bidding
INR	Indian Rupee
JE	Japanese Encephalitis
LHDSP	Local Health Development Support Programme
LMD	Logistics Management Division
LMIS	Logistics Management Information System
M&E	Monitoring and Evaluation
MoHP	Ministry of Health and Population
NCB	National Competitive Bidding
NHSP-2	National Health Sector Programme II
NHSSP	Nepal Health Sector Support Programme
NPR	Nepali Rupee
NPV	Net present value
Options	Options Consultancy Services Ltd
PV	Present value
SPA's	Senior Procurement Advisors
TA	Technical assistance
USD	US Dollars
VfM	Value for Money

1. Background

Building on its successes with Nepal Health Sector Programme 1 (NHSP-1), the Ministry of Health and Population (MoHP) along with External Development Partners (EDPs) designed a second phase of the Nepal Health Sector Programme called NHSP-2, a five-year programme, implemented from mid-July 2010. The goal of Nepal Health Sector Programme 2 (NHSP-2) is to improve the health status of the people of Nepal, especially women, the poor and excluded. The three objectives set out in the NHSP-2 results framework are:

- To increase access to and utilisation of quality essential health care services;
- To reduce cultural and economic barriers to accessing health care services and harmful cultural practices in partnership with non-state actors; and
- To improve the health system to improve universal coverage of essential health services.

2. Purpose of paper

The outset for this paper is DFID's paper *'Approach to Value for Money (VfM)'*, July 2011, and the NHSSP report *'Assessing the Value for Money of Technical Assistance provided by NHSSP to the Nepal Health Sector – Three Case Studies'*, October 2012. As stated in these reports, DFID focuses on VfM in order *'to develop a better understanding – and better articulation – of costs and results so that we can make more informed, evidence-based choices...and maximize the impact of each pound spent to improve poor people's lives.'*

The objective for this report is to identify and examine the VfM for NHSSP technical assistance to LMD from inception (September 2011) to date (June 2013) as well as to suggest how the programme extension can integrate VfM methodology and requirements into work plans. The report will provide estimate calculations of VfM arising from procurement undertaken by LMD (notably looking at contract prices) as well as VfM specifically gained through activities focused on procurement process improvement. Such calculations will be based a range of assumptions and the measurement of the procurement process improvement will focus on identifying time savings and equating this into its monetary equivalent.

3. Structure of paper

The report begins by presenting and discussing the models used for VfM by DFID. It then assesses the outcome and impact of a range of main NHSSP support activities for LMD. As the VfM concept was not integrated in the NHSP-2 support activities from the start of the programme and as LMD has no structured

overview of its procurement activities, we had no established baselines to monitor and evaluate against. Instead, we have sought to:

1. Compare VFM by looking at procurement contracts concluded in Year 1 and Year 3 of the project; and
2. Expected future gain in the form of saved time from improved procurement procedures.

For the first activity - we estimate a total quantifiable financial gain (VfM) of the improved procurement efficiency by comparing the prices of 17 items of drugs and equipment procured in the first year of the programme with the prices paid for the same commodities in the third year of the programme. Due to the use of multi-annual contracts and the lack of compliant bidders, no more than these 17 pieces of drugs and equipment were bought more than once during the three year period.

For the second activity – the report analyses two specific procurement process improvements:

1. Development and implementation of the Technical Specification Bank and;
2. Introduction of new procedures for Bid Opening Sessions.

Finally, the report suggests how the VfM concept can be used for some of the key activities planned for NHSP-2, Phase 2, and which baseline data are required to be collected at the start of Phase 2.

4. Models used to estimate the value for money

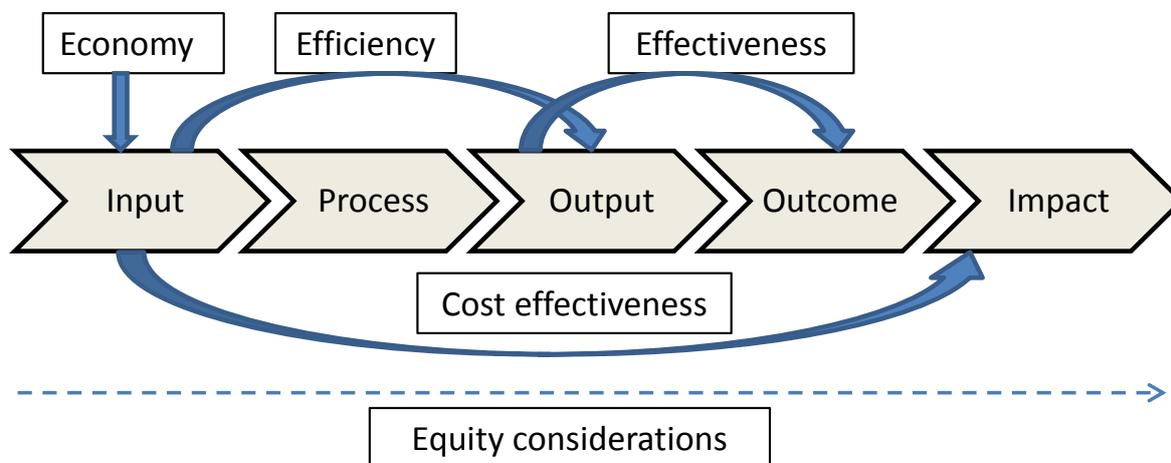
Drawing on DFID definitions, the '*Four Es for VfM*' are defined by the NHSSP VfM report published in October 2012 as:

Economy: Getting the best Inputs. This involves good procurement and monitoring tools.

Efficiency: Spending the money on the right thing ('allocative efficiency') and spending the money right ('technical efficiency'). This involves good planning and management processes.

Effectiveness: Knowing that the desired final outcome is achieved. This involves good evaluation.

Equity: Ensuring the benefits are distributed fairly. This involves good governance in delivery and good impact assessments.



Time aspect of the ‘E’-chain: The report stresses that there is a chronology to the results chain and to the four ‘Es’, so that evidence of economy being achieved can be identified first when the inputs are procured/processed. Evidence of efficiency emerges somewhat later, when implementation is under way and is affecting processes and intermediate outputs. Effectiveness tends to be identifiable some years down the line and can be measured via an Impact Assessment.

5. Overview of VfM for NHSSP’s Technical Assistance (TA) support activities to LMD

Table 1 provides an overview of NHSSP’s support activities to LMD over the first three years of the project (2011-13), primarily in the form of TA. Whilst none of the activities had baseline data collected at the beginning of the project, Table 1 provides an attempt to look at the results of the main TA activities based on economy, efficiency, effectiveness and equity. Efficiency is not measured alone in terms of staff time savings, but also in terms of the organisation and harmonisation in general obtained both in LMD and in other organisations. Due to the retrospective nature of analysis, where quantifiable data is lacking, the outcome and impact of the activities are given estimates, especially in regard to effectiveness and equity.

Table 1: Overview of the four Es from NHSSP's main activities in LMD from 2011 to 2013

Economy		Efficiency	Effectiveness	
<i>Input</i>	<i>Process</i>	<i>Output</i>	<i>Outcome</i>	<i>Impact</i>
TA assistance for procurement	TA drafts letters/responses to World Bank (WB).	Easier to obtain 'No Objection' Letters (NOL) from World Bank. Fewer cases getting 'stuck' in the procedure for long periods with time spend on discussions.	Faster procurement process leading to quicker goods' delivery to end-users.	LMD staff have learned to draft letters/responses to WB, but more assistance is required for them to take this task on completely.
	TA assisted LMD in how to use the bid securities strategically and improve bidders understanding of procurement process.	Change in the way bid securities are used. Now with fixed amounts requested instead of a percentage of bid sum.	Fewer mistakes made by bidders in the submission of bid securities.	Should lead to more bidders passing the preliminary examination and thereby more competitive prices for commodities.
	Introduced IT use (projector) at bid openings and suggested the press be invited.	More transparent bid opening process.	Less likelihood of subsequent complaints from bidders. Faster process during bid opening and in generating the bid opening report.	Creating transparency and a fast bid opening process. Estimated time saving: 20%.
	Templates drafted and provided for bid opening requirements.	Faster processes and more accurate documents at bid openings, such that data can be re-used immediately for several purposes.	Less time wasted at bid openings and more effectiveness, as improved accuracy leads to fewer back and forth amendments and complaints from bidders	Time and cost savings for government as staff time required for this activity reduced. Such saved time can be used for more productive activities.
	Developed a Standard Bidding Document (SBD) for goods.	A standard document and standard work processes have been implemented.	Time saved both in the process of completing the SBD for LMD's staff and in obtaining the No Objection Letter (NOL) from WB.	Time saving for government.
	Peer Review/Quality Assurance (QA) of all Bidding Documents and Evaluation Reports.	Increased accuracy of documents.	Less time taken to receive NOL from WB, so speeding up the process.	Time saving for LMD and World Bank as main issues are addressed proactively resulting in less World Bank/LMD back and forth queries.

Economy		Efficiency	Effectiveness	
<i>Input</i>	<i>Process</i>	<i>Output</i>	<i>Outcome</i>	<i>Impact</i>
	On the job-training of LMD staff. Not all advice is accepted by the LMD's staff.	Increased accuracy of documents, such as Bidding Documents.	When training advice is taken, time savings are achieved as there is less interaction with the WB due to the improved understanding and correct implementation of procurement practices in line with best practice.	Time and cost savings for advice. Multi-annual contracts generally lead to time saving, but can result in either higher or lower prices compared to one-year contracts.
Improved office practices	Introduced better and more efficient office practices (Introduction of lever arch files, diaries, years-to-view wall charts, whiteboards, etc.)	All documents will follow certain procedures. Increased efficiency gives rise to better communication across the board and more time available for the preparation of documents.	Easier to find documents and required information in the files, so saving LMD staff time, which can be used on actual procurement/contract management.	Faster procurement and delivery of health commodities.
TA assistance for development of the LMD Consolidated Annual Procurement Plan (CAPP)	Assisted in inviting end-users for information meetings and dialogue, including presenting the CAPP for user entities.	LMD has introduced more professional procedures for needs estimations.	The process is less time-consuming and ensures a more accurate CAPP.	The CAPP to have obtained a NOL from WB before the end of the Financial Year 2012/13.
	Provided assistance on how to draft the CAPP.	Faster acceptance by the system and WB, so leading to an earlier start to procurement.	Increased capability to buy necessary drugs and equipment.	For the CAPP FY 2013/14, LMD staff have done a large part of the information gathering and bundling with only limited advice from NHSSP's SPA's. Better planned procurement provides a more predictable flow of goods.
	Assisted in the running adjustment of the CAPP.	The overview and planning process for the timing of International Competitive Bidding has improved.	LMD staff should be able to do the adjustments and inform the WB when appropriate.	This outcome has still not been obtained. LMD management has not accepted the CAPP as a running tool.
Development of an acceptance report of incoming goods	Report developed in cooperation with LMD's biomedical engineers	More structured approach to the acceptance of goods, leading to a faster, more efficient and accurate acceptance process and faster delivery of goods to end users.	For the warehouses in Teku, the acceptance report format has been accepted and is in use.	Goods reach the end-users faster and better understand of what constitutes best practice acceptance procedures.
Advising on the increased use of LMD's website	Advising and assisting the web-site consultant.	More transparency due to LMD online publication of: <ul style="list-style-type: none"> • Bid invitations and bid documents • Contract notices • Failure notices 	More transparency, increased competition and more security in delivery of goods to end-users.	Should lead to greater interest from prospective suppliers and more competition. Available for use by other procuring agencies such as hospitals.

Economy		Efficiency	Effectiveness	
<i>Input</i>	<i>Process</i>	<i>Output</i>	<i>Outcome</i>	<i>Impact</i>
		<ul style="list-style-type: none"> • CAPP • Advice to bidders from workshop slides • Technical Specifications Bank 		
Technical Specification Bank	Developed technical specifications and the operational procedures for their use.	Reduced time for drafting and QA of technical specifications for procurement staff.	In use today by LMD's procurement section and several public sector hospitals in Kathmandu, as well as several districts.	LMD's procurement staff will save time. Improved quality of drugs and equipment to end-users.
	Link posted on LMD's homepage	Ensured broader knowledge and use of the Technical Specification Bank.	In use today at several public sector hospitals in Kathmandu.	Improved quality of drugs and equipment to end-users.
	Assisted in meetings with end-users on the technical specifications	Made requests more precise and consistent with items procured earlier.	Reduced wastage of drugs and equipment and increased knowledge of maintenance.	Money saving. Capacity enhancement.
Market analysis of drugs, including a database of price and contract information for future use	Conducted at the request of WB and developed without assistance from LMD. LMD staff trained in the database	If LMD adopts the database framework, it can support internal auditing purposes.	Can be used to take decisions on whether to procure certain drugs centrally or locally.	Dependent on LMD adoption but potential for analysis and improved procurement and value for money.
Developed a price estimation framework	Framework introduced to LMD and it is today used to generate information for WB.	Provides a more structured and realistic picture of price estimations.	Is being done today by NHSSP and LMD's biomedical engineers, but still not to the satisfaction of WB.	Should, in theory, lead to more precise budgeting and ease WB acceptance of evaluation reports.
Contact database on bidders	Developed and introduced to LMD. Staff have been trained in its use, but LMD has not yet implemented it.	Reduced need to enter the same data at multiple points and instead single point of entry.	Potential time savings and more accurate information on the daily work in LMD.	Should in theory save more than 50% of the time used to enter data on bidders. Bidders' data is already held by LMD and one click will be enough to enter a range of data.
Bidder Workshops	Developed materials to be used at bidder workshops	Clear improvements seen in the compliance of bids submitted in FY 2012/13.	Time savings for the evaluation team and better prices, as more bidders pass preliminary and technical evaluations.	Should in theory lead to better prices for LMD.
Job descriptions for LMD staff	Drafts presented to LMD, but not yet approved nor implemented.	Given this impasse, an alternative to job descriptions will be introduced, namely, descriptions of the tasks to be performed by each of LMD's five working groups.	More professional work by LMD's staff – fewer tasks falling "between chairs".	A gain in efficiency and less risk of key tasks being forgotten. Improved steps of accountability internally.
Establishment of meeting room and work space for three contract manager	Financing, building process and furniture procurement handled by CA Senior	Better facilities lead to increased working effectiveness of contract managers and in bid openings. Improved facilities lead to the more	Bid openings can be conducted with an estimated time saving of 10% across the six LMD staff members present due to	Reduced risk of ethical conflicts, increased effectiveness in bid openings and among contract

Economy		Efficiency	Effectiveness	
<i>Input</i>	<i>Process</i>	<i>Output</i>	<i>Outcome</i>	<i>Impact</i>
	Procurement Adviser.	professional handling of bidders and suppliers, and a reduced risk of ethical conflicts with the procurement unit. The room also allows for the physical separation of bidders, and contractors from the Procurement Unit.	easier handling of documents. The contract managers' more professional work environment will make them around 10% more efficient.	managers.

6. Quantified example of price savings due to improved procurement process

One of the main activities for the NHSSP TA for the first year of the programme was to introduce more transparent and competitive bidding procedures. As agreed in the Joint Financing Agreement (JFA) with GoN, all procurement of goods above USD 500,000 should be conducted following World Bank's bidding procedures and guidelines, as well as go to the Bank in three steps for no objection. For procurement of goods less than USD 500,000, it was not mandatory for LMD to use the Bank's bidding procedures and guidelines with the Bank only post-reviewing randomly selected bidding documents and evaluation reports. At the same time, multi-year contracts (2 or 3 year) were introduced.

This agreement between the EDPs and GoN was expected to lead to lower prices (economic gains), more efficient procurement activities and in the long term increased effectiveness in bringing health commodities to the Health Posts (HP).

Table 2 provides an overview of the prices and quantities for 17 different drugs, vaccines and health equipment commodities procured by LMD during the NHSSP's support from 2010 to 2013. The list represents commodities, which have been bought in both the first part of the programme and during the most recent period of the programme (repeat purchasing). There has been a limited amount of repeat purchasing within the LMD, partly due to LMD's use of multi-year contracts in the FY 2010/11 and partly because of the cancellation of planned procurement due to a lack of funds to pay suppliers.

It must be noted that even where prices were available, comparison has been difficult as data for the actual day of payment of contracts in foreign currency (and thereby the exchange rates) has not been possible to obtain. Thereby, it is not possible to state the exact cost in NPR. It seems not appropriate to estimate the exchange rate, as the NPR exchange rate to e.g. USD fluctuated quite considerable up and down in the relevant period.

Ideally, the prices paid for goods in the period 2010-2012 should be compared to prices paid by LMD for the same commodities tendered during the Financial Year 2012-13 in an attempt to show development and VfM. Where a contract has not yet been entered for the Financial Year 2012-13, but has been evaluated, it was decided to use the prices submitted by the best evaluated bidder mentioned in the evaluation report for the commodity. This approach carries the uncertainty that the contracts for one reason or another

might not be let. Nevertheless, based on this, it does say something about the price levels possible for LMD to contract.

Ideally it would be useful to link price variations with concrete initiatives in the procurement activities (input and process), such as advice on the development of the bidding document or evaluation process and outreach events such as bidder workshops etc. However, it is very difficult to establish direct causality as there are a number of factors which could have had an impact on prices obtained, some of which are exogenous, for example, the development of the global credit crunch and others which NHSSP 2 have limited ability to influence, for example, the political economy of the Ministry of Health and Population. Furthermore, there would need to be a comprehensive strategy of identifying and recording relevant data – the LMD is not yet at this level of sophistication in terms of data collection and analysis but this is certainly an area which the LMD should focus upon in the future.

Table 2: Price comparison of commodities

#	Commodity	Year	Unit Price NPR	Quantity	Year	Unit Price NPR	Quantity	Difference NPR	'Saving' for latest procurement*
1	AD Syringes 0.05 ml.	2010/11, NCB 2.2 (S)	4.47	1,000,000	2012/13, ICB 33 (M)	3.79	2,076,000	-0.68	1.411.680
2	Oral Contraceptive Pills	2010/11, ICB 1.1 (S)	18.37	7,200,000	2012/13, ICB 36.1 (M)	22.73	6,000,000	+4.36	-(26.160.000)*
3	ARI Sound Timer	2010/11, ICB 8 (S)	380.00	5,000	2011/12, ICB 19.1 (M)	465.00	9,600	+65.00	-(624.000)*
4	IUD	2011/12, NCB 23.1 (S)	27.99	45,000	2012/13, ICB 36.3 (M)	23.80	136,000	-4.19	569,840
5	Reconstruction Syringes 2 ml.	2010/11, ICB 2.3 (S)	3.50	300,000	2011/12, ICB 14.5 (S)	3.499416	250,000	0.00	0
6	Disposal Syringes with 21G Needle	2010/11, ICB 2.3 (S)	4.80	300,000	2011/12, ICB 14.6 (S)	3.559455	1,750,000	-1.24	2,170,000
7	Inj Tissue Culture Anti Rabies Vaccine	2010/11, ICB 2.3 (S)	244.43	300,000	2012/13, ICB 33.5 (M)	245.0295	900,000	+0.57	-(513,000)*
8	Japanese Encephalitis Vaccine 5 dose	2010/11, ICB 2.4 (S)	131.20	150,000	2012/13, ICB 33.9 (M)	169.3440	312,900	+38.144	-(11,935,257)*
9	Contraceptive Implants 5 year efficacy (sets)**	2010/11, ICB 2.2 (S)	USD 21.28	30,000	2012/13, DC 38	USD 9.026	15,000 set	USD -12.25	USD 183.810
10	Fortified Flour 0.5 kg.	2010/11, ICB 12.1 (S)	36.93	175,000	2011/12, ICB 17.1 (S)	41.93	389,985	+5.00	-(1,949,925)*
11	Fortified Flour 1 kg.	2010/11, ICB 12.1 (S)	66.63	315,260	2011/12, ICB 17.1 (S)	79.73	650,344	+13.10	-(8,519,506.4)*
12	Inj BCG Vaccine	2010/11, ICB 2.1 (S)	68.481	180,000	2011/12, ICB 14.7 (S)	88.0825	240,000	+19.60	-(4,704,360)*
13	Male Condom***	2010/11, ICB 2.1 (S)	USD 0.0297	62,000,000	2011/12, ICB 20 (S)	2.45552	105,930,000	-	-
14	Sulphamethoxazole 100 mg & Trimethoprim 20 mg. (dispersible tablets)	2010/11, ICB 11.13 (M)	0.43	30,000,000	2012/13, ICB 34 (M)	0.328375	82,000,000	-0.101625	8,333,250
15	Zinc Sulphate Dispersible Tablet 20 mg	2010/11, ICB 11.14 (M)	0.61	60,000,000	2012/13, ICB 34 (M)	2.40	80,000,000	+1.79	-(143,200,000)
16	Bandage 90 cm x 18 m	2011/12, ICB 16.1 (M)	377.85	179,000	2012/13, ICB 34 (M)	323	60,000	-54.85	3,291,000
17	Gauze 90 cm x 18 m	2011/12, ICB 16.1 (M)	304.30	179,000	2012/13, ICB 34 (M)	279	60,000	-25.3	1,518,000

(S) : Single year procurement ; (M): Multiyear procurement

* -(...) represents increased costs in the repeated purchase compared to the first procurement

** Not possible to compare the two prices in NPR, as the USD exchange rates are not known (date of actual payment)

***Not possible to compare the two prices, as the USD exchange rate for the first procurement is not known (date of actual payment). The saving in NPR will probably have been close to half of what it is in USD, due to the lower value of the NPR over this period of time.

For the repeat purchasing items, the price of eight of the commodities increased. Seven commodities were procured at lower prices in the repeat purchasing than when procured initially in FY 2010/11. Two items had a negligible price difference, one increasing by less than 0.5% and the other having a price difference of less than 0.001%. Table 3 provides an overview of the picture of the price development in percentage of the 17 commodities.

Table 3: Unit price increase/decrease in percentage

No.	Commodity	Unit price increase/decrease in percentage
1	AD Syringes 0.05 ml.	15% decrease
2	Oral Contraceptive Pills	24% increase
3	ARI Sound Timer	17% increase
4	IUD	15% decrease
5	Reconstruction Syringes 2 ml.	Negligible
6	Disposal Syringes with 21G Needle	26% decrease
7	Tissue Culture Anti Rabies Vaccine	Negligible
8	Japanese Encephalitis Vaccine 5 dose	29% increase
9	Contraceptive Implants 5 year efficacy (sets)**	58% decrease
10	Fortified Flour 0.5 kg.	14% increase
11	Fortified Flour 1 kg.	20% increase
12	BCG Vaccine	29% increase
13	Male Condom***	Unable to calculate
14	Sulphamethoxazole 100 mg & Trimethoprim 20 mg.	24% decrease
15	Zinc Sulphate Dispersible Tablet 20 mg	293% increase
16	Bandage 90 cm x 18 m	15% decrease
17	Gauze 90 cm x 18 m	8% decrease

We were unable to make a price comparison for male condoms. The male condoms were procured in USD and the actual payment date could not be retrieved from LMD records. In addition, as the USD-NPR exchange rate fluctuated heavily in 2010-12, when the payment took place, no figure is included in Table 2 or 3. However, if the exchange rate of USD to NPR of 1st September 2011 (72.45) was used, the unit price for the first procurement in Nepalese Rupees would be NPR 2.1517, which would mean a price increase of NPR 0.304 per unit and a total increase for the last procurement (105,930,000 condoms) of NPR 32,202,702. The price increase in this procurement would be only 14% which is less than what the inflation and increase in the USD exchange rate would suggest it to be for the period. Due to the retrospective analysis and inherent uncertainty associated with such an activity; the condom procurement is not included in the calculations.

Table 4 shows how the USD-NPR exchange rate fluctuated heavily in the bid submission period 1st January 2011 to 31 January 2013, which together with the unstable political situation in Nepal and the high rate of

inflation in Nepal are part of the explanations for increased prices in spite of at the same time increased competition and larger quantities procured.

Table 4: USD-NPR exchange rate

USD-NPR exchange rate fluctuation 1st January 2011 – 31 May 2013	NPR
Average for the period:	79.75
High for the period:	87.99
Low for the period:	69.57

Table 5: Inflation in Nepal's consumption prices

(Source: <http://www.indexmundi.com/g/q.aspx?c=np&v=71>)

	2009	2010	2011	2012
Inflation in consumer prices	13.2	8.6	9.1	8.5% est.

The definition of inflation rate (consumer prices): The annual percent change in consumer prices compared with the previous year's consumer prices.

For the eight commodities which obtained lower prices in the repeat purchasing, the price reduction for the seven commodities varied between 8% and 57.6%. The highest price reduction was for the procurement of Contraceptive Implants 5-year Efficacy (sets). This may be due to greater competition in the market. The second highest price reduction was found for Disposal Syringes with 21G Needles (25.8%), which could relate to the fact that the latest procurement was more than double the quantity of the first and demonstrates the potential benefits of bulk buying on contract prices.

For seven of the eight commodities, where the repeat purchasing resulted in higher prices (more than 0.5%), the increase varied from between 14% and 29%, while one commodity, Zinc Sulphate Dispersible Tablet 20 mg, experienced a price hike of 293% for the repeat purchase (three times the price for the procurement paid less than two years earlier). The reason for this last price hike is most likely that the Nepalese supplier for the second procurement added quite large costs/profit for handling the goods from custom to the delivery place. The ex-works unit price is NPR 0.24 and the Delivery Duty Unpaid price is NPR 2.40, which results in the price for handling such goods in Nepal being 10 times the import unit price.

The price for the Japanese Encephalitis (J.E.) Vaccine 5 dose increased 29% from first to second procurement. This price hike should be seen in the light of the decline of the NPR exchange rate against international currencies in the period 2010 to 2012, especially the United States Dollar (USD), as well as the fact that there are very few manufacturers of the J.E. Vaccine worldwide. Taking this into account, the 29% price hike indicates a more or less stable commodity price obtained during the second purchase. For

Fortified Flour, the repeat purchase price increased by 13.5% for the half kilo package and 19.7% for the one kg package. It would be a useful exercise for the LMD to investigate the reasons behind this difference. It has been documented clearly in recent years that crop prices for maize and other primary commodities have faced price spikes associated with various factors in the world economy.

Other explanations for price increases identified could be that LMD during the period raised the level of quality required. This happened through technical specifications needing to meet higher quality standards for e.g. Current Good Manufacturing Practice, Certificate of Pharmaceutical Products, Strategic Regulatory Authority, US Food and Drug Administration Regulations, International Organisation for Standardisation and CE qualifications. Such specifications were developed in accordance with a variety of core principles including appreciation of local Nepali context but also the need to drive up standards of pharmaceutical drugs, biomedical engineering equipment etc. purchased.

Finally, the Indian Rupee (INR) and therefore the NPR devalued approximately 25% during 2012 against USD. This development could have led to some contractors, taking precautions against future declines in the value of the NPR/INR, mitigating the foreign currency risk by increasing their prices. The inflation (consumer prices) was for Nepal in 2012 approximately 8.3%, and in 2011 approximately 9.1% (*source: <http://www.indexmundi.com>*).

Based on the data in LMD's Drug Database created in September 2012, price analyses were generated for the drugs procured more than once in the period 2011-2012. In most cases, the prices for the drugs were very close and the differences could be explained by differences in the required quantities. This pattern is not evident in Table 2's price comparison.

Taking from the outset the 16 products in Table 2 (i.e. not including male condoms, but including contraceptives with an exchange rate of USD 1= NPR 90), where price increases and savings have been identified, it can be said that the LMD has paid NPR 163,769,378 (price decrease: NPR 33,836,670, price increase: NPR 197,606,048) more in total for its latest procurement of the 16 commodities based on the unit cost comparison. However, this figure doesn't consider the high inflation rate in the period. As both the submission of bids and the payment (for the USD bids) have taken place all over the period from start of FY 2012/11 to end of FY 2012/13 and as LMD has not been able to provide the appropriate exchange rates, it is not possible to simply deduct the average inflation rate for the period to obtain a more correct picture of the price changes.

Based on the identified price increases and decreases in Table 2, it can be concluded that LMD, overall, pays more for some commodities than it did earlier, even when inflation and exchange rate fluctuation are taken into account. Whilst, procurement effectiveness has been improved, this will not necessarily be reflected in monetary savings if analysis is based on repeat purchasing. However, it can be seen from the procurement conducted over the last financial year 2012/13, that more Nepalese and international manufacturers now bid and it is not only general health suppliers ('middlemen'), and in many cases this has ensured lower prices. This could be taken as a sign of more professional bidding approaches such as improved bidding documents, more specific headings (accurate slicing of needs) in bids, uploading on DG market, and the LMD transparency through their website.

Example: In FY 2012/13, for the first time DoHS' Child Health Division decided to buy Micronutrient Powder (ICB 34.4). The price estimate from LMD was NPR 505,494,000. The bid prices are shown in Table 6, where the saving in procuring from the Manufacturer Piramal Enterprises Limited, India, compared to the price from the second and third lowest substantially responsive bidders and the remaining two bidders that were non-responsive in the evaluation.

All three manufacturers offered considerably lower prices than the two Nepalese health suppliers. The price difference between the lowest priced manufacturer (Piramal Enterprises Limited) and the two Nepalese Health suppliers are 42% and 35% (Hospitec Enterprises and Krishna International respectively). The percentages might not seem much of a difference, but in value the difference between Hospitec and Piramal amounts to NRP 99.7 million (USD 1,170,970 @ exchange rate 85.4, which was the rate used in the bid evaluation). The fact that LMD estimated more than 110% compared with the offer of Piramal might be explained by the tendency of primarily searching for national prices during the price estimation and thus including the 'mark up' from the middle men. This represents a potential area for improvement and should be a focus for the future.

Table 6: Price saving through more professional bidding procedures

Bidders name	Bid price DDU*	Price difference compared to LMD's estimate
Piramal Enterprises Limited, India (Manufacturer)	INR 149,153,641 (NPR 238,870,771)	NPR 266,623,229 (47% of the estimate)
Hospitec Enterprises, Nepal (Health Supplier)	USD 3,964,500 (NPR 338,572,570)	NPR 166,921,430 (67% of the estimate)
Renata Limited, Bangladesh (Manufacturer)	USD 3,237,500 (NPR 276,482,500)	NPR 229,011,500 (55% of the estimate)
Hexagon Nutrition Pvt , India (Manufacturer) Technically not compliant	INR 183,150,000 (NPR 293,314,725)	NPR 212,179,275 (58% of the estimate)
Krishna International, Nepal (Health Supplier) Insufficient production capacity	USD 3,774,000 (NPR 322,299,600)	NPR 183,194,400 (64% of the estimate)
*Bid opening prices. Due to an arithmetic mistake, Parimal Enterprises' evaluated price was INR759 more expensive than at price registered at the bid opening.		

Among the important changes in enticing more international bidders and more manufacturers is that in 2012/13 LMD changed from rather general headings for its slices (such as 'Health Equipment') to more precisely specifying the equipment, such as in the above mentioned ICB 34 that specifically cited 'Micronutrient Powder' in its heading and the fact that LMD now ensures that the bidding notices are uploaded to dgMarket, UNDB Online and LMD's home page. There is still, however, potential for improvements waiting to be implemented to ensure that a larger number of Nepalese and international manufacturers bid, where heading such as 'Surgical Instruments' and 'Medicines' and the 'bundling' of large numbers of dissimilar items into the same slice still means that manufacturers and international bidders might 'overlook' the possibility of bidding.

Finally, as prices generally fluctuate widely in health sector commodities worldwide, especially for drugs, it can be concluded that the price parameter alone can be problematic to use as an indicator in a VfM analysis. This exercise should be repeated in future years to ascertain longer term patterns.

7. Case study on quantifying the savings of the Technical Specification Bank

LMD developed from September to December 2012, a Technical Specification Bank which at the end of 2012 contained 400 technical specifications and which will have been doubled by end of June 2013 and is expected to contain more than 1,000 technical specification by the middle of 2015. The following is an attempt to quantify the time savings and the improved quality in implementing the Technical Specification Bank and to compare this saving with the cost of establishing and maintaining the Bank. The cost estimations for each group of DoHS and LMD staff members as well as external TA support are shown and explained in Annex 1.

6.1 Background for establishing a Technical Specification Bank

Traditionally in MoHP, the technical specifications have been developed by the requesting unit (the users of the equipment or representatives of these), then checked by and agreed with LMD's contract managers/procurement officers, and finally entered into the bidding document by the procurement section. This was in itself a time consuming process and as there were often disagreements on the technical specifications, it became a heavy burden for all involved parties.

The decision on developing a Technical Specification Bank was taken mainly based on the following findings:

- Requesting units used a long time to come up with often non-generic technical specifications, which were then followed by time-consuming discussions about these with the LMD's contract managers to obtain more generic specifications. This often delayed the procurement procedure seriously;
- The lack of technical detail or generic approach to specifications (dependent on item), meant that it was much harder to receive a No Objection letter from the World Bank who would instead ask for improvement of these specifications, which further delayed the procurement process;
- After the issuance of the bids, but before the submission, potential bidders often complained about the technical specifications. These complaints were time consuming to deal with and often involved correspondence with the Bank;
- Where LMD conducted Pre-Bidding workshops, there were times when LMD staff wanted to change specifications based on bidders' comments. These changes of specifications lead to discussions with the Bank and extensions of the bidding period hence slowing the procurement process;

- The lower ranking staff (in regions, districts and at hospitals: procurement staff) often used up valuable time discussing specifications with higher ranking medical experts and administrators, who had preference for non-generic specifications; and
- Further to this, it was observed that badly developed specifications were a huge part of the problem for LMD with bids ending up not having any qualified bidders, as well as bids where non-generic specifications lead to overpriced commodities.

6.2 Purpose of the Technical Specification Bank

The purpose of introducing the Technical Specification Bank was to:

- Save time for all involved in the procurement: from the requesting unit over LMD staff to the World Bank staff, whom provide a 'No Objection' to the launching of the bidding documents;
- To facilitate the bidding process and prevent it coming to a stop due to complaints by the bidders about technical specifications;
- To create transparency about what LMD procures;
- To assist the Regions, Districts, government hospitals and clinics in their procurement with the purpose of time saving and increase of quality of products; and
- Make the evaluation easier, as the specifications would have an identical structure; and
- With the specifications stored in a central place and not, as earlier, in different files and locations, would improve harmonisation across the LMD as well as knowledge collection and knowledge management.

6.3 Cost of developing the Technical Specification Bank

DFID had earlier assisted the Ministry of Health in India to develop a Technical Specification Bank, which are based on a range of single standing PDF documents at the website of the Ministry. Part of this assistance was done through Crown Agents. It was decided to use these specifications at the outset. DFID Kathmandu ensured through DFID India that this was acceptable to the Indian Ministry of Health. The specifications were, however, not part of a database but single documents, not structured in an identical manner, and in regard to the electric equipment not of high quality. Due to this, it was decided to employ three biomedical engineers (one regional and one national full time for a year and one regional short term for three months), to develop specifications based on the Indian input, ensure that they could have assistance for the quality assurance from an external international expert, and that a database was designed, put on the LMD website, and implemented by an external IT expert. NHSSP's two SPAs managed the process.

The estimated cost for development of the Technical Specification Bank is shown in Table 7 and the background data for the costs of each of the involved groups of staff/experts can be found in Appendix 1. The two full time Crown Agents biomedical engineers are estimated to have used half of their time for development of the Technical Specification Bank (120 days), while they have used the other half of their time on assisting LMD in other matters such as evaluation, employment of LMD's biomedical engineers, training, etc.

Table 7: Cost of implementing the Technical Specification Bank

#	Activity	Total Cost
1	<u>Preparation:</u> Discussions with LMD, development and editing of TOR, design, etc. involving a range of NHSSP consultants, LMD, CA and DFID staff (to obtain material from the Indian MoH's as Word Documents). Cost includes finding and contracting of biomedical engineers and international consultant.	GBP 12,800
2	Development of the IT solution (database and web-site)	GBP 3,600
3	Development of the technical specifications / Crown Agents	GBP 50,630
4	Development of the technical specifications / KfW	GBP 19,500
5	Development of two user manuals and policy/maintenance manual	GBP 1,080
6	First half year running and maintenance costs	GBP 2,700
	Total cost – Financial Year 2012/13	GBP 90,310
	Expected costs for running and maintenance for the FY 2014/15	GBP 12,420

The estimated costs of developing the Bank came to around GBP 90,310 with an estimated yearly cost of maintaining/running the Bank of GBP 12,420. The time spent utilising the Technical Specification Bank will be consistent over years to come as there will be new types/features of equipment/drugs requested and new types required of equipment/drugs on the market, which will leads to adjustments of existing and development of new specifications. However, it is expected that the need for international expertise will decline, and LMD staff will have full ownership and operate the bank.

6.4 The former process of developing and using technical specifications

No written procedures for development and use of the technical specifications before FY 2012/13 exists, however, traditionally the technical specifications were developed by the requesting unit (a division or a centre) and this was normally done by a lower ranking officer, who would either use an earlier used specification or through internet search would combine specifications on specific products into a more generic set of specifications.

Following this development, the specifications would be checked by relevant staff in the requesting unit and signed by the head of the unit. The specifications would then together with a request of quantity and

time for delivery go to LMD's contract management unit for checking and price estimation. Normally, this would be followed by a dialogue between the contract management officer(s) and the requesting unit and the final agreed technical specifications were given a final sign-off by the head of the unit.

After this, an IT officer among contract managers would retype the technical specifications into the required format and these would go to LMD's procurement section for inclusion in the final draft bidding document. This draft document would then go to LMD's Director and then the Director General of DoHS for approval and then finally to the World Bank for a No Objection. Bidding documents were frequently returned from all three steps with requests of changes to the technical specifications. During the bidding period, bidders would ask for clarification of the technical specifications, which then lead LMD to ask the World Bank to be allowed to change the specifications, often with an extension of the bidding period as a consequence.

6.5 The present process of using technical specifications

All bidding documents issued in the Financial Year 2012/13 are based on the technical specifications in the Technical Specification Bank. This was possible as no bidding documents for the FY 2012/13 were issued before February 2013, which allowed for the specifications to be developed as part of the Technical Specification Bank. Due to all specifications were also published on LMD's homepage (starting from 31 December 2012) before the bidding documents were issued, leading to a high level of increased transparency. Potential bidders were, through a conference in November 2012 and at the LMD web-site, encouraged to check the specifications and to react if they considered the specifications to have been made to favour special suppliers. By encouraging such 'up-front reaction', it is hoped that the clarifying effort will minimise delays during the tendering phase due to bidders complaining about specifications. The numerous complaints from bidders regarding technical specifications has been a serious time consuming task for LMD and has often led to delays in the tendering phase / procurement process.

The traditional process of development and approval of technical specifications have now been streamlined, so that from the outset the specifications are taken from the Technical Specification Bank. The head of the requesting unit is no longer required to sign these, just to state the quantity of each item required by referring to their unique number in the Technical Specification Bank and the date for optimal receipt of goods. Also, LMD's contract management unit is no longer involved in the process, as LMD's procurement section receives the specifications directly from LMD's biomedical engineers, who deliver the specifications in a word format fitted to go directly into the bidding document.

6.6 Value from the changed procedures and the Technical Specification Bank

The changed procedures have led to savings in both DoHS requesting units and LMD, to more professionally developed and structured technical specifications and to fewer complaints from bidders. Furthermore, in FY 2012/13 no submission date has been extended due to problems with technical specifications.

Statements from different parts of DoHS have confirmed that the specification bank will save time in the requesting units' procurement, increase the possibility for obtaining better (more standardised) quality, and doing so under a more transparent procurement procedure. Among those, who has stated so in public is the Director of the National Public Health Laboratory (NPHL), who in NHSSP's PULSE report on the Technical Specification Bank (June 2013) stated (quote): *'The databank is very useful as it will save us a lot of time by providing off-the-shelf standard specifications to procure the quality equipment. The specifications enable faster, more efficient and more transparent procurement'*.

It is not at present possible to measure whether the Technical Specification Bank has led to a higher quality of commodities, but it is suggested that a separate study is made to measure the Health Posts' level of satisfaction of the quality of the 10-15 most commonly used commodities. The STS 2012, in general, indicated strong dissatisfaction at Health Posts in relation to the quality of some of the health commodities (drugs as well as equipment) received, and the findings from this survey could provide the foundation for an in-depth study of changes following the introduction of the Specification Bank. As DoHS Divisions, Regional entities and District entities also procure for the Health Posts, it is not possible to state whether the dissatisfaction relates to LMD's products procured. However, the STS 2013 will go one step deeper by asking specifically about the products coursing problems.

6.7 Quantifying the value from the changed procedures and the Technical Specification Bank

There are complications in estimating how much time is saved through the use of different types of specifications with factors such as complexity, whether it is a first-time purchase or a repeat purchase and capability of staff all playing a role.

The approach chosen has been to divide all 220 types of commodities (from 12 individual ICBS/NCBs) in LMD's Consolidated Annual Procurement Plan (CAPP) for FY 2012/13 into three specification categories (Easy, Medium, Complex) depending on the expected time it would have taken a normal staff member in a user entity to develop it and how much time LMD's staff would have used for checking and approval. The cost calculations are based on the number and types of the commodities in the CAPP for FY 2012/13 and

associated salary costs of staff. Our methodology will compare costs with and without the Bank. The three categories and associated time spent are (also shown in Table 8):

1. Easy - (4 hours by the requesting unit, 4 hours in LMD, 1 hour in total by senior management level in requesting unit and LMD/DoHS, 1 hour of the SPA/KfW consultants, 15 minutes at senior management level in the World Bank)
2. Medium - (2 days by the requesting unit, 2 days in LMD, 2 hours in total by senior management level in requesting unit and LMD/DoHS, 2 hour of the SPA/KfW consultant, and half an hour at senior management level in the World Bank)
3. Complex - (3 days by the requesting unit, 3 days in LMD, 4 hours in total by senior management level in requesting unit and LMD/DoHS, 4 hours of the SPA/KfW consultant, 2 hours of short-term international assistance paid for by KfW and 30 minutes at senior management level in World Bank).
4. In recent years, KfW has used short-term international consultants for a total of 5 to 10 weeks per year to assist on the more complex technical specifications. As these consultants have also worked on other KfW projects, the number of days spent on technical specifications is uncertain, as no registration has taken place. A further KfW consultant has been involved in specification writing, but as this is not their primary task, they are not included in the calculations.

Table 8: Development costs of one specification

	Time used on one specification			Estimated Total Cost
	Easy	Average	Complex	Per Day*
Average time use of involved				
Requesting unit (mid-level officer) <i>7 hours a day</i>	4 hours	2 days	3 days	GBP 10
LMD (mid-level officer) <i>7 hours a day</i>	4 hours	2 days	3 days	GBP 10
Requesting unit director, (LMD director, DoHS' DG) <i>7 hours a day</i>	1 hour	2 hours	4 hours	GBP 16
International SPA + Nat. KfW consultants (in total) <i>8 hours a day</i>	1 hour	2 hours	4 hours	GBP 583
KfW's international short term consultants <i>8 hours a day</i>	-	1/2 hour	2 hours	GBP 650
World Bank <i>8 hours a day</i>	1/4 hour	1/2 hour	1/2 hours	GBP 350
Total cost:	GBP 98	GBP 253	GBP 463	-
*Estimated 20 working days per month, 8 hours working days				

The Tables 9a, 9b and 9c show the number of estimated specifications of the different types (easy, normal, complex) calculated with the estimated cost of developing and driving each specification through the process. They three tables illustrate three different assumptions.

Table 9a: Scenario 1, if the Technical Specification Bank had not been implemented

	Type of Specifications (complexity)	Number of specifications in FY 2012/13	Total cost involved
1	Easy specification (20%)	44 items	GBP 4,312
2	Average specification (60%)	132 items	GBP 33,396
3	Complex specification (20%)	44 items	GBP 20,372
	Total:		GBP 58,080

Table 9b: Scenario 2, if the Technical Specification Bank had not been implemented

	Type of Specifications (complexity)	Number of specifications in FY 2012/13	Total cost involved
1	Easy specification (30%)	66 items	GBP 6,468
2	Average specification (50%)	110 items	GBP 27,830
3	Complex specification (20%)	44 items	GBP 20,372
	Total:		GBP 54,670

Table 9c: Scenario 1, if the Technical Specification Bank had not been implemented

	Type of Specifications (complexity)	Number of specifications in FY 2012/13	Total cost involved
1	Easy specification (40% - 88 items)	88 items	GBP 8,624
2	Average specification (40%)	88 items	GBP 22,264
3	Complex specification (20%)	44 items	GBP 20,372
	Total:		GBP 51,260

Respectively for the three tables: 20%/30%/40% of the 220 technical specifications fall under the type 'easy to do' and 60%/50%/40% of the technical specifications fall under 'average, while 20% in all three cases fall under the category 'complex' type. It can be discussed, which is most correct. However, they give an idea that there is a great deal of time and money saved under all three types of estimates.

The estimated savings shown in the three tables indicate that had the specifications been developed in the traditional way for the FY 2012/13, the total cost would have amounted to between GBP 50,000 and GBP 60,000. It should be noted that savings from the specification bank would occur each year that the bank is operation, whereas the cost associated with producing the bank pertains to one year and then maintenance costs from that year onwards. This level of savings would occur every year as the DoHS Divisions and LMD seemed to start from scratch each year, and that there have been several examples on

specifications accepted by World Bank in one year, but not the following. This specification bank will mitigate against that risk.

Furthermore, value is achieved through a more efficient and quicker procurement process and higher quality goods being received as a consequence of professional specifications available. Using ICB 19 as an example, from October to December 2011, three requesting DoHS units and LMD staff worked on reaching an agreement on 29 specifications. The World Bank refusal to provide a no objection letter in response to the specifications submitted led to further discussions and effort through February to April 2012. The procurement process was heavily delayed and the final result was that a large part of the commodities were not procured.

The SPAs learnt that of the 29 specifications, 10 specifications caused disagreements and delays between the three requesting DoHS divisions: Child Health Division (CHD), FHD (Family Health Division) and National Public Health Laboratory (NPHL). The source of the disagreements were in part caused by specifications differing between divisions as some specifications were copied from branded items, often found on the internet. The problematic items included different types of refrigerators based on solar powered systems, walk-in-freezers and coolers units, resuscitator sets for children, tubular baby weighing scales and clean delivery kit sets.

Re-vamping the specifications for ICB 19 took a further two months and involved LMD's director, contract management officers and procurement officers, as well as the SPA consultants and two external Crown Agents consultants. The cost for the involved staff and consultants was at least GBP 10,000. Extra time was also spent by World Bank staff both when declining to provide a no objection and after the revision of the specifications. The cost estimation is based on discussions with the involved parties and observations made by the SPAs during the process of revamping the technical specifications.

The cost estimates for development of the Technical Specification Bank, for proceeding in accordance with old methodologies, and for the new methodology using the Bank are summarised in Table 10.

Table 10: Costs in original and new scenario with implementation of the Technical Specification Bank

Cost of producing specifications in accordance with old methods (in GBP):		
Costs – Easy (20%/60%/20%)	Costs – Medium (30%/50%/20%)	Costs – Complex (40%/40%/20%)
58,080	54,670	51,260
Cost of producing specification in accordance with Technical Specification Bank (in GBP):		

Developing the Bank (One-off)	Annual running of the Bank	Costs – Easy (20%/60%/20%)	Costs - Medium (30%/50%/20%)	Costs - Complex (40%/40%/20%)
90,310	12,420	45,660	42,250	38,840

The figures in Table 10 have been used to estimate the financial gains obtained from having the Technical Specification Bank in comparison with the previous methodology (the three scenarios presented in the Tables 9a, 9b and 9c) are being discounted for a period of ten years back to 2012/13, which are considered 'present values' (PV)¹ in the context of this analysis. The savings easily outweigh the initial investment, regardless of the complexity of specifications (easy, medium and complex) generating an overall internal rate of return of 103%, 83.3% and 67%² respectively.

Table 11: Total savings over 10 years using the Technical Specification Bank (discounted into 2012/13)

Complexity of specifications – Easy/Medium/Complex	Saving over the 10 years
(20%/60%/20%)	GBP 405,447
(30%/50%/20%)	GBP 376,095
(40%/40%/20%)	GBP 346,743

Table 11 shows that the total saving by introducing the Technical Specification Bank (and its running costs) over the ten year period FY 2012/13 to FY 2021/2022 compared to the three scenarios using previous methodologies. The savings denoted as present value (PV) are: GBP 405,447; GBP 376,095; GBP 346,743 respectively. These are only indicative figures and will be affected by variables such as exchange rates, salary negotiations, inflation rates and other factors. However, the figures provide a clear indication of VfM achieved through the introduction of the specification bank and points out that a firm commitment to adapt to the new methodology and the new specification bank, with full integrity and transparency, will provide significant savings for the MoHP.

¹ Using a discount rate of 3.5%. The rate of return is the breakeven point at which the net present value of the project falls to zero.

² The estimates of internal rates of return should be regarded and used with caution, since in each case study not all costs or benefits have been identified.

8. Case study on quantifying the savings of improving the bid opening session

Part of the SPAs support to LMD has been to advise on improved procurement and work flow procedures, for example the issuing, submission and opening of bids. Despite limited records of staff time recording before and after TA activities, the following case study attempts to clarify LMD's time saving obtained from the new procedures using a retrospective approach. The main benefit of these new procedures is transparency and accountability.

Situation found on mobilisation of the project concerning the selling of bidding documents and receipt of bids

At the start of the SPAs' support to LMD, bids were being sold and collected at both the MoHP and LMD. This practice was both inefficient and open to abuse and corrupt practice. At MoHP, it was being conducted without third party independent supervision whereas, at LMD, the SPAs were supervising both processes. On hearing of this practice, SPAs immediately stopped it. At this late stage, it is not possible accurately to quantify what savings may or may not have been achieved. However, it is fair to say that, dealing with two separate loci both for selling bidding documents and receiving bids would have involved a duplication of staff effort in each place to administer the scheme. Since then, bids have only been available for sale and have only been received at a single place – LMD.

Improvements to bid opening procedures

At the start of the project, the bid opening procedures contained a number of elements that were either time consuming or unnecessary. Excel electronic bid opening templates have been designed and a projector has been taken into use to project the data on to the wall as they are read out. This allows all the bidders present to check the data as they are entered and to comment if typing mistakes are noted. The previous practice of each bidder checking and signing each bid as evidence of sealing and the reading out of unit prices has ceased. The estimated time used for developing and implementation of the electronic bid opening template for the international SPA consultant is one hour. Using the cost for the different groups of staff/consultants in the Annex 1, this implies a cost of GBP 540/8 (GBP 540 is the cost for 8 hours work).

The net result of all these changes, (whilst continuing to abide by the World Bank Guidelines) has resulted in the saving of approximately 50% per slice per bid of the time that previously had been taken (eight minutes and four minutes respectively). Furthermore, there is a requirement to issue the Bidders and the Bank with Bid Opening Minutes. This was previously achieved manually with Bidders having to return to

LMD to collect the minutes. Under the new procedures, the minutes are printed immediately following the end of the bid openings and are handed to the Bidders before they leave the premises. These efficiency measures were introduced for the 2012-2013 FY and have been running since. Table 12 below attempts to estimate the cost-saving since the introduction of these efficiency measures, and the table includes the costs of the SPA to develop and implement the opening template (GBP £67.50).

Table 12: Time saved due solely to the introduction of more efficient techniques for bid openings

	Cost (GBP) per minute (1 min)	Cost per bid (GBP)		All ICBs since change instituted		
		Before change (8 mins)	After change (4 mins)	Saving per bid (GBP)	Number of bids since change	Total estimated savings since change (GBP)
Finance unit (1 person)	0.0238	0.1904	0.0952	0.0952	292	27,80
LMD mid-level (4 persons)	0.0952	0.762	0.381	0.381	292	111,25
LMD director (1 person)	0.0381	0,3048	0.1524	0.1524	292	44,50
Int SPA + national KfW consult (2 persons)	1.215	9,720	4,860	4,860	292	1,419.12
Total cost:	1.372	10.977	5.488	5.488	292	1,602.67
Notes:						
<ul style="list-style-type: none"> • Calculations based on that one day has 420 minutes (7 hours) for national staff, 480 minutes (8 hours) for international staff • The calculations are based on the cost estimates in Appendix 1 • SPA's input – negligible – perhaps 30 minutes total for all interventions • This takes no account of (any) time saved for NCBs. The LMD only uses this system for NCBs when one SPA is present to demand it. 						

As Table 12 shows, the main saving in regard to money comes from the time saving for the two consultants. The main benefit from introducing the new procedures is the transparency and accuracy these procedures have created for LMD and for the supplier.

Based on the assumption that savings will be the same for financial years 2013/14 and 2014/15, Table 13 shows the total saving over the three years discounted to 2012/13 PV value (where the discount rate is 3.5%). The period 2012-15 is chosen, as NHSSP is extended to the end of 2015. The total PV of the three year's saving will be GBP 4,581. This is only an indicative figure; the figures will be affected by the weaker NPR exchange rate to GBP experienced in the first part of 2013 and the strong salary hike for government

staff in same period. The development of these two variables for 2014/15 and the inflation rate for the period 2013-2015 are unknown.

Table 13: Discounted savings (GBP)

Year	2012/13	2013/14	2014/15	Total Sum
Cost	67.50	0	0	67.50
Savings	1,603	1,603	1,603	4,809
Net Present Value	1,536	1,603	1,603	4,742
Net Present Value Discounted Annually	1,603	1,549	1,496	4,581
Savings Discounted Annually	1,603	1,549	1,496	4,648
Discount rate	1.035	1.035	1.071225	1.10871788

9. Suggested VfM activities to focus on for NHSSP Phase 2

As the second phase of the NHSP-2 has still not been agreed with DFID, the key activities listed in Table 12 are only proposed activities and the suggested VfM gains are subject to change.

Table 14. Suggested activities and baselines to measure Value for Money on for Phase 2

Economy		Efficiency	Effectiveness	
<i>Input</i>	<i>Process</i>	<i>Output</i>	<i>Outcome</i>	<i>Impact</i>
One international TA providing assistance for executive procurement	<ul style="list-style-type: none"> Assisting in the daily procurement activities, including on the job training 	<ul style="list-style-type: none"> Higher number of NOLs from the World Bank (WB) at first submissions, for both post-reviewing and evaluation reports. 	<ul style="list-style-type: none"> From FY 2012/13, the number of NOLs from WB at first time submission increases by 10% in FY 2013/14 and a further 10% in FY 2014/15. 	The procurement process will be more efficient with evaluations completed within the validity periods, therefore the need to ask for extensions to bid securities will decline and LMD staff (and TA) will spend less time corresponding with WB and reworking documents.
		<ul style="list-style-type: none"> 50% of the work on developing the bidding documents for goods and non-consultancy services will be undertaken by LMD's staff 	<ul style="list-style-type: none"> FY 2013/14, LMD's staff will draft 50% of all bidding documents receiving technical advice and quality assurance input only This figure will increase to 100% in FY 2014/15. 	By the end FY 2014/15 be develop all bidding documents with a quality assurance system in place. No need for a full time TA to assist.
		<ul style="list-style-type: none"> Based on the frequent problems found in the LMD developed bidding documents, a check list has been developed and LMD staff use this. 	<ul style="list-style-type: none"> In FY 2014/15, the mistakes found in bidding documents developed by LMD's staff will decrease by 50% against FY 2013/14. 	LMD 's procurement staff will be able to find most of their own mistakes before the bidding documents go for Q/A, which will save LMD's quality assurance staff time and diminish the requirement for external quality assurance, including the assistance from the WB.
One international TA providing assistance for development of the CAPP	<ul style="list-style-type: none"> LMD staff will continue to be advised in the process of preparing the CAPP and in addition how to use the plan as a working and monitoring document during the financial year. 	<ul style="list-style-type: none"> A first draft ready two months after LMD has started the process. A final draft ready and agreed three months after start Conduct at least one training session for LMD in how to use and adjust the CAPP during the financial year. 	<ul style="list-style-type: none"> In FY 2013/14, the CAPP is adjusted 5 times before receiving acceptance (NOL) from the WB In FY 2014/15, the CAPP is adjusted 3 times before receiving acceptance (NOL) from the WB 	A CAPP finalised and approved before the start of the new Financial Year.
Better prices for drugs and health sector commodities	<ul style="list-style-type: none"> Select 50 commodities, of which 10 should be drugs/vaccines 	<ul style="list-style-type: none"> Generate reports showing development in the prices paid in FY 2012/14, FY 2013/14 and FY 2014/15 for these 50 commodities and compare the price development with the inflation in the same period. 	<ul style="list-style-type: none"> An estimate of how much has been saved by LMD through adopting more open tendering procedure each year 	<ul style="list-style-type: none"> An eye opener for the LMD staff on the saving potential of using open tendering.

Economy		Efficiency	Effectiveness	
<i>Input</i>	<i>Process</i>	<i>Output</i>	<i>Outcome</i>	<i>Impact</i>
Technical Specification Bank	<ul style="list-style-type: none"> Continue to developed/improve the technical specifications for the Technical Specification Bank. 	<ul style="list-style-type: none"> Reduce time used drafting and quality assuring the technical specifications for the procurement staff in LMD and other parts of the Ministry of Health. Ensure up-to date technical specifications 	<ul style="list-style-type: none"> In FY 2013/14 develop and include further 100 technical specifications in the Bank, so that it contains at least 900 specifications at the end of the FY. In FY 2014/15 develop and include further 100 technical specifications in the Bank, so that it contains at least 1000 specifications at the end of the FY. 	<ul style="list-style-type: none"> Better drugs and equipment to the end-users.
	<ul style="list-style-type: none"> Build capacity of LMD's Biomedical Engineers 	<ul style="list-style-type: none"> To ensure that LMD's Biomedical Engineers can take over the maintenance of the Specification Bank after that NHSP-2 ends. A training manual and a set of guidelines developed for the biomedical engineer staff in LMD Biomedical engineer staff in LMD trained 	<ul style="list-style-type: none"> LMD's Biomedical Engineers participate in the drafting and maintenance of at least 50 technical specifications in FY 2013/14 and FY 2014/15 respectively. 	<ul style="list-style-type: none"> By the end of FY 2014/15 LMD's Biomedical Engineers will be able to maintain the Technical Specification Bank.
	<ul style="list-style-type: none"> Establish informal, advisory focus groups for each area of technical specifications 	<ul style="list-style-type: none"> To ensure that the Technical Specifications are up-to-date and generally accepted in the Health Sector of LMD. 	<ul style="list-style-type: none"> For FY 2013/14 ensure that at least three such working groups are up and running For FY 2014/15 ensure that at least five such working groups are up and running 	<ul style="list-style-type: none"> Ensure continuation of a high profiled Technical Specification Bank.

10. Conclusion

The objective for this report was to examine the VfM for some of the NHSSP activities conducted as support to LMD over the last three years and to point to how the programme's next phase can adapt some of its activities to the VfM concept. The paper demonstrates the difficulty in quantitatively measuring VfM retrospectively, but still conducted both quantitative and qualitative analyses to demonstrate savings achieved through NHSSP initiatives, mainly its TA support, for LMD in terms of the efficiency, effectiveness and equity of these activities on LMD's work.

The paper uses DFID's four E's VfM framework. It is, however, important to note that there are limitations to the VfM analysis for example, it does not measure in monetary terms the improvements in accountability, transparency, capacity of staff etc. which have been key objectives and achieved significant improvements through NHSSP.

In terms of quantitative analysis, the paper looks into the prices and quantities for the 13 commodities procured in the FY 2012/11 and where repeat purchasing was conducted in the period from FY 2011/12 to FY 2012/13. For some of the commodities, there have been financial savings, but not for others. In both cases, possible explanations are put forward whilst acknowledging at the same time the uncertainty in ascribing causality for the price differences. The paper suggests avoiding using obtained prices as an input for VfM analyses as a sole indicator, with the clear example being that better quality medicine received will likely also be accompanied by greater cost.

For the introduction of the Technical Specification Bank with 800+ specifications, report estimates that for a ten year period, the total savings, will come to between GBP 346,743 and GBP 405,447 (2012/13 figures) but under a range of assumptions that are mentioned.

For the improvements of the Bid Opening Session procedures, the study considered it only for a two year period, as the sustainability of the changes after the NHSSP's finalisation is doubtful. Still, the report estimates the total saving for the period 2012/13 to 2014/15 to be GBP 4,581.

It will be very important to implement monitoring and evaluation activities at the start of the extension period to obtain the necessary baselines which will provide improved data and strengthen the analysis.

Annex 1

Estimated cost for different staff groups and consultants

The following table provides an overview of the basis for the cost estimates used for calculations of different activities used in this report.

These are estimated costs.

Estimated averages salaries (including the allowance for int. consultants)	Basis for calculation	Cost Per Day*
Senior finance/procurement officer in LMD (mid-level) and senior staff in the DoHS divisions	<p>A total of 223 working days are used based on:</p> <ul style="list-style-type: none"> • 6 days weeks • 7 hours for each working day. This is not fully correct, as the working day varies between 6 and 7 hours (winter/summer), but it can be defended as many staff members are working more hours a day in periods. • 48 days government holidays • 17 days of festival (varies depending on group in society) • 24 days of annual leave <p>Estimated average annual salary for senior staff member Rs300,000, leading to a daily salary of: Rs1,345 (equals GBP10)</p>	GBP 10
Director General of DoHS, LMD director and directors in requesting divisions.	<p>A total of 223 working days are used based on:</p> <ul style="list-style-type: none"> • 6 days weeks • 8 hours for each working days. This is not correct, as the working day varies between 6 and 7 hours, but it can be defended as many staff members are working more hours a day in periods. • 48 days government holidays annually • 17 days of festival (varies depending on group in society) • 24 days of annual leave 	GBP 16

	Estimated average annual salary for public sector directors in an organization such as DoHS: Rs480,000, leading to a daily salary of: Rs 2,152 (equals GBP 16)	
National IT consultant	Daily fee rate	GBP 120
Crown Agent International short term consultant two weeks from UK to assist on the technical specifications	A total of 10 days input, economy class	GBP 743
One regional and one Nepali national Crown Agents Biomedical Engineers	Daily rate based on 20 working days a month (after official holidays and annual leave). The fee rate is for the two BEs as they work together.	GBP 360
Crown Agents International SPAs	Daily rate based on 20 working days a month (after official holidays and annual leave)	GBP 540
Crown Agents international SPA (and one national KfW consultant. Working together on the technical specifications as one.	The two consultants are working closely together on integrating the specifications into the bidding documents, and the cost is therefore reflecting the cost for the two under one. Daily cost for the SPA is calculated as above, while for calculation for the national KfW is based on 24 working days.	GBP 583
KfW's two main international short term consultants for specifications (estimated fee, travel and allowances)	Daily fee rate and allowances plus travel costs – in average for the two consultants.	GBP 650
World Bank staff on average (national/international)	This is an estimate.	GBP 350

Annex 2

Estimated cost savings for introduction of the Technical specification Bank

These tables show the discounted savings on the cost side through the establishment (also known as revised methodology) and running costs of the Bank and the savings from no longer taking the original/traditional approach of re-inventing the specifications each year. The three tables represent the three scenarios for specification complexity.

Table 1: Scenario 1 (low complexity: 20%/mid-level complexity 60%/high complexity 20%) of technical specifications (GBP)

Year	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Cost	90,310	12,420	12,420	12,420	12,420	12,420	12,420	12,420	12,420	12,420
Savings	58,080	45,660	45,660	45,660	45,660	45,660	45,660	45,660	45,660	45,660
Net Value	-32,230	33,240								
Net Value Discounted Annual	-32,230	32,116	31,030	29,981	28,967	27,987	27,041	26,126	25,243	24,389
Net Value Discounted Sum	220,649									
Savings Discounted Annual	58,080	44,116	42,624	41,183	39,790	38,444	37,144	35,888	34,675	33,502
Savings Discounted Sum	405,447									
Discount rate	1.035	1.035	1.071225	1.10871788	1.147523	1.18768631	1.22925533	1.27227926	1.31680904	1.36289735

Table 2: Scenario 2 (low complexity: 30%/mid-level complexity 50%/high complexity 20%) of technical specifications (GBP)

Year	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Cost	90,310	12,420	12,420	12,420	12,420	12,420	12,420	12,420	12,420	12,420
Savings	54,670	42,250	42,250	42,250	42,250	42,250	42,250	42,250	42,250	42,250
Net Value	-35,640	29,830								
Net Value Discounted Annual	-35,640	28,821	27,847	26,905	25,995	25,116	24,267	23,446	22,653	21,887
Net Value Discounted Sum	191,297									
Savings Discounted Annual	54,670	40,821	39,441	38,107	36,818	35,573	34,370	33,208	32,085	31,000
Savings Discounted Sum	376,095									
Discount rate	1.035	1.035	1.071225	1.10871788	1.147523	1.18768631	1.22925533	1.27227926	1.31680904	1.36289735

Table 3: Scenario 3 (low complexity: 40%/mid-level complexity 40%/high complexity 20%) of technical specifications (GBP)

Year	2012/13	2013/14	2014/15	2015/16	2016/17	2017/18	2018/19	2019/20	2020/21	2021/22
Cost	90,310	12,420	12,420	12,420	12,420	12,420	12,420	12,420	12,420	12,420
Savings	51,260	38,840	38,840	38,840	38,840	38,840	38,840	38,840	38,840	38,840
Net Value	-39,050	26,420								
Net Value Discounted Annual	-39,050	25,527	24,663	23,829	23,024	22,245	21,493	20,766	20,064	19,385
Net Value Discounted Sum	161,945									
Savings Discounted Annual	51,260	37,527	36,258	35,031	33,847	32,702	31,596	30,528	29,496	28,498
Savings Discounted Sum	346,743									
Discount rate	1.035	1.035	1.071225	1.10871788	1.147523	1.18768631	1.22925533	1.27227926	1.31680904	1.36289735