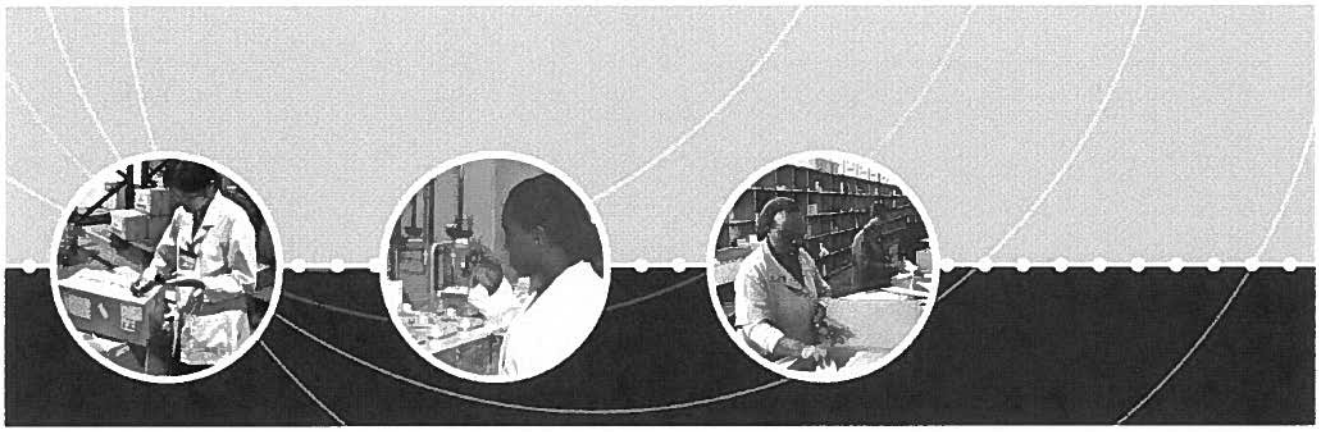

Contract Completion Report –

Task Orders 1 & 2

The contractor's final completion report as required under Section F4d of USAID Contract No: GPO-1-OO-05-00032, Task Order 001 dated September 29, 2005 and Task Order 002 dated April 2, 2007

December 31, 2009

SCMS

Providing quality medicines for people living with and affected by HIV and AIDS

PEPFAR
Implementing Partner

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Task Order 1

Objectives

Overall Objective: ***Establish and operate a safe, secure, reliable, and sustainable supply chain to procure and distribute pharmaceuticals and other commodities needed to provide care and treatment of persons with HIV/AIDS and related infections.***

The following separate objectives address each SCMS component:

- Develop and maintain a robust **program management** capability to ensure the effective and efficient delivery of contract services and the achievement of performance standards contained in the contract.
- Develop and maintain a **competitive and transparent capability to procure required commodities** that:
  - Fully complies with all applicable USG contracting laws and regulations
  - Leverages volume purchasing to achieve significant reductions in the current costs of supplies
  - Achieves the lowest prevailing price worldwide.
- Establish and maintain a **quality assurance** (QA) program to obtain and manage the required documentation, and verify that supplies meet contractual and product specifications.
- Provide **freight forwarding and warehousing services** that promote the efficient and secure delivery of procured supplies.
- Establish **in-country support teams** to assist field programs in estimating and securing their supply needs, in ensuring the delivery of commodities to service sites, and in creating needed in-country expertise in supply chain management.
- Develop a comprehensive **Management Information System** to provide current information about all aspects of the HIV/AIDS supply chain.

Each of these sub-objectives is reported on in the following sections of this document.

Program Management

The SCMS contract stipulated the following specific tasks in relation to Program Management

A. Develop a timeline for the completion of all major tasks.
B. Develop procedures to monitor system operations to ensure tasks are completed on time and identify current or foreseeable problems.
C. Provide regular reports (at intervals and with reporting requirements to be specified) to the USG on progress toward implementation of the program's goals.
D. Develop a system of monitoring and exception reporting on supply chain performance that provides the USG with early warning of implementation problems. Special, constant attention should be given to any instances of product stock-out or loss due to theft, diversion, deterioration, or expiration.
E. Develop and implement solutions to problems and propose modifications of procedures to take advantage of lessons learned.
F. Monitor local policies/guidelines and assist programs in making necessary adjustments to program implementation practices.
G. Identify and resolve product shortages and provide advice and guidance to the USG on priorities for the use of available supplies when product shortages occur. Identify any problems of theft, deterioration, or other diversion of field supplies; indicate appropriate corrective measures; and assist in their execution, including the proper disposal of unusable supplies.
H. Conduct quarterly reviews of system implementation, unresolved problems, and foreseeable needs for near-term change, and consult and collaborate with USG to design and implement needed corrective actions. Conduct comprehensive annual reviews of the performance of each of the overall components.
I. In the event that useable commodities are donated and approved by the CTO for use within programs supported by the USG, advise the USG on the best use(s) for these products, and ensure their receipt and use is entered into the MIS to ensure comprehensive system accounting for resources.
J. Assist the USG's efforts to coordinate HIV/AIDS prevention, care, and treatment activities and collaboration among bilateral donors, multilateral donors, foundations, and other donor entities.
K. Collaborate with other USG implementation partners and contractors in support of the achievement of broader USG health and development objectives.
L. Assist the USG in other related ad hoc tasks up to 10 percent of the total time available under the contract.
M. Interface, as requested by the USG, with international organizations, nongovernmental organizations (NGOs), and academic organizations on supply chain issues and provide additional supply chain management services as tasked by in-country programs.
N. Provide technical training to local staff in supply management skills, as tasked by in-country programs.
O. Review the tariff and regulatory barriers in each country to importation of the needed commodities, call these problems to the attention of appropriate local and USG officials, and assist in devising solutions for these barriers.

P. Identify supply needs that are currently met from local or other sources, and estimate the feasibility and benefit/losses that would result from shifting those procurements to this USG central system.

Q. Prepare analyses of the situations that may require return of items after shipment to SCMS clients, including defective, excess, or other causes, and plan for an efficient process of verification, authorization, recovery, and disposition of items for replacement or credit to clients.

Immediately upon contract award for Task Order 1, PFSCM established a small management team of the Contract Key Personnel and others drawn from MSH and JSI and established an interim Project Management Office in the Ballston Offices of MSH.

From October to December 2005 PFSCM rapidly augmented this initial management team with expert staff from the SCMS consortium member organizations to implement the project. During this period the team agreed on the project structure, mapped out the detailed approach to establish a secure, reliable and cost-effective supply chain and agreed on the necessary forms, contractual documents and operational processes to deliver the detailed requirements of the project. PFSCM then formally launched SCMS on January 17, 2006.

The Project Management Office, led by a management team of the key contract staff, was structured in the following units:

- Procurement (Proc)
- Freight and Logistics (F&L)
- Quality Assurance (QA)
- In-country Operations Management (ICOM)
- Management Information Systems (MIS)
- Operations (Ops)
- Communications (Comm)
- Performance Management Unit (PMU)
- Global Partnerships

These units have stayed in place throughout the period of delivery of Task Order 1, although staff numbers have varied according to need. Procurement in particular has grown as demand for services increased. ICOM grew as field offices opened, but began to decline towards the end of the Task Order after delegation of more responsibility to the field. MIS also grew during initial development and configuration of the SCMS Enterprise Resource Planning system (ERP) and began to decline towards the end of the Task Order after implementation of major systems.

On January 18, 2006, immediately after the official launch of the project, SCMS invited prospective vendors to a supplier information meeting to officially launch the procurement process, identify key suppliers and to inform potential vendors of SCMS processes. SCMS has sought to continue to keep key vendors informed of procurement requirements resulting from SCMS forecasts and supply

plans. ARV vendors receive quarterly updates of forecast requirements and semi-annual reports of actual volumes purchased.

A key deliverable of the SCMS contract was to reduce the incidence of ARV stock out in programs supported by PEPFAR. SCMS established emergency processes to handle urgent requests and has been successful in virtually eliminating stocks of ARVs and rapid test kits in programs supported by SCMS. Using buffer stocks held in SCMS regional distribution centers (RDCs) the project has responded to numerous requests from other programs and donors facing imminent stock outs.

Building on the process mapping work described earlier, the project management team developed standard operating procedures (SOPs) and work instructions to describe and manage the key activities of the global supply chain, financial operations and the operation of SCMS field offices. This suit of SOPs has continued to grow and be refined over the course of the project and now comprises some 28 policies and 124 SOPs covering all aspects of the project.

The project has agreed to annual work plans with USAID, and from early in the project the PMU has established a robust suite of performance measures and indicators drawn from public and private best practice in the management of international supply chains. Each month the management team receives a comprehensive suite of data on procurement volume and value; key performance metrics such as timely delivery, vendor performance, quality assurance; and the range of short-term technical assistance assignments. This report allows the project to identify performance shortcomings, risks and potential performance improvement measures. In late 2007 and into 2008/9, as the project reached the scale envisaged by USAID, we identified areas where performance did not meet the designed standards. To meet this challenge the project established a continuous improvement program. Under this program various processes were refined and changes designed to the SCMS ERP system to overcome the barriers identified and fulfill performance gaps. The greatest challenge was timely delivery of laboratory supplies due to the rapid growth in both volume and number of items requested that were significantly above that expected. After 12 months of intense activity performance improved in early 2009.

SCMS also introduced a twice-yearly surveys in October 2006 to assess client satisfaction with our service. These surveys have shown growing satisfaction, particularly in initial contact, understanding of clients' needs and technical assistance results. The lowest level of satisfaction has been with timely delivery largely as a result of the problems mentioned above. The client survey is a valuable tool in confirming the project's own understanding of performance and in directing our efforts to the issues most relevant to clients.

The project management team sends regular monthly progress reports to the USAID COTR Team and financial reports for the CO. To support relationships with the wider PEPFAR community, including OGAC, SCMS distributes a monthly performance report to key personnel in OGAC, CDC, HSS and USAID.

SCMS has regularly shared with the COTR team more detailed reports on supply chain performance and summaries of the client survey (mentioned above) as a record of internal measurement and external perceptions of SCMS performance.

At the request of OGAC, the project has conducted an annual survey of ARV deliveries to PEPFAR-supported projects; this survey supports PEPFAR-mandated reports to Congress. In addition to meeting the Congressional requirement this survey has provided valuable data on ARV prices and trends in ARV purchases, including opportunities for savings across PEPFAR programs.

By the end of Year One of the project (September 30, 2006) SCMS had visited all 15 PEPFAR focus countries plus Zimbabwe, usually accompanied by members of the SCMS USAID team. As of September 30, 2006 SCMS had established 12 of 15 requested field offices. (Kenya was not included in the original request.) The remaining offices opened early in Year Two, and a Kenya office opened in July 2008 to support major procurements of laboratory equipment and rapid test kits.

Since early 2006 SCMS has cultivated enduring relationships with the many other organizations involved in the fight against HIV/AIDS, establishing strong reciprocal working relationships with all other major organizations, including the Clinton Foundation, DFID, the Global Fund to Fight AIDS, TB and Malaria, UNAIDS, WHO, the World Bank, and (later) UNITAID. SCMS has attended and contributed to the WHO/UNAIDS annual joint consultation with ARV manufacturers in 2006, 2007 and 2008. We are also active members of the WHO AIDS Medicines and Diagnostics Network, presenting at their meeting and contributing tools and best practice case studies.

The relationship with the Clinton HIV/AIDS Initiative (CHAI) is particularly strong. We have signed a confidentiality agreement with CHAI that enables the exchange of pricing and supply information, and we have worked with them on pertinent subjects, including market trends, pricing, new ARVs, forecasting and laboratory logistics.

To build relationships with faith-based organizations we established a task force arrangement with the Ecumenical Pharmaceutical Network (EPN) to attend their meetings and have undertaken appropriate joint activities with EPN members. In Zambia SCMS worked with the Churches Health Association of Zambia (CHAZ) to broker relationships with the government and the Global Fund to facilitate grants from the Fund. In Uganda SCMS has worked with the Joint Medical Stores (an EPN member) to improve warehouse practice and performance, including the installation of a new warehouse management system that has significantly improved the efficiency of their operation.

In 2007 the Global Fund commissioned SCMS to study the potential for the Fund to establish a centralized procurement mechanism. This report, which was funded by USAID through SCMS, led directly to the creation and launch in 2009 of the Global Fund's Voluntary Pooled Procurement (VPP) mechanism.

To support the USG's efforts to coordinate HIV/AIDS prevention, care and treatment activities with other major actors, SCMS has attended and presented at major international conferences and established a portfolio of regular communications and technical briefs on supply chain issues.

SCMS has attended and presented at each of the PEPFAR Implementers' Conferences in 2007, 2008 and 2009. We have attended the annual Global Health Conference in Washington DC each year and made oral and poster presentations in 2009. We attended the International AIDS Conference in Toronto in 2006 and in Mexico City in 2008. In Mexico City we made a joint poster presentation with CHAI, and spoke on supply chain and QA challenges at a satellite meeting

organized by WHO, at the invitation of the Essential Medicines Department. The number and range of abstracts submitted to conferences is growing as the project matures and we have more demonstrable results and best practices to share. With the support of Comm, SCMS field offices have submitted the majority of abstracts to share local achievements and best practices. For a full list of presentations to major conferences see Appendix A.

Major regular communications include *Supply Lines*, a quarterly e-newsletter—started as *SCMS Update* in November 2006—and now distributed to over 2,000 recipients and *SCMS Links*, an e-newsletter distributed to all staff and key contacts in USAID every two weeks. These regular publications have been augmented by SCMS introductory brochure (available in English and French), technical briefs, SCMS Three Years of Saving Lives Through Stronger Supply Chains (See Appendix B.), and In Briefs describing specific issues. See Appendix C for a full list of SCMS publications.

Independent journals or reporters featured SCMS on three occasions: in December 2006 by InterAction's Monday developments; in May 2007 by the Global Health Newsletter (included four stories on SCMS in an issue devoted to supply chains); and in December 2008 by Public Radio International's "The World" in a feature story on the SCMS supply chain from a generic ARV supplier in India to a patient in rural Côte d'Ivoire. SCMS provided wide ranging support to Public Radio International story from the PMO and the field.

Procurement

The contract stipulates that overall the Contractor will be responsible for the solicitation, evaluation, negotiation, award, management, and administration of supply contracts, under USAID guidance and in compliance with USG contracting rules, in support of the President's Plan. Tasks include, but are not limited to, the following:

1. Develop forms, procedures and web-based systems for field programs to order through the SCM mechanism.
2. Work with in-country teams to assemble global forecasts of SCMS procurement needs for upcoming 12 months.
3. Identify supply sources meeting USG criteria and local registration requirements for the projected products and quantities. While compliance with local registration requirements remains the responsibility of the proposed suppliers, this contractor may be called upon to facilitate the registration process.
4. Identify the prices at which the Contractor can secure desired quantities of these products as well as projected delivery schedules. This may include price comparisons with the Veterans Administration or other USG agencies, Federal Supply Schedule, and/or the use of other purchasing agents. Responsiveness to program needs, product quality, safety, effectiveness and price will be the major factors in determining eligible vendors.
5. Secure competitive bids for procurement needs through open international tenders or, where sole-source or limited-source procurement is required, assist the USG in securing the appropriate waivers by preparing necessary documentation for waiver requests.
6. Prepare waiver requests promptly and forward to the CTO for approval.

7. Ensure that proposed delivery schedules are consistent with the delivery schedules that meet program re-supply needs.
8. Identify any emerging or potential production or delivery problems (e.g., insufficient supplies, failure to meet procurement specifications, supply surpluses), and propose solutions for these problems.
9. Plan purchase levels to ensure the availability of buffer supplies to meet required levels in the event of emergencies or unforeseen needs.
10. Monitor country-specific requests to ensure all requests receive prompt and accurate service.

From September 2005 to January 2006 SCMS prepared detailed procurement procedures, forms and other documents and began detailed research into the ARV market to enable a formal launch of the SCMS procurement process at an information meeting with potential suppliers on 18 January 2006 in Washington DC.

SCMS procurement policies and practices are in full compliance with the US Government Federal Acquisition Regulation ensuring fair and open competition to all eligible suppliers. In key market sectors where competition is limited, such as ARV and rapid test kits, procurement policy ensures that all viable and competitive vendors are kept in the market by placing split orders to achieve an equitable division of orders while maintaining best value for the Government. In more established markets with a wide range of international and local suppliers, SCMS ensures best value by regular competition.

As part of SCMS's procurement policy we have established Indefinite Quantity Contracts (IQCs) with the major suppliers of ARVs and rapid test kits. Not all innovator companies were prepared to sign IQCs; however, SCMS met its procurement policy objective to have IQCs in place for 80 percent of the ARVs and rapid test kits ordered from SCMS.

To ensure value for money SCMS has purchased USFDA approved and tentatively approved generic ARVs wherever possible. Now that generic products are widely available, generic ARVs comprise around 90 percent by volume of all ARVs we purchase.

In addition to competitive bidding, SCMS has conducted regular price surveys of key products such as ARVs and rapid test kits. For ARVs SCMS has compared prices with the WHO Global Price Reporting Mechanism and the prices published by CHAI. SCMS has been consistently in the top quartile for competitive pricing, with first-line ARV pricing at or better than other purchasers. As a result of the growth in generic competition and in volumes purchased, we have negotiated consistent reductions in prices. We understand that at the design phase of the SCMS project, prior to tendering by the USG, budget estimates assumed a cost of $1,500 or higher per patient year of treatment. By 2008 SCMS purchased the most commonly used fixed dose combinations at $88 per patient year.

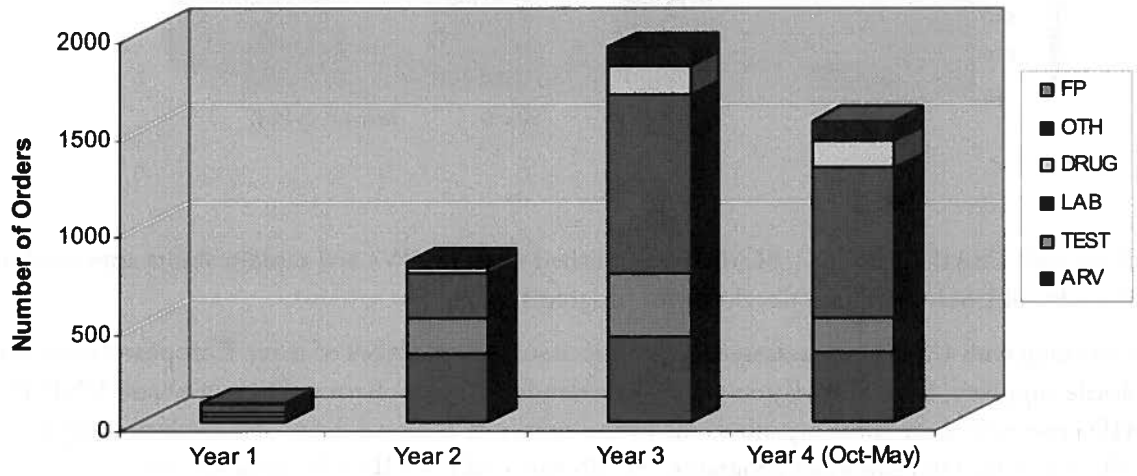
The first deliveries by SCMS arrived in May 2006 at a value of $116K. The first shipment by the project was to Côte d'Ivoire.

After more relatively small-value deliveries in FY2006, volumes increased in FY2007 and reach the predicted volume and values in FY2008, reflecting scale up of PEPFAR programs. In March and April 2009 SCMS delivered $20 million of commodities each month. SCMS orders and deliveries under Task Order 1 are as follows:

Number of orders (from October 2005-May 2009)

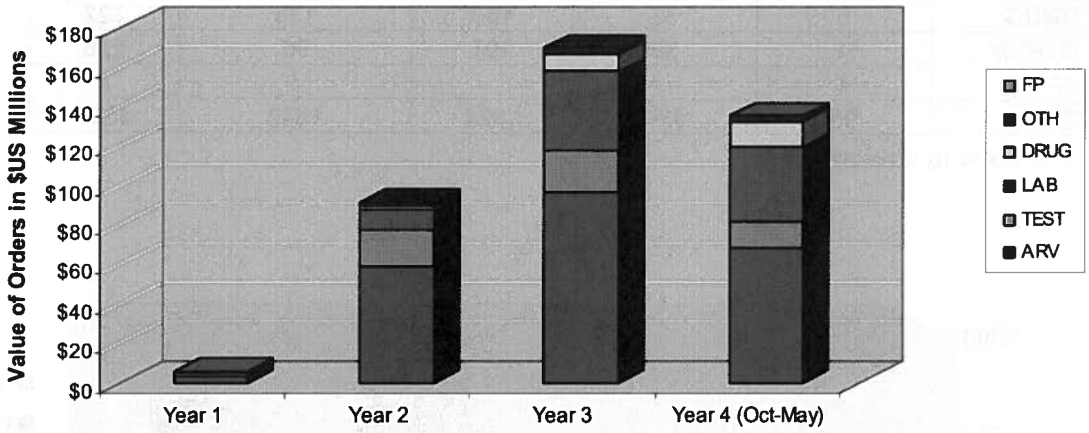
	Year 1	Year 2	Year 3	Year 4 (Oct-May)	Total
ARV	27	341	435	350	**1153**
TEST	22	187	320	182	**711**
LAB	36	232	920	771	**1959**
DRUG	5	30	148	139	**322**
OTHER	1	30	101	96	**228**
FP*	4			4	**8**
TOTAL	**95**	**820**	**1924**	**1542**	**4381**

* FP: Food by Prescription



Value of orders (from October 2005-May 2009)

	Year 1	Year 2	Year 3	Year 4 (Oct-May)	Total
ARV	$ 2,938,816	$ 59,386,765	$ 96,806,683	$ 68,440,823	**$ 227,573,088**
TEST	$ 588,796	$ 18,056,388	$ 21,021,885	$ 14,031,331	**$ 53,698,400**
LAB	$ 1,295,369	$ 11,101,064	$ 40,318,483	$ 37,410,885	**$ 90,125,802**
DRUG	$ 68,920	$ 1,057,026	$ 8,478,971	$ 12,969,718	**$ 22,574,635**
OTH	$ 35,325	$ 2,311,449	$ 3,426,788	$ 2,774,982	**$ 8,548,544**
FP	$ 867,127			$ 238,357	**$ 1,105,484**
TOTAL	**$ 5,794,354**	**$ 91,912,692**	**$ 170,052,809**	**$ 135,866,097**	**$ 403,625,953**



Working with USAID and CDC, SCMS has published lists of ARVs and rapid test kits approved for purchase by all USG-supported development programs.

Also working with USAID we assessed the quality assurance practices of three European-based drug wholesale suppliers, IDA Foundation (The Netherlands), Missionpharma (Denmark) and UNICEF. USAID approved these three organizations or the supply of essential drugs and medical supplies to all USG-supported development programs. SCMS has used both IDA Foundation and Missionpharma extensively for the supply of essential drugs other than ARVs. We were not able to reach agreement with UNICEF on terms and conditions due to conflicting requirements in the US Federal Acquisition Regulation and UNICEF standard terms and conditions that are based on their United Nations constitution.

To manage and forecast demand for ARVs and rapid test kits SCMS instituted a practice of annual quantification in all countries (subject to USAID approval of this activity in our country work plans and cooperation of the host government), with detailed supply plans for all programs supported by SCMS. Key stakeholders and implementing partners develop annual 24-month plans, review and revise them on a rolling quarterly basis to reflect actual usage, and support adjustment of orders where necessary. Through this process and the stocking of high-volume ARVs in SCMS regional

distribution centers, SCMS has virtually eliminated stock out of ARVs and, to a lesser extent, rapid test kits, which are much harder to forecast, in programs supported by SCMS.

During Task Order 1 the demand for laboratory items has grown exponentially in the value, volume and range of items requested. SCMS has supplied more than 2,000 different laboratory related items. The table below shows the number of different items purchased under Task Order 1.

Total number of different items procured	
ARV	85
Test Kit	72
Lab	2,351
OI/STI	207
Other	168
Food by Prescription	3
TOTAL	**2,886**

This increase in laboratory items resulted in the use of a multiple suppliers, a large number of small-value orders and a very different procurement management challenge than that posed by ARV and rapid test kits. Due to the wide range of requirements we were unable to develop IQCs. SCMS therefore pursued an alternative approach of Blanket Purchase Agreements with major laboratory suppliers. During FY08 and 09 we also began an initiative called Field Office Managed Procurement to decentralize procurement of laboratory commodities. This initiative continues under Task Order 3, which began June 1, 2009.

To address the underlying problem of item proliferation SCMS provided administrative, technical and financial support to an initiative led by WHO-AFRO and CDC to hold a laboratory harmonization conference in Maputo, Mozambique. This conference produced the "Maputo Declaration" that contains recommendations for the harmonization and standardization of laboratory items to improve value for money and patient outcomes. SCMS has continued to promote the application of the principles of the Maputo Declaration in our technical assistance and procurement work, with significant reductions in the number and range of items requested Ethiopia, Mozambique and Zambia. SCMS is rolling out this program of harmonization and standardization of laboratory supplies to all relevant country programs.

We have also worked with CHAI and the USAID | DELIVERY PROJECT to develop groundbreaking laboratory commodity forecasting tools. SCMS has prepared laboratory commodity supply plans in a number of PEPFAR-supported countries, including; Côte d'Ivoire, Ethiopia, Mozambique and Zambia. These efforts to bring under control the laboratory supply market should gain momentum under Task Order 3.

Quality Assurance

The contract stipulates that the Contractor must have an understanding of domestic and international guidelines, policies, and regulations regarding the quality, safety, efficacy and use of pharmaceutical products and diagnostic equipment. The Contractor should also understand the challenges in providing these products, including the issue of counterfeit and sub-standard drugs, the challenges in testing these drugs for quality, safety and efficacy, and the challenges of increasing in-country capacity in quality assurance. Tasks include, but are not limited to, the following:

1. For approved drugs and equipment, verify: approval by USG; documentation, labeling, and regulatory status, e.g. any safety alerts, recalls, labeling changes, reported adverse drug reactions. Maintain a database tracking this information.
2. Adhere to USG procedures related to these procurements, and carry out or modify planned procurements accordingly.
3. Secure any necessary documents for waivers on activities throughout the SCMS, as needed.
4. For products purchased as directed devise, and carry out post-procurement testing and verification of production lots to ensure adherence to specifications.
5. Establish quality assurance procedures to ensure that required storage and handling standards for products shipped are met. Procedures should include guidance on the monitoring of the status of product stocks, required conditions for their storage and transport, standards for the proper maintenance of warehoused products, and periodic examination for deterioration.
6. Ensure subcontractors and vendors follow quality assurance standards and procedures throughout the project.

Prior to the shipment of any product, SCMS established clear quality assurance policies for all pharmaceuticals to ensure patient safety, drug quality and efficacy and codified these policies in SOPs and work instructions. We updated these documents as circumstances require.

SCMS constantly monitors the ARVs that are approved or tentatively approved by USFDA and compares that master list of ARV we can supply to registries of products approved for import and marketing in SCMS-supported countries. We maintained these lists with the SCMS ERP system and share them on a regular basis with WHO. Where products are required but not registered for use in the country of destination, SCMS works through our field office to obtain a waiver from the recipient government prior to shipment.

SCMS's sampling and testing SOPs stipulate a testing frequency sufficient to provide for product quality. For all products our policy is to sample the first presentation of each product from each manufacturer per manufacturing site. Routine sampling thereafter is based on an assigned risk category outlined in our SOP. For example, for USFDA-approved products we sample two percent of purchases or minimum one sample per year, and for USFDA-tentatively approved products we sample five percent of purchases.

For other essential drugs that are not registered with a stringent regulatory authority, SCMS conducts sampling and testing on a more rigorous and frequent basis. For example, for local purchases of pharmaceuticals—which we assess as the highest risk—we sample and test the first five batches. If those all pass, we reduce sampling and testing to every third batch and may further reduce sampling as confidence grows in the vendor's QA capacity.

The SCMS ERP automatically generates requests for sampling and testing based on the predefined criteria outlined in our SOPs.

During Task Order 1, SCMS drew 184 ARV samples, and tested 141 of those samples with **no product failures.**

SCMS has drawn 204 samples of essential drugs, and tested 189 of those samples, experiencing **38 product failures (20 percent).**

International standards do not exist for the testing of rapid test kits or other diagnostics agents used in laboratories. To date, based on the advice of CDC and USAID, we have purchased only products approved by CDC. In 2008 SCMS began a program to identify a suitable service provider to test rapid test kits and selected laboratory reagents. We continue negotiations with suitable candidate laboratories to establish a testing protocol for these products, which if successful will be the first such program in the world. We are also liaising with WHO in this matter with the aim that a successful approach developed by SCMS could receive the endorsement of WHO as best practice for other procurement agencies.

For other products, where deemed necessary, SCMS carries out prior to shipment from the vendor visual inspections of manufacturing sites or, where appropriate for the item being purchased, engineering inspections. To conduct these inspections SCMS has established two IQCs with internationally recognized inspection agencies covering the main origin market for products procured.

Freight and Logistics

The contract stipulates The Contractor shall ensure timely, accurate, safe, and cost-effective freight-forwarding services for all commodities to the countries designated by the USG. Initially, it is anticipated that most suppliers will be located either in the United States or in European countries. The Contractor should be capable of receiving product wherever it is required, and the Contractor should be prepared to acquire warehouse facilities, as needed, at non-U.S. sites. Tasks include, but are not limited to, the following:

1. Assure the delivery of shipments door-to-door (manufacturer to warehouse, manufacturer to recipient or warehouse to recipient) and door-to-port (manufacturer to port of destination or warehouse to port of destination), as requested;
2. Track all shipments, both door-to-door and door-to-port, until the consignee confirms receipt and provide timely data of this tracking information for entry into the MIS;
3. Determine whether shipment consolidation is feasible, cost-effective and consistent with

desired delivery dates. If consolidation is not appropriate, arrange for timely, secure, and cost-effective shipment of the goods to the recipient program. If consolidation is appropriate, move the products to one or more appropriate warehouses for consolidation with other shipments;

4. Secure monthly a copy of the production directives given to each of the suppliers;
5. Verify the count and acceptability of received products ordered by the Contractor from manufacturers (l) prior to shipment to consignees specified by the Contractor, or (2) prior to storage within the Contractor's warehouse;
6. Under approved circumstances, manage return of items from SCMS clients after original shipment, including verification, authorization, recovery, and disposition of items for replacement or credit to clients;
7. Generate all the documents required for importation of the products and ensure timely and accurate distribution of the documents to all of the parties, in the sending or recipient countries, who must participate in the importation process; engage an in-country agent to facilitate the importation process and coordinate with the U.S. Embassy in country as needed for export-import licenses;
8. If in-country transport is needed to move the supplies to the recipient programs or to a storage facility they designate, arrange timely, safe, and cost-effective transport for them;
9. For clearance purposes with each participating country's government for each requested shipment, coordinate the desired shipping/arrival date and shipping mode;
10. Assure that the freight forwarder is represented at all transshipment points to receive accurate and timely information on the next leg of shipment: a vessel name, an ocean bill of lading or air waybill number, estimated time of arrival, local clearing agent at port and container and seal numbers;
11. Identify special or reoccurring delivery problems and devise timely and cost-effective solutions for them;
12. Conduct periodic reviews of freight-forwarding practices and results, and participate in the assessment of proposed alternatives;
13. Conduct an annual audit of central warehouse inventories to ensure consistency with the records of product supplies held in MIS records.
14. Establish a clear and verifiable chain of custody and traceability for each pharmaceutical commodity by lot or batch number to proactively prevent diversion of commodities and to facilitate commodity recall.

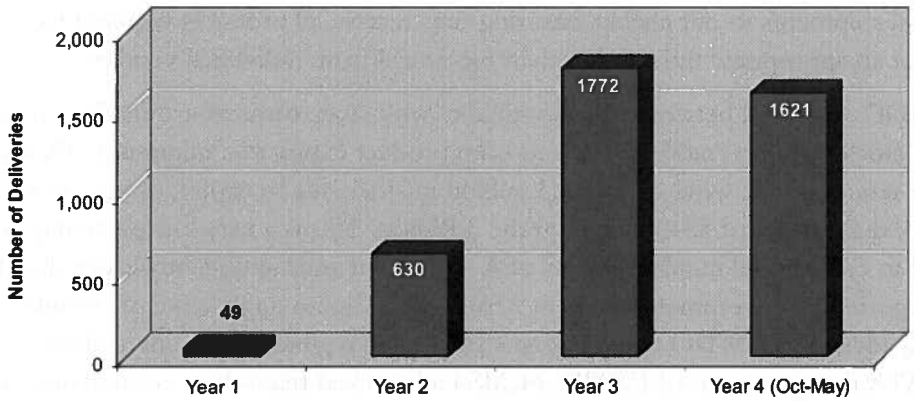
The original expectation that most suppliers will be located in the United States or Europe has not proved to be met; many shipments originate in India and other parts of Asia, and from within Africa for local or regional delivery. This situation has led to a more complex freight and logistics requirement than expected, including a significant increase in of the number of individual points of origin and points of destination within the major shipping lanes.

Each destination country has different import rules for tax- and duty-free importation of donated goods. To manage this complex situation the F&L team has developed a comprehensive database toolbox of all shipping requirements for destination and origin. The team revises and distributes this toolbox on a bi-monthly basis or when there is a major change.

Since mid-2008 deliveries to clients have averaged between 150 and 200 separate deliveries per month, plus additional restocking deliveries to the RDCs. Wherever possible, SCMS pursues a policy of collecting goods on an ex-works basis from our vendors to enable F&L to establish a strong chain of custody with SCMS in control of the shipping process from vendor to client. Where necessary, SCMS has arranged security for shipments of ARVs or other high-value commodities. As a result SCMS has experienced only one minor theft—from an SCMS-managed truck delivery in Africa.

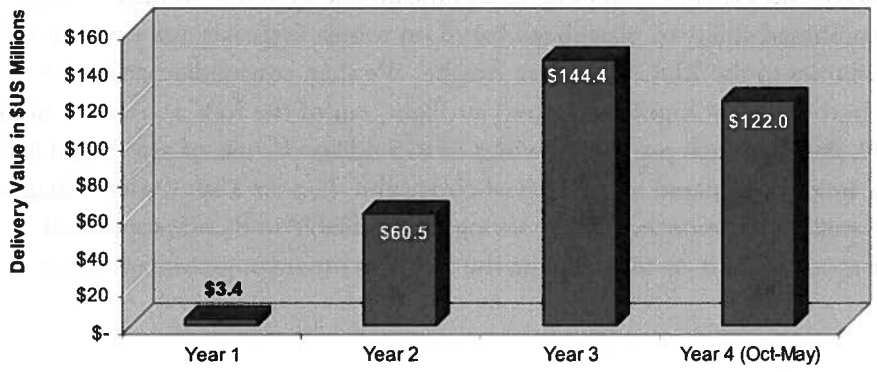
Number of deliveries (from October 2005-May 2009)

	Year 1	Year 2	Year 3	Year 4 (Oct-May)
Number of Deliveries	49	630	1772	1621
Per Month Average	10	53	148	203



Value of deliveries (from October 2005-May 2009)

	Year 1	Year 2	Year 3	Year 4 (Oct-May)
Value of Deliveries	$ 3,441,468	$ 60,548,872	$ 144,448,749	$ 122,044,608
Per Month Average	$ 688,294	$ 5,045,739	$ 12,037,396	$ 15,255,576



SCMS established regional distribution centers in Africa as a key component of our strategy to ensure secure, reliable and cost effective supply chains for key HIV/AIDS commodities. SCMS consortium partner PHD has established three such RDCs in Ghana (September 2006), South Africa (February 2007) and Kenya (July 2007). PHD established the RDCs as commercial entities. This model ensures that SCMS only pays for the service it uses, and the RDCs will continue to be available to any number of clients and countries for managing secure supply after the end of the SCMS contract.

The RDCs, which hold buffer stock of commonly used ARVs, have been essential in ensuring timely delivery and eliminating ARV stock outs. This mechanism has enabled average on-time delivery of 85-90 percent for ARVs since mid-2008.

By buffering stock into the RDCs SCMS has also been able to compensate for late vendor deliveries without impacting our delivery times to clients. Use of the RDCs has also enabled SCMS to consolidate outbound shipments to our clients, ensuring they receive all products required for treatment regimens at an appropriate time, rather than piecemeal from individual vendors.

Stock levels in the RDCs averaged between $12 -15 million, with stock turns of around 7 or higher per year. This rapid stock turn has enabled SCMS to keep product expiry to a minimum. During Task Order 1 SCMS requested the write-off of $2.3 million in stock due to expiry, or less than 1 percent of total stock throughput of $240 million at the 3 RDCs. This is a very low percentage of write offs compared to commercial industry norms of 4 - 7 percent and significantly lower than the levels of write-off reported by government stores in Africa. The largest single write off resulted from the unexpected advice from WHO that programs stop using regimens containing 40mg Stavudine tablets. With the agreement of USAID, SCMS had stocked fixed-dose-combination 40mg Combivir tablets ahead of demand when these were tentatively approved by USFDA. Other write-offs have been primarily slow moving products such as pediatric ARVs, where precise demand is difficult to forecast.

An annual stock take at the RDCs has not revealed any significant overages or shortfalls in stocks or Management Information System stock records.

RDCs are also essential in helping SCMS respond to emergency orders from clients, usually as result of delays by other procurement agents or donors. In 2008 alone SCMS provided $28.5 million of products, including $21.4 million of ARVs, to respond to emergency requests.

The RDCs have helped SCMS provide to our clients significant and growing savings in freight costs. SCMS leverages our combined ability to plan ahead based on robust forecasts and order in bulk to in turn deliver large volumes to the RDCs using sea freight. We then consolidate deliveries to clients using road freight, or in the case of Nigeria chartered air flight, out of the RDCs. At the end of Task Order 1, May 31, 2009, this approach provided savings of $15 million by use of sea freight and $1.4 million by use of road freight compared to the cost of air freight. (Under Task Order 3 freight savings are about $1.5 million per month.) These savings are available to SCMS-supported programs to purchase more product or to reallocate the funds to other programmatic areas.

In addition to the security measures mentioned above, the SCMS ERP supports track and trace of every shipment and, in the case of pharmaceuticals, every batch. This capability has been deployed on several occasions, including a major recall of the ARV Viracept, manufactured by Roche. SCMS quarantine all unused batches of Viracept, both at SCMS clients and at RDCs, within a matter of days of the recall announcement.

In-country Support Teams

The contract states that the Contractor may provide resident procurement assistance in any of the designated countries as needed to accomplish procurements and for local capacity development for supply chain management. In-country support may consist of an estimated two to three professionals with the needed expertise per country, plus additional support personnel. As program needs dictate and as directed by the CTO, additional in-country staffing might be required. The Contractor may also provide short-term technical assistance to accomplish the same program outcomes through periodic international travel.

Tasks include, but are not limited to, the following:

1. Work with in-country service delivery programs to select appropriate drugs and other commodities to support the programs and adhere to treatment protocols.
2. Assist in-country programs in forecasting and quantification exercises and in the process of turning these forecasts into appropriate procurement information.
3. Review existing quality assurance standards and practices in the supply chain management system for each of the President's Plan focus countries. This includes the selection, procurement, delivery, storage, and distribution of products. This review should also include the capacity of the country to perform pharmaceutical safety, quality, and effectiveness evaluations. It should also address laws and regulations on importation, manufacturing, and use of pharmaceuticals and other products. From this review, the Contractor should provide a summary of findings and recommendations on improving quality assurance standards and practices for each country and, as required, establish protocols for the country-specific management of QA standards.
4. In coordination with relevant USG entities, prepare quality assurance standards and guidelines for in-country supply chain management that incorporate existing international standards and guidelines as well as local and international laws and regulations.
5. Review the current system used for estimating HIV/AIDS supply needs; identify data or service gaps and/or different approaches to the estimation of required supply pipelines and appropriate levels of local supplies. Determine the most reliable methodology to be used.
6. Review equipment and storage requirements for the proper management of in-country supplies, and estimates of the critical equipment and storage needs to ensure the storage conditions that support the desired quality assurance standards and procedures and the secure storage of supplies. Identify any existing or potential quality assurance and theft problems that arise.
7. Identify supply needs that are currently met from local or other sources, and estimate the

feasibility and benefit/losses that would result from shifting this procurement to the USG central system.

8. Develop a clearly understood, dependable common system, used by all service delivery programs dependent on USG-funded supplies, for the estimation of re-supply needs, taking into account pipeline levels and minimum or maximum standards for inventory control as well as the compounded needs of rising treatment levels, expansion of services, and increasing numbers of service sites.
9. Assist health care and service-delivery programs in the timely submission of accurate procurement requests.
10. Monitor designated funding levels for re-supply needs to ensure that all requests are fully funded and assist in drafting timely requests for needed funds.
11. Monitor the re-supply process, maintain an information flow to field programs on the status of implementation of their requests, and ensure the receipt of requested supplies is entered into the MIS.
12. Assist programs for HIV/AIDS care and treatment to ensure compliance of their procurement requests with national treatment guidelines, local drug registration requirements, and other drug regulations.
13. Assist field programs in conducting periodic inventories of their supplies, in assessments of their storage conditions, and assessments of local personnel in required standards of performance to provide quality assurance.
14. Identify any problems of theft, deterioration, or other diversion of field supplies; indicate appropriate corrective measures; and assist in their execution, including the proper disposal of unusable supplies.
15. Monitor local policies/guidelines and assist programs in making necessary adjustments to program implementation practices.
16. Review the tariff and regulatory barriers in each country to importation of the needed products, call these problems to the attention of appropriate local and USG officials, and assist in devising solutions for these barriers.
17. Provide technical training to local staff in supply management skills, as tasked by in-country programs.
18. Provide additional supply chain management services as tasked by in-country programs.

In its first year, SCMS visited all 15 PEPFAR focus countries plus Zimbabwe, usually accompanied by the SCMS USAID team, to meet with the local USAID team and make an initial assessment of need and desire to work with SCMS. As of September 30, 2006 SCMS had established 12 of 15 requested field offices. (Kenya was not included in the original request.) The remaining offices opened early in Year Two, and a Kenya office opened in July 2008 to support major procurements of laboratory equipment and rapid test kits.

The contractual expectation of offices staffed by two to three people providing procurement support quickly proved to be an under-estimation in most countries. To support rapid scale-up of HIV/AIDS programs and to meet pent up demand for investment and technical assistance in local procurement and logistics services, most SCMS field offices needed to be significantly larger.

As of May 31, 2009 the SCMS field offices were staffed as follows:

Country	No. of staff
Botswana	11
Cote D'Ioire	13
Ethiopia	57
Kenya	4
Namibia	6
South Africa	3
Tanzania	29
Uganda	25
Vietnam	23
Guyana	8
Nigeria	34
Haiti	37
Rwanda	13
Mozambique	20
Zambia	27
Zimbabwe	26
Total	336

Initial in-country activity focused on quantification of need for ARVs and test kits. Quantification activities quickly identified data limitations, a paucity of accurate consumption data and inaccuracy of scale-up assumptions, which in turn led to a demand for improvement in data capture, management and analysis. The delivery of large quantities of products exposed weaknesses in warehousing capacity, warehouse management systems and distribution systems.

To meet the resulting high demand for long- and short-term technical assistance, USAID issued in February 2007 a Request for Task Order Proposal for a second task order focused on TA needs.

USAID awarded Task Order 2 to PFSCM on April 2, 2007, and most in-country activities were transferred to Task Order 2 from that date. Performance under Task Order 2 is reported beginning on page 23.

Management Information Systems

The contract stipulates that the Contractor must develop a management information system to track the pharmaceuticals and other commodities provided through this agreement. Through the MIS, the Contractor shall track the estimated commodity needs by country and recipient program, the requests for shipments by country and recipient program, financial accounts by country and funding source (budget plan code), the production and warehouse stock levels needed to meet the requested shipments and additional commodity need, and the status of shipments. The MIS data shall be used in a variety of official USG reports that

are issued on a periodic basis, and must therefore be managed according to standard accounting practices and principles. Tasks include, but are not limited to, the following:

1. Conduct an initial review of similar MIS software, including the systems already developed by the USG;
2. If necessary, develop an interim system for project tracking for use while the MIS is being developed;
3. Design the MIS so that all data entry receives priority review by the MIS manager, and that data retrieval, including standard and special reports, is readily available to all users of the procurement system;
4. Ensure timely data inputs from throughout the system so the MIS can provide current reports;
5. Design easily accessible regular reports on system action that reflect the status of activities and that assist in the management of the project;
6. Ensure system redundancy, security, and backup to maintain operations despite possible loss of hardware or software failure; and
7. Ensure broad general access through web-based applications with reserved, password-protected access for proprietary materials and layered permissions.
8. Ensure complete tracking and transparency of system funding transactions including funds provided by client programs, value of goods and services provided to programs against those funds, and all required funding commitments.

The PFSCM proposal for SCMS Task Order 1 proposed the use of 3i Infotec's Orion product to provide the necessary ERP system for SCMS, incorporating management of all commodity contracts and deliveries, with full integration with the financial system also provided via Orion.

Orion required significant configuration to meet the unique needs of SCMS and USG regulations. The operations and finance team put in place interim measures, drawing on the facilities of JSI to manage finances until the first release of Orion.

There have been five major releases of Orion as documented in the table below:

Orion releases

Release #	Key Features	Date of Release
1	**Commodity contract and Finance package:** • Sales • Purchase • Inventory • Accounting (GL ARAP) • Budgeting • Obligations	**August, 28, 2006**
2	F&L Order pick Bank reconciliation	Requirement dropped

3	**Recording / maintaining IQC** **Transfer between of stock RDCs** **QA sampling process**	**April 9, 2007**
4	**Donor stock management incl.;** • Returns to Vendor • Disposal of Expired Product **Multiple estimated expense on PO & SO**	**September 23, 2007**
5	**Web-based version of Orion**	**March 31, 2008**
6	**Orion 2 – Process changes for Task Order 3 and Field Office Managed Procurement**	**May 31, 2009**

As the project grew in size and scope we recognized the need to manage other elements of the project's routine work not captured by the main Orion ERP:

- inquiry management
- the various stages of short-term technical assistance assignments and
- incidents and complaints.

To manage this work the project acquired a further module of the Orion suite of products for client relationship management (CRM). The introduction of CRM significantly increased our ability to manage and report on inquiries from clients prior to contract placement.

CRM releases

Release #	Key Features	Date of Release
1	**Incident & Complaint Tracking** • Tracking corrective and preventive actions • Workflow management from identification to resolution • Alerts for exceptions	**April 24, 2007**
2	**STTA Management** • Resource database • Track concurrence and approval process • Track deliverables and tasks • Alerts for exceptions	**May 29, 2007**
3	**Inquiry Management**	**August 27, 2007**

As the project matured and as staff became more familiar with our systems and client requirements we saw an increasing flow of requests for changes and enhancements to Orion and CRM to improve performance and efficiency. The continuous improvement process, mentioned earlier in this report, generated many of these requests. To manage this process and ensure appropriate prioritization and

management of resource and level of effort, in June 2008 the management team introduced a formal process known as the Change Control Board (CCB). The CCB meets quarterly to consider change requests submitted by staff, agree on priorities and allocate the appropriate level of effort to make accepted changes. CCB procedures allow for urgent changes in between the quarterly meetings.

SCMS launched its external website http://scms.pfscm.org/scms in July 2007 (a placeholder website with basic project information and contact points had been in place since contract award). The website is continuously updated with project news and other news and events related to public health supply chains. The scope of the site has also been expanded to include a Resource Center (September 2007) incorporating information on tools, job aids, comments, best practices and training courses. Discussion forums launched in July 2008; subjects have included demand planning and inventory management, laboratory supply chains and the use of management information systems in supply chains.

The SCMS website also includes the SCMS e-catalog of products available from the project. SCMS published the first edition of the e-catalog mid-2006 and has regularly updated it, drawing from information from the product database master list maintained in Orion.

In July 2008 we launched a comprehensive staff Intranet providing easy access to thousands of project resources in the project's document management system, called Knowledge Tree, and incorporating a searchable staff directory and internal discussion forums.

Task Order 2

Objectives

The contract stipulates that the objectives for Task Order 2 are for the contractor to provide:

a. Comprehensive **supply chain technical assistance and support to country programs** in the areas of forecasting, procurement, quality assurance standards and practices, logistics management information systems (LMIS), warehousing/distribution, laboratory procurement support, laboratory logistics, waste disposal, blood sample management, monitoring and evaluation (M&E), and strategic planning.

b. **Coordination and collaboration with key international donors** which includes providing and disseminating information on supply chain best practice, where appropriate representing PEPFAR when interfacing with international and national stakeholders on supply chain issues; and technically supporting commodity procurement of other donors as requested by the USG.

Supply Chain Technical Assistance and Support to Country Programs

The contract states that tasks to be completed under this component of the Task Order include but are not limited to the following:

(a) Conduct an assessment of HIV/AIDS supply chain systems in each country with local partners, in collaboration with the USG team, to design a short- and long-term TA program to reinforce strengths and ameliorate weaknesses in the system(s).
(b) Complete initial quantification for ARVs in focus countries and other countries as requested. Establish regular, quarterly updating of the forecast and supply plan in each SCMS country.
(c) Conduct local training to build capacity in quantification techniques and the use of SCMS tools.
(d) As considered appropriate though initial assessments, develop an implementation plan to build and/or strengthen local systems to support quality assurance processes.
(e) At the request of the USG in-country teams, provide TA, design/redesign, and deploy improved logistics management information systems.
(f) Conduct assessments on the need for, and provide a full range of, technical assistance in warehousing and distribution for in-country systems as requested by USG in-country teams.
(g) Conduct an assessment of current in-country waste disposal strategies to determine what added value the SCMS project brings to the work already being done by USAID and USG contractors.
(h) Provide short- and long-term TA to support the creation of sustainable procurement capacity within countries.
(i) Provide technical support to in-country laboratory and blood sample management to a) assist in rationalizing the choice of equipment and suppliers, b) establish

sustainable systems for the continuous supply of needed laboratory commodities, and c) establish efficient and reliable systems for transporting blood samples and reporting back test results.

(j) Ensure that performance indicators are integrated into country plans, that field staff are trained in data collection and analysis, and that results and data are interpreted and used to ensure or improve performance levels.

(k) Conduct a strategic planning process that draws on best practice from among the contractor's subcontractors.

(l) Conduct a strategic planning process that draws on best practice from among the contractor's subcontractors.

The technical assistance provided by SCMS under Task Order 2 led from in-country work commenced under Task Order 1 with specific activities identified and funded by PEPFAR'S annual Country Operating Plans (COP). The work carried out varies from country to country depending on need and available funding. The mix between short- and long-term technical assistance also varied between countries and changed over the period of the Task Order. The initial focus was to establish supply plans based on robust forecasts and sound quantifications.

Quantification and forecasting was initially short-term TA activities, but over the period of the task order we have transitioned this skill to our field offices or, in some cases to government agencies, such as in Zimbabwe, that have taken ownership of the process. This is reflected in the charts below which show that from April to September 2007 SCMS carried out 24 short-term technical assistance assignments in quantification, but by September 2008 to May 2009 that figure had dropped to just six short-term assignments; however, during that same time period the total number of forecasts and supply plans had increased. The SCMS PMO-based quantification team now acts as mentors to field colleagues and provide QA checks on forecasts and supply plans prepared by them.

In 2007 we conducted strategic planning exercises in each country to identify supply chain gaps and agree on targets with USAID. The strategic analysis included an assessment of the capacity of PEPFAR partners and other stakeholders to understand the situation in each country, where SCMS could make the most impact, and where our proposed activities were accepted by the host government and could be funded by USG. The exercise focused on establishing sustainable, secure, reliable and cost effective local supply chains to support HIV/AIDS prevention, care and treatment programs. In most countries, treatment was the most critical program component requiring an uninterrupted supply of ARVs and the necessary diagnostic test materials.

Demand for warehousing and distribution TA was greatest. Under Task Order 2 SCMS provided warehousing technical assistance in Botswana, Côte d'Ivoire, Ethiopia, Guyana, Mozambique, Rwanda, Uganda, Tanzania and Zimbabwe. In additional to advising on improved practices, SCMS provided physical equipment, including new racking, gravity feed racks for picking and packing, fork-lifts and other material handling equipment. SCMS introduced new computer-based warehouse management systems in Côte d'Ivoire, Guyana, Mozambique, Rwanda and Uganda. To build

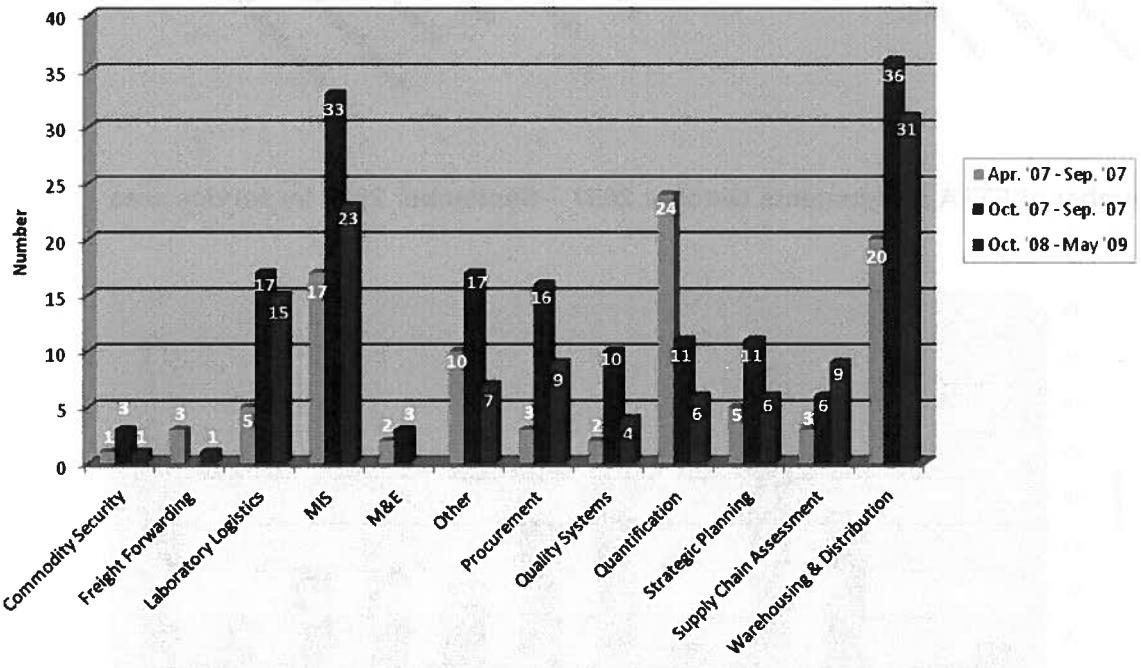
capacity and ensure continuity all new equipment and systems are managed and operated by our clients following training from SCMS.

Due to the lack of local capacity in Haiti, SCMS leased, equipped and managed warehousing and national distribution of commodities.

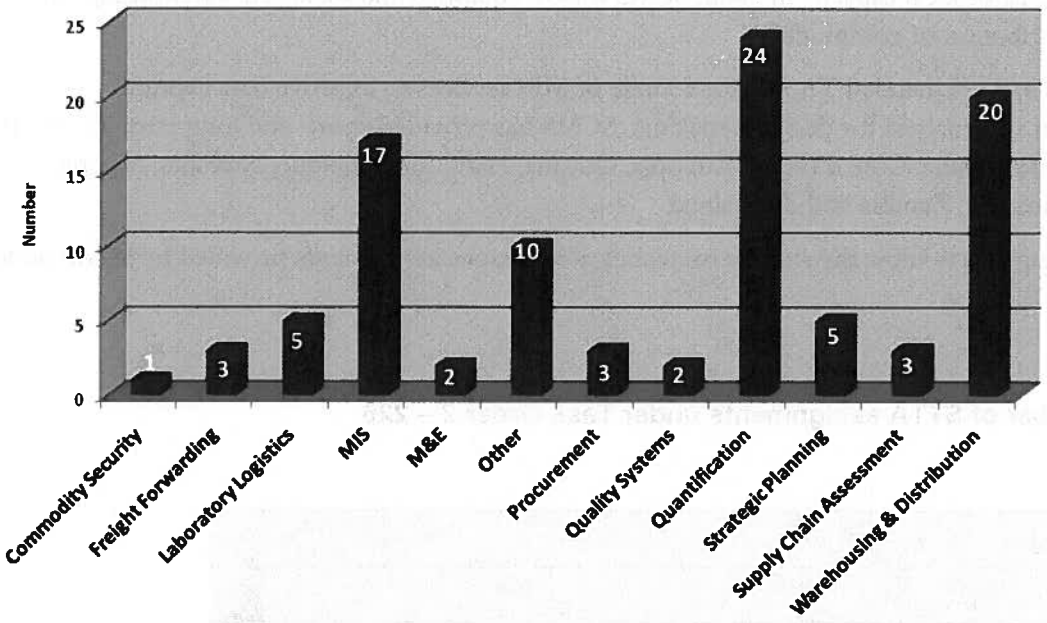
The second most demanded TA was for a range of MIS services to improve data capture, transmission and analysis for decision-making. SCMS has provided short- and long-term TA in MIS to clients in Botswana, Côte d'Ivoire, Ethiopia, Guyana, Haiti, Mozambique, Namibia, Nigeria, Rwanda, Tanzania, Zambia and Zimbabwe.

The following charts show the short-term technical assistance assignments provided by SCMS under Task Order 2.

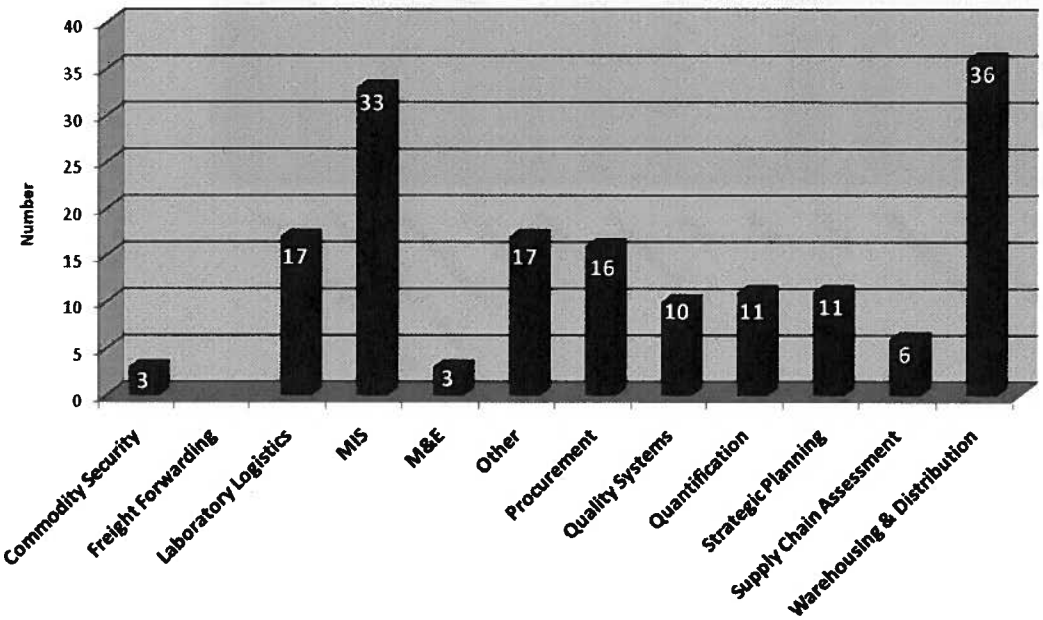
Total number of STTA assignments under Task Order 2 – 226



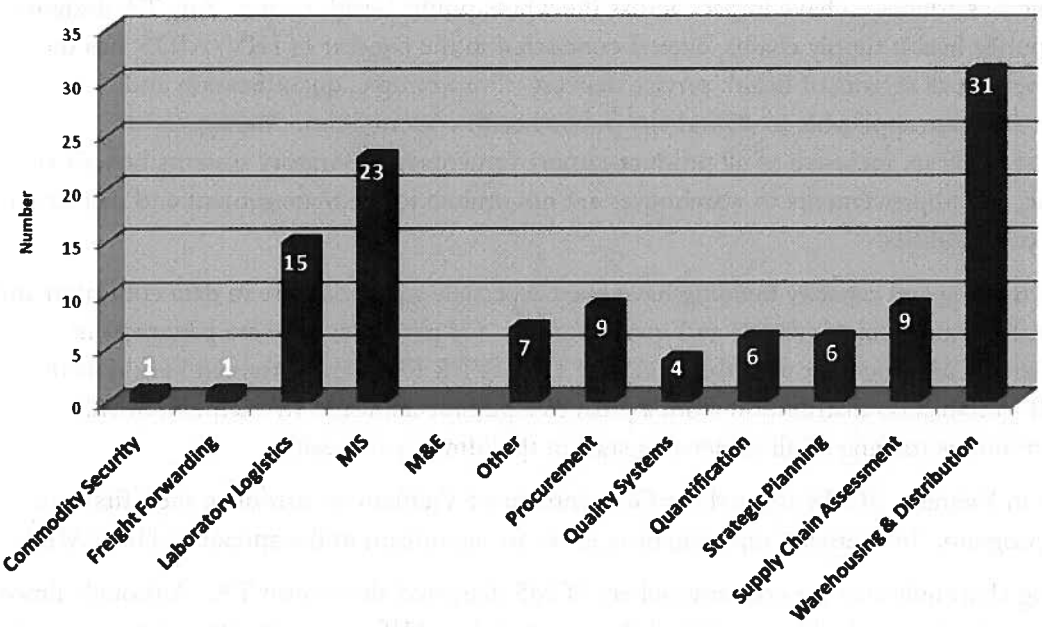
Number of STTA assignments April – September 2007 by service area



Number of STTA assignments October 2007 – September 2008 by service area



Number of STTA assignments October 2008 – May 2009 by service area



Reflecting the growing demand for laboratory commodities referred to earlier in this report, the demand for technical assistance in laboratory supply chain management has also grown over the last two years of the task order. Compared to early 2007, when SCMS had one senior laboratory adviser in Arlington, VA, and two regional advisers in Africa, almost all field offices now employ at least one laboratory adviser. Growth in demand for laboratory assistance, including laboratory management information systems, has also increased during the task order. Since the Maputo Harmonization Meeting countries have begun to standardize their lists of equipment and reduce the number of essential items that must be kept in full supply. Ethiopia, Mozambique and Zambia were the first SCMS countries to agree to significantly reduced and standardized lists of laboratory consumables and reagents. Although standardized within countries, these lists are not the same from country to country because they reflect each one's history of equipment purchased by or donated to the various laboratory services.

In addition to the growth in demand for laboratory TA towards the end the task order, we saw growing demand for procurement TA as countries aimed to develop their capacity. Under Task Order 2 this TA occurred in a relatively few countries, e.g. Mozambique, Rwanda and Tanzania; however, we expect demand to grow under Task Order 3. In Rwanda this TA aims to enable the Government of Rwanda to be qualified as a direct grant recipient of USG.

Similarly, requests for assistance in QA have been limited, primarily to Botswana and Guyana.

We have received no requests for TA in waste disposal strategies, although we have helped Vietnam and Zambia to safely dispose of expired drugs.

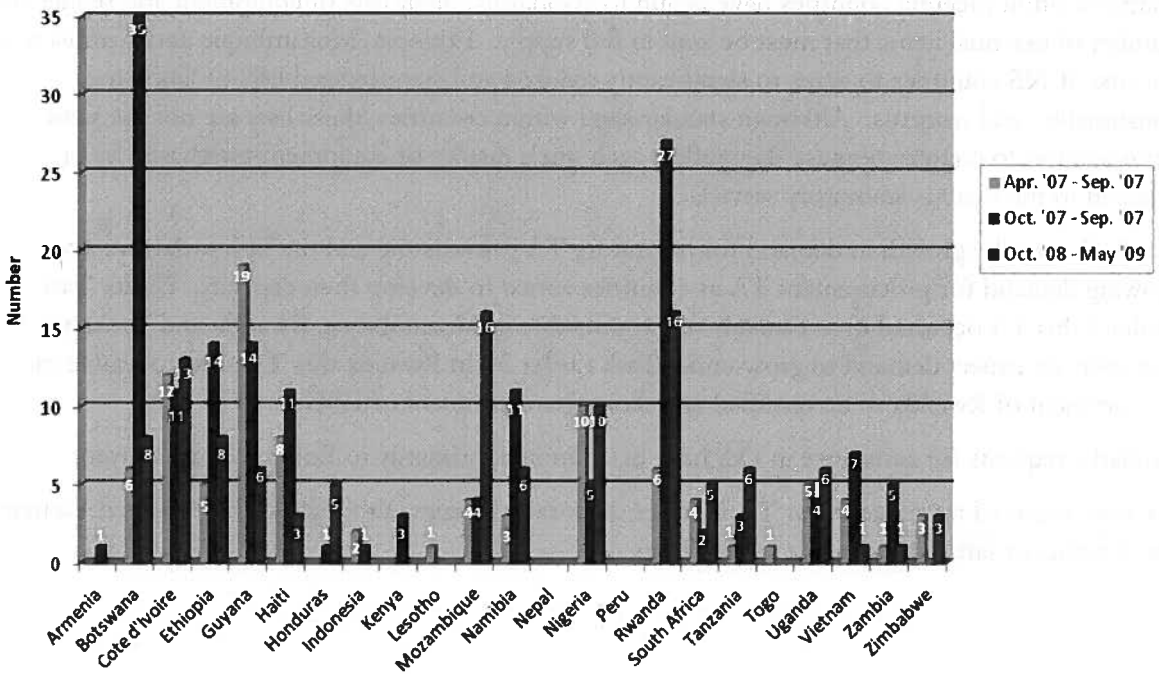
Although the charts above do not include any TA specifically for capacity building, most SCMS long- and short-term TA includes capacity building as a key objective in its design. We also design SCMS technical assistance to have impact across the whole public health sector. Any TA designed to improve public health supply chains, even if conducted in the context of HIV/AIDS, has the potential to benefit all sectors of health service delivery. For example, quantification and procurement skills are applicable to all and any public health commodities. Management information systems are inclusive of all products; improvements to laboratory systems benefit all diseases areas, and improvements to warehouses are not limited to the management and delivery of HIV/AIDS commodities.

Areas where training and capacity building have been especially significant are in data collection and management, laboratory supply chains and quantification. Of particular note are programs in Tanzania where SCMS, together with the USAID | DELIVER PROJECT, trained hundreds of ministry staff to transition distribution from a push to a pull mechanism. In Vietnam, SCMS conducts continuous training of all dispensing staff in the Ministry of health.

Also of note in Vietnam, SCMS assisted the Government of Vietnam to introduce their first ever methadone program. In Vietnam, injecting drug users are significant in the spread of HIV/AIDS.

The following chart indicates the countries where SCMS delivered short-term TA. Although almost all countries received some highly specialized short-term TA in MIS or warehouse management, the statistics show, unsurprisingly, the larger SCMS offices such as Ethiopia, Nigeria, Tanzania and Zambia received significantly fewer STTA visits than some of the smaller offices like Botswana, Guyana and Rwanda. For larger field offices long-term technical assistance, often delivered by host country nationals, is more significant than international short-term TA.

Short-term technical assistance by country April 2007 – May 2009



In addition to countries with field offices, SCMS provided technical assistance in Armenia, Honduras, Indonesia, Lesotho and Togo. The assignment in Honduras is a particularly significant program of warehouse improvement with a budget in excess of US1 million.

The SCMS publication "Three years of saving lives through stronger supply chains", attached here as Appendix B gives, provides more examples of technical assistance.

International Collaboration

The contract states that the contractor shall interface with international donors such as WHO, UNAIDS, UNITAID, DFID, the EU and others that may enter the field of HIV/AIDS during the term of the contract. The contractor will reach out to and where appropriate cooperate with major private foundations such as the Clinton Foundation and the Bill and Melinda Gates Foundation.

Tasks to be accomplished under this component of the Task Order include but are not limited to the following:

(i) Global outreach to other partners

(a) Identify the full range of programs providing in-country support to people living with HVI/AIDS ensuring that programs are aware of SCMS activities and interventions to avoid duplications or gaps in provision.
(b) Where appropriate, and as requested by the implementers offer SCMS services to improve the effectiveness of all programs that make a contribution to national supply chains.
(c) Establish working relationships with international co-operation networks, such as the Ecumenical Pharmaceutical Network.
(d) Establish a plan to reach out to faith-based networks and implementing partners.
(e) Establish working relationships with national and international supplier organizations to exchange best practices and to inform the supply base of forecasted need. Where necessary and appropriate, assist suppliers in identifying new commodities and/or the need for expanded capacity to meet predicted need.
(f) Support the attendance of SCMS and local MOH and NGO staff at national, regional and international conferences and workshops to support the objectives of SCMS and PEPFAR.

(ii) Collaboration with other donors

(a) Establish working relationships with major private foundations contributing to the fight against HIV/AIDS, especially where such organizations, e.g. The Clinton Foundation, are active in procurement and supply.
(b) Establish working relationships with all multi-lateral and bi-lateral donors supporting HIV/AIDS programs in the PEPFAR focus countries, but with special emphasis on the Global Fund for AIDS, TB and Malaria, UNAIDS, UNICEF, WHO, UNITAID, DFID and the European Union.

(c) Provide regular updates on SCMS progress to the donors mentioned in (b), establishing mechanisms to exchange forecast and supply data on a regular basis and to contribute to global data capture efforts such as those hosted by WHO.

(iii) Procurement support for other donors

Provide technical and operational support to commodity procurement by the Partnership for Supply Chain Management for other major donors such as the Global Fund and UNITAID, as requested and approved by the USG.

Based on the work started under Task Order 1, SCMS has continued to build strong working relationships with all the other major organizations engaged in combating HIV/AIDS in the developing world including the Clinton Foundation, DFID, the Global Fund to Fight AIDS, TB and Malaria, UNAIDS, WHO, the World Bank and UNITAID. SCMS has attended and contributed to the WHO/UNAIDS annual joint consultation with ARV manufacturers in 2006, 2007 and 2008. We are also active members of the WHO AIDS Medicines and Diagnostics Network, presenting at their meetings and contributing tools and best practice case studies.

The relationship with the Clinton HIV/AIDS Initiative (CHAI) begun under Task Order 1 continued to grow. The confidentiality agreement with CHAI enables the exchange of pricing and supply information, and we have worked with them on pertinent subjects, including market trends, pricing, new ARVs, forecasting and laboratory logistics.

As documented earlier under Task Order 1, we worked with the Ecumenical Pharmaceutical Network to establish a task force arrangement whereby SCMS attended EPN general meetings and undertook appropriate joint activities with EPN members. Under Task order 2 this work transitioned to country-by-country relationships between the SCMS field office and the local EPN member to address country specific needs and assist EPN members in their work to build sustainable systems that are not donor dependent.

In an initiative originally led by the Global Fund, USG and World Bank, SCMS served as the technical secretariat to facilitate coordination for procurement in Ethiopia, Guyana, Haiti, Mozambique, Rwanda and Vietnam. WHO and UNITAID have now joined the program, known as the Coordinated Procurement Planning (CPP) Initiative. Based on the experience in these six pilot countries, SCMS is preparing a best practice guide on coordinated procurement planning.

Under the auspices of CPP, SCMS coordinated efforts with CHAI, Global Fund, OGAC and UNITAID to map countries' plans to transition away from the UNITAID programs for the supply of second-line adult ARVs and pediatric ARVs as those programs ended. SCMS identified countries at risk of supply interruption, and UNITAID used the information to agree on bridging finance for selected countries.

SCMS has contributed to the Public-Private Partnership for Pediatric ART, an initiative of the former First Lady to address these special needs of children with HIV/AIDS, since its inception in 2006. This global partnership includes CDC, CHAI, the Elizabeth Glaser Pediatric AIDS Foundation, FDA, OGAC, UNICEF, WHO and various pharmaceutical companies. Responding to

changing recommendations in the assessment and treatment of very young infants, SCMS has prepared a special commodity list of products required for early infant diagnosis that is now included in the SCMS e-catalog. SCMS also developed a standardized procedure to generate a forecast and prepared a selective forecast of pediatric ARV demand for 2007 and 2008 in eleven of the PEPFAR focus countries and Zimbabwe. SCMS is also a member of a working group addressing working to streamline registration of new pediatric ARVs in developing countries.

SCMS provides pricing, delivery and registration data to the WHO AIDS Medicines and Diagnostic Service in Geneva. These data is used to augment WHO and UNAIDS own data capture and to validate existing databases. Pricing data is included in WHO Price Reporting mechanism published on their website and used as reference pricing by other national and international purchasers.

In December 2008 the MIT/Zaragoza International Logistics Center in Zaragoza invited SCMS to attend the inaugural Health Supply Chain Summit and provide the key note address on the challenges and successes of launching a new global supply chain. Our presentation, entitled "Building the Ship While Sailing," describes the experience of launching SCMS in an environment of rapid scale up and under-performing in-country supply chains. Summit attendees, including implementers, funders, academics and private sector logistics experts were particularly interested in USAID's vision in establishing SCMS and in SCMS's innovative use of regional distribution centers.

Appendix A. Conference Participation

SCMS Conference Participation under Task Orders 1& 2

Year	Conference	Presentation/Poster Title
2007	APHA (Boston)	Expanding Global HIV/AIDS Supply Chain Capacity to Meet Surging Demand (Presentation)
2007	PEPFAR Implementers' Meeting (Rwanda)	Improving Laboratory Capabilities to Achieve Treatment Goals (Poster)
2007	PEPFAR Implementers' Meeting (Rwanda)	How Low Can We Go? Sharing ARV Pricing Information to Increase Scale-up Success (Poster)
2007	PEPFAR Implementers' Meeting (Rwanda)	How Generic Antiretrovirals are Bringing Down the Cost of Antiretroviral Therapy (Presentation)
2007	PEPFAR Implementers' Meeting (Rwanda)	Guyana: Collaboration on Supply Chain Issues Can Improve Access to Treatment (Presentation)
2008	PEPFAR Implementers' Meeting (Uganda)	Back To The Future: Paper-based System Helps Improve Forecasting of ART Data in Côte d'Ivoire (Presentation)
2008	PEPFAR Implementers' Meeting (Uganda)	Distribution of Drugs & Commodities to Rwandan Health Districts Gets Boost from Improved Warehouse Management Operations (Presentation)
2008	PEPFAR Implementers' Meeting (Uganda)	Collaborative Efforts to Increase Access to ART Embedding Demand Forecasting: How Mozambique Did It (Presentation)
2008	PEPFAR Implementers' Meeting (Uganda)	All for One – One for All Coordinating Procurement Makes Safety Stock Safe (Presentation)
2008	PEPFAR Implementers' Meeting (Uganda)	Leveraging Resources to Work Together to Provide Care and Treatment for Children Living with HIV/AIDS in Vietnam (Presentation)
2008	PEPFAR Implementers' Meeting (Uganda)	Challenges and Lessons Learned in Establishing a Successful CD4 Count System Using FACSCount in Vietnam (Poster)

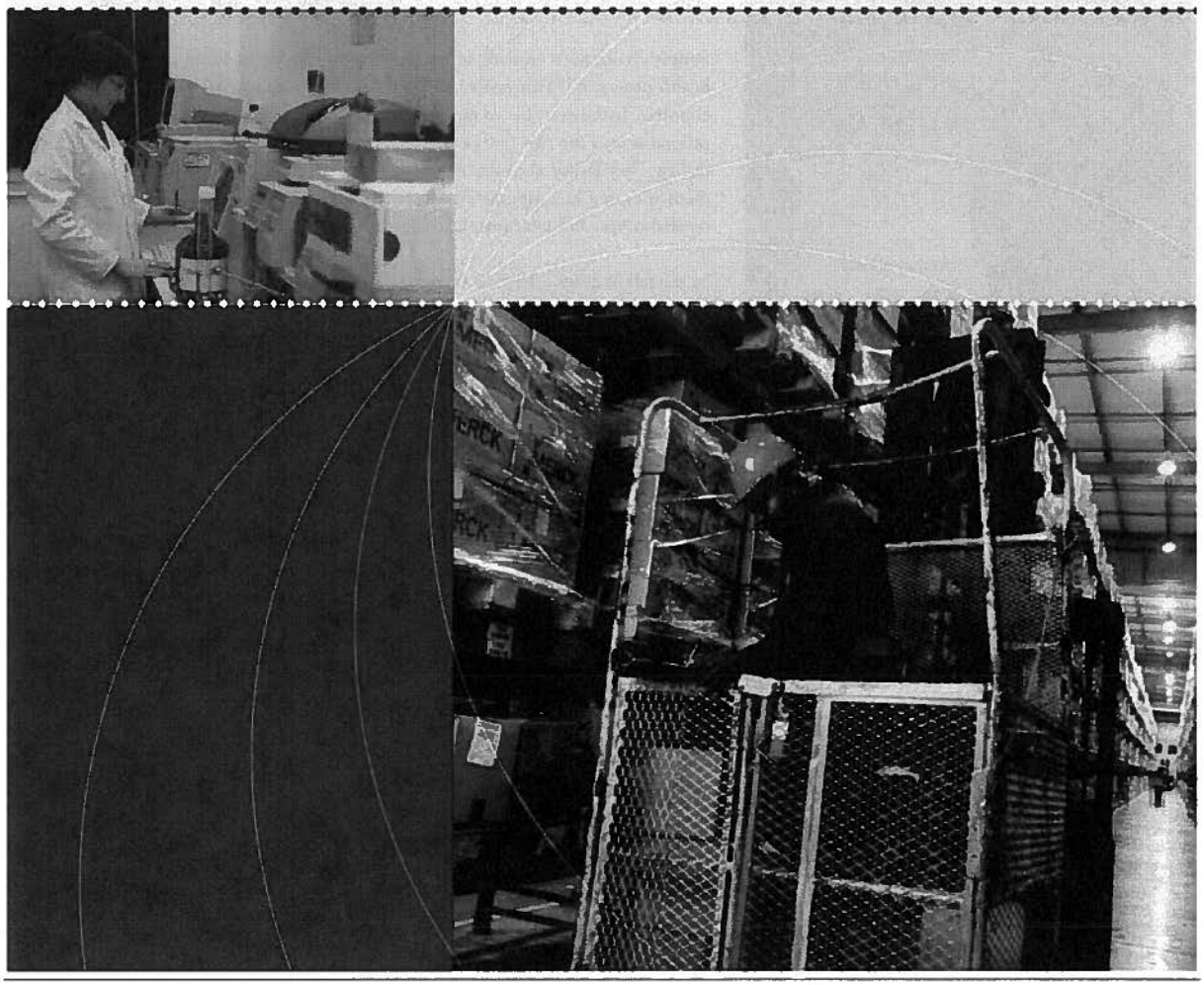
2008	PEPFAR Implementers' Meeting (Uganda)	Managing Performance Toward Scale-Up: Going beyond Traditional Monitoring and Evaluation to Strengthen Systems (Poster)
2008	International AIDS Conference (Mexico City)	Best Practices in Lab Equipment Policies to Meet the Need of Rapidly Expanding Programs (Poster)
2008	39th Union World Conference on Lung Health (Paris)	A Rising Tide: Strengthening the HIV/AIDS Supply Chain Benefits Essential Health Commodities (Presentation)
2008	MIT- Zaragoza Logistics Center Global Health Supply Chain Summit (Spain)	Building the Ship While Sailing (Presentation)
2009	Global Health Conference (Washington, DC)	Avoiding the bitter pill: Quality assurance prevents harm (Presentation)
2009	Global Health Conference (Washington, DC)	Improving healthcare access by addressing drug registration backlog (Presentation)
2009	Global Health Conference (Washington, DC)	Supplying the demand: The catalytic effect on communities (Presentation)
2009	Global Health Conference (Washington, DC)	Counterfeit Drugs and Pharma Surveillance (Presentation)
2009	PEPFAR Implementers' Meeting (Namibia)	Ethiopian National Laboratory Logistics System: Overcoming Despair through a Systematic Response (Presentation)
2009	PEPFAR Implementers' Meeting (Namibia)	Quality home care: Empowering families through essential supplies (Presentation)
2009	PEPFAR Implementers' Meeting (Namibia)	Bringing Nutrition to the Table: Supply Chain Best Practices for Food by Prescription Programs (Presentation)
2009	PEPFAR Implementers' Meeting (Namibia)	Creating Unity Of Purpose: Logistics Coordination Within The Nigerian National Response (Poster)
2009	PEPFAR Implementers' Meeting (Namibia)	Expanding the Impact of the Red Ribbon: Strengthening Health Systems with HIV/AIDS Initiatives (Poster)

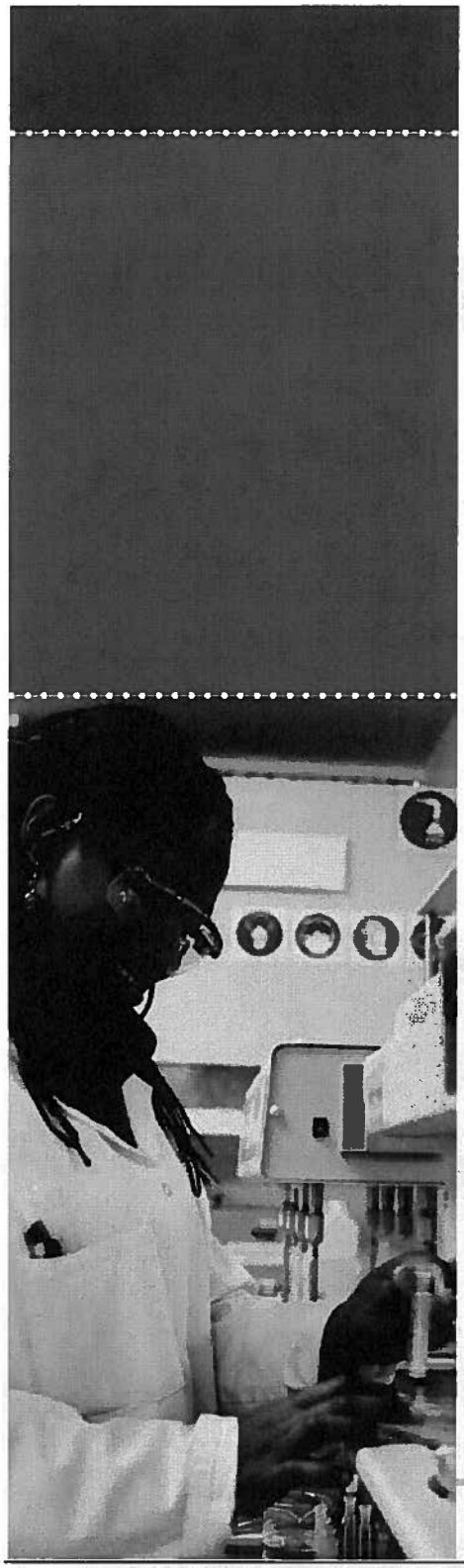
Appendix B. Three Years of Saving Lives Through Stronger Supply Chains

SCMS

A REPORT ON THE GLOBAL IMPACT OF SCMS | April 2009

Three years of saving lives
through stronger HIV/AIDS supply chains





Dr. Leslie Ramsammy, Guyana's Minister of Health, is a man with a mission. In 2001 he set out to transform Guyana's public health system. Taking a holistic view, he understood that "procurement, storage and distribution of health commodities are as critical as providing doctors, nurses and x-rays." Partnering with SCMS since 2006, Guyana has transformed its supply chain to become the most advanced warehouse management system in the Caribbean.

All public health indicators—including life expectancy, child and maternal health, and incidence of HIV infection—have improved markedly. Although Guyana is training hundreds of new doctors and nurses each year, "the most significant factor is that we now have a viable supply system in place," Dr. Ramsammy said on a visit to SCMS.

Supply chains are a critical prerequisite for the success of community-based health programs. With vastly increased funding from international donors, countries have been able to rapidly scale up antiretroviral treatment (ART) programs over the past few years. But many were faced with an unpleasant reality. They lacked the basic infrastructure and systems to deliver the medicines, test kits, laboratory equipment and other medical supplies needed to test and treat people living with HIV/AIDS.

In the fall of 2005, PEPFAR launched SCMS to help meet this challenge.* Administered by USAID, the project strengthens and, where necessary, establishes sustainable supply chains to deliver an uninterrupted supply of high-quality, low-cost products for people living with or affected by HIV and AIDS.

In three years**, the project has achieved impressive results:

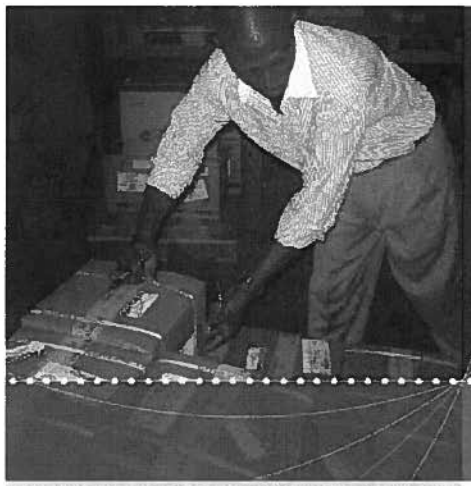
- SCMS has offices in all 15 PEPFAR focus countries plus Zimbabwe, providing procurement services, technical assistance (TA) to transform supply chains, and coordination of stakeholders globally and in the countries where we work.
- We have delivered more than $247M of commodities, most of it in the last two years.
- SCMS is now a major provider of systems strengthening TA in the 15 focus countries plus Zimbabwe, and we have provided short-term TA in another eight countries. Focus areas include warehousing and distribution, management information systems, quantification and laboratory logistics.
- Products delivered through the SCMS supply chain now support more than 750,000 patients on anti-retroviral treatment (ART).
- We have virtually eliminated stockouts of anti-retroviral medicines (ARVs) and rapid test kits for clients who procure these commodities regularly through SCMS.
- We have saved the US taxpayer $365 million in our ARV purchases by purchasing generic ARVs rather than branded drugs.
- We have saved more than $6.7 million in freight costs to date by shifting deliveries for clients who plan ahead from air freight to sea and road.
- We have prevented loss or theft of our products through physical measures, quality assurance testing, and the visibility provided by our information systems.
- In 2008, we ordered $8.5 million worth of products (out of a $218.9M total) to cover emergency requests, of which $21.4 million (out of $115.8M) were ARVs.
- In three years we have emerged from being an unknown entity to a respected collaborator and source of expertise.

This report provides more details about these and other results achieved by SCMS in our first three years.

Under PEPFAR, strengthened supply chains are helping quickly transform HIV/AIDS programs—and public health in general. As of December 31, 2008, SCMS* had delivered $247 million in HIV/AIDS commodities, including $153.2 million of antiretroviral (ARV) drugs, $39.8 million of HIV test kits and $42.8 million of laboratory supplies.

* SCMS (The Supply Chain Management System) brings together 16 private sector, nongovernmental and faith-based organizations that are among the most trusted names in supply chain management and international public health and development. We aim to improve the lives of people living with HIV/AIDS in some of the countries most severely impacted by the pandemic.

** All the data in this document are through December 31, 2008.



Providing HIV/AIDS medicines and supplies at best value

A new paradigm for procuring public health commodities

In three years, we have delivered more than $247M of commodities that now support more than 750,000 patients on anti-retroviral treatment (ART). SCMS' global staff has successfully managed the procurement and distribution of more than 3,300 separate items, 1,067 orders and 3,121 deliveries.

On World AIDS Day 2008 (December 1), listeners of Public Radio International's *The World** were introduced to "Grace," a woman in Côte d'Ivoire who had recently started treatment for HIV/AIDS. The story traced the journey of her medicines from a manufacturing plant in India, through SCMS' regional distribution center (RDC) in Ghana and then Côte d'Ivoire's central medical warehouse, to her remote village near the Liberian border.

Three years earlier, the journey her medicines took would have been impossible. In 2005, the idea of factories in India producing a range of affordable generic medicines for Africa seemed a laudable but distant goal. Pharmaceutical warehouses with temperature and inventory controls, computerized inventory management and strict security measures—such as SCMS' RDCs—were virtually unknown in sub-Saharan Africa outside of South Africa. One of the ARVs Grace takes was approved for use by the US Food and Drug Administration (FDA) in January 2007. And the clinic in Grace's village only began receiving ARVs in 2008.

* An audio recording and transcript of the *The World's* story about the SCMS supply chain are available at http://www.theworld.org/?q=node/22808

Providing HIV/AIDS medicines and supplies at best value

At the beginning of PEPFAR, a key concern was whether HIV/AIDS commodities could be reliably delivered in sufficient quantities to countries in sub-Saharan Africa and elsewhere, particularly to rural areas. But step by step, SCMS has introduced strategies and systems recognized as industry best practice to change the way governments, implementing partners and donors provide medicines and other health supplies to people like Grace.

Taking a new approach to warehousing and distribution

Strategic stocks of frequently purchased products go to RDCs in Ghana, Kenya and South Africa, where they are positioned close to their eventual country of destination. This strategic approach has helped to virtually eliminate stockouts of ARVs and test kits in programs supported by SCMS.

In addition to sending regularly scheduled shipments to neighboring countries, SCMS's RDCs have filled millions of dollars in emergency orders, including, for example:

- After a fire gutted a warehouse serving Harvard's AIDS Prevention Initiative in Nigeria, an emergency order of three ARVs from two RDCs.
- To cover a potential gap while Ethiopia transitioned to fixed-dose combination ARVs, an urgent order for stavudine.
- From Zimbabwe's Ministry of Health and Child Welfare, an emergency order for zidovudine. The SCMS RDC in Ghana responded with a three-month supply from its strategic stock.

→ In 2008, SCMS provided about $28.5 million of products to cover emergency requests, of which about $21.4 million were ARVs.

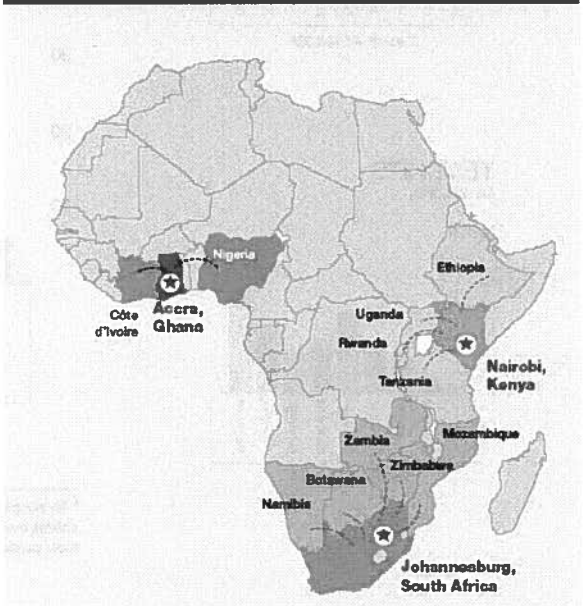
RDCs are a prime example of innovative public-private partnerships. They were developed without funding from the US government (USG) as commercial entities supporting global supply chains on a pay-as-you go basis. Although initially established to support SCMS, the RDCs are quickly becoming a sustainable commercial enterprise, attracting commercial suppliers of such products as laboratory supplies, pharmaceuticals and bed nets.

Partnering to lower the cost of medicines

When SCMS began, a year's supply of HIV medicines cost about $1,500 to $2,000 per patient in developing countries. Thanks to the efforts of many worldwide, today a year's supply can cost as low as $90 or less.

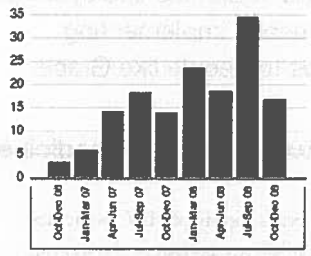
SCMS and others submit the prices paid for commodities to the World Health Organization's (WHO's) Global Price Reporting Mechanism, an online database tool that helps anyone buying ARVs know what others are paying. Using these publicly available data, buyers can negotiate better prices with vendors.

Three state-of-the-art regional distribution centers ensure a rapid and reliable supply of frequently requested items



Providing HIV/AIDS medicines and supplies at best value

ARV MEDICINES
(in millions)

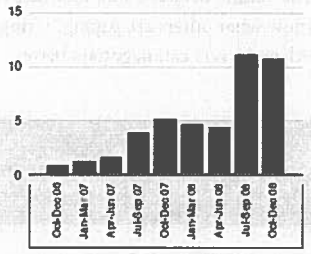


Overall: 149,309,384

Acting under congressional mandate, the FDA has sped the approval of less costly generic versions of branded ARVs for purchase by PEPFAR programs.* In 2005, 12 such drugs were approved or tentatively approved for use. As of Dec. 31, 2008, there were more than 75. Consistently, more than 90 percent of ARVs SCMS purchases are generic products. To date, we have saved the USG $365 million compared to the price of equivalent branded products.

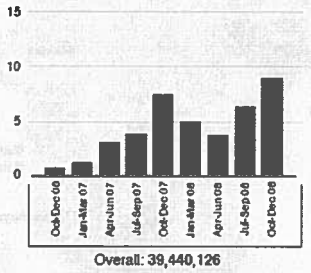
SCMS helps obtain lower prices for our clients by negotiating long-term contracts with key suppliers of medicines, HIV test kits, laboratory supplies and other commodities. Aided by our RDCs, we aggregated procurement volume across all SCMS clients; as a result, our prices for ARVs beat or match those of every other international supplier of the same products in almost every instance.

LABORATORY SUPPLIES
(in millions)



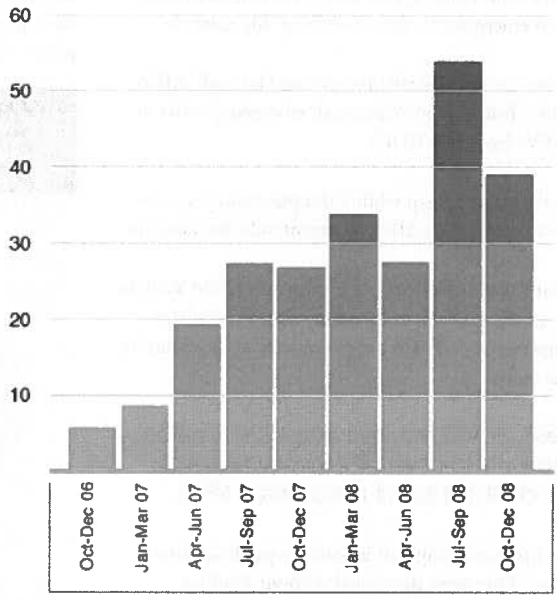
Overall: 43,743,368

TEST KITS
(in millions)



Overall: 39,440,126

Procurement totals
(in millions)



Overall: **241,826,928**

* To support PEPFAR's goals, the FDA introduced an initiative in 2004 to ensure that antiretroviral drugs produced by manufacturers all over the world could be rapidly reviewed, their quality assessed and their acceptability for purchase with PEPFAR funds confirmed.

Using world-class freight and logistics

Even though ARV prices have dropped considerably, most countries still have more patients needing treatment than they can serve with available funding.

Traditionally, programs have used costly air freight for shipping HIV/AIDS commodities. SCMS, now the largest procurer of ARVs for PEPFAR programs, has succeeded in drastically reducing shipping costs in order to help clients redirect money to other purposes, such as providing treatment to more people like Grace.

SCMS has worked with clients to develop forecasts and demand plans for a range of HIV/AIDS commodities. Forecasts and demand plans allow SCMS and our clients to schedule deliveries farther into the future and to switch appropriate shipments from air freight to sea and/or road, avoiding periods of peak shipping prices. These strategies have enabled us to reduce shipping costs by as much as 90 percent for some shipments.

SCMS uses UPS, a third-party logistics (3PL) provider, to plan and coordinate shipments and negotiate pricing with carriers worldwide. Working closely with clients, SCMS reduced the percentage by volume of air shipment versus sea from 100 percent in 2006 to 85 percent in 2007 and to 65 percent in 2008, saving clients more than $6.7 million in freight costs to date. At current shipment volumes, we predict saving the USG and our other clients $500,000 per month in shipping in 2009 and beyond.

Examples of freight cost savings include:

- Cote d'Ivoire has saved more than $600,000 (81 percent over air freight) by switching from air to sea and more than $12,000 (55 percent) through use of road freight.
- Haiti has saved more than $248,000 (84 percent) with sea shipments.
- Rwanda has saved more than $200,000 (63 percent) with sea shipments and more than $24,000 (57 percent) with land shipments from our RDC in Kenya.
- Zambia has saved more than $415,000 (91 percent) with sea shipments and more than $224,000 (54 percent) with land shipments.

→ SCMS has saved clients more than $6.7 million in freight costs by switching from costly air freight to sea and road.

Providing HIV/AIDS medicines and supplies at best value

Applying best practices in quality assurance

Spending more than necessary for commodities and shipping is just one of many risks that public health programs face while scaling up ART. Many countries lack adequate quality assurance (QA) procedures to prevent substandard or counterfeit pharmaceuticals from entering their supply chains and potentially harming people who seek medical treatment.

Unique among HIV/AIDS programs in developing countries, SCMS's QA program incorporates physical measures, QA testing and the visibility provided by our robust information systems to preclude substandard products from entering our supply chain, and to prevent or detect diversion. For product testing, SCMS uses the WHO-prequalified laboratories at North-West University (NWU) in South Africa. Physical security measures appropriate to each product and shipping route—up to and including armed guards—along with automated shipment tracking from source to final consignee ensure that the chain of custody is not broken.

The success of this QA strategy has been demonstrated repeatedly. To date, we have:

- Found no incidents of substandard or counterfeit ARVs.
- Managed manufacturers' recalls, such as withdrawing Viracept from our entire supply chain in 2007 in a matter of days after Roche recalled the product.
- Identified QA issues and stopped product before it reached patients, such as a recall of cotrimoxazole in 2008.
- Identified non-FDA compliant product before distribution.

We are also working to ensure quality of test kits, latex gloves, laboratory supplies and product categories new to SCMS, such as food-by-prescription.

Preventing product expiry

In addition to stockouts, theft and counterfeit, expiration of products due to overstock is a tangible threat in HIV/AIDS programs. To prevent product expiry, SCMS uses sophisticated inventory management processes that focus on stock rotation and constantly monitors the shelf life and inventory levels of stocked products.

> For SCMS, product expiry as a percentage of the value of stocks managed by SCMS warehouses is 0.09 percent. Industry standards are four to seven percent, and a recent analysis by WHO of some supply channels reported expiry rates of 18 percent.

In most cases, the SCMS supply chain ends at the central or regional warehouses of the countries where we work. Each country is then responsible for storing and distributing medicines, test kits, laboratory equipment and other supplies to treatment sites within their borders. Therefore, we are working to ensure that all of the best practices SCMS has implemented in the global supply chain are adapted for use in each country where we work.

Building capacity to transform supply chain performance

In each country, supporting lasting change

Different countries have unique challenges. SCMS is now a major provider of technical assistance for systems strengthening in the 15 PEPFAR focus countries plus Zimbabwe, and we have provided short-term technical assistance in another eight countries. Focus areas include warehousing and distribution, management information systems, quantification and laboratory logistics.

Scaling up HIV/AIDS treatment requires a similar scale-up of laboratory systems. The demands on Ethiopia's laboratory system were significant as the country increased access to treatment from 24,400 patients in March 2006 to 155,000 in early 2009.

SCMS worked with the Ethiopian Health, Nutrition and Research Institute (EHNRI) to design and implement a national laboratory logistics system. Under the new system, treatment and monitoring sites send reports and requests to hubs of the Pharmaceutical Fund and Supply Agency (PFSA), which in turn supplies the sites with the ordered products. Laboratory staff now manage inventory, order and receive products, set maximum and minimum stock levels for their sites, record consumption and stock levels, and report commodity data.

Before the new system was in place, stockouts were frequent and hospitals waited three months or longer for critical commodities. Since implementation, no stockouts have occurred, and emergency orders have dropped dramatically. Laboratory reagents and related supplies now arrive on time and in the quantities needed. The logistics system is now serving more than 155,000 patients, many of whom live in isolated rural areas.

→ SCMS also has provided technical support for laboratory logistics in Botswana, Côte d'Ivoire, Haiti, Mozambique, Namibia, Rwanda, Uganda, Vietnam and Zambia.

Building capacity to transform supply chain performance

Where We Work

Botswana: Working with the Drug Regulatory Unit (DRU), SCMS helped streamline and strengthen the drug registration process, aiming to speed approval of safe, effective and less expensive generic ARVs. The DRU has eliminated a backlog of 400 applications for pharmaceuticals and is reviewing new applications as they arrive.

Côte d'Ivoire: The pilot of a new data collection system, using hand-held PDAs, reduced the time needed for health facilities to collect and report data from six months to almost instantly. Reporting rates to a central database rose to 95 percent, and SCMS is now rolling out the system nationwide.

Ethiopia: SCMS has helped eliminate stockouts of laboratory supplies. A new laboratory commodities distribution system, now serving 380 sites nationwide and more than 155,000 patients, is ready for integration with other HIV/AIDS commodities such as ARVs, ensuring a comprehensive package of services to patients.

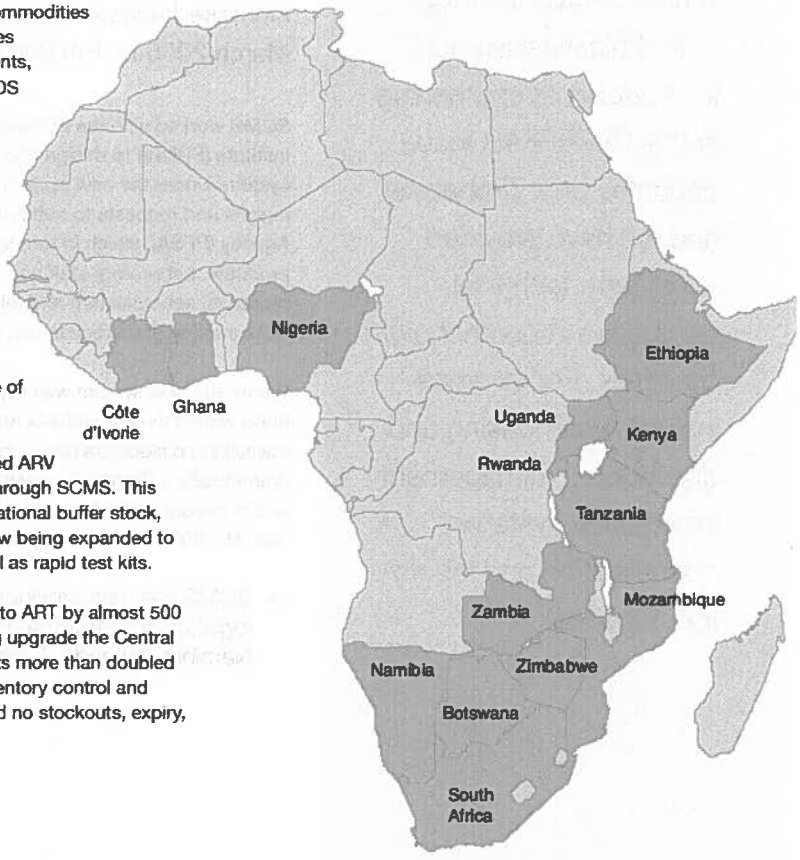
Kenya: SCMS is now scaling up our activities in Kenya. Impact has been immediate: After implementing better coordination and planning among partners, our staff uncovered a potential overstock of laboratory reagents and canceled two very large orders valued at more than $1.3 million, preventing waste of both funding and product.

Mozambique: The USG has consolidated ARV procurement for all PEPFAR programs through SCMS. This centralized system, which maintains a national buffer stock, has greatly reduced stockouts and is now being expanded to include other essential medicines as well as rapid test kits.

Namibia: SCMS helped expand access to ART by almost 500 percent in the last three years by helping upgrade the Central Medical Stores (CMS). The improvements more than doubled storage capacity, and also improved inventory control and distribution. Since then, Namibia has had no stockouts, expiry, loss or theft of ARVs.

Nigeria: SCMS supported the first-ever PEPFAR-wide quantification and supply plan for ARVs, which has enabled pooled purchasing of key products to reduce costs and improve reliability of supply.

Rwanda: SCMS works with CAMERWA, the central medical store, to strengthen financial systems so that CAMERWA can be qualified as a direct recipient of USG grants. SCMS also supports CAMERWA to evaluate vendor bids for ARVs, essential drugs and laboratory commodities; and to improve management of warehouses.



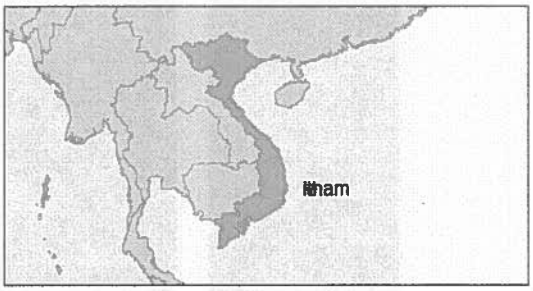
South Africa: SCMS procures ARVs for the South African National Defense Force; sponsors provincial pharmacy staff to attend warehouse operations training; and supports improvements to the Mpumalanga and Limpopo provincial warehouses.

Tanzania: SCMS redesigned the logistics system of the National AIDS Control Program to support the country's ambitious scale-up plan for ART. The system requires that ARVs and test kits be distributed simultaneously with essential medicines through 692 ART sites, ensuring treatment for even hard-to-reach and underserved populations.

Uganda: In 2008, SCMS led a joint quantification exercise for 50 USG partners. For the first time, consolidated estimates of numbers of adults and children on ART—as well as the respective costs for first- and second-line regimes—are available for use in planning and procurement.

Zambia: Through technical assistance and training in laboratory logistics and commodity security, SCMS works with the government of Zambia to reduce stockouts centrally. As a result, stockout rates of 185 major laboratory commodities have fallen from 70 percent in October 2007 to six percent in October 2008.

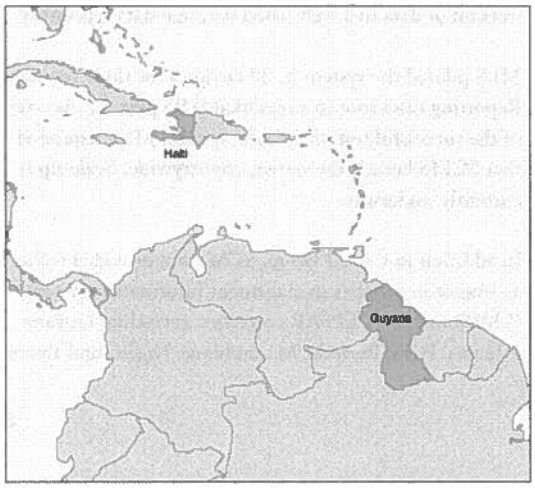
Zimbabwe: With support from SCMS, Zimbabwe was the first PEPFAR country to take over management of forecasting and demand planning. Data generated by the SCMS-developed Zimbabwe information system for HIV/AIDS commodities have enabled the Ministry of Health to all but eliminate stockouts. Reporting rates have improved to between 84 percent and 92 percent from 113 ART sites.



Haiti: In this country with very poor infrastructure, SCMS manages the whole supply chain, delivering directly to treatment sites. Even after hurricanes weakened or destroyed infrastructure in 2008, SCMS averted stockouts entirely and completed over 90 percent of quarterly deliveries using every form of transport from wheelbarrows to helicopters.

Guyana: In addition to helping transform warehousing and distribution of health commodities, SCMS supports the annual National Testing Week. In 2008, consumption of rapid test kits was double the target. SCMS helped avert a stockout by expediting an already-planned shipment and obtaining stock from our Haiti program.

Vietnam: In addition to supporting the launch of Vietnam's groundbreaking methadone program, SCMS is a major provider of technical assistance and training on supply chain management, dispensing and counseling, and other related topics.



Building capacity to transform supply chain performance

Different countries have unique challenges. SCMS is now a major provider of systems strengthening technical assistance (TA). Like our work in Ethiopia, our technical assistance seeks to identify and build sustainable solutions for the scale up of HIV/AIDS programs.

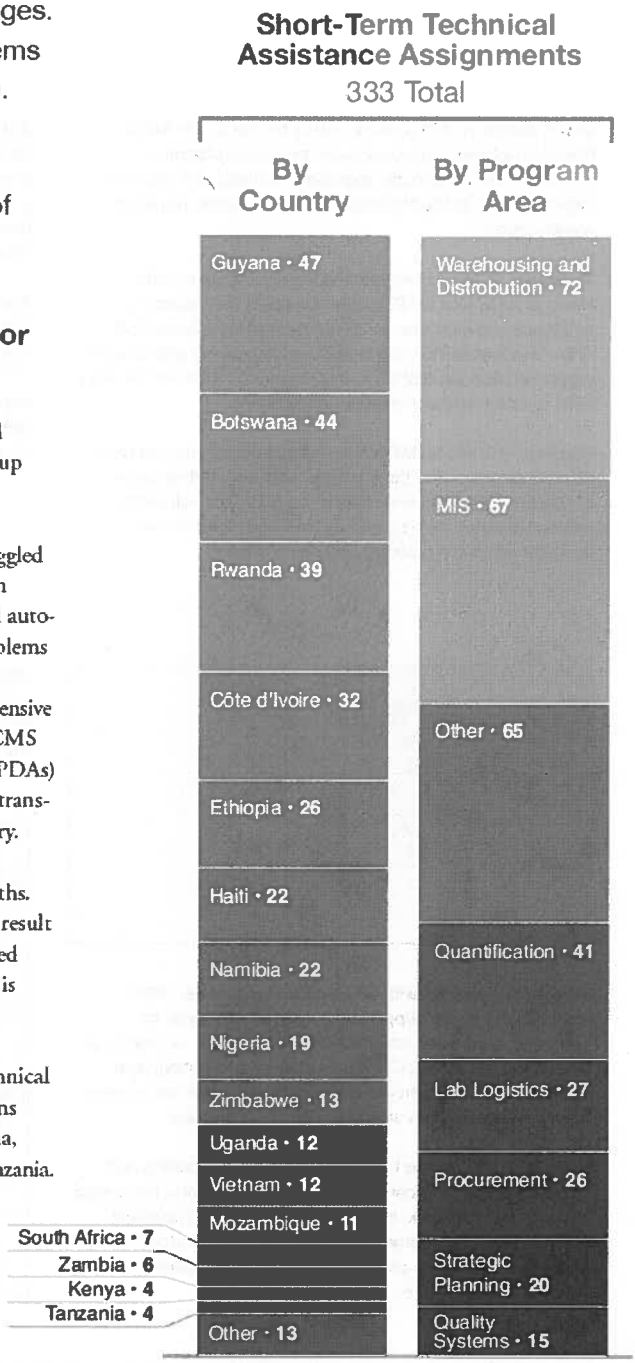
In Côte d'Ivoire, a handy solution for more efficient data reporting

Many countries grapple with inefficient and outdated information systems that hinder their efforts to scale up testing and treatment programs.

Côte d'Ivoire's Ministry of HIV/AIDS (MLS) has struggled to collect accurate data from health facilities for use in national-level decision making. SCMS recommended automating the system after a thorough review of the problems resulting from a cumbersome paper-based process. Recognizing the potential provided by the country's extensive cell phone infrastructure, and working with MLS, SCMS designed a system that uses personal digital assistants (PDAs) for data collection at health facilities and subsequent transmission of data to a web-based national data repository.

MLS piloted the system in 20 facilities for three months. Reporting rates rose to a remarkable 95 percent. As a result of the successful test of the new system, MLS requested that SCMS launch the system countrywide. Scale-up is currently underway.

In addition to Côte d'Ivoire, SCMS has provided technical assistance in logistics management information systems (LMIS) to most PEPFAR countries, including Guyana, Ethiopia, Haiti, Rwanda, Mozambique, Nigeria and Tanzania.



In Uganda, improvements to warehousing support scale-up of HIV/AIDS programs

Rapid scale-up of ART must often be accompanied by upgrades to warehousing and distribution systems. SCMS has introduced world-class warehousing technologies, including LMIS: temperature controls and cold chain facilities; expiry and batch control; and racking and bar coding.

In Uganda, SCMS has worked with the Joint Medical Store (JMS), a faith-based organization serving the needs of mission hospitals and clinics throughout the country. In addition, JMS is specifically tasked with managing 20 percent of all essential drugs, storing these for Ministry of Health (MOH) facilities and holding ARVs for several PEPFAR recipients. As JMS grew, so did the need for more storage. SCMS recommended various improvements, including a new warehouse management information system that uses radio frequency devices to speed up transactions, perpetual inventory procedures to replace annual inventories, and first-to-expire, first-out practices to reduce the risk of expiry. These changes have resulted in a streamlined, warehouse management system—one that enables a more secure, reliable supply of drugs and other health commodities that meets Uganda's scale-up needs and delivers to those who most need treatment.

→ SCMS has helped strengthen warehousing and distribution systems in many PEPFAR countries, including Botswana, Côte d'Ivoire, Ethiopia, Guyana, Haiti, Mozambique, Namibia, Rwanda, Tanzania and Zimbabwe.

In Vietnam, a landmark program to provide methadone

Unlike sub-Saharan Africa, Vietnam has a large numbers of people who contract HIV by sharing needles while taking drugs. SCMS is supplying methadone for Vietnam's drug substitution therapy program, in which patients reduce their risk of contracting or spreading the virus by taking the medicine orally.

Because methadone is classified as a controlled substance, import and export is a complex process, subject to international regulations on such commodities. Therefore, in addition to simply procuring the drug, SCMS has ensured compliance with international rules, treaties and documentation requirements. SCMS helped acquire permission for export of narcotics from the US FDA and authorization for import from the Vietnamese government.

SCMS is also helping search for a viable, long-term alternative to importation, providing technical assistance to the MOH on the local production of liquid methadone. Local production would avoid potential difficulties in importation and contribute to a sustainable supply of the drug for the country's highly successful program.

Building capacity to transform supply chain performance

Forecasting and demand planning benefit all programs

Forecasts and demand plans for commodities help save money in commodity costs and shipping, and ensure on-time delivery and availability. Encouraging our clients to plan ahead has been a central focus of our field offices, and their work has paid off.

In Botswana, scale-up of ART has been challenged by persistent stockouts of critical reagents, tests kits and other laboratory supplies, resulting in interruption of testing services. In 2008, SCMS, in collaboration with the Clinton HIV/AIDS Initiative (CHAI), MOH and BOTUSA (United States-Botswana Partnership), sponsored the country's first-ever training and national quantification exercise for laboratory commodities for the HIV/AIDS program. The process helped streamline the number of products used and reduced stockouts for tests related to HIV/AIDS by 95 percent.

In years past, PEPFAR implementing partners (IPs) in Nigeria developed individual drug quantifications using different methods with differing assumptions and data. In July and August 2008, SCMS worked with IPs to review individual quantifications and compile the first PEPFAR-wide aggregated quantification for ARV drugs in Nigeria. The resulting data were also used to identify two high-value, high-volume ARV drug combinations for pooled procurement by SCMS under the country operational plan for 2009, resulting in significant savings (especially in shipping and handling) and an improved negotiating position with manufacturers on capacity constraints due to limited availability of raw materials.

→ Through support from SCMS, all PEPFAR countries are using robust forecasting to plan future commodity purchases.

Collaboration harmonizes laboratory procurement

In recent years, ART programs have rapidly increased procurement of laboratory commodities. However, weak laboratory supply chains and the lack of tools for forecasting commodity needs have made planning and scale-up difficult. To address this problem, CHAI, SCMS and the USAID | DELIVER PROJECT developed a new automated forecasting tool to determine HIV/AIDS laboratory program product requirements for CD4, chemistry, DNA polymerase chain reaction, hematology and viral load testing. The tool, which is not limited to these HIV/AIDS-related tests, is currently being used in a number of countries, including Botswana, Côte d'Ivoire, Ethiopia, Haiti, Namibia and Rwanda.

Collaboration for long-term, local solutions

Innovative partnerships to benefit all

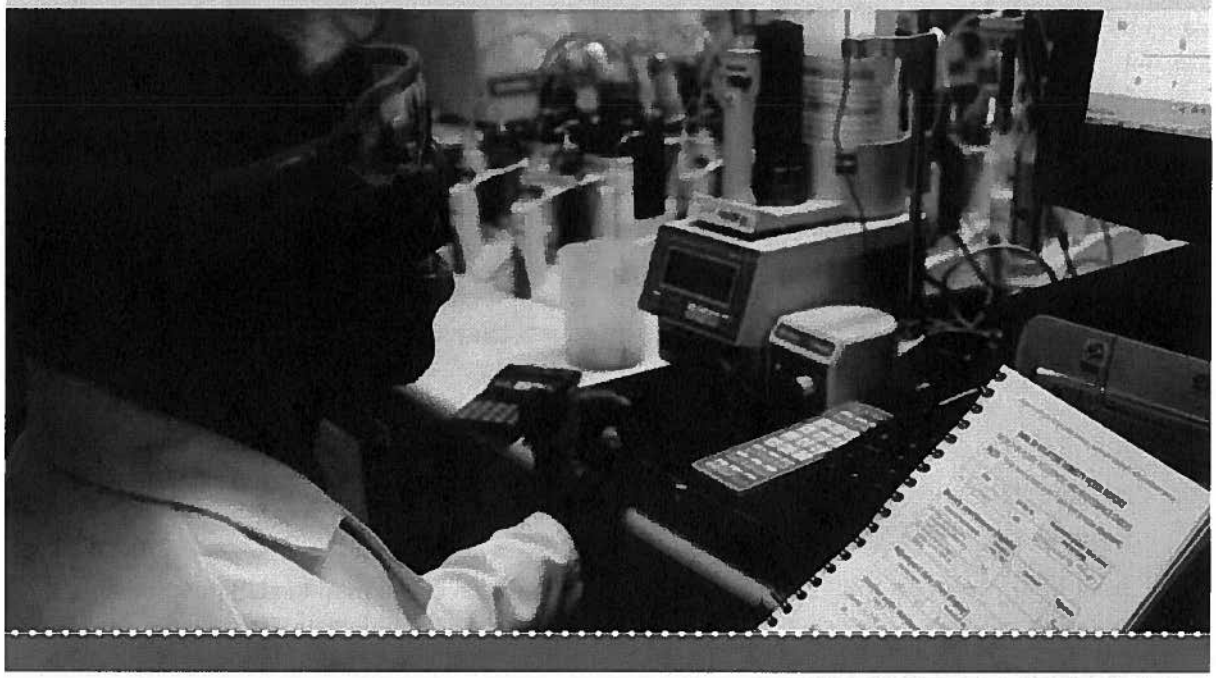
Many of the organizations working to provide treatment to people living with HIV/AIDS, such as the Clinton Foundation, PEPFAR, SCMS and UNITAID, did not exist 10 years ago. Yet they are now working together to combat the disease.

In just three years, SCMS has emerged from being an unknown entity to become a respected collaborator and source of expertise.

Our global partners, in addition to the US government, include the Clinton HIV/AIDS Initiative, the Global Fund, UNICEF, UNITAID, WHO and the World Bank. Our local and regional partners include ministries of health, faith-based and nongovernmental organizations and private-sector companies.

The innovative partnerships that SCMS is creating to deliver commodities countries are just one example of our work to foster to partnerships worldwide. At the 2008 International AIDS Conference in Mexico City, we reported on our collaborative efforts to reduce the cost of ARVs. Panelists at the event represented our collaborators CHAI, the Global Fund, UNICEF and WHO. In three years SCMS has built a number of partnerships with organizations worldwide to leverage each organization's strengths. Working together, we have accelerated change far beyond what many thought possible.

Collaboration for long-term, local solutions



Working together to improve procurement planning

Key to procuring HIV/AIDS commodities is coordinating the activities of governments, providers and funders. Without a unified procurement effort, gaps and redundancies can result—leading to stockouts, overstocks, and ultimately, wasted time and money.

As part of an initiative originally led by the World Bank, the Global Fund and the USG, SCMS serves as the technical secretariat to facilitate coordination for procurement in Ethiopia, Guyana, Haiti, Mozambique, Rwanda and Vietnam. The program, known as the Coordinated Procurement Planning (CPP) Initiative, has now been joined by WHO and UNITAID and is being extended to new countries.

Supporting the availability of ARVs for rapid scale-up

As countries rapidly scale up ART and their orders for medicines used in treatment, manufacturers often have to guess how many drugs to produce. Shortages of specific medicines can result if they guess wrong.

To bring more rigor and certainty to quantification of future needs, SCMS participates in a WHO/UNAIDS working group and annual meeting that develops ARV forecasts from three main sources: UNAIDS' annual survey of demand, and forecasts from CHAI and SCMS. The working group shares these consolidated global forecasts of demand with the major manufacturers of ARVs and active pharmaceutical ingredients to help them plan production and ensure that adequate manufacturing capacity is in place as programs scale up. SCMS also provides procurement data to the WHO global price reporting mechanism, and ARV registration status information for the WHO regulatory database.

Building a public-private partnership to address children's treatment needs

Children with HIV/AIDS have needs and challenges that are different than those facing adults. SCMS has contributed to the Public-Private Partnership for Pediatric ART, an initiative of the former First Lady to address these special needs of children with HIV/AIDS. In addition to SCMS this global partnership includes CHAI, the Elizabeth Glaser Pediatric AIDS Foundation, PEPFAR, UNAIDS, UNICEF, WHO and pharmaceutical companies. Responding to changing recommendations in the assessment and treatment of very young infants exposed to HIV, SCMS has prepared a special commodity list of products required for early infant diagnosis. For the guidance of implementers this list is posted on the SCMS e-catalog. SCMS also developed a standardized procedure to generate a forecast and prepared a selective forecast of pediatric ARV demand for 2007 and 2008 in 11 of the PEPFAR focus countries plus Zimbabwe.

Harmonizing and standardizing laboratory commodities: extending the global reach

Laboratory procurement is particularly complex, because of the large number of products needed. Harmonization and standardization of laboratory commodities can improve procurement processes, inventory management, distribution systems and equipment maintenance. In late January 2008, 130 experts and policy makers from 31 countries, including Cambodia, Haiti, Vietnam and 28 sub-Saharan African countries, gathered in Maputo, Mozambique to find solutions to challenges that limit the scale-up of laboratory services for tuberculosis (TB), malaria and HIV diagnosis and care. Participants agreed to develop national strategic laboratory plans and policies, including standardization and harmonization of laboratory test supplies and equipment. The CDC and WHO Regional Office for Africa led the initiative. SCMS served as the technical secretariat for the meeting and is now promoting the recommendations for standardization, which were published in the summer of 2008.

→ At the Mexico City conference we heard impressive reports of progress. Four million people are now on treatment, compared with about two million in 2006, with one million more patients starting treatment each year.

Obviously, no one organization could have achieved so much in such a short time. Together, we have much more to do in the years to come. So while we celebrate the accomplishments of the last three years, we also look to the future.

The Way Forward

In the next phase of the project we must build upon our successes, achieve more with less in some areas and create sustainable structures, systems and human capacity for our national clients and implementing partners.

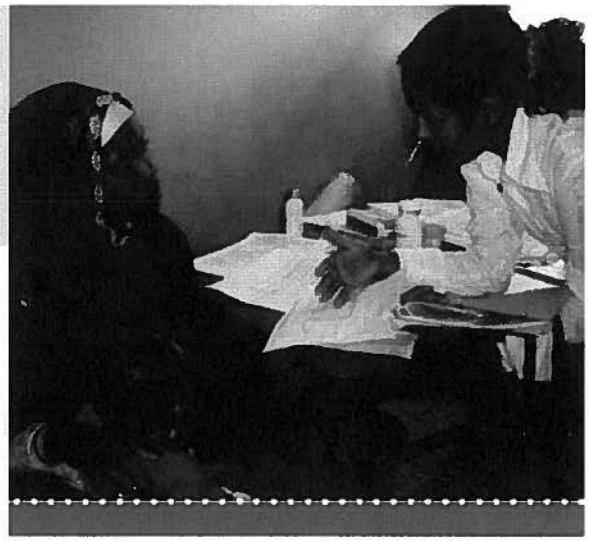
The whole PEPFAR program is moving into a new phase—beyond emergency scale-up to a more sustained and sustainable model of maintaining millions of people in care and treatment and continuing to prevent infection. SCMS must evolve to support this new focus.

In the global supply chain we expect to be called upon to supply major quantities of ARVs, diagnostics kits, other essential drugs and other laboratory equipment. The challenge will be to continue to drive down the costs even as new medicines, diagnostic equipment and care-and-prevention technologies become available—often at higher costs, at least initially.

We already know that in 2009 and 2010 our clients will ask SCMS to supply new categories of products. Much of our anticipated growth in procurement is expected to come from commodities such as blood safety, male circumcision, early infant diagnosis and treatment, waste disposal, TB and therapeutic foods. Any of these commodities could require new solutions, which we will introduce while continuing to maintain and improve the operation of global supply chains that support those living with and affected by HIV/AIDS.

HIV/AIDS can reduce food intake and nutrient absorption. Malnutrition can then cause patients to be more susceptible to opportunistic infections and reduce the effectiveness of ART. Part of a new initiative, food-by-prescription (FBP) programs are underway in several countries, including Ethiopia, Kenya, Haiti. Tanzania and Uganda. Building on our effective systems for delivering HIV/AIDS commodities, SCMS is expanding services to procure, store and distribute specialized food products.

For food-by-prescription programs, SCMS has identified appropriate products and is collaborating with such international agencies as the World Food Program and UNICEF to identify suppliers and prequalify them. In coordination with USAID missions and the USAID Food and Nutrition Technical Assistance (FANTA-2) project, SCMS is compiling forecasts and demand plans for FBP products. We are writing a guidance document for field offices and partners covering best practices in procurement, shipping, warehousing and distribution.



As SCMS evolves we will continue to focus on the principle that the supply chain begins and ends in country. We will decentralize more activities to our field offices, working alongside our national clients and implementing partners to build sustainable local capacity. We will continue to provide innovative technical solutions through long- and short-term technical assistance to enable our clients to realize the maximum reward from their investments in new systems, infrastructure and human capacity. The key challenge will be to ensure that in-country supply chains have the scope, agility and capacity to meet the challenge of ever-expanding demand from local and international programs serving those living with and affected by HIV/AIDS.

SCMS will continue to provide support that enables our clients to manage the full supply cycle from forecasting, ordering, receipt, storage, distribution, usage, monitoring and evaluation and around the cycle back to forecasting. In particular, we expect to focus on innovative solutions to logistics management systems, using appropriate new technologies such as wireless communication for data capture and reporting, and sophisticated warehouse management and distribution systems. With agreement from client organizations, we will help them improve their quality assurance systems. We also expect that a growing proportion of our purchases will be managed in country, requiring new systems and training, along with validation of qualified suppliers.

Internationally, it is difficult to anticipate what new players may enter the arena, but as funding needs continue to grow, new organizations will likely emerge, and existing donors such as the European Union or Japan, major donors who are relatively quiet in the HIV/AIDS arena, may become more prominent. We will work with new stakeholders and continue to work with existing partners, building on the strong relationships established in the first three years of the project. We see the Coordinated Procurement Planning Initiative as a particularly relevant mechanism for bringing like-minded organizations together. The Global Fund's proposed Voluntary Pooled Procurement service will also present a new dynamic in the international supply arena.

There is growing evidence of the need for global-level information on the HIV/AIDS commodity market, supply trends, demand patterns, new product development and pricing. SCMS is an active contributor to the global databases and a regular contributor to meetings, workshops and technical groups. The challenge in the coming years will be to institutionalize sustainable mechanisms and owners for these global public services, thus reducing the burden on any one donor, including the USG. UNITAID is already beginning to show interest in funding a global database on market intelligence. We will continue to work with the US Centers for Disease Control and Prevention (CDC), Global Fund, Office of the Global AIDS Coordinator (OGAC), UNICEF, UNITAID, WHO and private foundations such as the Bill and Melinda Gates Foundation and Clinton Foundation to develop innovative but enduring structures to meet these needs. Together, we will strive to enhance collaboration, cooperation and information sharing at a global level to benefit HIV/AIDS programs and the patients they serve.

→ Under a reauthorized PEPFAR, SCMS will now work with our partners to move from an emergency response to focus even more on sustainability.

SCMS

Providing quality medicines for people living with and affected by HIV and AIDS

PEPFAR Implementing Partner

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Appendix C. Publications

SCMS Major Publications under Task Orders 1& 2

Year	Publication type	Title or activity
From 2006	Quarterly external e-newsletter	Supply Lines (first known as SCMS Update)
2006	News story on SCMS	InterAction's Monday Developments
2006 2007	Annual report	Provided text and photos of PEPFAR annual report
From 2007	Biweekly staff e-newsletter	SCMS Links
2007	Four news stories on SCMS	Global Health Council newsletter
2007	Brochure	Saving Lives through Stronger Supply Chains
2007	Technical Briefs	1. Donations (now retired) 2. Forecasting and Supply Planning 3. Freight Forwarding 4. Order Fulfillment 5. Regional Distribution Centers 6. Technical Assistance 7. Procurement 8. Quality Assurance
2007	In Briefs	1. Strengthening systems to save lives: Ensuring an uninterrupted supply of quality medicines for people living with HIV/AIDS in Guyana 2. Donor Coordination in Mozambique: The Key to Expanding a Successful Program 3. Coordinating Donor Funds to Scale Up HIV/AIDS Treatment in Rwanda: On the Road to Success
2007	Interview	Dr. Leslie Ramsammy, Minister of Health of Guyana
2007	Website	Launch of enhanced SCMS site
2007	Brochure	French version
2007	FAQs	1. Procuring commodities through SCMS 2. Regional Distribution Centers 3. Procuring Commodities through SCMS 4. About SCMS

2007	Website	Launch of Resource Center on website
2007	Message points	For Ambassador Dybul
2008	Website	Launch of staff intranet and forum for both intranet and website
2008	Radio	SCMS featured in Public Radio International's "The World" in a story entitled "Delivering AIDS Drugs: the Long Journey
2008	Poster	24-month wall calendar, including Timeline Tips for Effective Supply Chains
2008	Interview	Ambassador Zephyr Mutanguha, Director General of CAMERWA
2008	FAQs	Specialized Food Products Counterfeits
2009	Three-year project report	Three Years of Saving Lives through Stronger Supply Chains
2009	In Briefs	1. Bringing Nutrition to the Table: Leveraging Supply Chain Best Practices for Food by Prescription Program 2. In Botswana, Strengthening Drug Registration to Improve Access to HIV/AIDS Treatment 3. Going Mobile: Côte d'Ivoire's New Community Reporting System Puts Data on the Fast Track 4. In Namibia, Improvements to Warehousing Support Scale-up of HIV/AIDS Programs 5. In Nigeria, Building Local Capacity from Day One: Integrating Logistics Systems into Program Start-up 6. Developing a PEPFAR-wide Strategy for ARV Procurement in Nigeria 7. Taking It to the Road and Sea: 8. New Freight Options Can Help Move Money to HIV/AIDS Treatment 9. Avoiding the Bitter Pill: Quality assurance prevents harm
2009	FAQs	For Vendors/Suppliers
2009	Catalog	Overview of All SCMS Core Formulary Lists