In 2003, in the midst of a global health crisis, the United States Government (USG) established the President’s Emergency Plan for AIDS Relief (PEPFAR). On the African continent alone, some 30 million people were infected with HIV, but only 50,000 had access to treatment. Patients were dying at alarming rates, and the cost to treat a single patient was up to $10,000 per year.

In 2005, USAID under PEPFAR established the Supply Chain Management System (SCMS) to provide a reliable, cost-effective, and secure supply of products for HIV/AIDS programs in PEPFAR-supported countries. The project’s goal was to make real and lasting progress toward achieving universal access by bringing down the cost of treatment and strengthening in-country supply chains.

Today, 5.7 million people in developing countries receive direct lifesaving antiretroviral (ARV) treatment through the support of the American people, and the cost of drugs to treat a single patient has dropped to $110 per year. SCMS now provides more than 70% of these PEPFAR-funded medicines. This progress could not have been made without addressing challenges in the public health supply chains of the hardest-hit countries.

In creating SCMS, we focused on saving lives by aggressively scaling up treatment access, promoting country ownership, and investing in sustainable country health systems. We have made extraordinary progress toward transforming supply chains in dozens of countries by applying innovative supply chain solutions and industry best practices. The challenge
before us now is not only to sustain the project’s progress, but also to accelerate its efforts. In PEPFAR 3.0, we set the project’s “impact for action” agenda to do the right things in the right places and at the right times, to control the epidemic by rapidly scaling up prevention, treatment, and care, while shaping best practices in supply chain management in Africa and elsewhere. Doing so will require continued focus on transferring the project’s skills, processes, and practices to responsible public-sector institutions, vibrant private-sector organizations, and thriving civil societies as we march together toward achieving an AIDS-free generation.

ARIEL PABLOS-MÉNDEZ, MD, MPH
USAID Assistant Administrator for Global Health, Child and Maternal Survival Coordinator

THE SCMS MISSION
To strengthen or establish secure, reliable, cost-effective, and sustainable supply chains to meet the care and treatment needs of people living with or affected by HIV/AIDS. In collaboration with in-country and international partners, SCMS:

PROVIDES QUALITY, BEST-VALUE HEALTH CARE PRODUCTS TO THOSE WHO NEED THEM
DEPLOYS INNOVATIVE SOLUTIONS TO ASSIST PROGRAMS IN ENHANCING THEIR SUPPLY CHAIN CAPACITY
ENSURES ACCURATE SUPPLY CHAIN INFORMATION IS COLLECTED, SHARED, AND USED
In the midst of the global AIDS crisis, many of the hardest-hit countries lacked the public health supply chain infrastructure to rapidly and effectively respond. Systems were challenged by frequent stockouts, overstocks, expiries, and wastage. Through PEPFAR, under USAID leadership, SCMS was established to provide life saving ARVs to patients.

With the leadership of PEPFAR, the US Agency for International Development (USAID), and Centers for Disease Control and Prevention (CDC), SCMS established an integrated, global supply chain. In leveraging economies of scale to reduce the cost of medicines and other commodities and ensure reliable supply, this system would become the provider of choice for the global AIDS response.

The flexibility and resilience of SCMS’s approach enabled us to keep pace with the ever-evolving HIV/AIDS landscape, quickly adapting to regimen changes, new programs, and product introductions to ensure the continuous supply of appropriate commodities to patients.

Also, many public health supply chains could not store and distribute the growing volumes of PEPFAR and Global Fund to Fight AIDS, Tuberculosis and Malaria HIV/AIDS commodities.

To keep pace, SCMS pulsed product into countries when required, but not before—in keeping with the project’s business model, SCMS also helped equip warehouses with modern racking, security, forklifts, cold rooms, and computerized inventory systems and implemented systems to capture and analyze logistics data for decision making. To build human resources, the project implemented traditional training programs and partnered with universities in setting up sustainable mechanisms for pre-service training.

For 10 years, SCMS, a project managed by the Partnership for Supply Chain Management (PFSCM), has broadened and accelerated public health and supply chain improvements, strengthening the capacity of national governments, vendors, commercial organizations, donors, and others.

As a result of these innovative efforts, countries can better plan for and meet their public health needs, and the global community and marketplace are better positioned to meet accelerating future demand.
SCMS’S REACH

SCMS HAS OPERATED IN 25 COUNTRIES, SUPPORTING LOCAL PARTNERS TO BUILD CAPACITY AND COUNTRY OWNERSHIP OF SUPPLY CHAIN MANAGEMENT.

9.5 million

Patients supported by PEPFAR on antiretroviral (ARV) treatment, of which 5.7 million are receiving direct support. SCMS procures more than 70% of all ARVs directly funded by PEPFAR.

FEBRUARY 2006

SCMS hosts first Supplier Summit to introduce the project to prospective suppliers and to make them aware of the USG federal acquisition regulation (FAR) before issuing tenders.

MAY 2006

Côte d’Ivoire places the project’s first order for lab items.

MAY 2006

First country offices open in Guyana and Haiti.
OVERCOMING DEVELOPMENT ROADBLOCKS

Innovating for impact

To meet the needs of the millions living with HIV/AIDS, we knew we had to do more than shore up the basic foundations of physical, organizational, and human infrastructure. Modern technologies, breakthroughs in procurement and pricing, and structural innovations were needed to create new models of development that could successfully address public health supply chain challenges. Ingenuity would be key to overcoming development roadblocks.

Regional distribution centers, an innovation success
Regional distribution centers (RDCs) were established in Ghana, Kenya, and South Africa to bring lifesaving medicines closer to those who need them, protect fragile national supply chains from overload, and reduce lead times. The RDCs were designed to be more responsive than anything seen in the public sector—delivering products in days, weeks, or months instead of quarters or years. RDCs effectively separated manufacturers’ product supply from individual client demand, yielding multiple benefits:

- Enabled 85% of all procured ARVs to be shipped by ocean versus air at cost savings of

$176 million.*

- Positioned product closer to final destinations so SCMS could make smaller, regular deliveries and protect local supply chain systems.
- Ensured rapid response to emergency requests.
- Reduced the risk of theft, diversion, or counterfeiting through provision of physical security.
- Protected product quality by maintaining industry best-practice standards.

SCMS team member Imperial Health Sciences (IHS, formerly RTT) established the RDCs for use by SCMS and other clients.

A major breakthrough in ARV access: Tentative FDA approval
Before PEPFAR, one of the biggest hurdles to the rapid scale-up of antiretroviral therapy (ART) in the developing world

JUNE 2006
Appointed Technical Secretariat of the Coordinated Procurement Planning Committee (CPP)

JULY 2006
First ARV samples tested at North-West University

*According to SCMS analysis.
was the price of ARVs. Acting under congressional mandate, the US Food and Drug Administration (FDA) modified their existing process to create a unique system for tentative approval of generic versions of branded ARVs for purchase by PEPFAR. In 2005, 12 such drugs were approved or tentatively approved for use; by June 30, 2015, 187 were approved. The exponential increase in generic ARV availability and in ARV procurement enabled the US Government to save hundreds of millions of dollars on the cost of ARVs and save millions of lives. Over the life of the project, 97% of all ARVs SCMS purchased have been generics.

Providing a new program paradigm for VMMC

In 2009, USAID asked SCMS to supply Voluntary Medical Male Circumcision (VMMC) kits based on specifications from the PEPFAR Male Circumcision Technical Working Group. SCMS identified vendors, working closely with them to maximize product availability and negotiating a 30% price reduction on single-use VMMC kits. We also examined manufacturer processes to identify bottlenecks—doubling capacity and increasing the use of alternative transportation modes to drastically reduce costs and minimize delivery lead time.

Efficient and flexible logistics practices were critical to achieving this unprecedented surgical scale-up and ensuring a continuous flow of commodities to support VMMC programs. The project’s varied logistics interventions were instrumental in helping ensure product availability while also saving money and time.

Managing VMMC health care waste with a new toolkit

Coordinating closely with USAID, SCMS developed a VMMC health care waste management (HCWM) toolkit. The project’s collaborators on this initiative included Population Services International, JHPIEGO, Futures Group, and the Swaziland Ministry of Health’s Environmental Health Department. Based on South African national standards, international best practice, and the SCMS HCWM model, this comprehensive set of tools provides guidance on building HCWM operational infrastructure, improving staff capacity, and helping stakeholders manage the waste generated by VMMC procedures, especially for campaigns using disposable VMMC kits.

Developing a new lab forecasting tool through a public-private partnership

Logistics is a data-driven process. With funding support from USAID, SCMS worked with USG technical leadership and the Clinton Health Access...
PHOTO BY ULF NEWARK

Initiative (CHAI) in developing the ForLab quantification tool to assist laboratory programs in forecasting their commodity needs. Inaccurate forecasts can lead to a waste of money and commodities—or worse, to stockouts. ForLab is a unique tool that aggregates four key data points—demographic morbidity, service, logistics, and consumption—to increase the accuracy of lab commodity forecasts and produce procurement-ready supply plans. The tool also gives laboratory program managers insight into supply chain challenges, service delivery gaps, uptake, and delivery inefficiencies that increase costs. ForLab was vetted through the CDC security office and approved for CDC staff use.

To date, Botswana, Côte d’Ivoire, Democratic Republic of Congo (DRC), Ethiopia, Haiti, Mozambique, Nigeria, Rwanda, Tanzania, Vietnam, Zambia, and Zimbabwe have used the tool for their national laboratory quantifications.

Facilitating 90-90-90 implementation: A tool to help countries transition from CD4 to viral load

Countries face significant challenges in successfully planning the implementation of viral load scale-up plans to meet the UNAIDS 90-90-90 targets. To address these challenges, SCMS developed a costing model for CD4 and viral load transitioning as part of scale-up planning. After developing the project’s tool, we partnered with CHAI, Médecins Sans Frontières, and other partners to incorporate this tool into a single, comprehensive health system viral load costing tool that all could use.

This tool is aimed at helping countries model transition scenarios to understand the programmatic and cost implications of scaling up viral load testing while reducing the need for CD4 monitoring. This tool was included in the Diagnostics Access Initiative (DAI) viral load and early infant diagnosis (EID) acceleration toolkit—launched at IAS 2015 in Vancouver—which aims to catalyze the expedited scale-up of viral load testing and EID.

Pilot testing geospatial technology to optimize data

In Ethiopia, USAID requested that SCMS develop a national supply chain strategy utilizing LLamasoft supply chain optimization software. We leveraged this opportunity to demonstrate the software’s utility in optimizing laboratory sample referral networks and instrument placement through an initial pilot study. With the success of this demonstration, which showed a potential savings of up to $1 million in sample referral costs, USAID and CDC requested that SCMS initiate a collaborative effort with LLamasoft to develop a lab-specific tool using geographic information system (GIS) technology. The tool is intended to assist Ministries of Health in PEPFAR-supported countries to optimize laboratory sample transport routes and monitor HIV testing quality.

239 million
HIV tests delivered to high-prevalence countries. Millions of people around the world now know their HIV status and can live productive, healthy lives.
GIS technology had never before been used for this purpose. It provides a performance map to help program managers understand geography-related issues and develop informed, strategic responses to diagnostic needs and performance. The tool was rolled out in October 2015 and included in the Diagnostics Access Initiative (DAI) viral load and EID acceleration toolkit.

Connecting the dots in Rwanda with a country-owned eLMIS
An electronic logistics management information system (eLMIS) provided by One Network was sourced and paid for by the Rwandan Ministry of Health (MOH) and the Global Fund. This country-owned eLMIS provides visibility into every product in the system, from the central to the site levels.

SCMS managed the implementation. We also worked with the MOH to train “super

SCMS’s laboratory technical support is defined by four central themes:
• Laboratory harmonization and optimization.
• Evidence-based procurement decision making.
• Laboratory commodity quantifications.
• Equipment maintenance strategy development.

DECEMBER 2007
SCMS achieves more than $149 million in savings by switching from branded to generic ARVs

JANUARY 2008
SCMS supports the Strengthening Laboratory Systems Conference where 33 countries endorsed the Maputo Declaration on Laboratory Harmonization of HIV Diagnosis and Treatment which became a guiding principle for the project’s lab strategy

FEBRUARY 2008
SCMS’s first electronic logistics management information system (eLMIS) goes live in Zimbabwe
users” on the system and to establish the technical set-up. Across 77 district health centers and pharmacies, it took just two weeks for stock on hand data to be uploaded from paper spreadsheets into the One Network system. These sites are all now reporting using this system.

**Saving time and reducing errors in Mozambique with radio-frequency devices**

To help improve warehouse efficiency, SCMS trained and certified staff at Mozambique’s Zimpeto central warehouse, the MOH’s main warehouse, to use radio-frequency (RF) devices. These devices are used to scan bar codes on wrapped pallets at different warehouse locations, allowing staff to instantly retrieve product information from every location and enabling faster stock counts and pallet movements within the warehouse. Before RF devices were installed, staff could spend more than five hours to move a maximum of 60 pallets, compared with the 30 minutes it now takes using RF. RF also significantly reduced data errors, improving stock accuracy.

**Expanding warehouse capacity with Warehouse-in-a-Box™ (WiB)**

Using modular building technology, SCMS team member organization IHS created WiB and Clinic-in-a-Box™ to fill gaps in country infrastructure. WiB is the ultimate one-stop solution for rapid infrastructure deployment. Benefits include significant savings in cost and time, improved health care delivery, supply chain performance, and enhanced warehouse operator skills.

These solutions not only addressed physical infrastructure of the facilities, but all...

—HELENA DOS MUCHANGOS, INVENTORY COORDINATOR, MOZAMBIQUE’S CENTRAL MEDICAL STORE
operational components, such as materials handling, security, and office equipment; developing standard operating procedures (SOPs); and training staff and managers in good warehousing practices. Solutions can be deployed more rapidly than conventional structures and sized to meet individual country needs, ensuring projects come in on time and on budget, with pharma-grade facilities.

On behalf of the USG, SCMS commissioned these modular structures to expand warehousing capacity and treatment access in Côte d’Ivoire, Nigeria, Rwanda, and Tanzania.

New tool developed to provide supply chain insight for better national decision making

The National Supply Chain Assessment (NSCA) diagnostic toolkit developed by SCMS, USAID | DELIVER PROJECT, and SIAPS (three USAID-funded projects) assists countries to comprehensively review country supply chain capability and key performance indicators.

Outputs of the NSCA are providing these countries a data-based foundation for national discussions around successes, challenges, and strategies for supply chain investments to support national strategic goals and accelerate performance improvement plans.

From 2012 to 2015, assessments were conducted in Botswana, Burma, Burundi, Côte d’Ivoire, DRC, El Salvador, Eritrea, Lesotho, Mozambique, Namibia, Nigeria, Panama, Paraguay, Rwanda, and South Africa.

Implementing low-cost, high-impact solutions for warehousing in Guatemala

For more than 15 years, Guatemala had procured and distributed its essential drugs and health supplies through a decentralized regional system with no central warehouse. This left often-imported commodities (for programs such as nutrition, HIV/AIDS, malaria, and family planning) without a central location to be stored and staged for delivery, resulting in inefficiencies. In 2010, at USAID’s request, SCMS recommended a low-cost, low-tech, high-impact design that could evolve with the country’s needs. For example, rather than installing high-cost air conditioning units that would need to be maintained and powered in the future, we recommended installing thermal insulation in the roof and replacing the walls with insulated, double-sided panels to keep temperatures down. These panels are self-extinguishing in a fire and much lighter than concrete—distinct benefits in this earthquake-prone area.

MOH completed the renovation, based largely on SCMS’s recommended design, fulfilling the requirements of good warehousing practices in a cost-effective, practical, and sustainable structure.

SCMS-recommended improvements in design and space optimization at the National Programs Warehouse in Guatemala are making inventory management much easier, which is helping reduce stockouts and wastage.
CMS implements innovative strategies and approaches to generate efficiencies all along the supply chain. As fundamental systems are strengthened to be more effective, cost savings are being leveraged to increase the funding available to treat more patients.

Driving down costs through pooled procurement
SCMS’s global pooled procurement mechanism takes advantage of the tentative FDA approval process and leverages volumes to reduce costs and improve vendor performance. Consolidating multiple orders to buy in large volumes via long-term, indefinite-quantity contracts enabled SCMS to develop strong relationships with key vendors and consistently drive down costs. Over the life of the project, average costs of (ARV) drugs dropped to around $110 per patient per year. SCMS averaged 330 deliveries per month with a value of $36.1 million in the year ending September 2015.

Freight savings
SCMS maximized the use of safe, reliable ocean freight for major shipments of ARVs and other key products, saving more than $176 million in shipping costs over the life of the project. Forecasting and supply planning are essential elements in the project’s ability to use ocean freight. The earlier planning takes place, the greater the project’s ability to use the most cost-efficient mode of shipment. This policy is now followed by other large organizations that are also benefiting from significant savings. Every dollar saved has the potential to be used to purchase more lifesaving commodities.

Bringing stock closer to the point of care with regional and local distribution centers
SCMS RDCs in Ghana, Kenya, and South Africa provide regularly scheduled shipments to neighboring countries and expedite emergency orders to prevent stockouts. The project’s local distribution centers (LDCs) in Haiti and Nigeria offer the

POOLED PROCUREMENT DRIVES DOWN PRICES
FOR KEY FIRST-LINE TREATMENT FORMULATIONS

Lamivudine/Nevirapine/Zidovudine 150/200/300mg, tablets, 60 Tabs
DECLINED $65

Efavirenz/Lamivudine/Tenofovir Disoproxil Fumarate 600/300/300mg, tablets, 30 Tabs
DECLINED $91

JULY 2009
SCMS establishes the project’s first in-country QA testing lab at Muhimbili University of Health and Allied Sciences in Tanzania

DECEMBER 2009
SCMS launches first pre-service training program in Zambia

JANUARY 2010
SCMS participates in Haiti’s earthquake emergency response
same benefits as the RDCs, but at the national level. At the same time, they enable countries to expand their commodity storage capacity and their ability to consolidate deliveries.

In accordance with the project’s sustainability strategies, IHS established the RDCs as commercial enterprises. Along with SCMS, the RDCs have attracted such private-sector clients as GlaxoSmithKline, Pfizer, Adcock Ingrams, and Merck Serono making the RDCs viable local commercial entities without the need of USG support. Since 2013, SCMS has represented just 25% of the business for the Kenya RDC. We expect the RDCs to remain commercially viable after the end of the SCMS project.

**Tracking market data to ensure safe, reliable supply**

SCMS constantly monitors the HIV/AIDS market to detect and analyze changes that can affect HIV/AIDS treatment availability. Understanding market conditions in supply and demand has enabled us to virtually eliminate central-level stockouts in PEPFAR-supported countries and significantly decrease emergency orders.

By following active pharmaceutical ingredient (API) availability and pricing around the world, SCMS has been able to foresee issues and forward procure to mitigate shortages or major price increases. When China increased its environmental controls on API production, some manufacturers had to shut down to adapt to the new quality standards, making...
**SAFE, RELIABLE SUPPLY**

$2.45 billion
In life-saving commodities (ARVs, essential medicines, laboratory commodities, and more) delivered since the start of the project

24,202
Commodity shipments delivered to 62 countries

81%
Of orders from SCMS field offices are planned, helping prevent stockouts and costly emergency orders

80%
Of freight is shipped by ocean and land

ONLY 0.02%
of the project’s commodities were lost to counterfeits or product theft thanks to SCMS’s rigorous security and quality assurance measures
product unavailable. Seeing this impact early, we kept shortages from affecting the project’s clients by ordering in advance and restructuring shipments to maintain supply and minimize risk.

Field Office Managed Procurement (FOMP)
In 2009, SCMS began decentralizing its processes so that field offices could manage procurements of appropriate commodities in-country. Through the FOMP program, procurement ownership was shifted to local buyers who worked closely with local vendors to speed the sourcing and delivery of commodities. These efforts contributed to SCMS’s ability to boost client satisfaction, shorten lead times, increase on time delivery, and maximize access to local markets.

Efficiencies gained by changing VMMC packaging
SCMS worked with manufacturers to resize cartons carrying VMMC kits to better fit pallets so they could be stored and shipped more efficiently. Since October 2013, due to efficiencies gained in changing the VMMC packaging, SCMS has been saving an estimated $9,000 in storage costs per month for every 100,000 VMMC kits.

Saving $1 million through quality forecasts and informed decision making
In 2010, the Zimbabwe Ministry of Health and Child Welfare decided to use a serial algorithm for HIV testing in place of the parallel algorithm that had been used previously. This change—based on forecasts developed with support from SCMS—made it possible to save $1 million per year.

Rapid impact, big savings in South Africa
PEPFAR pledged a one-time, two-year infusion of $120 million to assist the South African Government to scale up ART. SCMS, through USAID, was asked to provide procurement and distribution support valued at $110 million for this initiative.

Using forecasts developed by CHAI and Management Sciences for Health (MSH), we pooled procurement to deliver ARVs at international prices significantly lower than those obtained through the South African Department of Health’s drug tendering process.

As a result, the South African Tender Board adopted the same procurement practices, reducing South Africa’s ARV prices by 53% and saving the government $630 million on a two-year tender, resulting in a 40% increase in patients on treatment. This also generated a savings for PEPFAR of $100 million.

“It is my pleasure to announce the massive reduction in the prices of antiretroviral drugs, which has resulted in the 53.1% reduction in cost of the total tender, which translates to a R4.7 billion savings.” —DR. AARON MOTSOALEDI, MINISTER OF HEALTH, SOUTH AFRICA

2010
SCMS achieves more than 90% generic ARV procurements; has stayed at 94% or higher every year since

OCTOBER 2010
SCMS participates in Haiti’s cholera emergency responses

NOVEMBER 2010
SCMS implements first minilab in Rwanda to allow the government to quality assurance test drugs in their supply chain
THE PATH TO SELF-RELIANCE

Accelerating country ownership

For 10 years, SCMS has been working closely with in-country partners, providing customized, hands-on technical assistance to help them achieve their supply chain goals.

Building a unified national HIV/AIDS supply chain in Nigeria

In Nigeria, SCMS managed a joint effort of PEPFAR, the Global Fund, and the Government of Nigeria to unify 17 HIV/AIDS supply chains into one program. This public-private partnership initiative was driven by the US Mission and designed to encourage government ownership and leadership of the HIV/AIDS supply chain at the state level, while keeping associated risks at a minimum.

The HIV/AIDS Supply Chain Unification Initiative started in July 2012 through a phased approach in five states. By July 2014, it was successfully completed in 36 states and the Federal Capital Territory. This initiative has tremendously improved the overall efficiency of the supply chain by reducing stockouts from 25% to less than 9%, and by delivering to more than 6,500 health facilities in less than two years.

700,000 HIV-positive people in Nigeria on treatment, compared with less than 70,000 in 2006*

Through the Nigeria HIV/AIDS Supply Chain Unification Project, SCMS has covered 36 states and the Federal Capital Territory with last-mile deliveries of more than $158 million of HIV/AIDS commodities, reaching more than 7,000 health facilities through more than 49,000 deliveries as of May 2015.

Overhauling Rwanda’s system to improve service quality

In 2010, SCMS played a critical role in moving Rwanda from a passive distribution system, in which clients collect their deliveries, to an active one, in which the central medical store (CMS) delivers to clients in response to orders. The active system was modeled on modern, customer-oriented supply chain software and best practices and hinges on preplanned distribution. As a result, clients no longer wait in line for supplies at the central warehouse, and district pharmacies have better control of their inventories, avoiding expensive, time-consuming journeys to the medical stores. Order processing time dropped from 5 days to 45 minutes.

Through improved commodity management at the central level facilitated by the One Network

*UNAIDS 2014
eLMIS, the stockout rate has been consistently below 5% at district pharmacies and service delivery points and emergency orders have decreased significantly.

Parallel systems no more; leading the way to supply chain consolidation in Haiti
SCMS is supporting the Haitian Ministry of Health to realize its vision of a national unified public health supply chain. In December 2014, SCMS officially merged its HIV/AIDS supply chain and related commodities supply chain with the local family planning supply chain. With USAID support and by leveraging non-PEPFAR funds, SCMS relocated the project’s warehousing operations to a new and much larger facility in Port-au-Prince that was outfitted to pharmaceutical-grade standards to accommodate the high volume of family planning and HIV products. We also harmonized the project’s SOPs, warehouse management system, and product tracking tools to accommodate the family planning goods, while taking the opportunity to review and streamline the project’s processes. The project charter outlining the blending of HIV and family planning supply chains was submitted to USAID as a roadmap for future supply chain integration efforts.

SYSTEMS STRENGTHENING PROMOTES SUSTAINABLE, LONG-TERM SOLUTIONS THAT BUILD LOCAL CAPACITY IN:
- Coordination
- Procurement
- Distribution
- Product Selection
- Forecasting and Demand Planning
- Quality Assurance/Quality Control
- Inventory Management
- Warehousing

In Haiti, distribution of HIV and family planning commodities is made more difficult by treacherous delivery routes.

DECEMBER 2011
SCMS hits $1 billion in commodity deliveries (across all commodity types)

FEBRUARY 2012
First innovative Clinic-in-a-Box™ is operational in Nigeria. These clinics can be quickly deployed, much like the WiBs, to increase capacity and create greater access to treatment for patients
A 2013 survey of 42 facilities in Ethiopia showed:

- 95% of ARV drugs available
- <2% commodity wastage rate
- ~300,000 number of HIV-positive people currently on treatment, compared with 24,400 in 2006, before reforms were implemented.

**April 2012**
SCMS surpasses 20,000 public health professionals trained in supply chain management.

**July 2012**
The Government of Nigeria launches the HIV/AIDS Supply Chain Unification Project with the support of USAID, through SCMS, and the Global Fund.

**July 2012**
SCMS’s first innovative Warehouse-in-a-Box™ (WiB) is operational in Tanzania.
Integrating the supply chain in Ethiopia

Until Government-led reforms began to be implemented in 2005, Ethiopia’s health system struggled with inadequate pharmaceutical supply, poor storage conditions, and weak stock management. The result was high levels of waste and stockouts. Various health programs had their own logistics systems. The Federal Ministry of Health (FMOH) and Pharmaceuticals Fund and Supply Agency (PFSA), with support from all stakeholders, including SCMS, worked to integrate the supply chain—connecting all levels and covering all health programs. The new Integrated Pharmaceutical Logistics System (IPLS) is a single health commodity distribution and reporting system implemented by PFSA. Today, IPLS is used at more than 90% of the country’s facilities.

With systems strengthening technical assistance from SCMS and USAID | DELIVER PROJECT, Ethiopia has transformed its supply chain management and health outcomes. A 2013 survey of 42 facilities showed that 95% of ARV drugs were available. The commodity wastage rate is less than 2%, there are virtually no stockouts, and the country has experienced no ART interruption since 2006. Close to 300,000 HIV-positive people are currently on treatment, compared with 24,400 in 2006, before the reforms were implemented.

To reach Ethiopia’s universal access goals, SCMS worked with PFSA to significantly increase warehousing and distribution infrastructure. Together, we designed and outfitted 10 central and regional warehouses, trained more than 6,000 health staff in supply chain management, and developed and implemented a system for ordering and delivering commodities to more than 1,000 sites (up from 170 in 2006).

Reducing fragmentation and improving coordination along the supply chain in Burma

When SCMS arrived in Burma in September 2013, the supply chain system was fragmented and there was little coordination between programs and implementing partners. To bring together these critical stakeholders, SCMS, in collaboration with the Global Fund, USAID, and 3MDG, supported various initiatives, including:

- The first-ever national supply chain coordination workshop, outlining high-level objectives for strengthening the national system.
- The first-ever statistically significant national supply chain baseline assessment; a procurement options analysis.
- The first-ever national supply chain strategy workshop, which initiated the first draft of a national strategy.

SCMS also established the national supply chain task force to coordinate supply
chain activities in the health sector under the MOH’s leadership and supported the MOH in developing and approving public procurement regulations. These activities have led to establishing a vision for a harmonized national supply chain.

With SCMS support, Burma is on path to have a modern, integrated, and coordinated national supply chain led by the MOH.

**Moving toward a more autonomous CMS in Guyana**

SCMS worked closely with the MOH to drive a post-SCMS management model for Guyana’s CMS, the Materials Management Unit (MMU). To sustain the high performance of SCMS in warehousing and distribution, we prepared a project charter to help the MOH outsource supply chain operations of the essential medicines program to a third-party logistics service provider, and established a Logistics Management Unit within the MOH.

SCMS also oversaw the construction of a new state-of-the-art warehouse, the Supply Chain Management Complex. This multi-donor-funded facility is the first of its kind in the region. The new warehouse is a legacy for the USG and PEPFAR, since Guyana is due to graduate from PEPFAR support by 2016.

SCMS support led to major successes in the availability of HIV/AIDS and other commodities for care and treatment. For commodities directly under SCMS control, we achieved:

- A rate of expired medicines consistently under the target of 3%.
- Order fulfillment rates consistently over the target of 98%.
- Zero emergency orders in more than 12 months.
- Consistent order turnaround time at just 1.3 days.

Creating an autonomous CMS in Côte d’Ivoire

In response to performance challenges at the central medical store (Pharmacie de la Sante Publique, PSP) in Côte d’Ivoire, SCMS initiated a policy dialogue with the Minister of Health, USAID, and the US Ambassador. This exchange led to a presidential decree in September 2012 to transform PSP into an autonomous organization, New PSP (Nouvelle PSP).

New PSP was launched in December 2013 as a nonprofit entity with independent human resource and financial decision-making authority. The government agreed to write off a portion of PSP’s debts to give New PSP a financially viable start. New PSP streamlined its operations, reducing staffing from 280 to 180 and improving ARV order turnaround time from 26 days to 5 days.

**Achieving ISO certification at the Botswana CMS**

In 2009, the Botswana MOH partnered with SCMS to initiate a comprehensive reform program at CMS aimed at rapidly improving
its services and public image. SCMS mobilized a senior management team to take responsibility for CMS operations for three years while implementing capacity-building and systems-strengthening initiatives, including instituting a new LMIS; establishing a quality management system; and streamlining procurement. As a result, vital drug availability increased from 55% to 82% and wastage through expiry was reduced from more than 7% of the procurement budget to 1%. The reforms at CMS also culminated in achieving ISO 9001:2008 Management Systems certification from the Bureau of Standards Board in November 2012.

In 2012, management responsibility was transitioned back to CMS as planned.

**KEY AREAS OF IMPROVEMENT**

UNDER SCMS MANAGEMENT AT THE BOTSWANA CMS

<table>
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<th>55% → 82%</th>
<th>38% → 80%</th>
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<tr>
<td>Increase in essential drug availability</td>
<td>Improvement in customer order fill rates</td>
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$6 million

In savings resulting from product expiries declining from 7% of the budget to 1%. These savings more than paid for the costs of the project’s technical assistance.
Since SCMS’s inception, the Quality Assurance Unit (QAU) has conducted 185 inspections of manufacturers, wholesalers, and warehouses in 21 countries (including the US) and reviewed more than 300 dossiers on products ranging from pharmaceuticals to RTKs, food by prescription, and male circumcision kits. More than 250 products were approved for direct procurement. The consequence of this diligent pre-qualification work was a secure supply chain in which zero counterfeit or falsified products were ever detected.

A study by the William Davidson Institute at the University of

Educating the next generation
SCMS has partnered with public and private universities to help educate the next generation of public health logistics professionals. Worldwide, we partnered with more than 20 universities in 11 countries (Botswana, Ethiopia, Guatemala, Honduras, Namibia, Nigeria, Panama, Tanzania, Vietnam, Zambia, and Zimbabwe) to develop a supply chain curriculum and integrate it into existing degree programs. In Nigeria, pre-service training was made available online, and in Vietnam, we helped develop training videos.

Bringing quality management closer to home
It is estimated that between 10–25% of the pharmaceutical products in use in developing countries are substandard or falsified.* PFSCM’s policy is to only supply products which meet appropriate quality standards and are fit for use, whether they are locally or internationally produced. This is accomplished through manufacturer and supply chain inspections, product quality sampling and testing, and document reviews. The ability to procure locally from sources which adhere to these quality requirements has the added benefit of shortened lead times, lower freight costs, and economic support to local economies.

Since SCMS’s inception, the Quality Assurance Unit (QAU) has conducted 185 inspections of manufacturers, wholesalers, and warehouses in 21 countries (including the US) and reviewed more than 300 dossiers on products ranging from pharmaceuticals to RTKs, food by prescription, and male circumcision kits. More than 250 products were approved for direct procurement. The consequence of this diligent pre-qualification work was a secure supply chain in which zero counterfeit or falsified products were ever detected. A study by the William Davidson Institute at the University of

*WHO Factsheet No275
Michigan evaluated the local economic impact of PFSCM in four countries where SCMS was active, including Ethiopia, Kenya, Mozambique and Tanzania. As a direct result of the SCMS QAU evaluations, 80% of vendors surveyed reported establishing new SOPs since they began working with SCMS. SCMS surveys of vendors indicate overwhelmingly that the application of these global quality standards, for many vendors, translated into improved global and local competitiveness.

In Ethiopia, SCMS was officially recognized by the Addis Ababa City Administration Health Bureau for “sponsorship and tireless efforts to promote laboratory quality management.” The project’s work with bureau staff improved their lab operations, enabling them to achieve ISO certification for their regional laboratory, a major achievement, recognizing their adherence to stringent international standards.

To minimize reliance on foreign testing centers, SCMS worked with the Addis Ababa University School of Pharmacy in building local pharmaceutical quality assurance and quality control capacity. As part of this effort, USAID provided the school with industry-standard quality control equipment. The school is now receiving and testing pharmaceuticals for the first time.

Promoting international standards with local vendors
Buying locally supports local economies, strengthens local institutions and businesses, and provides timely access to products already in country.

To meet the exacting standards of the USG, SCMS inspects and prequalifies commodity vendors and encourages continuous improvement. To do business with SCMS, many companies must first invest their own time and financial resources to improve their business processes and service levels. For lab commodities, SCMS has prequalified 26 local vendors in Burundi, DRC, Haiti, Nigeria, Uganda, and Zambia. Overall, about 80% of the project’s monthly laboratory commodity needs are obtained from the local market.

The project’s international freight and logistics (F&L) service providers contract local transport companies to deliver commodities to some of the hardest-to-reach areas of the world. When developing new partnerships, F&L works with local companies to raise their level of business processes to international standards, providing training in good distribution practices.

<table>
<thead>
<tr>
<th>LOCAL COMPANIES REPORTED BENEFITS</th>
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<tr>
<td><strong>92%</strong></td>
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<td>Reported their business grew</td>
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<td>as a result of improvements made to meet SCMS standards</td>
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$73 million
Spent by the USG on contracts with 723 companies in 30 countries to supply goods and services, thus contributing to local economies

$161 million
Spent by the USG on contracts with 723 companies in 30 countries to supply goods and services, thus contributing to local economies

**SCMS | www.scms.pfscm.org**

**DECEMBER 2013**
ARV deliveries hit the $1 billion mark

**JANUARY 2014**
SCMS makes 3 millionth VMMC kit delivery
STABILITY IN UNCERTAIN ENvironments

Securing the supply chain

We live in a volatile world. The movement of goods by air, ocean, and road is in constant danger of disruption, whether due to political strife, industrious criminal elements, natural disasters, labor disputes, or simple accidents. For people with HIV, daily doses of medication and routine testing are lifelong necessities. Their commodities must be continuously available, no matter what. SCMS places a high priority on security of supply. In the face of unprecedented security challenges, the agility, flexibility, and resilience of SCMS’s supply chain has enabled us to deliver health care commodities and ensure that quality drugs reach the right hands: those of waiting patients.

MOZAMBIQUE | WEAPONS DEPOT EXPLODES, DESTROYS MINISTRY OF HEALTH WAREHOUSE, 2007
SCMS rented alternative warehousing during reconstruction.

HAITI | HURRICANES, EARTHQUAKE, Cholera, 2008–11
Within 48 hours of the earthquake, we were back at the warehouse, identifying supplies for crisis response and shipping emergency kits to hospitals.

JAPAN | EARTHQUAKE AND TSUNAMI, 2011
All Determine rapid test kits are manufactured in Japan. SCMS avoided major delivery delays.

ICELAND | VOLCANIC ERUPTION AND ASH CLOUD, 2011
An ash cloud originating in Iceland covered most of Europe and disrupted air travel and shipping for a week. Because we ship so much by ocean, the project’s clients were barely impacted.

NIGERIA | FIRE AT ABUJA LOCAL DISTRIBUTION CENTER, 2015
Fire gutted a storage chamber, destroying millions in health commodities. SCMS worked with key stakeholders to mobilize replacement commodities and ensure they reached patients on time.

GHANA | FIRE AT CENTRAL MEDICAL STORE, 2015
The main building and its contents were a total loss. SCMS made available stores that we had upgraded and occupied previously, which had about 800 usable pallet spaces. Additionally, the Government of Ghana moved its operations to SCMS’s RDC for storage and distribution to ensure continuous supply to patients.

NIGERIA | FIRE AT THE ABUJA LOCAL DISTRIBUTION CENTER, 2015
Fire gutted a storage chamber, destroying millions in health commodities. SCMS worked with key stakeholders to mobilize replacement commodities and ensure they reached patients on time.

CÔTE D’IVOIRE | POLITICAL TURMOIL, 2011
SCMS continued operations during the crisis, rerouting medicines through Ghana to ensure supply chain integrity.

COAST OF SOMALIA | 2005–PRESENT
Heightened risk of acts of piracy affects shipping lane security. SCMS actively monitors threats and reroutes shipments as needed.

INDIA LABOR DISPUTES | 2005–PRESENT
As a hub for generic ARV production, India’s periodic, short-term labor disputes have caused manufacturers supply chain headaches. The flexibility of SCMS’s supply chain allows us to shift shipping routes as needed to avoid hindering supply.

SOUTH AFRICA | LABOR UNREST, 2012
The project’s RDC activated a 24/7 security operation at the height of a violent and disruptive industrial action, avoiding the possibility of arson and vandalism.
ANNUAL RED ZONE | 2006–PRESENT
Travel and shipping peaks during the December holidays, known as the “Red Zone.” SCMS plans well in advance for these time periods to ensure reliable supply.

CENTRAL AFRICAN REPUBLIC | CIVIL UNREST ONGOING
We chartered a European Commission aircraft to deliver urgent medicines from the ocean freight containers that had been stuck in Cameroon as a result of border closures.

DRC | FREQUENT THEFTS OF HIV RAPID TEST KITS
We replaced the project’s previous DRC local freight agent with one who has sufficient resources to ensure full custody through arrival to delivery to the client.

KENYA AND UGANDA | THEFT, 2013
SCMS worked with law enforcement in Kenya after a shipment of VMMC kits worth more than $275,000 went missing while en route to Kampala, Uganda. In just a month, we recovered 945 out of 1,002 cartons that were hidden in the outskirts of Nairobi. We redistributed the kits after completing QA testing.

SOUTH AFRICA | WORLD CUP, 2010
We started working with clients and vendors a year before the event to plan their shipping schedules and avoid this busy and expensive time period, ensuring deliveries arrived on time and without disruption.

Due to a low claims record and strong security protocols, PFSCM’s insurance rates have fallen by 50% since 2008.
Global collaboration

Winning the global fight against HIV/AIDS requires the close collaboration of many stakeholders. The SCMS project structure, approaches, and every facet of the project’s mission depend on these partnerships. We work within this complex network of local and global players to share market knowledge, supply chain expertise, best practices, and lessons learned to increase the impact of health interventions and reach more people.

**Shaping the market to scale up pediatric HIV treatment**
At the request of USAID, SCMS is a member of the Inter-Agency Task Team (IATT) on the Prevention and Treatment of HIV Infection in Pregnant Women, Mothers and Children, an initiative focused on optimal products that provide quality treatment and secure supply. We have taken a leading role in creating and promoting an optimal formulary for pediatric ARVs, recommending 10 optimal products from a list of more than 60 to cover the current WHO-recommended treatment regimens. We have also contributed to a series of policy briefs alerting implementers to supply chain challenges in the pediatric ARV market.

SCMS is a founding member of the Procurement Consortium, a subgroup of the Pediatric ARV Procurement Working Group (PAPWG) established by the Global Fund to address fragmentation in the pediatric ARV market. By aggregating demand and coordinating orders and delivery of AIDS medicines for children, the consortium aligns member forecasts, engages with manufacturers and monitors country challenges to improve product availability.

**Sharing procurement and supply chain information to benefit partners fighting HIV/AIDS**
As an active member of the WHO AIDS Medicines and Diagnostics Service (AMDS) Network, SCMS has attended and presented at numerous global meetings.

Pedicure patients remain among the most challenging to treat. SCMS’s work with IATT and other groups is focused on meeting the needs of these vulnerable children.
More is achieved when organizations collaborate. SCMS aligns its involvement with other organizations’ efforts to develop sustainable solutions to meet the unprecedented challenge of tackling prevention, care, and treatment services for people living with and affected by HIV/AIDS in the developing world.
Working with international partners to improve laboratory services in Africa
The SCMS project was the first USAID partner to facilitate a course at the African Center for Integrated Laboratory Training (ACILT), which develops and presents hands-on training courses for front-line laboratory staff and laboratory leadership. The SCMS course is intended to create awareness in the use of logistics, forecast, and procurement data to inform the development of responsive laboratory strategies and cost-effective national work plans.

Taking a smarter, strategic approach to building and retaining the supply chain workforce
As an active member of the People that Deliver (PtD) Initiative, we contributed the project’s supply chain knowledge to PtD’s efforts to build global and national capacity for implementing evidence-based approaches to plan, finance, develop, support, and retain the national workforces needed for the sustainable management of health supply chains.

Collaborating to build workforce skills
As a follow-on to PtD efforts in Namibia, SCMS has been collaborating with the Ministry of Health and Social Services (MOHSS) and the Global Fund to scale up good inventory control and storage practices training, with the goal of improving pharmaceutical management of HIV/AIDS medicines and clinical supplies at health facilities. This activity is jointly funded by SCMS, the Global Fund, and MOHSS.

Overcoming customs challenges to ensure access
A major challenge to on-time delivery is customs delays. SCMS is collaborating with the World Customs Organization to identify and realize strategic reforms, such as the “single-window” initiative, to improve global customs processes. Through this initiative, designed to simplify and fast-track importation, all parties involved in trade and transport can submit standardized information and documents through a single entry point to fulfill import, export, and transit-related regulatory requirements. Benefits are being realized in regional trading blocs, the most apparent in East Africa. In such countries as the DRC and Ethiopia, customs turnaround times have improved significantly, with the importation process reduced from as much as three weeks to less than a week.

Facilitating a forum for information exchange among global donors and implementers
SCMS serves as the technical secretariat for the Coordinated Procurement Planning (CPP) Initiative, facilitating the CPP’s work to assist countries, donors, and implementing partners in improving procurement and supply management. CPP’s goal is to ensure continuous availability of HIV-related commodities by identifying countries at risk of supply interruption and facilitating mitigating actions. With the support of UNITAID and PEPFAR, the CPP developed the Procurement Information Exchange, an online platform that gives members easy access to commodity security data to help identify solutions for improving treatment delivery and to avert risks of stockout.

"The training carried out by SCMS actually capacitated us and gave us a broad base on which we now can teach with some level of authority when it comes to supply chain. We have actually started implementing the curriculum and are seeing a lot of improvement in our student’s knowledge of supply chain management.”
—TINY MOTLABANE, LAB DEPARTMENT HEAD, UNIVERSITY OF BOTSWANA

DECEMBER 2014
Field office managed procurement (FOMP) expands to more than 150 local and/or regional vendors with 35 prequalified local laboratory vendors

JANUARY 2015
SCMS makes 4 millionth VMMC kit delivery

MARCH 2015
A total of 13 countries are successfully performing FOMP: Burundi, Côte d’Ivoire, Democratic Republic of Congo, Ethiopia, Haiti, Mozambique, Nigeria, Rwanda, Tanzania, Uganda, Vietnam, Zambia, and Zimbabwe
No one organization or donor can solve HIV/AIDS alone; SCMS recognizes that success requires cooperation on a grand scale.
For 10 years, SCMS has been driving improvements in public health systems. These efforts—in concert with those of many dedicated donors, partners, and individuals around the world—are driving toward the ultimate goal: a generation free of AIDS.
A legacy of change: Achieving an AIDS-free generation

For the last 10 years, on behalf of the USG, SCMS has successfully operated the largest public health supply chain in the world. Today, SCMS procures more than 70% of all ARVs directly funded by PEPFAR.

As the SCMS project draws to a close and the new phase of the USG’s Global Health Supply Chain Strategy begins, we know that the program made an impact. Around the world, millions of lives have been saved. Patients know their status and are getting the treatment they need. Mothers can care for children born without the virus; parents can get out of their sick beds, go to work, and provide for their families.

This legacy of change goes even farther, beyond the patients struggling with HIV/AIDS. The positive impact SCMS made on overall public health systems is benefitting national health services and the patients they serve.

The foundation SCMS leaves behind will enable countries to continue to move forward in reaching their health goals. As these goals are met, the global community will move closer to meeting our collective mission: achieving an AIDS-free generation. Investments in preventing and treating HIV/AIDS must continue to include support for national supply chains. The end of the AIDS epidemic will occur country by country.

Each nation must maintain a strong, robust supply chain to secure hard-fought gains in the global battle against HIV/AIDS.

We know that we are actors on a worldwide stage. So many people and nations have contributed to the success of these efforts. We are grateful to our many country counterparts, partners, implementers on the ground, and staff who have dedicated themselves to helping those in need. We’ve come a long way.
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The Partnership for Supply Chain Management is a winner of two prestigious awards for our work on SCMS to provide a safe, reliable supply of HIV/AIDS commodities to countries most in need. SCMS was a finalist in the 2012 Supply Chain Innovation Award Competition sponsored by the Council of Supply Chain Management Professionals and Supply Chain Brain.