



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



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### State of the Project

When we hear the phrase “public health” we most often think of people—nurses, doctors and others—or places like hospitals and clinics. Warehouses would be far down the list, yet a well-functioning warehouse plays an important role in ensuring that the doctors, nurses, hospitals and clinics have the medicines and medical supplies they need to serve their patients.

When SCMS first began we moved quickly to establish regional distribution centers (RDCs) in Ghana, Kenya and South Africa. Our RDCs hold strategic stocks of frequently used products, 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 PEPFAR programs supported by SCMS. The RDCs in Ghana and Kenya, outfitted with inventory management systems, temperature control, cold storage and security systems, were the first world-class pharmaceutical warehouses in East and West Africa.

Yet that is quickly changing.

Through technical assistance from SCMS, many countries where we work are upgrading their own warehouses to international standards and bringing lasting change to the public health infrastructure across Africa and elsewhere. With these changes, countries are able to store more public health commodities than ever before and distribute them reliably and efficiently to service delivery points. Importantly, the impact goes far beyond HIV/AIDS, as many of the warehouses hold stocks for the full range of public health programs.

In this issue, you will learn how SCMS has helped improve warehousing and distribution in several countries. For example, in Uganda we have worked with the Joint Medical Store (JMS), a faith-based organization serving the needs of mission hospitals and clinics, to strengthen its warehousing practices. You will also learn how SCMS is helping contract with commercial services to deliver commodities to often hard-to-reach areas—working with FedEx in Zambia to distribute laboratory controls, and with local private transport companies in Haiti. And, you will find out how new technology is being used in Rwanda to revolutionize their warehousing system.

We hope you enjoy!

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#### SCMS Project Team

Booz Allen Hamilton | Crown Agents USA, Inc. | i+solutions | JSI Research & Training Institute, Inc. | Management Sciences for Health | The Manoff Group  
MAP International | North-West University | Northrop Grumman | PATH | PHD | UPS Supply Chain Solutions | Voxiva | 3i Infotech

## Quarterly Trends

Each quarter Supply Lines reports on global trends in HIV/AIDS supply chains. For further information, e-mail [SCMSInfo@pfscm.org](mailto:SCMSInfo@pfscm.org). Here are some current highlights:

### Procurement

*Regimen changes present new challenges to ARV's budgets*

PEPFAR's new annual ARV survey reports that the total value and volume of deliveries has increased significantly to a total value of US\$202 million for the year ending September 2008. SCMS delivered \$99 million of the total, 49% percent by value and 51.33 percent by volume. SCMS is now by far the largest procurer of ARVs for PEPFAR programs.

ARV budgets for many PEPFAR countries will be essentially flatlined for the 2009 and 2010 budget years, yet most of the countries supporting major treatment programs believe they will have sufficient funds for the next couple of years. However, a key challenge for ARV budgets—for PEPFAR and other programs—is the impending switch to tenofovir (TDF) and zidovudine (AZT) from stavudine (d4T)-based regimens for first-line treatment. Stavudine regimens cost approximately \$100 per patient year, compared with projected costs of \$200-220 for the other two.

### Freight & Logistics

*Positive trends in shipping costs*

One silver lining to the current global economic situation is cheaper shipping rates. SCMS is saving our clients money by taking advantage of these lower prices and by switching from air freight to more cost-effective sea and land freight when appropriate. To date, SCMS has saved more than \$14.5 million in freight costs by switching from air shipments to sea and land. In the last four months alone, we have saved more than \$5.2 million by switching from air to sea, most notably to Mozambique (more than \$114,000), Cote d'Ivoire (\$220,000), Rwanda (\$220,000) and Ethiopia (\$1.3 million), and some \$230,379.92 by switching from air to land shipments just in Mozambique and Zambia. At current ARV prices for the lowest cost treatment regimen, the total \$5.4 million saved in the last four months would pay for a year of anti-retroviral treatment for about 60,000 people.

As the global economy recovers, however, we expect the price of all modes of shipping to increase. Nonetheless, we anticipate worldwide freight cost savings of \$500,000 per month over the one-order, one-air-shipment approach that most of our clients have used in the past.

### Warehousing Management

*Training helps share best practices*

Incident management, physical controls, stock placement, safety rules and regulations have become critical issues in improving warehouse management. To address these concerns, SCMS has trained over 80 staff—people who work for the ministry of health or central medical stores in selected PEPFAR focus countries—on best practices for warehouse operations management. Training for pickers, packers and checkers concentrates on accurate and timely picking of pharmaceutical stock for fulfillment of orders placed by customers; and on checking picked orders against pick slips to ensure

the correct dispatch of products. Training for higher-level staff includes a course in warehouse operations management, where trainees get hands-on experience in storage management, distribution management, quality management, human resources and warehouse design.

### **In Rwanda, using technology to maintain on-going warehousing improvements**

From automating stock management systems to bar coding, Rwanda is harnessing technology to transform its warehousing system. Rwanda urgently needed an effective system to store and transport medicines and supplies as the number of patients on HIV/AIDS treatment increased 100-fold from 400 patients in 2003 to over 40,000 in 2008.

To better coordinate scale-up, the Government of Rwanda designated CAMERWA, the Rwandan procurement organization responsible for essential medicines, as the sole agency for procurement, storage, customs clearance and distribution of all HIV-related commodities.

SCMS began working with CAMERWA to improve international standards of its procurement practices, inventory systems, data collection and reporting, financial management, and warehouse layout and management.

A key feature of the warehousing upgrade is the MACS warehouse management system, a tool that incorporates hand-held scanners and radio frequency technology to make warehouse operations more efficient.

CAMERWA is using MACS to improve inventory and stock management throughout the picking and packing process, in which staff pick requested

products and re-pack them to be distributed to service delivery points. MACS allows pick accuracy to be tracked and generates reports on individual picker and checker performance. And with MACS, staff can check orders and produce accurate dispatch notes to clients before arrival of shipments. CAMERWA has reported an initial 60 percent improvement in order picking performance. Later in the year this should improve even further when new bar code readers are introduced using hand-held radio frequency terminals.

Most recently, CAMERWA installed SAGE, a financial management system that links to MACS, to ensure that both systems contain the same information and eliminate the dual data capture that otherwise would have been required. The new financial management system includes financial reporting across all transactions including monthly management reports and sales information by product, budget holder or customer.



The integrated systems went live on April 29<sup>th</sup>, and within a few weeks more than 1,185 orders were processed through MACS. Of this total, 821 orders were processed and completed through the financial management system.

The new system has brought tangible results for clients, who have more confidence that they will receive what they ordered. Previously, clients often ordered more than they needed to compensate for anticipated picking errors. Clients are increasingly ordering only what they need, thereby reducing shortages at the central warehouse.

Currently, SCMS is helping CAMERWA introduce bar coding technology and install gravity-fed racking, shelving and material-handling equipment. CAMERWA's final goal is to eliminate paper-based processes altogether and use industry best practice across their entire system.

### **Developing a PEPFAR-wide strategy for ARV procurement and distribution in Nigeria**

Until 2009, 15 PEPFAR implementing partners (IPs) in Nigeria developed individual drug quantifications for their HIV/AIDS treatment programs using various methods with differing assumptions and data. This fragmented approach obscured the overall picture of the PEPFAR Nigeria antiretroviral treatment (ART) program, impeded coordinated product selection, hampered PEPFAR-wide budget planning and prevented economies of scale in procurement.

Forecasting and demand planning is a first step for coordinated procurement. In April 2008, SCMS worked with IPs to develop individual quantifications and to compile the first PEPFAR-wide, five-year aggregated quantification for ARVs in Nigeria. Working together, we developed a supply plan for the Country Operational Plan (COP09).

The resulting data were also used to identify two high-value, high-volume ARV drug combinations for pooled procurement by SCMS (Truvada and the triple fixed-dose combination AZT/3TC/NVP). Pooling procurement for these two ARVs, valued at \$40.1 million, saves about 30 percent in shipping costs, improves Nigeria's negotiating position with manufacturers, and provides a secure supply chain from the manufacturer to the partners' facilities. Late in 2009 SCMS will switch from Truvada to the generic equivalent, now tentatively approved by USFDA, to achieve even greater savings.



SCMS is carefully planning freight and logistics for the two ARVs identified for pooled procurement. First, the medicines go by sea freight from India to Ghana, where they are stored in SCMS's regional distribution center while they await pre-clearance into Nigeria. Shipping to Ghana for pre-clearance rather than directly to Lagos eliminates customs fees of \$1.20 per kilogram, avoids the lengthy delays in offloading common at the Port of Lagos, and also avoids the significant

security issues that affect both air and sea shipments into Lagos. SCMS then sends monthly shipments of the ARVs by charter flight to Abuja, Nigeria, since at the moment road shipment of pharmaceuticals is prohibited by the Nigerian government.

Upon arrival in Abuja, the ARVs are briefly held in a temporary warehouse and then transferred to the IPs who are part of this pooled procurement arrangement. The temporary storage facility will shortly be replaced by a permanent national distribution center for Nigeria that will be a fully functioning pharmaceutical warehouse with world-class racking, inventory management software, temperature controls and security systems.

IPs also acknowledged the need to improve collection and management of logistics data to monitor their supply pipelines and to manage supply plans based on actual consumption. The PEPFAR quantification will be combined with Global Fund and Government of Nigeria ARV drug quantifications to develop the first-ever nationwide ARV need estimate for 2009.

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

In Uganda, SCMS has worked with JMS, a faith-based organization serving the needs of mission hospitals and clinics throughout the country, to strengthen its warehousing practices. JMS is specifically tasked with managing 20 percent of the nation's essential drugs, storing these for ministry of health facilities and holding ARVs for several PEPFAR recipients.

As JMS has grown in recent years, so has the need for storage. SCMS recommended various improvements, including a new warehouse management information system that uses radio frequency devices to speed up transactions; the use of perpetual inventory procedures to replace the annual physical inventory, which required shutting down the entire operation; and use of first-to-expire, first-out practices to reduce the risk of expiry. SCMS also recommended that JMS use one of its stores for bulk storage and the other primarily for picking and packing of orders.

Receiving and dispatch areas at the bulk warehouse were separated to improve security and to facilitate movement between warehouses. A racking system was installed, and a forklift added, to maximize storage space in the bulk warehouse. At the pick warehouse, fast-moving items were placed at the front of the picking area and slow-moving items at the back to increase packing efficiency, and the existing MIS system was replaced with a new MACS system. As a result, picking time has been reduced by up to 30 percent.

Radio frequency terminals offer instant stock-on-hand information for any product, with built-in alerts to minimize the likelihood of stockouts. These changes have resulted in a streamlined, sustainable warehouse management system—one that enables a more secure, reliable supply of drugs and other health commodities that meets Uganda's scale-up needs.

## Distribution through private sector partners

A frequent question to SCMS goes something like this: “Soft drinks and beer can be found in almost every village in Africa, so shouldn’t it be fairly easy to get pills to patients too?” The answer is a bit complicated.

Each drug undergoes careful review and registration by government agencies. Most are purchased internationally from places like China, Europe, India and the United States. Procurement and customs clearance of pharmaceuticals requires special knowledge. Some items need cold storage; others have short shelf lives. And many require strict quality control and security measures.

Not only are pharmaceutical products very different from soft drinks or beer, but the management and funding of the supply involves many national and international stakeholders, whereas soft drinks and beer are supplied by commercial enterprises that are under the sole control of their management.

In spite of these differences, commercial distribution practices can inform in-country distribution of pharmaceuticals and other health products. Where appropriate and acceptable to our clients, SCMS helps contract with commercial services to deliver commodities to often hard-to-reach areas where soft drinks and beer already find their way. SCMS uses FedEx in Zambia to distribute laboratory controls, and in Haiti we use private transport companies. In Zimbabwe, a courier service delivers regular and emergency orders to remote sites. In Mozambique, local laboratory reagent suppliers deliver to sites themselves. Vietnam uses a private company to manage import, storage and distribution.

And Rwanda is planning to distribute drugs, equipment and supplies using traditional companies like FedEx and DHL, and not-so-traditional companies like Coca Cola and Bralirwa, distributors of soft drinks and beer.

## Forums expand conversations beyond those attending conferences

SCMS is raising the profile of supply chain management at two key international conferences—the 2009 Global Health Conference held in May in Washington, DC and the 2009 PEPFAR Implementers’ Meeting to be held in June in Windhoek, Namibia. All together, seven presentations and two posters were accepted for these conferences focusing on topics ranging from laboratory logistics systems to food by prescription programs.

To expand the conversation beyond those attending the conferences, we are hosting online conference forums that enable technical practitioners to further discuss key issues from the conferences as well as propose their own topics for discussion. Each forum is hosted by an SCMS advisor who will lead the discussion, and moderate by responding to questions as well as further developing issues that emerge. There will be five online forums:

### **Global Health Conference (Forum Dates: June 1 – June 12)**

- Mr. Stanley Mapiki from Botswana hosts a discussion of his presentation, "Improving Healthcare Access by Addressing Drug Registration Backlog"

- Mr. Tom Layloff hosts a discussion of the presentation, "Avoiding the Bitter Pill: Quality Assurance Prevents Harm"

### Implementers' Meeting (Forum Dates: June 22 – June 26)

- Mr. Alemayehu Wolde from Namibia will host a discussion of the presentation, "Quality Home Care: Empowering Families"
- Mr. Alemayehu Nigatu will host a discussion of his presentation, "Ethiopian National Laboratory Logistics System: Overcoming Despair Through a Systematic Response"
- Ms. Rochika Chaudhry will host a discussion of her poster, "Expanding Impact of the Red Ribbon: Strengthening Health Systems with HIV/AIDS initiatives"

Participation in the forums requires registration to the SCMS online community. To register, visit the SCMS website at <http://scms.pfscm.org/scms> and click on the registration button. You will be required to set up an account, and verify registration by responding to an email message. Once registered, you can log in from the SCMS website and access a link to the forums from the Resource Center section of the site.



A community directory will also be available from the SCMS website for participants to create professional profiles. Participants can also customize their forum experience by including a picture to accompany their postings to the online forum and subscribing to specific forums to receive e-mail updates when new postings are made.

For more information about how to participate, please contact Anne Marie DiNardo at [adinardo@pfscm.org](mailto:adinardo@pfscm.org).