

# Regional Distribution Centers and Inventory Management

Leveraging regional distribution centers (RDCs) to manage inventories of essential items for HIV/AIDS programs and to provide frequent, regular resupply

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*In the past, HIV/AIDS prevention, care and treatment programs in Africa relied on infrequent shipments of large quantities of antiretrovirals, HIV test kits and other essential supplies—often enough to cover more than six months of consumption. By pre-positioning strategic inventory of those items regionally, and by making small, frequent shipments to client countries, the Supply Chain Management System (SCMS) ensures rapid response to program needs and protects local supply chain infrastructure from overload, thus enabling scale-up.*

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## The Challenge

There are two primary challenges to making quality antiretrovirals (ARVs) and HIV test kits available to clients at the right time and in the right quantities to support their expanding programs. Forecasting ARVs for treatment programs has proven to be far more difficult than one might assume. Reasons range from uncertain scale-up targets (the rate of growth of the number of patients on treatment) to the realities of obtaining accurate consumption information from local treatment programs or obtaining good inventory information from the central medical stores and the local warehouses that directly supply HIV/AIDS programs.

An additional challenge is developing and maintaining the infrastructure at the country level to store, manage and distribute the larger volumes of ARVs and supplies required to treat the rapidly increasing number of patients. International supply chains must provide a regular resupply of essential medicines and other neces-

sities to local HIV/AIDS program supply systems without overwhelming those systems.

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Country-level, rolling 24-month forecasts of required medicines and HIV test kits are key to inventory planning for each RDC.

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## Meeting the Need

To meet such challenges, SCMS has implemented a regional distribution center (RDC) concept. ARVs, HIV test kits and other select products to support our clients' HIV/AIDS programs are pre-positioned regionally for distribution in smaller quantities, in consolidated shipments and in a schedule closer to the time of actual consumption by patients. The RDC approach is not intended to replace existing storage and distribution structures within countries; rather it is intended to supply a country's central warehouses in a manner that does not require additional local infrastructure to support program scale-up. The RDC approach reduces risks

associated with maintaining large buffer stocks of ARVs in each country—risks such as product expiration, waste, loss, damage, theft or counterfeiting.

**Establish RDC locations.** SCMS's RDCs are state-of-the-art facilities that meet commercial and the World Health Organization's Good Manufacturing Practice standards for warehousing and distributing pharmaceuticals and medical equipment. Located in Accra, Ghana; Nairobi, Kenya; and Pretoria, South Africa, RDCs are managed by an SCMS team member, the Fuel Group, which is a leading logistics provider in Africa. SCMS has an additional facility in Georgia, USA, which is managed by team member MAP International for donations and for consolidating shipments of products made in the US before their export.

**Use inventory planning and forecasting.** RDCs are stocked on the basis of anticipated demand from the countries each serves. Consequently, each RDC's inventory will vary. The inventory plans are based on the forecasts submitted by each country in the region as well as the demand history of recent consumption. SCMS field offices submit a two-year forecast and a one-year supply plan. Inventory levels for each RDC are based on aggregated country-level forecasts and firm orders that are planned well in advance of future need.

**Reduce lead time.** RDCs can significantly reduce the lead time required to obtain products for recipient countries. Items that are in stock at the RDC can be delivered to a client within one month—provided they have been properly forecast—versus the three to six months it may take to get an order of ARVs from a supplier.

**Pool inventory across regions.** Each RDC aggregates the forecast demand for ARVs across all the countries in the region it serves and establishes inventory targets for each item. Inventory targets include core stock for planned future client orders and safety stock for emergency (i.e., unplanned) needs. This approach allows SCMS to pool inventories across countries, thereby reducing the quantities that need to be carried at a given time and reducing the risk of products expiring before they reach patients.

**Plan for shipment consolidation and mixed ship-**

**ments.** RDCs are able to supply clients in consolidated, mixed shipments—smaller quantities of multiple ARVs and other products in a single shipment as opposed to multiple shipments of bulk quantities of single items. This approach reduces the number of inbound shipments to clients and can significantly reduce the space required to receive and process inbound deliveries at the clients' facilities. RDCs can also custom configure shipments for clients, such as the pre-determined product mixes for regular resupply, the labels and the marking of cartons.

**Use track-and-trace capability.** SCMS information systems provide end-to-end traceability of batches or lots of products ordered. SCMS is able to provide suppliers with information at the batch level for products we procure from them—from inbound shipments, through warehousing, to delivery to our clients. This tracking is critical when responding effectively to a product recall or quarantine order should either occur.

## Sustained Benefits

SCMS's RDCs operate to world-class quality standards for storage and distribution of health commodities. The most frequently requested essential medicines, including ARVs, HIV test kits and other critical health products, are held closer to HIV/AIDS programs than ever before. This proximity shortens delivery times from many months to less than one month for planned orders. Programs can hold less stock knowing they will receive more frequent replenishments on the basis of their planned requirements. RDCs are designed to be commercially viable and to provide services to other customers, thus ensuring their sustainability beyond SCMS.

### ABOUT SCMS

The Supply Chain Management System (SCMS) was established to collaborate with in-country and global partners to ensure a reliable, cost-effective and secure supply of high-quality medicines and health products for HIV/AIDS prevention, care and treatment. SCMS is funded as part of the US President's Emergency Plan for AIDS Relief through the US Agency for International Development. Visit [www.scms.pfscm.org](http://www.scms.pfscm.org) or write to [scmsinfo@pfscm.org](mailto:scmsinfo@pfscm.org) for more information.

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