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## RxSOLUTION: AN ELECTRONIC INVENTORY AND PATIENT MANAGEMENT TOOL IMPROVES ACCESS TO AND RATIONAL USE OF MEDICINES



### CHALLENGE **Manual system of managing products and patients diminishes efficiency**

Managing stocks of medicines using manual systems requires inordinate amounts of time and effort, which is problematic given chronic staff shortages in many health facilities, especially at primary health care levels. Additionally, ensuring key pieces of data are available, accurate, and up-to-date is crucial for forecasting future medicines needs, monitoring current stock on hand, and making informed managerial decisions. Yet, all of these are difficult to manage with a paper-based tracking system.

Effective pharmaceutical stock management is essential to avoid the negative effects of both stock-outs of medicines and medicines waste due to expiry. In South Africa, paper-based systems have traditionally been used to manage storing and dispensing processes. Many facilities rely on stock cards which can be filled out incorrectly or not updated regularly and result in faulty information on stock movement and inventory control.

### SIAPS ACTIVITIES **Using an electronic management system for better patient care**

Recognizing that advances in simple and easy-to-use technologies could better support the management of medicines and other health supplies, SIAPS has built upon an existing Management Sciences for Health tool developed in South Africa known as RxSolution—an electronic inventory management and pharmaceutical dispensing tool that supports efficient and effective management and distribution of medicines from the supplier to the patient.

Over the past three years, SIAPS has expanded the use of RxSolution to a total of 350 sites across South Africa. SIAPS is also developing numerous customized modules and modifications to meet the specialized needs of different clinical settings including expanded functionality for barcode tracking, biometric monitoring, and mobile phone applications.

RxSolution enables integrated stock management by:

- Monitoring the quantities of stock requested, ordered, received, and distributed
- Recommending quantities of stock to be ordered based on historical data
- Tracking batch, lot, and expiry dates for all stock
- Tracking dispensing information for prescribers, dispensers, and patients
- Monitoring and controlling the movement of stock among institutions

# RESULTS

## RxSolution streamlines management of medicines

The implementation of RxSolution has resulted in the following:

- In the Limpopo province, SIAPS customized RxSolution to help manage direct deliveries for ARVs and oncology agents to over 40 hospitals.
- In Eastern Cape, the Chatty Clinic use RxSolution to analyze the expiry dates of medicines and identified 41 products that were likely to expire before they could be used. The clinic was able to redistribute these medicines to other facilities, which saved the clinic enough money to cover the average cost of treating 254 patients.

- In the Free State province, SIAPS introduced an additional module along with RxSolution which facilitates automatic ordering based on consumption data.

In 2013, RxSolution won a National Award for Innovative Use of Information Technology for Effective Service Delivery. The accolade was awarded for the work at Dihlabeng Regional Hospital in Bethlehem, rural Free State, which moved from a paper-based system to RxSolution for dispensing prescriptions for patients on ARVs.

# NEXT STEPS

## Scaling up and improving quality of information for decision making

The National Department of Health (NDOH) in South Africa has recognized RxSolution as a critical component of the national pharmaceutical management information system by endorsing it as the recommended tool for dispensing medications. As a result of increased demand for RxSolution, driven by the NDOH's recommendation, SIAPS is embarking on a stakeholder engagement process with PEPFAR, the NDOH, and provincial-level partners to expand its use.

In addition to South Africa, RxSolution is being used in Lesotho, Namibia, Swaziland, Haiti, and Uganda. In Lesotho, RxSolution is functional at 13 hospitals and at the national pharmaceutical supply agency, where ART and laboratory information system data are now routinely analyzed and included as part of a feedback mechanism to facilities for the national ART program.

In Swaziland, RxSolution is in use at three central warehouses to manage over USD 50 million

worth of medicines, and is also being used at 39 PEPFAR-supported sites for the day-to-day inventory management of medicines. Stock status, redistribution plans, monthly inventory, and issue reports are routinely generated with the tool. Reports generated from the system helped alert key stakeholders to potential stock situations ahead of time and allowed them to make informed procurement decisions to avoid stock-outs.

In Namibia, the Intermediate Hospital Oshakati has used RxSolution to improve pharmacy management by reducing the patient wait times from 41 to 14 minutes. The hospital has also reduced waste due to expiry of pharmaceutical products from over USD 10,000 per quarter to USD 2,400 per quarter in the two years before and after RxSolution. Additionally, the number of emergency orders placed has been reduced by 56% (from an average of 8.25 to 4 orders per quarter) as has overall expenditures on pharmaceuticals, down from USD 4.9 to 2.6 million.

**ABOUT SIAPS** | The Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program works to assure access to quality pharmaceutical products and effective pharmaceutical services through systems-strengthening approaches to achieve positive and lasting health outcomes. SIAPS is funded by the US Agency for International Development (USAID) and is implemented by Management Sciences for Health. For more information, visit [www.SIAPSprogram.org](http://www.SIAPSprogram.org).



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