health

Department:
Health
REPUBLIC OF SOUTH AFRICA

Reference No:	RxSolution
Enquiries:	Ms K Jamaloodien
Office No:	D1-09B
Extension:	8130
Date:	13 May 2025

THE DIRECTOR-GENERAL

SUBJECT: REQUEST FOR DEVIATION FROM SUPPLY CHAIN PROCESSES THROUGH THE SINGLE SELECTION FOR THE ONGOING DEVELOPMENT, MAINTENANCE AND SUPPORT OF RXSOLUTION FOR A PERIOD OF TWELVE MONTHS

PURPOSE

1. To request the Director-General of Health to grant the Chief Directorate: Sector Wide Procurement, approval to deviate from standard procurement processes through the single source selection for the ongoing development, maintenance and support of RxSolution for a period of twelve months.

SUMMARY

2. RxSolution provides medicine availability data to the National Surveillance Centre (NSC) from the 751 health establishments where it is installed. In addition to medicine availability, RxSolution plays a vital role in supporting the medicine supply chain by comprehensive system enablement of dispensing and stock management processes.

3. Code development for RxSolution ceased in 2016 with light support from USAID continuing until abruptly ending in early 2025.

4. The governance standard against which RxSolution is audited Control Objectives for Information and Related Technologies (COBIT) and the approach followed by the Auditor General South Africa (AGSA) have evolved since 2016 resulting in new audit findings emerging over time, most notably a Communication of Audit Finding (COMAF) for the NDoH in the last audit cycle with other findings against provincial departments.

5. Representatives of provincial health departments have made written requests for assistance with regards to RxSolution.

6. A sundry list of audit findings relating to RxSolution could be mitigated indirectly by improving screen flow and usability to reduce the risk of errors, in addition to

other improvements that could directly address audit findings and improve system governance.

7. This submission serves to request the Director-General of Health to grant the Chief Directorate: Sector Wide Procurement, approval to deviate from standard procurement processes through the single source selection for the ongoing development, maintenance and support of RxSolution for a period of twelve months.

8. This urgent intervention is necessary to address audit findings, prolong the operational life of RxSolution and ensure continued supply chain visibility and efficiency.

STRATEGIC FOCUS OF THE SUBMISSION (APP AND STRATEGIC PLAN)

9. Promote the rational selection and use of medicines and related items to be used in South Africa and to ensure the availability of quality medicines.

10. Implement an electronic system for early detection of stock outs of medicines.

DISCUSSION

11. RxSolution is a Pharmacy Information Management System (PIMS) used to manage medicine inventory at hospitals and larger clinics that have the IT infrastructure, human resources and process maturity required to be able to utilise the system.

12. RxSolution supports:
    - Prescription capture (light ePrescribing),
    - Fully featured dispensing support,
    - Advanced inventory management, and
    - Automated reporting components that connect to the National Surveillance Centre (NSC).

13. Development of RxSolution began more than 25 years ago and was originally developed by South African professionals with funding from the United States Agency for International Development (USAID) and managed by Management Sciences for Health (MSH) under the Systems for Improved Access to Pharmaceuticals and Services (SIAPS) program. The software was designed to address challenges in medicine supply management, particularly in the context of HIV treatment and other chronic conditions.

14. In 2016, MSH handed over the source code of RxSolution to the South African government, so that use of this valuable asset is free from licensing and the code is available for further development and evolution.

15. While no more code changes or updates were made to the main application since then, USAID partnered with the South African government to develop the RxSolution Automated Reporting System (API) to connect RxSolution to the NSC

and continued to provide rollout, implementation and training support. In recent years this was scaled back to light training and process support.

16. This support provided by USAID was terminated in early 2025.

Advantages and Recent Interest

17. The main advantages of RxSolution may be summarised as follows:
    - **Free**: RxSolution software application is free and compatible with the free to use version of Microsoft SQL Server.
    - **Robust**: RxSolution uses a simple two-tier architecture that is very stable and easy to deploy and continues to function at hundreds of sites with little to no support.
    - **Advanced Process Support**: The system enables pharmacies to monitor stock levels, track batch and expiry dates, manage dispensing information, and control the movement of stock across health establishments. It also recommends future orders based on historical data, thereby reducing stock-outs and ensuring timely availability of medicines.
    - **Created for South Africa**: RxSolution was created for South African conditions and its processes consider the specifics of public sector medicine stock management.
    - **Stock Visibility**: The RxSolution Automated Reporting System connects to National Surveillance databases to facilitate stock level monitoring.
    - **Extensive Reporting Capabilities**: RxSolution allows building of unlimited custom reports and also includes over 50 standard reports: Stock-on-Hand Reports, Monthly Stock Consumption Reports (MSCs), Ordering and Requisition Reports, Issue and Receipt Reports, Expired and Near-Expiry Stock Reports, Stock Movement History, Dispensing Reports (e.g. patient-level, prescriber-level), Stock Adjustment Reports, Facility Performance Dashboards, Audit Trail and Transaction Logs.
    - **Cost Savings and Waste Reduction**: The system's ability to track expiry dates and manage stock levels has led to reductions in medicine wastage due to expiries and reduced overstocking leading to cost reductions.

18. In 2025, the National Surveillance Centre (NSC) received reporting data from RxSolution installations at 751 health establishments across the country, reflecting the system's widespread adoption and its critical role in enabling real-time monitoring of medicine availability, stock levels, and supply chain performance within the public healthcare sector.

19. Following audit findings by the Auditor General, the system is experiencing renewed interest, especially as some audit findings require using dispensing functionality at sites that previously used the stock module without rolling out dispensing functionality. This is in addition to general interest in optimising the use of RxSolution for existing installations given sundry audit findings, and rolling out RxSolution to further sites.

20. KwaZulu-Natal, for example, has set the strategic goal to ultimately implement RxSolution across all sites, including every clinic in the province.

Challenges of Not Having System Support

21. Staff turnover over the years since the initial rollout has led to inconsistent user proficiency:
    - Lack of awareness that certain features exist or how to use them optimally result in poor adoption of features such as alerts, order recommendations, segregation of duties features and reporting tools.
    - This creates the temptation to rely on manual processes in parallel with the system, or failure to make use of features that could have saved costs and enhanced patient safety, such as failure to use batch expiry management.

22. Many adverse audit findings result from users who lack proficiency conveying false information to auditors, usually in ignorance. Examples of common adverse findings that could be addressed by user training:
    - A very common audit finding is that RxSolution lacks features for segregation of duties. In fact, RxSolution supports extensive configurable segregation of duties features, but many users do not know of this or would not be proficient at the configuration.
    - Auditors often encounter ignorance of more advanced features such as batch expiry date management, stock out alerts or system suggested orders.
    - This category of issue can be mitigated by training initiatives and code changes to improve usability and flow of the system.

23. Additionally, well-founded system issues do exist and do require urgent attention in the following categories:
    - Broadly, the Auditor-General applies the Control Objectives for Information and Related Technologies (COBIT) framework as the standard for auditing IT systems. As the audit approach and COBIT framework continue to evolve, a growing gap has emerged between the version of RxSolution released in 2016 and current IT governance requirements.
    - Several aspects of user management are very poor by current standards and have received valid adverse findings, such as COMAF 70 of 2023/2024. The NDoH has accepted this risk, see attached appendices.
    - Given the complexity of the functionality, user friendliness of the system can sometimes be a challenge. Experience over the last 10 years since developed ceased should be leveraged to improve the user friendliness of the system. This would make users more effective, invite fewer errors and reduce audit findings.
    - Given that many health establishments have been using RxSolution for longer than 10 years, free-to-use versions of SQL databases may be

reaching the allowed ceiling for data size. This requires stripping out of old data which also improves the performance of slowing databases.

- Auditor General South Africa has raised the fact that no interface exists between warehouse management systems at depots and RxSolution for aligning product catalogues and entitlement lists (effectively formularies), inviting requisitioning errors.

24. Written requests regarding RxSolution from provincial health departments are included as annexures.

Proposed Way Forward

25. Targeted code development, training and process support are required to address system challenges and respond to audit findings, in order to extend the functional lifespan of the application.

26. For a limited duration of 12 months, carry out code development aimed at achieving the following objectives:
    - For user management, address lack of password history (per Auditor General finding).
    - For user management, create configurable password lockout thresholds and other password rules (per Auditor General finding).
    - For user management, create features for easy switching between multiple users sharing the same PC in a safe and secure manner in order to reduce sharing of the same user profile (regular Auditor General finding).
    - For user management, enforce time outs so that unattended PCs are not exposed to undue risk (regularly raised by Auditor General).
    - A more nuanced initiative involves leveraging insights gained over the past decade to redesign the flow and layout of screen elements in order to modernise the system and enhance usability. This includes streamlining navigation and highlighting key system functions to reduce user confusion and minimise the risk of audit findings related to misinterpretation or incorrect use of the system. This will impact a list of process related audit findings, especially if development combines consideration of COBIT governance requirements.
    - To enhance performance, develop scripts and tools for deleting or archiving old data and other system performance enhancements for use by provincial teams.
    - To align to evolving governance standards, develop new pieces of functionality and reports to meet requirements that have arisen since development officially ended around 2016.
    - To improve data governance, make product catalogue alignment easier by developing a tool that without direct connection to depot systems, can assist RxSolution administrators to compare Excel depot product extracts to

RxSolution product lists and highlight mismatches and assist with making changes.

- Similarly, improve data governance by developing a tool to compare product lists between RxSolution and the Medicine Master Data System (MMDS), and highlight mismatches and assist with making changes.

27. For a limited duration of 12 months, provide training and process support to achieve the following:
    - Train up trainers and system champions within provinces to enable them to take over this function with the period.
    - Develop a guide for provincial Standard operating Procedure manual (SOP) writers to take into account when writing SOPs for processes supported by RxSolution to address audit findings around outdated SOPs and align SOPs to Good Pharmacy Practice (GPP).
    - Create an online toolkit to support provincial teams with adoption, rollout, and training by refreshing existing materials and creating some new ones.
    - Conduct training and workshops at provinces for system adoption by novice users, deliver training on advanced topics for experienced users, and guidance for developers of SOPs.
    - Where training is online and feasible, record training sessions for upload to YouTube so that these may form part of the adoption toolkit.

<u>Confirmation Of Resource and Skills Gap</u>

28. To be immediately effective and complete this project within the 12-month timeframe, the consultants will require in depth of RxSolution functionality, other applications in the ecosystem and sound knowledge of public sector medicine supply chain, and also:
    - The system developer will require detailed knowledge of the technologies employed by RxSolution such as Delphi, C# and SQL Server, advanced knowledge of the architecture created specifically for RxSolution and advanced knowledge of the existing RxSolution codebase.
    - The business analyst will require extensive training and process experience with RxSolution to be able to pre-empt complicated scenarios that arise in the field.

29. Having explored the ability of the NDOH to maintain RxSolution in-house, the finding is that NDOH lacks the necessary in-house skills and experience to effectively maintain and support this business application.

30. Given the technical demands and the need for specialised knowledge, it is impractical to train personnel within the available timeframe. Engaging external professionals will ensure system stability, allow addressing of audit findings, and provide knowledge transfer for long-term sustainability.

31. The following consultants are recommended for appointments because the services they will provide represent a natural continuation of previous work carried

out by the consultants through the USAID/PEPFAR-appointed support partner to whom they were contracted:

Deane Putzier (original SIAPS RxSolution architect and developer)

Dambudzo Chara (original SIAPS RxSolution business analyst and trainer)

32. This urgent intervention is necessary to address audit findings, prolong the operational life of RxSolution and ensure continued supply chain visibility and efficiency. While the NHI Digital Health Unit has initiated a project to develop a new, web-based version of RxSolution—featuring a single, centralised database hosted online—this solution will require substantial time for development and nationwide rollout. Importantly, persistent connectivity challenges at many facilities are expected to remain even after the new system is deployed. Transitioning from the current version, which relies on local databases to mitigate poor connectivity, to a centralised web-based application is a critical strategic objective. However, this will take several years to fully achieve given time for development, time for roll out and delays due connectivity constraints at some facilities.

33. Please find attached the following appendices:
    COMAF 70 of 2023/2024
    Risk Acceptance Form for COMAF 70 of 2023/2024
    Letter from EC HOPS Requesting Support for RxSolution (with LP, FS, NC and KZN co-signing in support)
    Email from Gauteng Requesting support for RxSolution
    Email from Mpumalanga Requesting support for RxSolution

RELEVANCE TO THE NATIONAL DEVELOPMENT PLAN

34. The National Development Plan in chapter 10, identifies the improvement of health information system as one of the priorities to achieve health goals of the 2030 vision.

CORPORATE SERVICES IMPLICATIONS

35. Not applicable.

Mogale

MR PP MAMOGALE
ACTING : HEAD CORPORATE SERVICE
DATE: 16/05/2025

36. In terms of section 15.1.2 of the Supply Chain Policy of 31 March 2021, "Single-source selection may be appropriate only if it presents a clear advantage over competition (i) for services that represent a natural continuation of previous work carried out by the consultant, and continuity of downstream work is considered essential."

37. The consultants recommended for appointment previously provided the required service through the USAID/PEPFAR-appointed support partner. Their appointments will provide a natural continuation of previous work carried out until these services are contracted for using the SITA procurement process.

38. Based on the Guide on Hourly Rates for Consultants published by the Department of Public Service and Administration in 2003, the consultants should be paid an hourly rate as Model B long Term, option B2.2 Partial overheads, no markup. See attached Annexure A Hourly rates for consultants, with effect from 01 July 2020.

39. In terms of the Category of Fee Earning Staff (Section 3 of the DPSA's Guide) these consultants have been identified as Professional/Technical Staff and the appropriate salary band would be Level 13 for the developer / architect and 12 for the business analyst.

40. The financial implications are as follows:

Consultant	Days	Hours / Day	Total Hours	Hourly Rate	Total
Senior RxSolution Development Architect	240	8	1 920	R1 191.00	R2 286 720.00
Senior RxSolution Business Analyst	240	8	1 920	R871.00	R1 672 320.00
				TOTAL:	R3 959 040.00

41. Provision of funding for the proposal will be made from the NHI Direct Grant and will be included in the annual business plans for the grant.

Supported

Mgale

MR PP MAMOGALE
CHIEF FINANCIAL OFFICER
DATE: 19/05/2025

The Cluster Should advise on future Supporting Systems as consultants will be costly considering the Systems in question will continue for few years to come.

Should we expect further extension or alternative Solution will be available after a Year

Mgale

RECOMMENDATION

42. It is recommended that the Director-General of Health grants the Chief Directorate: Sector Wide Procurement, approval to deviate from standard procurement processes through the single source selection for the ongoing maintenance and support of RxSolution for a period of twelve months.

CHIEF DIRECTOR: SECTOR WIDE PROCUREMENT **MS K JAMALOODIEN** K Jamaloodien **DATE:** 09/05/2025	**DEPUTY DIRECTOR-GENERAL: PROF N CRISP** **BRANCH: NATIONAL HEALTH INSURANCE** N Crisp **DATE:** 13/05/2025 **Recommended/~~Not recommended~~**
DIRECTOR GENERAL: HEALTH **DR SSS BUTHELEZI** **DATE:** 23/05/2025 **Approved/~~Not approved/amended~~**	