



GLOBAL HEALTH SUPPLY CHAIN PROGRAM – TECHNICAL ASSISTANCE QUARTERLY REPORT

YEAR 6 QUARTER 3, APRIL - JUNE 2022

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ACRONYMS

AG	Auditor General
AIDS	Acquired Immune Deficiency Syndrome
AMD	Affordable Medicines Directorate
AMR	Antimicrobial Resistance
API	Application Program Interface
APP	Annual Performance Plan
ARC	Africa Resource Centre
ARV	Antiretroviral
CCMDD	Centralized Chronic Medicine Dispensing and Distribution
CFOs	Chief Financial Officers
CHAI	Clinton Health Access Initiative
CHCs	Community health centers
CMU	Contract Management Unit
DHIS	District Health Information System
DTG	Dolutegravir
EDP	Essential Drugs Program
EML	Essential Medicines List
ESKAPE	Enterococcus faecalis and Enterococcus faecium, Staphylococcus aureus, Klebsiella pneumoniae, Acinetobacter baumannii, Pseudomonas aeruginosa and Escherichia coli
FY	Financial Year
GHSC-TA	Global Health Supply Chain – Technical Assistance
GoSA	Government of South Africa
HIV	Human Immunodeficiency Virus
HTA	Health Technology Assessment
ICDF	In-Contract Demand Forecast
IMAT	Improved Medicine Availability Team
IT	Information Technology
KPI	Key Performance Indicator
MAC	Ministerial Advisory Committee
MEC	Member of Executive Council
MHPL	Master Health Product List
MMDS	Medicine Master Data System
NDoH	National Department of Health
NEMLC	National Essential Medicines List Committee
NHI	National Health Insurance
NOCD	National Institute for Communicable Diseases
NSC	National Surveillance Center
PDoH	Provincial Departments of Health
PHC	Primary Health Care
PMPU	Provincial Medicine Procurement Unit
POC	Proof of Concept
PPE	Personal Protective Equipment
PrEP	Pre-exposure Prophylaxis
PS	Pharmaceutical Services
PST	Provincial Support Team
PTC	Pharmaceutical and Therapeutics Committee
Q3	Quarter 3
RFI	Request for Information
RMU	Rational Medicine Use

SCOA	Standard Chart of Accounts
SIMA	Strategy to Improve Medicine Availability
SOPs	Standard Operating Procedures
SRCC	Special Requirements and Conditions of Contract
STGs	Standard Treatment Guidelines
SVS	Stock Visibility System
TB	Tuberculosis
TEE	Tenofovir/Emtricitabine/Efavirenz
TLD	Tenofovir/Lamivudine/Dolutegravir
TOR	Terms of Reference
TROA	Total Remaining on Antiretroviral Therapy
USAID	United States Agency for International Development
VPN	Virtual Private Network

I. EXECUTIVE SUMMARY

INTRODUCTION

South Africa remains at the center of the global AIDS epidemic and has one of the world's highest burdens of tuberculosis (TB). An efficient and effective health supply chain that improves medicine availability is critical to addressing that disease burden. With this in mind, the United States Agency for International Development (USAID) launched the Global Health Supply Chain Program – Technical Assistance (GHSC-TA) in South Africa in September 2016. The program provides technical assistance to the South African government to strengthen public health systems and supply chains to advance an AIDS-free generation and contribute to achieving universal health coverage.

GHSC-TA provides technical assistance directly to the Affordable Medicines Directorate (AMD) of the National Department of Health (NDoH), as well as to the Pharmaceutical Services (PS) directorates of the Provincial Departments of Health (PDoH). The program's overall aim is to assist the government with improving access to and availability of the medicines and related commodities needed to prevent and treat HIV/AIDS, TB, and associated conditions and disorders.

PURPOSE OF THIS DOCUMENT

This quarterly report details GHSC-TA program activities and achievements by objective and, where possible, provide results for each of the six objectives against key performance indicators (KPIs).

YEAR 6 QUARTER 3 ACTIVITIES AND ACHIEVEMENTS

Year 6 Quarter 3 (Q3) activities focused on strengthening the health supply chain at the national and provincial levels. At the provincial level, GHSC-TA continued to provide support through the provincial support team (PST), which facilitates the implementation and institutionalization of supply chain reforms in the provinces. In addition, the team continued with efforts to support the Government of South Africa (GoSA) in the national response to the COVID-19 pandemic.

The program is segmented into nine main activities, representing capacity-building interventions across multiple functional areas. These activities align with the six program objectives. A high-level overview of Q3 activities and accomplishments for each objective follows.

OBJECTIVE 1: IMPROVE SELECTION AND USE OF MEDICINES

GHSC-TA continued to work with the Essential Drugs Program (EDP) of the AMD to strengthen the selection and use of medicines. Program support focused on strengthening the current medicine selection structures, such as the National Essential Medicines List Committee (NEMLC) and supporting activities to promote the rational use of medicines (RMU). Specific achievements included documenting meetings of the NEMLC and drafting the NEMLC Bulletins, reviewing the terms of reference (TOR) of the NEMLC, developing presentations to communicate the processes of the EDP and functions of Pharmaceutical and Therapeutics Committees (PTCs) as well as the importance of RMU, developing communication and distribution strategies for Pharmacy Month, as well as assistance with the data and calculations required for an Antimicrobial Resistance (AMR) Dashboard.

OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

GHSC-TA continued to support the Eastern Cape, Free State, Gauteng, and Mpumalanga provinces with monthly demand forecasting reviews. The team also supported NDoH demand planners with Northern Cape, North West, KwaZulu-Natal, and Limpopo, as this responsibility has transitioned to AMD. GHSC-TA initiated support to the Eastern Cape with the introduction of a Provincial Medicine Procurement Unit (PMPU) in the province.

The GHSC-TA team completed the FY 2023/2024 pharmaceutical budget preparations and obtained sign-off from the provincial Heads of Pharmaceutical Services of all nine provinces. By the end of the quarter, the team was scheduling meetings with provincial Chief Financial Officers (CFOs) for the second and final sign-off in July 2022. In addition, the team finished analyzing and reviewing data on Standard Chart of Accounts (SCOA) codes and was ready to present the findings to the national working group. The demand planning team also agreed with NDoH to use the GHSC-TA PST in helping to entrench the use of the finance dashboard in the provinces.

OBJECTIVE 3: STRENGTHEN GOVERNANCE

GHSC-TA continued to support AMD and the provinces to strengthen governance. The team supported AMD in completing the revision of the amendments to three sets of regulations relating to practice, registration, and education of pharmacy support personnel. GHSC-TA supported AMD in the orientation of the newly appointed members of the Bid Specification Committee (BSC) and Bid Evaluation Committee (BEC) and in reviewing the contracting governance documents, including the TOR of both committees and the Special Requirements and Conditions of Contract (SRCC). Additionally, the demand planning processes were reviewed, and GHSC-TA supported AMD in developing the policy principles for tender forecasting to standardize the process of determining contractual estimates across the provinces.

OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT

GHSC-TA provides technical assistance to strengthen the workforce and organizational structures within the AMD to perform the functions necessary to improve medicine availability and support the implementation of the Strategy for Improved Medicine Availability (SIMA). During this period, GHSC-TA supported training on RxSolution and Stock Visibility System (SVS) Phase I.

OBJECTIVE 5: STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

GHSC-TA continued to assist AMD and the service provider to develop and roll-out the Medicine Master Data System (MMDS), and SVS with both development and roll-out efforts focused on support of replenishment planning processes.

Development and testing of significant changes to the SVS formulary functionality are complete and allow for full formulary counts to be used when preparing electronic orders and an abridged list to be used when only partial counts of tracer items are required. Developed but yet to be fully tested is a new SVS formulary import tool allowing formularies loaded on SVS to synchronize and upload data sheets across multiple health establishments.

Formulary roll-out work progressed well in KwaZulu-Natal, with primary health care (PHC) clinics using SVS now loaded onto the MMDS with the template formulary agreed and loaded onto the system.

GHSC-TA transitioned the National Surveillance Center (NSC) to critical master data lists, namely the Master Health Product List (MHPL) and Master Facility List (MFL) and published the updated views during this quarter. There were activities regarding two new dashboards for the EDP and the HIV Program. The GHSC-TA team initiated the data review and master data configuration for the AMR work and developed and presented five new Pre-exposure Prophylaxis (PrEP) views to the HIV Program this quarter. The program further assisted AMD in the NSC business process audit by the Auditor General (AG) in June 2022.

OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT

Due to the close linkages with Objective 2, work in this area has been collapsed into the Demand Planning and Financial Management stream.

2. INTRODUCTION

South Africa remains at the center of the worldwide AIDS epidemic, with an estimated 7.9 million¹ people living with the disease. In addition, the country has the third-highest burden of TB internationally.² An efficient and effective health supply chain that improves medicine availability is critical to addressing that burden. With this in mind, USAID launched GHSC-TA in South Africa in September 2016. The program provides technical assistance to the South African government to strengthen public health systems and supply chains to advance an AIDS-free generation and contribute to achieving universal health coverage.

The availability of medicine directly impacts health outcomes for the South African people. When health establishments do not have adequate medicine stock on hand to meet patient needs, not only is the health of patients jeopardized, but patients must return to the health establishment, at considerable personal expense and inconvenience, to collect their medicines. Addressing constraints and improving medicine availability is a core objective of South Africa's NDoH. GHSC-TA works with the NDoH to design and implement innovative solutions to transform the South African public health supply chain. Simultaneously, the program is working with PDoH to increase medicine availability nationwide. By improving health supply chain visibility, the program also supports public health establishments' efforts to anticipate patients' needs more accurately and position enough stock of medicines where and when needed.

GHSC-TA provides technical assistance directly to the AMD of the NDoH and the PS directorates of the provinces. The program's overall aim is to assist the government in improving access to and availability of medicines and related commodities needed to prevent and treat HIV/AIDS, TB, and associated conditions and disorders. In addition, since the COVID-19 outbreak in South Africa in March 2020, GHSC-TA has supported the GoSA in the national COVID-19 response, including the roll-out of the vaccination program.

The GHSC-TA implementing team is led by Guidehouse LLP and includes PricewaterhouseCoopers South Africa, Imperial LLP, 4Africa Abaluleki (Pty) Ltd, and Banyan Global.

PROGRAM OBJECTIVES

To this end, the program is tasked with the following six objectives:

- Objective 1: Improve Selection and Use of Medicines
- Objective 2: Support Optimization of the Supply Chain
- Objective 3: Strengthen Governance
- Objective 4: Improve Workforce Management
- Objective 5: Strengthen Information Systems and Information Management
- Objective 6: Improve Financial Management

GHSC-TA activities that support the six objectives outlined above are segmented into nine main activities, representing capacity-building interventions across multiple functional areas (refer to Table I below).

¹ South African National AIDS Council, Annual Performance Plan 2019-2020. August 2019. Available at <https://sanac.org.za/wp-content/uploads/2019/08/Annual-Performance-Plan-201920.pdf>.

² USAID Where We Work, South Africa, Global Health. October 19, 2020. Available at <https://www.usaid.gov/south-africa/global-health>.

Table 1: Activities and Descriptions

Activity	Description	Objective
1. Medicine Master Data System	Assist AMD in designing (in collaboration with the contracted service provider responsible for development) and implementing the MMDS. This system incorporates the MHPL, Location Hierarchy, and Formulary Management Tool.	Objective 5
2. National Surveillance Center	Support the operationalization and optimization of the NSC at the national and provincial levels to improve visibility into the performance of the supply chain and strengthen analytics to inform decision making.	Objective 5
3. Supply Chain Systems	Design, implement, transition, and promote the provincial, district, and health establishment utilization of supply chain systems and applications, including advising on the design and implementation of enhancements to the SVS.	Objective 5
4. Demand Planning and Budgeting	Develop and implement appropriate processes, tools, and human resource capabilities at national and provincial levels to implement demand planning. Strengthen both national and provincial structures and processes for budgeting and financial reporting for medicines. Support the establishment of the PMPU in the Eastern Cape.	Objective 2
5. Strengthen Medicine Selection and Use	Develop and implement policies, guidelines, tools, and approaches to support evidence-based selection and use of medicines.	Objective 1
6. Governance and Legislation	Support good governance by implementing or strengthening relevant structures within the AMD and PDoH (supported by the necessary TORs), and develop and/or review legislation, policies, guidelines, processes, and procedures. Advise AMD on contracting with medicine suppliers and associated post-award contract management.	Objective 3
7. Tenofovir / lamivudine /dolutegravir (TLD) Transition	Provide supply chain and clinical-related support for transitioning eligible patients living with HIV to TLD or dolutegravir (DTG) containing products, as appropriate.	Objective 2
8. Replenishment Planning	Design and implement activities leveraging medicine supply management best practices to ensure essential medicines are available at health establishments through the standardization of medicine master data, strengthening of formulary management, using minimum-maximum (min-max) stock levels, and introduction of an advised pull approach to replenishment planning.	Objective 2
9. Provincial Support	Support supply chain optimization at the provincial level through implementing and institutionalizing supply chain reforms.	All objectives

GHSC-TA assists the AMD with implementing the SIMA (2016—2021), which encompasses five core functions: selection of medicine and technologies, contracting of suppliers, management of the supply chain, contract management per the applicable requirements and conditions of the contract, and promotion of RMU. These functions are supported by five enabling functions: governance, workforce management, information systems and management, financial management, and education and research. Interventions aim to strengthen both core and enabling functions with a view to continuous improvement.

This work directly supports the USAID/South Africa Country Development Cooperation Strategy results framework by supporting Development Objective I - Health outcomes for South Africans improved, the NDoH SIMA and the NDoH APP.

YEAR 6 QUARTER 3 OVERVIEW

GHSC-TA activities in Q3 of Year 6 focused on strengthening the health supply chain from a national and provincial perspective. GHSC-TA also continued to support the GoSA in managing the outbreak of COVID-19 with respect to the medicines and personal protective equipment (PPE) needed by staff and patients and the roll-out of COVID-19 vaccines.

The response to COVID-19 has allowed the program, AMD, and the provinces to continue monitoring the robustness of processes and tools previously developed. Lessons learned from the pandemic have continued to provide opportunities to strengthen processes, enhance and expand the NSC, and institutionalize its use.

Despite COVID-19, GHSC-TA has managed to maintain most planned activities with minimal interruptions or delays. In the case of some activities, it has been necessary to adjust timelines and reallocate resources. GHSC-TA also commenced working with the Eastern Cape province to implement the PMPU. The roll-out of the COVID-19 vaccine allowed the GHSC-TA team to continue working closely with NDoH, provincial and private sector stakeholders to plan and execute the supply chain activities supporting the national vaccination program.

YEAR 6 QUARTER 3 ACHIEVEMENTS

Table 2 provides a high-level overview of Year 6 Q3 projects and their key achievements.

Table 2: Key Year 6 Q3 Achievements

OBJECTIVE I: IMPROVE SELECTION AND USE OF MEDICINES	
1.	Assisted with the review of NEMLC TORs and developed NEMLC Bulletins to communicate decisions made at meetings
2.	Developed a communication strategy, distribution strategy and submission to the Director General for Pharmacy Month 2022
3.	Developed presentations to communicate EDP processes and the functions of PTCs as well as the importance of RMU
4.	Provided ongoing secretariat support to the Ministerial Advisory Committee (MAC) on COVID-19, including assistance with the development and communication of advisories to the Minister of Health on the COVID-19 response

OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

5. Continued with provincial demand planning reviews and completed demand forecasting workshop with NDoH

6. Initiated PMPU project in the Eastern Cape

7. Received FY2023/2024 Pharmaceutical budget sign-off by HOPS

8. Commenced with the roll-out of replenishment planning in Xhariep and Lejweleputswa Districts in the Free State

9. Reached the final stages of handing over the provincial Stock Calculator for review across five districts in KwaZulu-Natal in preparation for finalization and loading of min-max levels on SVS

10. Cleaned RxSolution data for Ngaka Modiri Molema (NMM) district in North West

11. Updated Mpumalanga Stock Calculator to accommodate the change to roll-out the proof of concept (POC) in six sites across three districts

12. Had first engagement about the implementation of replenishment planning with Buffalo City Metropolitan (BCM) district in the Eastern Cape

OBJECTIVE 3: STRENGTHEN GOVERNANCE

13. Revised the three sets of regulations relating to practice, education, and registration of pharmacy support personnel.

OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT

14. Conducted SVS Phase I training in Free State and Northern Cape

15. Initiated work around the PMPU stakeholder matrix in the Eastern Cape

OBJECTIVE 5: STRENGTHEN IT SYSTEMS AND INFORMATION MANAGEMENT

16. Finalized the KwaZulu-Natal template formulary and loaded it onto the MMDS with all SVS related PHC clinics loaded onto MMDS.

17. Improved SVS formulary functionality to accommodate full formularies while distinguishing items for abridged counts in support of eOrdering tested and ready for implementation.

18. Reached the point where the SVS formulary import tool allows SVS formularies to synchronize to upload data sheets across multiple facilities ready for testing.

19. Transitioned the NSC to using the MHPL and MFL master data for medicine and health establishments and published the updated views.

20. Initiated development work on AMR and PrEP Dashboards for the EDP and the HIV Program, respectively

21. Supported AMD in the NSC follow-up audit by the AG and supported the response to the AG requests for information (RFI).

OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT

22. Participated in FY 2023/2024 Pharmaceutical budget reviews with provincial Heads of Pharmaceutical Services
23. Completed analysis on SCOA codes and received approval from the NDoH to progress with finance dashboards in provinces

PROGRESS TOWARDS GOAL – INCREASED MEDICINE AVAILABILITY

The program aims to improve access to and availability of the medicines and related commodities needed to prevent and treat HIV/AIDS, TB, and associated conditions and disorders. Progress in this regard is monitored nationally at all levels of care and is reported via the NSC.

KPI I. OVERALL PERCENTAGE MEDICINE AVAILABILITY

This indicator measures the availability of medicine at all health establishments (PHC clinics, community health centers (CHCs), hospitals, dispensing service providers of the Centralized Chronic Medicine Dispensing and Distribution program (CCMDD) and private sector health establishments providing health care services on behalf of the public sector. Overall medicine availability is defined as the percentage of active line items that appear on the health establishment's formulary (for data from RxSolution) or customized formulary based on the Ideal Clinic tracer list (for data from SVS), with stock available in the bulk medicine storage area(s), medicine room(s), or dispensary.

During the quarter under review, overall performance against this indicator was 86 percent against the target of 90 percent³ (shown in Figure 1), remaining steady from the previous quarter. Two of the nine provinces achieved the target of 90 percent availability, namely Gauteng and KwaZulu-Natal, with both provinces improving by 1 percent from the previous quarter. Three additional provinces increased availability compared to the previous quarter, although below the target (shown in Figure 2).

At the health establishment level, the performance of PHC clinics was at 88 percent at the end of Year 6 Q3, with hospital performance at 83 percent. The performance of the KPI remained the same as the previous quarter (shown in Figure 3).

Although a slight improvement has been observed during this quarter, challenges impacting medicine availability persist, with some items affected by supplier related constraints, particularly TB therapy (shown in Figure 4). Investigations through the Improved Medicine Availability Team (IMAT) are ongoing, and GHSC-TA continues to support AMD in identifying interventions to resolve medicine supply challenges.

³ The target was changed from 95% to 90% at the end of year 4 to align to the NDoH's target of 90%

Figure 1 Overall Percentage Medicine Availability in Year 6 Q3

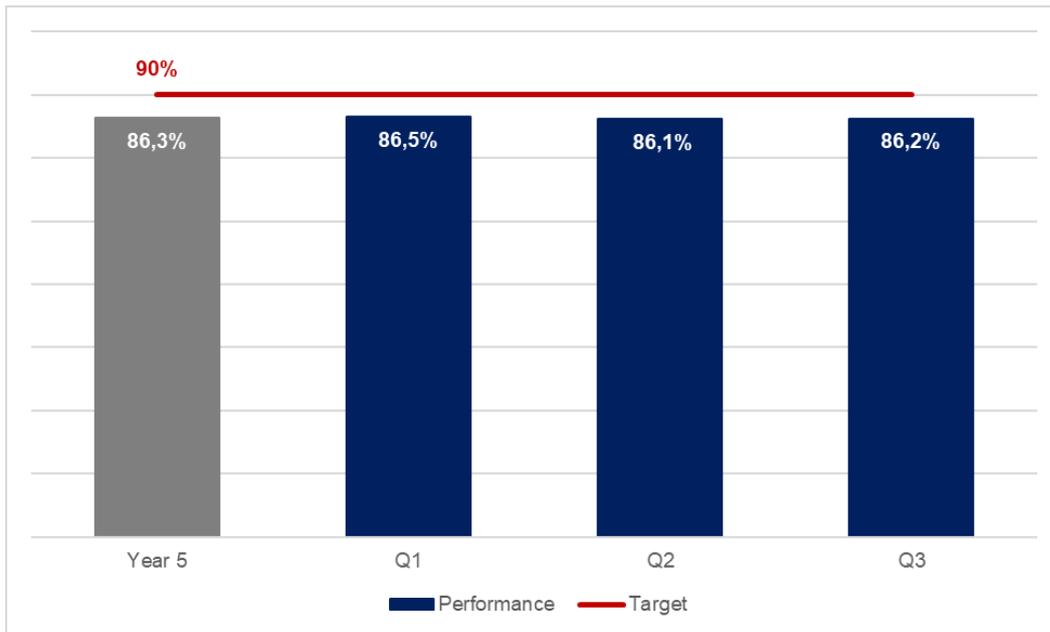


Figure 2 Disaggregation by Province in Year 6 in Q1, Q2, and Q3

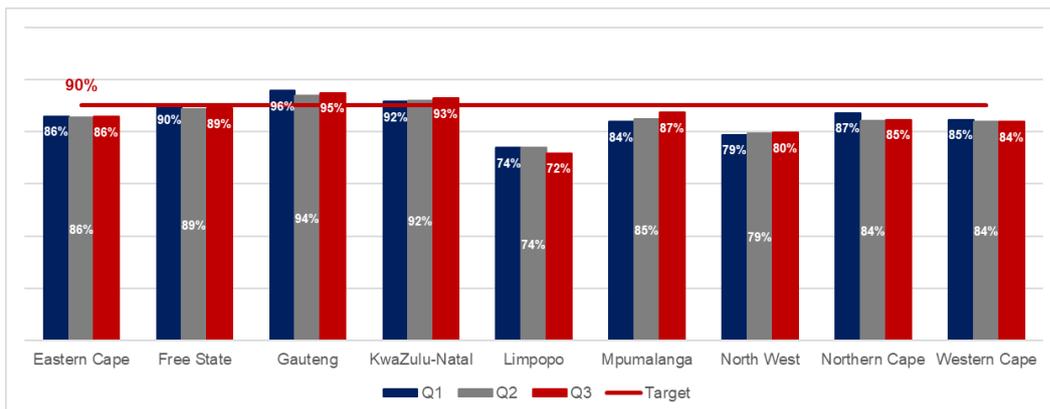


Figure 3 Disaggregation by Health Establishment in Year 6 Q3

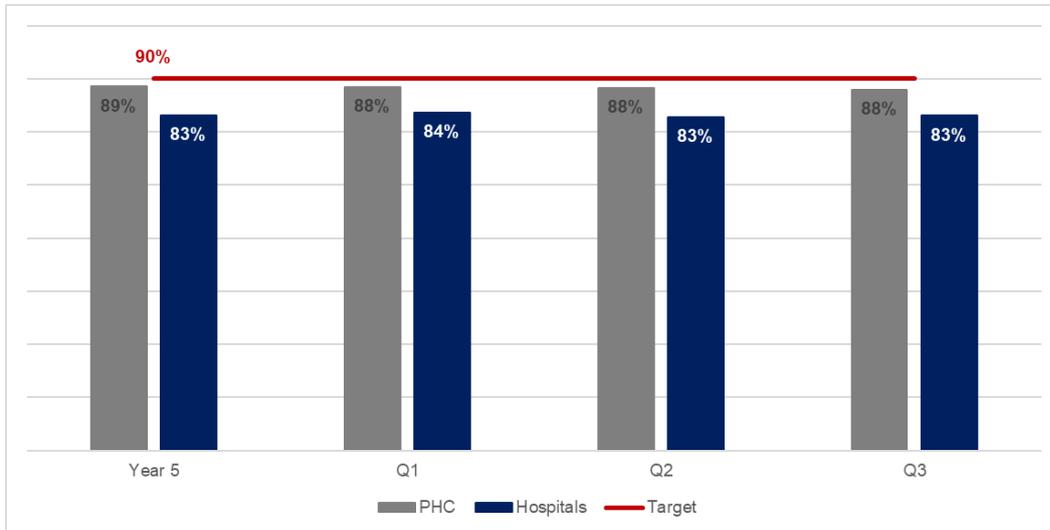
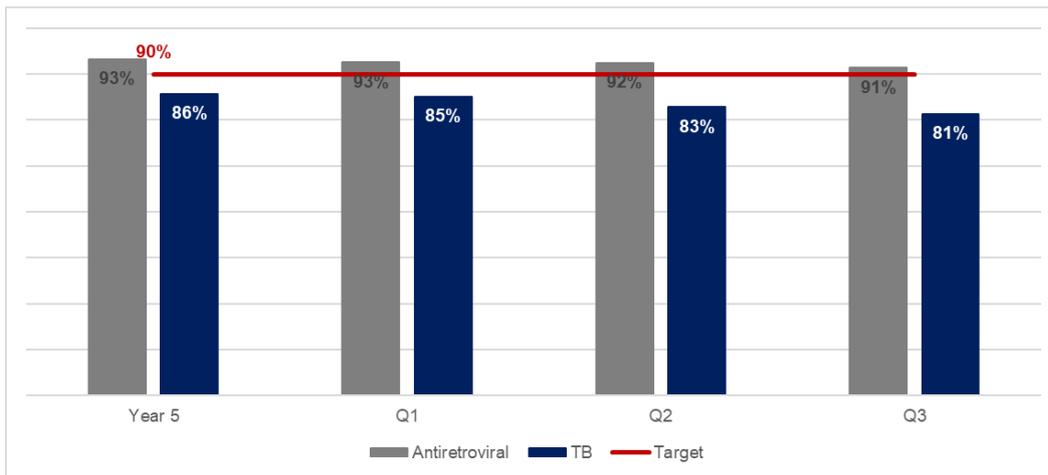


Figure 4 Disaggregation by Medicine Category in Year 6 Q3



Provincial accounts placed on hold due to non-payment of suppliers, lack of optimized formularies, and demanders not placing orders on time, or at all, are factors that continue to impact medicine availability. GHSC-TA continued to address these challenges with the work underway to improve formulary management and strengthen replenishment planning. GHSC-TA also continues to assist provincial and district pharmaceutical services through the PST by; flagging items with low medicine availability, stock-outs with sufficient supply according to the supplier, and sites with medicine availability below the target through developing customized reports and supporting provinces in addressing issues identified.



3. IMPROVE SELECTION AND USE OF MEDICINES

South Africa's unique disease burden shapes its national health priorities, health system design, and health funding structures. As with most health care systems globally, the country has limited funds available for servicing the population's health care needs, including medicines and medical-related health technologies. Limited funds must be allocated according to an evidence-based approach to provide the best quality health care to all South Africans.

In addition, South Africa's public health care system must match the medicine available to meet patients' needs. Through the relevant governance bodies, such as the NEMLC, the AMD is responsible for supporting the selection and use of medicines for patients nationally and ensuring these medicines are accessible and available when and where required.

ACTIVITIES AND ACHIEVEMENTS

STRENGTHEN MEDICINE SELECTION AND USE

Medicines Selection Support. GHSC-TA assisted the EDP of the AMD with documenting the NEMLC meetings and drafting bulletins to communicate decisions made at the meetings. GHSC-TA assisted with further review of the NEMLC TORs, updating them in line with the changing needs of the committee, particularly regarding its decision-making process. GHSC-TA also assisted with the updating of the EDP operational plan.

RMU Support. GHSC-TA drafted a presentation for the South African Association of Hospital and Institutional Pharmacists (SAAHIP) Conference to be held in March 2023, with the purpose of communicating information on the development and use of the COVID-19 Priority List in ensuring medicine availability during the COVID-19 pandemic. GHSC-TA also drafted a presentation on the introduction of the role and functions of the EDP and PTCs to Bertha Gxowa Hospital personnel, as

well as a presentation to the Sefako Makgatho Health Sciences University on RMU and PTCs. A draft standard operating procedure (SOP) for conducting medicine use evaluations or formal research through the AMD was developed to provide the processes to encourage and support RMU activities. A draft communication strategy, distribution strategy and submission to the Director-General about Pharmacy Month 2022 were developed for approval. These will be used to create posters and other communication materials. Inputs were provided into the data and calculations required for an AMR Dashboard on the NSC.

GHSC-TA also began developing a guideline on emergency medicine supply chain pandemic preparedness and response. The purpose of the document is to use lessons learned from the COVID-19 pandemic to provide guidance on how to effectively prepare for, respond to, and maintain the medicine supply chain in future public health emergencies.

OUTCOME LEVEL RESULTS

The program's theory of change hypothesizes that by supporting AMD efforts to conduct health technology assessments (HTAs) and leverage their outputs, the GoSA will demonstrate improvements in the selection and use of medicines. To test these assumptions, GHSC-TA monitors two KPIs. This section provides an overview of the progress against these KPIs through the end of Year 6 Q3.

KPI 2. NUMBER OF MEDICINE SELECTION DECISIONS MADE UTILIZING HEALTH TECHNOLOGY ASSESSMENT PROCESSES

This KPI measures the extent to which HTA processes inform decision making by the NEMLC and other relevant committees. Improved decision making is key to determining the medicines and other health technologies funded under National Health Insurance (NHI). There was no change in this indicator during the period under review, with the life of program performance remaining at four. During Year 4, AMD placed HTA activities on hold pending the finalization of legislation needed to implement NHI. GHSC-TA continues to support the strengthening of current medicine selection structures in anticipation of the implementation of HTA.

KPI 3. PERCENTAGE OF ASSISTED PHARMACEUTICAL AND THERAPEUTICS COMMITTEES (PTCS) WITH IMPROVED OPERATIONAL CAPACITY

This indicator measures the total number of assisted PTCs, which demonstrate improved levels of operational capacity as compared to the total number of assisted PTCs. In Year 4, NDoH deprioritized activities contributing to this KPI. In Year 6 Q3, engagements with KwaZulu-Natal commenced assessing the province's capacity and willingness to receive support from GHSC-TA related to formularies.



4. SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

The current supply chain processes within the NDoH form a foundation for enabling medicine availability across the different health establishments in the country. More than 80 percent of the South African population is dependent on public sector health care provision, making the effective supply of medicine a life-saving requirement for many. Medicine availability is also the cornerstone for achieving 95-95-95 in the fight against HIV. Optimizing the supply chain starts with creating visibility and then improving supply chain processes. This optimization will generate savings, ensure more effective execution of key processes, and ultimately increase medicine availability. GHSC-TA has been assisting the NDoH with optimizing the supply chain through several initiatives related to improving the accuracy of demand forecasts, strengthening financial management, and supporting the TLD transition.

ACTIVITIES AND ACHIEVEMENTS

DEMAND PLANNING

GHSC-TA works with the NDoH to produce innovative processes, tools, and workforce training that result in more accurate demand forecasts. The forecasts are established through a centralized demand planning team based at NDoH, with GHSC-TA demand planners providing technical assistance to provinces that have not been transitioned to AMD due to a lack of capacity. GHSC-TA had a demand planning workshop with the NDoH demand planners to review current demand planning processes. The workshop presented a great opportunity for everyone to review and give feedback on what is working and how processes can be strengthened at the national and provincial levels, as well as identify opportunities for improvements and knowledge sharing based on different engagements.

Tender Forecasting. GHSC-TA continued to support NDoH in utilizing the provincial demand forecasts to calculate future projections for the following tender cycle. The approach of determining

and using a single number across operations (including determining patient needs, forecasting requirements, tendering, contracting and contract management) has enabled alignment across the various functions.

In-contract Demand Planning. GHSC-TA continued to support AMD by publishing the in-contract demand forecast (ICDF) monthly. The ICDF is used nationally in supplier engagements, provincial engagement and general stock management. GHSC-TA supported provinces with finalizing the demand forecast for anti-tuberculosis medicines, contraceptives, oncology, diagnostic agents, solid dosage forms, antiretrovirals (ARV) and vaccines as part of the demand planning monthly review cycle.

Provincial Demand Planning. During this quarter, GHSC-TA completed the transition of two provinces, Northern Cape, and Limpopo, to the NDoH central demand planners and initiated a transition process for Mpumalanga that is scheduled for completion in September 2022. A total of four provinces have been transitioned to NDoH central planners, four are still managed by GHSC-TA demand planners, and one province (Western Cape) has not been initiated yet. A preliminary meeting was, however, held with the Western Cape during this period.

Provincial Medicine Procurement Unit. PMPU is a shared centralized administrative provincial unit responsible for managing the processes related to ordering, replenishing and distributing all medicines in the province to reduce lead times and wastage in the supply chain and ultimately reduce the risk for the province. GHSC-TA initiated the PMPU project in the Eastern Cape following a request received from the province and facilitated two introductory workshops. The workshops aimed to introduce the concept of PMPU to the greater audience in the province, confirm members for the project team from Eastern Cape, NDoH and GHSC-TA, and understand the challenges faced by the province as well as scoping and conceptualizing the PMPU project.

FINANCIAL MANAGEMENT

GHSC-TA works with the NDoH and PDoH to develop pharmaceutical budgets using the demand forecasting process. The final approved demand forecast is cashed up using the cost prices for the new financial year and submitted to NDoH for consolidation. GHSC-TA also helps with budget reporting and monitoring using dashboards.

Budget Planning. GHSC-TA completed the FY2023/2024 pharmaceutical budget reviews with all nine provinces, and provincial Heads of Pharmaceutical Services approved the budgets. GHSC-TA assists NDoH in arranging meetings with provincial CFOs to review and approve the budgets as the final step.

Budget Reporting and Monitoring. GHSC-TA worked with the provinces to finalize the budget dashboard views on the NSC. Northern Cape, Free State and KwaZulu-Natal provinces were selected for the pilot. NDoH has granted GHSC-TA permission to contact provinces directly through the PST to get the dashboard data and kick-start the budget review process of using the financial dashboard.

TLD TRANSITION

GHSC-TA, in collaboration with Africa Resource Centre (ARC), continued to work closely with the PDoH, the HIV Program, and other implementing partners to support the TLD transition. By the end of this quarter, the TLD (tenofovir/lamivudine/dolutegravir) transition had crossed the two-year mark, with the ratio of eligible patients for transition to TLD from Tenofovir/Emtricitabine/Efavirenz (TEE) reaching 79/21 percent as of June 2022. Western Cape, North West, KwaZulu-Natal, and Limpopo

achieved their target of 80 percent of 1st line patients being on TLD and moving towards a target of 90 percent for this financial year. The latest ARV tender awarded in May 2022 has seen a massive reduction across the board in the prices of ARVs, with a 33 percent price reduction on TLD. Notably, the new tender prices have been achieved through the suppliers currently holding contracts.

The NEMLC has reviewed the evidence for DTG compared with efavirenz (EFV) in pregnancy and has determined that the benefits outweigh the risk. DTG has been recommended as part of the preferred 1st- and 2nd line ART regimen for all adults and adolescents living with HIV, including pregnant women and women of child-bearing potential. The National Consolidated Guidelines for the Management of HIV in adults, adolescents, children and infants and Prevention of Mother-to-Child Transmission are being updated. The TLD task team assisted the HIV Program with updating all ART training modules, pamphlets, posters, and transition algorithms. Several training sessions were conducted nationally on the Knowledge Hub and the Clinical Care Platform by specialists and members of the HIV Guideline committee.

The TLD transition team continued tracking the distribution of TLD and TEE from suppliers to provinces, together with stock levels at depots, hospitals and PHC facilities. The values are used to estimate how much TLD and TEE are used. Despite warnings issued (September 2021 to June 2022) to provinces and TEE suppliers about the potential risk of overstocking TEE, provinces continued to order high volumes. The TLD task team sent out a stock analysis report in January and again in March 2022, advising depots and district pharmacy managers to adjust min-max levels on TLD and TEE. The report also indicated which facilities still have higher use of TEE based on the total remaining on antiretroviral therapy (TROA) so that surplus stock could be moved to these facilities. Despite various communications, some provinces continued to order TEE and are at risk of TEE stock write-offs. A series of interventions have been implemented to assist the provinces in reducing TEE stock holding, including the transfer of stock between facilities and updating min-max levels. The SOP developed by GHSC-TA for inter-provincial stock transfers may be used to assist provinces in reducing TEE stocks once intra-provincial redistribution has been completed.

In the absence of TIER.Net data (patient data), the TLD team used implied dispensing data (based on the number of packs of TLD issued). The team subsequently received the last updated TIER.Net report for March 2022. A comparison of the data found that the number of patients on TLD as per Tier.Net was significantly lower than the number based on implied dispensing and CCMDD data. Possible factors contributing to the data discrepancies include that the Tier.Net data is only available quarterly, capturing of data lagging behind in some facilities, and old ART regimens being captured instead of new data. The Health Informatics Directorate of the NDoH has introduced the CHEZA system that will be used nationally to track the transition to TLD with the hope that TROA data will be available more frequently. On-going monitoring will continue, and performance against targets will be tracked monthly.

Communication. The team continued to share information and receive feedback on issues related to the transition through the bi-monthly provincial medicine availability meetings and operational WhatsApp groups. Improved communication is informing clinicians of changes and updates on the clinical guidelines. GHSC-TA continued to assist the HIV Program with updating and distributing the TLD training material.

TLD Dashboard. During Q3, the TLD project team continued to use information from the TLD dashboard. This dashboard not only tracks the TLD transition but enables visibility of the availability of TB medicines and contraceptives, crucial in ART treatment regimens. Recently, the dashboard was updated with the March 2022 Tier.Net data. Further enhancements planned during this quarter will

enable stakeholders to disaggregate reports by TEE/TLD and calculate weekly and monthly stock cover down to district and health establishment levels supporting stock redistribution between facilities.

Demand Model. Through the national demand model, GHSC-TA updates the provincial forecasts quarterly. The forecasts inform the transition's pace provincially and assist the TLD project team in monitoring progress nationally. The updated forecast data informs the national and provincial supply plan to facilitate the availability of TLD, TEE, and other items related to the transition. GHSC-TA in collaboration with ARC assisted the HIV Program in setting revised TROA and TLD targets.

Ongoing Collaboration. GHSC-TA held weekly sales and operations meetings (S&OP) with provincial Pharmaceutical Services and the Strategic Health Program. In addition, GHSC-TA provided ongoing support to the provincial depots to improve the availability of TLD and TEE and avoid potential stock-outs and write-offs. There are continued engagements with the CMU at AMD to discuss supply challenges on selected contraceptives, TB medicines, and pre-exposure prophylaxis (PrEP). GHSC-TA continued to assist the HIV Program and support partners to secure PrEP for the national roll-out.

Preparing for National Scale-Up of 2nd Line Switching. In preparation for the national scale-up to transition all eligible 2nd line patients, GHSC-TA, in collaboration with the Demand Planning unit at NDoH, is in the process of developing a demand model to assist the provinces with switching. In the absence of accurate 2nd line data, the model development has temporarily been suspended. The TLD task team informed the CMU that demand for the DTG singles has tripled in the past few months. Lopinavir/ritonavir (LPV/r) orders are dropping, but the provinces have little information on how they plan their 2nd line transition. Like TEE, high current stock levels of LPV/r 200/50 are a concern and will be monitored closely with support from GHSC-TA.

Additional Interventions. GHSC-TA also provided ongoing support to:

- Provincial TLD steering committee meetings with support shared between GHSC-TA and ARC;
- The HIV Program at national and provincial levels with feedback provided in the weekly Phuthuma meetings and bi-monthly TLD task team meetings; and
- Planning/scale-up and implementation of MMD3

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that by supporting activities to improve the security of medicine and strengthen demand planning and inventory management and working with the AMD to improve visibility and analytics to strengthen planning processes, the GoSA will demonstrate improvements in the level of optimization of the supply chain. In efforts to evaluate this hypothesis, GHSC-TA monitors nine KPIs. This section provides an overview of the progress and results observed against these KPIs through the end of Year 6 Q3.

KPI 4. PERCENTAGE OF ANTIRETROVIRAL UNITS DELIVERED BY SUPPLIERS WITHIN CONTRACTUAL LEAD-TIME (SUPPLIER PERFORMANCE RELIABILITY – ON TIME)

This indicator measures supplier adherence to fulfilling orders for antiretroviral units received from demanders within the contractually agreed time. At the end of Q3, 80 percent of ARVs were delivered by suppliers within the contractual lead time of 14 days. Performance has remained steady at 80 percent, albeit still below the target of 90 percent. There have not been supply constraints of TLD and TEE. The challenges regarding non-payment in some provinces remain, particularly in North West, where some supplier accounts have been put on hold. Figure 6 provides a disaggregation by province.

Figure 5 Percentage of Anti-retroviral Units Delivered by Suppliers within Contractual Lead-time (Supplier Performance Reliability - On Time) in Year 6 Q3

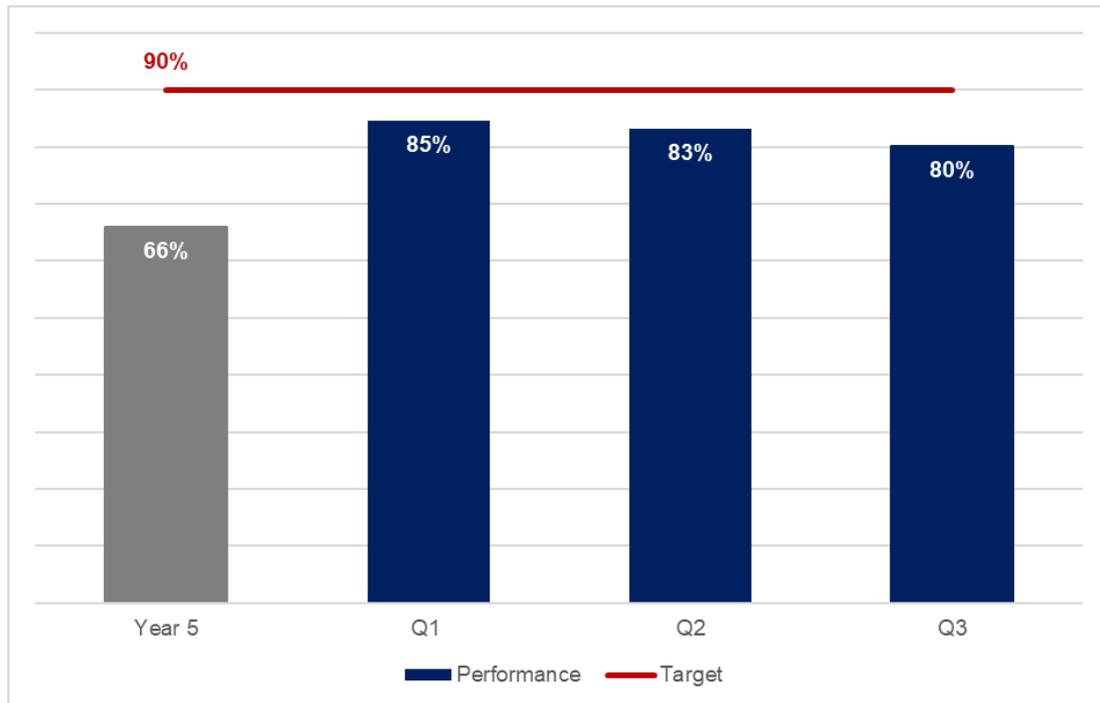
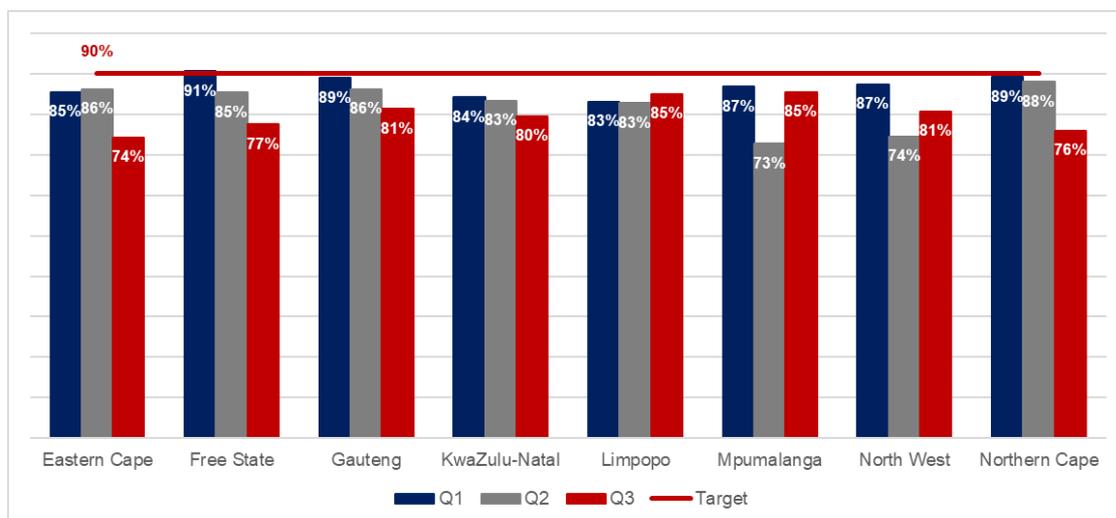


Figure 6 Supplier Performance Reliability for ARVs - On Time - Disaggregation by Province in Year 6 Q3



KPI 5. PERCENTAGE OF MASTER HEALTH PRODUCT LIST ITEMS ON TRANSVERSAL CONTRACTS (EXCLUDING ANTIRETROVIRAL) UNITS DELIVERED BY SUPPLIERS WITHIN CONTRACTUAL LEAD TIME (SUPPLIER PERFORMANCE RELIABILITY – ON TIME)

This indicator measures supplier adherence to fulfilling orders for MHPL items on national transversal contracts (excluding antiretrovirals), received from demanders within the contractually agreed time. In Q3, 75 percent of MHPL items (excluding ARVs) were delivered by suppliers within the contractual lead-time, as shown in Figure 7. The performance is below target with several items on the ‘hotlist’ due to supplier constraints. Despite this, six provinces showed improvement in on-time deliveries vis-

à-vis the previous quarter (Free State, Gauteng, KwaZulu-Natal, Limpopo, Mpumalanga, and Northern Cape). While Gauteng had the highest percentage of on-time deliveries this quarter (80%), Limpopo is the only province showing consistent improvement in on-time delivery rates for the last three quarters. GHSC-TA continued to support AMD in identifying interventions to resolve medicine supply challenges. Figure 8 presents the disaggregation by province.

Figure 7 Percentage of MHPL Items on Transversal Contracts Excluding Antiretroviral Units Delivered by Suppliers within Contractual Lead-Time (Supplier Performance Reliability - On Time) in Year 6 Q3

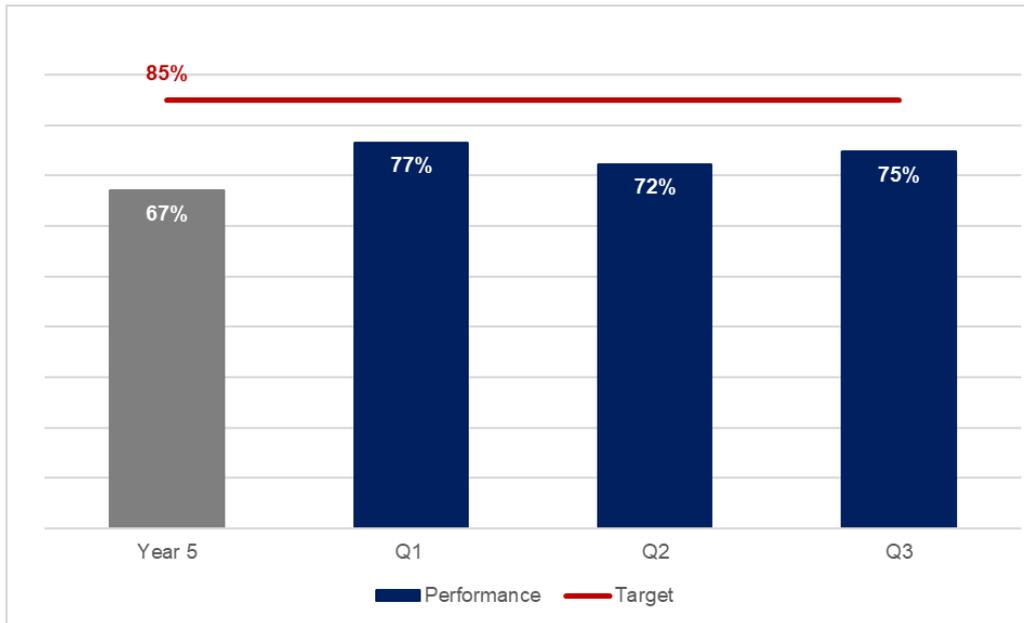
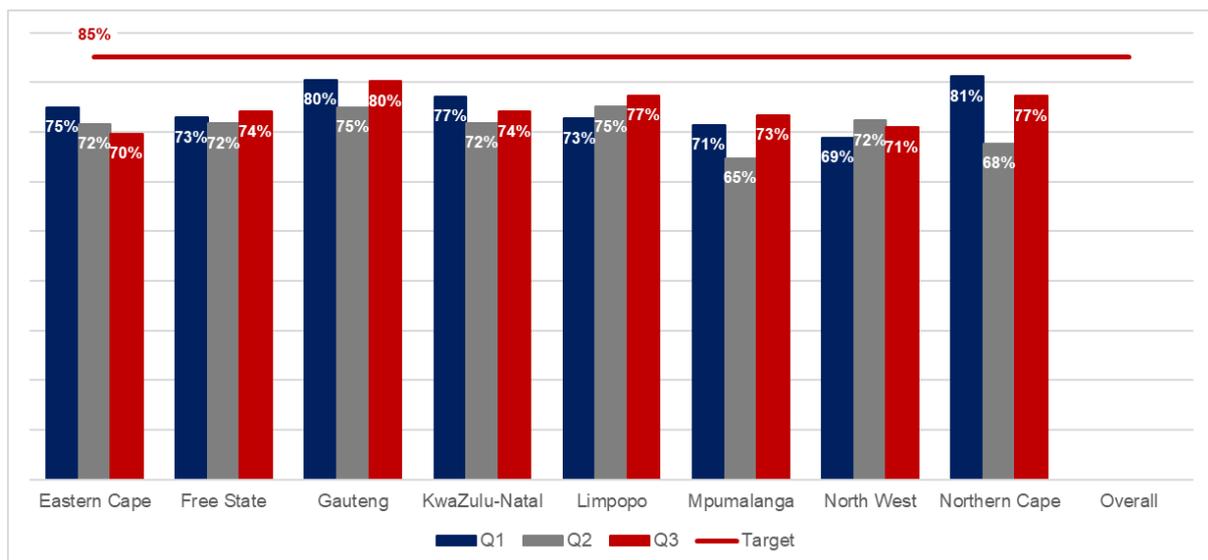


Figure 8 Disaggregation by Province in Year 6 Q3



KPI 6. SUPPLIER PERFORMANCE RELIABILITY – PERFECT ORDER FULFILLMENT FOR ORDERS PLACED ON SUPPLIERS (ON-TIME AND IN-FULL)

This indicator measures supplier adherence to fulfilling orders from demanders on time and in full and monitors supply chain reliability and responsiveness. It applies only to items for which a transversal contract has been awarded and does not include items procured on quotation and/or using section 21 of the Medicines and Related Substances Act 101 of 1965.

At the end of Q3, supplier performance reliability increased from 65 percent to 70 percent, as shown in Figure 9, with every province improving performance vis-à-vis the previous quarter. Performance remained below the target of 80 percent. Due to supply constraints and high demand (higher than contractual volumes), suppliers were not able to supply orders in full. GHSC-TA is working with AMD to strengthen in-contract demand forecasting. Figure 10 presents the disaggregation by province.

Figure 9 Supplier Performance Reliability–Perfect Order Fulfilment for Orders Placed on Suppliers (On-Time and In-Full) in Year 6 Q3

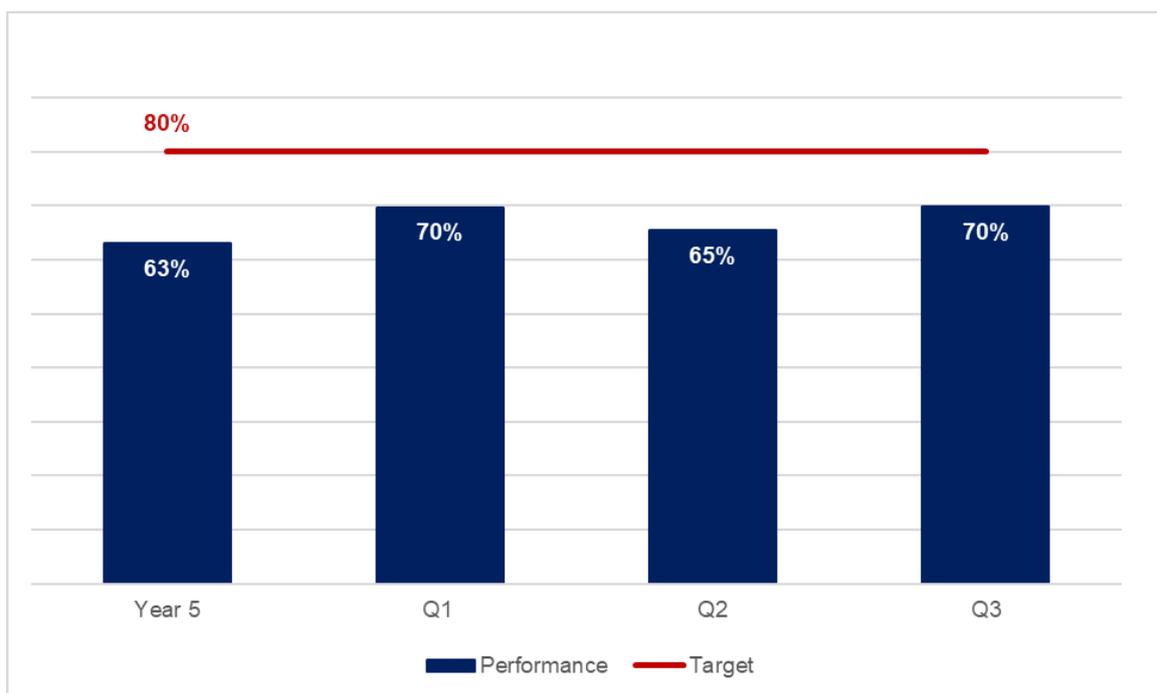
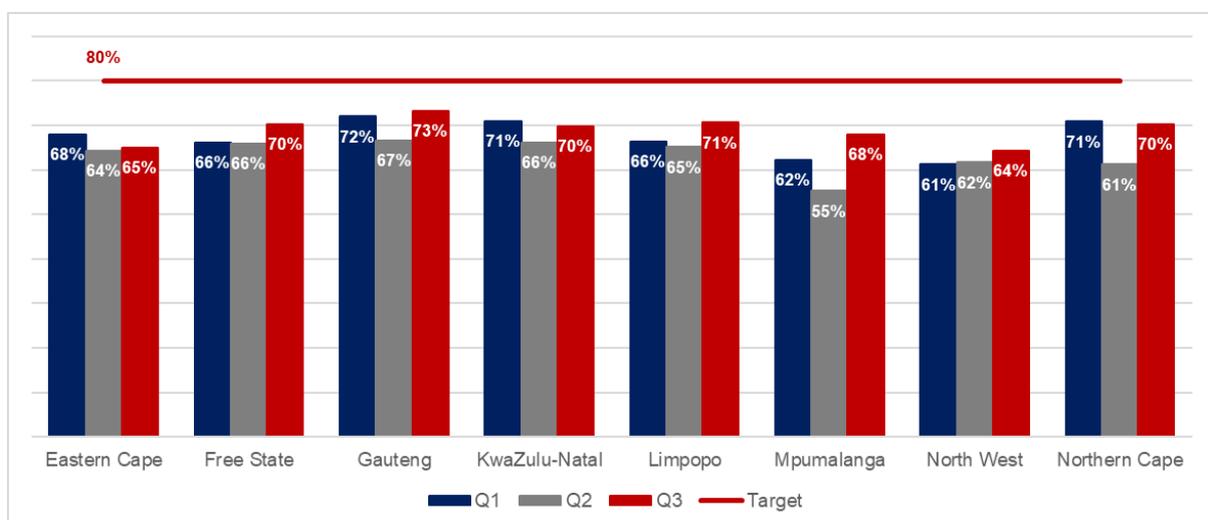


Figure 10 Disaggregation by Province in Year 6 Q3



KPI 7. PERCENTAGE OF MASTER HEALTH PRODUCT LIST ITEMS ON TRANSVERSAL CONTRACTS DELIVERED VIA DIRECT DELIVERY TO THE HOSPITALS DESIGNATED BY THE PROVINCE TO RECEIVE DIRECT DELIVERY ORDERS

This indicator measures the percentage of MHPL items on transversal contracts delivered directly to hospitals designated by the province to receive direct delivery orders. This activity is no longer included in the scope of GHSC-TA.

KPI 9. DEMAND FORECAST ACCURACY FOR PROVINCES USING THE DEMAND FORECASTING PROCESS

This indicator measures the accuracy of forecasted demand of line items relative to the actual volume of item supplied over a three-month period. This KPI is applied in the four provinces where the standard demand planning process has been fully implemented. It is critical to have high forecast accuracy to avoid stock-outs and maintain appropriate levels of inventory.

At the end of the reporting period, demand forecast accuracy for provinces using the demand forecasting process was 50 percent (See Figure 11). At provincial level, North West achieved the lowest forecast accuracy of 45% with vaccines being the worst performing category in the province. It must be noted that the forecast for vaccines is driven by national and provincial population statistics not historical trends. The vaccination rate has been affected by the COVID -19 pandemic, with patients not going to health establishments for routine vaccinations.

KwaZulu-Natal achieved a forecast accuracy of 50.8% for the quarter, HIV drugs were the biggest contributor to lower forecast accuracy. TEE missed the forecast by 1.5million units for the quarter. Forecast for TEE and TLD are based on the transition plan by national and provinces. Gauteng achieved the lowest forecast accuracy for ARVs with TEE and TE were the worse performing items for the quarter with TEE missing the forecast by 422 000 units.

The data for the Eastern Cape is not available as the province is experiencing system challenges and could not pull the required data for the quarter.

Figure 11 Overall Demand Forecast Accuracy in Year 6 Q3

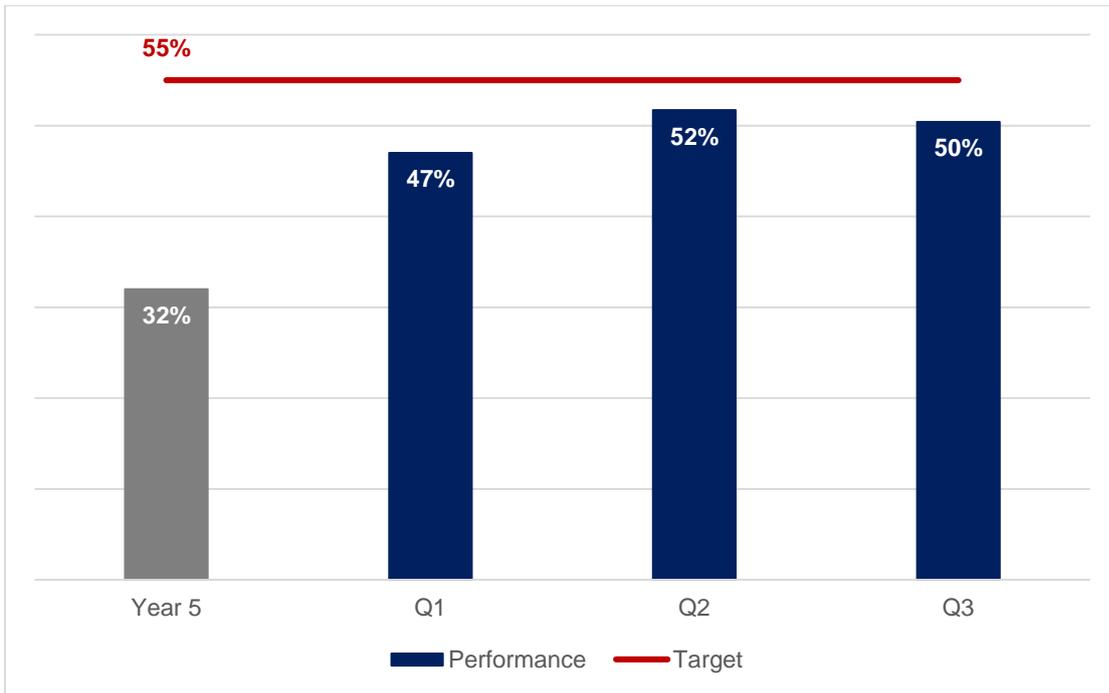


Figure 12 Disaggregation by Province in Year 6 Q1, Q2, and Q3

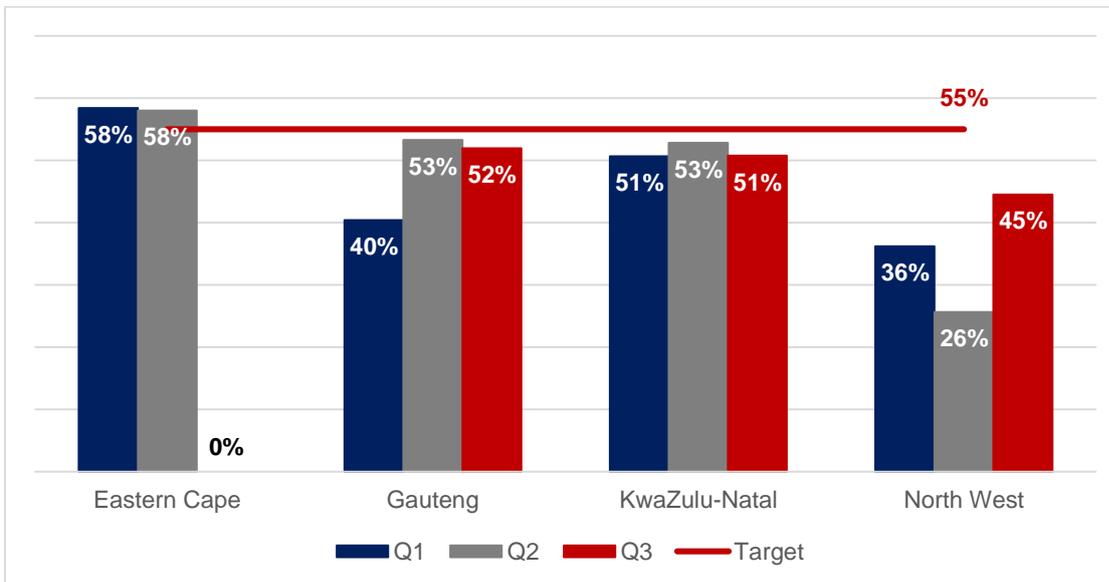
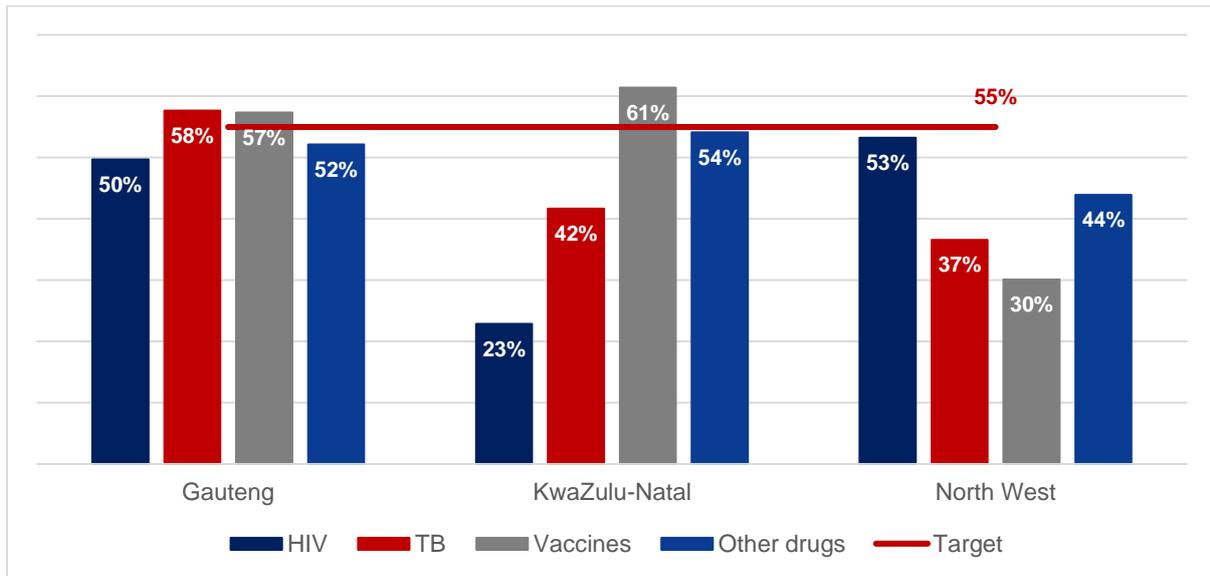


Figure 13 Disaggregation by HIV, TB, Vaccines and other drugs in provinces in Year 6 Q3



KPI 10. FORECAST BIAS FOR PHARMACEUTICAL FORECASTS IN PROVINCES

Forecast bias measures the tendency for actuals to be over or under the forecasted amounts on a consistent basis. The presence of a tendency in either direction requires investigation and corrective action. Forecast bias is measured as a variance between forecasted demand of item and actual volume of item supplied to provinces, either positive or negative, expressed as a percentage of actual volume of item supplied over three consecutive months.

At the end of the reporting period, demand forecast bias for pharmaceuticals in provinces was reported at 10 percent. The province that achieved the worse performance on this KPI was Gauteng at 15 percent, TB was the main contributor for the province. KwaZulu-Natal was second with a bias of 13 percent and was affected by antiretrovirals with TEE and TE the biggest contributors.

Figure 14 Forecast Bias for Pharmaceutical Forecasts in Year 6 Q3

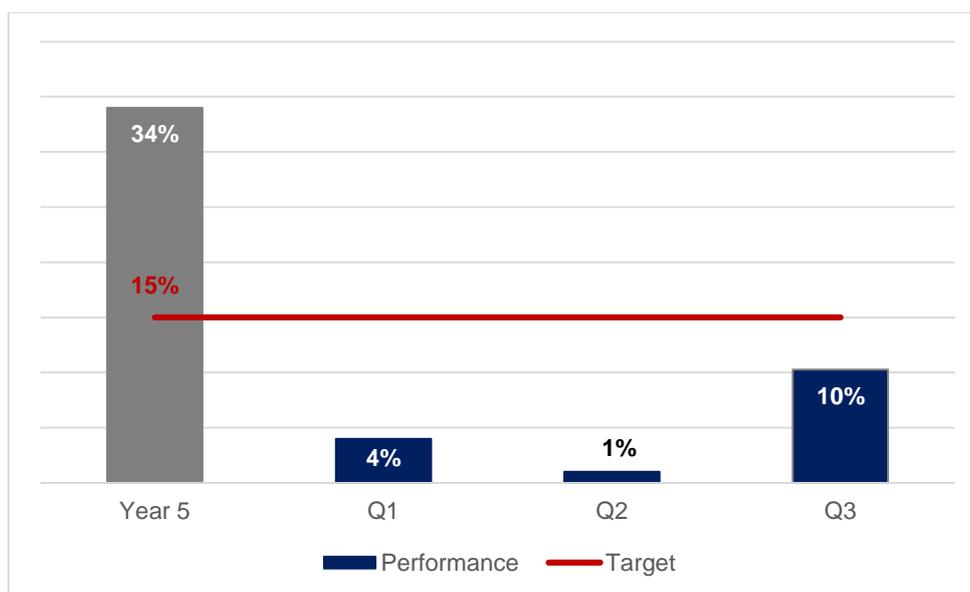


Figure 15 Disaggregation by Provinces in Year 6 in Q1, Q2, and Q3

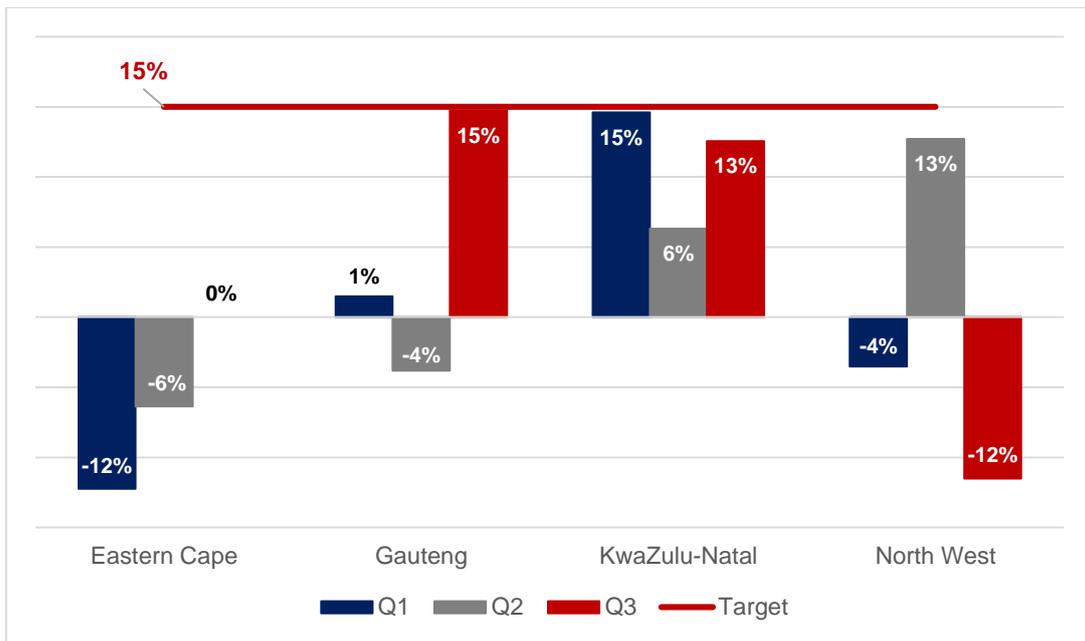
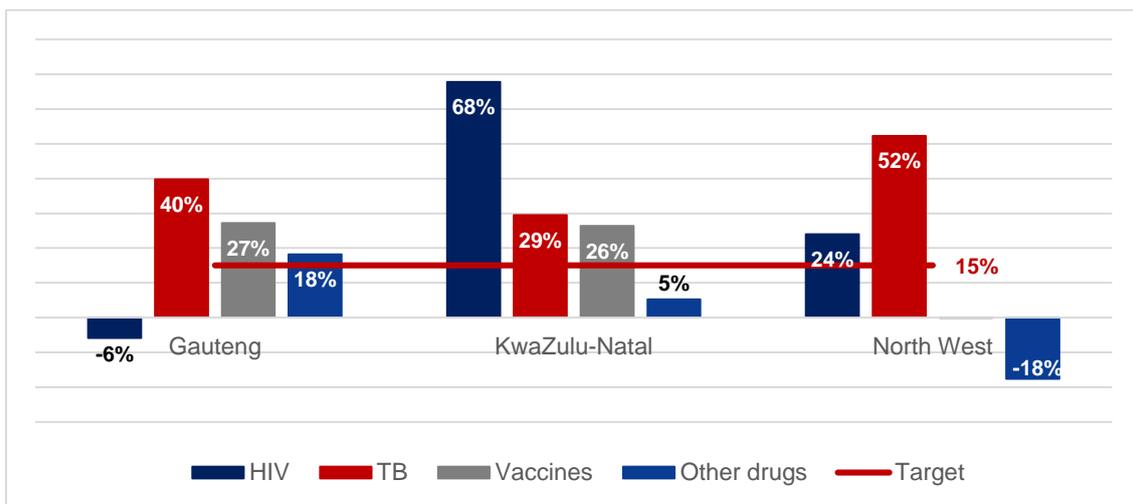


Figure 16 Disaggregation by HIV, TB, Vaccines and other drugs in provinces in Year 6 Q3



KPI 11. PERCENTAGE OF ELIGIBLE PATIENTS TRANSITIONED FROM TEE TO TLD

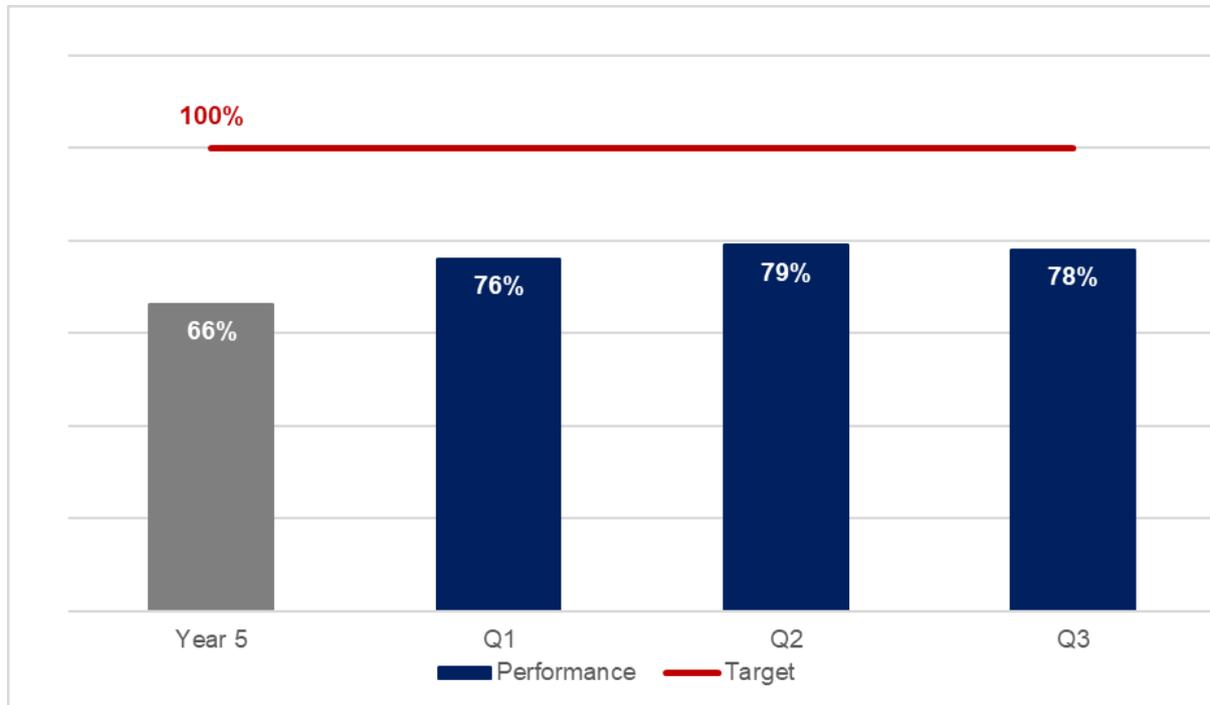
This indicator measures GHSC-TA’s support for the phase-out of TEE and the transition to TLD nationally. As Figure 17 shows, at the end of Q3, 78 percent of eligible patients transitioned from TEE to TLD, below the target⁴ of 100 percent.

The TLD task team is working closely with provincial stakeholders to transition 86 percent of the existing TROA to TLD by March 2023. The team has identified the ten lowest performing facilities in each province, where the TLD task team is implementing key measures to accelerate the transition rate. These measures include updating training modules and algorithms clinicians use when switching patients and providing refresher training. The National TLD task team has set up an advisory team to

⁴ Note: disaggregation by province, new and existing eligible patients and sex is not available. only the national percentage is available for reporting due to data reporting limitation.

assist the HIV Program in addressing the issues raised as a matter of urgency. Provincial task teams oversee activities related to the transition and assist with monitoring targets monthly.

Figure 17 Percentage of Eligible Patients Transitioned from TEE to TLD in Year 6 Q3

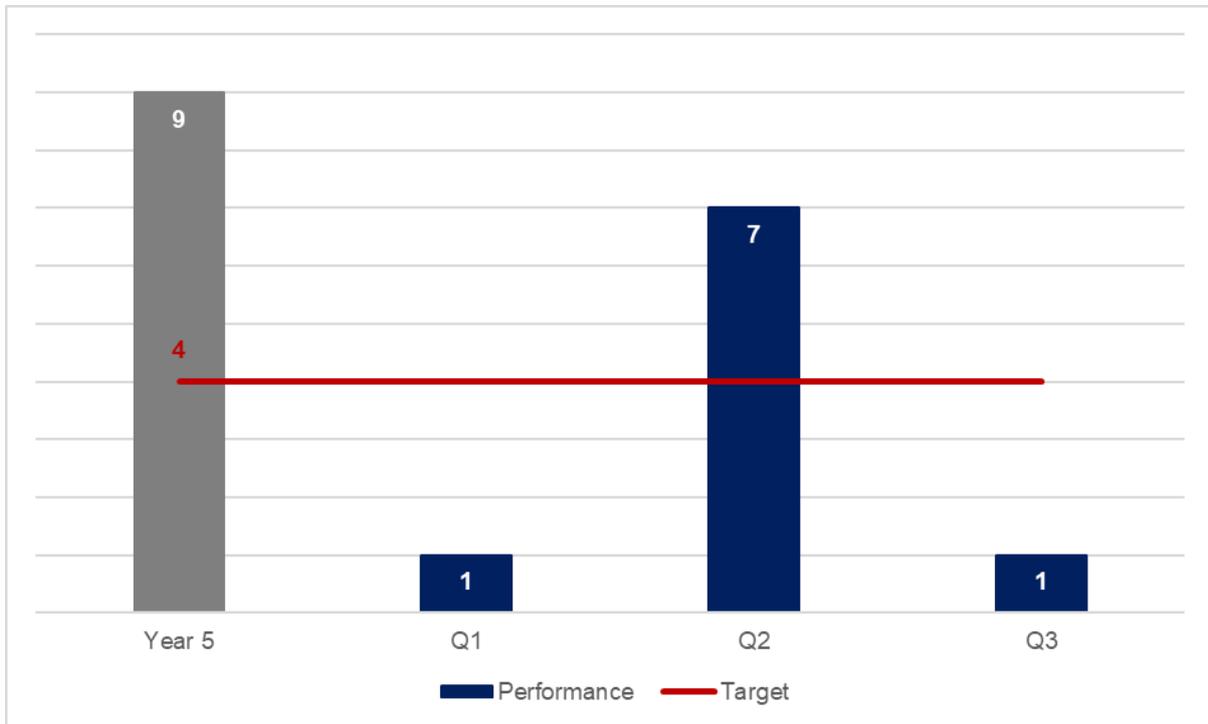


KPI 16. NUMBER OF PROVINCES WHO REVIEW THEIR BUDGET VS. ACTUAL AS DEFINED IN THE NEW BUDGETING PROCESS TO SUPPORT THE RING-FENCED BUDGET

This indicator, shown in Figure 18, measures the effectiveness of GHSC-TA support in developing and implementing provincial budgeting and financial management processes. The demand planning process, developed by GHSC-TA, supports PDoH in establishing accurate forecasts to inform the annual pharmaceutical budget.

At the end of Q3, GHSC-TA confirmed that one province, Northern Cape, submitted and reviewed dashboards monthly. This was below the target of four. The decline was due to the methodology of calculating the KPI being revised. In future, the GHSC-TA PST will assist provinces in accessing the data required, as well as training on how to use the dashboard and support with the dashboard review meetings.

Figure 18 Number of Provinces Who Review Their Budget vs. Actual as Defined in the New Budgeting Process to Support the Ring-Fenced Budget in Year 6 Q3



KPI 17. PERCENTAGE OF EXPENDITURE ON NON-ESSENTIAL MEDICINE LIST ITEMS

This indicator measures the percentage of expenditure on medicines that do not appear on the EML compared to total expenditure on medicine at the provincial level. Medicines not appearing on the EML can be approved for use through the provincial, district, or institutional PTCs. Q3 finished well under the target of 10 percent, as shown in Figure 19.

Figure 19 EML vs Non-EML Spend on Medicine List Items in Year 6 Q3

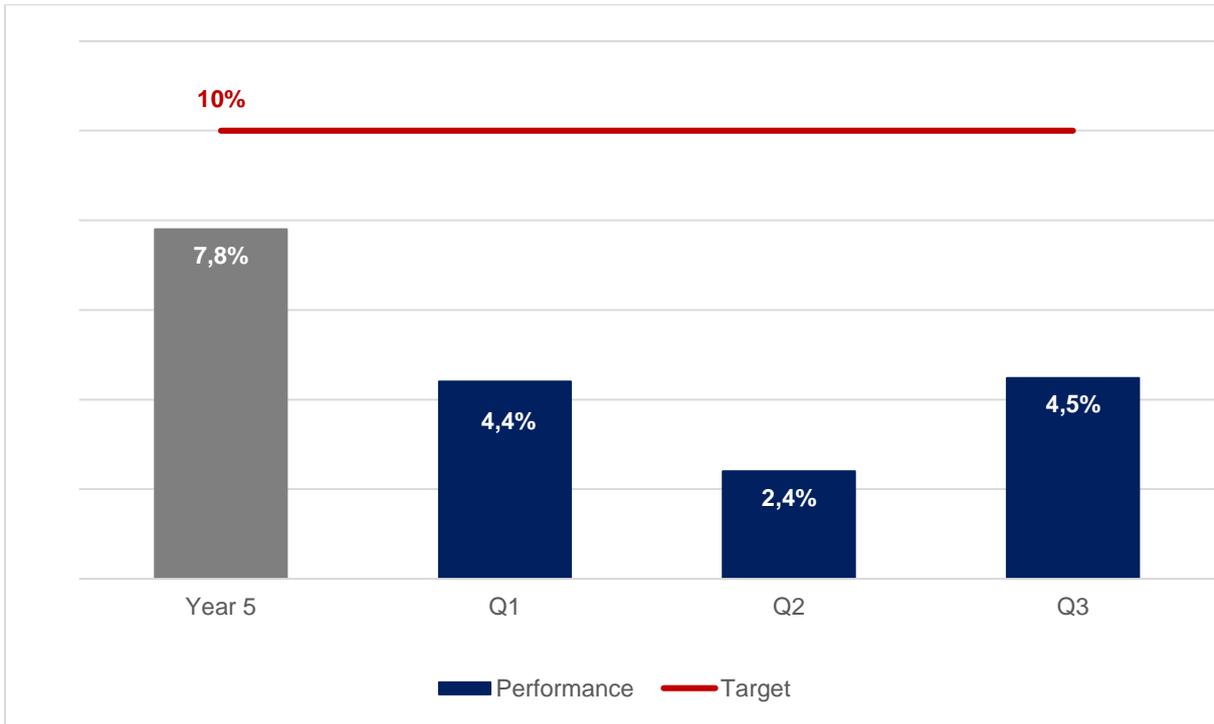
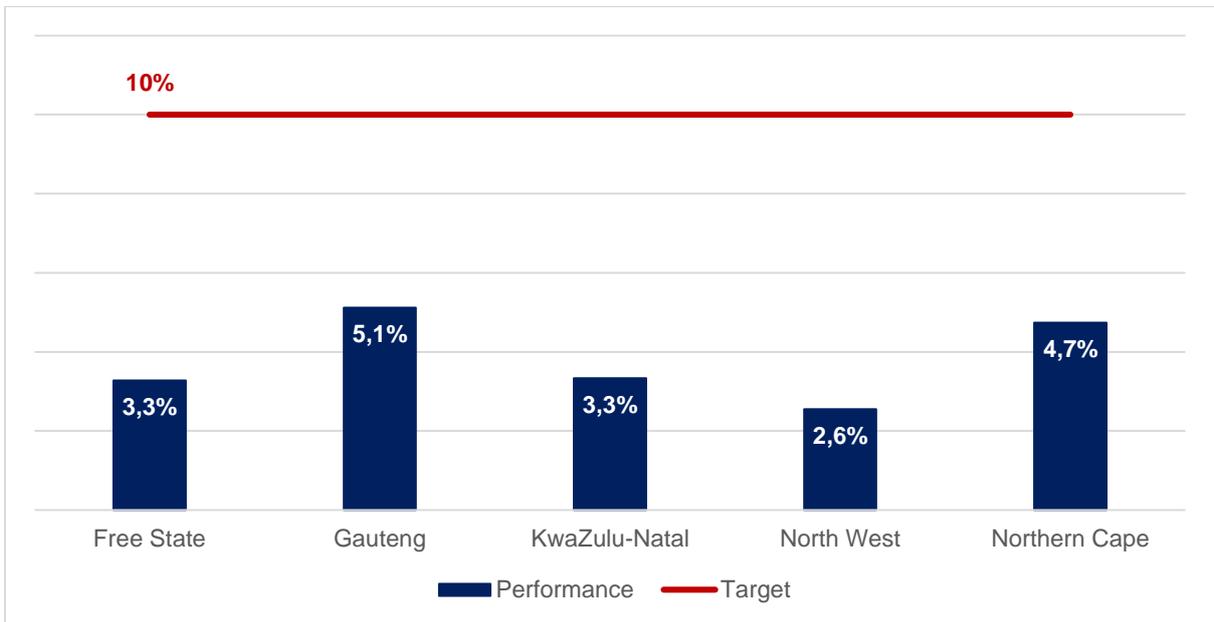


Figure 20 Disaggregation by province in Year 6 Q3





5. STRENGTHEN GOVERNANCE

One of the AMD functions is to provide oversight and set policy with respect to PS provided in South Africa. Support provided by GHSC-TA includes assisting the AMD and provincial PS with improving governance by strengthening the policy and legislative framework, establishing appropriate governance structures, and building capacity to provide the necessary oversight. A key role of GHSC-TA is to provide technical assistance in the development of relevant policies and legislation necessary for implementation of strategic priorities and interventions.

ACTIVITIES AND ACHIEVEMENTS

GOVERNANCE AND LEGISLATION

GHSC-TA conducted several activities in Y6 Q3 to strengthen governance by developing and revising policies as an enabler for medicine availability. Most notably, the program supported activities in the areas of contracting and contract management.

CONTRACTING AND CONTRACT MANAGEMENT

Procurement of medicines for use in South African government hospitals and clinics follows a competitive tendering process. The resultant contracts are, therefore, extremely important for medicine availability. Once contracts have been awarded, AMD plays a critical role in monitoring and managing supplier performance. In addition to managing contracted suppliers, it is important that the performance of all parties, including participating authorities and demanders, is monitored and managed. Support provided by GHSC-TA is focused on strengthening contracting and contract management processes.

Pharmacy support personnel regulations. GHSC-TA supported AMD and the South African Pharmacy Council (SAPC) to complete the revision of the three sets of regulations published in terms

of the Pharmacy Act 53 of 1974 to govern the practice, education and registration of pharmacy personnel. The purpose of the amendment to the regulations is to establish a new category of pharmacy support personnel (pharmacy technicians) and to align scopes of practice to service delivery needs. The revised regulations are now ready for submission to the NDOH Legal Unit for review and approval.

Contracting guideline. GHSC-TA has completed the first draft of the contracting guideline. The purpose of the guideline is to outline the roles and responsibilities of stakeholders involved in contracting, and the communication flows for each stage of the contract. The guideline scope has been discussed and agreed upon with AMD.

Contracting. GHSC-TA facilitated a two-day workshop to onboard new Bid Specification Committee (BSC) and Bid Evaluation Committee (BEC) members. The workshop was also used to review, obtain input from members, and finalize several documents, including the TORs for both committees, the criteria for inclusion of items on tender, the bid evaluation rules and the Special Requirements and Conditions of Contract (SRCC).

Tender and In-contract demand forecasting. GHSC-TA supported AMD in developing the policy principles for determining the estimated tender forecast and adjustments for demand during the contract period. Defining the policy principles for both processes ensures that the ‘one number’ demand planning principle is adhered to and processes are standardized across the provinces. GHSC-TA developed SOPs for both tender and in-contract demand forecasting. The tender forecasting principles were presented and discussed with the BSC and BEC members.

Demand Planning. GHSC-TA supported AMD in reviewing the demand planning processes. The purpose of the work was to identify gaps in the process, streamline and improve efficiency. The input received from the AMD stakeholders was used to review and update the demand planning guideline, considering lessons learnt from the COVID-19 response.

Special Requirements and Conditions of Contract - Obligation Matrix. GHSC-TA has developed the SRCC obligation matrix. The purpose of the matrix is to outline all the pre- and post-award requirements and obligations by stakeholders to ensure that there is a process to manage the obligation.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that through increasing the capacity of the AMD to develop and institutionalize effective policies and legislation and implement good governance practices in coordination and engagement with key stakeholders, the AMD will demonstrate an increased application of good governance principles embodied in policies, implementation plans, processes, and SOPs. There is no outcome level KPIs reported under this objective.



6. IMPROVE WORKFORCE MANAGEMENT

GHSC-TA continued to support the AMD with workforce strengthening and building organizational structures within AMD and in the provinces to perform the functions necessary to improve medicine availability.

ACTIVITIES AND ACHIEVEMENTS

GHSC-TA, as part of the TLD task team, assisted the HIV Program with updating all ART training modules, pamphlets, posters, and transition algorithms. Several training sessions were conducted nationally on the Knowledge Hub and the Clinical Care Platform by specialists and members of the HIV Guideline committee.

Centralized Demand Planning Unit. During Q3, GHSC-TA continued to work closely with the AMD central demand planning team, providing assistance and support when required for Limpopo, Northern Cape, and North West whenever the NDoH Central team needed it.

SVS Phase I. The PST continued to support some of the provinces with routine SVS training. The training sessions were conducted to improve medicine availability and reporting compliance at health establishments, roles and responsibilities were also shared and explained to try and improve the usage of the reports on the NSC and SVS web platform. These were conducted in the Free State and Northern Cape.

Stakeholder Matrix. GHSC-TA Initiated work around the stakeholder analysis and the development of the PMPU stakeholder matrix in Eastern Cape; the tool will be used to determine specific stakeholder actions necessary for buy-in and align project goals to provincial requirements.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that by supporting the AMD to develop a set of standardized structures, roles, competencies, and performance management practices, along with institutionalization of a change management program in collaboration with the upskilling and mentoring of staff, the AMD will foster an improved culture aligned with proactive patient-centric decision-making and enhanced leadership management and technical skills, thus improving workforce management practices. There are no outcome level KPIs reported under this objective.



7. STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

Information systems are critical to support the health product supply chain. Beyond organizational governance, GHSC-TA supports data governance and management of master data elements crucial to enable interoperability of information systems. Further, the team supports and recommends enhancements to existing systems, analytical processes, and dashboards used by AMD and provincial PS for daily transactions and to inform decision making and continuous improvement.

ACTIVITIES AND ACHIEVEMENTS

MASTER MEDICINE DATA SYSTEM

A core element of the AMD systems strategy involves working towards ensuring that medicine master data can be exchanged and processed between different devices and systems and across networks within the medicine supply chain. The MMDS, which is under development, will provide a centralized, uniform set of master data relating to medicine. The goal is for information systems to read medicine master data from this central repository via system interfaces to achieve seamless interoperability. The availability of a set of uniform master data will support improved transacting between systems and aggregation of data drawn across systems and facilitate visibility via the NSC, ultimately contributing to medicine availability improvements.

GHSC-TA continued to support AMD with the roll-out and institutionalization of the MMDS and Formulary Tool adoption across five provinces, namely Free State, North West, Eastern Cape, Mpumalanga, and KwaZulu-Natal.

Development. GHSC-TA continues to assist in developing and rolling out the MMDS and Stock Visibility System (SVS). Given that both these tools are foundational to replenishment planning efforts and that the highest priority development needs currently relate to SVS, development resources were

directed exclusively to SVS during the quarter, specifically for the redevelopment of SVS formularies and the formulary import tool in support of eOrdering.

NATIONAL SURVEILLANCE CENTER

GHSC-TA activities over this reporting period focused on the ongoing support of the monitoring function as relevant to health establishment reporting compliance and medicine availability, enhancements, and optimization of the NSC views and manual database.

Enhancement of the NSC. During this quarter, the GHSC-TA NSC team level of effort was reduced due to the transition in February 2022 of all NSC maintenance and NSC refresh functions to Mezzanine, the approved service provider to AMD who was contracted to perform hosting and maintenance functions. With this transition, the GHSC-TA team focused on new dashboard developments and enhancements as follows;

- Development work on the transition of the NSC to use the MHPL as the product master linkage table rather than the MPC was completed and tested in the previous quarter. In March 2022, AMD approved publishing these views, and the GHSC-TA team published the Integrated and trend views to the internal NSC review folder. Following a review by the PST, the updated views were published to the NSC in May 2022.
- The Annual Performance Plan (APP) Dashboard was updated to use the Master Facility List (MFL) rather than the legacy District Health Information System (DHIS) facility list as the linking table and was published in March 2022. All APP dashboard reporting values over this reporting period are thus aligned to the MFL.
- Following a request by the replenishment planning team, a new report comparing the percentage of medicine availability against the percentage of items above and below the minimum configured stock utility was developed and published to the min-max views.
- A meeting was held with the EDP to discuss the requirements to develop a dashboard that shows the AMR of ESKAPE⁵ pathogens to facilitate reporting to South Africa's AMR committee and report. Medicine grouping information was received from EDP, and a review of available information from the National Institute for Communicable Diseases (NICD) was conducted. An AMR master data table was developed with a follow-up meeting with the EDP to agree on deliverables for the dashboard views that will be developed in the next quarter.
- A review and update of the Demand Planning views were undertaken with the Demand Planning team, and the updated views were published to the NSC in May 2022.
- In May 2022, flows were developed, and an automated process (bot) was created to facilitate the auto-generation of PPE reports to be sent to provincial and national users. This was done following a request from the PPE work stream to reduce the reliance on departmental resources to generate these reports. The auto email functionality to users provided a challenge as Google (Gmail addresses) prevented access to third-party applications that do not have an extra layer of security to use the application. As such, the team created a specific password to create this extra layer of security in June. These auto reports are expected to go live in July 2022.

A significant development was a request to GHSC-TA from the NDoH HIV Prevention Program and support partner, CHAI, for assistance with developing PrEP dashboards. Following a meeting held in

⁵ ESKAPE Pathogens are defined as Enterococcus Faecalis and Enterococcus Faecium, Staphylococcus aureus, Klebsiella Pneumoniae, Acinetobacter Baumannii, Pseudomonas Aeruginosa and Escherichia coli

June 2022, the requirements document was reviewed, and five PrEP Dashboard views were created and presented on 22 June 2022. GHSC-TA developed a PrEP Dashboard Navigation Guide and shared it with the HIV Prevention team to aid in their review of the dashboard, with further enhancements to the dashboard likely to occur in the next quarter. It was agreed with the AMD that the HIV Prevention PrEP Dashboard views be published to the NSC, with access provided to relevant stakeholders. This work presents a unique opportunity to visualize PrEP initiations in the selected districts against stock-on-hand information. Furthermore, it offers an opportunity to demonstrate the use of patient-driven demand and forecast information to improve stock availability in target locations.

Institutionalization of the NSC. GHSC-TA continued to drive institutionalization of the NSC in the quarter by supporting the compiling of reporting compliance of health establishments to the NSC and reviews of medicine availability at health establishments reports during the quarter. The program submitted these reviews to AMD weekly and presented them to AMD and the provinces in the weekly and later bi-weekly COVID-19 response meetings and the monthly IMAT meeting. In addition, the program also supported compiling and submitting a weekly COVID-19 vaccine reporting compliance report to AMD.

GHSC-TA supported AMD with audit queries received from the AG in June 2022 and assisted in compiling the responses required.

A meeting was held with the new AMD NSC business owner in April 2022 to discuss the status and provide an update on new developments to the NSC. She has assumed responsibility for the NSC and requested follow-up training sessions.

Technical and Function Specifications. During the period under review, the program continued to review and update the NSC data dictionary, the NSC technical documents detailing the workflow image, statistics and possible challenges, process inputs and outputs, workflow steps and tools.

SUPPLY CHAIN SYSTEMS

Technology and information systems are critical enablers of health supply chain performance. Key activities supporting this objective during Q2 include supporting the development and deployment of information systems, including SVS.

Implementation and Development of SVS. During the implementation of the replenishment planning project, challenges were encountered with the current formulary functionality on SVS. Over time, requirements and operational practices at the district level had outgrown legacy functionality. They now require the ability to load the complete facility formularies necessary for electronic ordering cycles while distinguishing these full formulary lists from the reduced formulary lists required to monitor the availability of tracer items.

Development and testing of significant changes to SVS formulary functionality are complete and allow for full formulary counts to be used when preparing electronic orders and an abridged list to be used when only partial counts are required. Developed but yet to be fully tested is a new SVS formulary import tool aligned to the new formulary structure allowing SVS system formularies to synchronize to upload sheet data across multiple facilities

While challenges with the RxSolution automated reporting servers in North West and KwaZulu-Natal have been ongoing, problems were experienced with the compilation of the source code for the system, preventing resolution. These issues have been resolved with the reinstallation of the affected reporting servers underway.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that, by supporting the AMD in the design and implementation of Information Technology (IT) systems and the NSC, the AMD will be empowered to deploy systems that enable evidence-based decision making, leading to improved medicine availability.

KPI 12. PERCENTAGE OF USERS UTILIZING THE NSC TO REVIEW MEDICINE AVAILABILITY TRENDS AND REPORTS

This indicator measures the frequency with which licensed users access the data available on the NSC dashboards, including medicine availability trends and other reports. GHSC-TA has defined utilization as logging on to the NSC at least once a month to review data.

During Q3, 66 percent of licensed users logged on to the NSC at least once a month, an increase from 61 percent in the previous quarter but still below the target of 80 percent⁶. An increase occurred in some provinces, with Eastern Cape, Free State, Gauteng, and North West performing above the target, which is an improvement on performance in the previous quarter where only two provinces (Eastern Cape and Free State) met the target. It must be noted that poor performance at AMD, Limpopo, Mpumalanga, Northern Cape, and Western Cape has a negative impact on the overall performance shown in Figure 18. This is an ongoing challenge GHSC-TA addresses by monitoring usage and engaging with users to identify and address challenges. Where improvements have been made, activities included the reallocation of licenses of inactive users and targeted stakeholder engagements focusing on users with low utilization.

⁶ NB: Disaggregation by users' role and sex are not reported due to unavailability of data.

Figure 21 Percentage of Users Utilizing the NSC to Review Medicine Availability Trends and Reports in Year 6 Q3

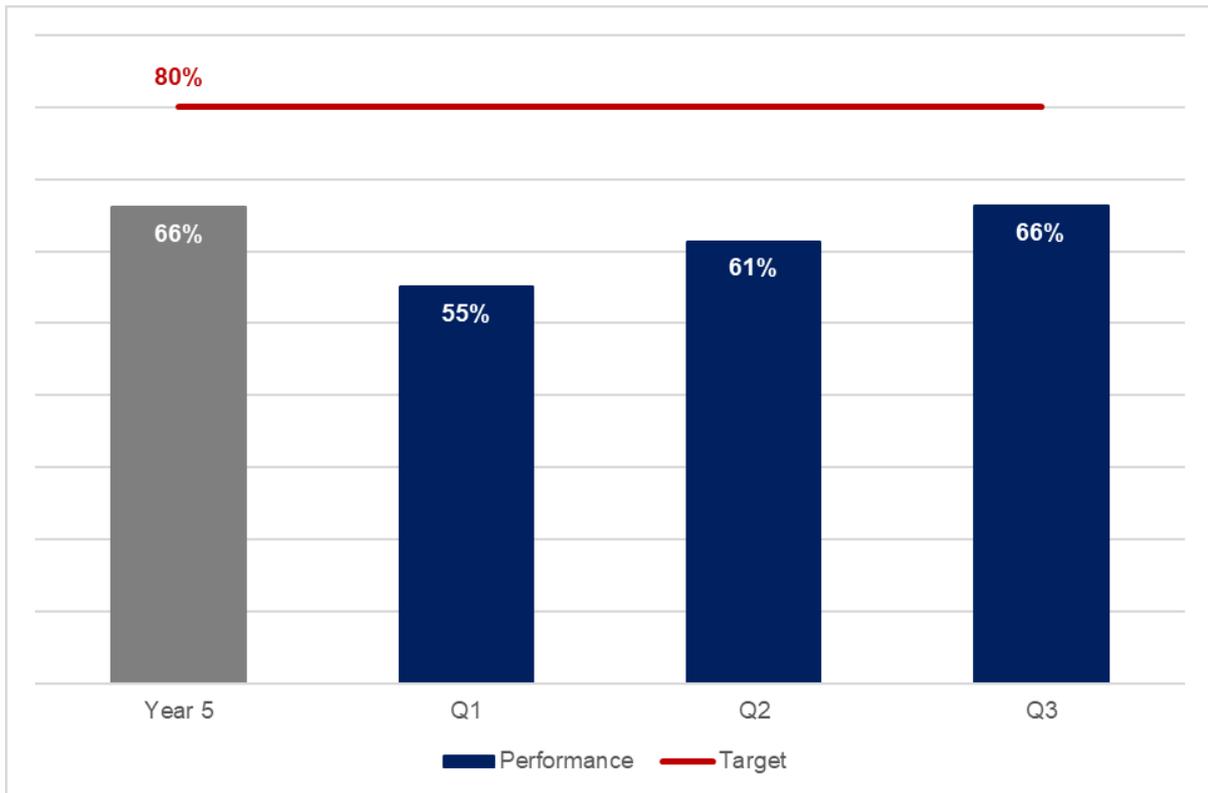
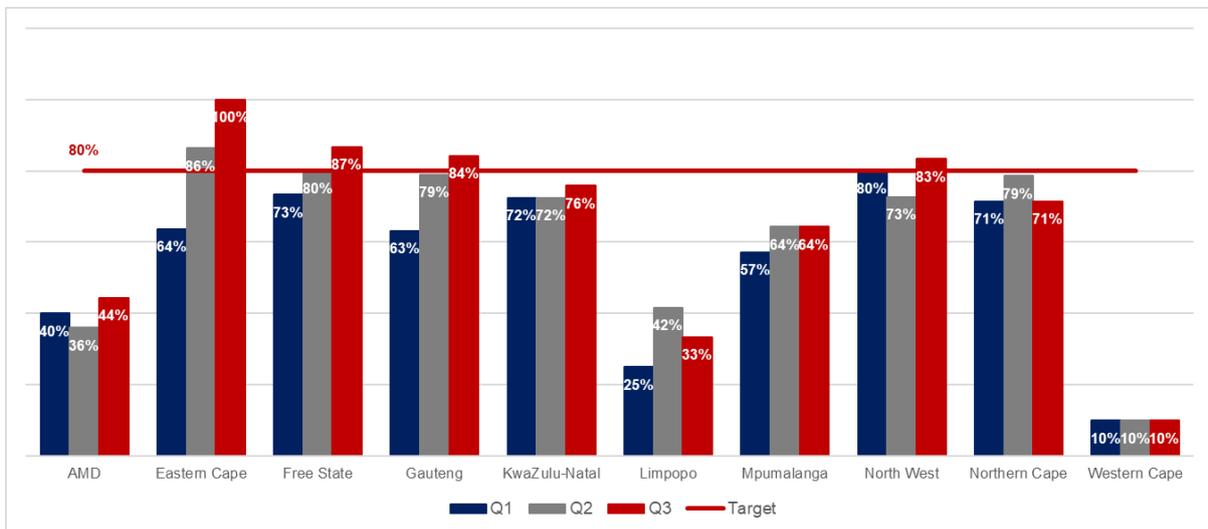


Figure 22 Percentage of Users Utilizing the NSC to Review Medicine Availability Trends and Reports in Year 6 Q3



KPI 13. NUMBER OF HEALTH ESTABLISHMENTS AND WAREHOUSES UTILIZING MEDICINE MASTER DATA SYSTEM AS A SOURCE OF MASTER DATA

This indicator measures the number of health establishments, including hospitals, clinics, and provincial warehouses, with access to master data originating from the MMDS. Values in Table 3 reflect the number of health establishments with access to master data derived from the MMDS and made available to facilities via SVS. This was achieved when work to integrate medicine data from the MMDS

into SVS via system-to-system integrations was completed and after setting the links between MMDS data items to corresponding SVS data items, totaling 3,072 clinics.

Table 3: Health Establishments Utilizing MMDS

Geographic Locations	Overall Number of Health Establishments and Warehouses Utilizing MMDS
All Provinces	3072
Eastern Cape	761
Free State	213
Gauteng	314
KwaZulu Natal	542
Limpopo	484
Mpumalanga	288
North West	302
Northern Cape	168
Western Cape	0

KPI 14. NUMBER OF HEALTH ESTABLISHMENTS USING CORE SUPPLY CHAIN INFORMATION SYSTEMS TO ORDER AND/OR RECEIVE STOCK

This indicator measures GHSC-TA’s support for expanding core supply chain information systems, including SVS and RxSolution, across health establishments⁷. During Q3, the total number of health establishments using information systems for order management grew from 747 to 753, as shown in Figure 23. Notably, performance remains below the target of 2,600. A total of 641 health establishments are using RxSolution, 110 are using JAC, and two are using Meditech shown in Figure 21. However, it should be noted that GHSC-TA is currently reviewing the previously set target of 2,600. This is due to the fact that in 2020, the COVID-19 pandemic changed the focus of the SVS team away from eOrdering on SVS to functionality to support the vaccine rollout; it also changed the focus of the operational staff at health establishments to COVID-19-related activities. When the focus returned to the roll-out of eOrdering functionality, challenges at pilot sites became apparent with rework required to better differentiate full count items from partial count items and improved order output files required for upload into depot management systems. Previously, growth in this metric had come from RxSolution as a core medicine inventory management system for hospitals and CHCs. There is a reduction in the expansion of RxSolution as saturation increases for the available sites. Further growth is expected from the new SVS eOrdering functionality as part of the advised pull

⁷ GHSC-TA is not tracking the use of stock receiving functionality by HEs as the required functionality is not adequate

replenishment approach being rolled out. RxSolution, JAC and Meditech can support both ordering and receiving, while the SVS eOrdering functionality only supports ordering.

Figure 23 Number of Facilities Using Core Supply Chain Information Systems to Order and/or Receive Stock in Year 6 Q3

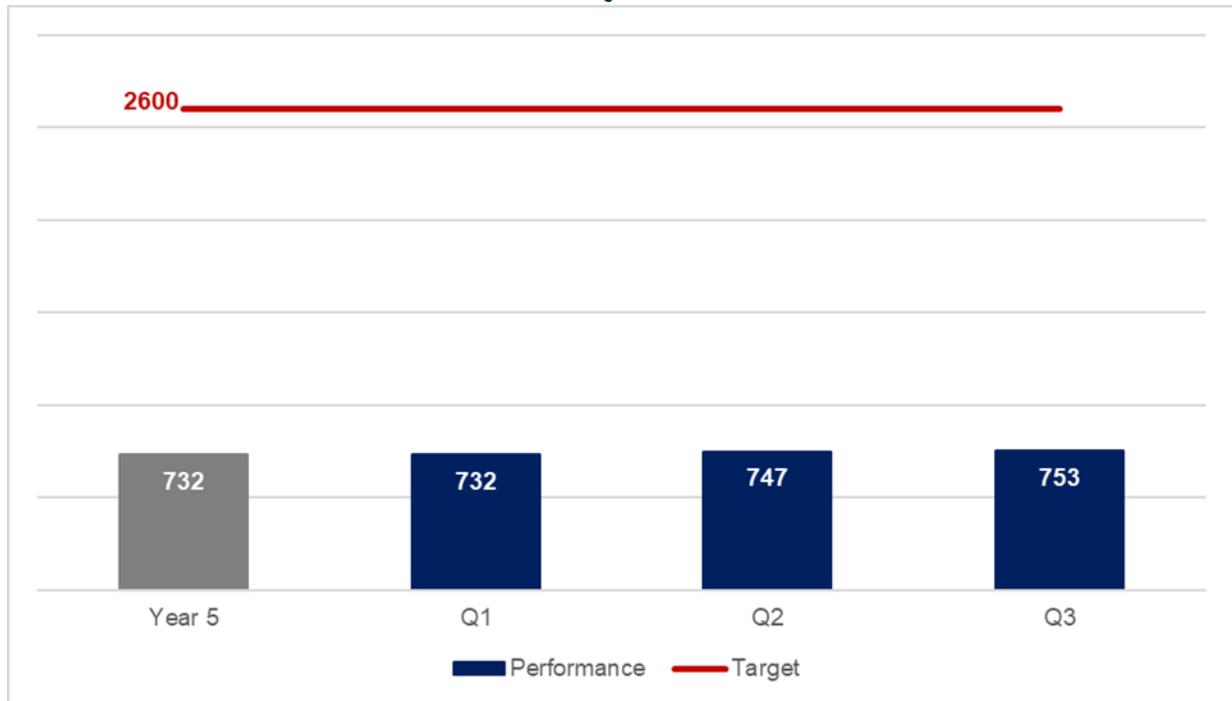
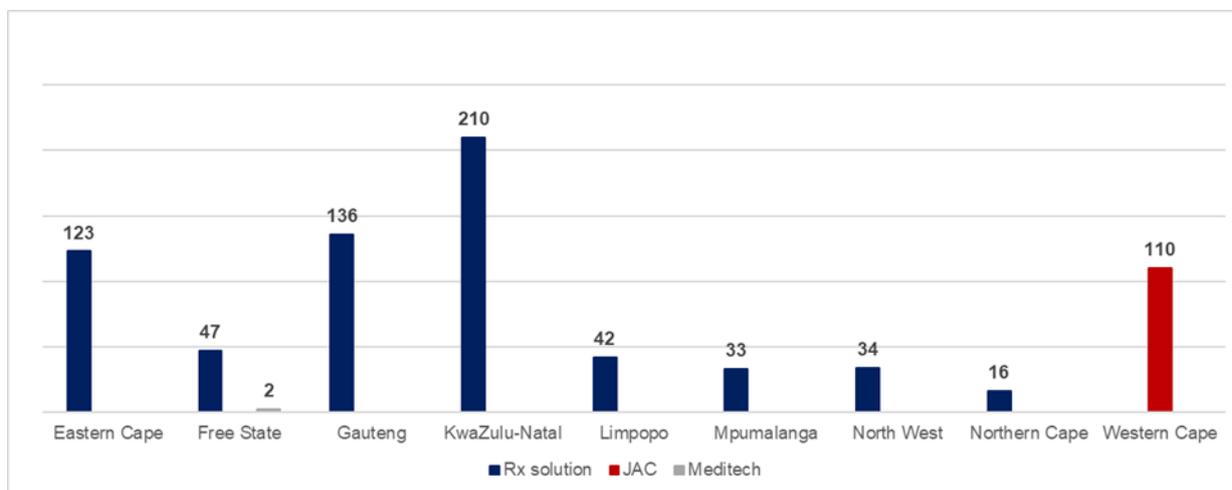


Figure 24 Disaggregation by Province and Stock Management System in Year 6 Q3



KPI 15. REPORTING COMPLIANCE – NUMBER OF HEALTH ESTABLISHMENTS REPORTING STOCK AVAILABILITY TO THE NSC

The reporting compliance KPI shown in Figure 25 below measures the number of health establishments reporting stock availability to the NSC. During Q3, 3,857 health establishments reported stock availability to the NSC, 17 fewer than in Q2 and just slightly above the target of 3,830. The reduction is due to the new APP Dashboard published on March 31, 2022, that now uses the MFL rather than the legacy DHIS facility list as the linking table and was approved for use by AMD in March

2022. All APP dashboard reporting values over this past quarter are thus aligned to the MFL. Clinics reported the highest at 3303, followed by hospitals at 376, as shown in Figure 26.

In addition, GHSC-TA continues to monitor reporting to the NSC via provincial Application Program Interface (API) servers, provide technical assistance and flag health establishments where reporting has not been successful.

Figure 25 Number of Health Establishments Reporting Stock Availability to the NSC in Year 6 Q3

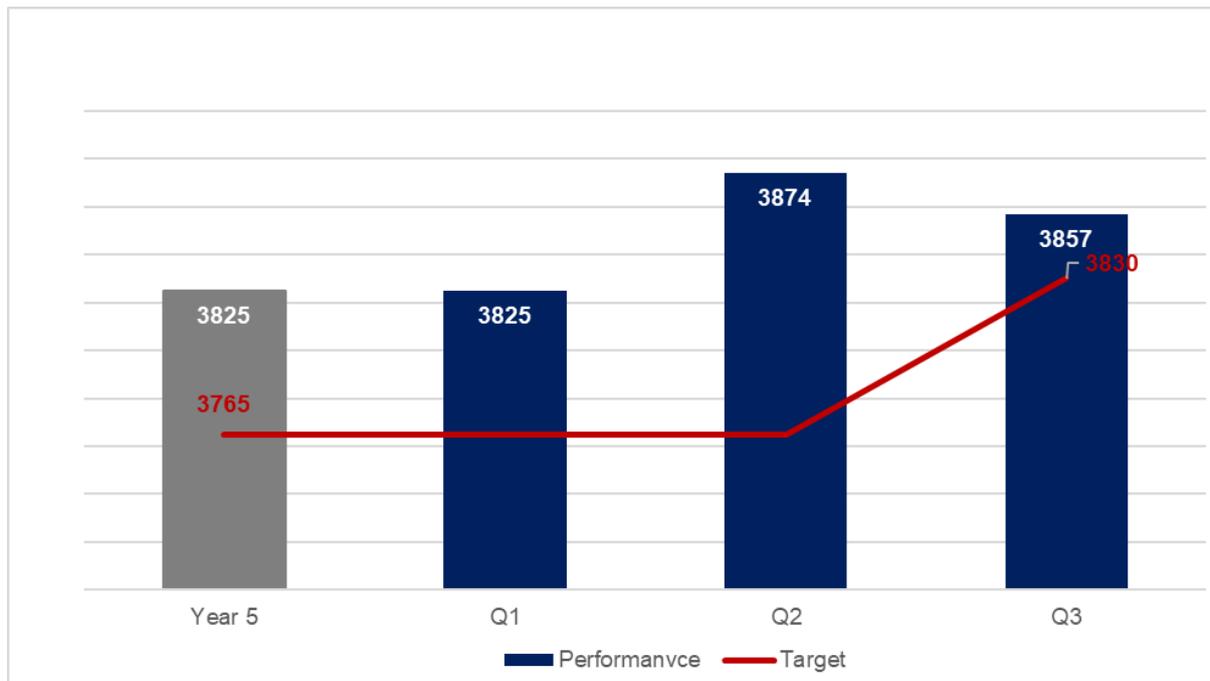
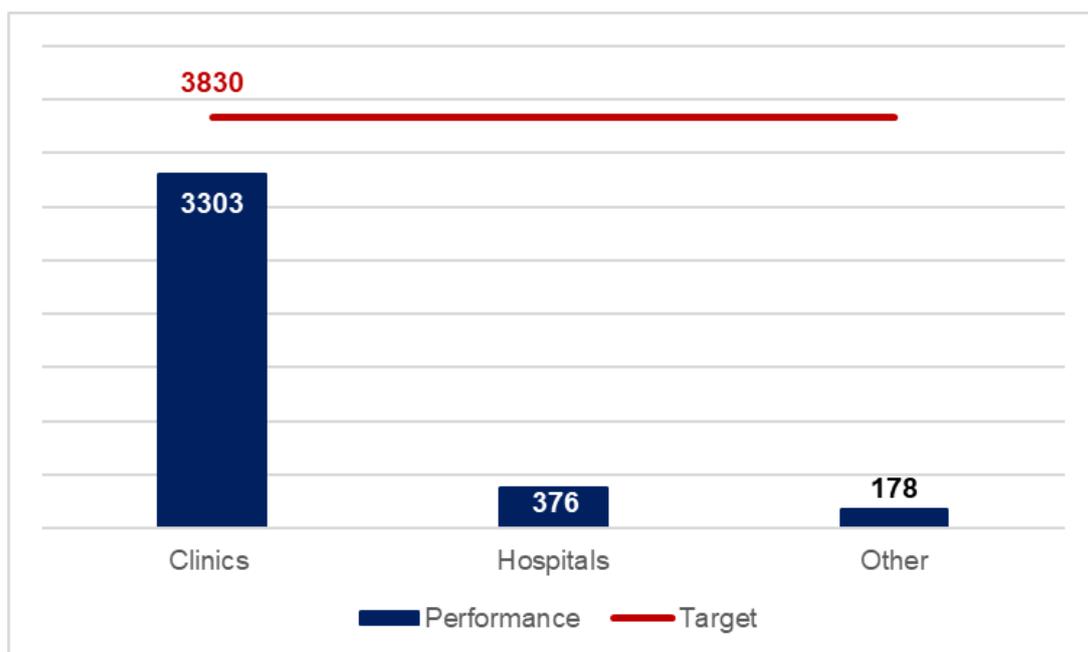


Figure 26 Disaggregation by Health Establishments in Year 6 Q3





8. PROVINCIAL SUPPORT AND REPLENISHMENT PLANNING

This work aims to streamline and support the coordinated implementation of activities across the various GHSC-TA program work streams in the provinces and to ensure coordination, alignment, and successful implementation of the various supported supply chain reforms.

ACTIVITIES AND ACHIEVEMENTS

The team continued to support the activities of the nationwide COVID-19 vaccination program. As previously reported, this meant that not all GHSC-TA's province-facing activities were implemented as planned. Despite this, the team's efforts towards supporting the implementation of supply chain reforms within pharmaceutical services at a provincial level continued to yield success.

INSTITUTIONALIZATION OF THE NSC

The PST continued activities to drive NSC institutionalization, including targeted engagements, training of new users, weekly monitoring of reporting compliance and preparation and circulation of customized medicine availability reports for provinces. The PST provides direct support to, and engages with, provincial and district counterparts to highlight challenges and assist in addressing issues identified. The Member of the Executive Council (MEC) for Health in Eastern Cape accessed the NSC during this period, marking this as the first Provincial MEC to do so. Additionally, the MEC for Health in Gauteng included mention of the NSC as one of the interventions to improve access and availability of medicine during the provincial budget vote speech.

National reporting compliance remained above the target of 80 percent. Six of the nine provinces improved during this reporting period, remaining above the target. Two provinces showed no change

while still above target. One province declined slightly by one percent to 93 percent, remaining above the target. Eastern Cape has commenced an undertaking to obtain access to the Virtual Private Network (VPN) account for hospitals using RxSolution, which are now unable to report via the provincial RxAPI. During this period, five hospitals reported through the newly established VPN connection. In all applicable provinces, the PST monitors automatic reporting via RxAPI and follows a contingency plan when automated reporting fails.

Overall, medicine availability improved in Gauteng, KwaZulu-Natal, Mpumalanga, North West, and Northern Cape, with Gauteng and KwaZulu-Natal remaining above target. Collaborative efforts with provincial IT, pharmaceutical and district teams have contributed to the favorable medicine availability observed through maintenance of formularies, reviews and editing of medicine supply management SOPs, resolving technical challenges, and providing bespoke reports to avoid stock-outs. SVS training sessions were provided to users at Free State and Northern Cape health establishments. The provincial SVS formulary was reviewed, and changes were approved by the PTC to align to the new Ideal Clinic Framework Tracer List and the provincial priority items in Eastern Cape. The PST continues to provide technical support to sites as required to ensure optimal reporting on SVS and RxSolution.

During this quarter, GHSC-TA in collaboration with Gauteng and KwaZulu-Natal, submitted abstracts on TB medicine availability during the COVID-19 pandemic for possible presentation at the national TB Conference.

REPLENISHMENT PLANNING

Replenishment planning refers to all planning and supporting activities to leverage medicine supply management best practices to ensure that essential medicines are available at health establishments. This is achieved through standardization of medicine master data, strengthening of formulary management processes, and optimizing the use of proven supply planning principles to inform replenishment that includes the use of min-max stock levels and the introduction of an advised-pull approach. This process is enabled by using information systems supported by the relevant policy, guidelines, and SOPs.

MMDS and Formulary Tool. Formularies are essential tools supporting RMU and informing medicine supply management activities. From the supply chain perspective, formularies inform which medicines should be stocked at each health establishment and that there is alignment with the EML and Standard Treatment Guidelines (STGs) applicable at that level of care.

Especially in support of replenishment planning initiatives, GHSC-TA supports AMD with Formulary Tool adoption across five provinces, namely Free State, North West, Eastern Cape, Mpumalanga, and KwaZulu-Natal, mostly with activities preliminary to loading formularies onto the Formulary Tool.

In the Free State, the formulary work has been completed in three of the five districts, Fezile Dabi, Xhariep, and Thabo Mofutsanyana. Engagements have taken place in the last two districts, Mangaung and Lejweleputswa. Implementation will follow once formularies have been finalized.

Formulary roll-out work is progressing well in KZN, where all KZN SVS facilities are now loaded onto the MMDS with the template formulary agreed upon and loaded onto the MMDS. In the North West, work is underway to agree on the template formulary to be used across PHC clinics in the NMM district while also aligning to new SVS functionality that distinguishes between the full formulary and

those formulary items required for abridged counting. In Mpumalanga, data analysis work continues to align the Mpumalanga depot stock catalog with the MMDS master data.

Optimization of Minimum and Maximum Stock Levels. For the period under review, the GHSC-TA Team continued to support provinces in implementing and operationalize the optimized min-max stock levels on stock management systems.

Free State: Commenced with rolling out the Replenishment Planning Solution in Xhariep and Lejweleputswa Districts. GHSC-TA has been working on both districts' formularies and the min-max levels. The full RP solution has been implemented in all Fezile Dabi facilities and handing over has been initiated with minimal support from the GH-SCTA team.

Eastern Cape: Uploading the min-max levels for Alfred Nzo District is still on hold until the Min Basket Toggle on the NSC has been fully implemented. Min-max levels in Sarah Baartman District have been signed off. Implementation of the Replenishment Planning Solution in BCM has been approved and is underway. Due to the lack of support in Joe Gqabi District, implementation has been put on hold. The facility list, formulary, and min-max levels for each item on the formulary for Sarah Baartman district have been created, customized and calculated for each item at each facility.

KwaZulu-Natal: 198 facilities across five districts were selected for min-max optimization. Demand planning and RxSolution data were collected from facilities and merged. Formulary alignments were conducted.

Mpumalanga: The Head of Pharmaceutical Services has approved min-max implementation to cover six sites across three districts. Internally the province is still waiting for a letter of approval to implement the solution. GHSC-TA had to delay the rollout due to the letter.

North West: GHSC-TA sourced all the RxSolution data for the NMM district and is still waiting for data from Dr Ruth Segomotsi Mompati district. Data for Dr Kenneth Kaunda district has also been requested. For NMM District, the team cleaned all the data and plugged it into the Stock Calculator. As soon as the formulary for NMM District is finalized, GHSC-TA can commence the roll-out.

Performance Monitoring and Visibility

The min-max dashboards on the NSC provide visibility on the stockholding position of health establishments and facilitate stock monitoring activities that empower managers to proactively manage medicines' supply and use. In the period under review, the GHSC-TA team did extensive internal testing/review, led by the PST Team, to assist and improve provincial views on the dashboards. The next phase is facilitating user testing before rolling out the dashboards to supported provinces.

OUTCOME LEVEL RESULTS

KPI 8. NUMBER OF HEALTH ESTABLISHMENTS AND WAREHOUSES WITH CONFIGURED MINIMUM AND MAXIMUM (MIN-MAX) STOCK LEVELS FOR STOCKED MEDICINES BEING REPORTED TO THE NATIONAL SURVEILLANCE CENTER

This indicator measures GHSC-TA activities contributing to the configuration of min-max stock levels. These basic stock usage parameters are used to inform replenishment management processes.⁸ At the

⁸ Due to the Limitations of the Data, such as, how many items per facility have configured min maxes KPI 8 is under review and these limitations will be addressed in the updated MEL Plan.

end of Q3, data from 1,589 clinics and 173 hospitals indicated a setup of min-max stock levels on SVS (for clinics) and RxSolution system (for hospitals), bringing the total to 1,745 facilities against a target of 1,500 as shown in Figure 27. This showed a decline from 1,811 obtained in Q2. Moreover, the numbers show a regression from 1,600 to 1,589 for SVS sites and a decrease from 239 to 173 for RxSolution sites. Possible explanations for this decline include the closure of SVS sites or technical glitches with the reporting API. Note that the difference of 17 is due to facilities using both systems. It should be noted, however, that the current methodology for calculating facilities with configured min-max stock levels may include facilities that do not have configured levels, including those for which levels are configured for only one item or which have default configurations. GHSC-TA is in the process of revising the methodology for calculating this indicator.

Figure 27 Number of Health Establishments and Warehouses with Configured Minimum and Maximum (Min-Max) Stock Levels for Stocked Medicines Being Reported to the NSC in Year 6 Q3

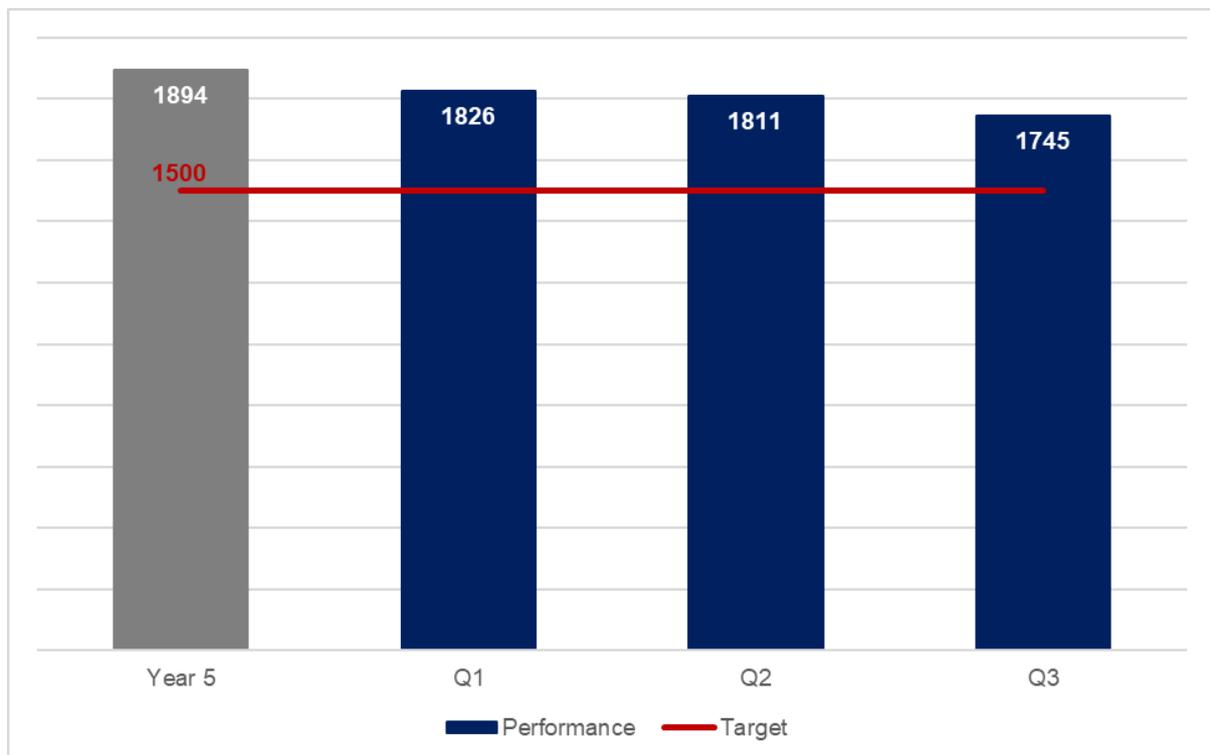


Figure 28 Disaggregation by systems

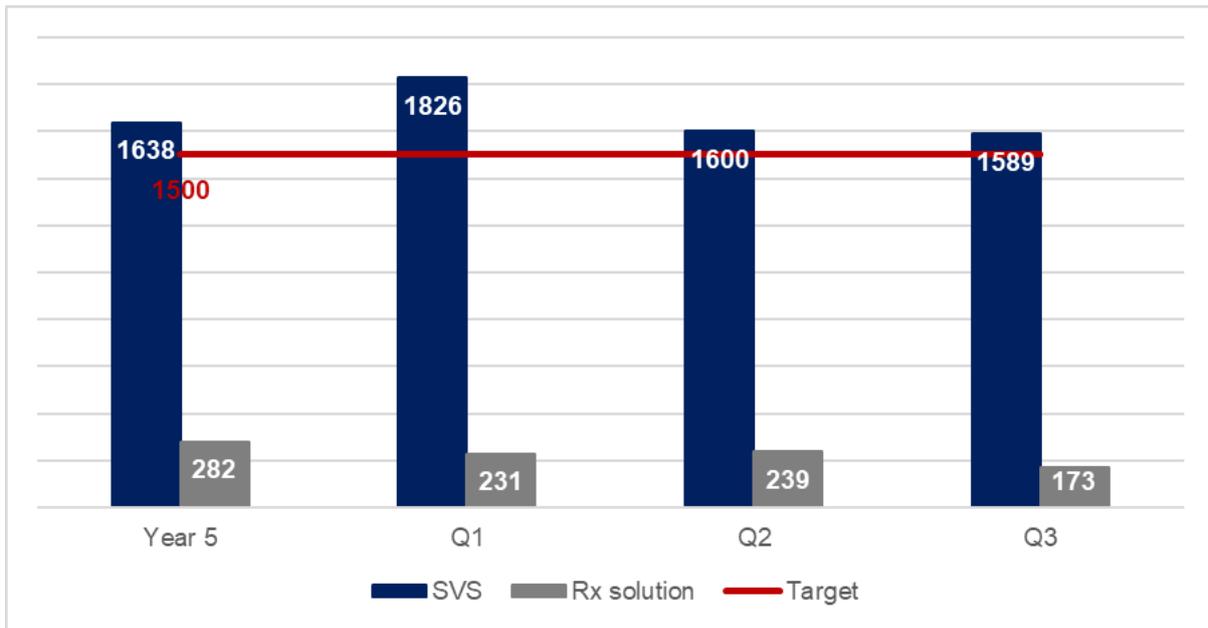




Photo Credit: SA Taxi

9. SUPPORTING THE GOVERNMENT OF SOUTH AFRICA IN THE RESPONSE TO COVID-19

An effective supply chain is key to a consistent and uninterrupted supply of medicines to meet patient demand. Supply and demand planning is aimed at forecasting potential disruptions to the supply chain. However, rapidly evolving global pandemics make it difficult to forecast, with the potential of a negative impact on health outcomes, quality of life, and a nation's economy. South Africa detected its first case of COVID-19 on March 5, 2020. By the end of June 2022, a total of 3,993,843 (up by 7.4 percent from 3,718,953) confirmed cases of COVID-19 had been recorded in South Africa, with a recovery rate of 97.2 percent.

OBJECTIVES

The global COVID-19 pandemic has the ongoing potential to cause challenges in the availability of medicines used to fight HIV/AIDS, TB, and other diseases as countries such as China periodically go into lockdown, interrupting global API supply chains. Over and above medicines, it is critical to limit the spread of the disease and protect both patients and health care workers. A key response to the COVID-19 pandemic is the global roll-out of effective vaccines. In South Africa, GHSC-TA provides

comprehensive technical assistance to the NDoH, the provinces, the private sector and other stakeholders in vaccine distribution coordination and integrating COVID-19 vaccines into routine vaccination services.

APPROACH AND KEY ACTIVITIES

GHSC-TA assists the NDoH in mitigating the impact of COVID-19 in South Africa on the medicine and related medical products supply chain and assisting in responding to the demand for medicines, PPE, and vaccines to manage the disease.

Support for the MAC on COVID-19. GHSC-TA continued to provide secretariat support to the MAC on COVID-19, a non-statutory advisory committee appointed by the Minister of Health to provide high-level strategic advice to the Minister and the Director-General of Health on the management of the COVID-19 outbreak in South Africa. During the quarter under review, the program worked with AMD to provide continued support to the MAC on COVID-19 in convening meetings of the MAC on COVID-19 and its technical working groups, assisting with the development of ministerial advisories, responding to stakeholder queries, communicating decisions to the Incident Management Team of the NDoH and tracking the implementation of advisories. In addition, GHSC-TA also assisted with developing a MAC on COVID-19 close-out report to outline the committee's progress since its inception in March 2020.

COVID-19 Response Team. Responding to the pandemic, AMD assembled a national and provincial COVID-19 response team. During this period, GHSC-TA continued to support AMD in scheduled meetings held every two weeks (the AMD preparatory meeting and the provincial stakeholders meeting), reviewing the demand and supply of COVID-19 medicines and the roll-out of COVID-19 vaccines.

GHSC-TA continued to support AMD with the COVID-19 medicine forecast. This quarter, the demand planning team updated demand forecasts using medicine usage and enriched the forecast as required.

GHSC-TA continued to support the NDoH and PDoH with the daily refreshing of the COVID-19 dashboards. The COVID-19 dashboards provide medicine availability and reporting compliance information using product categorization determined by the COVID-19 response team. The program assisted with query resolution and the monitoring of NSC reporting compliance and medicine availability, which was presented to provincial and national stakeholders.

PERSONAL PROTECTIVE EQUIPMENT

GHSC-TA continued to provide ongoing dedicated support to overcome PPE supply, distribution, and payment challenges, acting as a link between the NDoH, National Treasury, contracted PPE suppliers and provinces to reduce supply challenges and improve PPE availability.

During this reporting period, GHSC-TA continued to support the monitoring of the availability of PPE at health establishments. GHSC-TA continued to support AMD by compiling a monthly presentation for provinces and the NDoH, providing an overview of PPE availability, highlighting gaps in supply, and providing information on actions to mitigate items out of stock at the provincial depot and health establishment levels for review and action by the NDoH Project Management Office.

ROLL OUT OF COVID-19 VACCINES

During the quarter, comprehensive support was provided to the NDoH in coordinating the COVID-19 vaccine program in both the public and the private sectors.

Supply and distribution. GHSC-TA continued to improve vaccine supply, distribution, and accounting processes for the public and private sectors. Tools and refined SOPs have been implemented to streamline and make the process effective and efficient, including:

- **Vaccine distributor performance management.** GHSC-TA chaired monthly KPI sessions with each vaccine distributor, all reporting on a standard set of KPIs using templates developed by GHSC-TA. The purpose of the KPI review sessions is to monitor the distributors' performance on the contract and assist in developing improvement plans where necessary.
- **Purchase Order Control.** GHSC-TA supported the NDoH by collating, vetting, processing, and allocating 8,993 orders (equivalent to 40,064,480 vaccine doses) for public and private sector vaccination sites since the inception of the program. Equivalent to 67.5 percent of doses received). 36,843 million doses had been administered, equal to 91.9 percent of doses distributed. Vaccine utilization is running at just over 95 percent.

Table 4: Supply and distribution statistics

Month	April	May	June	Total
Number of inbound vaccine shipments coordinated	0	0	0	0
Volume of inbound vaccine shipments coordinated (doses)	0	0	0	0
Number of orders vetted and processed	285	413	266	964
Volume of vaccine orders processes (doses)	895,410	1,306,230	734,030	2,935,670

- **NHPVS.** New enhancements were implemented for NHPVS, the application that collates sector-wide purchase order requisitions from sector-wide delivery sites and collates orders for submission to distributors, and work began on Version V that would facilitate better communication of vaccine orders to the three vaccine distributors
- **Dashboards.** NSC Vaccine Dashboards continue to be updated to enable the GHSC-TA supply, allocation, and distribution team to have greater insight into the supply pipeline and the demand and supply capacity to sub-district levels across public and private vaccination sites.
- **Inbound vaccine supply.** There have been no new vaccine shipments for the period under review. GHSC-TA has been working with AMD to find a solution to manage the outstanding balance of vaccine orders from manufacturers.

- **Coordination of Donation of Cold Chain Equipment.** GHSC-TA coordinated the Vodacom Foundation donation of cold chain equipment by providing administration functions that entailed; the collation of provincial site information relating to the distribution and installation of equipment. GHSC-TA coordinated hand-over ribbon cutting ceremonies for Vodacom and provincial delegations. GHSC-TA worked with UNICEF to coordinate vaccine Cold Chain storage equipment donations by providing administration functions that entailed; liaising with UNICEF directly to organize a selection of cold chain commodities to formulate a catalog of items for provinces from which to select. GHSC-TA coordinated the process of registering these assets onto the provincial asset registers.
- **Auditor General.** GHSC-TA assisted AMD by responding to audits for
 - RFI325 –all inbound vaccine shipments
 - RFI429 - HPI7 payments to the vaccine distributors
 - RFI439 – administration of contract management for Pfizer and Janssen
- **Reporting.** The review of reporting compliance of COVID-19 vaccination sites to the NSC was initiated in May 2021. GHSC-TA continued supporting the review of vaccine availability at vaccination sites. A review of COVID-19 vaccine availability was undertaken in April, May and June 2022 and submitted to AMD. These reviews are updated weekly for stakeholder review.
- **Vaccine redistribution.** COVID-19 vaccines have a diminishing shelf life as they move through the various cold chain temperature ranges. GHSC-TA continued to assist public and private sector sites with the redistribution of vaccines to mitigate the risk of wastage. To date, 126 instances have been submitted for Finance for credit and reinvoice to approve
- **Vaccine ancillary items.** GHSC-TA continued to support in resolving logistical and payment challenges relating to supplying and distributing the ancillary items required to administer the vaccines. The program functioned as a problem solver between the contracted suppliers and provinces.
- **COVID-19 Vaccine Toolkit.** In ongoing support of the COVID-19 vaccination program, as new data, information, and lessons learned become available, GHSC-TA continued supporting NDoH in developing, reviewing and updating the COVID-19 vaccination guide and toolkit. This includes SOPs and job aids that support good practice and governance in the handling and managing of COVID-19 vaccines at sites as well as the SVS COVID-19 reporting Principles. GHSC-TA participated in the training sessions to provide public and private sectors updates based on the updated COVID-19 vaccination guide and toolkit.
- **COVID-19 Vaccine Circulars, Standard Operating Procedures and Documents.** GHSC-TA has provided technical assistance in drafting, contributing to, and reviewing multiple documents related to the COVID-19 vaccine program.
- **Multisectoral Engagements.** GHSC-TA continued to play an integral role in multisectoral engagements pertaining to vaccine distribution, site readiness, and coordination with other government departments and institutions.

SVS COVID-19

GHSC-TA provided extensive support to the NDoH with the use of SVS COVID-19 to monitor vaccines, ancillary items, and diluents at vaccination sites in both the public and the private sector, allowing for rapid access to data. GHSC-TA has played a key role in improving the availability of quality data through variance checks and targeted SVS COVID-19 engagements with site staff and

management in the public and private sectors. SVS COVID-19 SOPs, training materials and job aids have been augmented this quarter. Additionally, GHSC-TA continued to collaborate closely with the service provider and advised on system issues that enabled timely rectification and proposed system enhancements, including optimizing the visibility of historic data for sites which have been deactivated on SVS COVID-19.

On the ground SVS support. GHSC-TA continued to provide ongoing support to ensure that new vaccination sites storing vaccines overnight were uploaded on SVS COVID-19 and provided ongoing support to sites with technical challenges. To improve data quality and reporting compliance, the PST continued with targeted sessions, including two large distributors, during which discrepancies on SVS COVID-19 data and overall reporting compliance were flagged.

Other province specific support included:

- Supporting the consolidation of the Vaccine Stats Report with data from SVS, EVDS and depot data which monitors vaccine usage
- Flagging of sites with frequent data variances in the public sector
- Providing and/or analyzing of the Stock Lost Reasons report
- Assist with obtaining Section 22A(15) permits and reviewing the statuses of vaccination sites

Additionally, GHSC-TA presented the advantages, disadvantages, and impact of the proposed reporting options approved by NDoH for reporting on COVID-19 vaccines and ancillary items in the future to various provinces in the public sector and consolidated feedback to streamline reporting and integration into routine health care services.

LESSONS LEARNED

Slow adoption of policies and SOPs upon development and approval - Policy principles and SOPs are developed but not implemented even after approval by counterparts. GHSC-TA intervened by attending governance structure meetings and continued to nudge that processes be aligned to agreed principles and processes. This approach enables counterparts to develop and agree on implementation plans for proposed interventions. It is critical to continuously follow up with the counterpart after governance documents are approved to ensure implementation. Moreover, there is also a need to agree on an implementation plan to facilitate the uptake of the approved governance documents.

Low usage of the NSC due to reliance on alternative reports - There was low usage of the NSC in the North West. GHSC-TA investigated the causes of the problem. We learned that the low usage was due to an alternative comprehensive report that the PDoH created weekly using the NSC data and shared with the province. In many cases, NSC license holders did not use the NSC frequently due to the provision of these comprehensive reports. They found the reports useful, concise, and accessible enough to avoid using the NSC. In turn, the team learned that the low usage of the NSC should not be interpreted as inefficient use of its data, as its data is still being used efficiently. Moreover, we can develop additional measurements of NSC usage rather than only logins. It will be key to learn how PDoHs access the data and how that data is shared outside of the NSC.

Documenting lessons learned during the COVID-19 pandemic by the MAC will be key to ensuring future pandemic preparedness. Currently, there is no documentation on the work by MAC on COVID-19 to ensure future pandemic preparedness. GHSC-TA is supporting the development of a close-out report, which will provide an overview of the governance of the committee, advisories developed, and lessons learned since the committee's inception in March 2020. The close-out report is expected to contribute to and improve pandemic preparedness. Documenting lessons learned from the MAC's work on COVID-19 was key to implementing COVID-19 advisories and future pandemic preparedness.

Addressing the TEE overstock by provinces through updating SOPs. Provinces are overstocked on TEE. GHSC-TA supported several interventions to address TEE overstock. These included notifications issued to PDoHs and the TEE suppliers about the potential TEE stock risk over time; weekly national overstock presentations are done in session with PDoH and during the National TLD meeting with DG calling out Stock Risk on TEE. Despite various communications, some provinces continued to order high volumes of TEE. If affected provinces do not take immediate action to manage their stock levels, potential stock write-offs will occur. The lesson learned was that the applicable SOPs should be updated to include TEE overstock management at both the provincial and national levels. It is believed that this will assist in provinces taking ownership and responsibility for their actions.

Trusted advisor status is earned over time in partnerships – GHSC-TA has earned a trusted advisory role in the provinces. For example, during this quarter, the MEC in Gauteng recognized the collaborative effort between the NDoH, the province and GHSC-TA during the budget vote speech about the interventions to improve access to medicine availability. This experience taught the team that consistent, quality work from a well-functioning team will yield good relations with partners over time. It is key to understand that trust within professional relationships cannot be achieved overnight, so it is important to provide quality and consistent technical assistance from day one.

Collaboration with all stakeholders is the key to success. While this statement is obvious, it has never been more apparent than during the COVID-19 response and the support provided for the COVID-19 vaccine programme. The latter has provided the opportunity for GHSC-TA to work and collaborate with stakeholders within the NDoH, PDoH, implementing partners, the private sector, other government departments and organizations, that otherwise would never have happened. This has provided the opportunity to understand how critical this level of interaction is to achieve desired outcomes. Furthermore, this opportunity has strengthened relationships which will greatly assist in implementing program related activities.

FINANCIAL STATUS OF THE TASK ORDER

ANNEX I. PROGRESS SUMMARY

Table 8: Key Performance Indicator Progress Summary

INDICATOR	REPORTING YEAR	BASELINE VALUE	YEAR 6 PROPOSED TARGET	YEAR 6, Q3 ACHIEVEMENT	% YEAR 6 ACHIEVEMENT
<i>PROJECT PURPOSE – STRENGTHEN THE CAPACITY OF THE AFFORDABLE MEDICINE DIRECTORATE AND PROVINCIAL PHARMACEUTICAL SERVICES ACROSS THE MEDICINES SUPPLY VALUE CHAIN TO RESULT IN IMPROVED MEDICINE AVAILABILITY</i>					
KPI 1: Percentage availability of medicines at health establishments	FY22	78%	90%	86%	96%
Objective 1 – Improve selection and use of medicine					
KPI 2: Number of medicine selection decisions made utilizing health technology assessments	FY22	0	2	0 (Activities on hold)	0%
KPI 3: Percentage of assisted Pharmaceutical and Therapeutics Committees with improved operational capacity.	FY22	N/A	25%	Data not yet collected	N/A
Objective 2- Support optimization of the supply chain					
KPI 4: Percentage of antiretroviral units delivered by suppliers within contractual lead-time (supplier performance reliability – on time).	FY22	79%	90%	80%	89%
KPI 5: Percentage of Master Health Produce List items on transversal contracts excluding antiretroviral units delivered by suppliers within contractual lead-time (supplier performance reliability – on time).	FY22	75%	85%	75%	88%
KPI 6: Supplier performance reliability – Perfect order fulfilment for orders placed on suppliers (in-full).	FY22	73%	80%	70%	88%
KPI 7: Percentage of master health product list items on transversal contracts delivered via direct delivery to the hospitals designed by the provinces to receive direct delivery.	FY22	N/A	70%	No longer in scope	N/A

INDICATOR	REPORTING YEAR	BASELINE VALUE	YEAR 6 PROPOSED TARGET	YEAR 6, Q3 ACHIEVEMENT	% YEAR 6 ACHIEVEMENT
KPI 8: Min/Max level reporting – Number of health establishments and warehouses with configured minimum and maximum (min-max) stock levels for stocked medicines being reported to the National Surveillance Centre.	FY22	0	1,500	1,745	116%
KPI 9: Demand forecast accuracy for provinces using the demand forecasting process.	FY22	NA	55%	50%	91%
KPI 10: Forecast bias for pharmaceutical forecasts in provinces using the demand forecasting process.	FY22	TBD	<+/-15%	10%	67%
KPI 11: Percentage of eligible patients transitioned from Tenofovir/Emtricitabine/Efavirenz to Tenofovir/Lamivudine/Dolutegravir.	FY22	0%	100%	78%	78%
Objective 3 – Strengthen governance					
No KPIs scheduled to be reported quarterly.					
Objective 4 – Improve workforce management					
No KPIs scheduled to be reported quarterly.					
Objective 5 – Strengthen Information Systems and Information Management					
KPI 12: Percentage of users utilizing the National Surveillance Centre to review medicine availability trends and reports.	FY22	NA	80%	66%	83%
KPI 13: Number of health establishments and warehouses utilizing the Medicine Master Data Systems as a source of master data.	FY22	0	3,200	3,072	96%
KPI 14: Number of health establishments using core supply chain information systems to order and/or receive stock.	FY22	0	2,600	753	29%

INDICATOR	REPORTING YEAR	BASELINE VALUE	YEAR 6 PROPOSED TARGET	YEAR 6, Q3 ACHIEVEMENT	% YEAR 6 ACHIEVEMENT
KPI 15: Reporting compliance – Number of Health Establishments Reporting Stock Availability to the National Surveillance Centre.	FY22	NA	3,765	3,857	102%
Objective 6 – Improve Financial Management					
KPI 16: Number of provinces who review their budget vs. actual as defined in the new budgeting process to support the ring-fenced budget.	FY22	0	4	1	25%
KPI 17: Percentage of expenditures on non-Essential Medicine List items.	FY22	1.60%	<10%	4.5%	100%

ANNEX 2. SUCCESS STORIES



Rapid Access to Data about the Availability of COVID-19 Vaccines in Public and Private Sector Vaccination Sites

Stock photo

The emergence of COVID-19 and its spread across the world caused fear and panic in many countries. For South Africans, this struck home when the first COVID-19 case was confirmed on March 5, 2020, and a pandemic was declared only six days later. The country experienced its first death from COVID-19 on March 27, 2020, and by mid-January 2021—the peak of the second wave—daily deaths had risen to 500. The development of COVID-19 vaccines was integral to combatting serious illness and mortalities. South Africa launched its national vaccination program on February 17, 2021, with a three-phased approach starting with the most vulnerable. There was an urgent need for a tool to monitor COVID-19 vaccine availability at public and private vaccination sites across the country.

The United States Agency for International Development (USAID)-funded Global Health Supply Chain Program – Technical Assistance (GHSC-TA) provides technical assistance to the National Department of Health (NDoH) and the Provincial Departments of Health (PDoHs), and works in collaboration with regulatory bodies, and other stakeholders to monitor medicine availability and improve health outcomes. GHSC-TA's role expanded

during the COVID-19 pandemic to include support related to the planning, rollout, and monitoring of the COVID-19 vaccination program. GHSC-TA, in collaboration with NDoH and the Stock Visibility System (SVS) service provider contracted by NDoH, developed SVS COVID-19, a modified version of the NDoH's SVS¹.

SVS COVID-19 is a mobile/desktop application and web-based management tool used by health establishments and distributors to capture stock level data and expiry dates for COVID-19 vaccines and related ancillary items. SVS COVID-19 was deployed to enable rapid remote access to the planning data needed to monitor the availability of COVID-19 vaccines and support informed decision-making and planning. Using the data provided by SVS COVID-19, planners can help to make sure that vaccines are available for potential vaccine recipients at their chosen vaccination site. Data from SVS COVID-19 are consolidated in a National Surveillance Center (NSC) database and visualized on the NSC's vaccine dashboard for enhanced visibility at all vaccination sites where vaccines are stored in both the private and public sectors. Views on the COVID-19 vaccine dashboard such as the *Stock-on-*

¹ SVS is a mobile application and web-based management tool that provides innovative solutions for addressing stock outs in the health care system. SVS is

used by health care providers at primary health care facilities to capture stock levels and monitor medicine availability.



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hand Report and Stock Expiry Analysis Report allow for daily review with the latest data submitted by site staff aiding proactive planning. Cumulative views like the Total Issues Report and Total Stock Lost Report allow for retrospective and periodic data reviews.

More than 2000 facilities have uploaded data to the SVS COVID-19 and vaccine dashboard. This includes both public and private vaccination sites across the country's nine provinces.

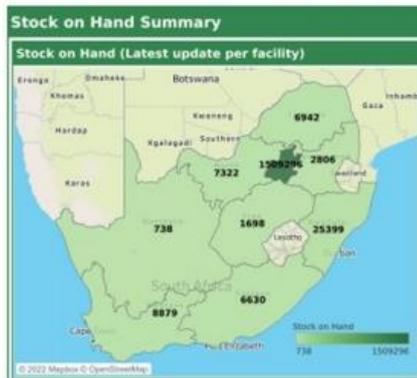


Figure 1: Stock-on-Hand Summary

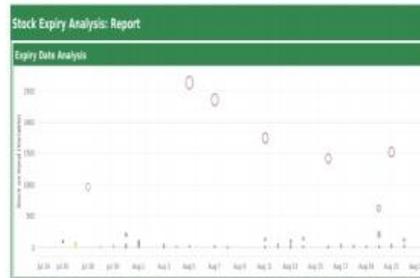


Figure 2: Stock Expiry Analysis (Report Cropped)

GHSC-TA provides extensive support to provinces, private sector groups and sites on the utilization of SVS COVID-19, including onboarding, trainings, provision of training materials, and technical support to address troubleshooting. GHSC-TA has played a key role in improving the availability of quality data through variance checks and targeted SVS COVID-19 engagements with site staff and management. Through this support GHSC-TA has optimized SVS COVID-19 data sharing, ensuring the optimized and equitable distribution of COVID-19 vaccines.

“The vaccine dashboard is a valuable tool, making my daily work easier. Our district’s low wastage percentage is attributed to data obtained from SVS COVID-19 that is visualized on the vaccine dashboard, which then allows human intervention. Without these tools, vaccine wastage could become higher.”

- District pharmacist in the public sector



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Sharing the Results of Working Together to Improve Medicine Availability in KwaZulu-Natal

Stock photo

Background

Essential medicines form a critical component of public health programs by satisfying the priority health care needs of the population. Essential medicines can reduce mortality, and morbidity and improve the health of patients. One of the responsibilities of the National Department of Health (NDoH) is to ensure access to, and availability of medicines. The NDoH and the provinces use the National Surveillance Center (NSC), a robust monitoring and evaluation tool that provides visibility of medicine stock levels across the supply chain and allows policymakers to make evidence-based decisions.

To ensure the constant availability of medicines, provinces strive to meet the NDoH medicine availability (MA) and reporting compliance (RC) target of 90 percent.

¹ SVS is a mobile application and web-based management tool that provides innovative solutions

The United States Agency for International Development (USAID)-funded Global Health Supply Chain Program – Technical Assistance (GHSC-TA) and provincial Pharmaceutical Services in KwaZulu-Natal are working together to improve medicine availability and decrease the incidence of medicine stockouts thereby contributing to improved patient outcomes. The results of this collaboration were co-presented by the Head of Pharmaceutical Services of the province and GHSC-TA at the 2022 Annual Conference of the South African Association of Hospital and Institutional Pharmacists (SAAHIP).

Approach Used

During March 2020 and December 2021, 698 and 702 health establishments (primary health care (PHC) clinics, community health centers and hospitals) were reporting MA data to the NSC, respectively. Pharmacists, pharmacist's assistants, and medicine room nurses reported on a weekly basis with the majority of PHC clinics use Stock Visibility System I (SVS) for

for addressing stock outs in the health care system. SVS is used by health care providers at primary health



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reporting while hospitals and other clinics use RxSolution².

MA and RC data were systematically monitored and evaluated for KZN facilities by the GHSC-TA Provincial Support Team (PST) working in collaboration with district pharmacy managers (DPMs). The GHSC-TA team critically reviews MA and RC data and follows up with facilities with low MA and RC while the DPMs engage and support facilities with sustainable quality improvement initiatives.

Results

During April 2020, the average MA was reported at 85.9 percent, with one of eleven districts reporting MA greater than 90 percent. Facilities with low MA were identified, and recommendations were made to clean formularies³, follow up on stock-outs and implementation of stock monitoring standard operating procedures (SOPs). The KwaZulu-Natal PST assisted with reviewing and editing 74 medicine supply management SOPs for hospitals/CHCS and 34 SOPs for PHC clinics during October to December 2020. An increase in MA was recorded from May 2020 through February 2021 due to robust monitoring, evaluation, and quality improvement.

During February 2021, 10 out of eleven districts reported MA greater than 90 percent. DPMs also reported using the NSC to monitor stock levels across the districts and redistribute stock to facilities with low stock levels. However, decreases in MA were seen from July to October 2021 due to unrest in KwaZulu-Natal and a third wave of COVID-19 causing supplier constraints.

care facilities to capture stock levels and monitor medicine availability.

² RxSolution is a pharmacy management information system that manages receipts, issues, batches, and expiry dates.

From April 2020 to December 2021, RC of greater than 90 percent was maintained for 20 of 22 months of the review period. A peak in RC at 96.2 percent was observed during September 2020. The lowest RC rates were seen in July 2021 due to the civil unrest in KwaZulu-Natal with some staff unable to go to work. Staff limitations, SVS synchronization issues, and connectivity were amongst the non-reporting reasons for facilities.

Lessons Learned and Recommendations

While the NSC provides visibility of medicine availability and reporting compliance rates, empowering human resources is critical. This is accomplished by encouraging teamwork, engagement, and communication. Staff members should receive regular training and be mentored and supervised through efficient medicine supply management, monitoring, reporting, following up on stock outs/low stock levels items, and ensuring correct use of RxSolution and SVS. The next step is to review the formularies of health establishments, optimize minimum and maximum stock levels and monitor adherence to medicine supply management SOPs. It is anticipated that these steps will lead to further improvements in medicine availability as stock levels are better aligned to meet the needs of patients.

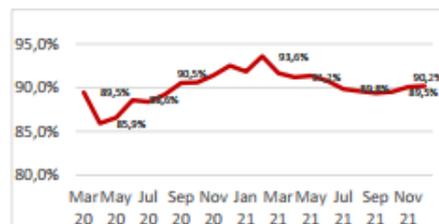


Figure 1: Overall Medicine Availability at KwaZulu-Natal Facilities: March 2020-Dec 2021

³ Formulary: A continually updated list of medicines and related information, used in the diagnosis, prophylaxis, or treatment of disease and promotion of health, to satisfy the needs of the majority of the population served by a particular health establishment/s.



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Fezile Dabi embraces Advised Pull Approach

To improve replenishment of medicines in the Free State

Images: Stock photos

Background

The United States Agency for International Development (USAID)-funded Global Health Supply Chain program – Technical Assistance (GHSC-TA) seeks to apply leading industry practices to strengthen the public health supply chain and fundamentally improve medicine availability.

The legacy ‘pull’ approach to replenishment planning for primary health care establishments is an arduous, often paper-based process for projecting supply and replenishment needs to meet future demand. The burden falls on health establishment personnel and takes away time that could be spent treating patients. This is a challenge, particularly in nurse-driven health establishments where there are often no dedicated resources for managing the supply and use of medicines — a misalignment of time, resources, and costs that can adversely impact patient health outcomes.

A new approach to replenishment planning is being rolled out in the Free State - a land-locked province in the center of South Africa with a rural population. The Provincial Department of Health strives to create a value-driven organization that effectively encourages operational efficiency and accountability in delivering desired outcomes. The province uses a team approach based on solid inter-cluster and intersectoral collaboration.

Using this same collaborative approach, the GHSC-TA team is working closely with the province bringing together different expertise to implement a sound replenishment planning solution.

Approach Used

The end-to-end solution helps ensure that medicine formularies are accurately managed, minimum-maximum (min-max) stock levels are optimized, and continuous monitoring tools are available. The final step is the implementation of advised pull using the eOrdering module of the Stock Visibility System (SVS) developed by Mezzanine (the service provider appointed by the National Department of Health (NDoH)) at primary health care (PHC) clinics.

The first step is the review and updating of the medicine formulary of each health establishment. A formulary is a continually updated list of medicines and related information that satisfies the needs of the majority of the population served by a particular health establishment. Each formulary is customized to align with the health care services provided at that health establishment and the master data as per the Medicine Master Data System (MMDS). Each formulary is loaded onto SVS. The system allows the application of standardized minimum-maximum (min-max) calculations and shifts the burden and complexity of determining reorder parameters from individuals to an electronically enabled ordering approach that uses data analytics and enabling technology.

The advised pull methodology supports health establishments in proactively managing the supply of medicines and associated spending. It was designed so that the recommended order quantities for each order cycle are automated using the electronic devices but still approved by the accountable staff resulting in a requisition



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order originating from the health establishment. It must be noted that in South Africa, the ordering of medicine is governed by the Public Finance Management Act 1 of 1999, which provides that orders must be approved, as well as the rules relating to good pharmacy practice enforceable in terms of the Pharmacy Act 53 of 1974 which state that pharmacists are responsible for the management of medicine orders.

A Proof of Concept (POC) for the advised pull replenishment methodology was first completed at five pre-selected health establishments in the Fezile Dabi District. The objectives of the POC were to illustrate further the advised pull as a robust replenishment methodology; demonstrate that the burden and complexity of determining reorder parameters can be shifted from individuals to an electronically enabled ordering approach using data analytics and enabling technology; and finally identify critical enablers, relating to policy, process, people, and technology, for the successful implementation.

Results and lessons learned

All 35 clinics previously only using SVS to report medicine availability in Fezile Dabi district have successfully implemented the advised pull replenishment planning approach from May 2022, moving from a manual and labor-intensive ordering process to an electronically enabled approach.

The pharmacist's assistants, roving pharmacists, and district pharmacists have all experienced some positive impacts on their functions as a result of the implementation of advised pull in the district. The pharmacist's assistants have found the process more efficient and time-saving than legacy processes and feel more involved in decision-making. Roving pharmacists can quickly identify stock level discrepancies and make informed re-distribution decisions, as well as effective management of the formulary continuously. The district pharmacist has a

holistic overview of stock availability across the district.

There is more collaborative working, increased overall efficiency and time saving for the ordering process, and improved visibility of the entire district for the team to support medicine availability.

Using electronic devices to place orders mobilized through the eOrdering module has enabled PHC personnel to be actively involved and give valuable inputs when orders are submitted. It has improved efficiencies in the finalization of orders, while pharmacists can consider inputs made by the PHC personnel and thereafter spend time scrutinizing all items on the order placed by each facility. This mobilizes more effective medicine stock control to minimize wastage without compromising quality pharmaceutical service delivery to patients. The time spent by the district pharmacist in processing orders has decreased significantly, as orders can already be thoroughly scrutinized by pharmacists and interventions have already taken place on sub-district level.

The reception of the advised pull approach in Fezile Dabi has been positive, and the remaining four districts – Xhariep, Thabo Mofutsanyane, Lejweleputswa, and Mangaung are also preparing to adopt advised pull and take full advantage of the innovation with GHSC-TA's technical support.



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