



GLOBAL HEALTH SUPPLY CHAIN PROGRAM – TECHNICAL ASSISTANCE SOUTH AFRICA

Year 5 Quarter 2, Quarterly Report

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CONTENTS

I. EXECUTIVE SUMMARY	1
INTRODUCTION	1
PURPOSE OF THIS DOCUMENT	1
YEAR 5 QUARTER 2 ACTIVITIES AND ACHIEVEMENTS	1
<i>OBJECTIVE 1: IMPROVE SELECTION AND USE OF MEDICINES</i>	<i>1</i>
<i>OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN</i>	<i>2</i>
<i>OBJECTIVE 3: STRENGTHEN GOVERNANCE</i>	<i>2</i>
<i>OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT</i>	<i>2</i>
<i>OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT</i>	<i>3</i>
2. INTRODUCTION.....	4
PROGRAM OBJECTIVES	4
YEAR 5 QUARTER 2 OVERVIEW	6
YEAR 5 QUARTER 2 ACHIEVEMENTS	7
PROGRESS TOWARDS GOAL – INCREASED MEDICINE AVAILABILITY.....	8
3. IMPROVE SELECTION AND USE OF MEDICINES	10
ACTIVITIES AND ACHIEVEMENTS	11
<i>STRENGTHEN MEDICINE SELECTION AND USE.....</i>	<i>11</i>
OUTCOME LEVEL RESULTS.....	11
<i>KPI 2. NUMBER OF MEDICINE SELECTION DECISIONS MADE UTILIZING HEALTH TECHNOLOGY ASSESSMENT PROCESSES.....</i>	<i>12</i>
<i>KPI 3. PERCENTAGE OF ASSISTED PHARMACEUTICAL AND THERAPEUTICS COMMITTEES WITH IMPROVED OPERATIONAL CAPACITY</i>	<i>12</i>
4. SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN	13
ACTIVITIES AND ACHIEVEMENTS	13
<i>DEMAND PLANNING.....</i>	<i>13</i>
<i>FINANCIAL MANAGEMENT.....</i>	<i>14</i>
<i>TLD TRANSITION</i>	<i>15</i>
OUTCOME LEVEL RESULTS.....	17
<i>KPI 4. PERCENTAGE OF ANTI-RETROVIRAL UNITS DELIVERED BY SUPPLIERS WITHIN CONTRACTUAL LEAD-TIME (SUPPLIER PERFORMANCE RELIABILITY – ON TIME).....</i>	<i>17</i>
<i>KPI 5. PERCENTAGE OF MASTER HEALTH PRODUCT LIST ITEMS ON TRANSVERSAL CONTRACTS (EXCLUDING ANTI-RETROVIRAL) UNITS DELIVERED BY SUPPLIERS WITHIN CONTRACTUAL LEAD-TIME (SUPPLIER PERFORMANCE RELIABILITY – ON TIME).....</i>	<i>18</i>
<i>KPI 6. SUPPLIER PERFORMANCE RELIABILITY – PERFECT ORDER FULFILMENT FOR ORDERS PLACED ON SUPPLIERS (ON-TIME AND IN-FULL).....</i>	<i>20</i>
<i>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.....</i>	<i>20</i>
<i>KPI 9. DEMAND FORECAST ACCURACY FOR PROVINCES USING THE DEMAND FORECASTING PROCESS</i>	<i>20</i>
<i>KPI 10. FORECAST BIAS FOR PHARMACEUTICAL FORECASTS IN PROVINCES.....</i>	<i>22</i>
<i>KPI 11. PERCENTAGE OF ELIGIBLE PATIENTS TRANSITIONED FROM TEE TO TLD</i>	<i>23</i>

KPI 16. NUMBER OF PROVINCES WHO REVIEW THEIR BUDGET VS. ACTUAL AS DEFINED IN THE NEW BUDGETING PROCESS TO SUPPORT THE RING-FENCED BUDGET.....	24
KPI 17. PERCENTAGE OF EXPENDITURES ON NON-ESSENTIAL MEDICINE LIST ITEMS	24
5. STRENGTHEN GOVERNANCE.....	26
ACTIVITIES AND ACHIEVEMENTS	26
GOVERNANCE AND LEGISLATION	26
CONTRACTING AND CONTRACT MANAGEMENT	27
OUTCOME LEVEL RESULTS.....	28
6. IMPROVE WORKFORCE MANAGEMENT	29
ACTIVITIES AND ACHIEVEMENTS	29
OUTCOME LEVEL RESULTS.....	30
7. STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT	31
ACTIVITIES AND ACHIEVEMENTS	31
MASTER MEDICINE DATA SYSTEM.....	31
NATIONAL SURVEILLANCE CENTER.....	32
OUTCOME LEVEL RESULTS.....	34
KPI 12. PERCENTAGE OF USERS UTILIZING THE NSC TO REVIEW MEDICINE AVAILABILITY TRENDS AND REPORTS ...	34
KPI 13. NUMBER OF HEALTH ESTABLISHMENTS AND WAREHOUSES UTILIZING MEDICINE MASTER DATA SYSTEM AS A SOURCE OF MASTER DATA	36
KPI 14. NUMBER OF HEALTH ESTABLISHMENTS USING CORE SUPPLY CHAIN INFORMATION SYSTEMS TO ORDER AND/OR RECEIVE STOCK.....	36
KPI 15. REPORTING COMPLIANCE – PERCENTAGE OF HEALTH ESTABLISHMENTS REPORTING STOCK AVAILABILITY TO THE NSC.....	37
8. PROVINCIAL SUPPORT AND REPLENISHMENT PLANNING	39
ACTIVITIES AND ACHIEVEMENTS	39
INSTITUTIONALIZATION OF THE NSC.....	39
TLD TRANSITION	40
RATIONAL MEDICINE USE AND DISPENSING PRACTICES	40
DEMAND PLANNING.....	40
REPLENISHMENT PLANNING	40
OUTCOME LEVEL RESULTS.....	42
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	42
9. SUPPORTING THE GOVERNMENT OF SOUTH AFRICA IN THE RESPONSE TO COVID-19	44
OBJECTIVES.....	45
APPROACH AND KEY ACTIVITIES	45
PERSONAL PROTECTIVE EQUIPMENT.....	46
ROLL OUT OF COVID-19 VACCINES	46

OUTCOME LEVEL RESULTS.....	47
LESSONS LEARNED.....	50
10. FINANCIAL STATUS OF THE TASK ORDER.....	51

LIST OF TABLES

Table 1. Activities and Descriptions.....	5
Table 2. Key Year 5 Quarter 2 Achievements.....	7
Table 3. Obligation vs. Accruals & Expenditures To Date.....	51
Table 4. Total Expenditures to Date.....	52
Table 5. Budget vs. Actual LOE.....	52
Table 6. Key Performance Indicator Progress Summary.....	53

LIST OF FIGURES

Figure 1. Overall Percentage Medicine Availability in Year 5.....	9
Figure 2. Percentage of Anti-retroviral Units Delivered by Suppliers within Contractual Lead-time (Supplier Performance Reliability - On Time) in Year 5.....	17
Figure 3. Disaggregation by Province in Q2.....	18
Figure 4. 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) in Year 5.....	19
Figure 5. Disaggregation by Province in Q2.....	19
Figure 6. Supplier Performance Reliability--Perfect Order Fulfilment for Orders Placed on Suppliers (On-Time and In-Full).....	20
Figure 7. Overall Demand Forecast Accuracy in Year 5.....	21
Figure 8. Disaggregation by Provinces.....	22
Figure 9. Forecast Bias for Pharmaceutical Forecasts in Provinces.....	23
Figure 10. Percentage of Eligible Patients Transitioned from TEE to TLD.....	23
Figure 11. Number of Provinces who Review their Budget vs. Actual as Defined in the New Budgeting Process to Support the Ring-Fenced Budget.....	24
Figure 12. EML vs Non-EML Spend on Medicine List Items.....	25
Figure 13. Percentage of Users Utilizing the National Surveillance Centre to Review Medicine Availability Trends and Reports.....	35
Figure 14. Percentage of Users Utilizing the National Surveillance Centre to Review Medicine Availability Trends and Reports.....	36
Figure 15. Number of Facilities Using Core Supply Chain Information Systems to Order and/or Receive Stock.....	37
Figure 16. Disaggregation by Province and Stock Management System in Q2.....	37
Figure 17. Number of Health Establishments Reporting Stock Availability to the National Surveillance Centre.....	38
Figure 18. 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.....	42
Figure 19. Number of Health Establishments and Warehouses with Configured Minimum and Maximum (Min-Max) Stock Levels: Disaggregation by Province.....	43

Figure 20. Screenshot of Stockouts and Availability by Province as of March 31, 2021	48
Figure 21. Total Cumulative Number of Sites Reporting PPE.....	49
Figure 22. Obligation by Period.....	51

ACRONYMS

AIDS	Acquired Immune Deficiency Syndrome
AMD	Affordable Medicines Directorate
API	Application Programming Interface
ARC	Africa Resource Centre
ARV	Antiretroviral
ART	Antiretroviral Therapy
BEC	Bid Evaluation Committee
BSC	Bid Specification Committee
CCMDD	Centralised Chronic Medicine Dispensing and Distribution
CFO	Chief Financial Officer
CHAI	Clinton Health Access Initiative
CMU	Contract Management Unit
CSD	Central Supplier Database
DTG	Dolutegravir
EDP	Essential Drugs Program
EML	Essential Medicines List
FY	Financial Year
GHSC-TA	Global Health Supply Chain Program – Technical Assistance
GoSA	Government of South Africa
HIV	Human Immunodeficiency Virus
HTA	Health Technology Assessment
HOPS	Head of Pharmaceutical Services
HR	Human Resources
ICDF	In-Contract Demand Forecast
IMAT	Improved Medicine Availability Team
IT	Information Technology
KPI	Key Performance Indicator
M&E	Monitoring and Evaluation
MHPL	Master Health Product List
MMD	Multi-Month Dispensing
MMDS	Medicine Master Data System
NDoH	National Department of Health
NEMLC	National Essential Medicines List Committee
NHC-SC-PS	National Health Council – Sub-committee – Pharmaceutical Services
NHC-TAC	National Health Council – Technical Advisory Committee
NHI	National Health Insurance
NSC	National Surveillance Center
PHC	Primary Health Care
POC	Proof of Concept
PPE	Personal Protective Equipment
PrEP	Pre-exposure Prophylaxis

PST	Provincial Support Team
PTC	Pharmaceutical and Therapeutics Committee
SAHPRA	South Africa Health Products Regulatory Authority
SCOA	Standard Chart of Accounts
SIMA	Strategy to Improve Medicine Availability
SITA	State Information Technology Agency
SLA	Service Level Agreement
SOP	Standard Operating Procedure
STG	Standard Treatment Guideline
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
UAT	User Acceptance Testing
WMS	Warehouse Management System

I. EXECUTIVE SUMMARY

INTRODUCTION

South Africa remains at the center of the global AIDS epidemic and has one of the highest burdens of tuberculosis (TB) in the world. 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 the achievement of 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 directorates of the provincial departments of health (PDoHs). The overall aim of the program is to assist the government in 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, provides results for each of the six objectives against key performance indicators (KPIs).

YEAR 5 QUARTER 2 ACTIVITIES AND ACHIEVEMENTS

Year 5 Quarter 2 (Q2) activities continued to focus 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) to strengthen the medicine supply chain in response to the spread of Covid-19. Program activities are segmented into nine main projects, representing capacity-building interventions across multiple functional areas. These activities align with the six program objectives. A high-level overview of activities and accomplishments for each objective follows.

OBJECTIVE 1: IMPROVE SELECTION AND USE OF MEDICINES

During the period under review, 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 medicines selection structures including the National Essential Medicines List Committee (NEMLC) and its subcommittees, developing capabilities to conduct Health Technology Assessments (HTAs), and strengthening rational medicine use. Specific achievements included submissions to extend the term of office of the NEMLC and Tertiary and Quaternary Expert Review Committee (ERC); the governance and convening of NEMLC and its ERCs, the antiretroviral (ARV) tender (HPI3) meeting and Ministerial Advisory Committee on Antimicrobial Resistance; communication of decisions made through the NEMLC Bulletin; assistance with processing of Third-Line Antiretroviral Treatment (TLART) applications; and development of a pharmacovigilance plan for the donation of dexamethasone for the treatment of Covid-19.

OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

During the second quarter, GHSC-TA supported the Contract Management Unit (CMU) with the in-contract demand forecast (ICDF) to support supplier engagement meetings, including providing the CMU with a terms of reference (TOR) document aimed at standardizing supplier engagement meetings, as well as templates for the presentation used, minutes, and attendance registers. The GHSC-TA team also compiled the ARV and oncology tender forecasts based on the provincial forecast. These forecasts were submitted to the Contracting Unit for use in the bid specification process. A breakthrough for demand planning was the appointment of the national demand planners who took up their positions in January 2021. The GHSC-TA team supported the development of comprehensive induction training material to orientate the new incumbents in demand forecasting. By the end of Q2 the new demand planners were supporting the forecasts for KwaZulu-Natal and North West. The GHSC-TA team provided ongoing support to update the Covid-19 forecasts. These efforts resulted in the publication of an adjusted forecast that included the publication of a scenario model for a potential third wave.

The zero based budget generated by the national and provincial departments of health uses the demand planning methodology, with the demand plan being cashed up to generate a budget forecast. The monitoring and reporting of the medicine budget spend benchmarks expenditure against both the allocated budget and the generated budget forecast.

In line with the reorganisation and alignment of projects to better support the provinces, the Budgeting and Financial Management stream has been collapsed into the Demand Planning and Financial Management stream due to the close linkages between the two areas of work. In line with the results framework, a list of achievements has been provided under Objective 6.

OBJECTIVE 3: STRENGTHEN GOVERNANCE

During this period, GHSC-TA continued to support AMD and the provinces to strengthen governance. The team supported AMD with facilitating a discussion with provinces to obtain input on the Improved Medicine Availability Team (IMAT) Exploded TOR. The 'hotlist' – a list of products with availability constraints - and the supply planning tool were merged to provide better visibility on challenges relating to the supply of medicines on national contracts. GHSC-TA supported the AMD to develop a supplier performance quarterly report template to increase transparency on supplier management and hold suppliers accountable to the Special Requirements and Conditions of Contract (SRCC). GHSC-TA continued to support AMD and provincial pharmaceutical services with the response to the Covid-19 pandemic. The support included managing meeting proceedings and tracking activities and risks.

OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT

During quarter 2, GHSC-TA started transitioning its workforce management support interventions in North West. The program completed this task, including final handover to the management of Mmabatho Medical Stores, the Administrator, and the Acting Chief Director: Tertiary and Clinical Services. As mentioned above, GHSC-TA also supported the successful appointment of two demand planners at NDoH who have been trained on demand planning processes and tools.

OBJECTIVE 5: STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

GHSC-TA provided technical assistance for further development of the Medicine Master Data System (MMDS). Substantial contracting data and user management improvements were completed and are now live. Implementation of the MMDS continued in the Free State with the roll out nearing completion in Fezile Dabi district. GHSC-TA had previously facilitated the movement of the main National Surveillance Center (NSC) server environment to an improved hosting environment. This work continued by relocating several staging data servers that support the NSC and RxSolution automated reporting system to an upgraded hosting platform. In Q2, GHSC-TA also continued to support enhancement of the Stock Visibility System (SVS) (phase 2.0) aimed at adding ordering and receiving functionality. Following successful completion of user acceptance testing (UAT), activities this quarter focussed on preparing for the proof of concept (POC) and expanded deployment phases, including supporting the development of training and marketing materials.

OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT

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

The GHSC-TA program presented pharmaceutical budgets for FY 2021-2022 to the Chief Financial Officers (CFO) forum. Following the announcement of a budget cut by National Treasury, GHSC-TA prepared adjusted budgets and shared them with the provinces. The program prepared further presentations and submissions for the National Health Council Sub-Committee for Pharmaceutical Services (NHC-SC-PS) and the National Health Council Technical Advisory Committee (NHC-TAC) detailing the quantum of the adjusted budgets and the potential impact on medicine availability. An audience with the NHC-TAC is still to be arranged. The program also held several meetings with Provincial Depot Finance Teams to align reporting processes and data requirements for the budget dashboard reporting. Efforts are underway to migrate the dashboard from an Excel-based tool to the NSC with the Northern Cape as a pilot province - engagements are ongoing. During the quarter under review, the GHSC-TA revived the Budget Task Team to drive the ring-fenced medicine budget agenda - a crucial step towards effective management of spending against the medicine budget.

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 disease 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 the achievement of universal health coverage.

The availability of medicine has a direct impact on improving 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 PDoHs to increase medicine availability countrywide. By improving health supply chain visibility, the program also supports public health establishments' efforts to anticipate patients' needs more accurately and position enough stocks of medicines where and when they are needed.

GHSC-TA provides technical assistance directly to the AMD of the NDoH, as well as to the pharmaceutical services directorates of the provinces. The program's overall aim is to assist the government in improving access to, and availability of, the medicines and related commodities needed to prevent and treat HIV/AIDS, TB, and associated conditions and disorders.

The GHSC-TA implementing team is led by Guidehouse LLP and includes PwC South Africa, Resolve Solution Partners, 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

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>.

GHSC-TA activities in support of the six objectives outlined above are segmented into nine main activities, representing capacity-building interventions across multiple functional areas, as shown in Table I.

Table I. Activities and Descriptions

Activity	Description
1. Medicine Master Data	Assist AMD in designing (in collaboration with the contracted service provider responsible for development) and implementing the MMDS. This system incorporates the Master Health Product List (MHPL), location hierarchy, and formulary management tool.
2. National Surveillance Center	Support the operationalization and optimization of the NSC at a national and provincial level to improve visibility of the performance of the supply chain and strengthen analytics to inform decision making.
3. Supply Chain Systems (including SVS)	Design, implement, transition, and promote the provincial, district, and health establishment utilization of supply chain systems and applications. Provide technical assistance with the design and implementation of enhancements to the SVS.
4. Demand and Budgeting	Develop and implement appropriate processes, tools and human resources capabilities at the national and provincial levels to implement demand planning. Strengthen both national and provincial structures and processes for budgeting and financial reporting for medicines.
5. Strengthening Medicine Selection and Use	Develop and implement policies, guidelines, tools, and approaches to support evidence-based selection and rational use of medicine.
6. Governance and Legislation	Provide technical assistance to support the institutionalization of good governance with the implementation or strengthening of relevant structures within the AMD and PDoHs - (supported by the necessary TORs - as well as the development and/or review of legislation, policies, guidelines, processes, and procedures. Provide technical assistance to AMD relating to contracting with suppliers to supply medicines and post-award associated contract management.
7. Tenofovir / lamivudine / dolutegravir (TLD) Transition	Provide supply chain-related support for the transition of eligible first-line patients living with HIV from tenofovir / emtricitabine / efavirenz (TEE) to tenofovir / lamivudine / dolutegravir (TLD).
8. Replenishment Planning	Driving activities aimed at leveraging medicine supply management best practices to ensure that essential medicines

Activity	Description
	are available at health establishments through the standardization of medicine master data, strengthening of formulary management processes, the use of minimum/maximum (min-max) stock levels and the introduction of an informed push (advised pull) approach to replenishment planning.
9. Provincial Support	Support supply chain optimization at the provincial level through implementing and institutionalizing supply chain reforms.

The technical assistance provided by GHSC-TA assists the AMD in implementing the Strategy for Improved Medicine Availability (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 the promotion of rational medicine use. These functions are supported by five enabling functions: governance, workforce management, information systems and management, financial management, and education and research. Interventions are aimed at strengthening 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, as well as the NDoH SIMA and the NDoH annual performance plans.

YEAR 5 QUARTER 2 OVERVIEW

GHSC-TA activities in Q2 of Year 5 were primarily focused on strengthening the health supply chain from both a national and a provincial perspective. GHSC-TA also continued to support the GoSA in managing the outbreak of Covid-19 with respect to the medicines, personal protective equipment (PPE) needed by staff and patients and the roll out of the Covid-19 vaccine. Please refer to the section *Supporting the Response to Covid-19*, which details GHSC-TA technical assistance and capacity-strengthening activities in managing the outbreak in South Africa.

The response to Covid-19 has required intensification of the supply chain activities of GHSC-TA. It has allowed the program, AMD, and the provinces to test the robustness of processes and tools developed previously. Lessons learned from the pandemic have provided opportunities to further strengthen processes and, in particular, enhance 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. Overall, the Covid-19 pandemic has provided an opportunity to showcase the program's successes while providing valuable inputs to enrich processes and strengthen the medicine supply chain as a whole. The roll-out of the Covid-19 vaccine has created an opportunity for the GHSC-TA team to work closely with NDoH and the provinces in the planning of the national roll-out in both the public and the private sector.

In Q2 of Year 5, GHSC-TA revised the structure of existing work streams to ensure alignment with COP 20 work plan activities. This process led to the establishment of the replenishment planning work stream, the consolidation of the demand planning and financial workstreams. as well as the consolidation of the work relating to contracting, contract management and governance.

YEAR 5 QUARTER 2 ACHIEVEMENTS

Table 2 provides a high-level overview of Year 5 Quarter 2 projects and their key achievements.

Table 2. Key Year 5 Quarter 2 Achievements

OBJECTIVE 1: IMPROVE SELECTION AND USE OF MEDICINES

1. Assisted with convening of NEMLC and its ERCs, as well as the Ministerial Advisory Committee (MAC) on Antimicrobial Resistance
2. Developed submissions for the extension of NEMLC and the Tertiary and Quaternary Expert Review Committee
3. Developed a pharmacovigilance plan for the donation of dexamethasone for management of Covid-19
4. Provided secretariat support to the MAC on Covid-19

OBJECTIVE 2: SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

5. Supported the CMU with the In-Contract Demand Forecast, a supplier engagement TOR document and tools to support and standardize the process
6. Submitted the forecasted volumes for ARV and oncology contracts in line with the provincial projections as part of the demand review process
7. Completed min-max stock level parameter reviews in Mpumalanga and Free State. Initiated the upload of the approved min-max parameters onto the SVS platform in two sub-districts in Fezile Dabi district in the Free State
8. In the North West, phase I of the informed push (advised pull) replenishment planning was completed and plans to expand to phase I deployment in Free State were ratified

OBJECTIVE 3: STRENGTHEN GOVERNANCE

9. Developed a scoping document for supply planning guideline
10. Merged the supply planning tool and 'hotlist'
11. Developed the quarterly supplier performance report template
12. Developed SOPs for management of supplier non-compliance

OBJECTIVE 4: IMPROVE WORKFORCE MANAGEMENT

13. Final handover on all Mmabatho Medical Stores workforce items to the executive team
14. Supported the NDoH in the recruitment of national demand planners who took up their posts in January 2021

OBJECTIVE 5: STRENGTHEN INFORMATION TECHNOLOGY SYSTEMS AND INFORMATION MANAGEMENT

15. Provided technical assistance to support further development of the online MHPL with major enhancements to user management and contract data history tested and deployed to live

16. Continued to provide TA to roll out the MMDS formulary module in Fezile Dabi district in the Free State with formularies of all clinics now on the system and validation and final approval substantially complete

17. Improved NSC performance by completing its migration to the new server as well as completing the movement of staging database servers from Afrihost to the Microsoft Azure hosting platform

18. Supported the Covid-19 response by providing weekly update reports to AMD and the provinces about reporting compliance and medicine availability

19. Observed an increase in sites reporting PPE items to the NSC from 3386 in December 2020 to 3435 in March 2021

20. Developed and published the medicine availability weekly trend dashboard view

21. Provided TA towards the development of the SVS Phase 2.0 functionality following the successful implementation of the UAT. This includes supporting the development of training and marketing materials to be used in POC and expanded deployment phases

OBJECTIVE 6: IMPROVE FINANCIAL MANAGEMENT

22. Developed training material for the process of maintaining and updating the financial dashboard

23. Provided in depth training on the process to maintain and update the financial dashboard to representatives from AMD and four provinces

24. Designed and developed a health establishment level medicine budget monitoring tool for Gauteng

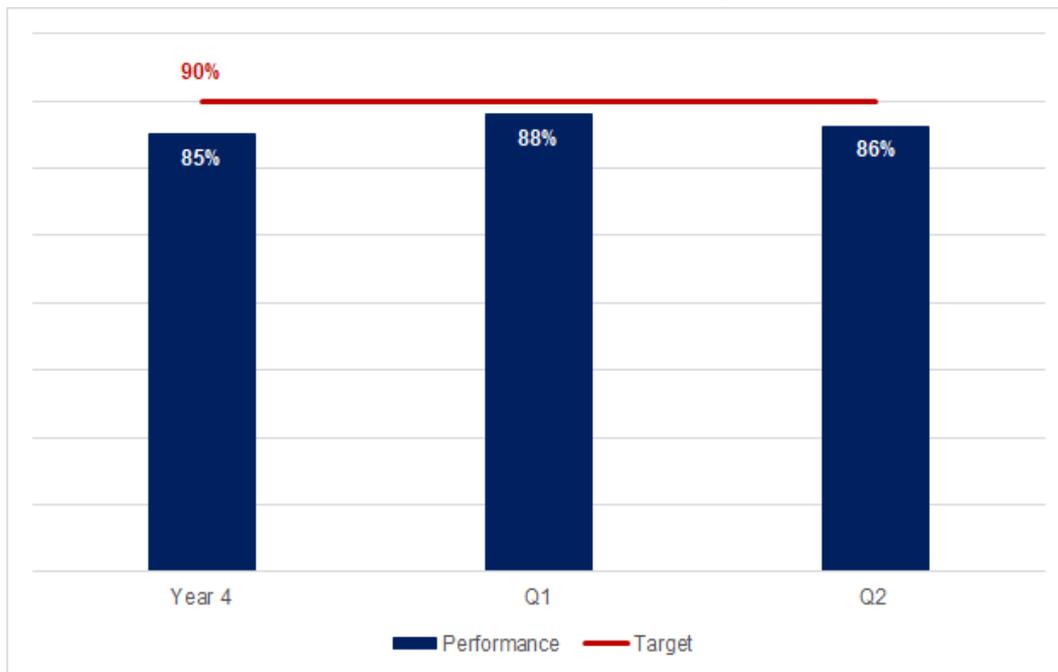
25. Budget task team was re-established to drive the ring fenced medicine budget agenda

PROGRESS TOWARDS GOAL – INCREASED MEDICINE AVAILABILITY

This indicator measures the availability of medicine in all health establishments (primary health care clinics, community health centers, hospitals, dispensing service providers of the Centralised Chronic Medicine Dispensing and Distribution program (CCMDD) and private sector health establishments providing health care services on behalf of the public sector). During the quarter under review, overall performance against this indicator decreased to 86 percent, remaining under the target of 90 percent, shown in Figure 1. Approximately 20 percent of medicines remain impacted by supplier-related constraints according to the Department's IMAT reports, with contraceptives and psychiatric agents continuing to be two of the most impacted groups. This observation helps to explain the ongoing

fluctuation in the percentage medicine availability between 85 and 89 percent for the past six months across all the tiers of the supply chain.

Figure 1. Overall Percentage Medicine Availability in Year 5



Other contributing factors impacting medicine availability include the reduced staff capacity within depots due to Covid-19 leading to increased lead times, delayed or non-payment of suppliers in some provinces, and the lack of customized formularies, particularly at warehouses and hospitals. GHSC-TA continues to provide support aimed at addressing formulary customization issues. The success of these efforts will depend on the availability of resources within provinces to address the system limitations and updates required.



Photo Credit: Laura James

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 be able to match the medicine available to meet patients' needs. Many South Africans who require care and treatment for HIV/AIDS, TB, and other diseases look to public health establishments to provide the medicines they need. Through the relevant governance bodies, the AMD is responsible for supporting the selection and use of medicines for patients nationally and making sure these medicines are accessible and available when and where they are required.

ACTIVITIES AND ACHIEVEMENTS

STRENGTHEN MEDICINE SELECTION AND USE

GHSC-TA is working with the AMD to strengthen medicine selection and rational medicine use to provide an accountable mechanism to support decision making related to the funding, cost, and use of medicines and health technologies in South Africa. During Year 5 Quarter 2, GHSC-TA continued assisting the NDoH to strengthen the selection and use of medicines to support the attainment of universal health coverage.

Health Technology Assessments. The Essential Medicines List (EML) and Standard Treatment Guidelines (STGs) are developed and maintained by the ministerially-appointed NEMLC, supported by the EDP. This process requires the performance of medicine reviews and costing analyses to support decisions about which medicines will be included in the EML. GHSC-TA conducted quality checks on the content of the EML Clinical Guide application to ensure data integrity on the re-platformed application. The program also developed a notice for dissemination of the new Primary Health Care STGs and EML to assist with implementation of decisions made by the NEMLC by stakeholders. Additionally, GHSC-TA provided a review of the HTA Methods Guide (Reviewers Manual), including alignment of terminology and concepts with the National PTC Guideline and National Formulary Guideline. Finally, the program provided assistance with convening a discussion about the governance of the NEMLC HTA Committee to review comments on the HTA Methods Guide.

Support to NEMLC and the Expert Review Committees. GHSC-TA drafted a submission and letters for the Minister of Health to request an extension of the terms of office for the NEMLC and Tertiary and Quaternary ERC until 30 June 2021. The program also drafted a submission and letters for the Minister of Health to request Provincial Members of the Executive Council to nominate an official to the NEMLC. The purpose of these efforts was to ensure continuity in activities related to the selection of medicines onto the EML, including those used for Covid-19. Recruitment of the new committees is ongoing. GHSC-TA provided support with governance of the Paediatric ERC and Tertiary and Quaternary ERC meetings. GHSC-TA also provided support with the governance of the NEMLC meeting and drafting the NEMLC bulletin to communicate key decisions.

Rational Medicine Use Support. The practice of rational medicine use ensures that patients receive medicines appropriate to their clinical needs, in doses that meet their requirements, for an adequate period, and at the lowest cost to them and their communities. During the period under review, GHSC-TA developed a draft pharmacovigilance plan for a donation of dexamethasone for the treatment of patients with Covid-19. The program also provided assistance with convening and supporting governance of the HPI3 tender meetings, as well as the MAC on Antimicrobial Resistance. GHSC-TA also provided technical support on TLART application processing to enable the rational use of these medicines.

OUTCOME LEVEL RESULTS

The program's theory of change hypothesizes that by supporting AMD efforts to perform HTAs and leverage their outputs, the GoSA will demonstrate improvements in the selection and use of medicines. In efforts to test these assumptions, GHSC-TA monitors two KPIs. This section provides an overview of the progress and results observed against these KPIs through the end of Year 5 Quarter 2.

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 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 strengthening activities on hold, pending finalization of legislation needed to implement National Health Insurance (NHI). During the second quarter of Year 5, GHSC-TA supported AMD with activities in preparation for implementation of NHI including providing input on the HTA Methods Guide under development.

KPI 3. PERCENTAGE OF ASSISTED PHARMACEUTICAL AND THERAPEUTICS COMMITTEES 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

It must be noted that this is an endline KPI, as a number of interventions must be completed before the final measurement is done. Activities that contribute to this KPI were deprioritized by the NDoH as a result of the Covid-19 pandemic. The program has, however, commenced providing assistance on the development and management of formularies in the Northern Cape, Free State, and KwaZulu-Natal.



4. SUPPORT OPTIMIZATION OF THE SUPPLY CHAIN

The current supply chain processes within the NDoH form a foundation for ensuring 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 ensuring predictability. This optimization will generate savings, ensure more effective execution of key processes, and ultimately ensure that medicine availability increases. GHSC-TA has been assisting the NDoH in optimizing the predictability of the supply chain through several initiatives, including the establishment of medicine master data, management of formularies, creation of accurate demand forecasts, and ensuring end-to-end visibility to support effective management. Governance processes have also been put in place to make sure that the approaches become a way of life.

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 being established through a centralized

demand planning team based at NDoH. As part of the process, GHSC-TA also collaborates with PDoHs to enrich the demand forecast and enable the best demand plans possible.

Tender Forecasting. During the quarter under review, GHSC-TA continued to support NDoH to utilize the provincial demand forecasts to calculate future projections for the next tender cycle. GHSC-TA supported the submission of the ARV forecasted volumes, as well as the oncology volumes for the upcoming bid specification meetings which form part of the tender cycle.

In-contract Demand Planning. GHSC-TA is supporting the CMU with the establishment of in-contract demand planning, where actual and forecasted volumes are compared to the originally contracted volumes. Over the last three months, the GHSC-TA team helped CMU to establish standard documentation for supplier engagement sessions including a presentation, standard agenda, minutes template, attendance register, and a TOR document. The in-contract demand forecast model has also been updated and published monthly to provide the CMU team with the relevant information for discussions with suppliers. The program completed additional training with the new demand planners at NDoH, who will be responsible for updating the ICDF in the future.

Design of Centralized Demand Planning Unit. GHSC-TA assisted with designing a centralized demand planning unit at the national level. This support resulted in the appointment of two demand planners who started in January 2021. GHSC-TA compiled a detailed induction plan and was responsible for the upskilling and training of the new demand planners. The program provided detailed training regarding the demand planning process and tools. The three-month initial induction included training on Excel skills, data cleansing, ForecastPro modelling, reporting, and KPI calculation and Demand Review. The new demand planners also worked on provincial forecast generation for KwaZulu-Natal and North West, alongside the GHSC-TA demand planners. Next, the new demand planners will start taking accountability for the demand forecasts, and should take full responsibility by the end of the coming quarter. GHSC-TA provided further support for the recruitment of the demand planning manager and three additional demand planners.

Provincial Demand Planning. During the period under review, GHSC-TA continued to support provinces in establishing a demand planning process. To date, the program has established this process in Eastern Cape, North West, KwaZulu-Natal, and Gauteng and has initiated the process in Western Cape. The GHSC-TA demand planning team works together with the provincial counterparts and relevant program teams to review the forecast and prepare for the provincial demand review meetings. Additionally, during Q2 the GHSC-TA program worked with NDoH to extract the relevant input data from the MEDSAS WMS in Gauteng and Eastern Cape. A new script has been developed for Infomaker which extracts the required demand planning data in a standard format. The provinces now have the ability to extract the data directly from MEDSAS and supply it to the Demand Planning team. GHSC-TA is working on further standardization of data for other provinces.

FINANCIAL MANAGEMENT

Budget Planning. Post the submission of the pharmaceutical budgets for all nine provinces for the financial year 2021-2022, and as part of the feedback from the CFO Forum, GHSC-TA assisted provinces to adjust their budgets in line with budgetary cuts announced by National Treasury. The program presented revised budgets to the provinces and prepared the required presentation and submission for the NHC-SC-PS and the National Health Council Technical Advisory Committee (NHC-TAC) indicating the impact the budget cuts would have on the medicine budget.

Budget Reporting and Monitoring. To institutionalize the use of the dashboard for monitoring the medicine budget spent and standardize the review process, several meetings were held with Provincial Depot Finance Teams to align reporting processes and data requirements for the Dashboard. The process is still ongoing with four provinces- Free State, Limpopo, Mpumalanga and the Western Cape provinces have shared their reports and supporting data with the GHSC-TA team. The next step is to review the submitted data to identify gaps, and formalize the data submission process. The program is also working to migrate the dashboard from an Excel-based tool to the NSC. For this, the Northern Cape is being used as a pilot province. Engagements are ongoing.

Budget Task Team. Working with AMD, GHSC-TA recommenced the budget task team session with provincial Heads of Pharmaceutical Services and their supporting teams, mainly Depot and Finance Managers. This forum presented an opportunity for the team to discuss a variety of topics, including revisiting the issue of ring fencing the medicine budget, a crucial step towards effective management of spending against the medicine budget. As part of the resolutions from the session, a Task Team made up of teams from KwaZulu-Natal, Gauteng, and the Northern Cape was established to look at standardization of the Standard Chart of Accounts (SCOA) codes across provinces and the mapping of these codes to the budget forecast generated by the Demand Planning Team. Effectively these forecasts are generated at a product level, mapping these to SCOA codes aligns the forecasts to the reporting mechanism required by the National Treasury. The GHSC-TA team provided support in driving discussions and securing commitment from stakeholders.

TLD TRANSITION

Over the past 17 months, GHSC-TA, in collaboration with Africa Resource Centre (ARC), worked closely with the Provincial Departments of Health, the HIV Program, and other implementing partners to support the transition to TLD in South Africa. By the end of Year 5, Q1, the provinces had transitioned 60 percent of the total remaining on antiretroviral therapy (TROA), as seen through the implied dispensing numbers. The TLD project team used the implied dispensing data in the absence of TIER.Net data (patient data).

Temporary Suspension. In September 2020, the TLD Project team received the first TIER.Net report, with the data indicating that the number of patients on TLD was significantly lower than the number based on implied dispensing data. GHSC-TA is assisting the Health Informatics Directorate to clean the TIER.Net data. This exercise will be completed by the end of April 2021.

In October 2020, a decision was taken by NDoH and the provinces to temporarily suspend the TLD transition, due to global and local stock related issues. Only new patients would be initiated on TLD with existing patients remaining on their current regimen. As a result of this challenge there was no significant growth in the percentage of patients transitioned from TEE to TLD. The TLD Project team advised the provinces in January 2021 that stock availability had stabilized and that the transition could proceed. Provinces were, however, awaiting official communication from the NDOH before restarting the transition. The program also saw a substantial drop in TROA and a 20 percent growth on the second line cohort. GHSC-TA and the HIV Program is assisting the provinces with catch-up plans including the tracing of the patients to return them to treatment.

TLD Dashboard. GHSC-TA developed a TLD dashboard in 2019 to track medicine availability of items related to the transition at national, provincial, district, and health establishment levels. In 2020, the team received permission from the HIV Program to include the TROA data in the TLD dashboard, allowing users to calculate weeks of stock cover per item. Provincial stakeholders were able to track their performance against other provinces, and the tool also acted as an early warning system to

prevent possible stock-outs of key items related to the transition. Information from the TLD dashboard was used on a weekly basis by the TLD project team to do national stock allocations on TLD and TEE. The TLD dashboard not only tracked the transition but enabled visibility of the availability of TB medicines and contraceptives, which are crucial in ART treatment regimes in South Africa. The dashboard enabled stakeholders to manage stock levels down to district / facility level and support the movement of stock between facilities to prevent stock outs.

Demand Model. Through the demand model, the provincial forecasts are updated monthly and used to 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. During this quarter, GHSC-TA continued to review and update the provincial demand forecasts taking into account the current TROA on TEE and TLD and multi-month dispensing (MMD) of the 90-day pack. The updated provincial forecast will determine the balance of eligible patients to be switched to TLD as well as the phasing over the next nine months. This input is used by ARC to develop the supply plan which is shared with suppliers to secure the volumes required for the duration of the transition. GHSC-TA, in collaboration with ARC, worked closely with suppliers and provinces to avoid stock-outs of TEE and TLD.

Ongoing Collaboration. During the quarter under review, GHSC-TA continued to hold weekly sales and operations meetings 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. There are continued engagements with the CMU team to discuss supply challenges on selected contraceptives, TB medicines, and pre-exposure prophylaxis (PrEP). GHSC-TA assisted the HIV Program and support partners to secure PrEP for the national roll-out.

Preparing for National Scale Up. The TLD project team is in the process of preparing for the national scale up to transition all second line patients, adolescents, and children to dolutegravir-containing regimens. The program developed a demand forecast to assist the provinces with the switching of eligible second line patients. GHSC-TA also updated the TLD training module to include training on the second line and supported development of a new algorithm to assist clinicians when switching patients from the lopinavir/ritonavir combination to DTG because of the stock shortages experienced from June 2020. These shortages were mainly attributable to the NDoH exceeding its forecast by 450 percent and the supplier failing to keep up with the demand. A letter of recommendation was sent to WHO with the updated training material and algorithm for approval. Phase 2 of the roll out will be completed by December 2021, subject to WHO approval.

Additional Interventions. In addition, GHSC-TA provided technical assistance in the following areas:

- Development of a quick reference guide with an updated algorithm including the switching of second-line patients to DTG containing regimens.
- On-going support to provincial TLD steering committee meetings with support shared between ARC and GHSC-TA.
- Ongoing support to the HIV Program at national and provincial levels with feedback provided in the weekly Phuthuma meetings.
- Preparations with planning and implementation of multi-month dispensing on a national basis.

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 test this hypothesis, GHSC-TA monitors nine key performance indicators. This section provides an overview of the progress and results observed against these KPIs through the end of Year 5 Quarter 2.

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

This indicator measures supplier adherence to fulfilling orders of antiretroviral units from demanders within the contractually agreed time as compared to the total number of antiretroviral units delivered by suppliers.

At the end of Quarter 2, 58 percent of ARVs were delivered by suppliers within the contractual lead time of 14 days. The performance demonstrated an increase from the 45 percent reported at the end of Q1, but remained below the target of 90 percent, as shown in Figure 2. A few suppliers of ARVs had supply constraints due to API shortages and the impact of Covid-19 in countries such as India. There were also some suppliers that were not delivering to certain provinces (e.g. Limpopo and North West) due to non-payment and provincial accounts placed on hold. In order to address these challenges, GHSC-TA supported AMD to define the principles for managing non-compliance by suppliers and management of non-payment issues by provinces. Figure 3 provides a disaggregation by province.

Figure 2. Percentage of Anti-retroviral Units Delivered by Suppliers within Contractual Lead-time (Supplier Performance Reliability - On Time) in Year 5

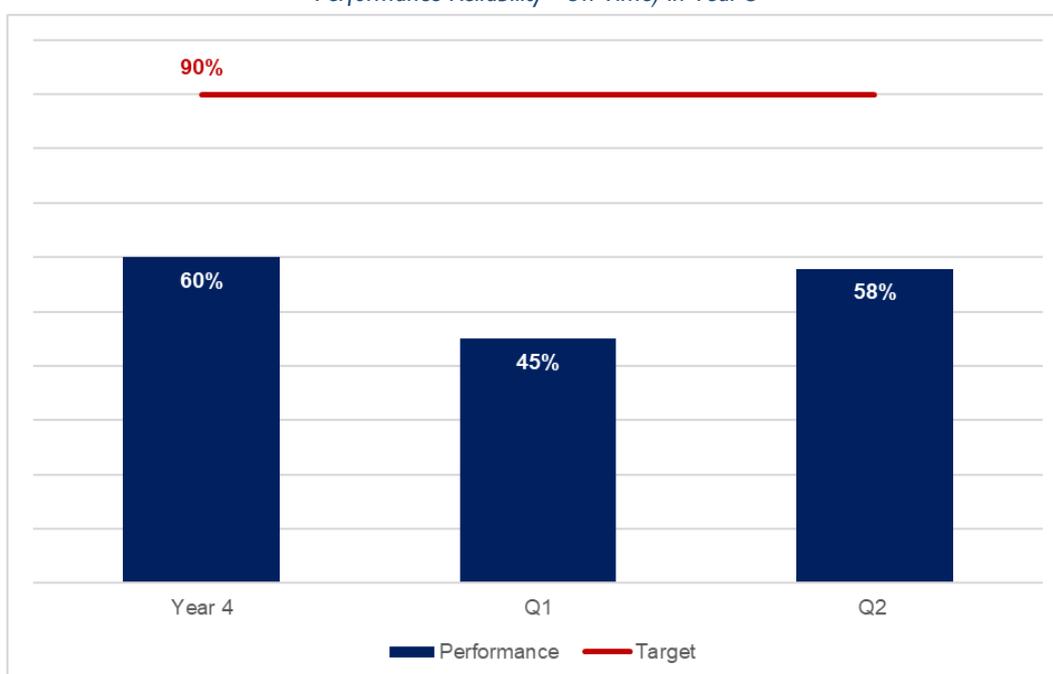
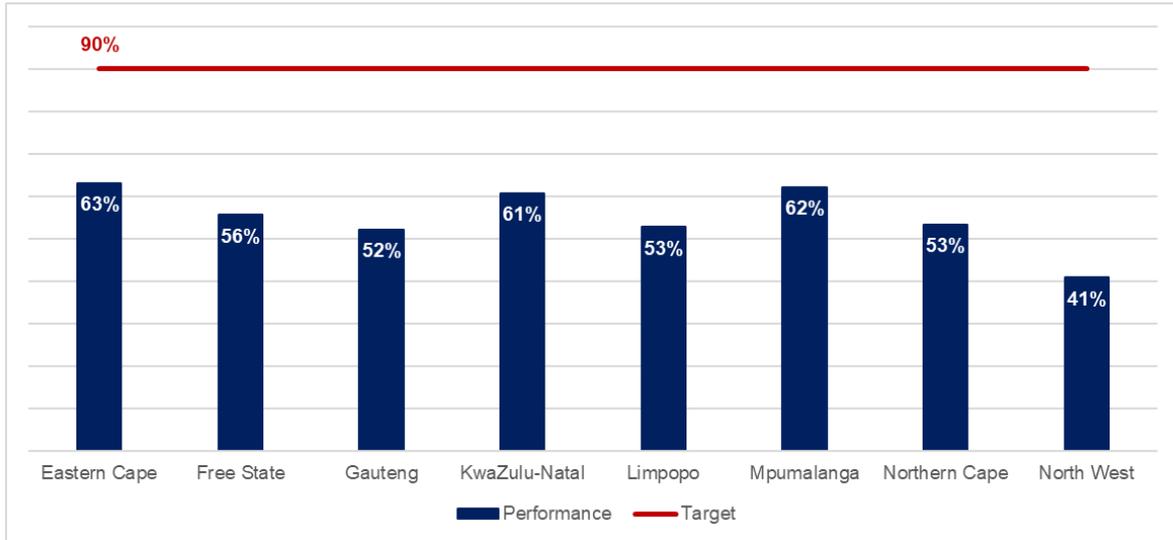


Figure 3. Supplier Performance Reliability - On Time - Disaggregation by Province in Q2



KPI 5. PERCENTAGE OF MASTER HEALTH PRODUCT LIST ITEMS ON TRANSVERSAL CONTRACTS (EXCLUDING ANTI-RETROVIRAL) 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 antiretroviral units, from demanders within the contractually agreed time as compared to the total number of items, excluding antiretroviral items, delivered by suppliers.

At the end of the reporting period, the delivery of items on transversal contracts (excluding ARVs) by suppliers within contractual lead-time was reported at 68 percent (Figure 4), an increase from the 53 percent reported at the end of Quarter 1. Performance remained below the established target of 85 percent, as shown in 4. The primary challenge continued to be supply constraints although some improvement was seen in this quarter. To address this challenge, GHSC-TA supported AMD to define the principles for managing non-compliance by suppliers and management of non-payment issues by provinces. Figure 5 presents the disaggregation by province.

Figure 4. 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) in Year 5

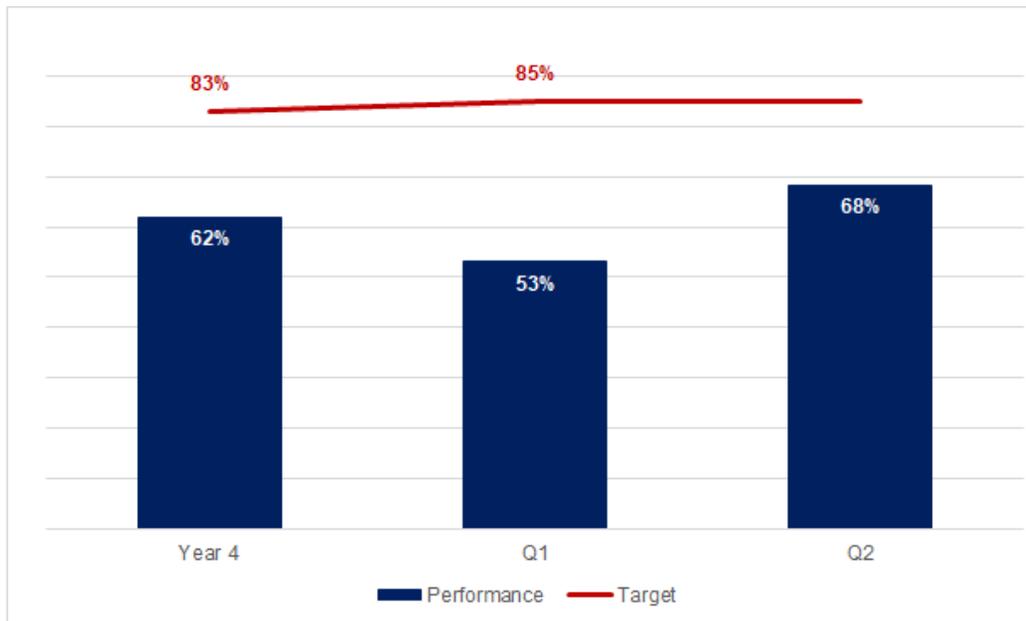
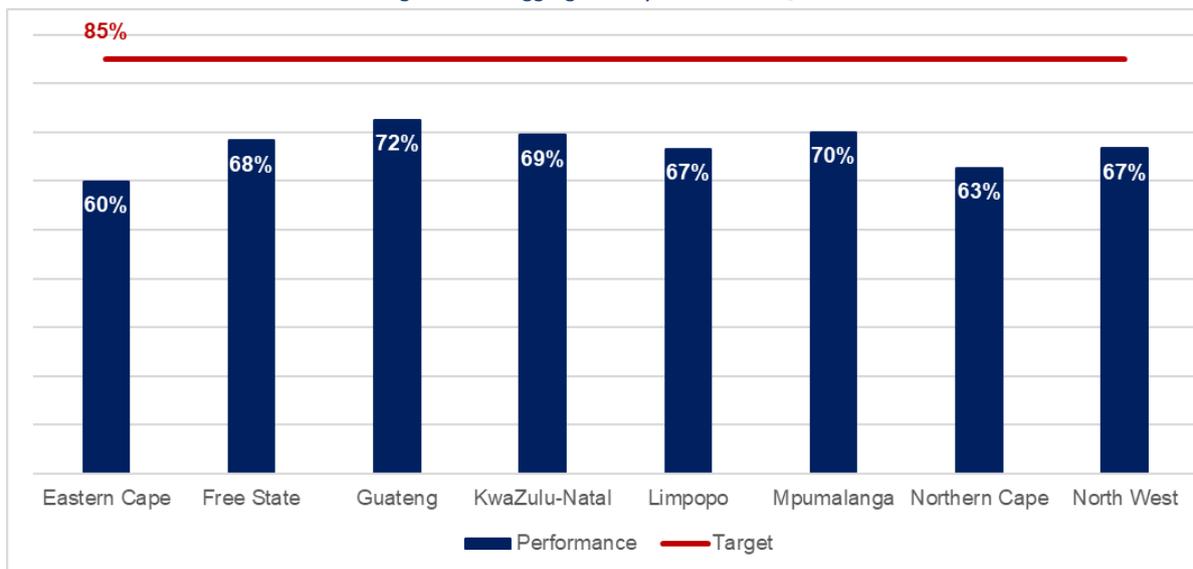


Figure 5. Disaggregation by Province in Q2

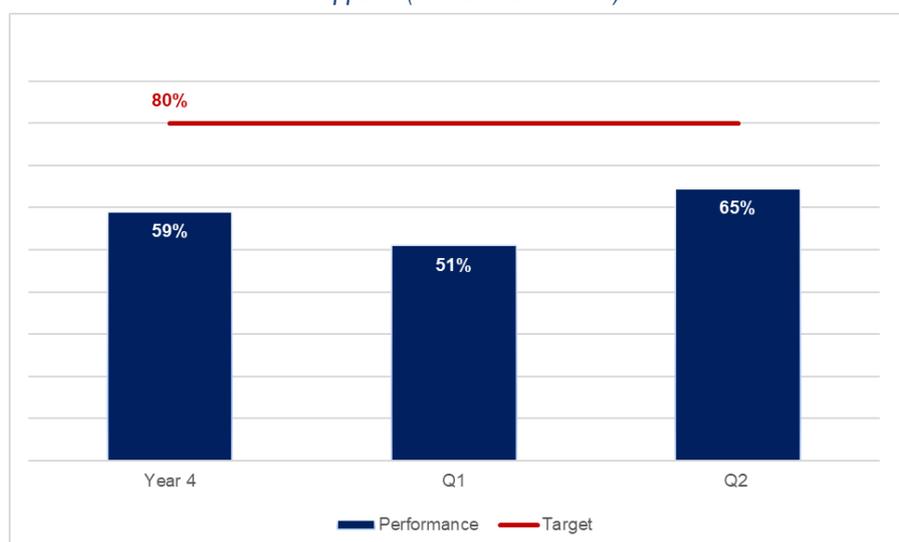


KPI 6. SUPPLIER PERFORMANCE RELIABILITY – PERFECT ORDER FULFILMENT FOR ORDERS PLACED ON SUPPLIERS (ON-TIME AND IN-FULL)

This indicator measures supplier adherence to fulfilling orders from demanders in full and drives 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 Quarter 2, supplier performance reliability was reported at 65 percent, which demonstrates an increase from Quarter 1 performance of 51 percent. Performance remained below the target of 80 percent as shown in Figure 6. Due to supply constraints and in some cases high demand (higher than contractual volumes, as a result of Covid-19), suppliers were not able to supply orders in full. Additionally, for a few ARVs, stock had to be rationed across provinces. GHSC-TA is working with AMD to formalise the mechanism of rationing of stock (where necessary) as part of the functions of IMAT-Exploded.

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



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 percentage of MHPL items on transversal contracts delivered directly to hospitals designated by the province to receive direct delivery orders, including central, tertiary and regional hospitals.

Due to data access challenges, GHSC-TA was not able to calculate performance against this indicator for the period under review. This activity is no longer included in the scope of GHSC-TA.

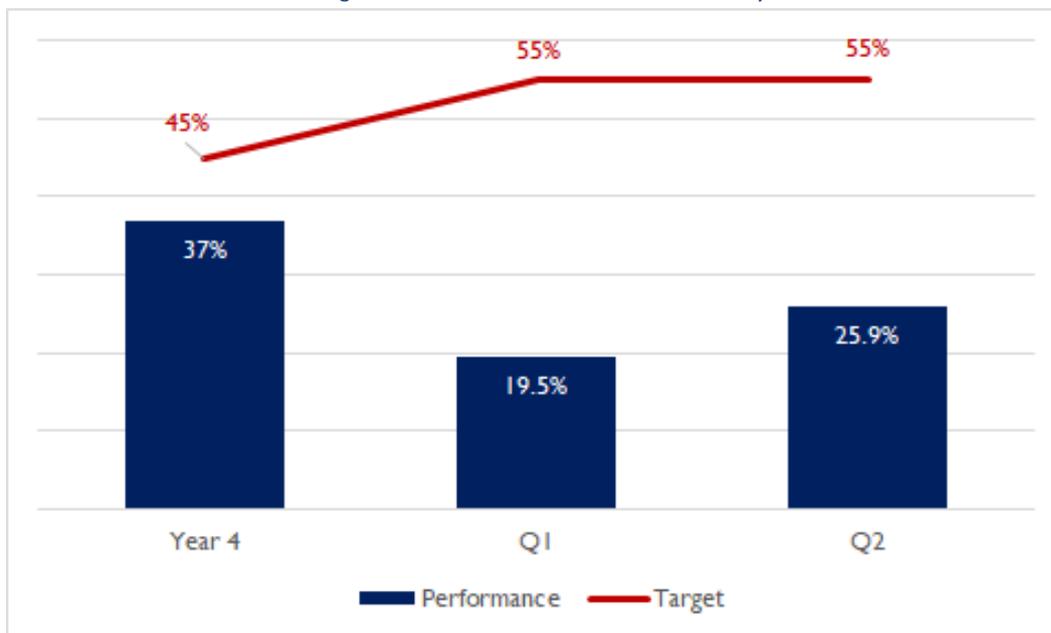
KPI 9. DEMAND FORECAST ACCURACY FOR PROVINCES USING THE DEMAND FORECASTING PROCESS

This indicator measures the accuracy of forecasted demand relative to actual volume for provinces using the demand forecasting process across contracts. It is critical to have high forecast accuracy to

avoid stock outs and maintain appropriate levels of inventory. Provinces using the demand forecasting process refers to provinces where the standard demand planning process has been implemented.

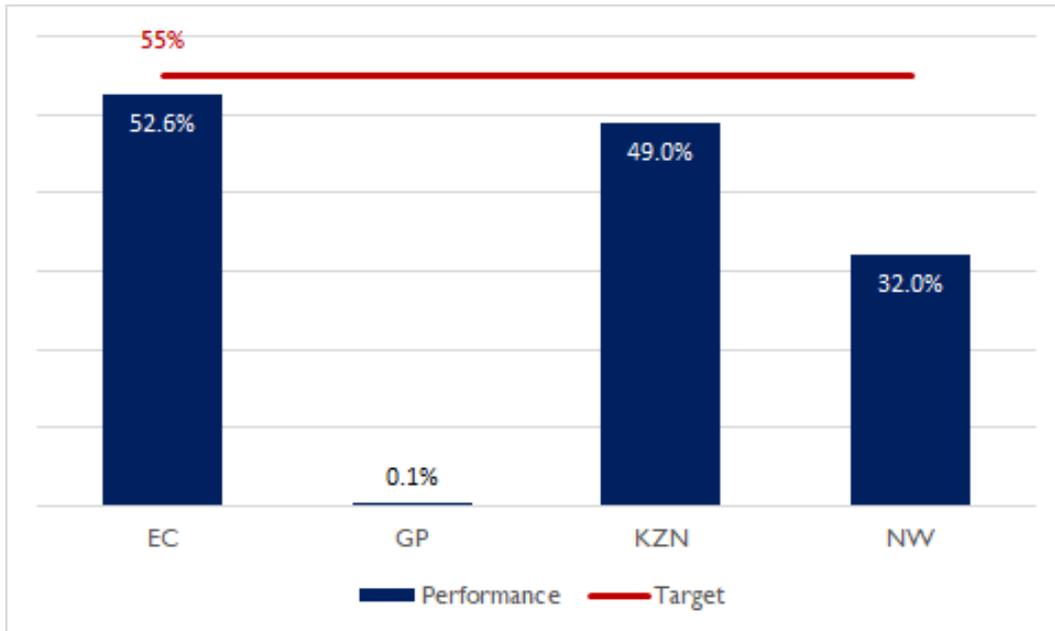
Data challenges plagued demand planning during Q1, with the State Information Technology Agency (SITA) not providing the required actual consumption data. GHSC-TA assisted the NDoH to enable reporting using MEDSAS data. These efforts resulted in the backlog data being provided for Q1 and for Q2 up until the end of March 2021 – data that has been incorporated into the graphs below. At the end of the reporting period, demand forecast accuracy for provinces using the demand forecasting process was reported at 25.9 percent, an increase from the 19.5 percent reported in Q1 of Year 5. Performance remained below the target of 55 percent, as shown in Figure 7.

Figure 7. Overall Demand Forecast Accuracy in Year 5



At a provincial level, although below target, forecast accuracy in the Eastern Cape and KwaZulu- Natal showed improvement. North West has not performed well and the demand planning process requires further attention. In Gauteng the forecast rigour has been good but the actual usage of ARVs and vaccines has not followed the forecast (Figure 8). This issue is driven by a poor transition of the TLD from TEE and vaccine adherence being significantly behind the forecast (probably as a result of the Covid-19 outbreak). Data by province at the end of Q2 is provided in Figure 8. Further attention will be placed on the ARV forecast over the next period. The team will be engaging with provinces to review the current demand planning process in that province and agree to improved ways of working going forward.

Figure 8. Disaggregation by Provinces

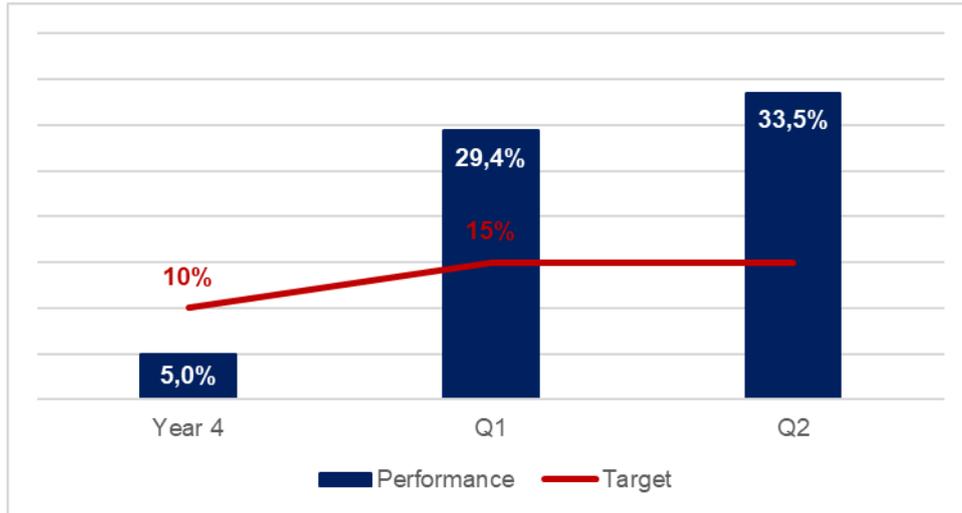


KPI 10. FORECAST BIAS FOR PHARMACEUTICAL FORECASTS IN PROVINCES

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 forecast demand and actuals, either positive or negative, expressed as a percentage of actuals over a series of consecutive periods.

At the end of the reporting period, demand forecast bias for pharmaceutical forecasts in provinces was reported at 33.5 percent, compared to 29.4 percent reported at the end of Q1. Performance was above the established target of 15 percent, as shown in Figure 9. Gauteng showed poor performance bias largely due to the poor performance on TEE and TLD. Further focus on the ARV forecast should support improved performance.

Figure 9. Forecast Bias for Pharmaceutical Forecasts in Provinces

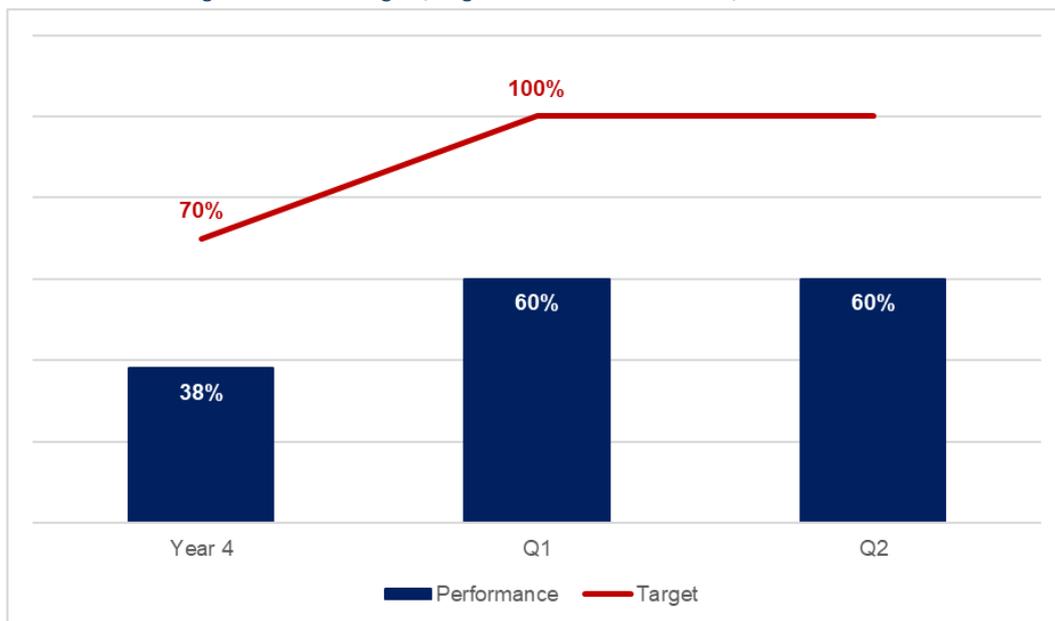


KPI 1 I. PERCENTAGE OF ELIGIBLE PATIENTS TRANSITIONED FROM TEE TO TLD

This indicator measures GHSC-TA’s demand and supply planning support as part of the TLD transition to support the phase-out of TEE and roll out of TLD nationally.

Figure 10 shows at the end of Q2, 60 percent of patients were transitioned from TEE to TLD, below the Year 5 target of 100 percent of patients that are eligible to transition to TLD. Since the start of the Covid-19 pandemic, the program noticed a significant drop in the number of patients remaining on ART and is currently investigating the issue. The HIV Program and support partners are currently assisting the provinces with the implementation of the provincial catch-up plans to trace and return patients to care. There has also been a 20 percent growth on second line patients, meaning that 20 percent of first line patients are failing treatment and having to be switched to a second line regimen. The HIV Program is currently investigating. All the above factors contributed to the performance of the KPI.

Figure 10. Percentage of Eligible Patients Transitioned from TEE to TLD



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

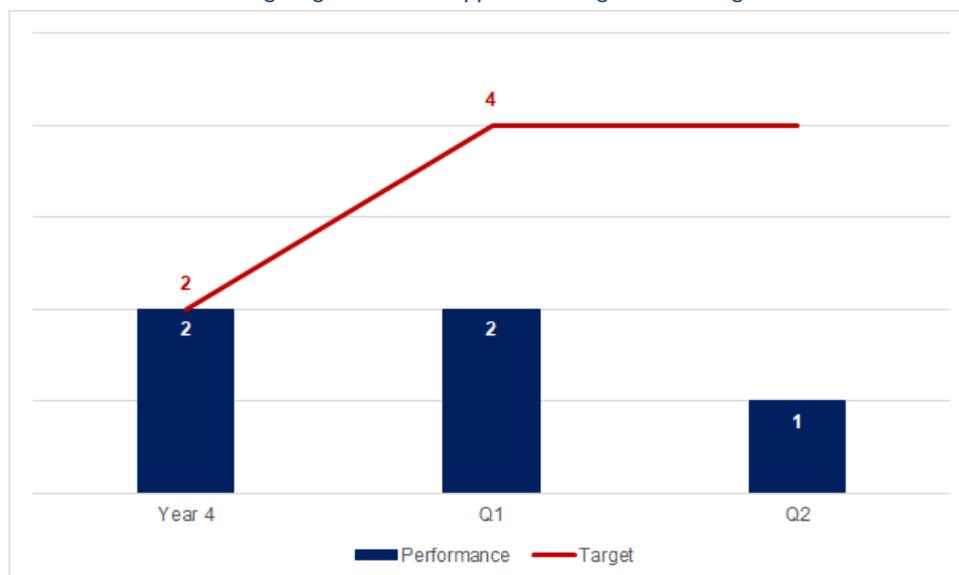
This indicator, shown in Figure 11, measures the effectiveness of GHSC-TA technical assistance supporting the development and implementation of budgeting and financial management processes at provincial level. The demand planning tool and process, developed in year 3 by GHSC-TA, support provincial departments of health in establishing an accurate forecast to inform the annual pharmaceutical budget.

GHSC-TA had trained four provinces (Gauteng, KwaZulu-Natal, Eastern Cape, and Northern Cape) to update the dashboard and visualise their own data. In addition, three provinces (Northern Cape, Mpumalanga, and North West) were supported to visualize their medicine expenditure in an effort to improve the monitoring and reporting efforts.

At the end of Quarter 2 only Northern Cape had continued to visualize, monitor, and review its medicine budget expenditure using the dashboard. Performance therefore remains below the target of four.

To support the provinces and institutionalize the use of the dashboard for monitoring the medicine budget spent and standardize the review process, the program held several meetings with Provincial Depot Finance Teams to align reporting processes and data requirements for the Dashboard. The process is still ongoing with some provinces having shared their reports and supporting data.

Figure 11. Number of Provinces who Review their Budget vs. Actual as Defined in the New Budgeting Process to Support the Ring-Fenced Budget

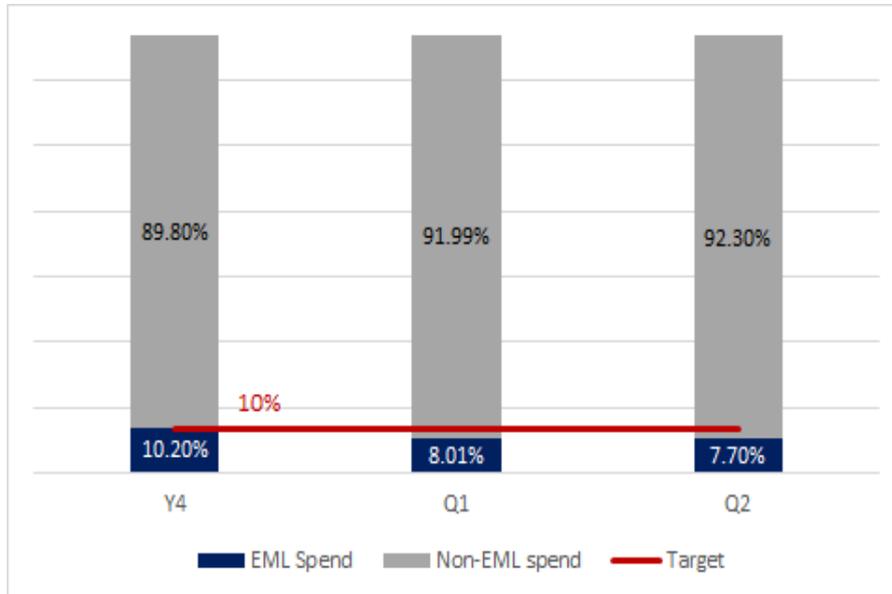


KPI 17. PERCENTAGE OF EXPENDITURES ON NON-ESSENTIAL MEDICINE LIST ITEMS

This indicator measures the percentage of expenditure on non-EML items as compared to total expenditure on medicine at the provincial level. Non-EML items describes medicines that do not appear on the National Essential Medicines List as determined by the NEMLC. Medicines which do not appear on the EML can be approved for use through provincial, district or institutional PTCs.

Similar to KPIs 9 and 10, this KPI was impacted by the lack of data from SITA. The program has now obtained the needed data, and as can be seen from Figure 12, the non-EML expenditure has been coming down, which is an improvement quarter on quarter. At the end of Q2, the non-EML expenditure was reported at 7.70 percent, which remained below the target of less than 10 percent.

Figure 12. EML vs Non-EML Spend on Medicine List Items





5. STRENGTHEN GOVERNANCE

One of the AMD functions is to provide oversight and set policy with respect to pharmaceutical services provided in South Africa. Support provided by GHSC-TA includes assisting the AMD and provincial pharmaceutical services in 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 TA in the development of relevant policies and legislation necessary for the implementation of strategic priorities and interventions.

ACTIVITIES AND ACHIEVEMENTS

GOVERNANCE AND LEGISLATION

GHSC-TA conducted several activities in Year 5 Quarter 2 to strengthen governance by developing and revising policies as an enabler for medicine availability. Most notably, the program supported activities in the areas of supply planning, contracting, and contract management.

Supply planning guideline. GHSC-TA has reviewed and updated the policy principles. The team also developed a scoping document for the supply planning guideline and presented it to AMD for

approval. The purpose of the guideline is to provide an overview of supply planning and guidance on replenishment planning processes for all medicines used in the public sector.

CONTRACTING AND CONTRACT MANAGEMENT

Procurement of medicines for use in South African government hospitals and clinics takes place following 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 the management of contracted suppliers, it is important that the performance of all parties, including participating authorities and demanders, are also monitored and managed. Support provided by GHSC-TA is focused on strengthening contracting and contract management processes.

Contracting. In efforts to promote the security of supply of essential medicines, including ARVs and medicines used in the prevention and treatment of TB, GHSC-TA continued to support AMD in developing the specifications for items to be advertised to awarding the contracts. The activities included preparing the tender to be published, evaluating bids, and preparing documents for the Departmental Bid Adjudication Committee and final award.

Improved Medicine Availability Team. During the period under review, GHSC-TA shared the IMAT-Exploded TOR with the NHC-SC-PS. The TOR was further discussed with provincial representatives who are members of the governance structure. The purpose of IMAT-Exploded is to collaboratively identify interventions aimed at addressing any medicine supply challenges, improve medicine availability, and reduce the potential impact of stock-outs. The team has also engaged the members on ways to improve the conduct of the monthly meetings. Work is underway to develop SOPs and other related documents to support the execution of functions outlined in the TOR.

Merging of supply tool and hotlist. GHSC-TA supported AMD by merging two tools that are used to manage medicine supply by contracted suppliers and availability in provinces. The 'hotlist' is generated by the CMU and is a list of contracted medicines with supply constraints and a stock availability of less than 90 percent. The supply plan is generated by ARC, and includes medicines that are on the Covid-19 priority list. The aim of the tool is to track the availability of stock at suppliers and provinces against the demand forecast. The team has handed over the merged 'hotlist'/supply tool and developed an SOP to support implementation.

Quarterly supplier performance report. During this reporting period, GHSC-TA continued to support AMD with managing supplier performance and mitigating stock-out challenges. The team has developed a template for quarterly supplier performance reports. The purpose of the report is to provide an overview of supplier performance over a three-month period and obtain input from provinces on any other information of which the NDoH should be aware. Additionally, the report will assist in closing the gap between what is reported by suppliers and supplier performance as experienced by provinces.

Management of non-compliance. GHSC-TA is supporting AMD with developing the policy principles for the management of non-compliance by suppliers to performance KPIs outlined in the Special Requirements and Conditions of Contract (SRCC). The team has also commenced the review and updating of templates for issuing of non-compliance letters for each KPI. Based on the policy principles, the program has developed an SOP. Additionally, the team supported IMAT to identify supplier performance management clauses stipulated in the SRCC, to ensure that there are processes in place to manage suppliers effectively.

Collaboration with CHAI to develop various SOPs. GHSC-TA is collaborating with CHAI to identify opportunities to strengthen CMU processes and has commenced the development of policy principles and the required SOPs for the management of defaulting suppliers and the accuracy of data reported.

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 are no outcome level KPIs reported under this objective.



6. IMPROVE WORKFORCE MANAGEMENT

To strengthen the workforce and organizational structures within AMD and in the provinces to perform the functions necessary to improve medicine availability, GHSC-TA continued to provide TA to AMD.

ACTIVITIES AND ACHIEVEMENTS

In 2018, the GoSA invoked Section 100 of the Constitution in North West, giving the national government the power to intervene when a province does not fulfil its obligations regarding legislation or the Constitution. GHSC-TA supported the province in addressing human resource challenges and organisational design interventions that were affecting work at the Mmabatho Medical Stores. During this quarter, GHSC-TA completed the transition and handover process to the management of Mmabatho Medical Stores, the Administrator, and the Acting Chief Director: Tertiary and Clinical Services to support implementation and sustainability of workforce management activities undertaken.

GHSC-TA also supported the recruitment and successful appointment of two NDOH demand planners. These planners have been put through an on boarding programme by GHSC-TA to facilitate hand over of demand planning processes.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that by increasing the AMD and provinces' capacity to develop and implement good governance practices in coordination and engagement with key stakeholders, the AMD and provinces will demonstrate an increased application of good governance principles embodied in policies, implementation plans, processes, and standard operating procedures. There are no outcome level KPIs reported under this objective.



7. STRENGTHEN INFORMATION SYSTEMS AND INFORMATION MANAGEMENT

Information systems are critical to support the AMD strategy to improve medicine availability. 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 pharmaceutical services for daily transactions and to inform decision making and continuous improvement.

ACTIVITIES AND ACHIEVEMENTS

MEDICINE MASTER DATA SYSTEM

The AMD is 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 efficiencies at all levels of the health care system and facilitate visibility via the NSC, ultimately contributing to medicine availability improvements.

GHSC-TA provides support to elicit system requirements and reach agreement on definitions of master data-related elements, documenting requirements, preparing conceptual data designs, and system testing once these requirements are implemented. During the quarter under review, GHSC-TA continued to provide TA in the development of specifications and implementation of modules of the MMDS, which consists of four components – Medicine Data, Contract Data, a Formulary Management Tool and Location Master Tool.

Development. During the quarter, GHSC-TA continued supporting the AMD-contracted service provider with development. The major development themes, continued from recent quarters, focused on user management functionality and contract data history functionality. The major revisions to the user management functionality will support more powerful control over user privileges and roles. The major changes to contract data allow for saving of the details contained on individual contract addenda. These contract addenda are the only means by which contracts may be legally varied over time, hence, recording the elements of contract addenda such as pricing, minimum order quantities, and awarded quantities allows for the tracking of these contract properties over time, providing a retrospective contract history. GHSC-TA completed UAT with the relevant contracting team members and the system administrator. These system changes have been deployed to live and are now in use. With the changes now actively put to use, the need for further minor enhancements may arise.

The program manually prepared the Medicine Procurement Catalogue, a legacy data extraction summarizing medicines with related transversal contracting information, and regularly distributed it nationally. This resource is now available as a report from the MMDS based on data routinely maintained on the MMDS. Currently, the legacy manual version has yet to be replaced, with this and the automated extraction distributed in parallel as a form of testing, and users invited to request changes to optimise the new extraction. The program is currently working to enhance the new extraction, after which work on the legacy extraction will be discontinued.

NATIONAL SURVEILLANCE CENTER

GHSC-TA activities over this reporting period continued to focus on maintenance of the NSC, as well as ongoing support of the monitoring function as relevant to health establishment reporting compliance.

Enhancement of the NSC. GHSC-TA continued with development of new views that support the AMD strategy for improved visibility of the availability and use of medicines. In this quarter, GHSC-TA completed the migration of all the NSC workbooks to the new NSC server and continued to support NSC users with accessing the new NSC using the new URL. With the approval from AMD, the old NSC server link was deactivated on February 26, 2021. The demand planning and medicine availability trend dashboards were published on the new NSC server and are accessible by all NSC users.

GHSC-TA also supported AMD with the review of a hosting proposal for the new server service provider, and, considering the sustainability of the NSC, agreed the transition of the maintenance and support of the NSC from GHSC-TA to an NDoH contracted service provider, enabling the NDoH to take full ownership of this strategic tool. GHSC-TA will support the transition of the maintenance functions to the new service provider in line with the timelines agreed with NDOH and the service provider, which are yet to be determined. GHSC-TA will continue to provide technical assistance in conceptualization of enhancements to the NSC. This transition is a significant milestone for GHSC-TA and the NDoH and is a testament to the program's significant contribution to strengthening the South African public health supply chain.

Following a fault on the Afrihost database server environment in January 2021, all databases that support data loading to the NSC dashboards were migrated to the Microsoft Azure environment on February 3, 2021. Although the initial server migration from Afrihost to Microsoft Azure is complete, GHSC-TA continues monitoring the Azure environment to optimize the configuration and database environment. GHSC-TA will continue to work with AMD to assist provincial health information technology (IT) departments to orientate the remaining provincial servers to the new central server location on Azure. The processes for loading data from RSA Pharma, manual RxSolution data submissions, and manual processing were restored and are fully functional. The RxSolution API web service layer and database required for automated reporting submissions has been restored and initial automated submissions have been successfully received from some provincial servers. GHSC-TA will work with AMD to assist provincial health IT departments to orientate remaining provincial servers to the new central server location on Azure.

In addition, the project continued with the daily consolidation and execution of the NSC data flows for the daily data submissions from RxSolution (manual submissions and API submissions), depot WMS, CCMDD service providers, and PPE data for purposes of the daily NSC refresh in support of the Covid-19 medicine availability and planning activities.

Dashboard development and optimization of data processes feeding into the NSC continued during the quarter and included the following:

- Finance Dashboard: GHSC-TA completed initial data analysis and dashboard design requirements in November 2020. Updated data from the Northern Cape was received and the finance dashboard views were updated and aligned to the available data on March 25, 2021. The final draft dashboards will be completed by April 30, 2021 and reviewed within the project before being presented to the Northern Cape and AMD for acceptance.
- Integrated Trend Dashboard: The program developed weekly medicine availability trend dashboards, which were approved for publishing by AMD at the end of March.
- Demand Forecasting Dashboard: GHSC-TA conducted an assessment on the NSC demand planning database and it was determined that this database was 14 times larger than the integrated view trend data file, and 286 times larger than the integrated dashboard data file. These findings were presented to the demand planning lead, together with agreed actions to reduce the size of the database. The program completed these actions in February 2021. Further, the demand planning dashboard views were formatted to align with the wider NSC format and layout and was completed on February 24, 2021.
- PPE dashboard: The PPE demand plan views and calculations were updated and refreshed per the PPE team requirements on March 03, 2021
- New data receiving process: After SITA stopped providing consolidated data, GHSC-TA developed a separate data receiving process for some provinces where the MEDSAS WMS is used. This process has been put in place for Eastern Cape, Free State, Gauteng, and KwaZulu-Natal.

Institutionalization of the NSC. GHSC-TA continued to drive the institutionalization of the NSC by compiling reviews of reporting compliance of health establishments to the NSC, as well as reviews of medicine availability at health establishments during the quarter. The program submitted these reviews to AMD on a weekly basis and presented them to AMD and the provinces in the weekly Covid-19 response meetings. On January 12, 2021, GHSC-TA provided a demonstration of the NSC

to the NDoH NHI-IS team members to showcase the possibilities of monitoring the Covid-19 vaccine roll out using the existing NSC infrastructure (next steps to be determined).

GHSC-TA also conducted a virtual NSC training session with new AMD demand planning staff on February 03, 2021 where NSC functionality as well as the navigation of the Demand Planning dashboards was covered with participants.

Technical Function Specification. During the period under review, the program continued to work on the technical documents for the NSC, including the NSC technical function specification document, workflow documents, a daily tasks summary, and an NSC design template. The NSC roles and responsibilities document was updated in this quarter to align to the updated NSC views, as was the daily tasks summary which was submitted to AMD in March 2021 to inform the NSC tasks beyond the GHSC-TA program. The program held a meeting with AMD on March 24, 2021 to discuss the functions that would be handed over to the AMD service provider, as well as the AMD plan and resources to transition reporting responsibilities from GHSC-TA to AMD. As a next step, AMD will discuss these items internally. GHSC-TA will remain available to provide support.

SUPPLY CHAIN SYSTEMS

Technology and information systems are critical enablers of health supply chain performance. Key activities performed in support of this objective during the period under review include supporting the development and deployment of information systems, including RxSolution and SVS.

RxSolution Reporting Tool. As explained previously, the server hosting several NSC staging databases, as well as the national RxSolution API reporting database, became inoperable and so these databases were migrated to the Microsoft Azure cloud environment. Given the problems with the previous environment, this migration proved challenging, but has ultimately been successful. GHSC-TA has commenced working on a functional specification to describe at a functional level how integration between the MMDS and RxSolution might best be achieved.

Implementation and Development of SVS. During Quarter 2, GHSC-TA continued to support the enhancement of SVS aimed at adding ordering and receiving functionality to the currently available visibility functionality. Key achievements in this period were the use of the SVS eOrdering functionality in the expansion of the North West phase I informed push PoC and in supporting similar work in the Free State. The collaboration assisted to further 'fine-tune' the actual functionality within the system as well as the implementation approach which is expected to facilitate the rapid scale-up of this work during the POC and expanded deployment phases. In preparation for the POC and expanded deployment phases, GHSC-TA also supported the development of training and marketing materials for use in the implementation.

OUTCOME LEVEL RESULTS

GHSC-TA hypothesizes that, by supporting the AMD in the design and implementation of 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. A user is an individual who has

been given a license to access the NSC. GHSC-TA has defined utilization as login on to the NSC at least once a month to review data.

At the end of Year 5 Quarter 2, performance was reported at 57 percent, an increase from the 53 percent achieved in Q1, but still below the Year 5 target of 80 percent. Overall, a dip in usage was observed over the holiday period (December 2020 - February 2021) resulting in the dampening of improvements observed towards the end of last year shown in Figure 13. In addition to this factor, the switch from the old hosted server to the new server for the NSC resulted in users experiencing some challenges with login credentials resulting in lower user uptake over the January/February period. Through the PST these challenges were largely addressed, with the vast majority of users being able to access the NSC by the end of the current reporting period. It is also worth noting that the Limpopo, Western Cape and AMD low usage statistics continue to have a negative impact on the overall performance of this KPI shown in Figure 14. This is an ongoing challenge that is currently being reviewed.

Figure 13. Percentage of Users Utilizing the National Surveillance Centre to Review Medicine Availability Trends and Reports

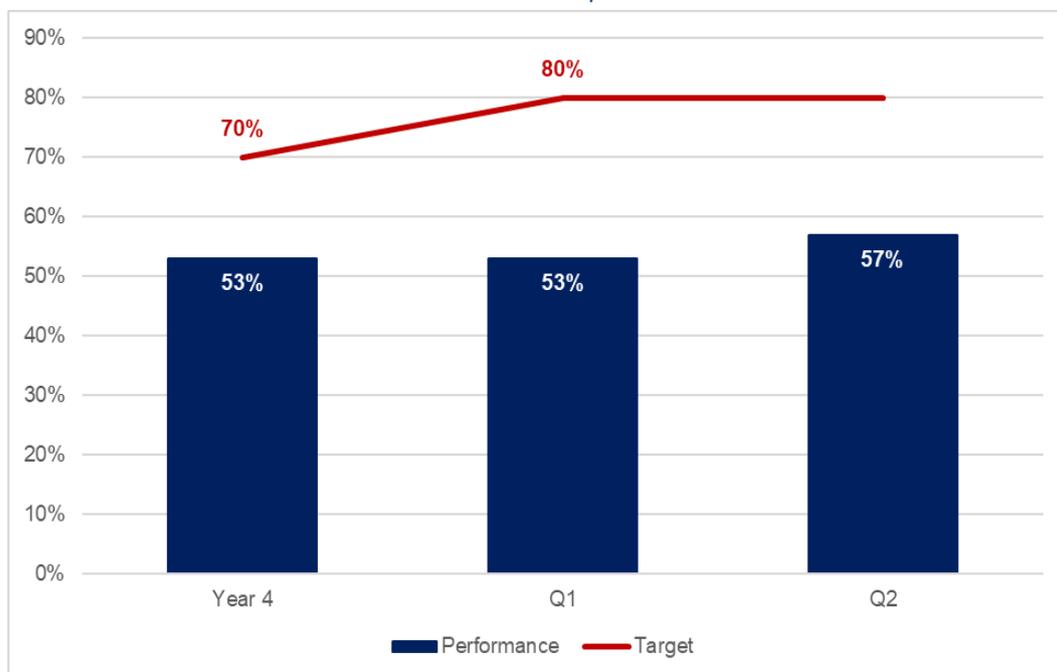
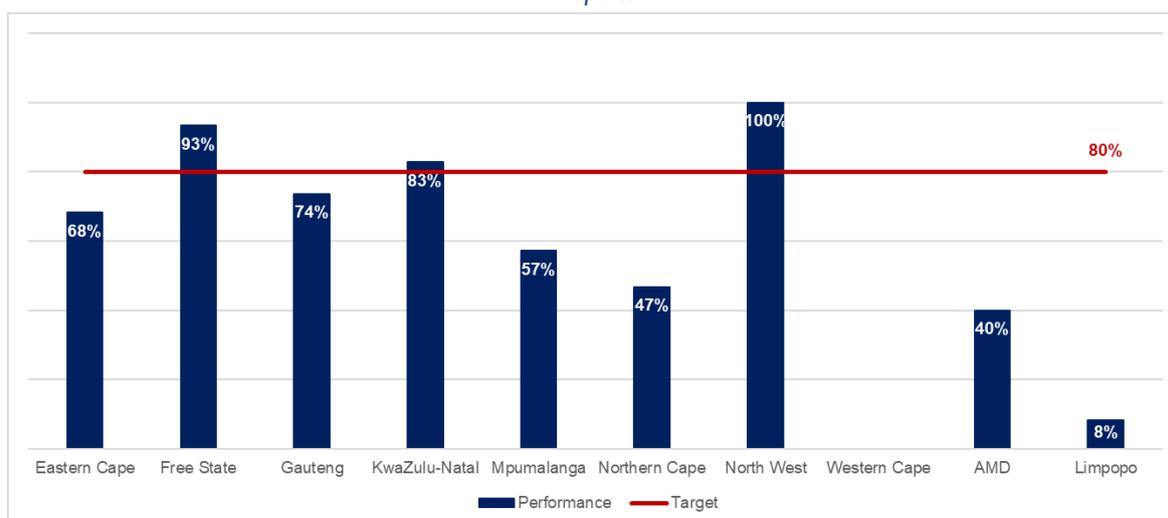


Figure 14. Percentage of Users Utilizing the National Surveillance Centre to Review Medicine Availability Trends and Reports



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 and clinics) and provincial warehouses, utilizing MMDS as a source of master data. Two of the core functions of the MMDS are the MHPL and the formulary tool. Utilization is defined as either drawing information from the MHPL to inform practices or creating a formulary.

GHSC-TA is providing technical support to the MMDS developers to integrate MMDS data into SVS via system-to-system integration and extending RxSolution to call medicine master data from the MMDS via system-to-system calls. This metric will be tracked when these integrations go live. The process will begin with a trial in the Fezile Dabi district in the Free State, where work is underway to finalize master data for the health establishments that will initially use the tool. The trial is likely to go live by June 2021 and should be complete by the end of September 2021.

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 the expansion of core supply chain information systems including stock visibility system (SVS) and RxSolution across health establishments.

By the end of Q2, the total number of health establishments using information systems for ordering and receiving was reported at 704, a slight increase from 701 reported in Q1, as shown in Figure 15. Notably, performance remains below the target of 2600. A total of 592 health establishments were using RxSolution, 110 were using JAC, and 2 were using Meditech shown in Figure 16. Previously, growth in this metric had come from RxSolution as a core medicine inventory management system for hospitals and community health centers (CHCs). The program expects a reduction in the expansion of RxSolution as saturation increases for the available sites. The program expects growth to come from the new SVS eOrdering functionality as part of the informed push (advised pull) replenishment approach that the GHSC-TA team is rolling out.

Figure 15. Number of Facilities Using Core Supply Chain Information Systems to Order and/or Receive Stock

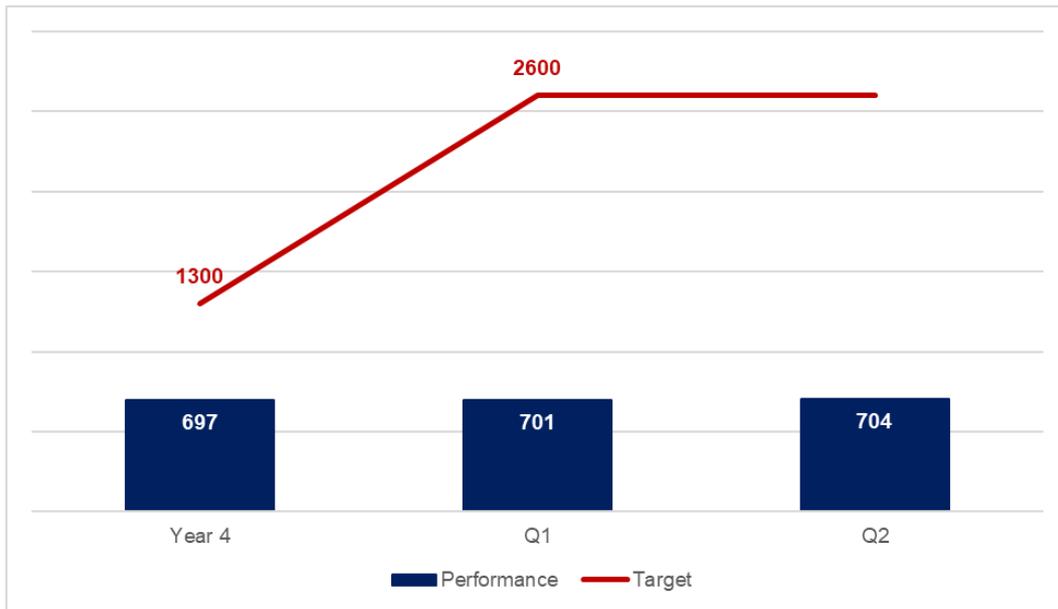
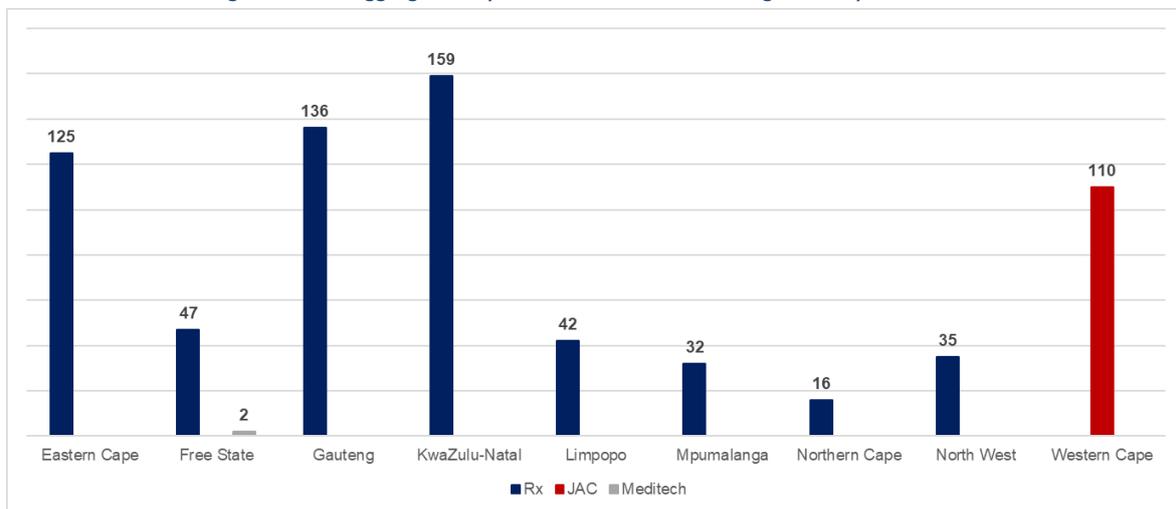


Figure 16. Disaggregation by Province and Stock Management System in Q2



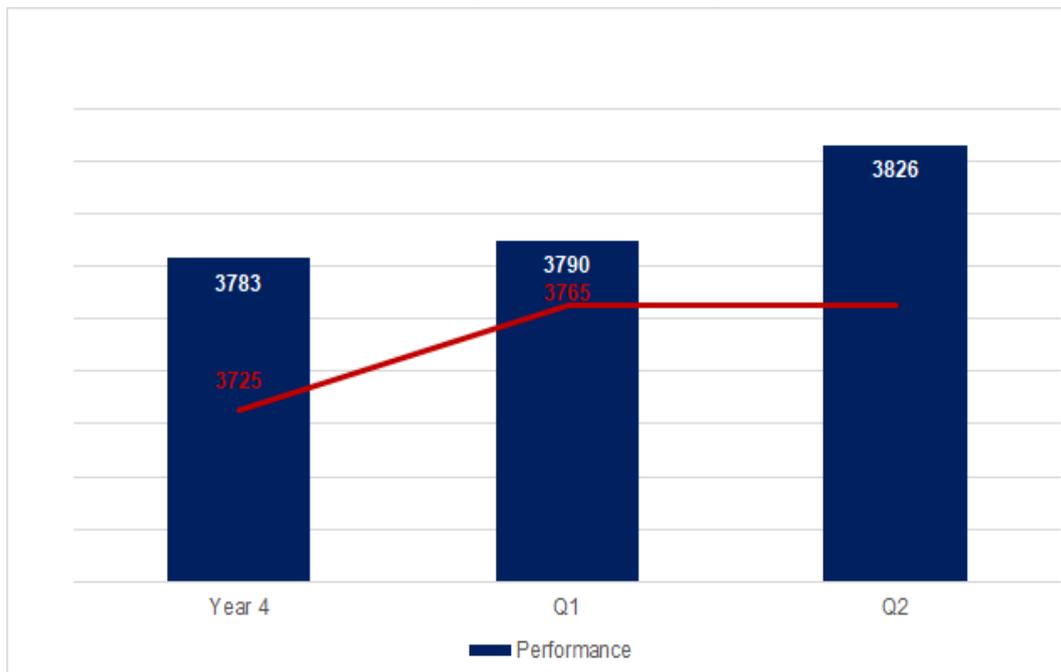
KPI 15. REPORTING COMPLIANCE – PERCENTAGE OF HEALTH ESTABLISHMENTS REPORTING STOCK AVAILABILITY TO THE NSC

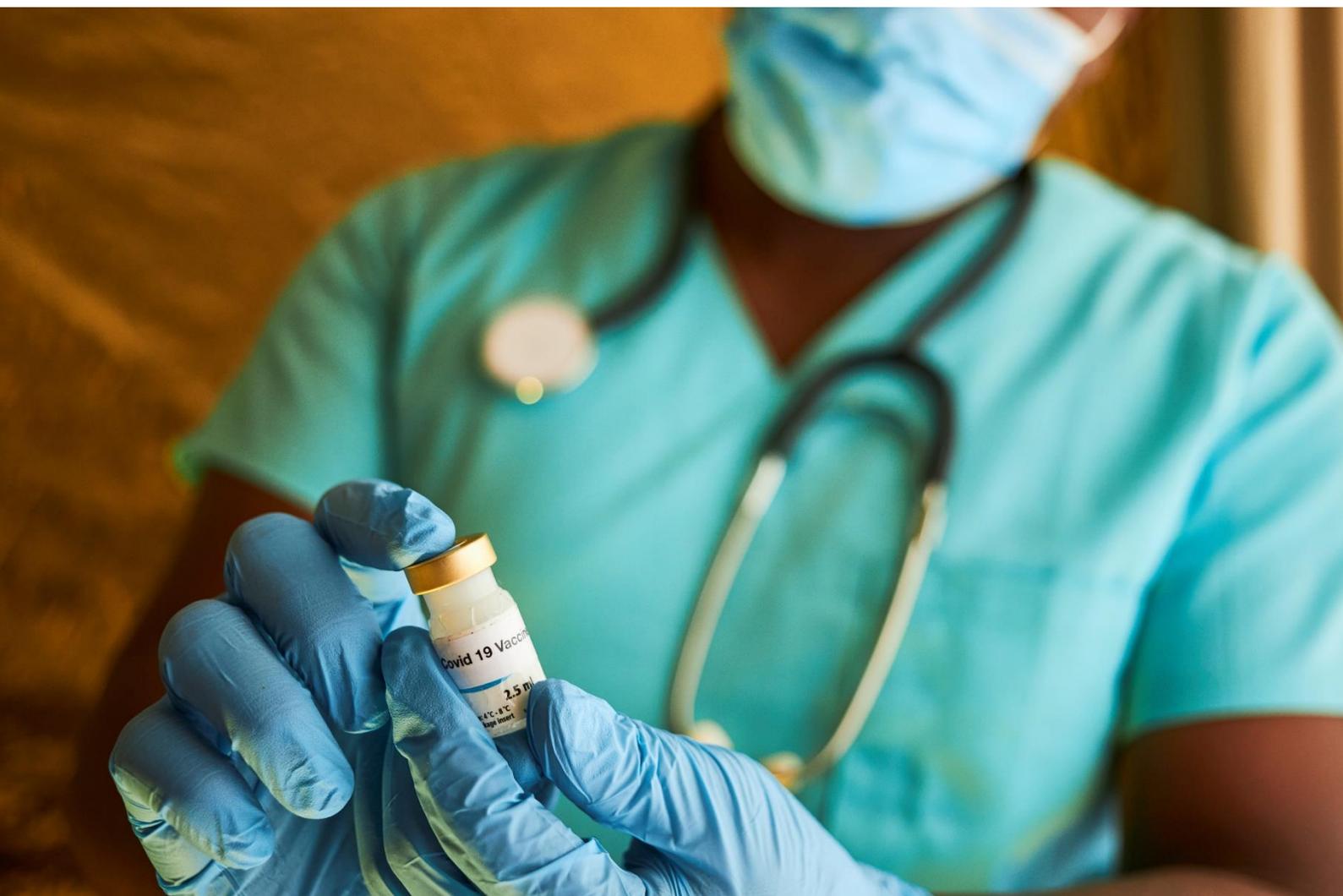
The reporting compliance KPI shown in Figure 17 measures the percentage of health establishments reporting stock availability to the NSC. The NSC is a web-based performance monitoring and evaluation tool that provides visibility of medicine stock levels across the supply chain.

At the end of Quarter 2, a total of 3, 826 facilities were reporting stock availability to the NSC against a Year 5 target of 3,765, bringing the reporting compliance to 102 percent of the GHSC-TA target. The main contributing factors to this success have been the high-level of interest in good performance

on this KPI, as well as the ongoing support provided by the GHSC-TA programme towards ensuring sustained reporting by health establishments.

Figure 17. Number of Health Establishments Reporting Stock Availability to the National Surveillance Centre





8. PROVINCIAL SUPPORT AND REPLENISHMENT PLANNING

The revised structure of the work streams within GHSC-TA in this past quarter led to further alignment of the province-facing activities led by the core TA team and supported by the PST. The work being done to implement a new approach to replenishment planning is now driven by the PST. This work aims to streamline and support coordinated implementation of the activities of the various work streams within the GHSC-TA program in the provinces and, in so doing, ensure coordination, alignment and successful implementation of the various supported supply chain reforms.

ACTIVITIES AND ACHIEVEMENTS

The activities of the team continue to be significantly impacted by the Covid-19 pandemic, the social distancing measures that have been put in place, and more recently, preparation for the nationwide Covid-19 vaccination programme. These constraints have meant that not all GHSC-TA's province-facing activities could be implemented as planned.

INSTITUTIONALIZATION OF THE NSC

After taking a dip over the holiday period (December through February), the national reporting compliance continues to recover, although it has not as yet risen to the same levels observed in Q4 of Year 4. The reporting compliance ranged from 85.6 percent at the beginning of February 2021 to

84.6 percent at the end of March 2021. This decrease is in part due to the continued mobile device refresher process at facilities reporting using SVS over this period – now extended to KwaZulu-Natal. Provincial support activities to try and address this challenge have continued, including the circulation of bespoke reporting compliance and medicine availability reports flagging areas of focus, continuous monitoring of performance on a weekly basis, and provision of direct support to, and engagement with, provincial counterparts to highlight challenges and devise solutions.

In Eastern Cape, GHSC-TA provided two NSC walk-through sessions for recently licensed users. Over the next reporting period, the team will focus on an information drive to address the dip in NSC usage that has been observed since the switch to the NSC on the new server.

TLD TRANSITION

During Quarter 2, the PST continued to support the monitoring of availability of TEE, TLD, and contraceptives required for the TLD transition. The team worked closely with the provincial TLD coordinators to flag and address any supply-related issues which may have impacted the transition.

RATIONAL MEDICINE USE AND DISPENSING PRACTICES

The AMD continued to deprioritize activities aimed at improving rational medicine use, given the prioritization and focus on initiatives related to Covid-19. Support for this work will continue in Year 5 once these activities, initiated in the Northern Cape, Free State and KwaZulu-Natal, is reprioritized.

DEMAND PLANNING

Provincial activities in support of demand planning remain focused on supporting the routine demand planning review meetings in provinces where this work has been initiated, including facilitating stakeholder engagement.

REPLENISHMENT PLANNING

Replenishment planning deals with a combination of activities and processes required to ensure that stock used is replenished at the right place at the right time and in the right quantities to meet patients' needs. These activities are particularly focused on supporting provincial implementation and institutionalization. Replenishment planning is enabled by the relevant policy, guidelines and standard operating procedures, as well as the necessary electronic systems. Some of the key areas covered include standardization of medicine master data, strengthening formulary management processes, and optimizing the use of proven supply planning principles to inform replenishment, which includes optimizing min-max calculation methodologies and introducing new methods for replenishing stock at health establishments.

MMDS and formulary tool. Formularies are essential to managing the medicine supply chain, as these provide the detail of which medicines are to be stocked at each health establishment. GHSC-TA is working closely with the district pharmacist for the Fezile Dabi district in the Free State and the Provincial Pharmaceutical and Therapeutics Committee representative to build formularies on the MMDS for the district and the province, respectively.

Having previously loaded facilities for the district onto the Location Hierarchy tool, the focus this quarter was on finalizing the individualized formularies. This process involved revalidating all Fezile Dabi clinic and community health center formularies, adjusting these on the tool, and then gaining final sign-off of the loaded data on the Formulary Tool. To date, final sign-off of loaded data has occurred

for the Mafube and Metsimaholo sub-districts, while the program is working with pharmacists in the Moqhaka and Ngwathe sub-districts for final approval. The Free State provincial formulary has been loaded onto the tool and is nearly complete. The program also re-ran training for those newly involved with the formulary management activities.

Optimization of Minimum and Maximum Stock Levels. During this quarter, the GHSC-TA program made significant strides towards operationalizing the optimized methodology for calculating the min-max stock levels which were presented to and accepted by the NDoH during Year 4. Program activities were centered on presenting the new methodology, and the outputs thereof, to provincial counterparts for approval and sign-off. In the Free State, GHSC-TA achieved this result in collaboration with provincial counterparts. The program then initiated and supported the replacement of existing min-max parameters on the SVS system with the recalculated and approved levels. The program also initiated efforts to ensure the use of these updated parameters on the NSC in the form of updated dashboard views and reports, with the aim of using these parameters to monitor stock availability more proactively. Efforts to secure the approval of methodology in Mpumalanga and Gauteng continue, with the provinces requested formal communication through the national office to facilitate engagements with counterparts within the province from different workstreams.

Informed Push/Advised Pull. The informed push/advised pull process, implemented by GHSC-TA, helps to create a standard approach to replenishment planning at health establishments. This process is enabled through the optimization of the min-max stock level calculation applied to the formulary of a health establishment. The informed push process has assisted to automate some of the replenishment planning processes performed by staff at health establishments, thereby reducing their level of effort and providing them more time to attend to patient needs. The use of enabling systems such as RxSolution or SVS further optimizes replenishment processes and realizes new efficiencies and improved access to supply chain data.

NOTE: In South Africa, the Public Finance Management Act number 1 of 1999 (PFMA) stipulates that for entities placing an order for replenishing stock, the request must originate from and/or be approved by a designated person from the entity. Given that stipulation, the program has designed the informed push in such a way that the recommended order quantities are automated using the electronic tools, but still approved by health establishment staff, resulting in the generation of a requisition order originating from the health establishment. **Given this approach and feedback from the provinces where this work has been carried out, it has been recommended and accepted that in future engagements and documents, the approach be renamed to the ‘advised pull’ approach which describes the overall approach more accurately.**

This quarter the program successfully supported the training of provincial and district implementing partners on the informed push/ advised pull implementation process in North West using RxSolution (one additional facility) and SVS (three additional facilities) as part of phase I deployment. This effort included supporting the setup of the new computers in North West for the RxSolution facilities. With these additions, the total number of informed push/ advised pull sites implemented to date in the North West and Free State provinces is thirteen and five respectively. In Free State, as a result of the successful completion of POC activities and the keen interest from the province, the program initiated discussions and planning with the provincial management team regarding expansion to the phase I deployment phase in the province. The program also assisted to finalize the Free State POC report and circulated it for comment internally. The findings of the report were used to prepare for the report back to the province and the AMD with firm recommendations on the next steps of the implementation. This is expected to take place as part of Q3 activities leading to the phase I implementation of the advised pull approach.

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 that contribute to the configuration of minimum and maximum (min-max) stock levels. Min-max stock levels are basic stock usage parameters used to inform replenishment management processes. When placing a requisition or purchase order, stock levels are replenished back up to the maximum level to ensure there is sufficient stock until the next order cycle.

At the end of Q2, 1,478 clinics and 252 hospitals were reported to have configured min-max stock levels on either the SVS and/or RxSolution systems, bringing the total to 1,751 against a target of 1,500. This shows an improvement from the 1,595 reported by the end of Q1. Moreover, this achievement surpasses the Year 5 target of 1,500 shown in Figure 18. The success in this area is explained, in part, by the high level of interest from the provinces on optimising and utilising the min-max stock level parameters as a key component for effectively monitoring medicine availability. Further, the increase of sites with configured min-max levels observed in Q2 and shown in Figure 19 is largely due to a combination of provincial efforts to better manage the min-max levels as well as efforts of the GHSC-TA program to assist provinces to improve and standardize their min-max calculation methodology. Given that these stock level parameters form a key component for effectively monitoring medicine availability, the program expects to continue building on this achievement as part of the rollout of the standardization of the min-max levels calculation methodology and the SVS enabled advised pull implementation.

Figure 18. 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.

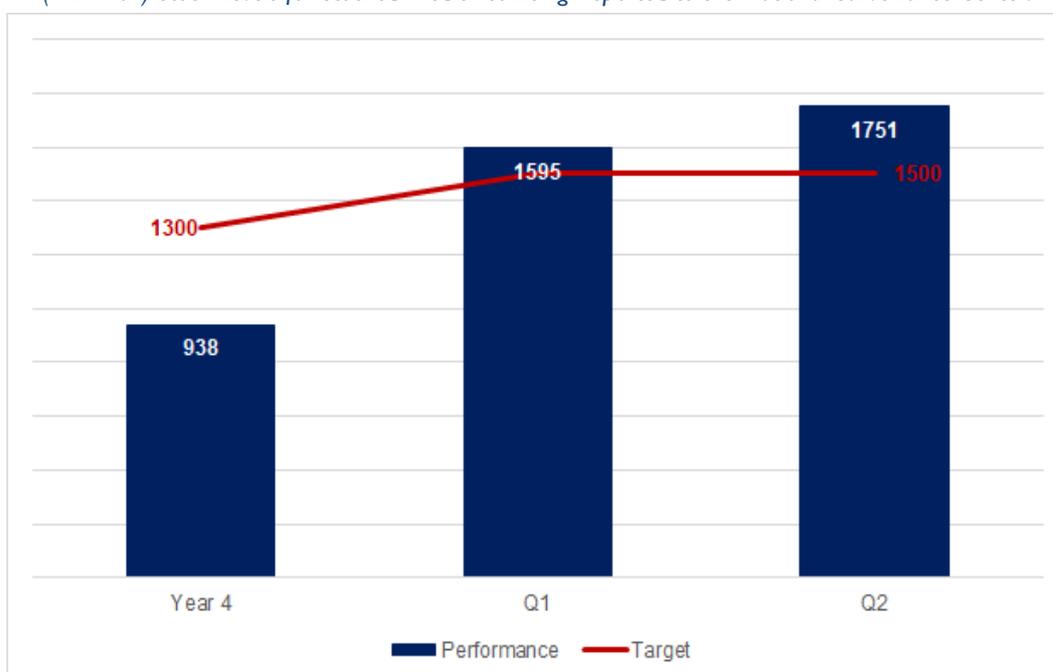
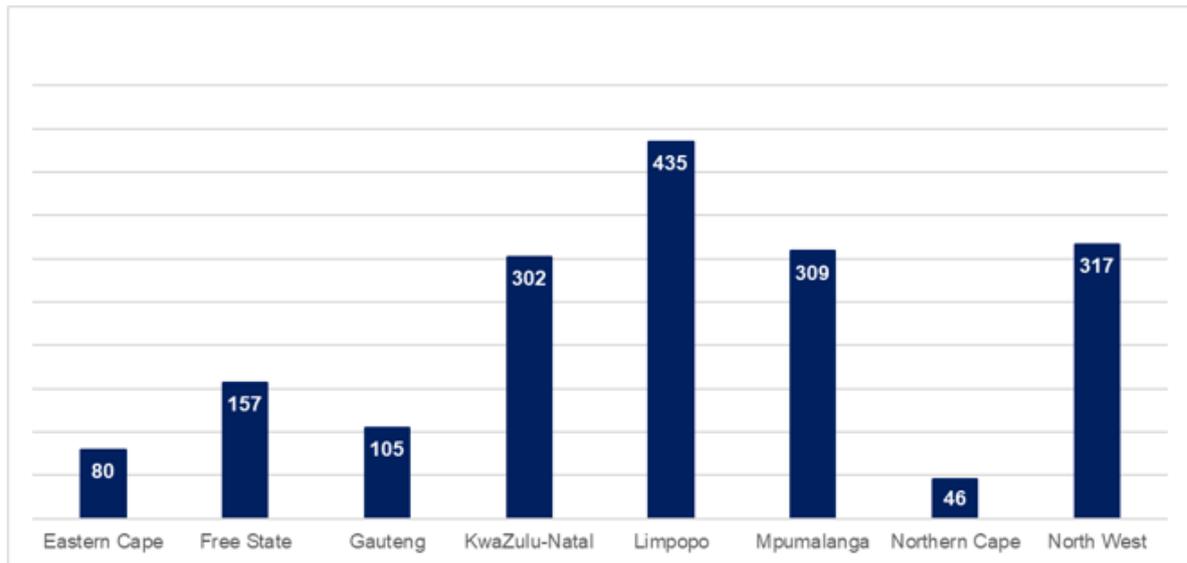


Figure 19. Number of Health Establishments and Warehouses with Configured Minimum and Maximum (Min-Max) Stock Levels: Disaggregation by Province





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

GHSC-TA provides technical assistance to the South African government to strengthen public health systems and supply chains to advance an AIDS-free generation, increase medicine availability, and contribute to the achievement of universal health coverage.

A consistent and uninterrupted supply of medicines to meet patient demand is key to an effective health supply chain. Supply and demand planning practices forecast potential disruptions to the supply chain to avoid negative impacts on patients. However, rapidly evolving global pandemics can be difficult to forecast, giving them the potential to negatively impact health outcomes, quality of life, and a nation's economy. The global Covid-19 pandemic may challenge the availability of medicines used to fight HIV/AIDS, TB, and other diseases in South Africa.

Over and above medicines, it is critical to limit the spread of the disease and protect both patients and health care workers. To this end, the need for a reliable supply of PPE is also of paramount importance. In addition, GHSC-TA is providing comprehensive technical assistance to AMD in the planning and implementation of the roll out of the Covid-19 vaccine.

OBJECTIVES

Across the globe, countries are responding to the Covid-19 pandemic by tasking their national departments of health and other relevant bodies with tracking and controlling its spread. The rapid outbreak of Covid-19 presents a challenge to containing it, as does the lack of information on exactly how the virus spreads from person to person and how best it can be treated. South Africa detected its first case of Covid-19 on March 5, 2020. By March 31, 2021, a total of 1,548,157 confirmed cases of Covid-19 had been recorded in South Africa, with the country still under adjusted lockdown.

APPROACH AND KEY ACTIVITIES

GHSC-TA has continued to assist the NDoH in mitigating the impact of the Covid-19 outbreak in South Africa on the medicine and related medical products supply chain, and assisting in responding to the demand for medicines and vaccines to manage the disease.

In addition to working with AMD, GHSC-TA also provided 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. As of March 25, 2020, GHSC-TA began providing **secretariat** support to the MAC on Covid-19 and its sub-committees. The program assisted in convening over **200 meetings**, documenting proceedings, and drafting advisories on Covid-19 related decisions. At the end of September 2020 and again at the end of March 2021, the MAC on Covid-19 was restructured to include additional expertise. GHSC-TA assisted with revising the **terms of reference** for the restructured committee. During the quarter under review, the program worked with AMD to provide continued support to the MAC on Covid-19 in convening meetings, providing technical support on ministerial advisories, and collaborating with other Covid-19 technical working groups. In response to the pandemic, AMD assembled a national and provincial Covid-19 response team. During this period, GHSC-TA continued to support AMD in meetings, once a week with AMD and once a week with provincial stakeholders, reviewing the demand and supply of Covid-19 medicines.

GHSC-TA also supported the EDP to generate the latest forecasts of medicine requirements to treat patients presenting with Covid-19 and for items of which security of supply was required. Critical care specialists provided input regarding trends and insight into the selection of medicines. A national Covid-19 EPI modelling team, established in the country, provided data about expected patient projections. The demand plan is published periodically, and is based on anticipated medicine requirements, patient projections, and baseline demand forecasts.

GHSC-TA continued to support the review of the **replenishment plan** to determine the shortfall in supply of Covid-19 priority and chronic items based on the updated demand forecasts. The plan is used to inform the CMU about the volumes that should be sourced to fulfil the forecasted demand, taking the current opening stock position and supplier pipeline into account. AMD shared the recommended orders with the provinces.

GHSC-TA continued to support the national and provincial departments of health with the daily refreshing of the Covid-19 dashboards. The Covid-19 dashboards provide medicine availability and reporting compliance information using product categorization as determined by the Covid-19 response team; that is, Covid-19 priority list items, Covid-19 treatment items, chronic medicines, and non-Covid-19 medicines. The program assisted with query resolution and the monitoring of reporting compliance and medicine availability, which was presented to provincial and national stakeholders on a weekly basis during the quarter.

PERSONAL PROTECTIVE EQUIPMENT

GHSC-TA continued to provide dedicated support to overcome PPE supply and distribution challenges, acting as a link between the NDoH, National Treasury and provinces with the goal of improving PPE availability for health care workers and patients. GHSC-TA also collaborated with other partners to maintain an updated PPE **forecast**. Forecasts are constantly updated and shared via the NSC. The forecasting on the NSC is used by provinces to plan procurement and tender requirements. In addition, the team work closely with NDoH, Provinces and the National Treasury to compile an update to the current PPE contract expanding the number of suppliers.

GHSC-TA continues to compile a weekly presentation, providing an overview of PPE availability, highlighting gaps in supply, and providing information on actions to mitigate items out of stock at the depot and health establishment levels in the provinces for review and discussion with the Project Management Office. In addition, GHSC-TA continued to coordinate bi-monthly provincial PPE coordinator meetings. These sessions are used to share challenges and find collective solutions.

ROLL OUT OF COVID-19 VACCINES

Johnson and Johnson Sisonke 3B Study. GHSC-TA provided support to the Medical Research Council by providing trial dose allocation to nominated sites in both the public and private sectors for the initial vaccine deliveries. The team consulted provinces and the private sector to advise on number of doses to be split amongst these entities. As of 31 March, 262 014 doses have been administered.

In addition, GHSC-TA provided comprehensive technical assistance to AMD in the planning and implementation of the roll out of the Covid-19 vaccine for Phase One, for all health care workers across both private and public sectors. This took the format of mapping all vaccination sites, obtaining staffing levels to be vaccinated and recording the number of trained vaccinators to calculate the amount of doses required and time to complete Phase One (less doses administered under the Sisonke study).

The GHSC-TA team worked with provinces and the private sector to design a primary and secondary delivery network to ensure the most effective means of reaching all vaccination sites. Extensive work was done to collate and map the cold chain capacity at sites namely (2° to 8° / and -20°). This data allowed visibility as to what type of vaccine could be managed by which vaccination site. Utilising all the above information a distribution plan was developed for provinces to approve for the delivery of vaccines to complete Phase One of the vaccine roll-out.

Furthermore, together with the private sector team coordinated by GHSC-TA, two capacity planning tools have been developed to understand the vaccination capacity required to reach the identified population and achieve the vaccination targets. The first tool uses the number of vaccinators per vaccination site per sub-district to determine how long it will take to vaccinate the population in the that geographic area. While the second tool applies a time constraint to identify the vaccination capacity required to complete the vaccinations within an allotted time. Provinces and districts are using this information to develop the service delivery platform.

SVS Covid-19 Vaccines Instance. In response to the Covid-19 pandemic and planned vaccine roll-out programme, the GHSC-TA provided extensive TA support to the NDoH which led to the development and implementation of a new SVS Covid-19 vaccines instance to be used during the roll-out to monitor vaccine and ancillary item availability. The TA support allowed the NDoH to respond rapidly and effectively to the anticipated need for reliable and rapid access to vaccine and ancillary item availability data to ensure the coordinated and equitable distribution of the vaccine in the roll-out.

COVID 19 Vaccine SOPs. To support the roll-out and implementation of the Covid-19 vaccination, GHSC-TA has provided technical assistance in identifying and documenting standard operating procedures that would govern good supply chain practices at sites from the receipt of vaccines, storage and handling, to the distribution of vaccines to secondary sites whilst maintaining the cold chain and integrity of the vaccine. In addition, the program has drafted SOPs that provide guidelines to help vaccination sites adhere to the minimum Covid-19 vaccine processing protocol. These SOPs address the use of standardized processes to support the client experience during, and after the administration of the vaccine to a vaccinee across all vaccination sites.

To date, GHSC-TA has drafted a total of 19 SOPs, tools that are currently going through various stages of approvals pending finalization of the Vaccine Unit Model, the Field Guide, and other related governance documentation.

Vaccination site description and enrolment. GHSC-TA provided technical assistance to NDOH in the design of the service delivery platform and the description of the different sites where vaccination services can be provided namely primary vaccination sites and different types of outreach services (fixed, temporary, and mobile). The team also worked with the NDoH and the South African Pharmacy Council on the introduction of the use of section 22A(15) of the Medicines and Related Substances Act 101 of 1965 (the Medicines Act) to enable various organizations to acquire, possess, use, and supply Covid-19 vaccines and the medicines needed to manage any adverse reactions as part of the vaccine roll-out. This work included developing the application form for a permit in terms of Section 22A(15) of the Medicines Act, to be issued to organisations that wish to provide Covid-19 vaccination services; supporting AMD to develop an SOP that provides a procedure for approval of vaccination sites; and providing input on the submission to be signed by the Director-General relating to the utilisation of Section 22A(15) of the Medicines Act to authorise vaccination sites. Technical assistance was also provided in the work undertaken to align the Master Facility List with the permit system hosted by the council.

OUTCOME LEVEL RESULTS

To monitor the performance of the PPE supply chain, GHSC-TA developed PPE-specific indicators, including the percentage availability of PPE at health establishments and the percentage of health establishments complying with PPE reporting requirements.

The first indicator reflects the **availability of PPE** in all health establishments (primary health care clinics, community health centers, hospitals, and PPE distribution centers) on a weekly basis. This information assists stakeholders to identify current stock-on-hand quantities and to proactively reduce shortages and stock outs of PPE by looking at stockholding vs. the forecast. This indicator is intended to monitor inventory (PPE) across different levels of the national supply chain and is shown in Figure 20.

Figure 20. Screenshot of Stockouts and Availability by Province as of March 31, 2021

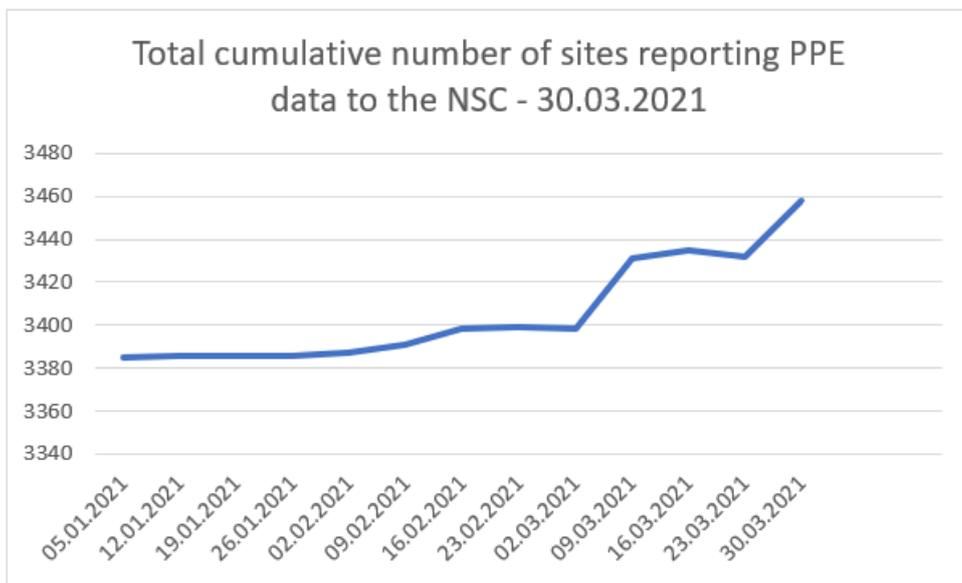
Stockouts and Availability by Province			
Province	Total Facilities Submitting PPE Data	Total Available Stock Items	% Availability
Eastern Cape	227	1118	78.6%
Free State	35	206	93.6%
Gauteng	28	215	96.8%
KwaZulu Natal	161	1389	87.0%
Limpopo	70	288	88.1%
Mpumalanga	48	163	86.2%
North West	14	39	84.8%
Northern Cape	43	220	81.2%
Western Cape	39	85	80.2%

By the end of Quarter 2, PPE availability was reported at 84.6 percent, against a target of 90 percent. Factors that continued to contribute to this achievement included weekly PPE team meetings; and bi-monthly meetings with the provincial PPE coordinators to discuss and assist in unblocking procurement and supply obstacles. Collaboration with National Treasury and working with Business for South Africa (an organization which represents South African private sector businesses and actively collaborates with the government to use business resources and capacity to support public sector initiatives) to allocate PPE donations contributed to increased PPE availability.

The second indicator, **PPE reporting compliance**, is designed to show how many health establishments and distribution centres report PPE data to the NSC. The overall reporting compliance was 84 percent up from 82 percent reporting at the end of Year 4. However, performance remained below the target of 90 percent.

PPE reporting continues to be a platform of significant priority. Reporting compliance is still increasing month by month as shown in Figure 21 I. Provinces such as Gauteng and the Western Cape, are not using SVS as a data capturing tool, However Gauteng is in the process of switching to SVS for PPE reporting and will have converted by the next quarter. GHSC-TA continued to support the NDoH to ensure improved performance against this indicator by working with provincial PPE appointed coordinators and other key stakeholders.

Figure 211. Total Cumulative Number of Sites Reporting PPE



LESSONS LEARNED

Opportunity to involve provinces in generating data needed. Over the last six months' challenges have been experienced as a result of the sole supplier of data related to demand planning defaulting due to contract-related challenges. This event resulted in GHSC-TA not having access to needed data. This challenge impacted the quality of the forecasts as well as lack of information to report on the relevant KPIs. In response, the program engaged with provinces and data experts to get the data directly. GHSC-TA worked with NDoH to establish scripts to extract the data directly from the MEDSAS databases and to empower the provinces to pull the data themselves as and when required. This system is proving adequate, and the program will continue to work with provinces and data experts to access the necessary data moving forward. The lesson learned was that the GHSC-TA needs to avoid over-reliance on external role players for data access, and ensure that the necessary redundancies are in place.

Reprioritization of activities. Due to the Covid-19 pandemic and competing priorities, there has been a lack capacity of key stakeholders to engage with Formulary Reports and activities to strengthen formulary management, leading to a delay of planned activities. GHSC intervened through the reprioritization of activities. The lesson learned was that the success of interventions is heavily dependent on the ability of key stakeholders, including Provincial PTCs, to engage fully and implement interventions proposed. Additionally, regardless of the willingness and buy-in from these stakeholders, the Covid-19 pandemic has resulted in the need to reprioritize resources and activities. Moving forward, GHSC-TA will keep these risks in mind, and act quickly to reprioritize activities as necessary.

Importance of verifying data. It is important that data reported by suppliers is verified with provinces. The challenge is that there is insufficient visibility on provincial engagements with suppliers and a discrepancy between what is reported by suppliers and the actual experience of provinces. CMU focuses on upstream challenges only and does not have a dedicated team protecting the interests of demanders (the provinces). There is no mechanism to verify that what is reported by suppliers is true and accurate, and often provinces dispute what is reported by suppliers. This situation has resulted in provincial accounts placed on hold by suppliers, who then do not deliver on orders placed. As a corrective action IMAT-Exploded will with support from GHSC-TA discuss this issue with provinces to identify any data discrepancies.

Consultation with NSC users. As described above, the NDoH switched servers over the January/February period, producing a slight decline in NSC user activity. GHSC-TA, through the PST, has intervened through continuous engagements with the license holders, including *ad hoc* 'walk through' sessions on the new server, to improve provincial usage. While the walk through sessions led to increases in usage, these are temporary gains which will not necessarily continue. To improve usage, there needs to be direct communication from AMD with license holders to establish if the current reports address provincial needs, and suggested improvements if not. GHSC-TA will follow up to ensure direct communication from AMD with license holders. Additionally, GHSC-TA is considering supporting AMD to set up and initiate the proposed quarterly NSC 'Change control forum,' which aims to determine additional AMD and provincial needs/ developments on the NSC, prioritisation of these needs/ developments, and approval of changes by AMD to inform the next development cycle.

ANNEX I. PROGRESS SUMMARY

Table 6. Key Performance Indicator Progress Summary

INDICATOR	REPORTING YEAR	BASELINE VALUE	YEAR 5 PROPOSED TARGET	YEAR 5, Q2 ACHIEVEMENT	% YEAR 5 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	FY21	78%	90%	86%	95.5%
Objective 1 – Improve selection and use of medicine					
KPI 2: Number of medicine selection decisions made utilizing health technology assessments	FY21	0	2	0	0
KPI 3: Percentage of assisted Pharmaceutical and Therapeutics Committees with improved operational capacity.	FY21	NA	25%	NA	NA
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).	FY21	79%	90%	58%	64%
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).	FY21	75%	85%	68%	80%
KPI 6: Supplier performance reliability – Perfect order fulfilment for orders placed on suppliers (in-full).	FY21	73%	80%	65%	81%
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.	FY21	NA	70%	NA	NA
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.	FY21	0	1,500	1,751	117%

INDICATOR	REPORTING YEAR	BASELINE VALUE	YEAR 5 PROPOSED TARGET	YEAR 5, Q2 ACHIEVEMENT	% YEAR 5 ACHIEVEMENT
KPI 9: Demand forecast accuracy for provinces using the demand forecasting process.	FY21	NA	55%	25.9%	47%
KPI 10: Forecast bias for pharmaceutical forecasts in provinces using the demand forecasting process.	FY21	TBD	<15%	33.5%	223%
KPI 11: Percentage of eligible patients transitioned from Tenofovir/Emtricitabine/Efavirenz to Tenofovir/Lamivudine/Dolutegravir.	FY21	0%	100%	60%	60%
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.	FY21	NA	80%	57%	71%
KPI 13: Number of health establishments and warehouses utilizing the Medicine Master Data Systems as a source of master data.	FY21	0	3,000	NA	NA
KPI 14: Number of health establishments using core supply chain information systems to order and/or receive stock.	FY21	0	2600	704	27%
KPI 15: Reporting compliance – Percentage of health establishments reporting stock availability to the National Surveillance Centre	FY21	NA	100%	102%	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.	FY21	0	4	1	25%
KPI 17: Percentage of expenditures on non-Essential Medicine List items.	FY21	1.60%	<10%	7.7%	77%

ANNEX 2. SUCCESS STORIES



“For the Standard Treatment Guidelines to be implemented, they must be disseminated to stakeholders during both the commenting and publishing phase. A complete accessible and updated stakeholder database assists the implementation of the STGs and rational medicine use.” – Pharmaceutical Policy Specialist – National Department of Health

Stakeholder management is the complex process of maintaining good relationships with the people and groups who have the most impact on your work.¹ In order to keep these stakeholders committed to initiatives, effective communication is key. The United States Agency for International Development (USAID)-funded Global Health Supply Chain Program – Technical Assistance (GHSC-TA) has been working with the Essential Drugs Program (EDP) of the Affordable Medicines Directorate (AMD) of the South African National Department of Health (NDoH) to develop tools that can help better manage relationships with key stakeholders.

The starting point for any key stakeholder management plan is stakeholder mapping. This step is critical to identify stakeholders; categorize them based on their interests, power to influence, and priorities as well as to understand their expectations about communication.

Stakeholder mapping helps organizations to strategize on the best approach to reach various players.

In late 2019, GHSC-TA worked with the EDP for a period of six months to develop a database to allow easy access to a list of the AMD’s key stakeholders. Previously, the team relied on different lists of contact details to manage its stakeholders. The EDP Stakeholder Database was developed as a centralized stakeholder master data repository to capture complete stakeholder data (names, contact details, and other relevant information related to their areas of interest and relevance to the work of the EDP).

The EDP Stakeholder Database was also developed to improve communication with relevant stakeholders who affect or are affected by the EDP, and to facilitate the implementation of policies and procedures developed at a national level. The tool has two main functions: to allow the EDP to capture new stakeholder information and make it

¹ [MindTools, What Is Stakeholder Management? \(2020\)](#)

possible to search for stakeholders within the database.

The database has three key components. First, a **user guide** that helps users understand how to utilize the tool. Second, **stakeholder groupings** allowing users to place stakeholders into various categories. Third, a **dashboard view** that lets users search for the details of any member of the stakeholder community.

The EDP Stakeholder Database categorizes stakeholders into **18** main groups with **64** sub-groups including committees. The groupings can be used when entering new or searching stakeholder information in the database. These groupings can also be used for stakeholder mapping to support various projects and initiatives undertaken by EDP.

When assigning stakeholders to groups, the nature of stakeholders' involvement with the EDP and type and content of communication required are considered to ensure stakeholders are identified and targeted at the right levels.]

To date, the EDP Stakeholder Database includes stakeholders relevant to the work of the EDP from all nine provinces across South Africa. It has helped the EDP to manage their stakeholders and created a place for them to access information needed at the touch of a button.

Managing stakeholders is an important element for successful implementation and management of projects. The EDP Stakeholder Database, as an effective and easily accessible repository of stakeholders, is a first step to ensuring successful stakeholder mapping within the AMD. It is anticipated that this database will be expanded to cover all AMD programs.

The EDP Stakeholder Database

The screenshot shows a web-based form for entering stakeholder data. The form is titled "Please insert the stakeholder's data here" and is organized into several sections:

- Stakeholder Information:** Includes fields for Name, Surname, Title, Name of Organization, Organization Address, and Location.
- Postal Address:** Includes fields for Office Number, Floor, Building, PO Box, Postal Office, Post Office, Province, and City Code.
- Contact Information:** Includes fields for Office Telephone Number, Office Telephone Number (for mobile and land-line), Cellphone Number, Cellphone Number (for mobile and land-line), Email Address, and Stakeholder Email Address (if available).
- Stakeholder Group Information:** Includes a dropdown menu for "Stakeholder Group" and a dropdown menu for "Sub-Group".
- Physical Address:** Includes fields for Company/Building Name, Street Name, Street Number, City, Suburb, Province, Postal Code, and Postal Office.

At the bottom of the form, there are buttons for "Submit", "Clear all data on this form", and "Add".





CONNECTING PEOPLE WITH TECHNOLOGY

A Data-driven Approach to Optimizing the Medicine Supply Chain in KwaZulu-Natal

Zen Chung from F1000

“We are what we repeatedly do. Excellence then is not an act, but a habit.”
- Aristotle

Across the South African public health sector, advances in information technology are playing an increasing role in meeting patient needs, reducing operational costs, and improving efficiency. In the public health supply chain space, the increased use of systems like the National Surveillance Center (NSC)¹ has resulted in marked progress in enabling health workers to practice evidence-based decision making when it comes to managing the availability and use of medicines.

The NSC makes various dashboards and reports available electronically via a web-based reporting platform. The NSC is accessible to registered license holders with an internet connection and computer or smart device from any geolocation. The NSC is used routinely to monitor stock availability at hospitals, community health centers and clinics. It can be used as a risk management tool by flagging facilities with low stock levels to mitigate the risk of medicine stock outs. For the NSC to yield optimal benefit, however, licensed users must regularly access and review the NSC

data and use it to make evidence-based decisions and trigger the necessary actions.

In KwaZulu-Natal (KZN) province, NSC licences were initially issued to 28 users, 18 of whom received training in April 2019 through the support of the United States Agency for International Development (USAID)-funded Global Health Supply Chain Program – Technical Assistance (GHSC-TA). Currently, there are 30 NSC users in KZN, including district and provincial pharmacy managers, pharmaceutical support services officers, and senior managers all of whom have been equipped to use the system.

Since January 2020, the member of the GHSC-TA Provincial Support Team (PST) designated to support KZN, assisted NSC users throughout the province to access and use the information available on the platform to make better decisions related to medicine availability. Through routine extraction of data from the NSC, including reports showing NSC user accessibility patterns for the 30 license holders,

¹ The NSC is a web-based performance monitoring and evaluation tool used to provide visibility of medicine stock levels and improve availability across all provinces.

NSC users are now able to follow an evidence-based approach when managing the supply of medicines and monitoring medicine availability. Part of the routine process includes regularly sharing reports with the relevant stakeholders, including those who themselves do not have direct access to the NSC. This information is shared monthly, hence playing a critical role in connecting the broader stakeholder group to this valuable information.

In addition to these reports, the PST developed and distributed user-friendly job aids to guide NSC users in easily retrieving the medicine availability data they need. These tools present a step-by-step guide on how users can navigate the NSC to access relevant information.

The beauty of the NSC is that one can track the trends and identify challenges in utilization of the platform. In KZN, the NSC usage rates for the licenced and active users (NSC users that accessed within the month) were recorded at **43 percent** in January 2020, **61 percent** in February 2020, and **54 percent** in March 2020. Usage rates of active users increased to **75 percent** and **79 percent** during May and July 2020 through continued support and communication from the PST.

Statistics from the NSC show that the overall use of the NSC, since the PST began engaging actively with licensed users, increased by **34 percent** between January and November 2020. Despite this good progress, NSC usage decreased in November (66.6%) and December (56.7%) and declined further until February 2021. The trend is attributed to numerous issues including challenges with the server, public holidays, and work around the Covid-19 vaccine rollout. Visibility of NSC usage, however, enabled the PST to identify challenges, undertake root cause analysis and take proactive steps to address issues in real time. By the end of March 2021 usage had again increased to 76%.

Through consistent NSC user engagement, support, and mentorship, between the PST and licensed users, optimal use, and true institutionalization of the NSC has been achieved. With ongoing use and an in-depth understanding of the information on the NSC dashboards, users are gaining the inherent knowledge and skills needed to not only effectively manage the medicine supply chain in a cost effective and rational manner, but to understand utilization trends within the province. In addition, usage trends can be flagged and addressed.

