

# Evaluation of the Phase 1 Implementation of the Interventions in the National Health Insurance Pilot Districts in South Africa

## NDOH10/2017-2018

### Final Evaluation Report

August 2019



**G:ENESIS**  
UNLOCKING VALUE



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## ACRONYMS

AIDS	Acquired immune deficiency syndrome
ART	Antiretroviral treatment
BCG	Bacillus Calmette–Guérin
BSI	British Standards Institution
CCMDD	Centralised Chronic Medicine Dispensing and Distribution
CHC	Community health centre
CHW	Community health worker
CUP	Contracting Unit for Primary Healthcare
DBE	Department of Basic Education
DCST	District Clinical Specialist Team
DG	Director General
DDG	Deputy Director General
DHIS	District Health Information System
DHMT	District Health Management Team
DHS	District Health Services
DoH	Department of Health
GP	General practitioner
HCP	Healthcare professional
HIV	Human immunodeficiency virus
HoD	Head of Department
HPRS	Health Patient Registration System
HRH	Human Resources for Health
HSS	Health systems strengthening
ICRM	Ideal Clinic Realisation and Maintenance
ISHP	Integrated School Health Programme
ISP	Information security policy
IT	Information technology
KII	Key informant interview
KPI	Key performance indicator
LMIC	Low- to middle-income countries
M&E	Monitoring and evaluation
MEC	Member of Executive Council



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MRC	Medical Research Council
NDoH	National Department of Health
NHI	National Health Insurance
NHRD	National Health Research Database
OHH	Outreach household
OHSC	Office of Health Standards Compliance
OTL	Outreach team leader
PHC	Primary healthcare
PMDS	Performance management development systems
PUP	Pick-up points
PwC	PricewaterhouseCoopers
SBCC	Social behaviour change communication
SDGs	Sustainable development goals
SVS	Stock Visibility System
TAC	Technical Advisory Committee
TB	Tuberculosis
TWG	Technical Working Group
UHC	Universal health coverage
WBPHCOT	Ward-based Primary Healthcare Outreach Team
WHO	World Health Organization
WISN	Workload Indicators of Staffing Need

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**Genesis** was responsible for the overall technical leadership and oversight of the evaluation. This involved project and stakeholder management, supporting the fieldwork component and undertaking data analysis and reporting. The team also formed part of the Technical Advisory Committee (TAC) that provided technical oversight and support in the design and execution of this evaluation, as well as the interpretation of the findings and the development of usable and actionable recommendations. **PwC** was largely responsible for undertaking the fieldwork, developing the dashboards and analysing the quantitative data. PwC also formed part of the TAC, providing technical oversight of the evaluation. The **Centre for Health Policy** was largely responsible for the document reviews and the provision of technical oversight via its representation on the TAC. **Insight** was responsible for the document reviews, supported the qualitative analysis and played a lead role in the analysis of the quantitative data.

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# EXECUTIVE SUMMARY AND POLICY IMPLICATIONS

## Introduction

South Africa faces numerous challenges in delivering high-quality health services to the majority of its population. The majority of the population in South Africa cannot afford private healthcare and must access public healthcare in a congested and understaffed public sector, contributing to slower, less responsive services. According to section 27.1(a) of the South African Constitution, “Everyone has the right to have access to health services, including reproductive healthcare...” (Constitution of the Republic of South Africa, 1996). The South African Government, through the NDoH, is committed to moving the country towards the goal of universal health coverage (UHC), which is being pursued in South Africa through the implementation of National Health Insurance (NHI), as articulated in the Draft NHI Bill. The NHI Bill lays the foundation for providing mandatory healthcare services in South Africa (Republic of South Africa, 2018).

The NHI programme is being implemented by the NDoH through a gradual process spanning three phases. These three phases are being implemented over a period of five years each. Phase 1 commenced in 2012 and was completed in 2017. **The first phase of the NHI programme did not involve developing new funding arrangements for healthcare in South Africa, but rather piloted various health system strengthening (HSS) interventions focused at the primary healthcare (PHC) level.** The interventions implemented during this phase were mainly funded by a direct NHI Conditional Grant to provinces, although there were other funding mechanisms. The NDoH established workstreams to develop and refine NHI-related policy and incorporate feedback from the phased NHI implementation. **This evaluation focused on the 10 PHC interventions in the pilot districts. These are listed below.**

The 10 NHI pilot districts comprised one district in each province except KwaZulu-Natal, which had two districts. Subsequently, KwaZulu-Natal included a third district that was solely funded through provincial funding. The NHI pilot districts were intended to become sites for innovation and testing throughout the implementation of NHI Phase 1. The pilot districts were as follows: OR Tambo (Eastern Cape), Thabo Mofutsanyana (Free State), Tshwane (Gauteng), uMgungundlovu and uMzinyathi (KwaZulu-Natal), Vhembe (Limpopo), Gert Sibande (Mpumalanga), Pixley ka Seme (Northern Cape), Dr Kenneth Kaunda (North West) and Eden (Western Cape). An additional district, the Amajuba district included by KwaZulu-Natal.

The interventions were as follows: (1) Ward-based Primary Healthcare Outreach Teams (WBPHCOTs), which were responsible for the provision of promotive and preventative healthcare to households; (2) the Integrated School Health Programme (ISHP), which aimed to provide a range of health promotion and preventive services to school-going children at their places of learning; (3) general practitioner (GP) contracting, which aimed to increase the number of GPs at PHC facilities to improve the quality and acceptability of care; (4) the Ideal Clinic Realisation and Maintenance (ICRM) model, which aimed to increase the quality of services through the establishment of minimum standards; (5) District Clinical Specialist Teams (DCSTs), which were responsible for supporting clinical governance and undertaking clinical work, research and training; (6) the Centralised Chronic Medicine Dispensing and Distribution (CCMDD) system, which aimed to improve the distribution of medicines to patients through the provision of chronic medication at designated pick-up points (PUPs) closer to the communities in the pilot districts; (7) the Health Patient Registration System (HPRS), which has the ultimate goal of a fully electronic patient record-keeping system but has commenced with the capturing of patient data and the generation of electronic files; (8) the Stock Visibility System (SVS), which aimed to improve the oversight of stock through an electronic stock monitoring system, thereby reducing stockouts by allowing for appropriate and timely ordering; (9) infrastructure projects, which were implemented to improve health infrastructure and

thereby ensure increased access and quality of care; (10) Workload Indicator for Staffing Need (WISN), which are a World Health Organization (WHO) planning tool implemented to help facility managers make more efficient staffing decisions.

The aim of this evaluation was to assess the progress made in implementing these programmes in the pilot districts, with a focus on the perceptions of staff and patients regarding the successes and challenges with the programmes in the initial five years of implementation. Specifically, the approach was to provide a national-level overview of the progress made during NHI Phase 1. While provinces and districts were visited during the evaluation, the intention was not to provide reports that were specific to each province or to report province-specific findings in detail. It is acknowledged that there were differences in implementation between the provinces and that there may be some developments that have not been completely captured in this report.

## Methods

The evaluation was undertaken between November 2017 and December 2018. The first phase of the evaluation was the inception phase, which involved refining the objectives of the evaluation with the NDoH. The second phase comprised the ethics application processes and the completion of the literature reviews. Ethical approval was obtained from the University of the Witwatersrand, and further provincial permission was obtained through the NDoH National Health Research Database (NHRD) application process.

The third phase of the evaluation included primary and secondary data collection. Primary data collection included in-depth interviews at four levels: national-level interviews (22) with stakeholders within the NDoH and the Department of Basic Education (DBE), National Treasury and Department of Planning, Monitoring and Evaluation; provincial-level interviews (20) with Department of Health (DoH) stakeholders in all nine provinces; district-level interviews (31) with DoH stakeholders in 10 districts; and facility-level interviews in 40 facilities in the pilot districts. In addition to the in-depth interviews, two surveys were completed. We conducted telephonic interviews with facility managers as well as a limited survey of facility users at each facility visited. A total of 208 surveys were completed with facility users. In total, 468 interviews and surveys were completed by the end of the data collection phase. Evaluation case studies were developed using the primary data. These case studies were used to highlight instructive in-depth stories reflecting different aspects of the Phase 1 implementation. Ten case studies were developed in total.

Secondary data collection formed a significant part of the evaluation. A review of the annual NHI rapid assessments was undertaken. The purpose was to obtain an historical overview of the successes and challenges of each intervention. A comparative review of international literature was also completed to provide evidence on the impact of selected NHI pilot interventions and the factors facilitating or hindering their success in low- to middle-income countries (LMIC). Finally, a review of routine and outcomes data was undertaken to compare the performance of the indicators over the past five years across the pilot and non-pilot districts.

The fourth phase was a rigorous data analysis and synthesis process. Initial themes were established, and Atlas.ti was used to extract themes across the numerous transcripts. The two surveys were analysed in parallel. The findings from the various methods were compared and collated and revisited in workshops with the consortium for validation. The analysis of the District Health Information System (DHIS) and financial data was then completed. The Technical Working Group (TWG) and project Steering Committee provided input throughout the process of analysis and synthesis. The final deliverable for the NHI Phase 1 evaluation is this evaluation report, which includes recommendations for the further implementation of the NHI programme in South Africa.

The evaluation team appreciates that this evaluation focused on interventions and programmes that are constantly changing, and many of the programmes have already been adapted in line with learnings and reviews.

## Findings and Discussion

Overall, the implementation of the pilot interventions had mixed success across the pilot districts. Where successful, we identified a few common factors: **strong political will, adequate human and financial resources for implementation, good coordination and communication, and good monitoring systems put in place at the time of implementation.** However, the interventions also faced a number of challenges, and to varying degrees, these factors hindered their success. The challenges included **inadequate planning, a lack of resources, inconsistent communication, a lack of coordination where necessary and insufficient mechanisms to monitor progress and thereby ensure course correction.** Table 1 below highlights some of the successes and challenges of each intervention.

**Table 1: Successes and challenges of the NHI Phase 1 interventions**

Intervention	Intervention successes	Intervention challenges
<b>WBPHCOTs</b>	<ol style="list-style-type: none"> <li>1. In 2016/2017, a reported 3519 WBPHCOTs were covering 12 816 152 households.</li> <li>2. A total of 3 323 WBPHCOTs were providing basic health services to children and adults at the end of 2017/2018.</li> <li>3. These teams were able to successfully fulfil their mandate to provide outreach health services within the community.</li> <li>4. The WBPHCOTs did not only complete community visits, but were also able to report on the ill health or wellbeing of the individuals at the households visited.</li> </ol>	<ol style="list-style-type: none"> <li>1. Teams often lacked the envisioned team composition, with many teams lacking OTLs.</li> <li>2. Data collection was insufficient to adequately monitor the effectiveness of the referral systems and follow-up processes.</li> <li>3. At times, there were insufficient funds for transport and equipment; this impacted the ability of the teams to successfully undertake their work.</li> </ol>
<b>ISHP</b>	<ol style="list-style-type: none"> <li>1. A total of 4 339 875 learners were screened through the ISHP between 2012 and the end of 2017/2018. Of these, 504 803 were identified as having various health barriers and were referred for treatment.</li> <li>2. This intervention has been particularly successful in its ability to demonstrate good inter-departmental collaboration between the NDoH and the DBE.</li> </ol>	<ol style="list-style-type: none"> <li>1. There is a lack of data to support the effectiveness of the referrals and a lack of feedback mechanisms between the school teams and the facilities.</li> <li>2. The lack of sufficient equipment, such as measurement scales and transport to travel to schools, often impacted the success of the ISHP.</li> <li>3. A lack of prioritisation and targeting of learners within this intervention was evident during NHI Phase 1 implementation.</li> </ol>
<b>GP contracting</b>	<ol style="list-style-type: none"> <li>1. A total of 330 GPs had been contracted by the end of 2017/2018.</li> <li>2. Where GP contracting had been implemented successfully, it was evident that access to doctors at facilities had improved.</li> <li>3. Patients' perceptions were that the quality of care had improved at facilities due to the presence of GPs.</li> </ol>	<ol style="list-style-type: none"> <li>1. Inadequate monitoring of the contracted GPs caused some challenges during implementation.</li> <li>2. Unforeseen contractual challenges during the implementation of this intervention resulted in GPs having substantially higher expense claims than expected.</li> </ol>
<b>ICRM</b>	<ol style="list-style-type: none"> <li>1. A total of 3434 facilities were assessed, and of these, 1507 had attained ideal clinic status by the end of 2017/2018.</li> </ol>	<ol style="list-style-type: none"> <li>1. The changing manual and frequent changes to standards made it difficult for managers to keep up and resulted in frustration among them.</li> </ol>

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Intervention	Intervention successes	Intervention challenges
	<ol style="list-style-type: none"> <li>ICRM is seen to have improved the ability of facilities to procure much-needed equipment.</li> <li>Where ICRM was believed to have been implemented as planned, there was a perceived improvement in quality of care by both facility managers and patients.</li> </ol>	<ol style="list-style-type: none"> <li>ICRM limited flexibility and the ability of managers to adapt it to the local context and the needs of the facilities at the time.</li> </ol>
<b>DCST</b>	<ol style="list-style-type: none"> <li>At the end of March 2017, 45 of 52 districts in nine provinces had functional DCSTs with at least three members per team.</li> <li>The DCSTs, where available, were able to provide specialist oversight within the districts.</li> <li>The introduction of these teams was perceived by some stakeholders to have promoted clinical governance within the districts.</li> </ol>	<ol style="list-style-type: none"> <li>The team composition often lacked critical specialists and limited their ability to provide the envisioned training and support structures.</li> <li>The lack of gynaecologists and paediatricians meant that the DCSTs were not able to adequately improve child and maternal health as envisioned.</li> <li>Not all specialists are necessarily good mentors, and some may be unable to provide adequate support.</li> <li>The DCST model is costly and stretches the limited specialist resources in the public sector.</li> </ol>
<b>CCMDD</b>	<ol style="list-style-type: none"> <li>A total of 2 182 422 patients had enrolled on the CCMDD programme and collected medicines from over 855 PUPs by the end of 2017/2018.</li> <li>The strong political leadership and will behind CCMDD contributed towards its successful implementation.</li> <li>CCMDD was scaled up beyond target, and the consistent monitoring of the programme contributed to the availability of reliable data to support its continued implementation.</li> </ol>	<ol style="list-style-type: none"> <li>The change of service providers threatened the intervention's continuity.</li> <li>The lack of sufficient integration between CCMDD PUPs and facilities resulted in inadequate patient tracking between the two systems.</li> </ol>
<b>HPRS</b>	<ol style="list-style-type: none"> <li>At the end of 2017/2018, 2968 PHC facilities were using HPRS, and there were over 20 million (20 700 149) people registered on the system.</li> <li>Good communication and feedback loops are seen to have facilitated implementation success.</li> </ol>	<ol style="list-style-type: none"> <li>The poor connectivity at some facilities and challenges with hardware contributed to the challenges experienced during NHI Phase 1 implementation.</li> <li>The lack of human resources and implementation capacity affected the success of the HPRS.</li> </ol>
<b>SVS</b>	<ol style="list-style-type: none"> <li>At the end of 2017/2018, the SVS was being implemented in 3167 clinics and CHCs (92% coverage).</li> <li>The successful training of available staff led to an in-depth understanding of the system at facility level.</li> <li>The introduction of the SVS led to reduced stockouts and improved efficiency at facilities</li> </ol>	<ol style="list-style-type: none"> <li>The lack of reliable internet connectivity and hardware impacted the system's success.</li> <li>The minimal number of available pharmacists and pharmacy assistants limited the ability of facilities to ensure the smooth-running of the system.</li> <li>The sustainability of this intervention poses a challenge as implementation</li> </ol>

Intervention	Intervention successes	Intervention challenges
		during NHI Phase 1 relied heavily on support from external funders.
<b>Infrastructure</b>	<ol style="list-style-type: none"> <li>1. Since 2013/2014, work in 139 of the 140 identified CHCs and clinics has been completed through the NHI rehabilitation projects.</li> <li>2. In 2017/2018 alone, 107 facilities were maintained, repaired and/or refurbished in the NHI pilot districts.</li> <li>3. Where completed, patients perceived a resultant improvement in the quality of care.</li> <li>4. Small infrastructure changes had a positive impact on the overall environment at facilities.</li> </ol>	<ol style="list-style-type: none"> <li>1. Projects were rarely implemented or completed due to a lack of planning capacity to release the assigned funds.</li> <li>2. The funds that were released were used mainly for new infrastructure projects, and insufficient attention was paid to the maintenance of facilities, which is critical for both access to and the provision of quality services. Facility maintenance also prevents unnecessary new-build costs due to deterioration stemming from a lack of basic maintenance.</li> </ol>
<b>HRH</b>	<ol style="list-style-type: none"> <li>1. The introduction of WISN provided a standardised, evidence-based staffing needs assessment at facility level.</li> <li>2. These assessments were implemented widely across the pilot districts.</li> </ol>	<ol style="list-style-type: none"> <li>1. The resource-constrained environment meant that the hiring of staff had been frozen, and as a result, the WISN findings were not always implementable, causing further frustration among those facility managers who had conducted the assessment.</li> </ol>

Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; CHC, community health centre; DBE, Department of Basic Education; DCST, District Clinical Specialist Team; DOH, Department of Health; GP, general practitioner; HPRS, Health Patient Registration System; HRH, human resources for health; ICRM, Ideal Clinic Realisation and Maintenance; ISHP, Integrated School Health Programme; NDoH, National Department of Health; NHI, National Health Insurance; OTL, outreach team leader; PHC, primary health care; SVS, Stock Visibility System; WBPHCOTs, Work-based Primary Healthcare Outreach Team; WISN, Workload Indicators of Staffing Need

**The evaluation findings highlight the importance of strong leadership and good governance in order to drive a successful and effective health system.** There are four main components of governance that are critical for the successful implementation of the NHI programme: **clarity of vision, setting appropriate priorities, performance management and accountability.**

In many interventions, the presence of strong champions who held the vision of NHI and the specific intervention programme ensured that there was robust implementation. However, this was not evident in some of the interventions. **In many cases, managers implemented the interventions in silos and seemed to lose the overall objective of the NHI process, which is to improve access to and the quality of services at facilities.** In these cases, there was lack of regular communication at different departmental levels about progress towards meeting the objectives of NHI Phase 1. In addition, while the interventions were often well designed to meet their objectives, the allocated budgets did not always support the intended priorities and at times led to the interventions being underfunded. The rationalisation of budget allocations and intentions was not always well understood or aligned to the contextual needs at a provincial and district level. Some performance management structures were put in place during implementation, but there was not always an adequate amount of upward feedback. Overall, there was insufficient monitoring, and course correction was insufficient in some interventions.

Finally, the organisational culture within some parts of the department was perceived by staff to be overly bureaucratic. The culture was often not supportive of problem solving and left little room for creativity or innovation. There was also a lack of accountability, little recourse for the consequences of poor performance

and insufficient use of data to monitor progress. Likewise, there was little incentive for high performance and to encourage staff to produce high-quality data.

**There is a need to strengthen health system governance during NHI Phase 2; otherwise, there is the potential for new interventions to continue to have varied implementation success across the country.**

### Overall Impact

It was difficult for the evaluation team to assess the **overall impact** of the implementation of the HSS interventions in the pilot districts on the access to and quality of services because of various important factors. These include: the absence of a control group due to the interventions being implemented in both pilot districts and non-pilot districts, a lack of baseline measures and variations in performance indicators, which made it difficult to identify clear performance trends over time.

However, almost all the interventions were appropriately designed to either improve access to services or improve quality. Most were implemented at scale, and in many cases, there were qualitative findings of significant improvements in the delivery of PHC across the pilot districts where the interventions were successfully implemented. However, it must be noted that public health services face well-documented systemic challenges, included planning and budgeting weaknesses, a lack of qualified staff at all levels and weak governance systems. These hindered the implementation of the NHI Phase 1 interventions.

### Strategic Recommendations for NHI Phase 2

- Make the vision of the NHI “real” for all stakeholders and communicate this vision clearly and regularly. For example, the Health Summit was used to create support and share the vision for HSS. Similarly, NHI Phase 2 should be launched with a clear vision and plan, which includes plans to realistically address weaknesses in the public health sector. The plan needs to include a clear theory of change that illustrates unambiguously how change is envisioned; a results chain to link the various inputs, activities, outputs and outcomes leading to the achievement of the overall impact; a set of defined indicators of success that will be used to measure improvements over time; and a baseline measurement to ensure that before and after comparisons can be made to ascertain the success of the programme. The plan needs to be clearly communicated so as to ensure that all stakeholders have an explicit understanding of the vision of NHI and the goals of Phase 2.
- Bring all stakeholders on board, especially the provinces and districts, through cooperative governance and intergovernmental collaboration across all levels. Provide regular feedback to encourage common purpose and continued commitment to the NHI programme.
- Identify champions and intervention leaders at all levels and provide them with clearly defined roles and responsibilities. Leverage these champions and leaders to drive the vision and programme.
- Develop implementation plans with milestones and targets that are linked to the Conditional Grant business plans and annual performance plans. These milestones and targets should be used to identify key performance indicators (KPIs) for personnel performance management to encourage accountability.
- Define clear metrics for success that are measured and reported on regularly to enable continuous improvement and stronger accountability. These should include measures of access to and the quality of health services.
- Develop a problem-solving, innovative and high-performance culture. Managers’ leadership styles need to be assessed, and mentorship should be made available to support a change in culture.



- Allow for incremental implementation and learn from successes and challenges. Monitor for unintended consequences during programme implementation and course correct throughout.
- Have feedback loops between all stakeholder levels that allow for course correction throughout the system.
- Hold all staff accountable for programme delivery through measurable and actioned KPIs and incentivise good performance.
- Celebrate successes and progress towards milestones and targets.

## Intervention-specific Recommendations for NHI Phase 2

Table 2: Intervention-specific recommendations for NHI Phase 2

Intervention	Recommendations
WBPHCOTs	<ol style="list-style-type: none"> <li>1. WBPHCOTs need regular and appropriate supervision.</li> <li>2. Transport and equipment should be planned and adequately budgeted for.</li> <li>3. The scope of practice of WBPHCOTs should be revisited to explore the possibility of its expansion to more than health promotion and referrals.</li> <li>4. Referrals from WBPHCOTs should be prioritised by the facility.</li> <li>5. Electronic systems should allow WBPHCOTs to report on household data.</li> </ol> <p><b>This is a critical programme that should be continued and strengthened.</b></p>
ISHP	<ol style="list-style-type: none"> <li>1. For primary schools, screening programmes need to have a close link to services, which should ideally be delivered on site, or referrals should be standardised and include effective feedback systems.</li> <li>2. For high schools, the priority should be on sexual and reproductive health services, with nurses referring to care.</li> <li>3. Transport and equipment (both capex and maintenance) should be adequately budgeted for.</li> </ol> <p><b>The identified weaknesses and design issues should be addressed before this programme is expanded.</b></p>
GP contracting	<ol style="list-style-type: none"> <li>1. The contracting of GPs needs to shift from having GPs work sessions at public sector facilities to contracting GPs to work in their own facilities but seeing all patients and being reimbursed accordingly by the state. This could be achieved using a capitation model, which is supported by the provinces, or other outcomes-based reimbursement schemes, but ideally not fee-for-service payment models.</li> <li>2. HCP salaries should be benchmarked and consistent so as to not shift resources and to ensure the sustainability of the intervention.</li> <li>3. HCP contracts need to be carefully monitored, and processes should be put in place for regular supervision and oversight. For example, there should be regular auditing to ensure there is no fraudulent activity. There should also be clear performance indicators as mentioned by the Eastern Cape province.</li> </ol> <p><b>The capitation model should be implemented sequentially, but oversight will need to be strengthened at a district level.</b></p>
ICRM	<ol style="list-style-type: none"> <li>1. There should be a limited set of core ICRM standards for all facilities. The standards should be flexible and based on the specific conditions and needs at each facility.</li> <li>2. Procurement mechanisms at a facility level should be simplified, especially for routine maintenance through delegation of tasks.</li> <li>3. ICRM standards should be set for a two-year period and reviewed after that or longer, for example, three years, as suggested by the Free State province.</li> </ol>

Intervention	Recommendations
	<b>This programme should continue with the suggested modifications.</b>
DCSTs	<ol style="list-style-type: none"> <li>1. The DCST model should be reviewed via a cost-effectiveness analysis to determine if it is the most cost-effective and highest-impact method for improving clinical governance and the quality of services and whether or not the model is appropriate for implementation in different settings.</li> <li>2. The primary role of the DCSTs should be clearly defined and communicated as improving the quality of care at PHC facilities rather than providing services themselves.</li> <li>3. Salaries should be benchmarked and consistent with specialist services in the rest of the public service sector.</li> </ol> <p><b>The model for clinical governance needs to be reviewed and possibly adapted to focus on basing specialists at regional or district hospitals.</b></p>
CCMDD	<ol style="list-style-type: none"> <li>1. Systems must be in place to ensure coordination between CCMDD PUPs and facilities to ensure no patients are lost to care. Furthermore, PUPs should be stationed at clinics in remote/rural areas where service providers are unable to provide standalone PUPs.<sup>1</sup></li> <li>2. There needs to be a planned transition of service providers if and when there is a change in service providers.</li> <li>3. As the system grows, it will require additional oversight and management support.</li> </ol> <p><b>This is an important programme with potential – as long as the associated costs can be managed.</b></p>
HPRS	<ol style="list-style-type: none"> <li>1. The programme requires holistic budgeting for hardware, software, connectivity and staffing to ensure it can be expanded to the EMR stage across all health facilities, as mentioned by the KwaZulu-Natal province.</li> <li>2. The duplication of processes (paper-based and online registration) needs to be avoided through robust system architecture.</li> <li>3. Expertise needs to be sourced to strengthen the interoperability of various IT systems (as supported in the KwaZulu-Natal pilot report), including the HPRS.</li> </ol> <p><b>Given the feedback regarding this system, an evaluation of the HPRS is warranted in order to fix ongoing issues.</b></p>
SVS	<ol style="list-style-type: none"> <li>1. Continuous training on the SVS is needed so that pharmacists and pharmacy assistants at facilities understand and can use the system.</li> <li>2. Funding needs to be allocated for software, hardware, connectivity and staffing to ensure the efficient continuity of the SVS for all PHC facilities throughout the country.</li> <li>3. Planning needs to take place to ensure sufficient domestic funding is available, if required.</li> <li>4. A future focus on stock control management is needed to enable more dynamic stock management. It should include a warning for low stocks and better forecasting for medicine stocks at facilities.</li> </ol> <p><b>This is a critical programme that should be continued and strengthened.</b></p>
Infrastructure	<ol style="list-style-type: none"> <li>1. Funding for maintenance should be differentiated from funding for infrastructure development, and funding mechanisms need to be put in place for both these activities. This may require multiple funding sources.</li> <li>2. District and facility managers need capacity building around planning for the procurement of infrastructure and infrastructure maintenance.</li> </ol> <p><b>There is an urgent need to address aging and inadequate infrastructure and to develop a process that is streamlined but still complies with state procurement standards and the Public Finance Management Act. Greater control should devolve to district and facility managers, with the requisite support and training.</b></p>

<sup>1</sup> Eastern Cape

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Intervention	Recommendations
HRH: WISN	<ol style="list-style-type: none"> <li>1. Any assessment of staffing norms should take place within the broader context of a review of workloads (e.g. the number of patients seen per day and performance management of staff).</li> <li>2. Communication between the NDoH and relevant stakeholders, such as the National Treasury, should take place before an assessment of staffing norms takes place to ensure alignment with the financial realities that impact staffing.</li> </ol> <p><b>Programmes that address staff requirements need to be done in close consultation with the provinces and districts to ensure the findings are actionable.</b></p>

Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; CHC, community health centre; DCST, District Clinical Specialist Team; DHMT, District Health Management Teams; DOH, Department of Health; EMR, electronic medical record; GP, general practitioner; HCP, healthcare professional; HPRS, Health Patient Registration System; HRH, human resources for health; ICRM, Ideal Clinic Realisation and Maintenance; ISHP, Integrated School Health Programme; NDoH, National Department of Health; NHI, National Health Insurance; PHC, primary health care; PUP, pick-up point; SVS, Stock Visibility System; WBPHCOTs, Work-based Primary Healthcare Outreach Team; WISN, Workload Indicators of Staffing Need

# CHAPTER 1: INTRODUCTION

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## 1. BACKGROUND TO NHI AND NHI PHASE 1

In early 2012, the NDoH began a detailed process of research, diagnostics and planning in preparation for the initiation of the NHI programme in South Africa. Experts, both local and international, were consulted, and the best available evidence was used both to design the interventions and to select the pilot districts. Experts and DoH managers were organised into workstreams, and their recommendations culminated in the Green Paper and White Paper on NHI. This process revealed the importance of incremental implementation, resulting in the phased design and selection of pilot districts. Additionally, the NDoH recognised through this process that the full implementation of NHI necessarily involves stakeholders beyond the health system in order to deploy holistic solutions for HSS. As the policy process unfurled, discussions became broader and included more voices and perspectives. The policy context and decision-making boundaries also continuously shifted. This diminished the imperative for incremental implementation and collaboration beyond the health system, which has, however, not been totally lost. This evaluation aims to ensure that the spirit of learning from the pilots and the deployment of these lessons across the incremental phases of implementation are reignited.

South Africa faces numerous challenges in delivering high-quality health services to the majority of its population. This is despite South Africa spending close to 8.9% of its gross domestic product on healthcare (National Treasury, 2017). However, over half of this expenditure occurs within the private health sector, which serves less than one-fifth (16%) of the South African population (National Department of Health, 2017). Likewise, a skewed distribution of key healthcare professionals (HCPs) between the public and private sectors and between urban and rural areas puts strain on the public sector health services that provide healthcare services to the majority of the population (Kahn, 2017). The majority of the population in South Africa cannot afford private healthcare and must access public healthcare in an already congested public sector, contributing to slower, less responsive services. This has contributed towards health transforming into a commodity rather than a social investment or human right. Those who need health services the most are less likely to access quality healthcare than those who are able to pay for services in the private sector. The NHI programme aims to address these disparities by strengthening the South African health system and developing an NHI Fund to deliver quality, affordable healthcare.

South Africa also faces a quadruple burden of disease: the human immunodeficiency virus/acquired immunodeficiency syndrome (HIV/AIDS) epidemic alongside the high burden of tuberculosis (TB); high maternal and child mortality; high levels of violence and related injuries; and a growing burden of non-communicable diseases. Chronic diseases place a burden on the healthcare system, and infrastructure will need to be strengthened to accommodate the rising number of cases. Consequently, the poor and vulnerable in South Africa have disproportionately poor health outcomes, which threatens the achievement of the health Sustainable Development Goals (SDGs) by 2030 (United Nations, 2015).

According to section 27.1(a) of the South African Constitution, “Everyone has the right to have access to health services, including reproductive healthcare...” (Constitution of the Republic of South Africa, 1996). The National Development Plan 2030 also indicates that the country should deal with the high cost of private healthcare and address the problems of quality in public healthcare (Planning Commission, 2017). The increasingly high costs of private healthcare are yet to be regulated by legislation, while the NHI programme is addressing both quality of care and affordability of care through HSS activities and the establishment of an NHI Fund (National Department of Health, 2017). The South African Government, through the NDoH, is committed to moving the

country towards the goal of UHC. UHC is an aspirational goal that all people will be able to use the promotive, preventive, curative and rehabilitative health services they need and that these will be of sufficient quality to be effective, without people suffering financial hardship (World Health Organization, 2000). UHC is being pursued in South Africa through the NHI policy, as articulated in the Draft NHI Bill. The NHI Bill lays the foundation for providing mandatory healthcare services in South Africa, for establishing an NHI Fund, for providing a framework for the active procurement of healthcare services on behalf of users, for creating mechanisms for the equitable, effective and efficient utilisation of resources to meet the health needs of users, and for limiting undesirable, unethical and unlawful practices in relation to users (Republic of South Africa, 2018).

The policy papers that led up to the Draft NHI Bill, the Green, Draft White and White Papers, clearly illustrate the need for NHI in South Africa. These documents articulate how NHI incorporates both a structural shift for the sector away from the existing two-tiered health system to a single unified health system and the introduction of an innovative health financing system to support the shift. Implementation of NHI is part of the National Development Plan 2030 to improve the performance of the national healthcare system, as outlined in Box 1 below (Planning Commission, 2017). The NHI programme will extend population coverage, improve the quality and quantity of the services that the population will be entitled to, as well as provide financial risk protection to individuals and households while reducing the direct costs that the population will be exposed to when accessing healthcare (National Department of Health, 2017). The implementation of NHI is a priority of government as articulated in government's Programme of Action to contribute towards achieving "**A Long and Healthy Life for All South Africans**" (Planning Commission, 2017).

**Box 1: Objectives of the NHI programme in South Africa**

The NHI programme seeks to achieve the following objectives:

1. Ensure UHC for all South Africans.
2. Improve access to quality health services irrespective of socioeconomic status.
3. Promote equity and social solidarity through the pooling of risks and funds.
4. Create a single, publicly owned and administered health fund with adequate reserves and funds to plan for and effectively meet the health needs of the entire population.
5. Accelerate the transformation of the national health system.
6. Create a single health purchaser that will ensure that health services and health products are purchased and procured at reasonable costs and that recognises healthcare as a public good.
7. Promote efficient and effective service delivery, which will be achieved through evidence-based interventions, in both the public and private sectors.
8. Strengthen the under-resourced and strained public sector so as to improve health systems performance.
9. Adopt appropriate, innovative health service delivery models to respond to local needs.
10. Ensure the continuity and portability of health service benefits across the country.

*Sources: NHI Green Paper, 2011; NHI White Paper, 2017; NHI Bill, 2018*

The NHI programme is being implemented gradually in three phases (National Department of Health, 2017):

- **Phase 1 (2012/2013 – 2016/2017):** This phase included the piloting of various interventions in preparation for the full implementation of the NHI programme. These activities were funded directly and indirectly through the NHI Conditional Grant and Health Infrastructure Grants. Workstreams were established to further refine the NHI policy and incorporate feedback from the phased NHI

implementation. Reviews were conducted annually, and some important lessons were learned from NHI Phase 1, which have informed decisions for integrated school health services, maternal and child health initiatives, DCSTs and PHC outreach teams (National Department of Health, 2017). These learnings were applied as implementation progressed and will be considered for scale-up in the next phase of implementation.

- **Phase 2 (2017/2018 – 2021/2022):** This phase focuses on the development of NHI legislation and amendments to other legislation. Initiatives will be undertaken that aim to establish institutions that will form the foundation of a fully functional NHI Fund. Activities in this phase will also entail purchasing personal healthcare services from emergency medical services organisations and the National Laboratory Health Services for vulnerable groups such as children, women, people with disability and the elderly. HSS initiatives will continue to be implemented based on the lessons learned in NHI Phase 1 (National Department of Health, 2017).
- **Phase 3 (2022/2023 – 2025/2026):** In this phase, HSS activities will be ongoing and will be undertaken throughout the lifecycle of the health system in perpetuity. In other words, HSS activities will become “business as usual” in the health system. Other activities will be to initiate the mobilisation of additional resources, such as fiscal revenue to be allocated to the NHI Fund. Selective contracting of healthcare services from private providers will be undertaken. The following activities will be undertaken in the third phase: the introduction of mandatory payment for NHI through NHI-specific taxes into prevailing tax policies and the contracting of accredited private hospital and specialist services (National Department of Health, 2017).

The NHI Phase 1 pilot interventions began in 2012 when 10 districts were selected according to the burden of disease, socioeconomic indicators, health service performance and district management capacity to implement NHI Phase 1. The KwaZulu-Natal Provincial Department of Health included an additional district to bring the number of pilot districts to 11 in total.

The overall objectives of the pilot interventions (real-life demonstrations) were to improve access to quality healthcare and to assess whether the new HSS interventions could reduce the burden of disease and improve health outcomes, especially those of mothers, children and infants.

The aims of the specific NHI Phase 1 interventions were (National Department of Health, 2017):

1. To establish WBPHCOTs to improve community outreach services, promote health and prevent ill health
2. To improve quality of services through the Ideal Clinics Realisation and Maintenance (ICRM) model
3. To roll out the ISHP to eliminate barriers to accessing healthcare, thus ensuring the general state of physical and mental health and well-being of school-going children is achieved in order to maximise learning outcomes
4. To introduce DCSTs to address high levels of maternal and child mortality and to improve health outcomes
5. To contract GPs and other private primary HCPs to address capacity constraints within public clinics and improve the clinical quality of care
6. To implement the CCMDD programme to improve patient access to medicines, especially for patients on chronic medication, as well as to assist with decongesting PHCs and community health centres (CHCs)

7. To use the e-Health Strategy, including the HPRS, to identify the population with the greatest health needs, in order to contribute towards improved targeting of healthcare over time
8. To use the electronic medicine SVS and medicine availability surveillance report to monitor stock availability in facilities and to serve as an early warning system when stocks are not available
9. To undertake health facilities infrastructural investment to address the backlog of existing and preventive maintenance
10. To strengthen human resources for health (HRH) by increasing the incoming and current workforce and to ensure the current workforce is working efficiently through the introduction of human resources systems (e.g. Workload Indicators of Staffing Need [WISN], which provide health managers with a systematic way to assess their staffing needs)

## 2. NHI PHASE 1 PILOT DISTRICTS AND INTERVENTIONS

The purpose of the NHI Phase 1 interventions was to strengthen health systems in preparation for the full NHI programme roll out. This phase focused on improving and strengthening the health system prior to the introduction of an NHI Fund by implementing specific interventions in selected pilot districts. The NHI pilot districts were intended to become sites for innovation and testing throughout the NHI Phase 1 implementation.

The NHI pilot interventions were rolled out in an incremental manner starting from 2012, after the release of the NHI Green Paper. The NHI pilot districts were chosen to reflect criteria relating to location, burden of disease, performance and other key indicators relevant to describe the population currently accessing public sector services. The NDoH undertook a formal process to select pilot districts to ensure that a mix of both well- and poor-performing districts were included. However, there was a focus on including districts that were identified as in need of support. Therefore, the big metros such as the City of Johannesburg and the City of Cape Town were deliberately not chosen as pilots. Ten districts were originally chosen, one in each province except KwaZulu-Natal, which had two. Subsequently, KwaZulu-Natal added a third NHI pilot district, Amajuba, which the province itself is currently funding. The Amajuba district implemented the same interventions as the other districts; however, it was difficult to try and compare it with the others because of the different funding mechanism. Thus, Amajuba was not included as part of the full evaluation. Instead, this district was assessed separately as a case study. The rest of the districts were funded via a Conditional Grant and were the focus of the evaluation. The full list of the NHI pilot districts is provided in Table 3 below.

**Table 3: NHI Phase 1 pilot districts**

Province	District
Eastern Cape	OR Tambo
Free State	Thabo Mofutsanyana
Gauteng	Tshwane
KwaZulu-Natal	Amajuba
KwaZulu-Natal	uMgungundlovu
KwaZulu-Natal	uMzinyathi
Limpopo	Vhembe

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Province	District
<b>Mpumalanga</b>	Gert Sibande
<b>Northern Cape</b>	Pixley ka Seme
<b>North West</b>	Dr Kenneth Kaunda
<b>Western Cape</b>	Eden



## CHAPTER 2: APPROACH AND METHODS

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This chapter provides an outline of the evaluation approach and methods. The full details of the approach and methods can be found in Appendix 1.

### 3. EVALUATION AIMS, OBJECTIVES AND QUESTIONS

The overall aim of this evaluation was to evaluate the inputs invested, outputs made and intermediate outcomes of the service delivery improvement and interventions that were implemented as part of the NHI Phase 1 pilot districts. Additionally, the evaluation aimed to make recommendations to inform the implementation of Phase 2 of NHI. The specific objectives of the evaluation were:

- To evaluate the progress made during NHI Phase 1 against the objectives and targets set for the NHI initiative
- To identify the NHI Phase 1 interventions (or aspects thereof) that were working and to analyse the factors that promoted their successful implementation
- To identify the NHI Phase 1 interventions (or aspects thereof) that were not working and to analyse the factors (causal links/relationships) that were barriers to successful implementation, as well as to identify possible unintended consequences of the implementation of the Phase 1 interventions
- To assess the effect(s) of the interventions on service delivery in the pilot districts
- To identify best practices in the implementation of NHI Phase 1
- To assess the required coordination and collaboration mechanisms that should have been put in place to enhance coherence in the implementation of the identified interventions
- To assess sustainability measures that could facilitate the phased implementation of the NHI programme, with a particular focus on NHI Phase 2
- To describe what would be required to scale up successful interventions in NHI Phase 2
- To make recommendations that are actionable, realistic and feasible to implement.

Specifically, the evaluation aimed to provide a national-level overview of the progress made during NHI Phase 1. While provinces and districts were visited during the evaluation, it was not the intention to provide reports specific to each province or to report province-specific findings in separate chapters within this report. We acknowledge that there may have been nuanced differences in implementation between the provinces and that some developments may have not been captured in this report. However, this report reflects the evaluation scope, which was squarely focused on the 10 NHI interventions.

Part of the evaluation included undertaking:

- A systematic review of the reviews/assessments/evaluations that had been conducted in the NHI pilot districts
- A comparative literature review of evaluations of NHI implementation between South Africa and other developing countries

### **3.1. ESTABLISHING INITIAL THEMES AND DEVELOPING EVALUATION QUESTIONS**

The evaluation team made use of the implementation science framework developed by Damschroder et al. (2009) to establish the initial themes related to implementation success, namely, reach, effectiveness, adoption, implementation and maintenance.

The evaluation questions were aligned to these themes and are distinguishable across three levels of enquiry: overarching, cross-cutting and intervention-specific.

## **4. EVALUATION APPROACH**

This evaluation made use of mixed methods to assess the NHI Phase 1 pilot districts and the NHI Phase 1 interventions. In general, qualitative approaches were used to understand why some interventions succeeded and what impeded the success of others. Quantitative methods were used to show the extent to which the interventions made a difference to the health system according to the health indicator outcomes.

National ethics approval was obtained from the University of the Witwatersrand's Human Research Ethics Committee (non-medical) (protocol number: H18/04/06). The evaluation team also obtained provincial access approval through the NHRD. The certificates for national research ethics approval and for provincial access approval are provided in Annexures 1–2.

### **4.1. SAMPLE AND SITE SELECTION**

The evaluation team used carefully selected sampling approaches to sample at different levels. The first step in the approach was the sampling of facilities in the 10 pilot districts. Following this, the evaluation team identified a sample of representatives for the interviews and surveys (national, provincial, district and facility level) as per Table 4.

**Table 4: Evaluation population at different levels and number of interviews completed**

Level	Evaluation population	Breakdown of representation	Type of sampling	Sampling size
<b>National</b>	DG, DDGs, DoH programme managers, government stakeholders (18)	DG (1), DDGs (3), NHI (1), DHS (1), Affordable Medicine (1), WISN (2), HPRS (1), CCMDD (1), GP contracting (1), ICRM (2), ISHP (1), DCST (3)	Purposive sampling	Dependent on the number of stakeholders who had the appropriate designation and role, as well as on the willingness and availability of these stakeholders to participate
<b>Provincial</b>	Provincial HoDs, DHS programme managers, NHI coordinators (20)	Eastern Cape (3), Free State (1), Gauteng (1), KwaZulu-Natal (2), Limpopo (2), Mpumalanga (2), Northern Cape (3), North West (2), Western Cape (4)	Purposive sampling	
<b>District</b>	DHMTs, district managers, DCST members (31)	OR Tambo (8), Thabo Mofutsanyana (1), City of Tshwane (2), uMzinyathi (3), uMgungundlovu (4), Vhembe (2), Gert Sibande (3), Pixley ka Seme (2), Dr Kenneth Kaunda (2), Eden (4)	Purposive sampling	
<b>Facility</b>	Facility managers (40)		Purposive sampling	
	Facility managers (60)	Eastern Cape (5), Free State (5), Gauteng (6), KwaZulu-Natal (9), Limpopo (8), Mpumalanga (5), Northern Cape (8), North West (3), Western Cape (11)	Convenience sampling	One PHC/CHC facility manager per facility; a total of 60 for telephonic interviews
	WBPHCOTs, GPs, clinic committee members, ISHP		Purposive sampling	Dependent on the number of stakeholders who had the appropriate designation and role, as well

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Level	Evaluation population	Breakdown of representation	Type of sampling	Sampling size
	nurses, pharmacists, clerks (87)			as on the willingness and availability of these stakeholders to participate
	Facility users (visiting the PHC/CHC facility on the day of the evaluation team visits and who had made regular use of that facility over the previous three years) (224)	Male (50) Female (174)	Systematic random sampling	Five patients per facility, 20 per district, 200 in total

Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; CHC, community health centre; DDG, Deputy Director General; DG, Director-General; DCST, District clinical specialist team; DHMT, District Health Management Teams; DHS, District Health Services; DOH, Department of Health; GP, general practitioner; HoD, Head of Department; HPRS, Health Patient Registration System; ICRM, Ideal Clinic Realisation and Maintenance; ISHP, Integrated School Health Programme; NHI, National Health Insurance; PHC, primary health care; WBPCHCOTs, Work-based Primary Healthcare Outreach Team; WISN, Workload Indicators of Staffing Need

## 5. EVALUATION TOOLS

The qualitative and quantitative data collection tools were derived from the evaluation framework (Annexure 3) to ensure that the data collected is meaningful and not transitional. The evaluation framework, in turn, was developed from the evaluation aims, objectives and questions. This guaranteed that the evaluation tools were made to answer the questions and achieve the evaluation aims and objectives. The evaluation tools and their purpose are described in Table 5 below.

**Table 5: Qualitative and quantitative evaluation tools and their purpose in this evaluation**

Evaluation tool	Purpose
<b>NHI Rapid Assessment review and comparative literature review outlines</b>	Gather national and international information to inform the evaluation throughout.
<b>Qualitative KII guides (Annexure 4)</b>	Guide discussions at national, provincial, district and facility levels to gain insights into NHI Phase 1 implementation success and challenges.
<b>Quantitative facility manager survey questionnaire (Annexure 5)</b>	Conduct telephonic surveys to collect information on NHI Phase1 implementation success and challenges.
<b>Quantitative facility-user survey questionnaire (Annexure 6)</b>	Conduct in-person surveys to collect information on perceptions of improved quality and access over time.
<b>Routine and outcomes data dashboards</b>	Demonstrate the performance of the selected routinely collected and other indicators in each pilot district compared to other districts within the same province and compared to other pilot districts.

Notes: KII, key informant interviews; NHI, National Health Insurance

The qualitative interview guides and quantitative survey questionnaires were developed using a platform called SurveyGizmo, which is an appropriate and efficient tool for survey design and data collection. Language considerations were accounted for as information sheets, consent forms were translated into five languages (Afrikaans, Sesotho, Setswana, isiXhosa and isiZulu) and evaluators were selected with language preferences in mind.

The evaluation team used health information data and financial data for the quantitative analysis, data management and quality. Assessments. The process to mapping, ranking and developing dashboards can be found in *Chapter 3: Findings and discussion, Section 9: Trends in key health indicators, Sub-section 9.4: Process to develop the dashboards.*

## 6. DATA COLLECTION

### 6.1.1. Qualitative interviews and quantitative surveys

Quantitative and qualitative primary data collection was completed by conducting interviews and surveys at national, provincial, district and facility levels. All the evaluators were provided with training and a fieldwork protocol prior to data collection. The evaluation teams made in-person visits to the 10 districts between 11 June and 27 July 2018. The 11<sup>th</sup> district was retained as a case study with its own round of data collection, which was conducted telephonically. The evaluation team consisted of a senior-level evaluator who was responsible for facilitating the interview and a mid-level evaluator who was responsible for notetaking during the interview.

Telephonic interviews were conducted in Johannesburg by a mid-level evaluator. All the data was collected on a digital platform called SurveyGizmo. In-person interviews were audio recorded on a laptop if consent was given.

The primary data collection was pre-tested in a one district, uMzinyathi, before data collection continued in the other districts. The purpose of the pre-test was to test the proposed fieldwork methods and processes and the appropriateness, understandability and usability of the evaluation tools. Pre-testing allowed the evaluation team to make amendments prior to the commencement of the main fieldwork. The uMzinyathi pre-test district was not revisited, and data collected from this district is included in the final analysis as it was felt that these changes were minor and did not impact the quality of the data. The full pretest report can be found in Annexure 7.

Both in-person and telephonic methods were used to gather all the data. A total of 463 stakeholders were interviewed during primary data collection. Table 5 above provides details regarding the number of stakeholders interviewed and surveyed at each level.

## 6.1.2. Data management

The data was managed in such a manner to uphold ethical standards. In all cases, the data was collected only from individuals who gave informed consent to participate in the research process, and where the data was of a sensitive nature, this data was anonymised such that all identifying information was removed.

Softcopy data has been stored on internal servers and SurveyGizmo, which are both platforms restricted to Genesis staff members only. Prior to fieldwork, all the fieldworkers were trained in the appropriate storage and management of data on a day-to-day basis while in the field, and the project manager was responsible for monitoring the effective management and storage of the data on the internal servers.

The Information Security Policy for the PricewaterhouseCoopers (PwC) global network is aligned to the control requirements of ISO27002:2013. Member firms are expected to comply with the requirements of this policy and are audited to the requirements of the policy by PwC Global Risk & Quality – Information Security Compliance, which is independent of the member firms. The security practices and methods used by the PwC Global Risk & Quality Security – Information Security Compliance team have been independently audited by the British Standards Institution (BSI) to ensure compatibility with, and conformity to, ISO/IEC 27001:2013. An annual review of these processes is conducted by BSI.

## 6.1.3. Data quality

At the end of each day, the notes were checked and collated with the recordings. The transcriptions were contained within a web-enabled tracking tool, enabling efficient quality assurance processes and easy collaboration between the evaluation team members. Once data collection was complete, the interviews were downloaded and saved on the Genesis internal server for protection. The qualitative data was then analysed using Atlas.ti version 7.5, while the quantitative data was analysed using Microsoft Excel 2016.

## 6.2. PROCESS FOR ANALYSIS AND SYNTHESIS

The following steps describe the process that the evaluation team followed for the analysis and synthesis of the data:

1. A full consortium meeting was held to establish the initial themes that had surfaced from both the qualitative and quantitative primary data.

2. The evaluators received training on how to conduct a qualitative data analysis, which was important to drive consistency in the data analysis process.
3. The evaluators used Atlas.ti version 7.5 to extract the themes across the qualitative interview transcripts, while Microsoft Excel 2016 was used for the quantitative analysis of the facility manager and PHC user survey data sets. Tableau was used to analyse the quantitative routine and outcomes data
4. The data was then interpreted and aligned to the objectives of the evaluation. This involved extensive synthesis meetings with the full complement of the consortium. Some of the fieldworkers were also present in these meetings so as to provide deeper context to the findings. A validation meeting with the consortium was held to interrogate the common findings arising from the different data sources and to assess the value of the findings. The findings were interpreted according to overarching, cross-cutting and intervention-specific themes as defined in *Effectiveness of NHI Phrase 1*.
5. The preliminary findings were presented to the TWG, and the evaluation team was then able to refine the findings and fill the data gaps based on these discussions. For example, the routine and outcomes data were used to locate findings within the sector trends.

## 7. TRENDS IN KEY HEALTH INDICATORS PERFORMANCE

### 7.1. PURPOSE OF HEALTH INDICATOR DASHBOARDS

The dashboards aim to demonstrate the performance of each pilot district over time as well as the general trend of the indicators. While many of the routine DHIS indicators cannot be directly linked to the specific intervention and therefore one should be cautious of overinterpretation, the dashboards provide evidence of trends in key health indicators in each district and province. This evidence helps to ascertain whether a district showed improvement over the period of NHI Phase 1 across the various indicators.

### 7.2. LIMITATIONS

The DHIS indicators allow for a fuller picture, showing progress in the health system and the fidelity of the NHI pilot projects. However, the routine DHIS indicators cannot be directly linked to a specific intervention, and one should therefore be cautious of overinterpretation. Rather, the dashboards can provide insight into the strength of the health system in each district and whether a district showed improvement over the pilot phase.

The team did not attempt to amend any data as it was important that the dashboards reflected the audited results, which had been accepted by the provinces and the NDoH. The sector is aware of the need to strengthen data quality, and one of the NHI interventions that focuses on e-Health aims to do this through better patient record-keeping and data management. Improved data quality will allow for more reliable data analysis and results.

### 7.3. DESCRIPTION OF DATA SOURCES

The evaluation team used health information data and financial data for the quantitative analysis. We received data from 2013/14 to 2017/18 for as many of the indicators as possible; however, some data was not available

for all the years. We received the complete DHIS data from the NDoH, which has data at facility level. We aggregated the facility-level data up to district level by summing the raw data and then calculated the performance for the financial year as a whole using the standard indicator calculations.

**Health information data:** The team used the DHIS data received from the NDoH. Supplementary data was also received for the SVS, WBPHCOTs and ISHP.

## 7.4. PROCESS TO DEVELOP THE DASHBOARDS

### 7.4.1. Mapping indicators to interventions

#### 7.4.1.1. DHIS routine indicators

The team initially mapped the available DHIS data indicators to the interventions as far as possible, but this was only possible for the WBPHCOTs, SVS and DCSTs (Table 6).

**Table 6: Mapping DHIS routine indicators to relevant NHI Phase 1 interventions**

DHIS routine indicators	WBPHCOTs	SVS	DCST
Antenatal first visit 20 weeks or later	x		
Antenatal first visit before 20 weeks	x		x
Antenatal first visit total	x		x
Any tracer item drug stock-out (clinic/CHC/CDC)		x	
ART adult naive start ART in month			
ART adult remain on ART end of period			
ART child under 15 years naive start ART in month			
ART child under 15 years remain on ART end of period			
BCG dose			
Cervical cancer screening 30 years and older	x		
Child under two years underweight – new (weight between - 2 SD and -3 SD new)	x		
Diarrhoea death under five years	x		x
Diarrhoea separation under five years			
Diarrhoea with dehydration new in child under five years	x		
HIV-positive client screened for TB	x		
HIV-positive new eligible client initiated on IPT			
Immunised fully under one year new	x		
Inpatient death neonatal total			x
Inpatient death under one year total			x
Inpatient death under five years total			x



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DHIS routine indicators	WBPHCOTs	SVS	DCST
Inpatient deaths – total			
Maternal mortality in facility ratio			<b>x</b>
Measles first dose			
Measles second dose			
Medical male circumcision performed			
Mother postnatal visit within six days after delivery	<b>x</b>		
PHC client seen by public doctor			
PHC headcount five years and older			
PHC headcount under five years	<b>x</b>		
Pneumonia death under five years			<b>x</b>
Pneumonia separation under five years			
SAM death under five years			<b>x</b>
SAM inpatient under five years			
Stillbirth in facility			
TB AFB sputum result received within 48 hours			
Total births in facility			<b>x</b>

Notes: AFB, acid-fast bacillus; ART, antiretroviral treatment; BCG, bacillus Calmette–Guérin; CHC, community health centre; CDC, community day centre; HIV, human immunodeficiency virus; IPT, isoniazid preventive therapy; PHC, primary healthcare; SAM, severe acute malnutrition; SD, standard deviation; TB, tuberculosis

The evaluation team then mapped out additional data received from the NDoH for the WBPHCOTs, which included additional outreach household (OHH) data, ISHP data and additional CCMDD data, as well as SVS-specific data. The indicators for these data sets are provided in Table 7 below.

**Table 7: Mapping data to the NHI Phase 1 interventions**

Additional indicators	WBPHCOTs	SVS	ISHP	CCMDD
OHH client referred to facility rate	<b>x</b>			
OHH follow-up visit rate	<b>x</b>			
OHH headcount total	<b>x</b>			
OHH headcount under five years coverage	<b>x</b>			
OHH registration visit rate	<b>x</b>			
OHH visits total	<b>x</b>			
OHH with postnatal care rate	<b>x</b>			
Clinic drug availability reports (FY 2017 and FY 2018)		<b>x</b>		
School Grade 1 screening coverage (annualised)			<b>x</b>	
School Grade 10 screening coverage (annualised)			<b>x</b>	

Additional indicators	WBPHCOTs	SVS	ISHP	CCMDD
School Grade 4 screening coverage (annualised)			x	
School Grade 8 screening coverage (annualised)			x	
School Grade R screening coverage (annualised)			x	
School ISHP coverage (annualised)			x	
School learner referred rate (sum of eye, hearing, oral, speech and TB)			x	
School learner screening coverage (annualised)			x	
Total patients registered on CCMDD				x
Total facilities registered for CCMDD				x
Total medicine parcels delivered via CCMDD				x

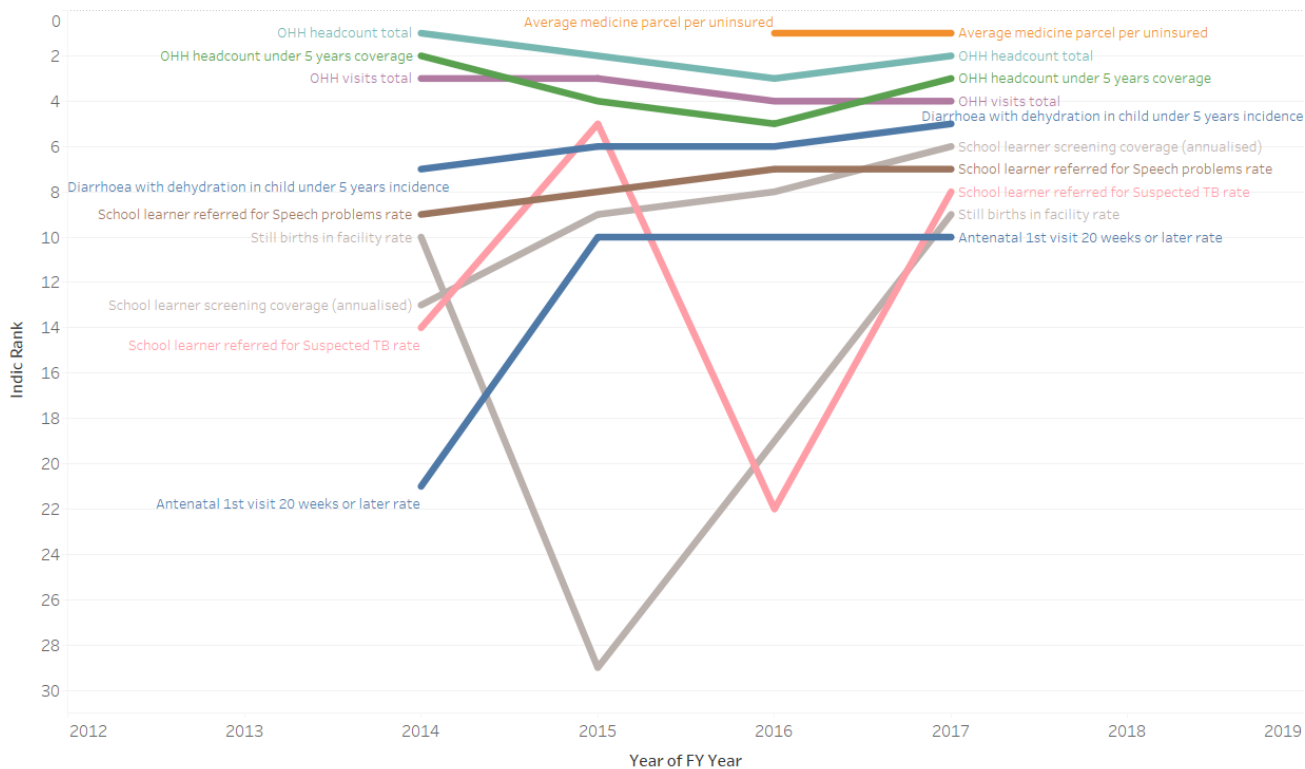
Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; FY, financial year; ISHP, Integrated School Programme; OHH, outreach household; TB, tuberculosis

## 7.5. RESULTS

The aim of analysing the indicators in the pilot districts over the period of the pilots was to try and determine whether the various Phase 1 interventions had had a measurable impact. An additional analysis was completed, which included pilot and non-pilot districts in the same graphs (Annexure 12). These districts should not be directly compared since there is enormous variability between the districts. Furthermore, the pilot districts were often selected because they started off from a lower base than other districts. However, we think examining trends across indicators, years and districts can be instructive.

## 7.5.1. Indicator-specific results

Figure 1: Top 10 performing indicators in the NHI pilot districts over time (FY 2013 – FY 2017)



### KEY OBSERVATIONS

- The average medicine parcel per uninsured was the highest ranked indicator by the end of 2017 (with measurement commencing in 2016).
- Of the top 10 indicators, two showed a constant improvement year on year:
  - Diarrhoea with dehydration in child under five years incidence
  - School learner screening coverage (annualised)
- “Stillbirth in facility rates” and “School learner referred for suspected TB rate” showed erratic decreases and increases. This could be a reporting anomaly.

## 7.5.2. District-specific results

The team’s data analysis intended to highlight specific success items and possible areas requiring improvement in each of the pilot districts. The dashboard tool allows the user to drill down into the detail for each indicator for each district and also allows for comparisons between the pilot districts, as well as between the pilot and non-pilot districts in a province.

### 7.5.2.1. uMzinyathi district

Figure 2: Antenatal visit before 20 weeks. uMzinyathi compared to the other NHI pilot districts (FY 2013 – FY 2017)

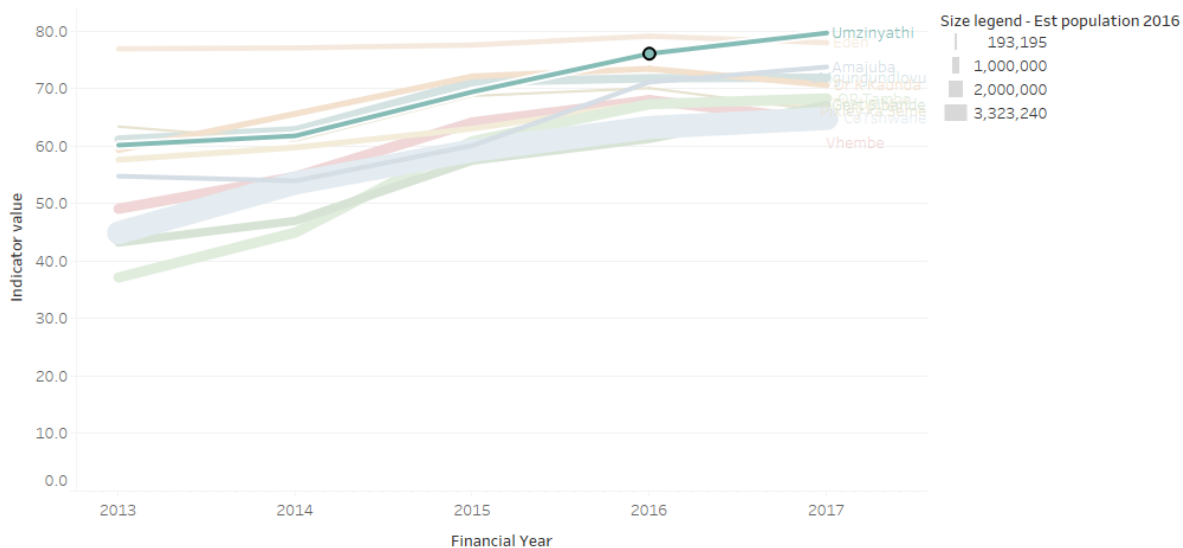
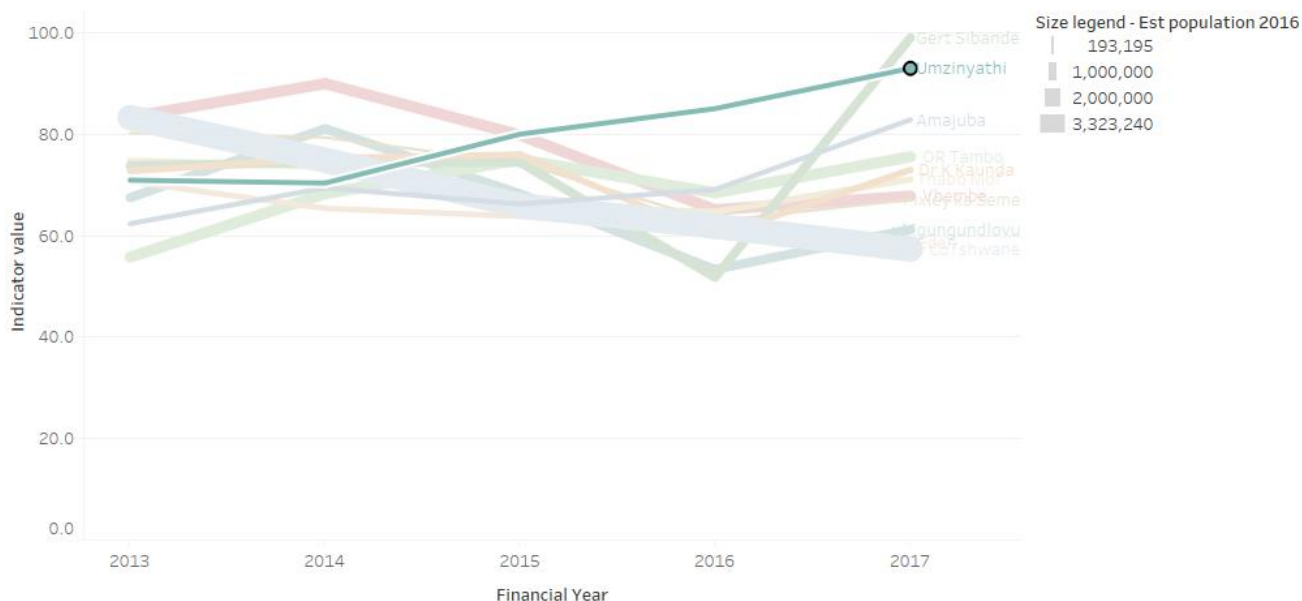


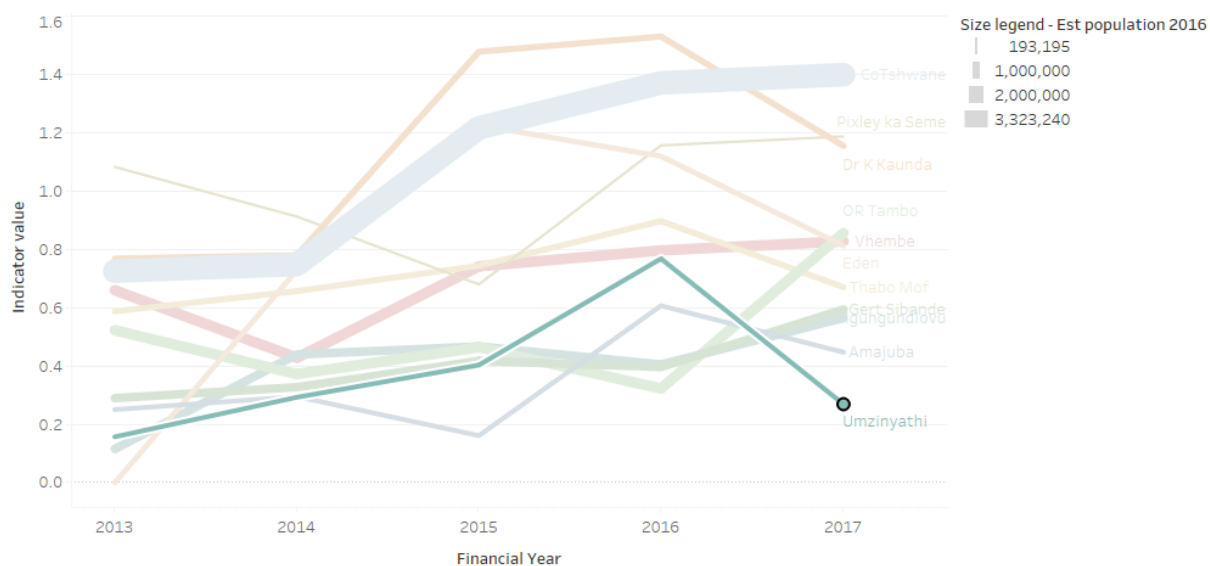
Figure 3: Immunisation under the age of one. uMzinyathi compared to the other NHI pilot districts (FY 2013 – FY 2017)



#### KEY OBSERVATIONS

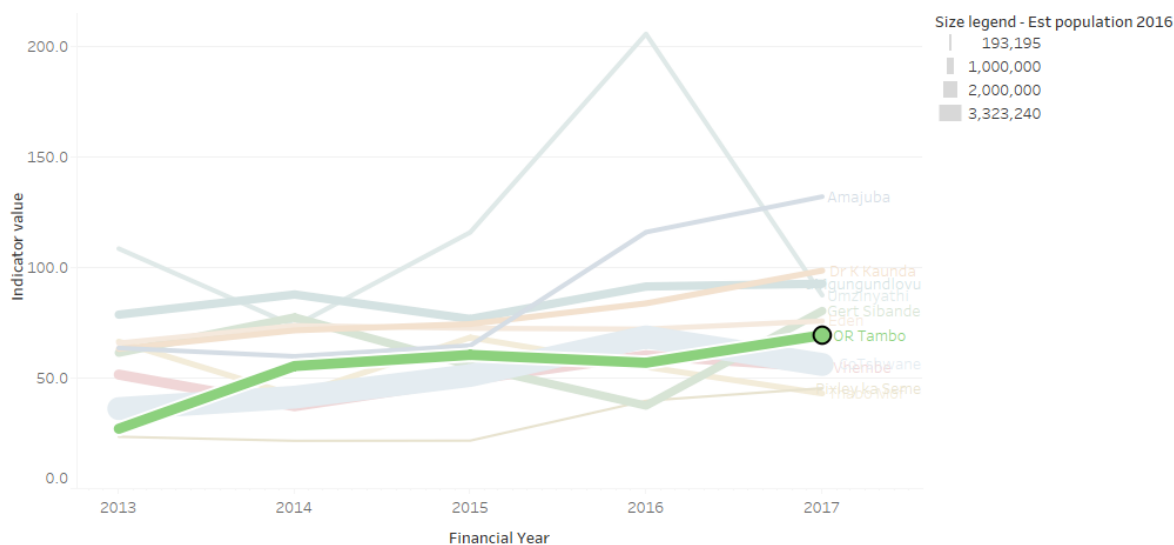
uMzinyathi showed a huge improvement for this indicator. The qualitative information indicated that mother and child health was prioritised as the focus for the district.

**Figure 4: School learner screening coverage. uMzinyathi compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### 7.5.2.2. OR Tambo district

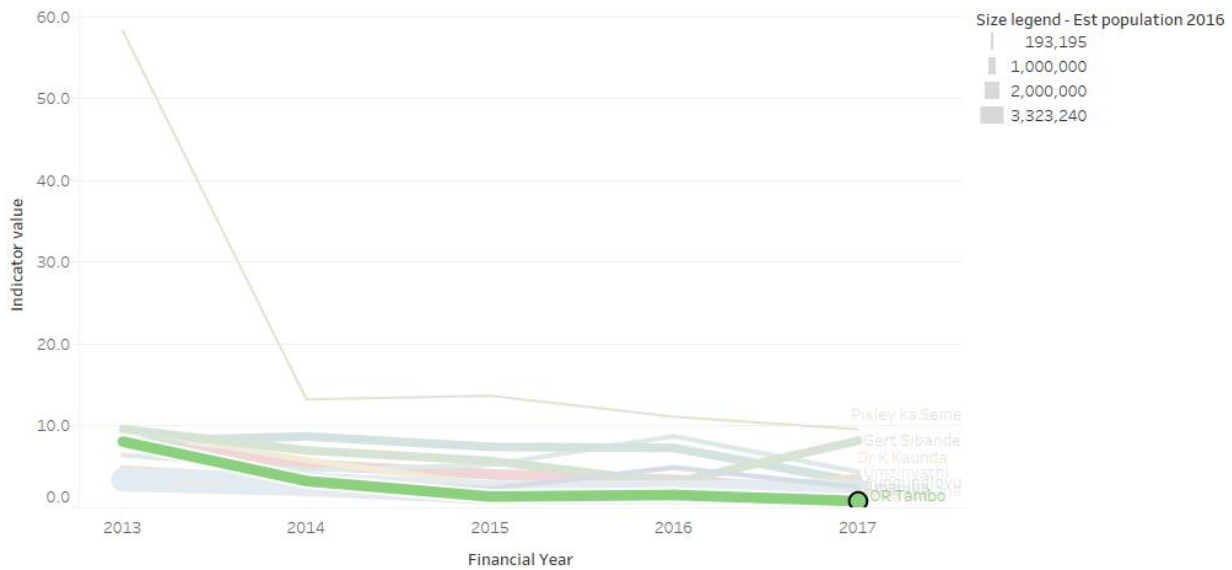
**Figure 5: Cervical cancer screening over 30. OR Tambo compared to the other NHI pilot districts (FY 2013 – FY 2017)**



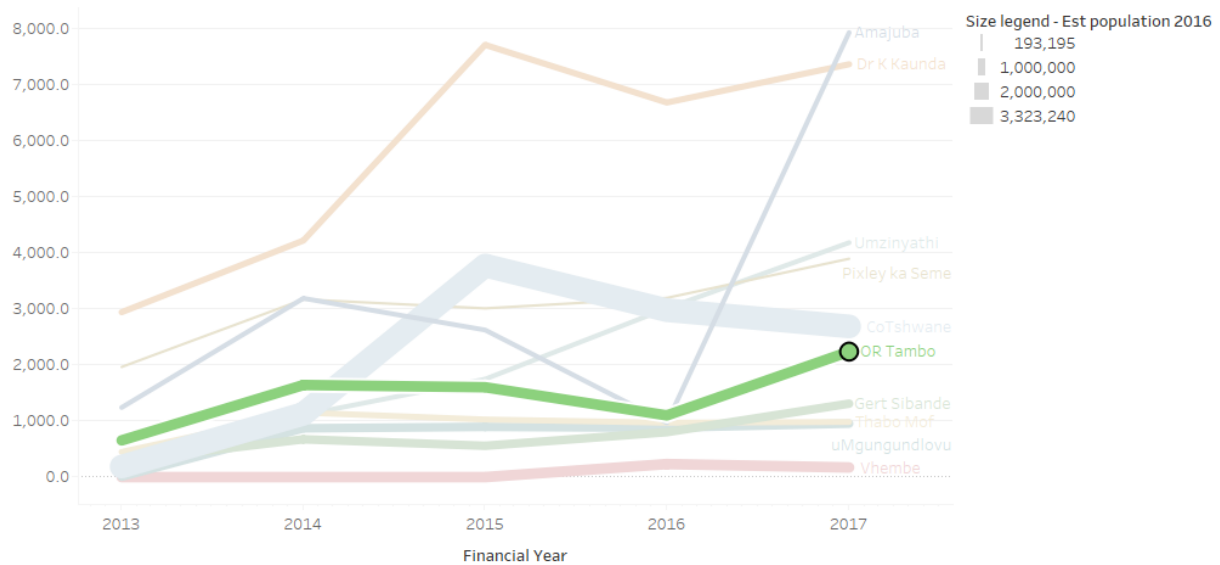
#### KEY OBSERVATIONS

OR Tambo showed a consistent improvement year on year for this indicator, as well as an increase in ranking compared to the other pilot districts.

**Figure 6: Diarrhoea with dehydration under five. OR Tambo compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**Figure 7: OHH total visits. OR Tambo compared to the other pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

OR Tambo showed an average improvement compared to the other NHI pilot districts for this indicator. The qualitative data indicated that the WBPHCOTs were not consistent.

**7.5.2.3. uMgungundlovu district**

**Figure 8: Measles second dose. uMgungundlovu compared to the other NHI pilot districts (FY 2013 – FY 2017)**

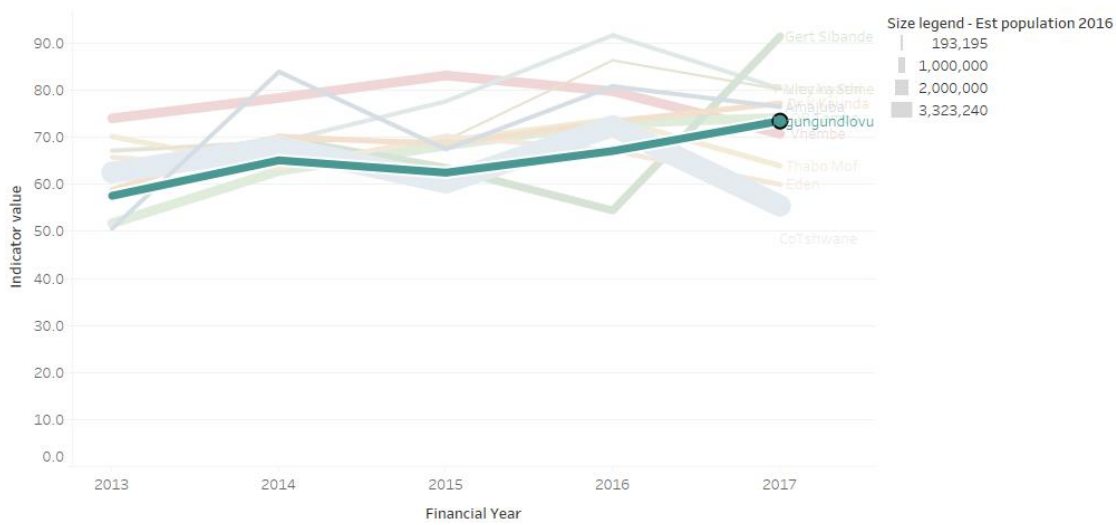
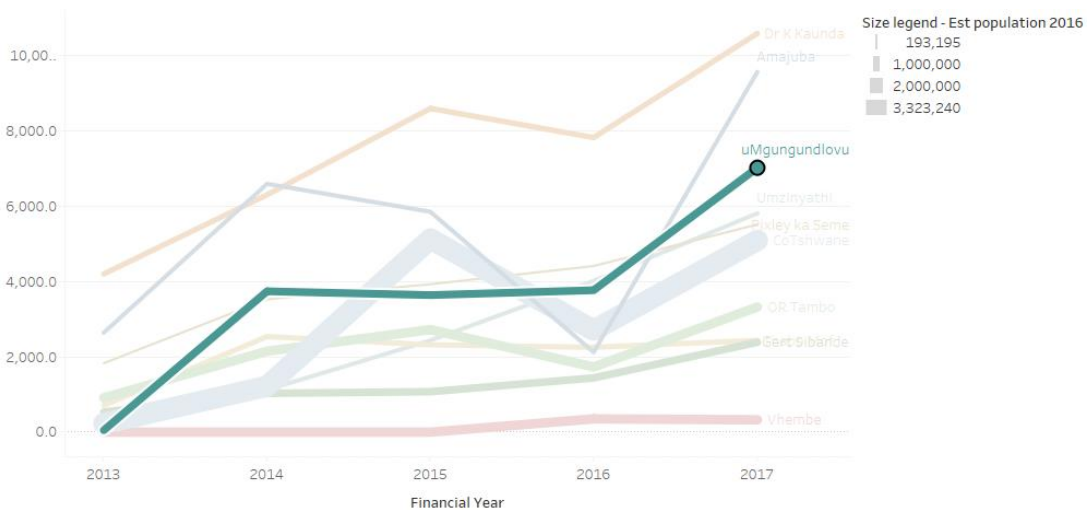


Figure 9: OHH headcount. uMgungundlovu compared to the other NHI pilot districts (FY 2013 – FY 2017)



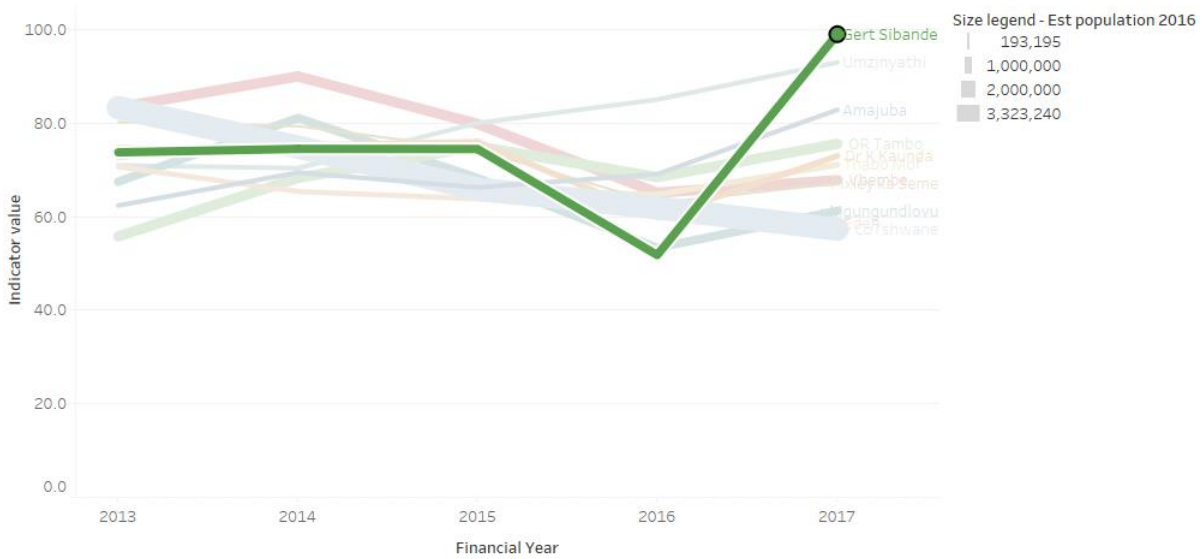
**KEY OBSERVATIONS**

uMgungundlovu showed an improvement compared to the other pilot districts for this indicator. The qualitative commentary reflected a lack of capacitated WBPHCOTs.

### 7.5.2.4. Gert Sibande district

Figure 10: Immunisation under one year. Gert Sibande compared to the other NHI pilot districts (FY 2013 – FY 2017)

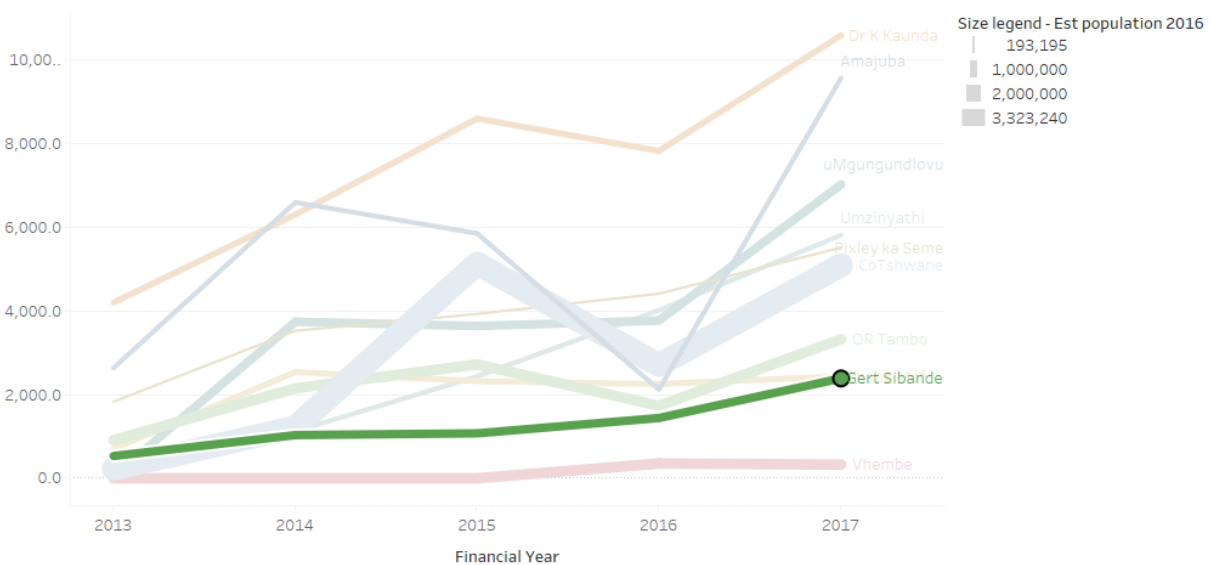
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**KEY OBSERVATIONS**

Gert Sibande showed a huge improvement from 2016 to 2017, ending 2017 as the best performing district among the pilot districts for this indicator.

Figure 11: OHH headcount total. Gert Sibande compared to the other NHI pilot districts (FY 2013 – FY 2017)

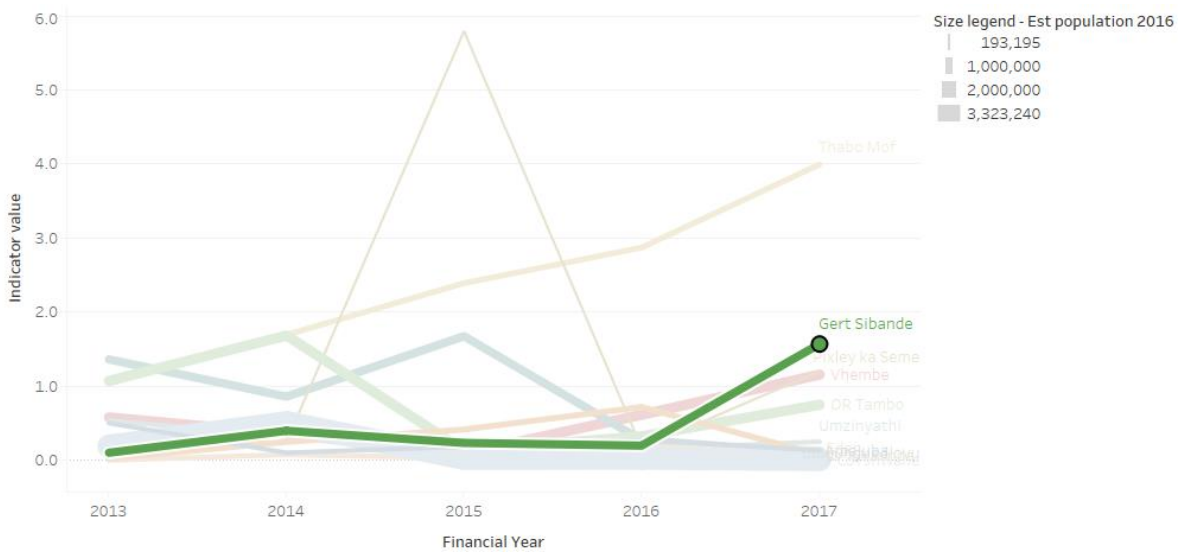


**KEY OBSERVATIONS**

Gert Sibande did not show sufficient improvement and there was a drop in rank for this indicator. The qualitative data reflects the WBPHCOTs as not being a success because it was difficult to recruit and retain staff.



**Figure 12: School learners referred for suspected TB. Gert Sibande compared to the other NHI pilot districts (FY 2013 – FY 2017)**

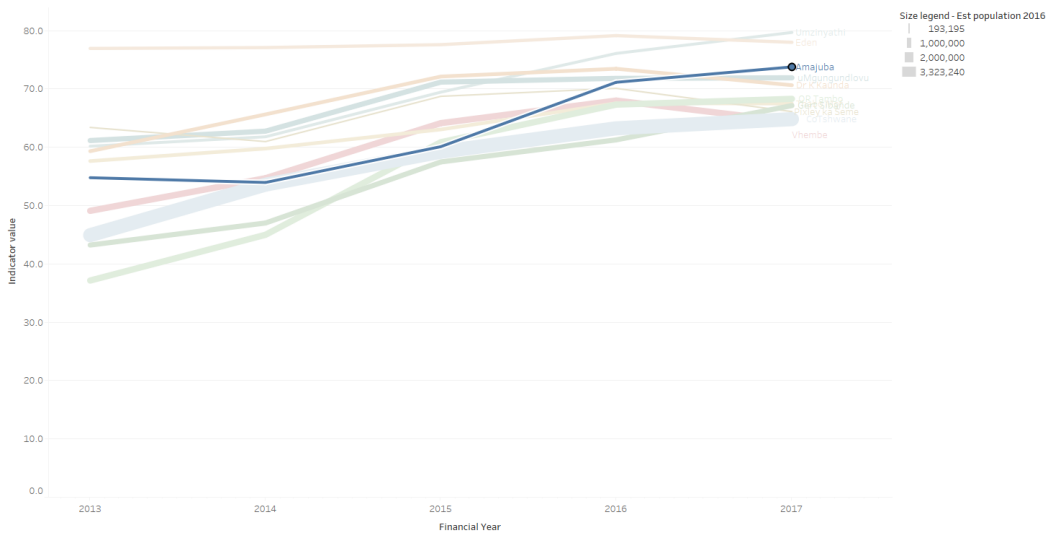


**KEY OBSERVATIONS**

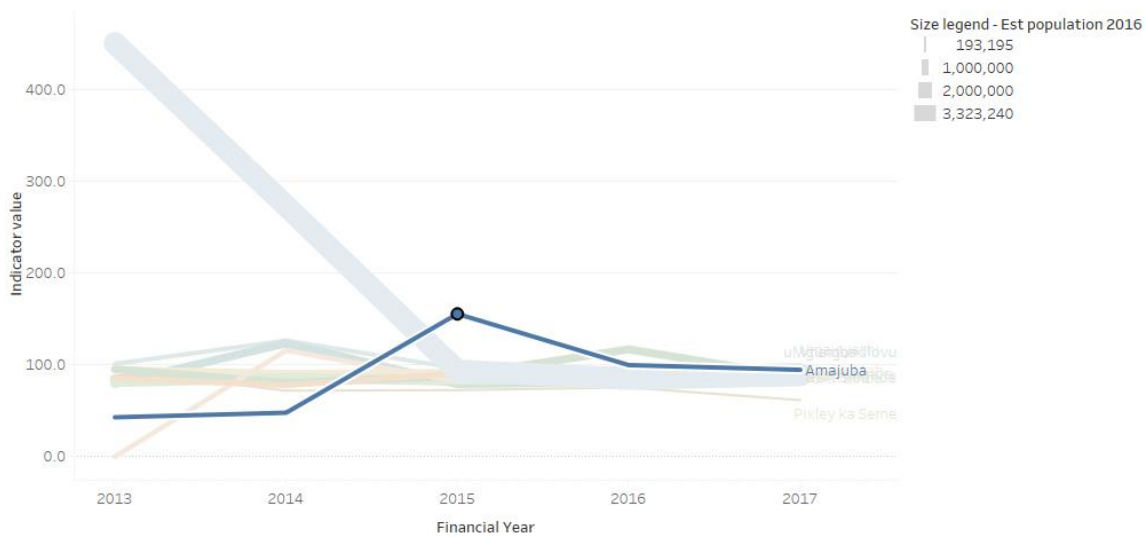
Gert Sibanda showed a good improvement, ending 2017 as the second best pilot district for this indicator.

**7.5.2.5. Amajuba district**

**Figure 13: Antenatal first visit before 20 weeks. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**



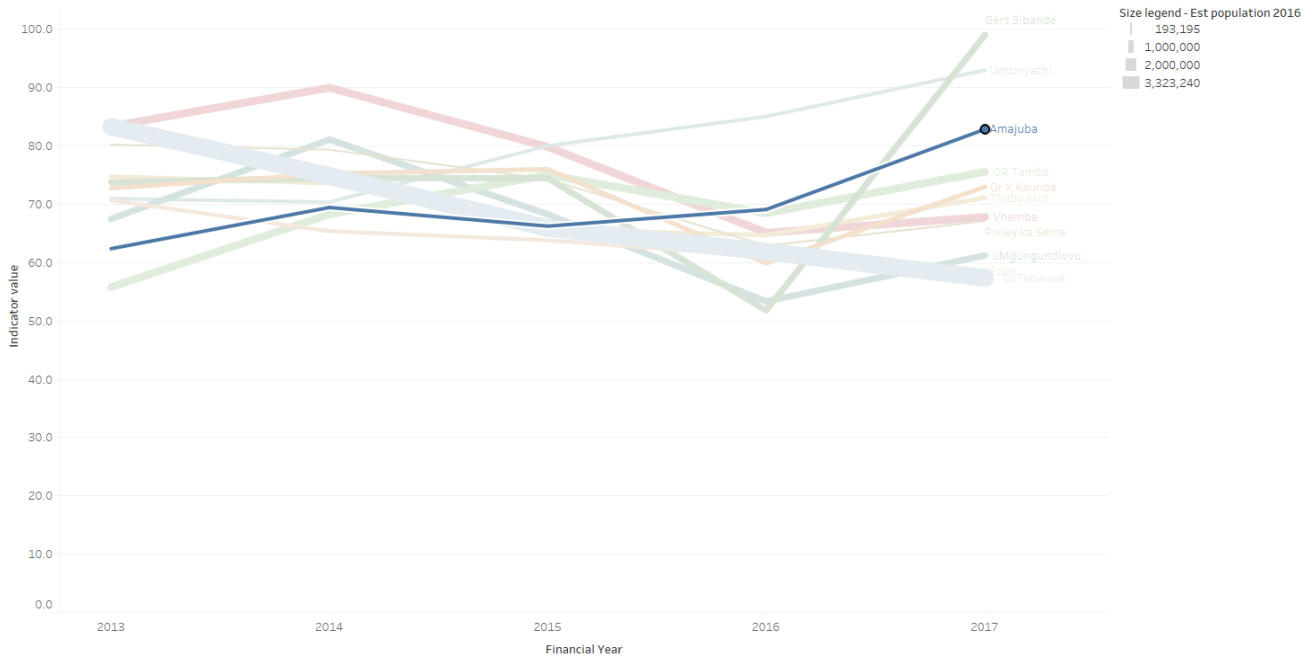
**Figure 14: HIV positive on IPT. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Amajuba showed a perceived increase in 2015; however, there was a decrease in 2016 and 2017 for this indicator.

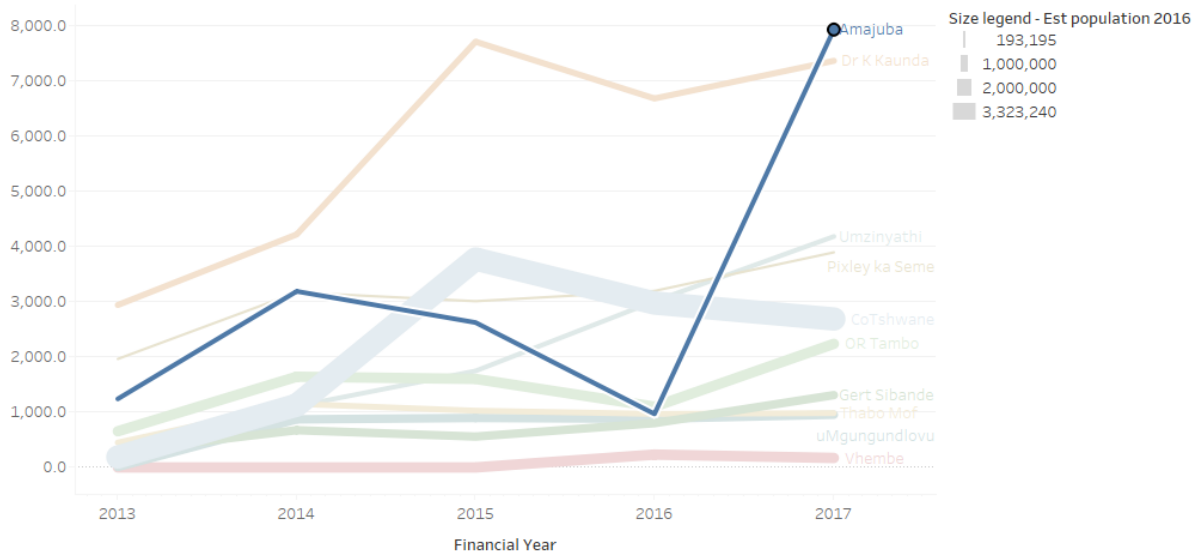
**Figure 15: Immunisation under one year. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Amajuba showed an increase, with the district ending 2017 as the third best performer among the pilots for this indicator.

**Figure 16: OHH total visits. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**

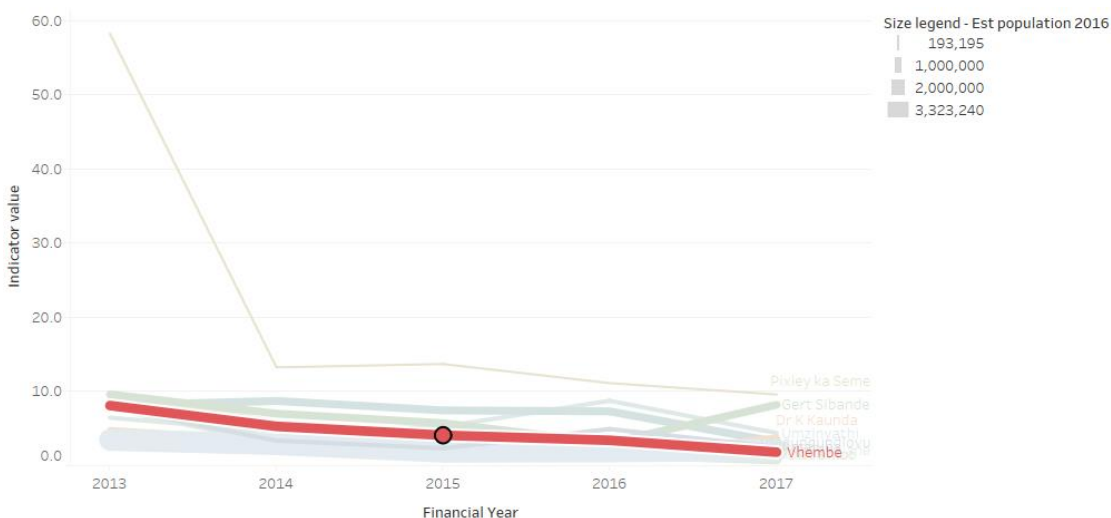


**KEY OBSERVATIONS**

Amajuba showed a huge improvement from 2016 to 2017, ending 2017 as the best performing district among the pilot districts for this indicator.

**7.5.2.6. Vhembe district**

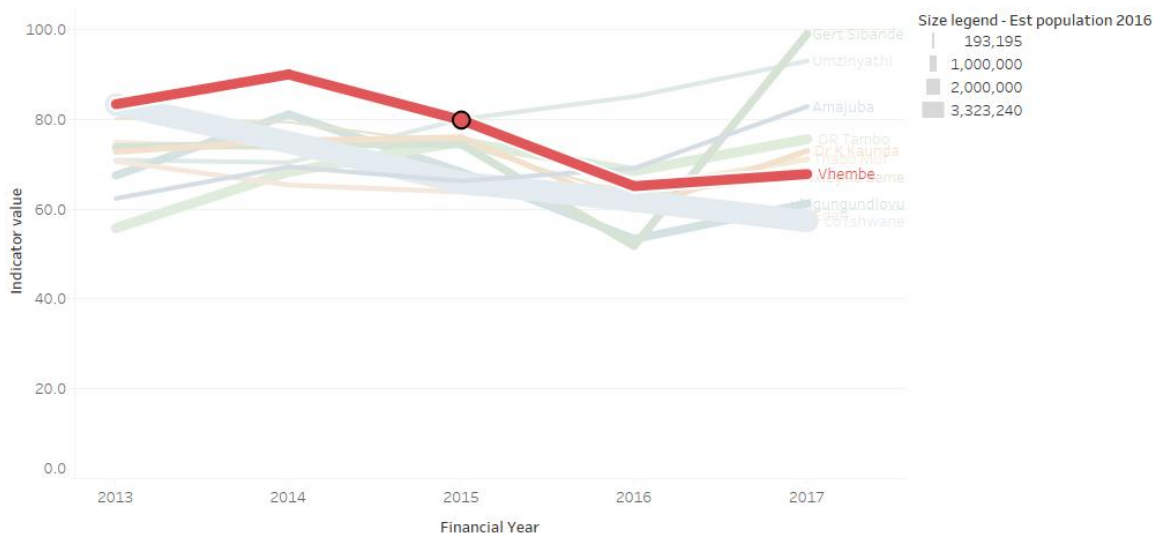
**Figure 17: Diarrhoea with dehydration under five. Vhembe compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### KEY OBSERVATIONS

There was an improvement for this indicator, with Vhembe district ending 2017 as the second best performing district among the pilot districts.

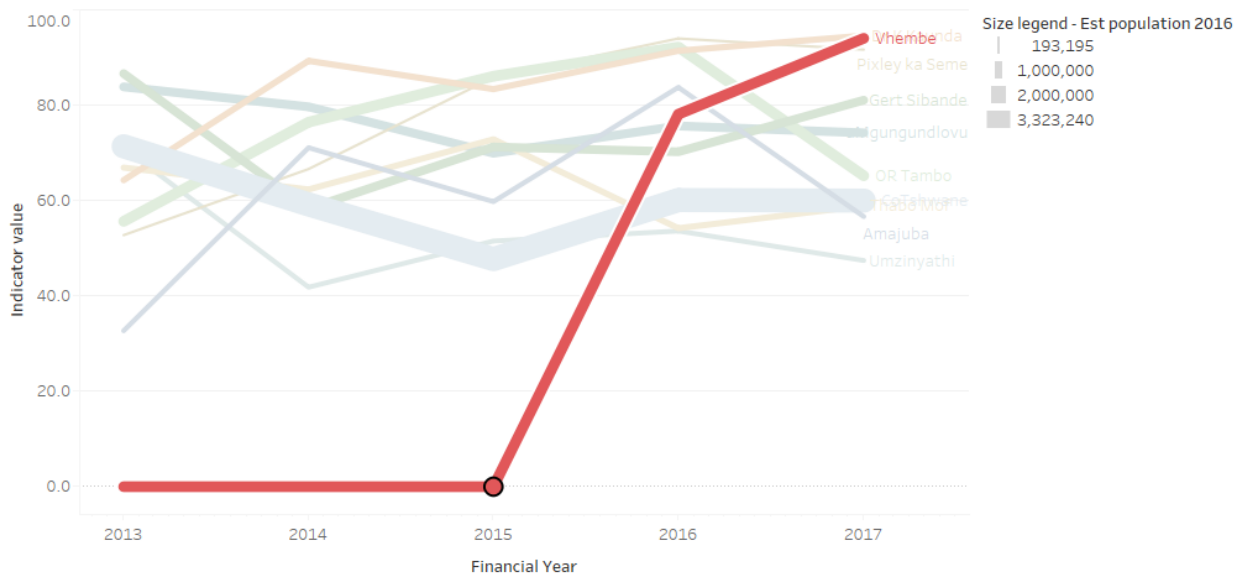
Figure 18: Immunisation under one. Vhembe compared to the other NHI pilot districts (FY 2013 – FY 2017)



### KEY OBSERVATIONS

Vhembe showed a sharp decrease in performance for this indicator. The qualitative information revealed a lack of functional DCSTs, with speculation that they need to be dismantled and a new solution found. This is potentially problematic because, with poor immunisation coverage, there is a higher risk for poor child health. The DCSTs will then be critical to ensuring that child mortality does not increase.

Figure 19: OHH follow-up rate. Vhembe compared to the other NHI pilot districts (FY 2013 – FY 2017)

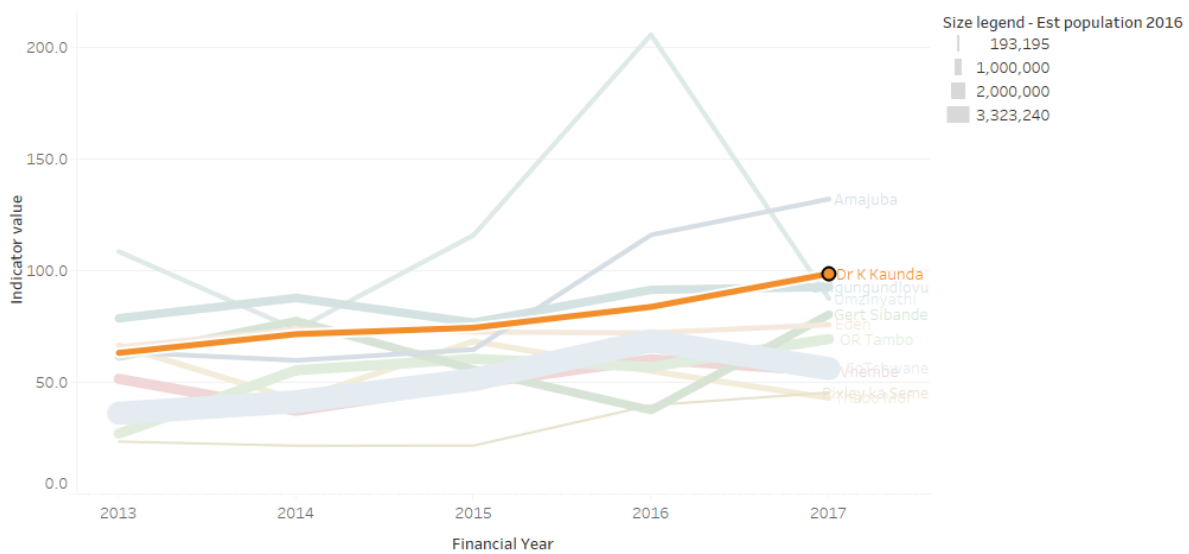


**KEY OBSERVATIONS**

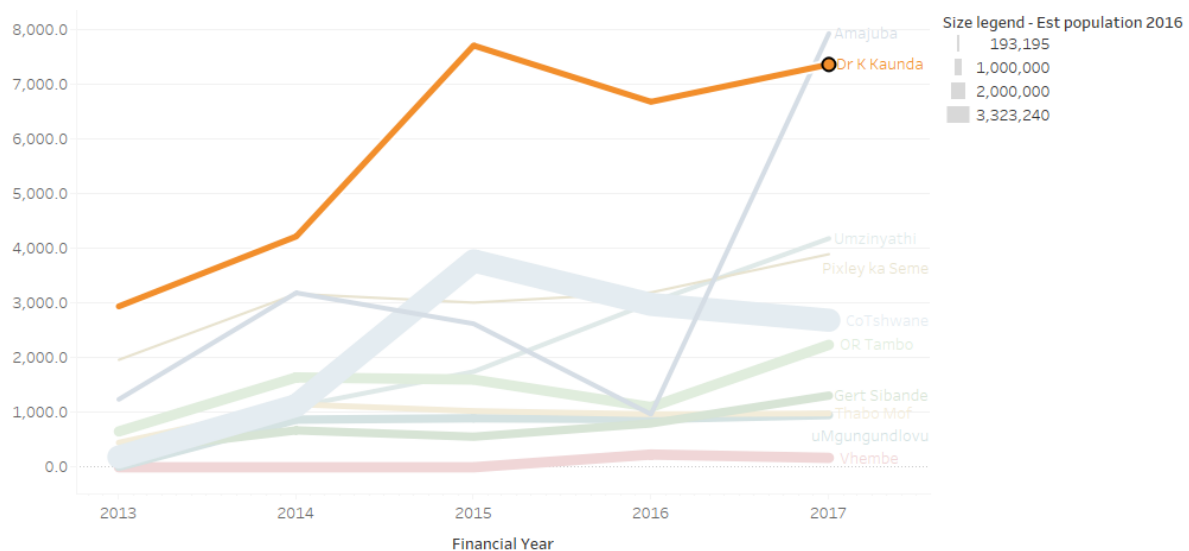
Vhembe showed a large improvement from 2015 to 2017, with the district ending 2017 as the best performer among the pilot districts for this indicator.

**7.5.2.7. Dr K Kaunda district**

**Figure 20: Cervical cancer screening over 30. Dr K Kaunda compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**Figure 21: OHH total visits. Dr K Kaunda compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Dr K Kaunda showed an improvement, with the district ending 2017 as the second best NHI pilot district for this indicator.

### 7.5.2.8. Eden district

Figure 22: Antenatal first visit after 20 weeks. Eden compared to the other NHI pilot districts (FY 2013 – FY 2017)

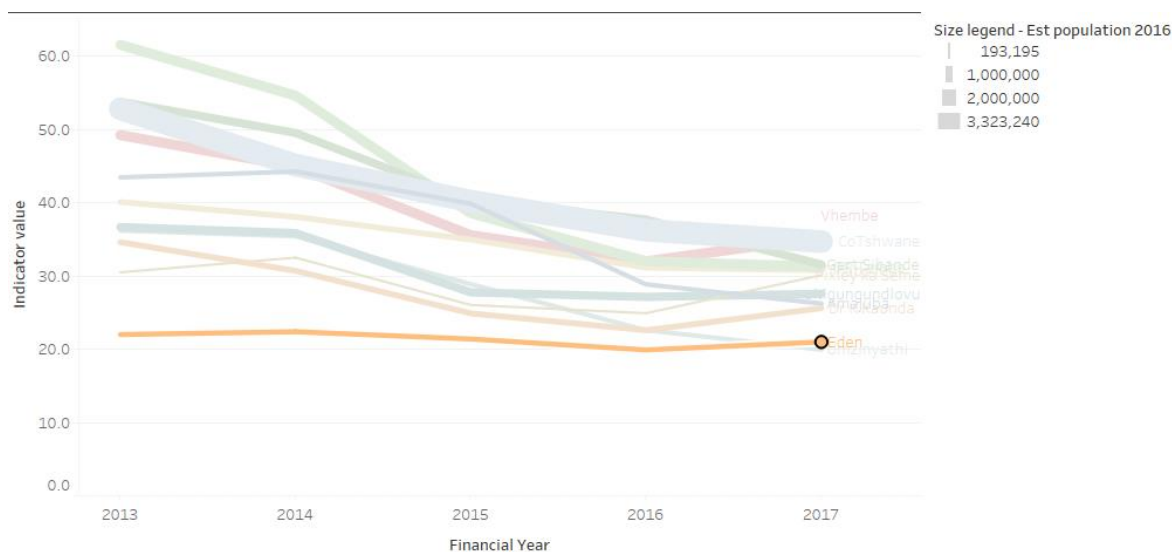
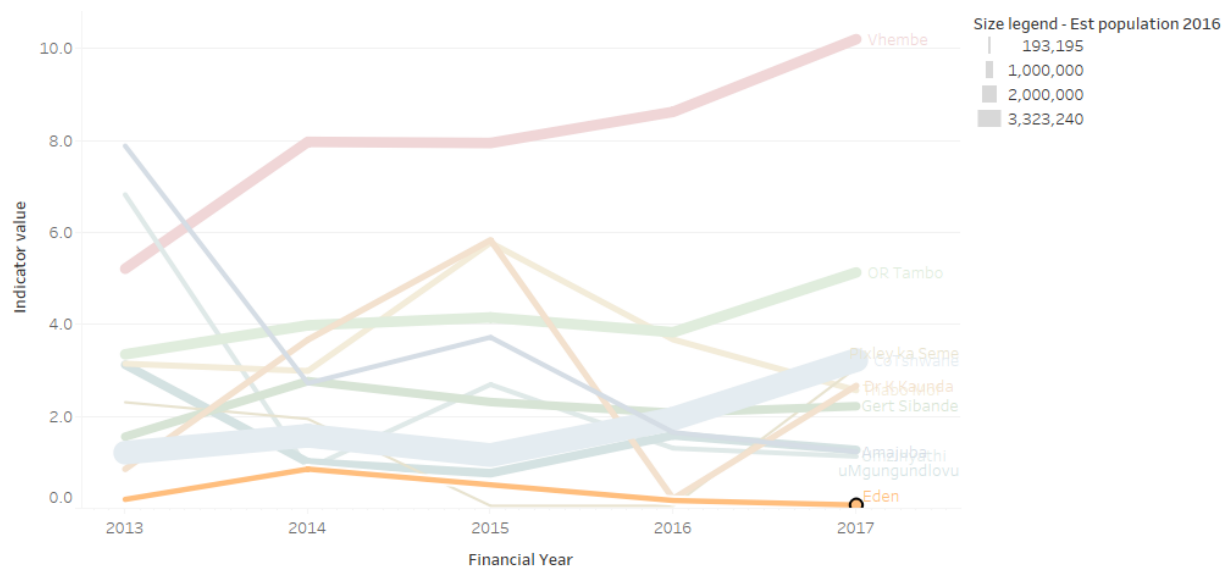


Figure 23: Tracer drugs stock-outs. Eden compared to the other NHI pilot districts (FY 2013 – FY 2017)

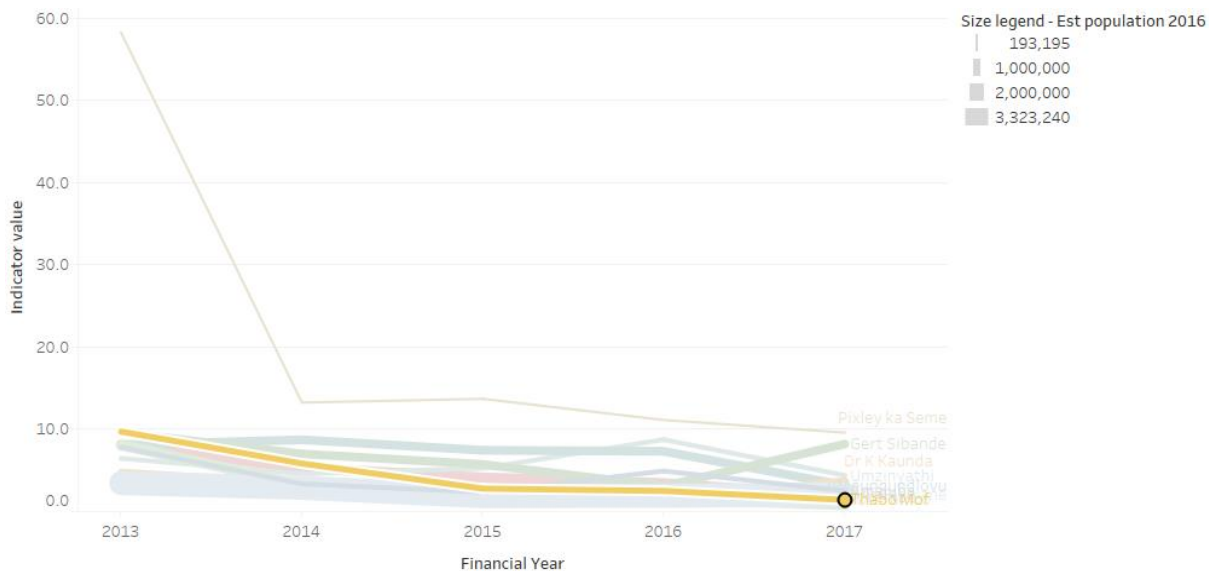


#### KEY OBSERVATIONS

Eden consistently had the lowest stock-out rates among the pilot districts.

### 7.5.2.9. Thabo Mofutsanyana district

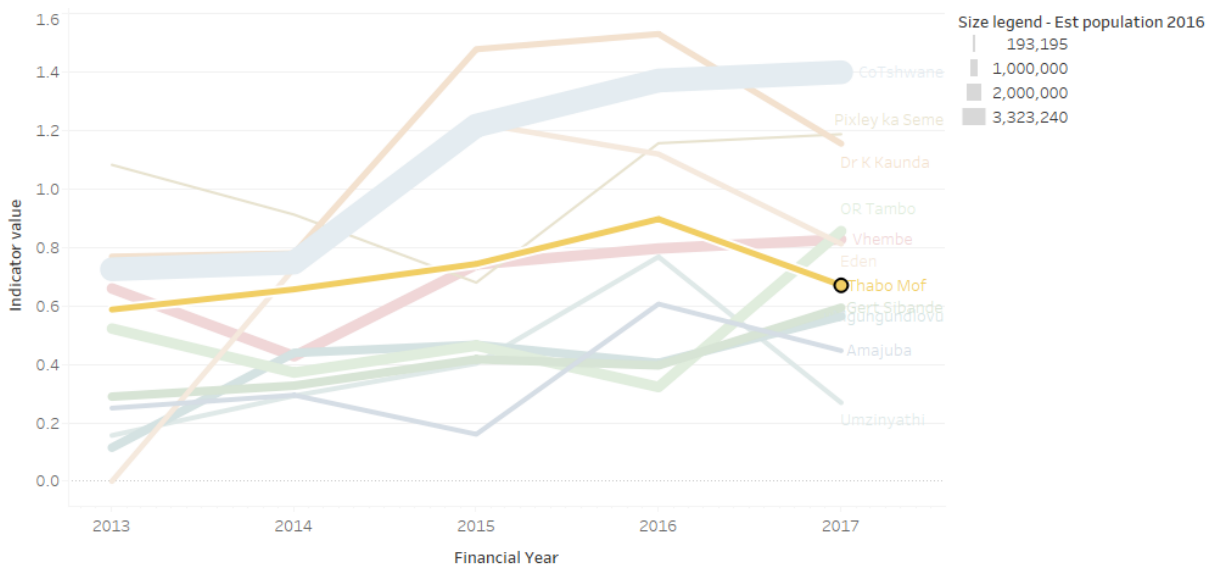
**Figure 24: Diarrhoea with dehydration under five years. Thabo Mofutsanyana compared to the other NHI pilot districts (FY 2013 – FY 2017)**



#### KEY OBSERVATIONS

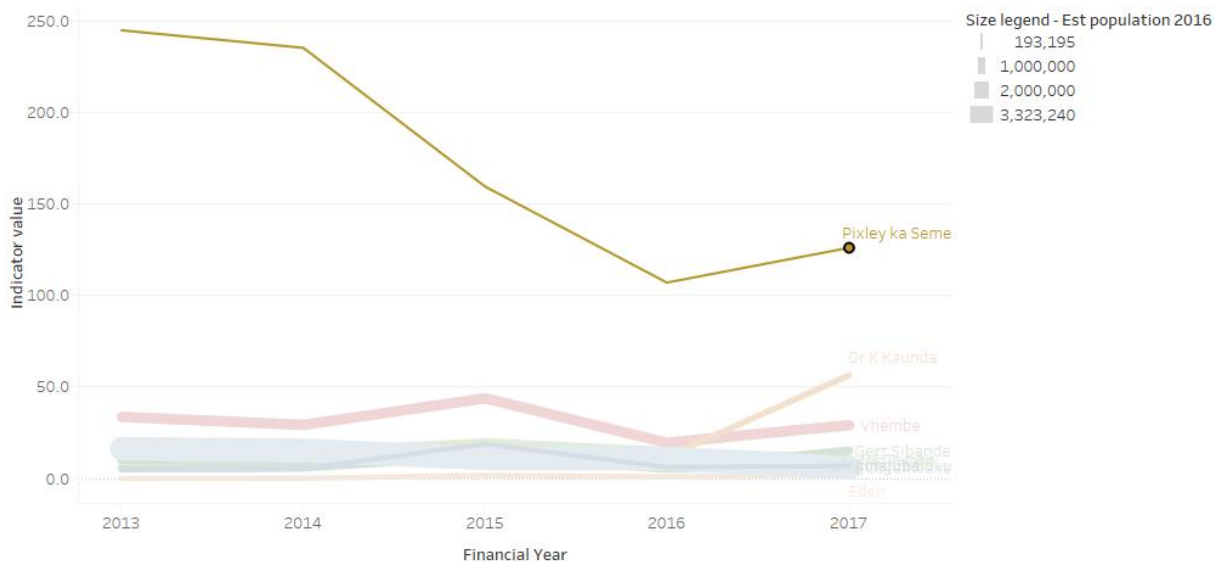
Thabo Mofutsanyana showed a large improvement, ending 2017 as the best pilot district for this indicator.

**Figure 25: School learner screening coverage. Thabo Mofutsanyana compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### 7.5.2.10. Pixley ka Seme district

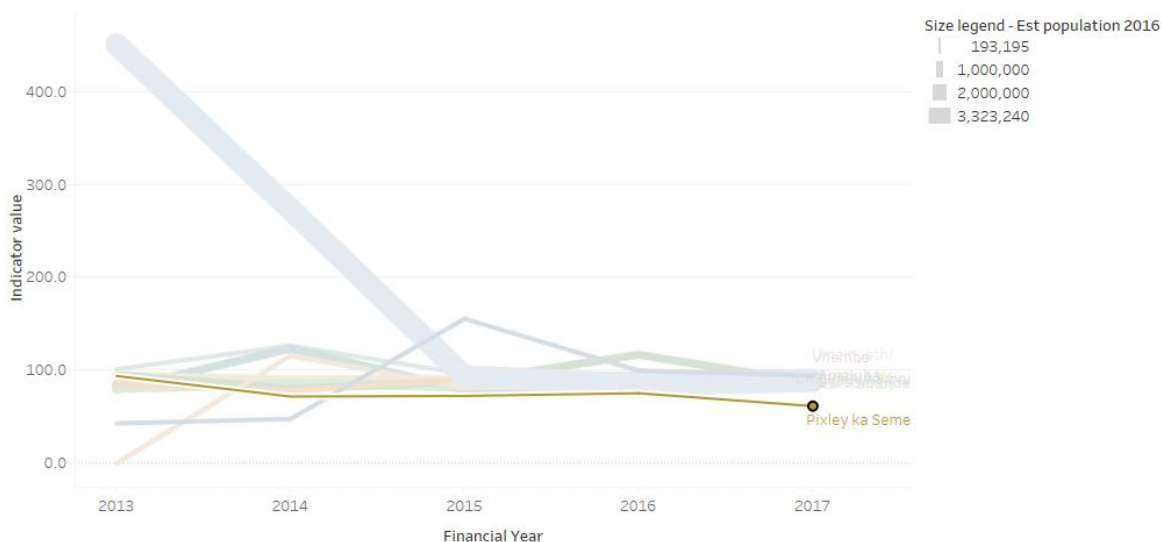
Figure 26: BCG dose coverage. Pixley Ka Seme compared to the other NHI pilot districts (FY 2013 – FY 2017)



#### KEY OBSERVATIONS

Pixley ka Seme was the best performer among the pilot districts for this indicator, but coverage was reduced among the other districts.

Figure 27: HIV positive on IPT. Pixley Ka Seme compared to the other NHI pilot districts (FY 2013 – FY 2017)

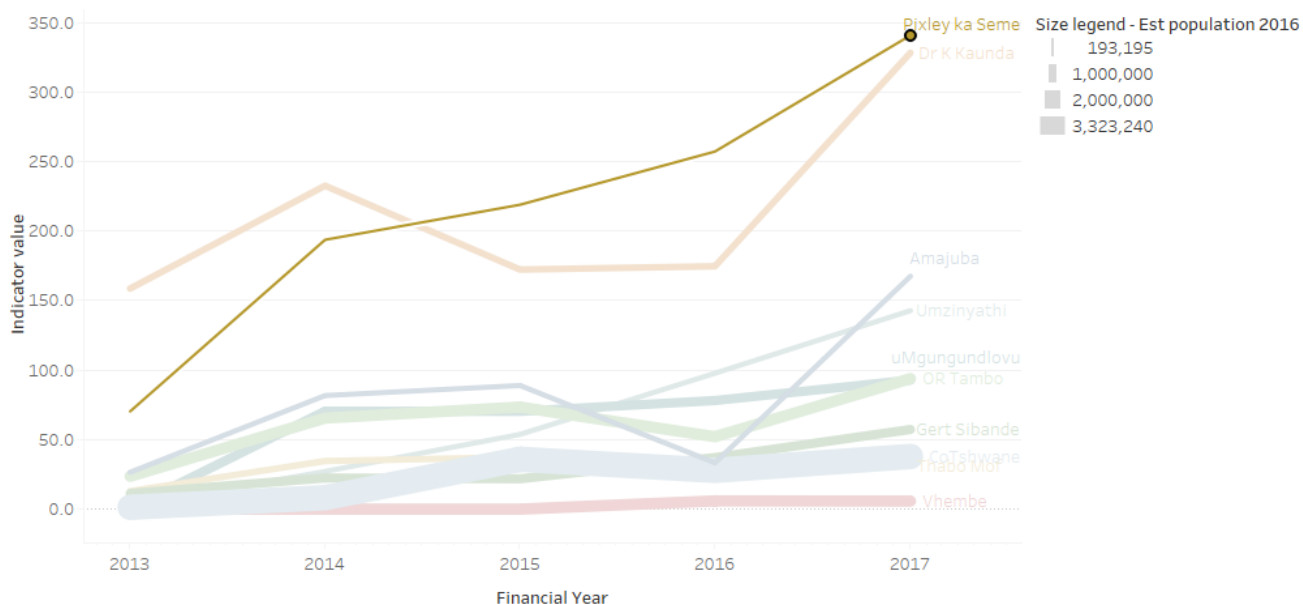


#### KEY OBSERVATIONS

Pixley Ka Seme was consistently the lowest performer among the NHI pilot districts for this indicator.



**Figure 28: OHH headcount under five. Pixley Ka Seme compared to the other NHI pilot districts (FY 2013 – FY 2017)**

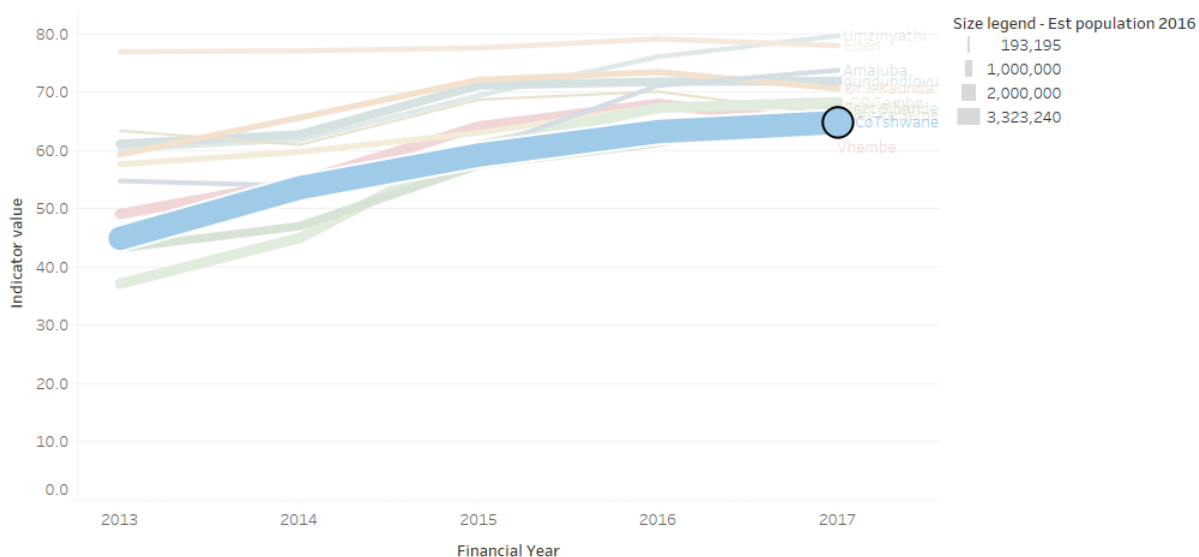


**KEY OBSERVATIONS**

Pixley Ka Seme was one of the best performers among the pilot districts for this indicator, which could be the reason it also performed well in the BCG dose coverage indicator.

**7.5.2.11. City of Tshwane district**

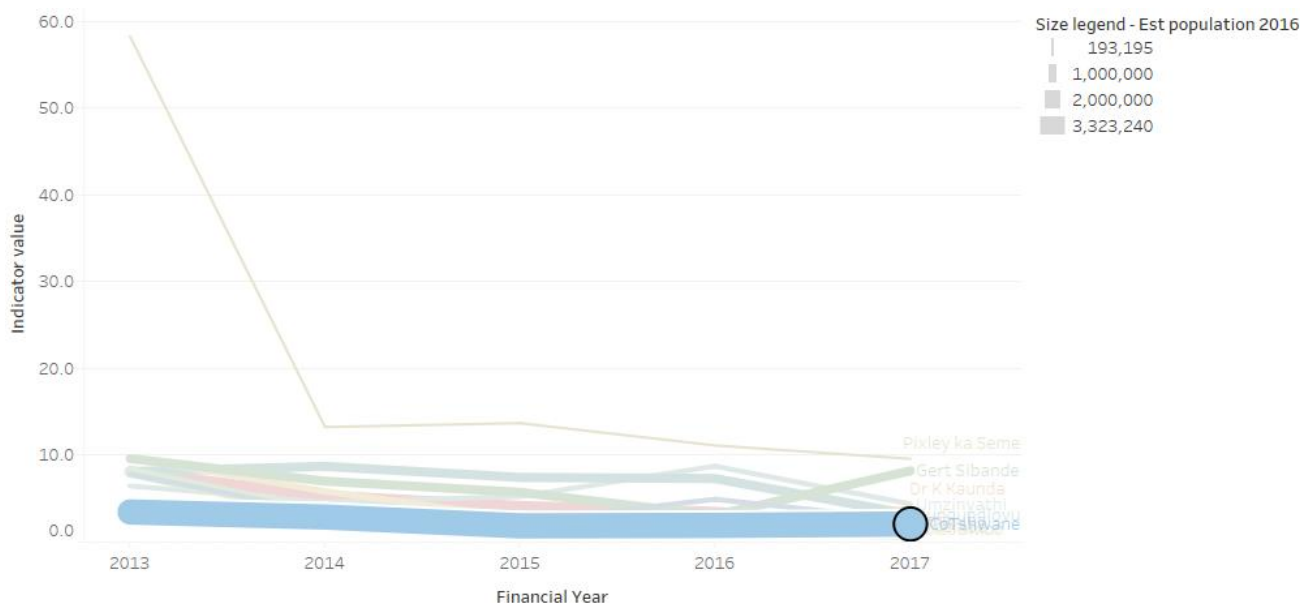
**Figure 29: Antenatal visit before 20 weeks. City of Tshwane compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

The City of Tshwane was the lowest performer among the NHI pilot districts for this indicator.

**Figure 30: Diarrhoea with dehydration under five years. The City of Tshwane compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

This was one of the best indicators for the City of Tshwane district.

## 8. ONGOING USE OF THE DASHBOARD

The development of the dashboard tool allowed key health indicators to be analysed and compared across the pilot districts and non-pilot districts in the same province. This enabled areas of improvement to be recognised and success stories to be used as lessons learned for other districts. The dashboards have shown that there is no consistent trend of the pilot districts performing better than the non-pilot districts; however, there were several encouraging improvements in the key health indicators, as highlighted in the graphs on the previous pages.

The dashboard tool has been made available to the NDoH and will allow for further ongoing analyses and comparisons between the various health indicators, the key NHI programmes and the performance of the districts. It is recommended that the NDoH continue with these analyses and refine the dashboards in line with the upscaling and implementation of the NHI Phase 2 initiative. This will allow the NHI project office to proactively identify areas requiring improvement and additional assistance, as well as areas/initiatives that are showing marked improvement in line with the set targets. The dashboard is merely a reflection of the data in the DHIS. Notwithstanding, through the functionality of the Tableau software, users will be able to rapidly analyse the data in a meaningful and proactive manner, thus making ongoing performance tracking and reporting more effective.

- Effectiveness of NHI Phase 1 Case studies were developed that highlight the success stories of NHI Phase 1 and the factors that contributed towards the intervention successes. A total of 10 case studies were developed (Annexure 12). The additional district, Amajuba, is one of these case studies.

7. This led to the development of recommendations that made use of all three data sources. The recommendations were again presented to the TWG and refined according to these discussions.
8. The final recommendations are presented in this evaluation report under *Strategic recommendations for NHI Phase 2*.

## **9. LIMITATIONS OF THE EVALUATION APPROACH AND METHOD**

The factors discussed in this section posed limitations to this evaluation:

- Some stakeholders cited that they had not been involved from the onset of NHI Phase 1 and therefore may have had limited understanding of NHI Phase 1 and may have been unable to make the links between the interventions.
- Self-reported information is often subject to recall error or misreporting. Furthermore, the data is considered subjective as experiences are perceived differently by individuals.
- A lack of disaggregated financial data also presented a limitation to the routine and outcomes data dashboard development.
- The scale-up of interventions beyond the pilot districts made it difficult to assess the differences between the pilot and non-pilot districts during Phase 1 implementation.

Despite these limitations, the evaluation team is confident that the quality of the evaluation has not been adversely affected and that the evaluation aims and objectives were achieved and the questions answered.

# CHAPTER 3: FINDINGS AND DISCUSSION

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## 10. TRENDS IN KEY HEALTH INDICATORS PERFORMANCE

### 10.1. PURPOSE OF HEALTH INDICATOR DASHBOARDS

The dashboards aim to demonstrate the performance of each pilot district over time as well as the general trend of the indicators. While many of the routine DHIS indicators cannot be directly linked to the specific intervention and therefore one should be cautious of overinterpretation, the dashboards provide evidence of trends in key health indicators in each district and province. This evidence helps to ascertain whether a district showed improvement over the period of NHI Phase 1 across the various indicators.

### 10.2. LIMITATIONS

The DHIS indicators allow for a fuller picture, showing progress in the health system and the fidelity of the NHI pilot projects. However, the routine DHIS indicators cannot be directly linked to a specific intervention, and one should therefore be cautious of overinterpretation. Rather, the dashboards can provide insight into the strength of the health system in each district and whether a district showed improvement over the pilot phase.

The team did not attempt to amend any data as it was important that the dashboards reflected the audited results, which had been accepted by the provinces and the NDoH. The sector is aware of the need to strengthen data quality, and one of the NHI interventions that focuses on e-Health aims to do this through better patient record-keeping and data management. Improved data quality will allow for more reliable data analysis and results.

### 10.3. DESCRIPTION OF DATA SOURCES

The evaluation team used health information data and financial data for the quantitative analysis. We received data from 2013/14 to 2017/18 for as many of the indicators as possible; however, some data was not available for all the years. We received the complete DHIS data from the NDoH, which has data at facility level. We aggregated the facility-level data up to district level by summing the raw data and then calculated the performance for the financial year as a whole using the standard indicator calculations.

**Health information data:** The team used the DHIS data received from the NDoH. Supplementary data was also received for the SVS, WBPHCOTs and ISHP.

## 10.4. PROCESS TO DEVELOP THE DASHBOARDS

### 10.4.1. Mapping indicators to interventions

#### 10.4.1.1. DHIS routine indicators

The team initially mapped the available DHIS data indicators to the interventions as far as possible, but this was only possible for the WBPHCOTs, SVS and DCSTs (Table 6).

**Table 6: Mapping DHIS routine indicators to relevant NHI Phase 1 interventions**

DHIS routine indicators	WBPHCOTs	SVS	DCST
Antenatal first visit 20 weeks or later	x		
Antenatal first visit before 20 weeks	x		x
Antenatal first visit total	x		x
Any tracer item drug stock-out (clinic/CHC/CDC)		x	
ART adult naive start ART in month			
ART adult remain on ART end of period			
ART child under 15 years naive start ART in month			
ART child under 15 years remain on ART end of period			
BCG dose			
Cervical cancer screening 30 years and older	x		
Child under two years underweight – new (weight between - 2 SD and -3 SD new)	x		
Diarrhoea death under five years	x		x
Diarrhoea separation under five years			
Diarrhoea with dehydration new in child under five years	x		
HIV-positive client screened for TB	x		
HIV-positive new eligible client initiated on IPT			
Immunised fully under one year new	x		
Inpatient death neonatal total			x
Inpatient death under one year total			x
Inpatient death under five years total			x
Inpatient deaths – total			
Maternal mortality in facility ratio			x
Measles first dose			
Measles second dose			
Medical male circumcision performed			

Evaluation of the Phase 1 Implementation of the Interventions in the National Health Insurance Pilot Districts in South Africa, Evaluation Report, Final. NDOH10/2017-2018

DHIS routine indicators	WBPHCOTs	SVS	DCST
Mother postnatal visit within six days after delivery	x		
PHC client seen by public doctor			
PHC headcount five years and older			
PHC headcount under five years	x		
Pneumonia death under five years			x
Pneumonia separation under five years			
SAM death under five years			x
SAM inpatient under five years			
Stillbirth in facility			
TB AFB sputum result received within 48 hours			
Total births in facility			x

Notes: AFB, acid-fast bacillus; ART, antiretroviral treatment; BCG, bacillus Calmette–Guérin; CHC, community health centre; CDC, community day centre; HIV, human immunodeficiency virus; IPT, isoniazid preventive therapy; PHC, primary healthcare; SAM, severe acute malnutrition; SD, standard deviation; TB, tuberculosis

The evaluation team then mapped out additional data received from the NDoH for the WBPHCOTs, which included additional outreach household (OHH) data, ISHP data and additional CCMDD data, as well as SVS-specific data. The indicators for these data sets are provided in Table 7 below.

**Table 7: Mapping data to the NHI Phase 1 interventions**

Additional indicators	WBPHCOTs	SVS	ISHP	CCMDD
OHH client referred to facility rate	x			
OHH follow-up visit rate	x			
OHH headcount total	x			
OHH headcount under five years coverage	x			
OHH registration visit rate	x			
OHH visits total	x			
OHH with postnatal care rate	x			
Clinic drug availability reports (FY 2017 and FY 2018)		x		
School Grade 1 screening coverage (annualised)			x	
School Grade 10 screening coverage (annualised)			x	
School Grade 4 screening coverage (annualised)			x	
School Grade 8 screening coverage (annualised)			x	
School Grade R screening coverage (annualised)			x	
School ISHP coverage (annualised)			x	
School learner referred rate (sum of eye, hearing, oral,			x	

Additional indicators	WBPHCOTs	SVS	ISHP	CCMDD
speech and TB)				
School learner screening coverage (annualised)			x	
Total patients registered on CCMDD				x
Total facilities registered for CCMDD				x
Total medicine parcels delivered via CCMDD				x

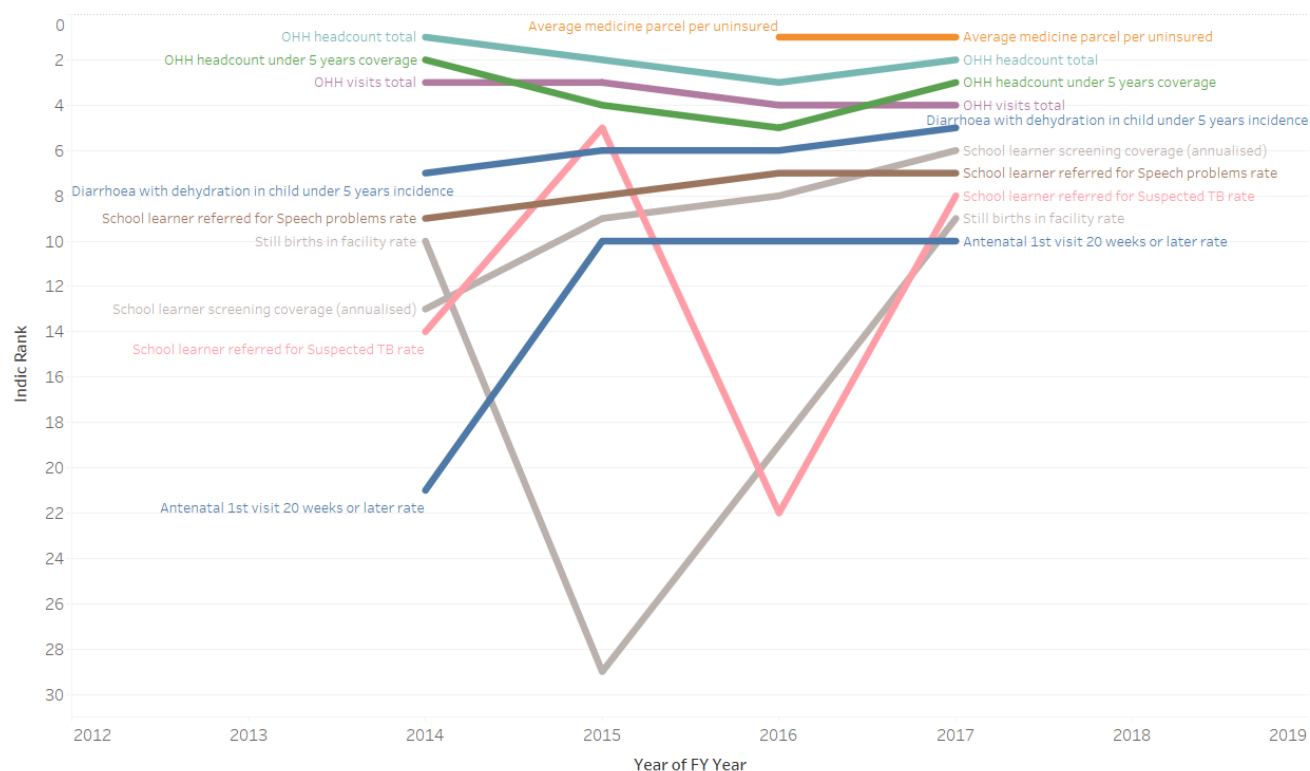
Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; FY, financial year; ISHP, Integrated School Programme; OHH, outreach household; TB, tuberculosis

## 10.5. RESULTS

The aim of analysing the indicators in the pilot districts over the period of the pilots was to try and determine whether the various Phase 1 interventions had had a measurable impact. An additional analysis was completed, which included pilot and non-pilot districts in the same graphs (Annexure 12). These districts should not be directly compared since there is enormous variability between the districts. Furthermore, the pilot districts were often selected because they started off from a lower base than other districts. However, we think examining trends across indicators, years and districts can be instructive.

### 10.5.1. Indicator-specific results

Figure 1: Top 10 performing indicators in the NHI pilot districts over time (FY 2013 – FY 2017)



## KEY OBSERVATIONS

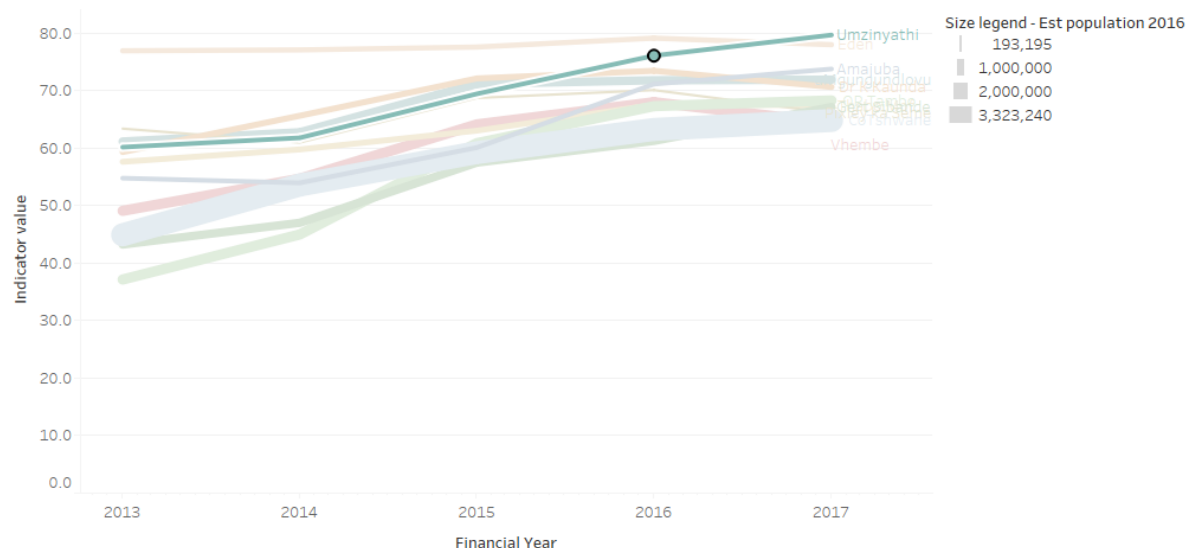
1. The average medicine parcel per uninsured was the highest ranked indicator by the end of 2017 (with measurement commencing in 2016).
2. Of the top 10 indicators, two showed a constant improvement year on year:
  - Diarrhoea with dehydration in child under five years incidence
  - School learner screening coverage (annualised)
3. “Stillbirth in facility rates” and “School learner referred for suspected TB rate” showed erratic decreases and increases. This could be a reporting anomaly.

## 10.5.2. District-specific results

The team’s data analysis intended to highlight specific success items and possible areas requiring improvement in each of the pilot districts. The dashboard tool allows the user to drill down into the detail for each indicator for each district and also allows for comparisons between the pilot districts, as well as between the pilot and non-pilot districts in a province.

### 10.5.2.1. uMzinyathi district

Figure 2: Antenatal visit before 20 weeks. uMzinyathi compared to the other NHI pilot districts (FY 2013 – FY 2017)

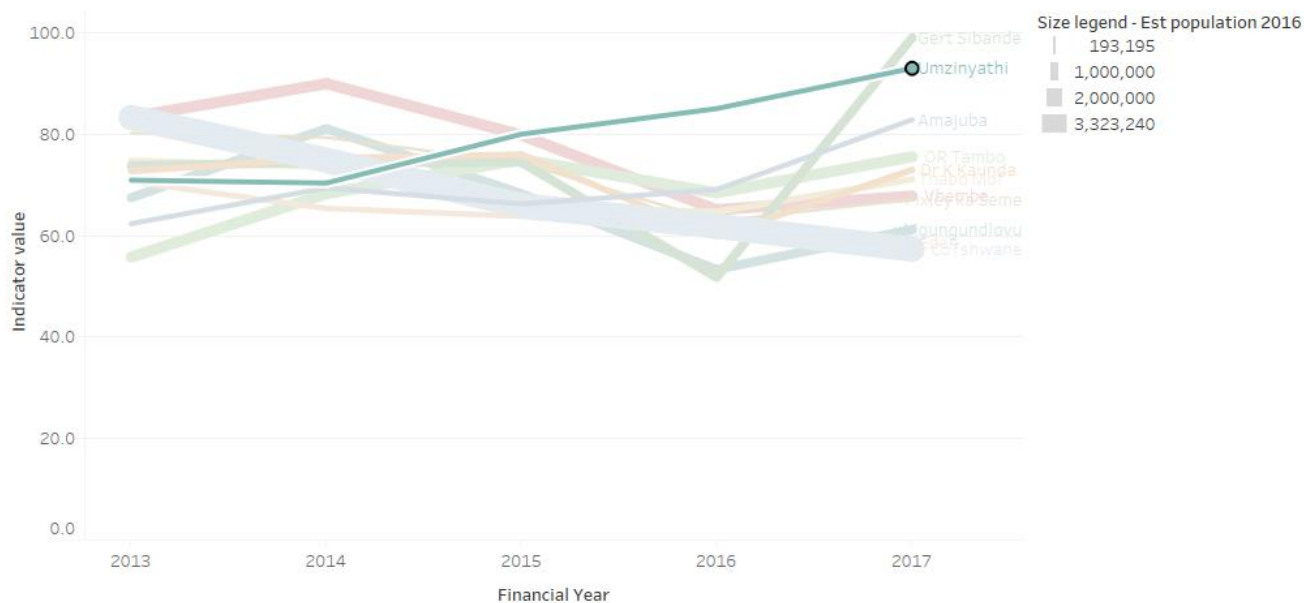


## KEY OBSERVATIONS

uMzinyathi showed a huge improvement and ended 2017 as the best performer among the NHI pilot districts for this indicator. The qualitative information indicated that bottom-up planning and preparation with a focus on maternal health was key to this success.



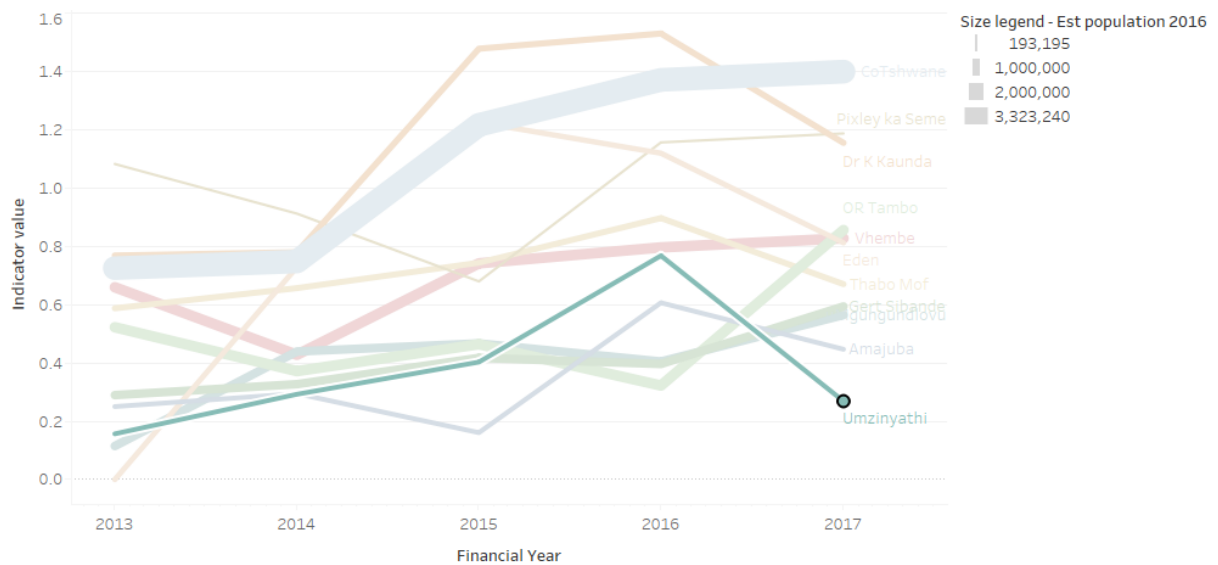
**Figure 3: Immunisation under the age of one. uMzinyathi compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### KEY OBSERVATIONS

uMzinyathi showed a huge improvement for this indicator. The qualitative information indicated that mother and child health was prioritised as the focus for the district.

**Figure 4: School learner screening coverage. uMzinyathi compared to the other NHI pilot districts (FY 2013 – FY 2017)**

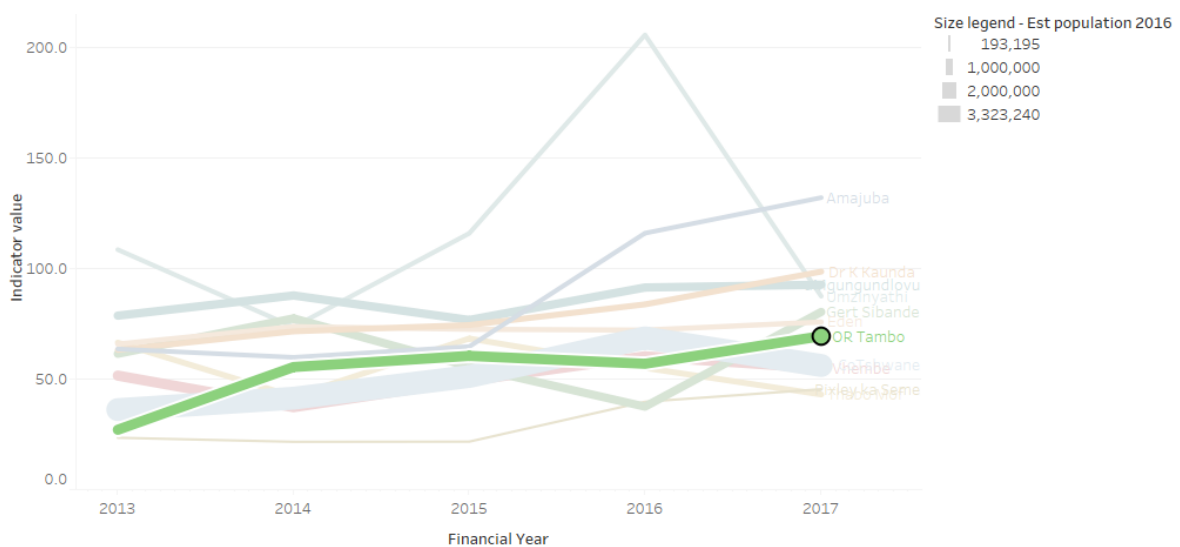


### KEY OBSERVATIONS

There was a decrease from 2016 to 2017, with uMzinyathi ended 2017 as the worst performer among the pilot districts for this indicator. The qualitative information indicated that certain areas in the district do not have functioning ISHPs.

### 10.5.2.2. OR Tambo district

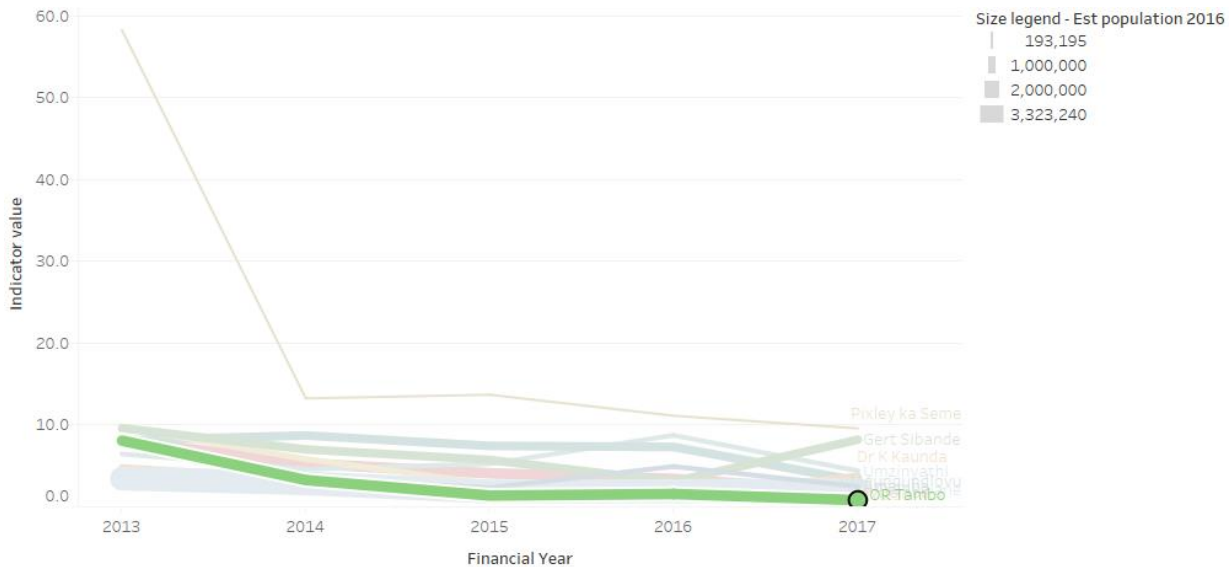
**Figure 5: Cervical cancer screening over 30. OR Tambo compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### KEY OBSERVATIONS

OR Tambo showed a consistent improvement year on year for this indicator, as well as an increase in ranking compared to the other pilot districts.

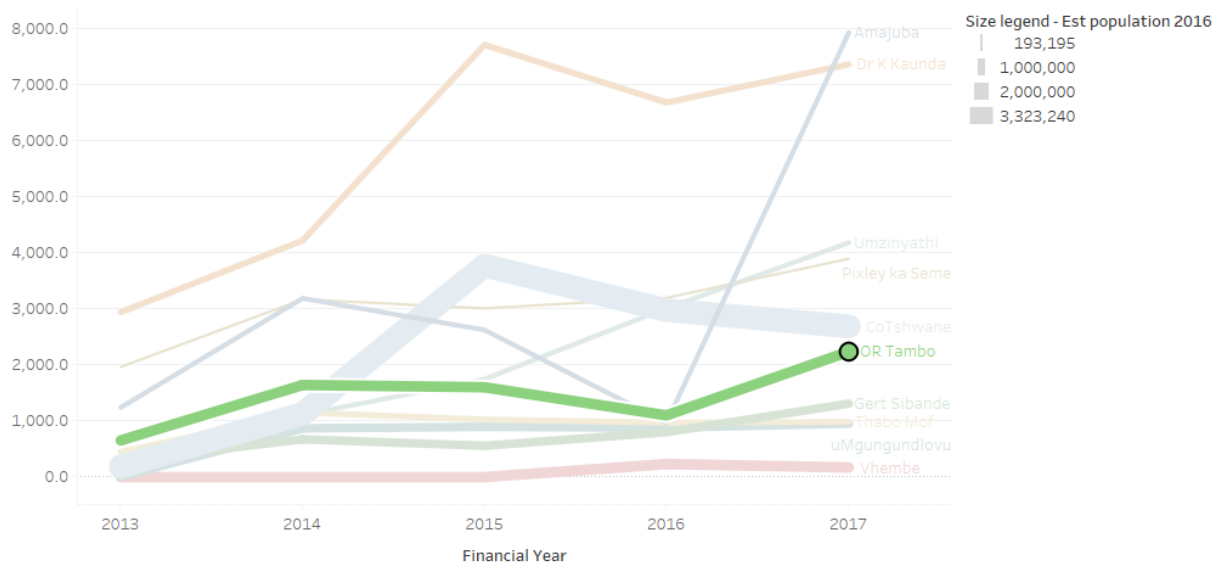
**Figure 6: Diarrhoea with dehydration under five. OR Tambo compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### KEY OBSERVATIONS

OR Tambo showed a consistent improvement year on year for this indicator, as well as an increase in ranking compared to the other pilot districts.

**Figure 7: OHH total visits. OR Tambo compared to the other pilot districts (FY 2013 – FY 2017)**

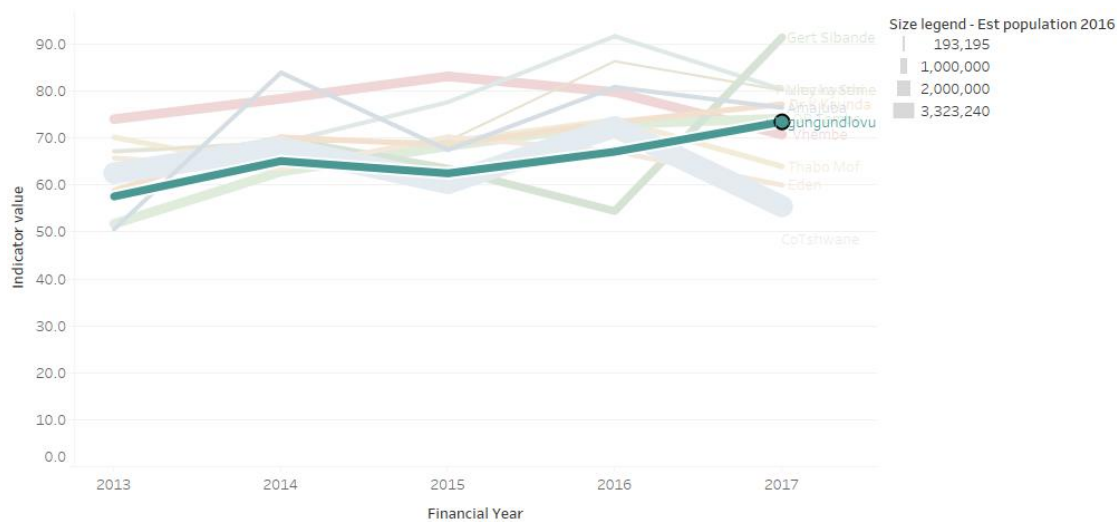


**KEY OBSERVATIONS**

OR Tambo showed an average improvement compared to the other NHI pilot districts for this indicator. The qualitative data indicated that the WBPHCOTs were not consistent.

**10.5.2.3. uMgungundlovu district**

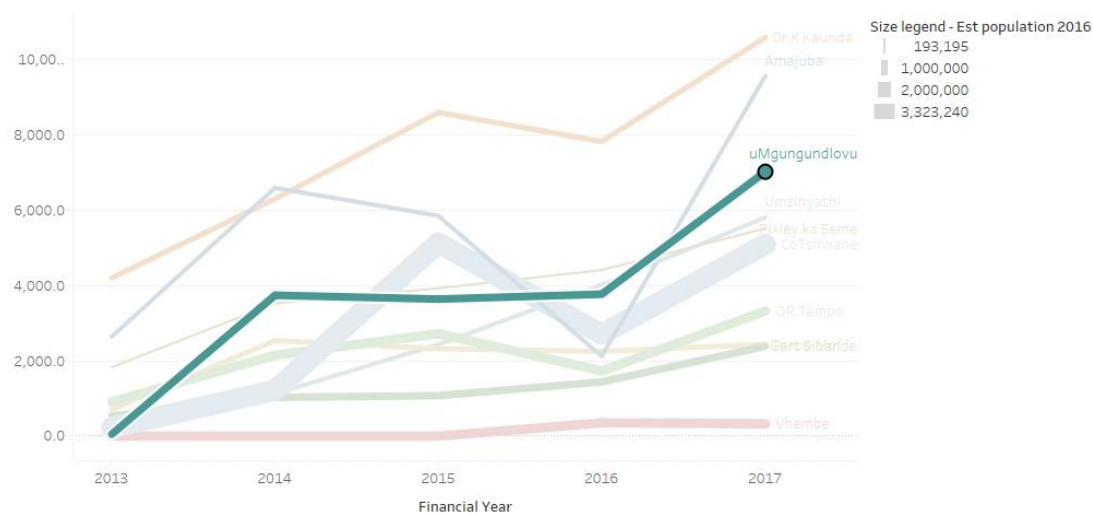
**Figure 8: Measles second dose. uMgungundlovu compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

uMgungundlovu showed an improvement year on year for this indicator, as well as an increase in ranking compared to the other pilot districts.

**Figure 9: OHH headcount. uMgungundlovu compared to the other NHI pilot districts (FY 2013 – FY 2017)**

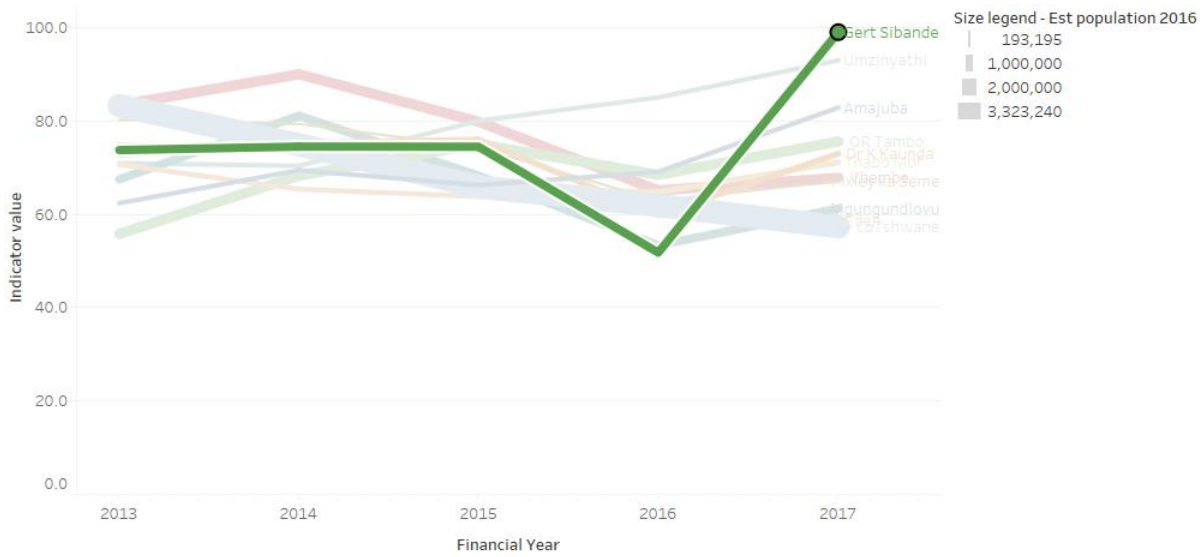


**KEY OBSERVATIONS**

uMgungundlovu showed an improvement compared to the other pilot districts for this indicator. The qualitative commentary reflected a lack of capacitated WBPHCOTs.

**10.5.2.4. Gert Sibande district**

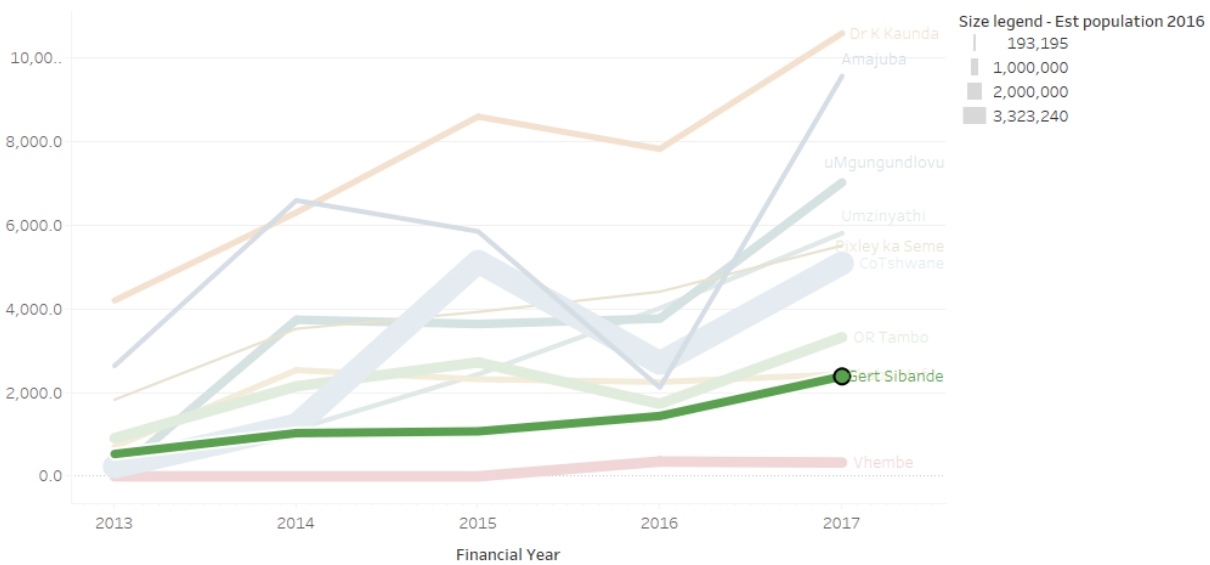
**Figure 10: Immunisation under one year. Gert Sibande compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Gert Sibande showed a huge improvement from 2016 to 2017, ending 2017 as the best performing district among the pilot districts for this indicator.

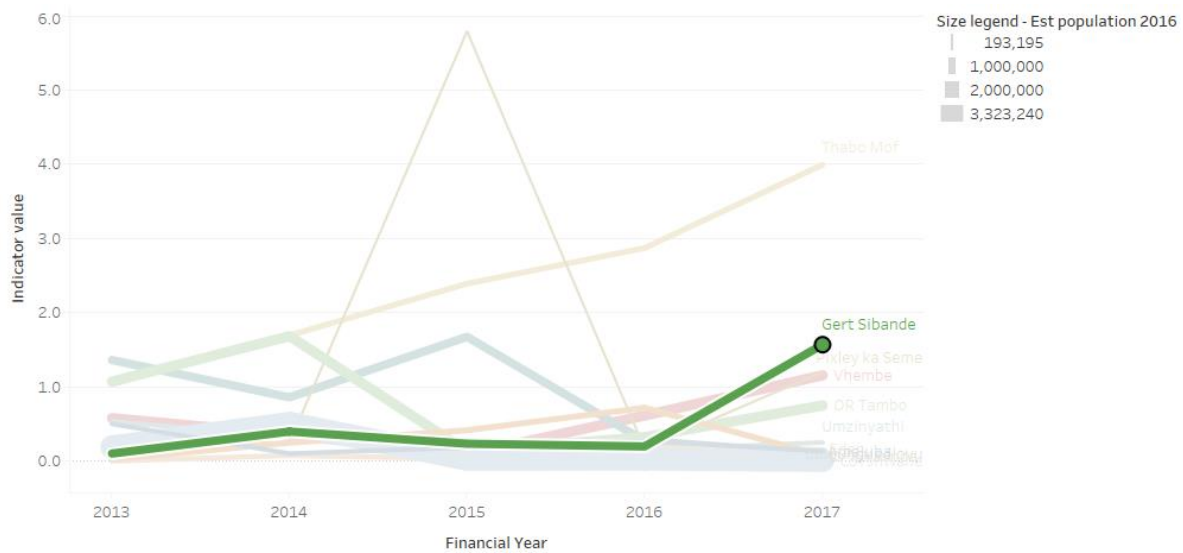
**Figure 11: OHH headcount total. Gert Sibande compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Gert Sibande did not show sufficient improvement and there was a drop in rank for this indicator. The qualitative data reflects the WBPHCOTs as not being a success because it was difficult to recruit and retain staff.

**Figure 12: School learners referred for suspected TB. Gert Sibande compared to the other NHI pilot districts (FY 2013 – FY 2017)**

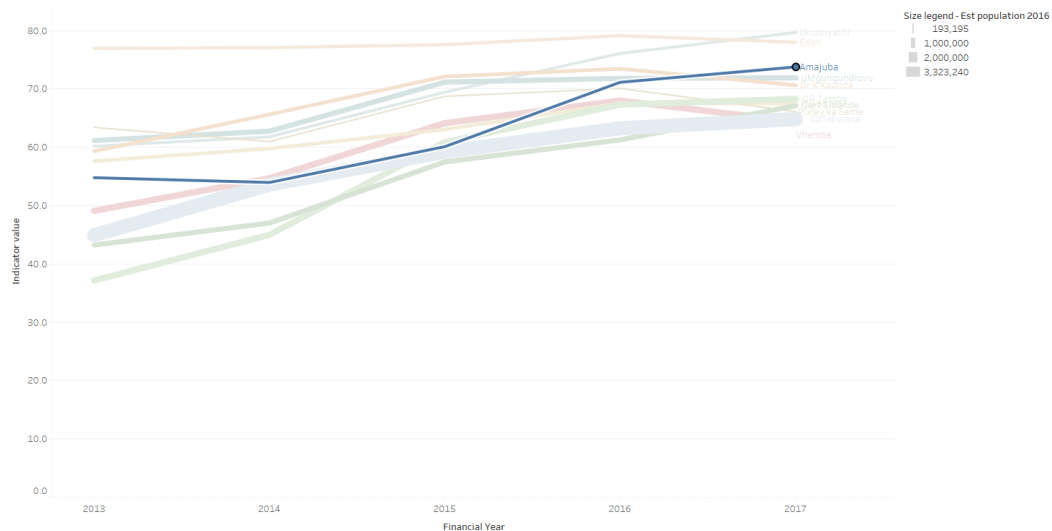


**KEY OBSERVATIONS**

Gert Sibanda showed a good improvement, ending 2017 as the second best pilot district for this indicator.

### 10.5.2.5. Amajuba district

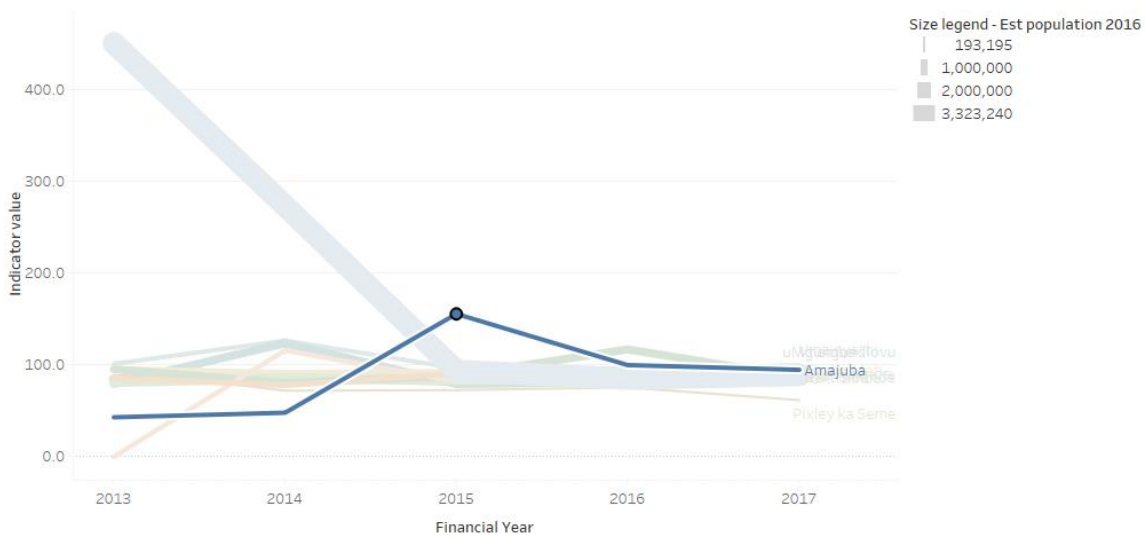
**Figure 13: Antenatal first visit before 20 weeks. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**



#### KEY OBSERVATIONS

The Amajuba district showed an improvement in this indicator; however, the WBPHCOTs need to follow up to ensure better referrals and adherence.

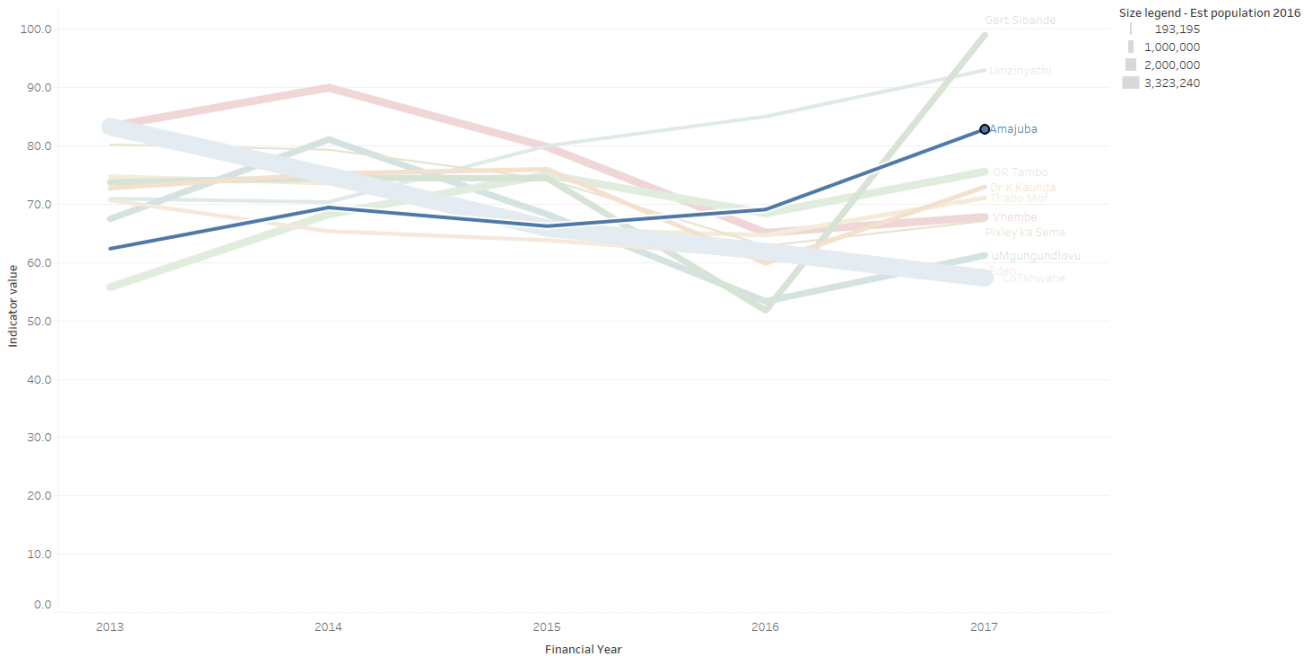
**Figure 14: HIV positive on IPT. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Amajuba showed a perceived increase in 2015; however, there was a decrease in 2016 and 2017 for this indicator.

**Figure 15: Immunisation under one year. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**

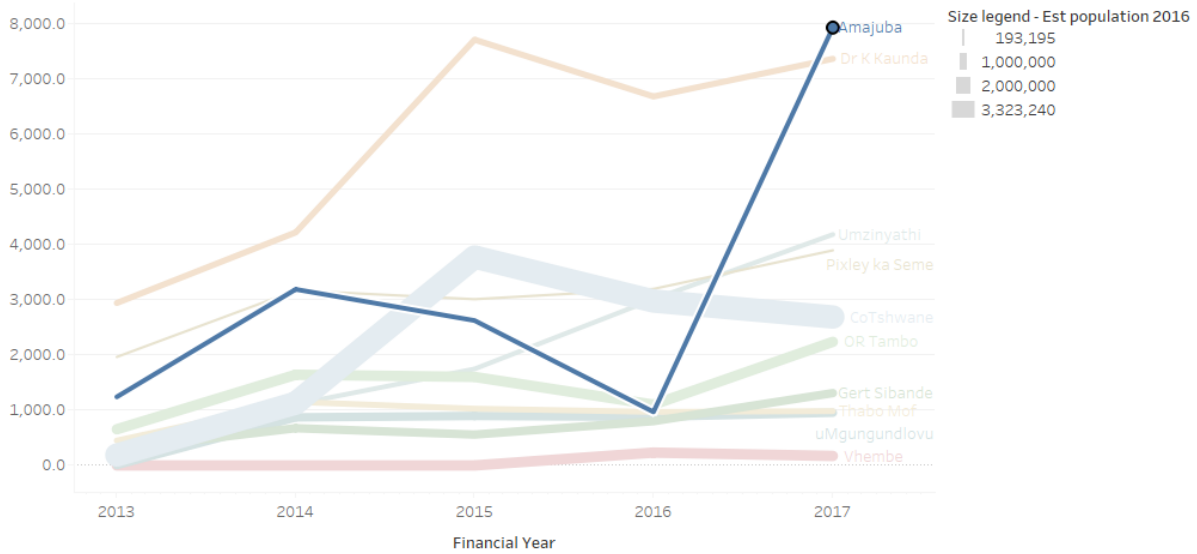


**KEY OBSERVATIONS**

Amajuba showed an increase, with the district ending 2017 as the third best performer among the pilots for this indicator.



**Figure 16: OHH total visits. Amajuba compared to the other NHI pilot districts (FY 2013 – FY 2017)**

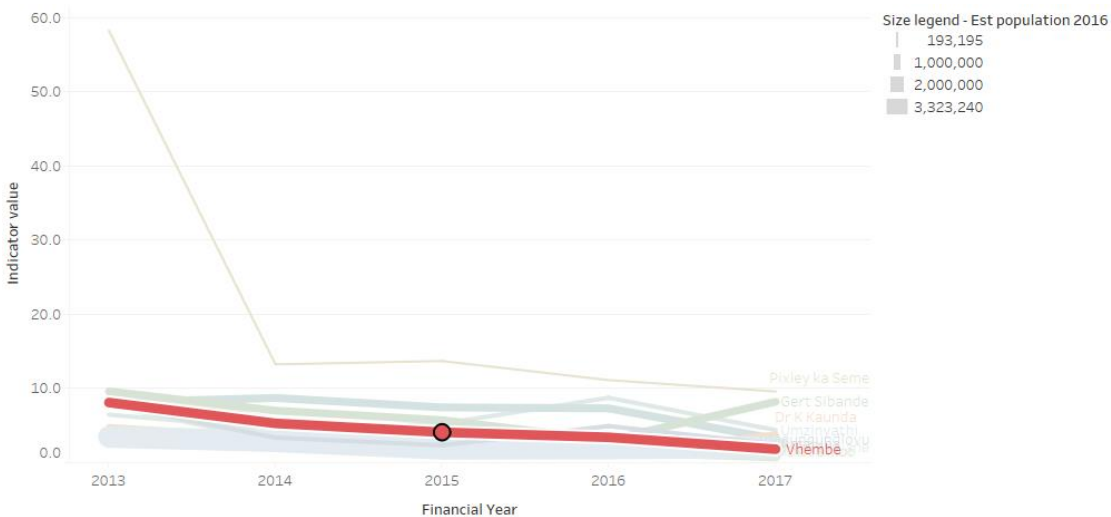


**KEY OBSERVATIONS**

Amajuba showed a huge improvement from 2016 to 2017, ending 2017 as the best performing district among the pilot districts for this indicator.

**10.5.2.6. Vhembe district**

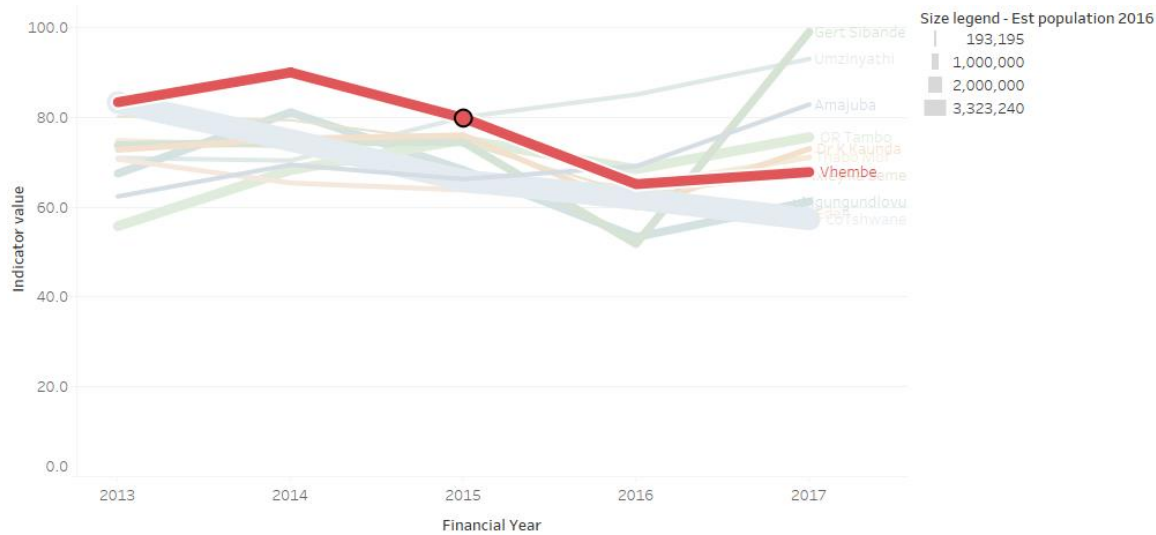
**Figure 17: Diarrhoea with dehydration under five. Vhembe compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### KEY OBSERVATIONS

There was an improvement for this indicator, with Vhembe district ending 2017 as the second best performing district among the pilot districts.

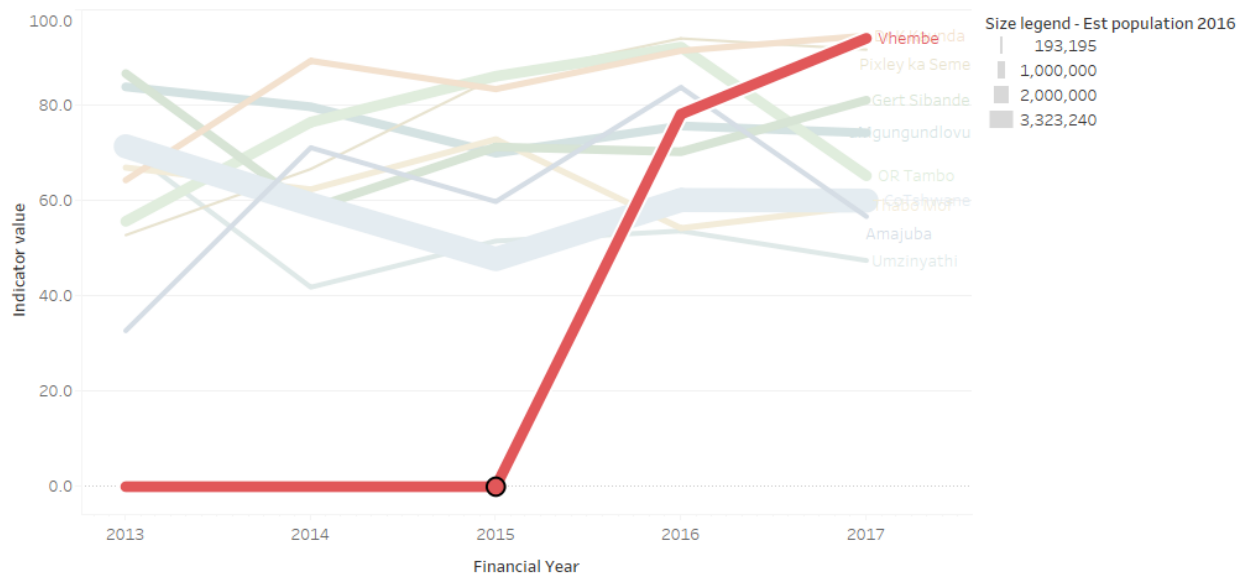
**Figure 18: Immunisation under one. Vhembe compared to the other NHI pilot districts (FY 2013 – FY 2017)**



### KEY OBSERVATIONS

Vhembe showed a sharp decrease in performance for this indicator. The qualitative information revealed a lack of functional DCSTs, with speculation that they need to be dismantled and a new solution found. This is potentially problematic because, with poor immunisation coverage, there is a higher risk for poor child health. The DCSTs will then be critical to ensuring that child mortality does not increase.

**Figure 19: OHH follow-up rate. Vhembe compared to the other NHI pilot districts (FY 2013 – FY 2017)**

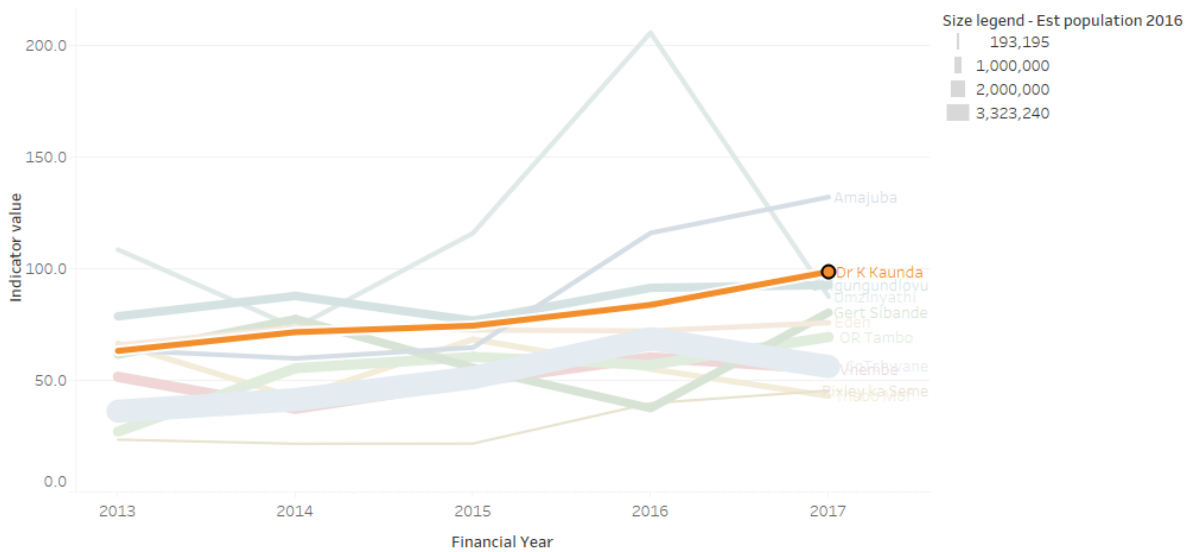


**KEY OBSERVATIONS**

Vhembe showed a large improvement from 2015 to 2017, with the district ending 2017 as the best performer among the pilot districts for this indicator.

**10.5.2.7. Dr K Kaunda district**

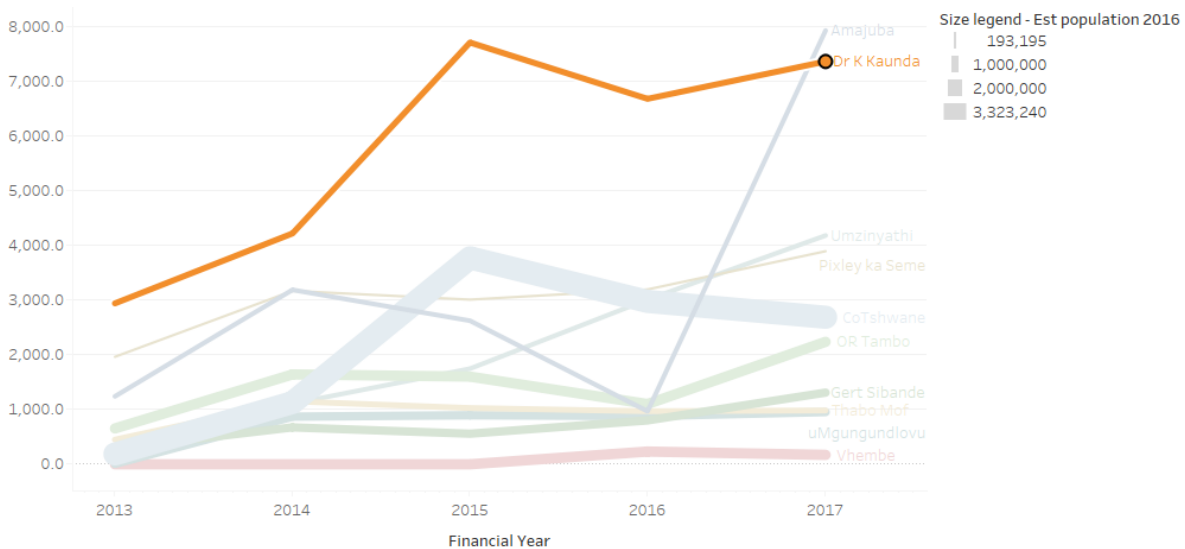
**Figure 20: Cervical cancer screening over 30. Dr K Kaunda compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Dr K Kaunda showed an improvement for this indicator, with the district ending 2017 ranked the third best performer among the pilot districts.

**Figure 21: OHH total visits. Dr K Kaunda compared to the other NHI pilot districts (FY 2013 – FY 2017)**

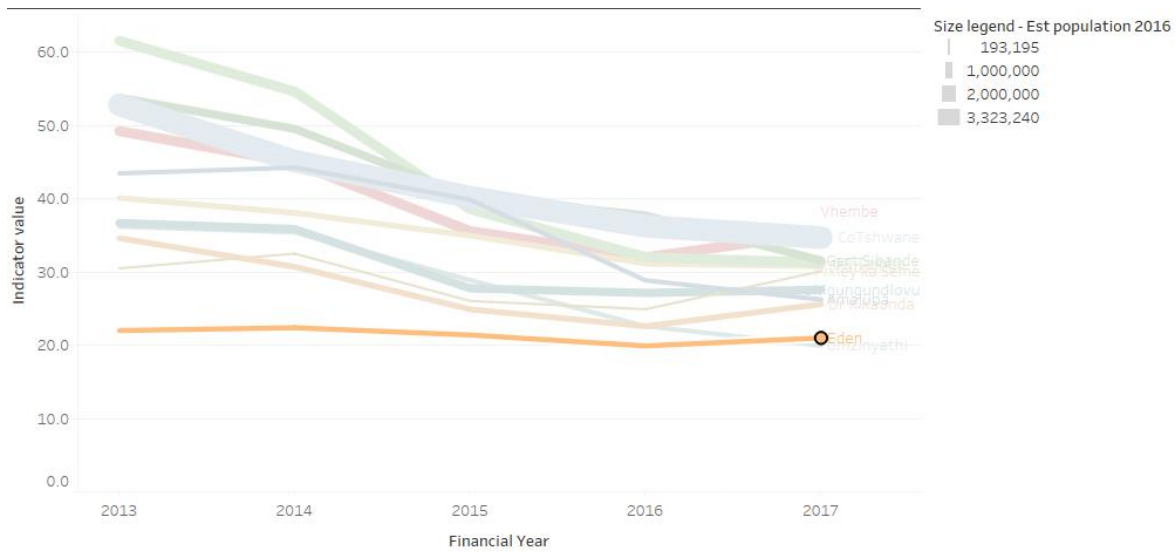


**KEY OBSERVATIONS**

Dr K Kaunda showed an improvement, with the district ending 2017 as the second best NHI pilot district for this indicator.

**10.5.2.8. Eden district**

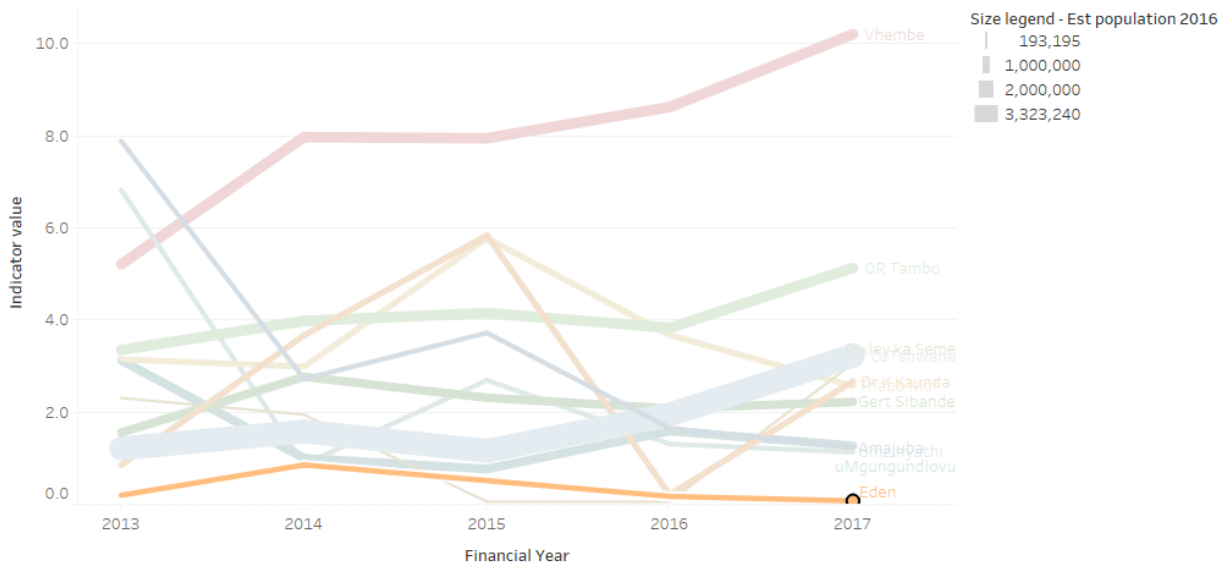
**Figure 22: Antenatal first visit after 20 weeks. Eden compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Eden District showed a consistent trend over the period, with a very high performance (almost 80%) for antenatal first visit before 20 weeks. This correlates with the antenatal first visit after 20 weeks of around 21%. Eden was consistently the best performer when compared to the other pilot districts.

**Figure 23: Tracer drugs stock-outs. Eden compared to the other NHI pilot districts (FY 2013 – FY 2017)**

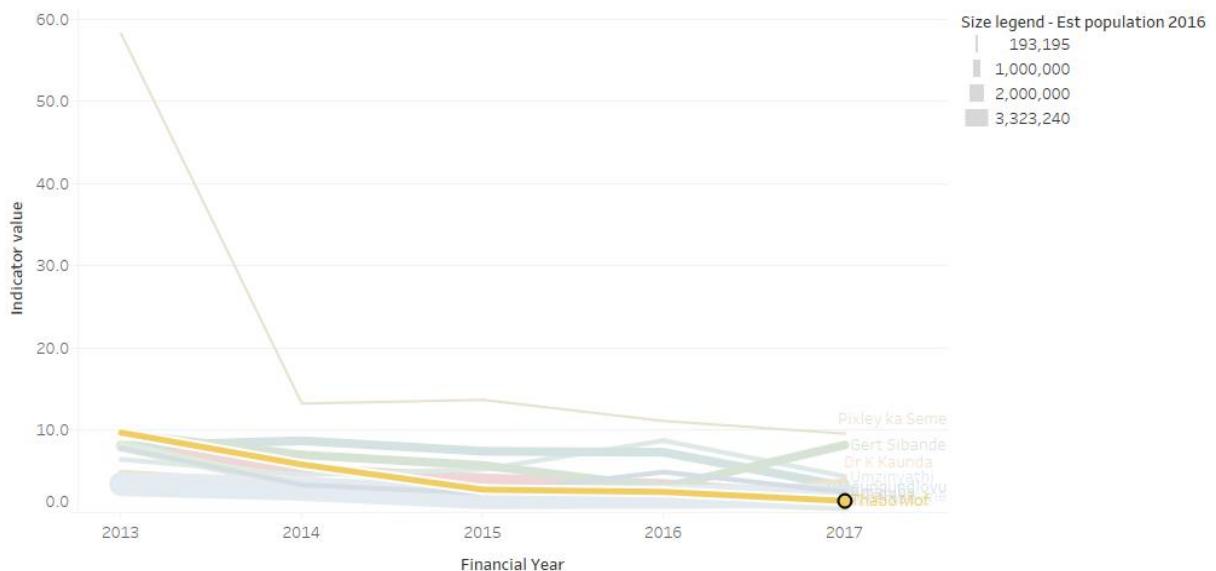


**KEY OBSERVATIONS**

Eden consistently had the lowest stock-out rates among the pilot districts.

**10.5.2.9. Thabo Mofutsanyana district**

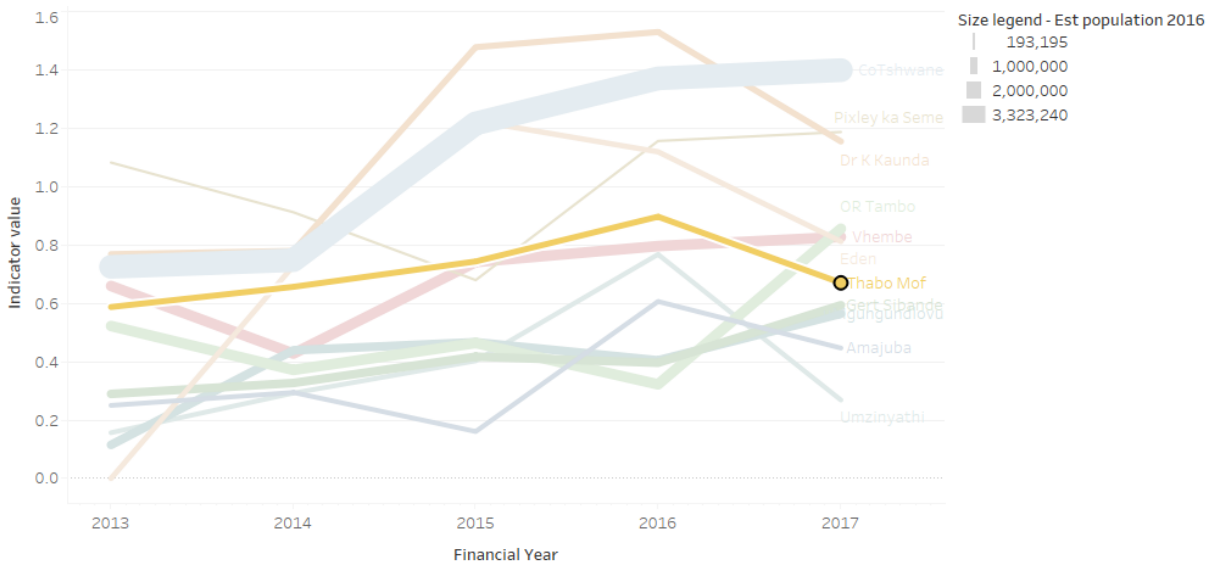
**Figure 24: Diarrhoea with dehydration under five years. Thabo Mofutsanyana compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Thabo Mofutsanyana showed a large improvement, ending 2017 as the best pilot district for this indicator.

**Figure 25: School learner screening coverage. Thabo Mofutsanyana compared to the other NHI pilot districts (FY 2013 – FY 2017)**

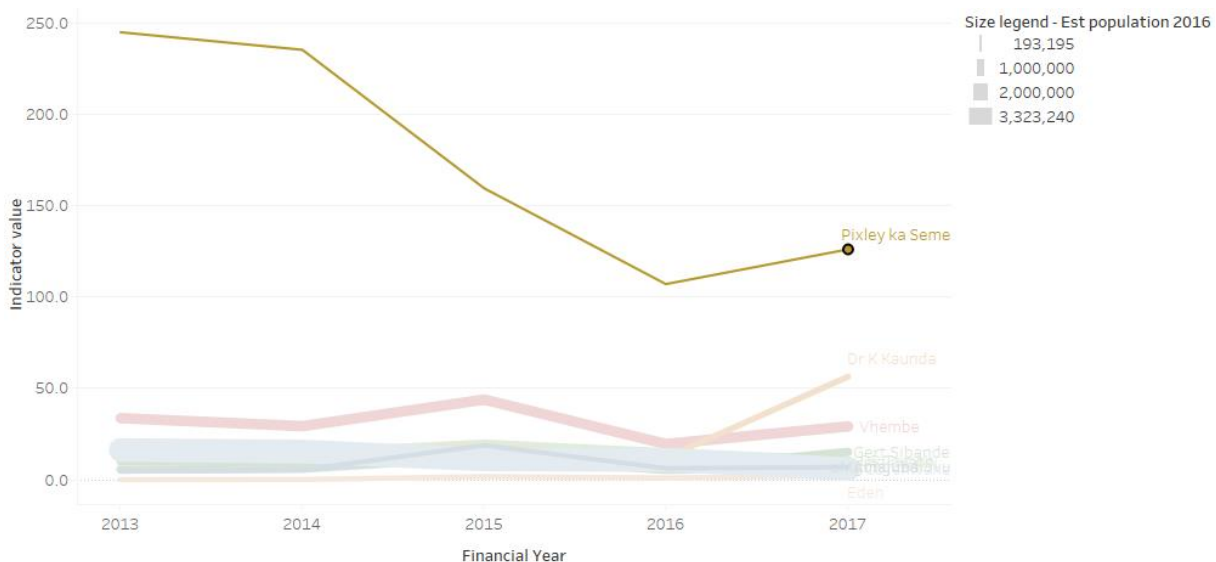


**KEY OBSERVATIONS**

Thabo Mofutsanyana showed a decrease from 2016 to 2017. The qualitative data showed that not all the schools could be reached given the available resources.

**10.5.2.10. Pixley ka Seme district**

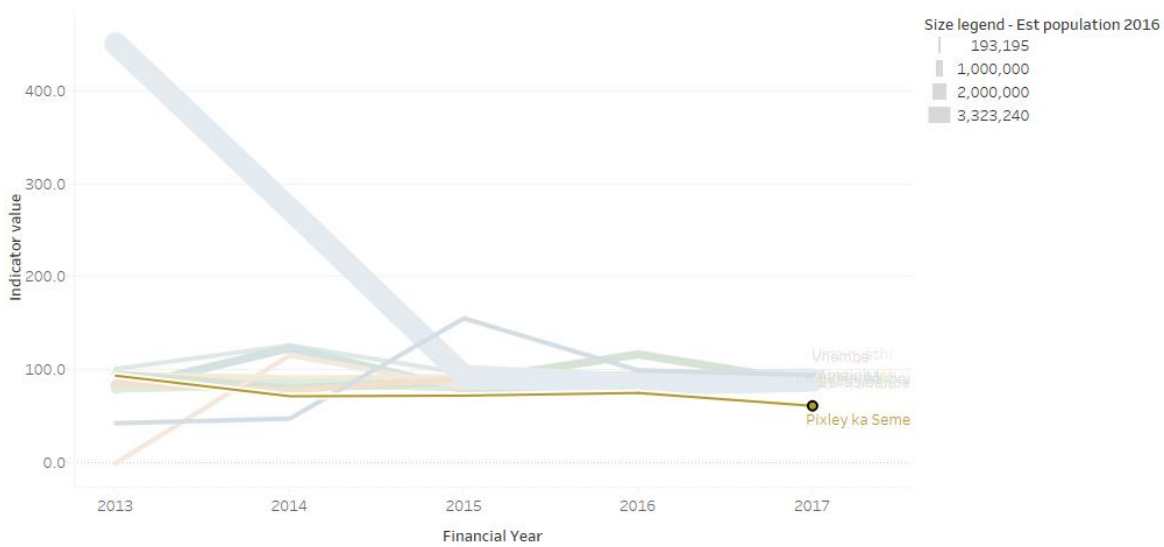
**Figure 26: BCG dose coverage. Pixley Ka Seme compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Pixley ka Seme was the best performer among the pilot districts for this indicator, but coverage was reduced among the other districts.

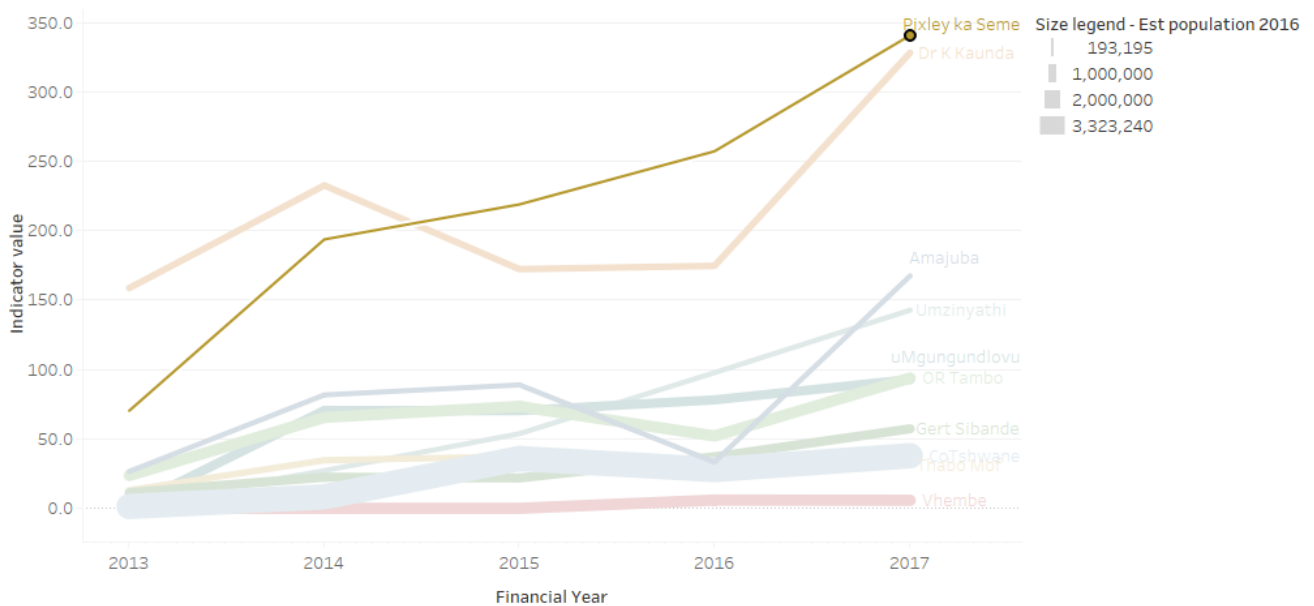
**Figure 27: HIV positive on IPT. Pixley Ka Seme compared to the other NHI pilot districts (FY 2013 – FY 2017)**



**KEY OBSERVATIONS**

Pixley Ka Seme was consistently the lowest performer among the NHI pilot districts for this indicator.

**Figure 28: OHH headcount under five. Pixley Ka Seme compared to the other NHI pilot districts (FY 2013 – FY 2017)**

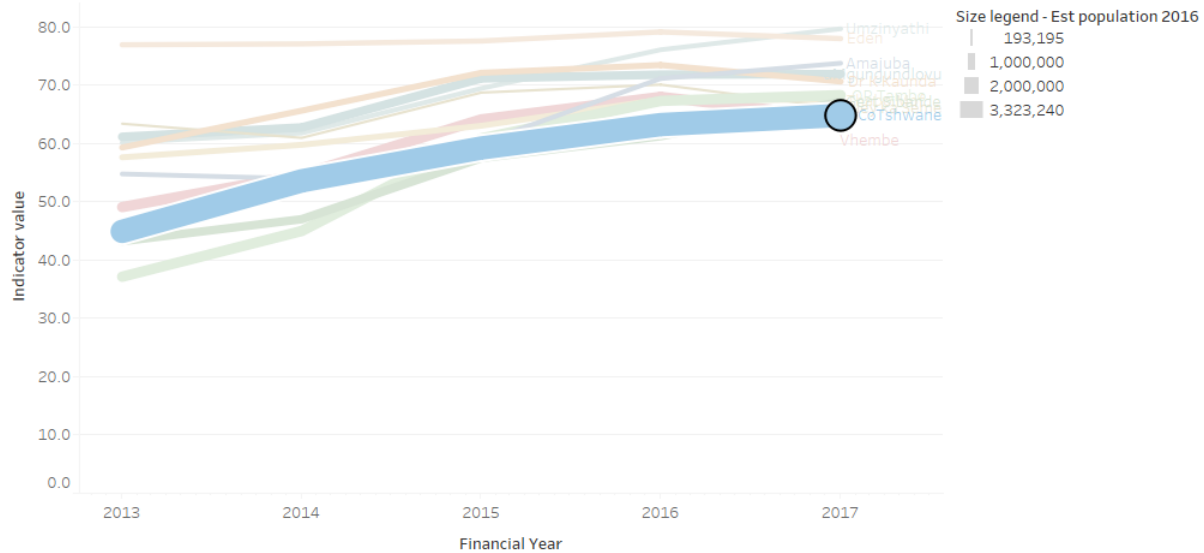


**KEY OBSERVATIONS**

Pixley Ka Seme was one of the best performers among the pilot districts for this indicator, which could be the reason it also performed well in the BCG dose coverage indicator.

### 10.5.2.11. City of Tshwane district

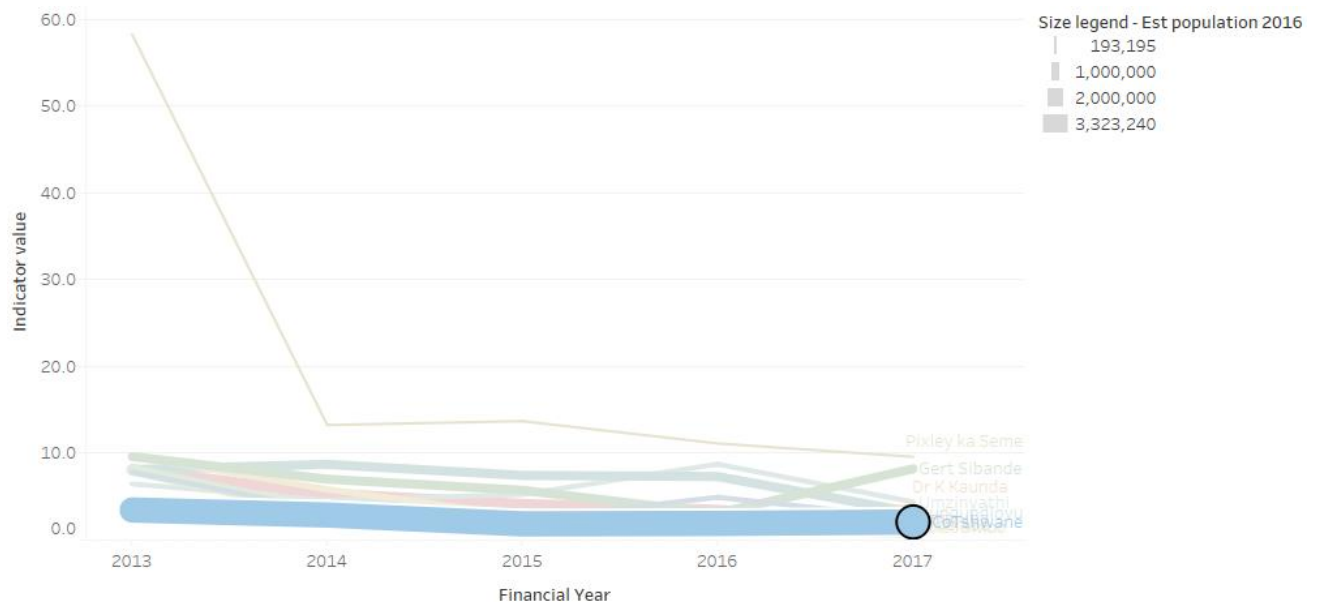
**Figure 29: Antenatal visit before 20 weeks. City of Tshwane compared to the other NHI pilot districts (FY 2013 – FY 2017)**



#### KEY OBSERVATIONS

The City of Tshwane was the lowest performer among the NHI pilot districts for this indicator.

**Figure 30: Diarrhoea with dehydration under five years. The City of Tshwane compared to the other NHI pilot districts (FY 2013 – FY 2017)**





## KEY OBSERVATIONS

This was one of the best indicators for the City of Tshwane district.

# 11. ONGOING USE OF THE DASHBOARD

The development of the dashboard tool allowed key health indicators to be analysed and compared across the pilot districts and non-pilot districts in the same province. This enabled areas of improvement to be recognised and success stories to be used as lessons learned for other districts. The dashboards have shown that there is no consistent trend of the pilot districts performing better than the non-pilot districts; however, there were several encouraging improvements in the key health indicators, as highlighted in the graphs on the previous pages.

The dashboard tool has been made available to the NDoH and will allow for further ongoing analyses and comparisons between the various health indicators, the key NHI programmes and the performance of the districts. It is recommended that the NDoH continue with these analyses and refine the dashboards in line with the upscaling and implementation of the NHI Phase 2 initiative. This will allow the NHI project office to proactively identify areas requiring improvement and additional assistance, as well as areas/initiatives that are showing marked improvement in line with the set targets. The dashboard is merely a reflection of the data in the DHIS. Notwithstanding, through the functionality of the Tableau software, users will be able to rapidly analyse the data in a meaningful and proactive manner, thus making ongoing performance tracking and reporting more effective.

# 12. EFFECTIVENESS OF NHI PHASE 1

## 12.1. WARD-BASED PRIMARY HEALTHCARE OUTREACH TEAMS

In South Africa, WBPHCOTs refer to teams based in PHC facilities that offer integrated services to households and individuals within their catchment areas (National Department of Health, 2018). The teams are responsible for the provision of PHC services to families and households, community outreach services and preventive, promotive, curative, rehabilitative and palliative services (National Department of Health, 2018).

The teams comprise six to ten community health workers (CHWs), one outreach team leader (OTL) who is an enrolled nurse and one data capturer. The OTL is responsible for ensuring that the work of the WBPHCOTs is linked to service delivery targets and that team members are adequately supported and supervised to meet these (National Department of Health, 2018).

The WBPHCOT intervention is currently underpinned by the Policy Framework and Strategy for Ward-based Primary Healthcare Outreach Teams 2018/2019 – 2023/2024 (National Department of Health, 2018) and aims to ensure the successful implementation of the teams and the overall success of NHI implementation in South Africa. However, this policy was not in place at the time of the NHI Phase 1 implementation in 2012.

The implementation of this intervention in the NHI pilot districts is understood to have been largely successful despite difficulties in the early days of implementation. In September 2017, a reported 3519 WBPHCOTs were covering 12 816 152 households (National Department of Health, 2017). At the end of 2017/2018, there were a total of 3 323 WBPHCOTs providing basic health services to children and adults (National Department of Health,

2018). The WBPHCOTs were attached to facilities in their identified catchment areas but not fully integrated into the PHC facilities, resulting in misalignment regarding the role of the WBPHCOTs. Additionally, according to national stakeholders, the “provinces implemented the intervention as they saw fit”, and as a result, the standardisation of these teams was difficult to manage. Implementing effective monitoring mechanisms proved to be even more challenging.

*“The WBPHCOTs started off slowly: the programme runs differently and under different names, and there was a need to audit all the teams and activities per province and category.”*

National Department of Health official

*“There should be a tracking system for the WBPHCOTs to see if they do the work.”*

District official

However, the WBPHCOTs were widely acknowledged by the interviewed stakeholders as having been a key link between communities and the PHC facilities across the country since the intervention’s inception in 2012. The WBPHCOTs have been able to extend healthcare beyond those individuals who access services at facilities, with the ability to reach people in their homes. This was evident from the common perception among the stakeholders that the WBPHCOTs had been successfully able to reach a large number of communities who had not previously been accessing healthcare services as and when needed.

*“The WBPHCOTs are an important component of PHCs and reach people who do not access the clinics. They can be very helpful and give practical health advice.”*

National Department of Health official

*“The WBPHCOTs are the soldiers in the community.”*

District official

The WBPHCOTs’ ability to link communities to facilities has been widely recognised, and this intervention has been identified by national stakeholders as one of the key interventions in improving access to healthcare in the country and will continue to be key to the successful implementation of NHI in South Africa in the next phases.

*“This was key in strengthening the extension of PHC to communities. The introduction and training of CHWs played a critical role in PHC.”*

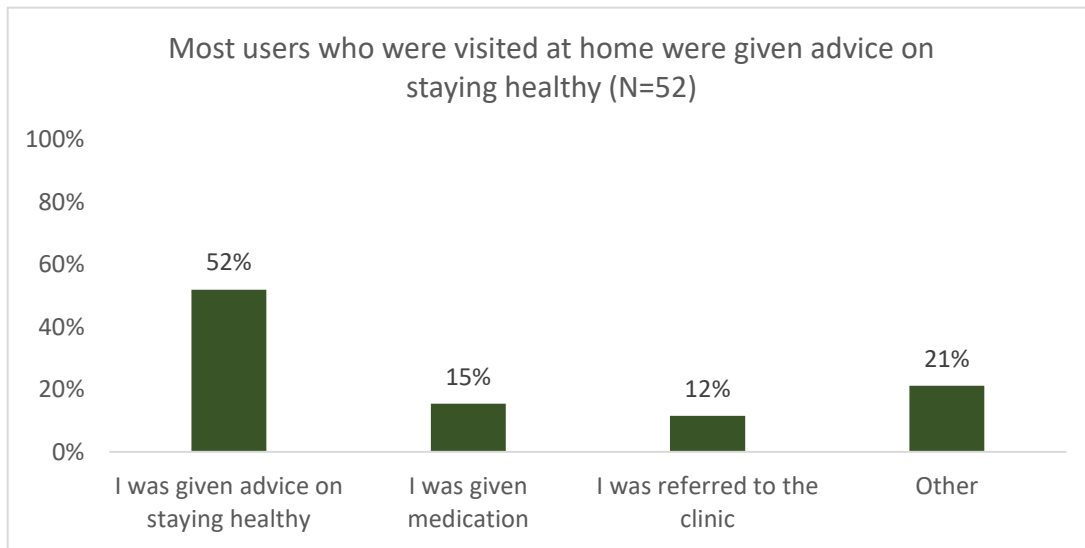
National Department of Health official

The perceived value of the WBPHCOTs is evident in the large-scale implementation across the country. A notable 75% of the facility managers surveyed reported having WBPHCOTs attached to their facilities. However, it is difficult to assess whether the managers fully understood the role of WBPHCOTs, particularly the teams’ responsibility to refer patients to their facilities. This is because a large proportion of the facility managers who reported having WBPHCOTs (48%) also reported that they had seen a decreased patient load (62%) in their facilities since the introduction of these teams, which was not the intention of implementing the WBPHCOT intervention. The decreased patient load could have been due to the fact that the WBPHCOTs were able to deal with some of the patients; however, it is more likely that referrals and follow ups were not tightly governed and monitored.

While the WBPHCOTs are recognised as playing a vital role in promoting access to care among communities, it is evident that there is room for the increased provision of healthcare services at a community level. There is an apparent mismatch between the teams’ intended role and communities’ expectations. The teams are seen

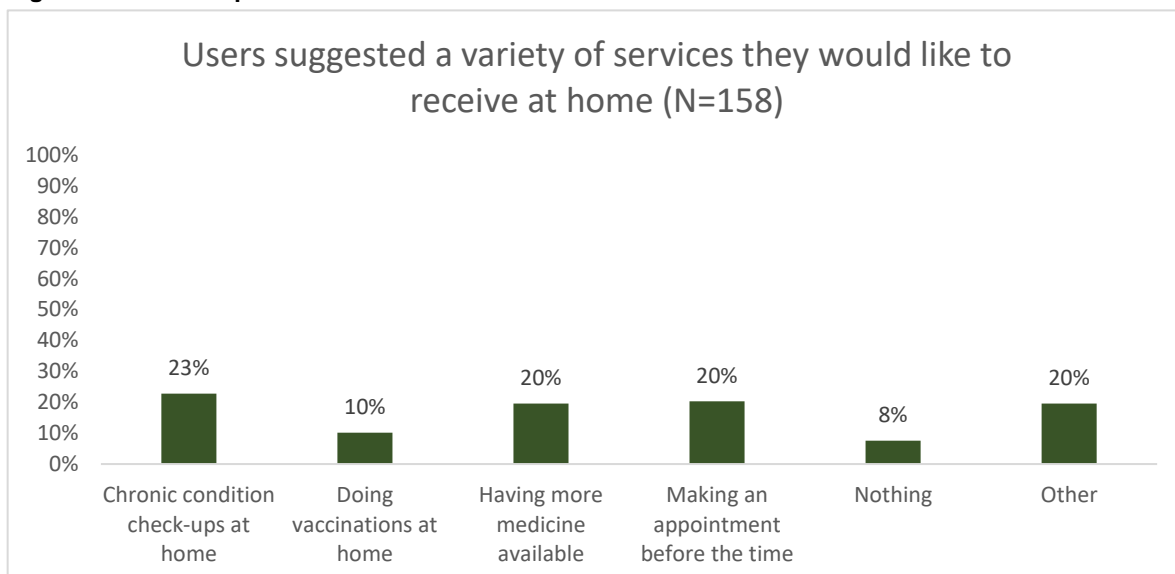
to have limited capabilities by communities as they are not able to provide medicines to them. This was not the intention of the introduction of the WBPHCOTs in NHI Phase 1 implementation as they were envisioned to provide health advice or education to communities. Patients were asked which services they had received when they were visited by a member of an outreach team in their homes. While a minority of patients reported that they had not been visited at home before, of those visited, 28 of 54 (52%) indicated that they had received advice on how to stay healthy. Figure 31 indicates that the WBPHCOTs were indeed providing the intended services to communities during NHI Phase 1.

**Figure 31: Services received by patients at home during household visits from outreach team members**



However, it is evident that patients would like to receive services that reach beyond health education. Figure 32 below specifies the variety of services that patients mentioned they would like to receive at home. Most patients (23%) would like to receive their chronic medication during the home visits. While this may be useful to the user, it is beyond the intended scope of services provided by the WBPHCOTs.

**Figure 32: Services patients would like to receive at home**



The WBPHCOTs were envisioned to comprise a team of CHWs led by an OTL. However, the evaluation findings indicate that many teams did not have an OTL. District stakeholders mentioned that one of the challenges with the WBPHCOTs is that the staff composition was not always implemented as envisioned, and most often an OTL was missing, which is seen to impact the delivery of quality health information to communities, and as a result, create mistrust between the teams and the communities. Evidence from the literature shows that outreach programmes without community buy-in have little to no impact (Glenton, 2013), and it is therefore critical that the WBPHCOTs are trusted by the community and viewed as skilled HCPs, capable of providing adequate health advice and services.

Good management is a critical component for a successful human resources-dependent intervention. One of the main challenges in the introduction of the WBPHCOT intervention has been the lack of management of these teams at a district level or the lack of clarity regarding whom the teams report to. Stakeholders at provincial and district levels mentioned that the unclear line of reporting for the WBPHCOTs adversely affected their success. Some members of the WBPHCOTs also reported that there was confusion with regard to their line of reporting. The WBPHCOT members mentioned that they reported to both the facility manager at the facility they were attached to and a manager at the district office. This caused confusion for the team members and made them feel that they were consistently duplicating efforts.

Role clarification is a critical component to ensure motivation among staff, particularly in the implementation of community outreach programmes. Previous studies have shown that uncertainty regarding their roles among CHWs has compromised the success of outreach programmes (Perry, 2012). Role clarification is also essential for consistent and effective governance of NHI and PHC into the future, and as such, it is clear that governance structures need attention (see *Section 13.4: Accountability*).

*“There wasn’t a specific and clear team leader. Supervision was very difficult on the ground.”*

Provincial Department of Health official

*“There is no appointed manager for WBPHCOTs at the districts.”*

District official

*“The manager at the district tells you one thing and the facility manager expects another; it becomes confusing.”*

WBPHCOT member

In addition to the lack of management and clear reporting lines, provincial stakeholders identified the lack of resources as a challenge adversely affecting the success of the WBPHCOT intervention. Similarly to a study that found that CHWs are ineffective when they lack the resources necessary to complete their work (Health Communication Capacity Collaboration, 2015), the lack of resources (such as vehicles and scales) was understood by stakeholders to have negatively influenced the teams’ ability to successfully undertake their jobs during NHI Phase 1 implementation. This challenge was noted by all the stakeholders, including members of the WBPHCOTs who indicated that this had resulted in low morale among the teams as they felt that they were expected to support the communities yet were not provided with a supportive environment to effectively discharge this mandate.

*“The WBPHCOTs/ISHP do not have the vehicles or proper uniforms or mobile equipment needed to do their jobs.”*

Provincial Department of Health official

The findings suggest that the WBPHCOT intervention is critical in the re-engineering of the PHC system. If implemented correctly, WBPHCOTs have the potential to greatly improve service coverage for PHC, particularly in rural and hard-to-reach areas, and to provide much-needed health services or linkages to health services where appropriate. It must be noted that the challenges, including the lack of management and supervision, unclear roles, and a lack of resources, that are impacting their success are not unique to South Africa, and there are therefore lessons to be learned from other CHW programmes. There is a need for WBPHCOTs to be able to track referrals into facilities to assess whether they have been able to positively impact access to quality services from populations that previously would have experienced constrained access. The impact of the WBPHCOT intervention is difficult to measure principally because the information needed to assess it is not currently easily available, thus its true value to date is unknown.

## 12.2. INTEGRATED SCHOOL HEALTH PROGRAMME

The aim of the ISHP intervention is to provide a range of health promotion and preventive services to school-going children with a particular focus on the screening of health-related barriers to learning such as vision, hearing, cognitive and related developmental impairments (National Department of Health, 2017).

The programme is underpinned by the Integrated School Health Policy, which outlines the complementary roles of each government department responsible for addressing the needs of learners with the aim of ensuring that strong school health services operate according to clear and uniform standards across the country (National Department of Health, 2013).

This intervention was implemented by the NDoH in collaboration with the DBE and holds important lessons with regard to inter-departmental collaboration and coordination during implementation. National stakeholders expressed the belief that, overall, there was good collaboration between the national departments in implementing ISHP.

*“There is an ISHP policy between the DBE, NDoH and Department of Social Development to work together as partners and form a task team.”*

National Department of Health official

Provincial stakeholders highlighted the importance of strong collaboration although they mentioned the need for improvement as the roles of the departments seemed to be unclear.

*“Is it that the Department of Health should be the one providing the resources for the school health programme or should the Department of Basic Education?”*

Provincial Department of Health official

*“Collaboration with the education department has to be strengthened.”*

Provincial Department of Health official

The successful ways in which the departments have been able to collaborate should be used to inform other interventions that require strong inter-departmental collaboration, while the challenges need to be highlighted as lessons learned for these programmes. This intervention stands out as one that has the potential to be well coordinated with other HSS interventions. However, stakeholders felt that the value of coordination and integration between the interventions had gone unrealised during NHI Phase 1.

*“The ISHP and WBPHCOTs work in silos. Integration is needed, and coordination of the information between them has to be efficient.”*

Provincial Department of Health official

*“Integrate the resources so that there is a comprehensive team every time there are school visits.”*

Provincial Department of Health official

Some stakeholders felt strongly that this intervention has been successful because it has improved the lives of learners by bridging the gaps between learners and much-needed health services. This perception of success is aligned with the intended objectives of this intervention.

*“ISHP – takes services directly to learners.”*

National Department of Health official

*“Overall, it was very successful.”*

Provincial Department of Health official

*“The school health programme was also a good programme.”*

Provincial Department of Health official

While these stakeholders’ perception was that the intervention has been successful, there have been some notable challenges that are believed to have hindered this intervention’s full potential. National stakeholders were mindful of the challenges in implementing this intervention, stating “the policy is good on paper, but we were not smart in its implementation.”

The ISHP has been particularly successful in screening a vast number of learners for health-related learning barriers, including vision and hearing screening. At the end of 2017/2018, a cumulative total of 4 339 875 learners had been screened through the ISHP since 2012 (National Department of Health, 2018). Moreover, among the learners who had been screened, 504 803 were identified as having various health barriers and were subsequently referred for treatment (National Department of Health, 2018). In 2014, the NDoH and DBE launched the human papillomavirus (HPV) vaccination campaign as part of the ISHP. To date, among 2 289 699 girls in Grade 4, 1 934 635 have received HPV vaccines (Delany-Moretlwe, et al., 2018).

The success of the ISHP in this regard is indisputable; however, the main challenge in the implementation of this intervention has been tracking referrals. Referrals have not been tracked efficiently, so the contribution of the ISHP in improving health outcomes is limited to what can be observed based on incomplete data. The screening of learners does not translate to the uptake of services. In the absence of an effective referral system and without strong linkages to facilities that support screening services, few learners are able to access the much-needed services.

*“The ISHP referral systems are in place, but the problem is closing the referral book. We do not get feedback from a clinic on the outcome of the child.”*

National Department of Health official

Additional challenges with the school health teams include a shortage of human resources and equipment to provide screenings at schools adequately. Human resources are understood to be a major challenge across stakeholder levels; sufficient human resources are critical in the implementation of this intervention and the lack

thereof is evident in the inability of the programme to provide adequate coverage of schools. National stakeholders were among those who noted that the lack of school health teams meant that schools were seldom visited and were thus not benefiting from the intervention.

*“The availability of staff is a problem; we only have 600 ISHP teams who are expected to reach 24 000 schools. As a result, a school is visited once a year, and there are some schools that haven’t been visited yet. There must be dedicated funding and more staff to strengthen facilities, and then school health can be addressed when this is sufficient.”*

National stakeholder

*“The only issue is still human resources – we have many schools but very few resources to meet their needs.”*

Provincial Department of Health official

While the majority of facility managers interviewed reported that the ISHP had been implemented in the community around their facility (78%), the ISHP is intended to cover the whole district. Similarly to other stakeholders, the facility managers mentioned insufficient staff and coverage as the main challenges of this intervention.

In addition to insufficient coverage due to minimal human resources, the district stakeholders indicated that the lack of equipment hindered the teams’ ability to complete the required tasks at schools. Vehicles were mentioned as the main challenge, with many teams not having adequate transportation to travel around the district. This was supported by the facility managers, who mentioned vehicle procurement as one of the challenges experienced during implementation.

*“There were no vehicles provided to transport patients . . . the lack of vehicles makes the referral system poor.”*

District official

*“There is a severe problem with theft, so computers, phones and vehicles are stolen and not replaced.”*

District official

The national stakeholders were well aware of the challenges in relation to the lack of resources during implementation and endeavoured to obtain additional funding to increase the number of vehicles in districts to support the successful implementation of the ISHP.

*“Initially, the ISHP was implemented with existing resources; however, once the challenges became evident, we worked to [secure] more funding and we got funding from the European Union, which allowed us to purchase 77 additional mobiles for oral health services, PHC services and optometry services.”*

National stakeholder

Figure 33 indicates that most facility managers (61%) who reported on the implementation of the ISHP were of the opinion that the programme has increased the wellbeing of children in communities. The minority of facility managers surveyed (17%) reported that there has been no change in the wellbeing of school-going children in their communities, and a similar number reported that they did not know what the impact on the wellbeing of school-going children has been in relation to the implementation of this intervention.

**Figure 33: Facility managers' perceptions of the impact of the ISHP on the wellbeing of children**

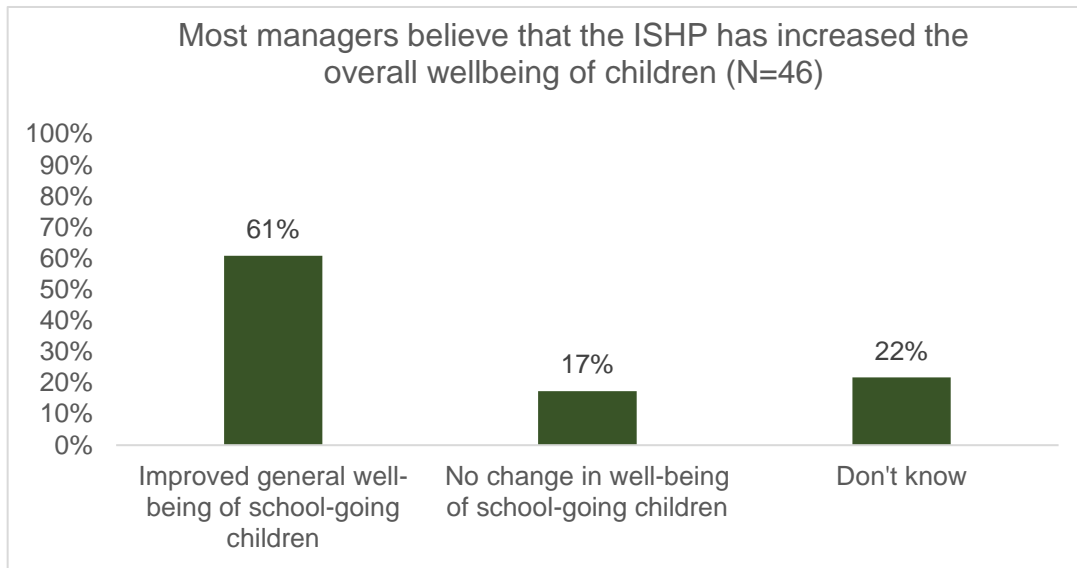
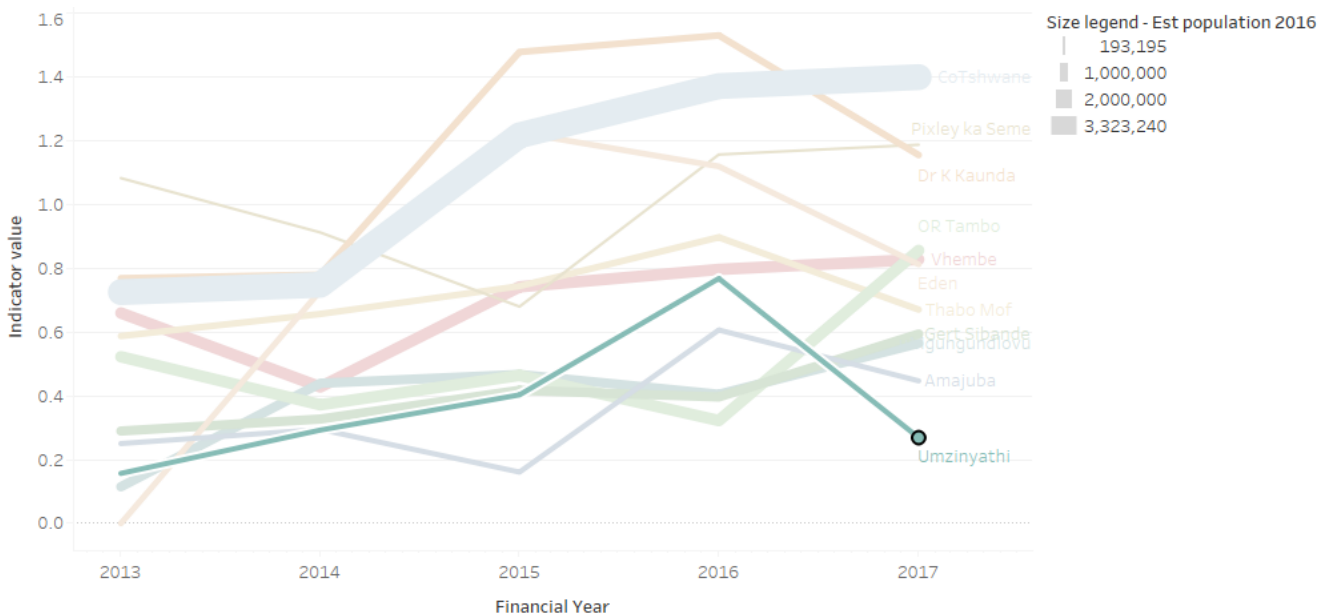


Figure 34 below indicates a decrease in the uMzinyathi district from 2016 to 2017 for the school learner screening coverage indicator. The qualitative information showed that certain areas in the district do not have functioning ISHPs.

**Figure 34: School learner screening coverage indicator, pilot districts**





## 12.3. GENERAL PRACTITIONER CONTRACTING

HRH forms an important component of a well-functioning health system. The inequitable distribution of human resources within the dual health system in South Africa has been an ongoing challenge. Historically, GPs have not been part of the staffing composition at public PHC facilities.

The lack of GPs in the public sector has impacted the system in a number of ways. Notably, this has impacted patients' perceptions of the quality of care received at PHC facilities. The perception of low-quality care results in patients bypassing PHC facilities, which are intended to be the entry point for healthcare, and present at secondary and tertiary facilities even when they have minor ailments (Vissera, 2015).

The NDoH's future goal is that every PHC facility should have access to a medical practitioner. The NHI White Paper identifies the need to strengthen the PHC system through the introduction of different contracting mechanisms with the aim of improving access and quality services to communities.

*“An essential step in strengthening PHC and ensuring integrated services at PHC-level is the contracting-in and contracting out of private health practitioners to address the health needs of the population and will be aimed not only at improving access but also at reducing the burden of disease. Contracting-in will be undertaken to reduce patient-overload in public health facilities while not depleting the numbers of salaried employees of the state. Contracting-out of PHC services will require that multidisciplinary practices should be configured into horizontal networks that are contracted through the Contracting Unit for PHC (CUPS).”*

(National Department of Health, 2017)

The contracting of GPs was introduced in 2012 as part of NHI Phase 1 implementation, and at the end of 2017/2018, 330 GPs had been contracted (National Department of Health, 2018). GP contracting was identified by stakeholders as one of the most important interventions to ensure HSS under the introduction of NHI in South Africa. The intended aims and objectives of contracting GPs are evidently clear and well understood among stakeholders. Stakeholders recognise that the key objectives of GP contracting are to reduce the over-utilisation of hospitals and to improve quality of care (and perceptions thereof) of public healthcare facilities.

*This intervention was introduced to try and get GPs into PHC so that South Africans could have confidence in public health facilities.”*

National Department of Health official

To a large extent, stakeholders felt that these objectives have been met through the implementation of this intervention.

*“There was a shortage of doctors; the introduction of the doctors alleviated that. There were a few clinicians and large numbers of patients.”*

District official

*“We are seeing a reduction [in the number] of patients referred coming to OPDs [outpatient departments] – GP contracting helps with this.”*

Provincial Department of Health official

Facility managers who confirmed that there was a contracted GP in their facility were asked whether or not the quality of care had improved as a result of this. Of these 35 facility managers, 23 (68%) indicated that the quality of care had indeed improved in their facility.

Interestingly, there seems to be a perception that the contracting of private GPs highlights the strengths of the private healthcare sector and may result in some patients preferring to seek out private healthcare services over public sector healthcare. However, this perception was only evident among national stakeholders.

*“GP contracting basically moves people to seek private healthcare, but the need is to strengthen public healthcare.”*

National stakeholder

There appears to be good alignment among stakeholders regarding this intervention; however, it is apparent that there is misalignment with GPs with regard to the vision of GP contracting, and resolving this is viewed as critical for sustainability. Stakeholders suggested that the GP contracting intervention was unintentionally driven by monetary incentives, which were introduced to try and attract GPs across to the public sector and to increase the uptake of rural postings. Stakeholders were also of the opinion that GP contracting could be strengthened through further engagement and extensive consultations with private sector GPs to ensure complete buy-in into the overall purpose of the intervention to improve healthcare for all.

*“Engagements with GPs and GP associations seemed limited. There was consultation, but it seemed like there was misinformation.”*

National Department of Health official

*“The objectives were never achieved; two hours is not adequate to provide quality services in facilities.”*

Provincial Department of Health official

*“GPs had a bad perception of government.”*

District official

In addition to consultations, it is evident that implementation effectiveness could also be improved through the establishment of feedback mechanisms between GPs and NDoH managers. While the feedback mechanisms between GPs and department stakeholders appear to be absent, feedback mechanisms are viewed by stakeholders as essential to improving the implementation and sustainability of this intervention.

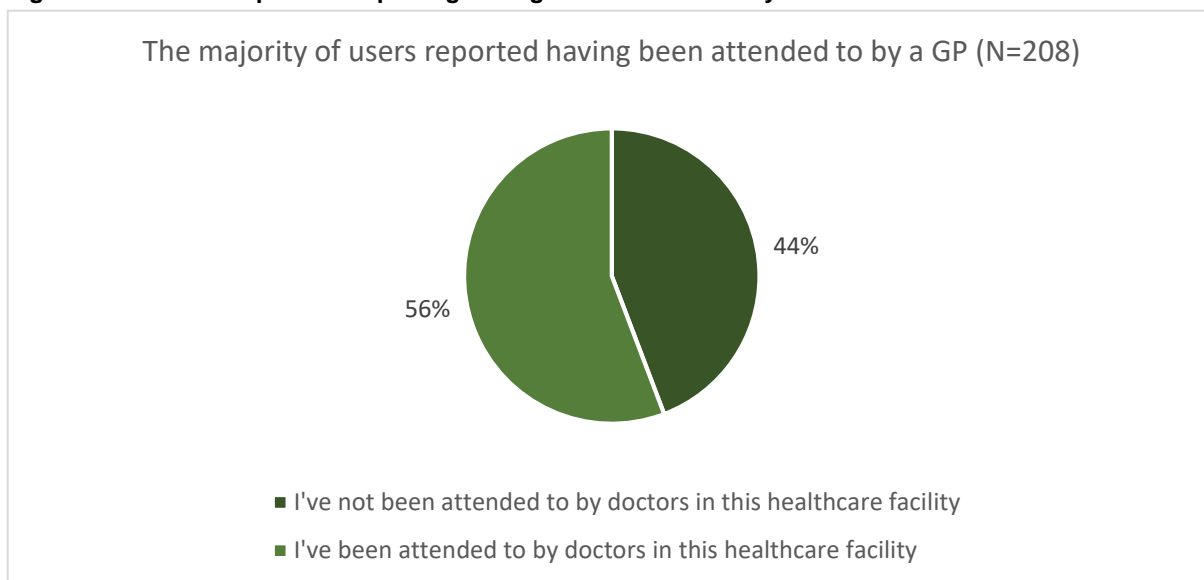
The success of the implementation of this intervention appears to have been impacted by the low number of GPs contracted during Phase 1. Stakeholders reported that, in some districts, there were too few GPs resulting in contracted GPs working more hours than they had been contracted for.

*“Some facilities don’t have doctors because there [are] not enough [contracted].”*

District official

Although 58% of the 60 facility managers interviewed reported having had a GP available to support their facility, only 56% of patients reported ever having been attended to by a GP at the facility, as shown in Figure 35.

**Figure 35: Number of patients reporting having been attended to by a GP**



Provincial stakeholders indicated that the scalability of GP contracting is, to a large extent, dependent on the better integration of GPs into PHC facilities’ governance structures. Moreover, these stakeholders suggested that the allocation and management of GPs in districts would be more appropriate if it was undertaken at a provincial or district level.

*“We need to come up with an arrangement to contract and retain GPs on a provincial level.”*

Provincial Department of Health official

*“GPs are not fully integrated as part of the team.”*

District official

While stakeholders generally concurred that this is an important intervention, GP contracting was understood to be an expensive model and poses difficulties in terms of future sustainability. Contracted GPs were viewed as “consultants” and as such not integrated into the NDoH payment system. This also meant that NDoH policies were not always strictly applied to GPs, so GPs could claim much more than what had been budgeted for.

*“Stick to the government rules so that GPs do not claim much more than what they should be (e.g. some travel claims from home to work). The doctors do not have anyone monitoring them about when they come in and leave, yet they are being paid for working a certain number of hours. These are things that are increasing the financial burden on the healthcare system.”*

National Department of Health official

*“The doctors are contracted for a few hours; the reasons given to us relate to the limited funding for these GPs and the necessary skills.”*

Provincial Department of Health official

Overall the findings suggest the pressing need to strengthen this intervention during the next phases of implementation.

## 12.4. IDEAL CLINIC REALISATION AND MAINTENANCE

ICRM was introduced in response to existing insufficiencies in the quality of PHC services and to lay the foundation for NHI implementation (Hunter, 2017). This intervention was introduced in South African facilities in July 2013 with the aim of improving quality of care after a baseline audit commissioned by the NDoH in 2011 discovered that only one facility in the country met the required standards of a health facility (Hunter, 2017). An ideal clinic is defined as a clinic with good infrastructure, adequate staff, adequate medicine and supplies, good administrative processes and sufficient adequate bulk supplies. It uses appropriate clinical policies, protocols and guidelines, and it harnesses partner and stakeholder support to ensure the provision of quality health services at PHC level to communities (Hunter, 2017). There are 10 components of the ICRM programme (Figure 36), all of which contain subcomponents that specify the initiatives under each component.

The evaluation findings suggest that ICRM is an intervention that achieved considerable scale and reach during NHI Phase 1. At the end of 2017/2018, 3 434 facilities had been assessed, and of these, 1 507 had attained ideal clinic status (National Department of Health, 2018). Of the facility managers surveyed, 51 of 60 (86%) reported that ICRM was being implemented in their facility.

Moreover, the intervention is commonly understood to have significantly contributed to HSS over the previous five years of implementation as a result of its initial large scale-up across the country.

*“This intervention wasn’t just for pilot districts; it was rolled out countrywide. This intervention aimed to fix the PHC facility issues mentioned by GPs (i.e. fixing equipment and making sure medicines were available).”*

National Department of Health official

*“The quality of services improved through programmes such as ICRM.”*

District official

The evaluation findings indicate that stakeholders have been aware of the developments of ICRM since inception because the stakeholders’ understanding of the scalability of ICRM was that it has been implemented successfully to scale. However, the stakeholders also acknowledged that the progress has regressed over the years and should facilities continue to regress, it will ultimately have a negative impact on the projected ICRM targets.

*“Last year, 77 facilities regressed [ICRM] due to maintenance.”*

National Department of Health official

Previously, PHC facilities struggled to procure the necessary equipment to provide patients with adequate care. The success of ICRM is embedded in facilities’ newfound ability to procure the required equipment for the facilities in order to be able to improve the quality of care of patients. Stakeholders directly linked the introduction of ICRM to the existence of well-equipped facilities.

Figure 36: The components of the ICRM programme



*“The improvements [of ICRM] were in the availability of medicines and equipment.”*

National Department of Health official

*“There is better equipment in these clinics.”*

District Department of Health official

*“The notion of ranking the clinic is not appropriate; rather strengthen the clinics for what they are supposed to do.”*

Provincial Department of Health official

While accurate, in some instances, ICRM did not always reflect the contextual requirements or district- and facility-based needs. As a result, facilities would purchase equipment irrespective of the need in order to reach ideal clinic status.

*“The ICRM checklist indicates that the emergency trolley must have a laryngoscope, which is used to intubate, but a nurse can't intubate, so why did they buy certain equipment that was not needed?”*

District official

The ideal status of a clinic is not a permanent measurement of standards; rather, with the variations in the introduction of a new version of the ICRM manual, ideal clinic status is also bound to change if the new requirements are unmet. The manual is updated on an annual basis and may include additional or different requirements compared to the previous version. This has resulted in some unforeseen challenges impacting the successful implementation of ICRM. Facility managers reported being demotivated by the continuous and short implementation window in which facilities had to adapt to new requirements to achieve the desired ideal clinic status.

In addition to the changing ICRM manual versions, the requirements to meet ideal clinic status did not appear to be aligned with the Office of Health Standards Compliance (OHSC) standards, which were established for the inspection and certification of health facilities to ensure compliance with the norms and standards regulations (National Department of Health, 2017), thus making it even more difficult for facility managers to implement. Facility managers indicated that they were duplicating efforts while still having to manage their clinical work, often in resource-constrained environments.

*“This is very demotivating. [ICRM] only highlighted the problems. The ideal clinic should be in line with the national core standard. It creates a problem when these standards are different and [facility managers] get different sets of instructions.”*

Provincial Department of Health official

*“Ideal clinic demotivated the staff and created huge complex systems that they had to implement.”*

Provincial Department of Health official

The implementation of ICRM was not perceived to be well aligned with the existing funding constraints in the health system. Some stakeholders mentioned that limited budgets in the health system made it difficult to reach ideal clinic status because some equipment and requirements could not be procured or fulfilled due to a lack of

funding. Thus, even if facility managers endeavoured to be fully compliant, the constraints on funding impacted their attainment of ideal clinical status.

*“Ideal clinic status should be combined with the availability of resources, and there is no budget.”*

District Department of Health official

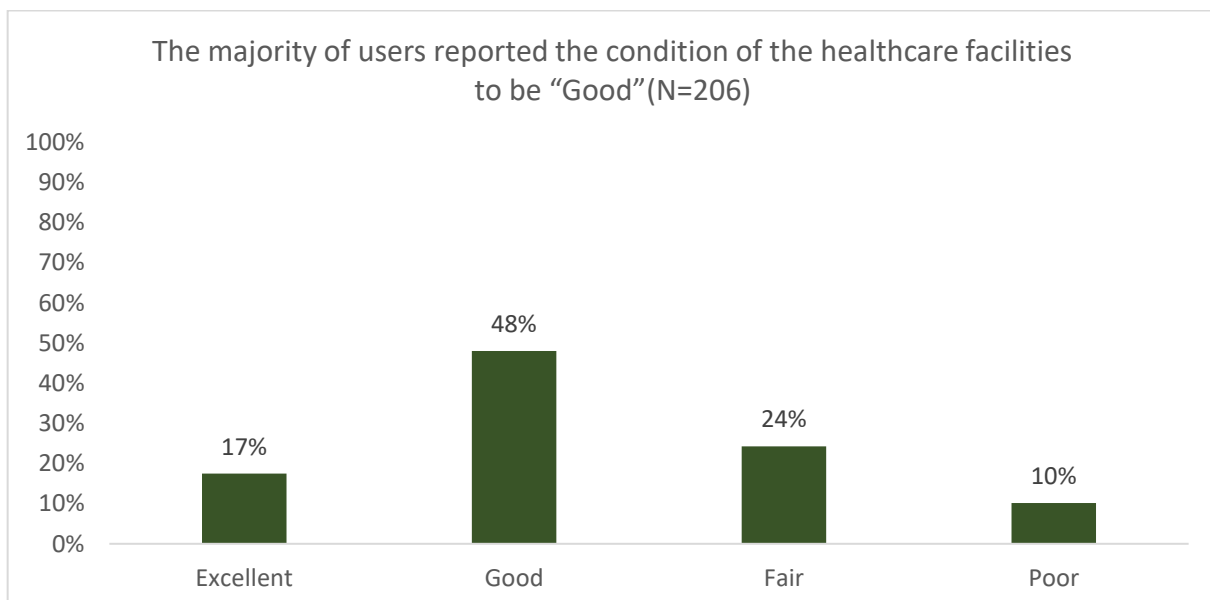
The 2015/2016 ICRM peer review results demonstrated that, of the 659 clinics accessed for compliance, 322 met ideal clinics status, while a similar number (337) had not reached ideal status (Hunter, 2017).

Facility managers were asked about the challenges to obtaining ideal status, and notably, their main reason for non-ideal status was funding constraints. The facility managers mentioned that limited funding was availed to them to successfully implement a replacement and maintenance strategy in their facilities.

Obtaining ideal clinical status was understood by stakeholders to be affected by a variety of challenges. The most commonly mentioned by facility managers were human resource constraints and infrastructure. The facility managers mentioned that there were a few other challenges that impeded their facilities’ achievement of ideal clinic status, including the availability of electricity and water, which undermined their ideal clinic status attainment. Both human resources and infrastructure are components that the ICRM programme aims to improve; however, the findings suggest that without sufficient resources tailored to PHC needs, ICRM will not be able to improve these components.

Ultimately, ICRM seeks to enhance patients’ overall experience of public sector PHC facilities. Of the 206 patients surveyed, at least 48% maintained that the conditions at the facilities were good (17% reported that the facility conditions were excellent). A minority (10%) of patients reported that the conditions of the facility they had visited were poor, as shown in Figure 37 below.

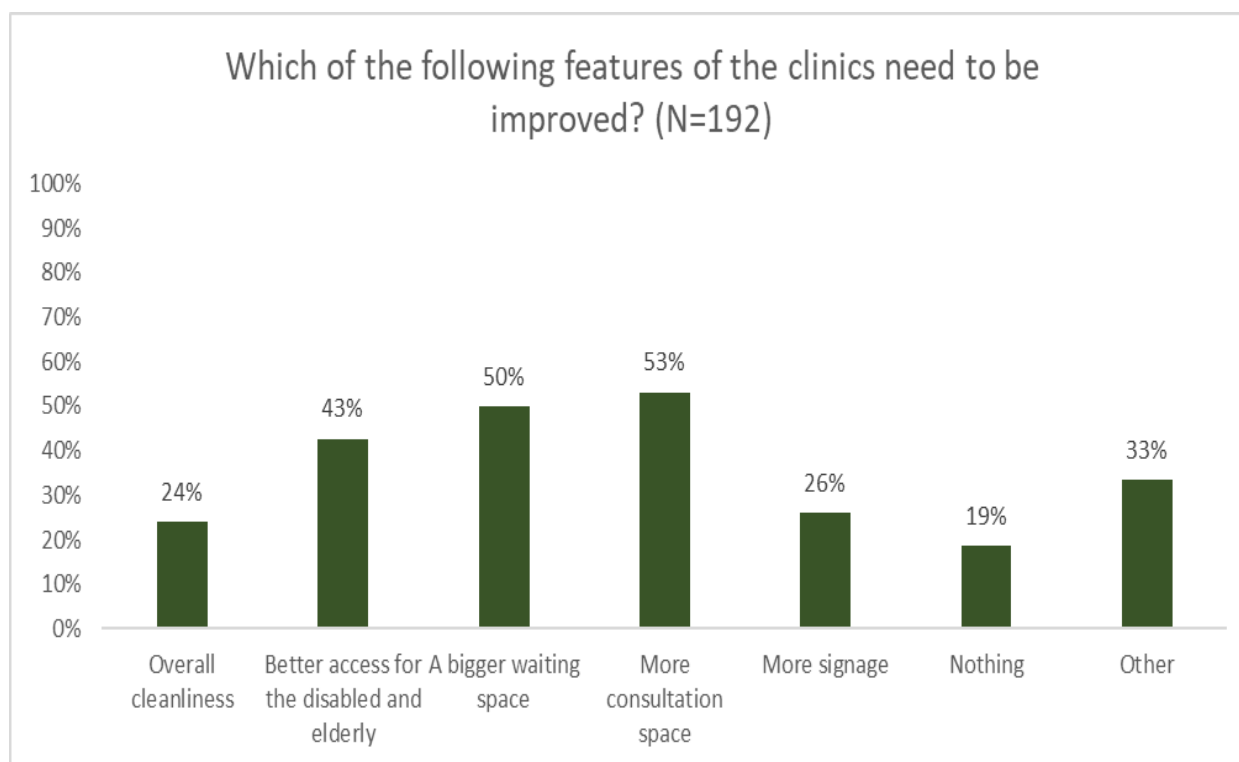
**Figure 37: Patients’ perceptions of the condition of healthcare facilities**



The evaluation also intended to determine patients’ perceptions on which aspects of the facilities still needed improvement. Most evident to patients was the need for infrastructure improvements at the facilities.

Figure 38 shows that 53% of patients reported the need for more consultation rooms, 50% mentioned the need for bigger waiting areas and 43% of patients desired better access for disabled and elderly people.

**Figure 38: Features that patients believe need to be improved at facilities**



## 12.5. DISTRICT CLINICAL SPECIALIST TEAMS

The DCSTs were envisioned to comprise highly specialised HCPs, including an obstetrician and gynaecologist, a paediatrician, a family physician, an anaesthetist, a midwife and a professional nurse (National Department of Health, 2011), and it was expected that they would spend 70% of their time supporting clinical governance, 20% on clinical work and 10% on research and training (Connell, 2014).

Clinical governance encompasses the maintenance and improvement of standards for patient care at facilities (Connell, 2014). The various activities of clinical governance have been implemented to different extents in PHC facilities. The four major components of clinical governance are role identification, improving care, improving patients' experiences and identifying good practice (Connell, 2014). The DCSTs are responsible for driving these components of clinical governance at district level. They are seen as an extension of the district management team and report directly to the district manager as well as the provincial DCST coordinator (Freucht, 2013).

The intention behind the introduction of DCSTs appeared to be well understood by stakeholders. The DCSTs were recognised by stakeholders across all levels of government as the promoters of HSS and improved clinical governance with a specific focus on maternal, neonatal and child health services. This demonstrates alignment between the understanding of the DCSTs' role by stakeholders and the intended objectives of the DCSTs in NHI Phase 1 implementation, as stipulated in the NHI White Paper (National Department of Health, 2017).

*"The focus was based on addressing infant and maternal mortality."*

National Department of Health official

*"[The DCSTs] assisted with clinical audits and established high-risk clinics."*

Provincial Department of Health official

While the intended role of the DCSTs role was clearly understood, stakeholders reported that the role of the DCSTs was not necessarily realised as planned. Stakeholders did not think that the implementation of the DCSTs had had the desired effect on clinical governance. National stakeholders noted that the difficulty with the introduction of these specialised teams was the unintended outcome that clinicians, who are understood to have the ability to implement clinical governance, stepped back from this because it was now thought to be designated to the DCSTs.

*"This is another unintended consequence as now clinical governance is seen as the role of DCSTs only; it absolves clinicians of this responsibility."*

National Department of Health official

This negatively affected the clinical governance improvement in facilities, particularly because the DCSTs were not implementing support at facilities in a standardised manner. Provincial stakeholders provided mixed feedback on the ability of the DCSTs to provide adequate training to staff. While some felt that the DCSTs in their districts had been able to do so, some stakeholders felt that the DCSTs were not able to adequately train staff due to a lack of sufficient time. District stakeholders also recognised that the DCSTs had not achieved the desired results relating to clinical governance, specifically indicating that the role of the DCSTs was unclear, resulting in a lack of accountability within the health system.

*"The roles are blurred between [the] DCSTs and facility managers; this leads to a lack of accountability."*

District official

*"Not working well as doctors end up just doing clinical work instead of focusing on governance."*

District official

The DCSTs are understood to have the potential to improve alignment between the different levels of government, but to date, this role has been limited. The DCSTs' mandate has been clinical governance; however, stakeholders reported that the DCSTs were limited to identifying issues of clinical governance, reporting these issues and finally making recommendations to resolve issues in order to improve the wellbeing of patients. This was intended to be the extent of their role. From that point, it was intended that the relevant departmental authorities would then take responsibility for deciding whether the recommendations should be implemented or not.

*"[The] DCSTs are able to do the analysis and identify clinical care/governance issues and make recommendations but cannot implement as they have no authority."*

National Department of Health official

National stakeholders expressed the belief that there are an adequate number of teams in each of the districts. This is supported by the findings from the facility managers surveyed during the evaluation; 68% of the facility managers indicated having DCSTs supporting their facilities. However, underpinning the successful implementation of the DCSTs is the composition of the team. In line with the findings of previous NHI status reports (National Department of Health, 2014), the evaluation findings suggest that specialists specifically linked to neonatal, maternal, and child health outcomes were missing from these teams. Stakeholders at national level



highlighted the challenge of having a limited number of gynaecologists, obstetricians and paediatricians in DCSTs across the country. This challenge was noted by district stakeholders, too.

*“While every district had at least seven district clinical specialist teams, there were a very limited number of anaesthetists (2), obstetricians (18) and paediatricians (19).”*

National Department of Health official

*“District specialists . . . there are only nurses and no doctors.”*

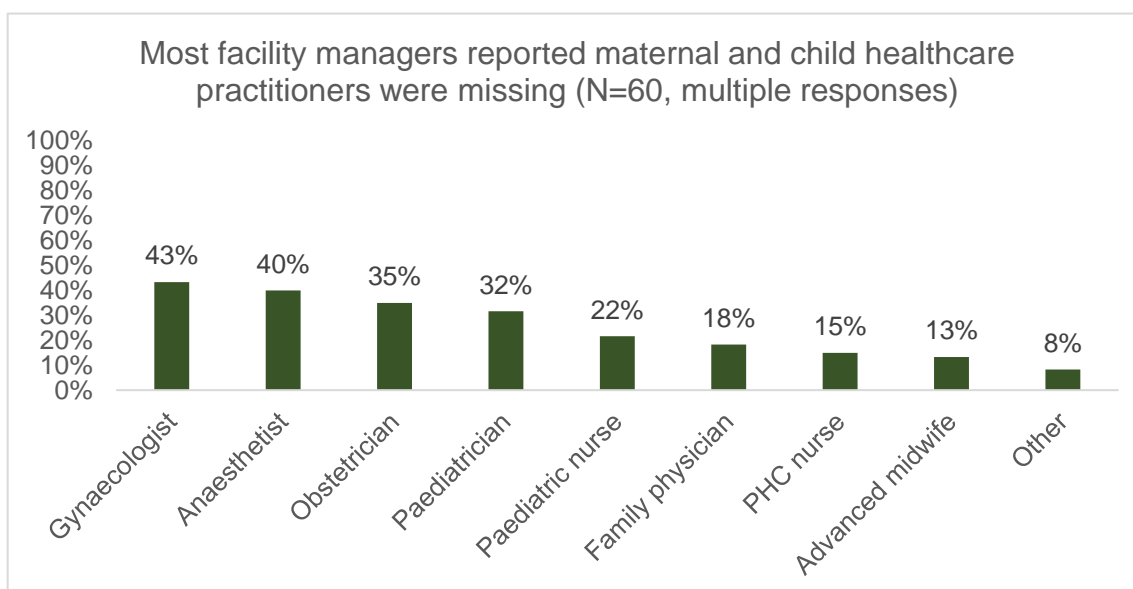
District official

*“There is not a complete [DCST] team.”*

District official

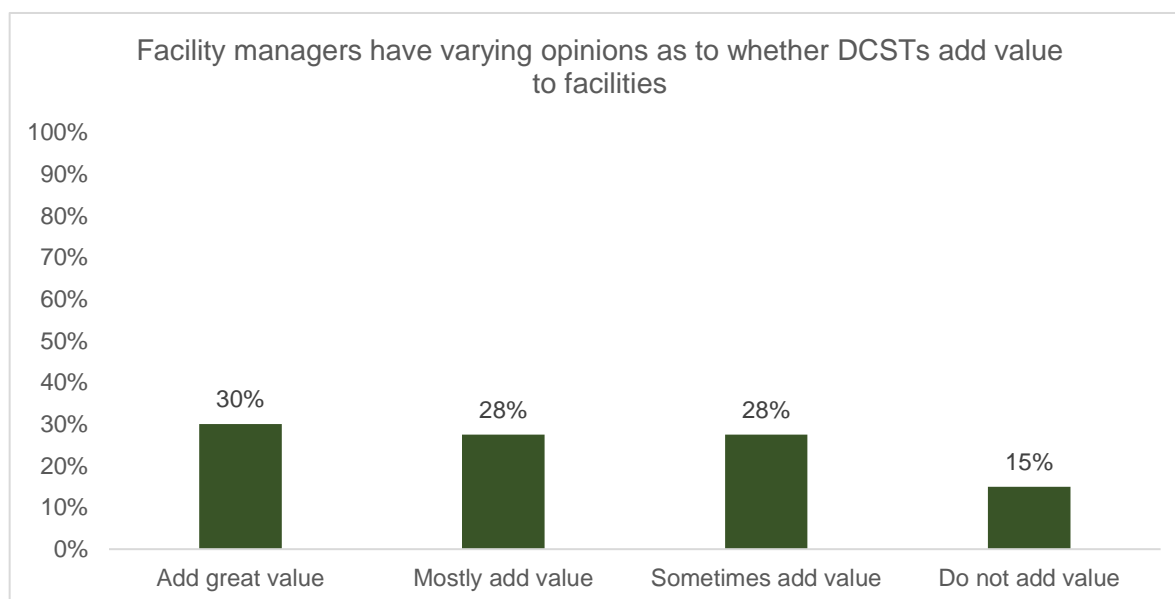
This perception was further supported by facility managers who mentioned that most of the DCSTs were missing maternal, neonatal and child health practitioners, as seen in Figure 39 below.

**Figure 39: Healthcare specialists missing in the DCST composition at districts, as reported by facility managers**



The challenge with incomplete teams is that it makes it difficult for DCSTs to provide adequate oversight over staff and, more importantly, successfully meet their objective to maternal, neonatal and child health outcomes in the districts. Figure 40 shows that the facility managers who reported having DCSTs supporting their facilities had varying views about whether or not having DCSTs had added value to their staff. Value, in this instance, comprises providing capacity, training and mentoring and specialist clinical services at facilities.

**Figure 40: Facility managers' beliefs of the extent to which DCSTs have added value to their facilities**



Similarly, patients' views on quality of care at facilities also varied. Some patients indicated that the quality of care had improved over the previous five years, while others reported that they had seen no difference. While quality of care is influenced by many factors at facilities, one of these factors could very well be the introduction of effective and appropriately composed DCSTs to support staff and ensure that patient care and overall experience is improved.

*"I came here three weeks ago with a baby I care for; she had an emergency with blood in her diarrhoea, and when I came here, they quickly helped."*

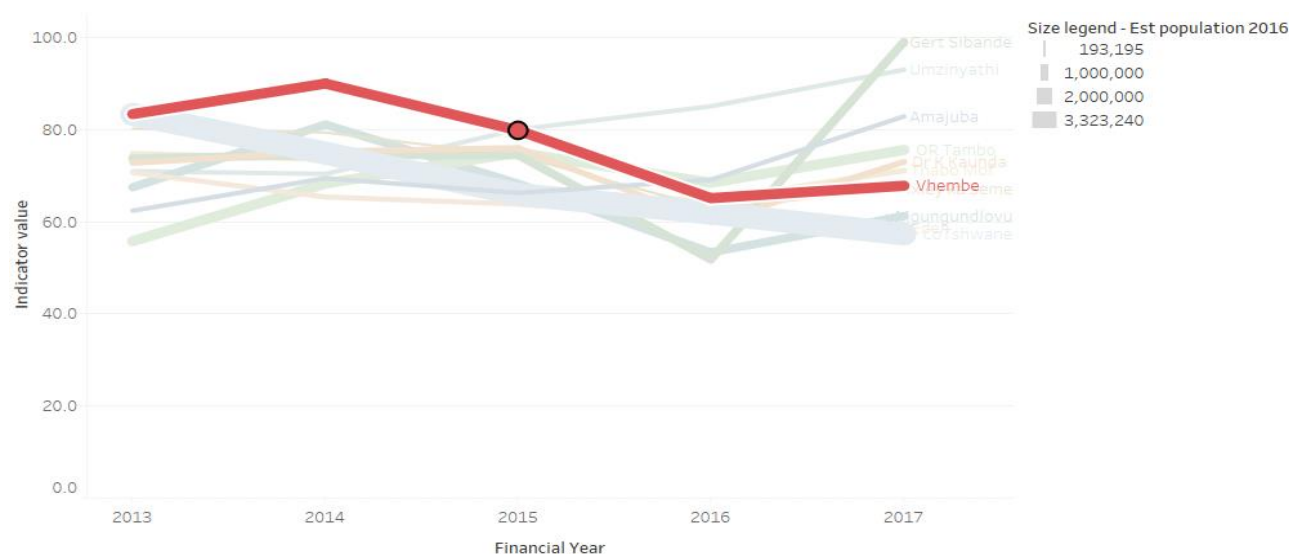
Patient at PHC facility

*"The quality of healthcare is always good in our clinic, but the waiting time is too much. Some of the nurses who are on duty do not assist us."*

Patient at PHC facility

Figure 41 on the next page is for Vhembe district. It reflects a decrease in the number of immunisations for children under the age of one. For this indicator, Vhembe's performance decreased compared to the other pilot sites. The qualitative information revealed a lack of DCSTs being functional, and the speculation that they needed to be dismantled and a new solution found. This is potentially problematic because with poor immunisation coverage, there is a higher risk for poor child health. Given their maternal and child health focus, the DCSTs will then be critical to ensuring that child mortality does not increase.

**Figure 41: Immunisations under the age of one, pilot districts**



However, the scaling and sustainability of DCSTs and their contribution to the quality of patient care is influenced by affordability. These highly specialised teams are understood to be associated with high costs to the health system. Provincial stakeholders felt that the DCSTs intervention is an expensive model, and therefore the intervention will be difficult to sustain in the future. Their main concern was the lack of additional funding linked to the implementation of DCSTs since these teams had to be funded from the provinces’ annual equitable share budget.

*“Affordability and the goals were a bit high to start with.”*

Provincial Department of Health official

*“DCST is expensive and has to come from the normal [provincial] budget.”*

Provincial Department of Health official

## 12.6. CENTRALISED CHRONIC MEDICINE DISPENSING AND DISTRIBUTION

A model of medicine dispensing and distribution has been adopted in South Africa through the introduction of CCMDD, which is led and implemented by the NDoH. CCMDD was introduced in 2012 to improve the successful distribution of medication to patients in the move towards providing UHC to all South Africans through the implementation of NHI. This intervention is made up of two components: CCMDD and PUPs (National Department of Health, 2017):

These two components were envisioned (a) to improve the quality of care of patients as chronic patients will be accessing their medication from a private service provider rather than going into facilities, thus decreasing congestion at facilities, making more staff time available and improving the staff’s ability to provide quality services and (b) to increase access for patients and decrease patient waiting times as there will be no need for patients to go to pick up their medication at congested facilities (National Department of Health, 2014).

During the implementation of NHI Phase 1, CCMDD has been heavily focused on the provision of antiretrovirals, fixed-dose combinations in particular, to stable HIV patients receiving antiretroviral treatment (ART) (National

Department of Health, 2017). The NDoH however intends to expand the programme to include all stable patients with chronic conditions whose management consists of biannual clinical visits and check-ups in the future (National Department of Health, 2017) .

The evaluation findings suggest that CCMDD is overwhelmingly believed to be the NDoH’s most successful intervention implemented during NHI Phase 1. This has been identified as a flagship programme, and for this reason, there are numerous valuable lessons to be learned from its implementation. These lessons will only apply to the continuation of the CCMDD programme but can be useful for the continued implementation of other interventions. Specifically, lessons around the issues of contracting private service providers, which has been communicated by the NDoH to be a key component of NHI Phase 2.

At the end of 2017/2018, there were 2 182 422 patients enrolled in the CCMDD programme who were collecting their medicines from over 855 PUPs across the country (National Department of Health, 2018). On balance, it is evident that CCMDD has indeed achieved its immediate aims of decongesting facilities, which helps improve the availability of HCPs’ time and, as a result, improve health outcomes. The success is largely reflected in the successful scale-up of the programme beyond the pilot districts and beyond the expectations of NHI Phase 1 implementation plans.

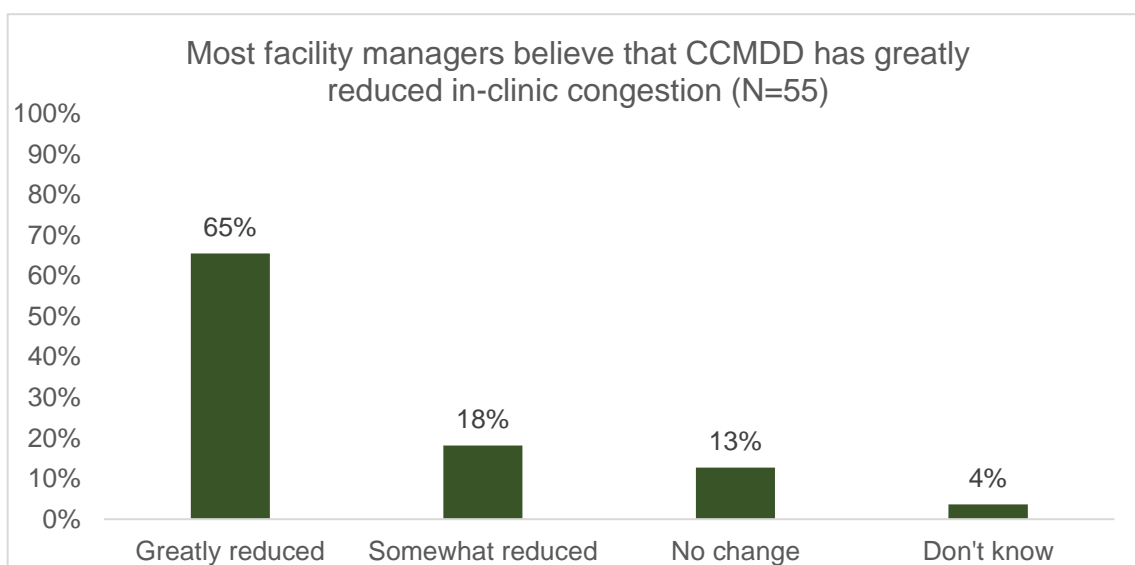
*“CCMDD provides relief on patients and facilities.”*  
Provincial Department of Health official

*“It was successful because it reduced the workload of the clinic. The patients did not have to see a nurse at the clinic to give and advise (them) on their medicine.”*  
District Department of Health official

*“CCMDD is a huge success because we have even surpassed the targets set by national.”*  
Provincial Department of Health official

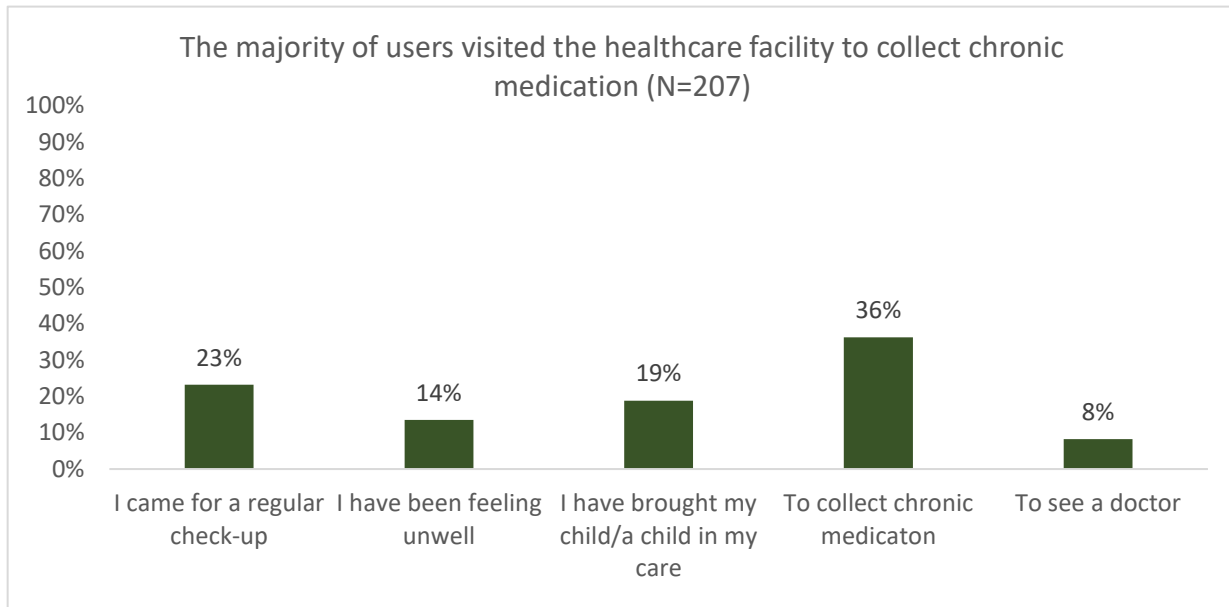
This is supported by the findings from the survey of facility managers: 53 out of 60 (90%) managers stated that CCMDD was being implemented in their facilities. Of these, the majority of the managers felt that CCMDD had greatly (65%) reduced in-clinic congestion since its introduction, as seen in Figure 42 below.

**Figure 42: Facility managers’ perceptions regarding the impact of CCMDD on clinic congestion**



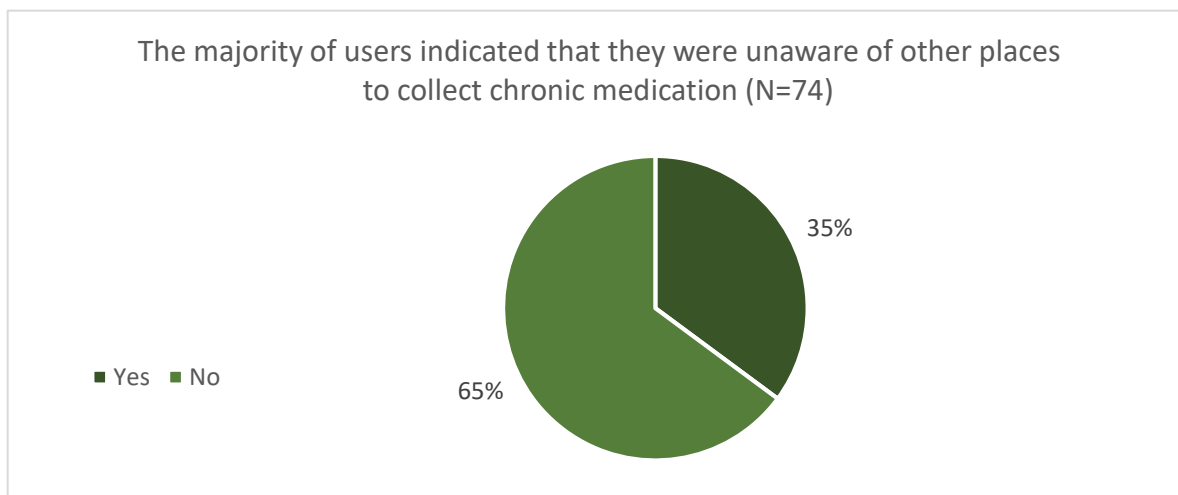
Interestingly however, most of the patients surveyed (36%) reported that they were at the facility at the time because they were collecting their chronic medication (Figure 43).

**Figure 43: Patients' reasons for facility visits**



Those who reported this were also questioned about their knowledge of the CCMD program. The majority of these patients (65%) reported not knowing that they could collect their chronic medication elsewhere (Figure 44). This is not perceived to be a concerning finding as CCMD would have only been known to those patients who had met the criteria (stable and adherent) and, as a result, been successfully enrolled in the program.

**Figure 44: Are you aware of other places where you can collect your chronic medication?**



CCMD includes a component of social behaviour change communication in that it is reliant on the ability of patients to change their healthcare behaviours. This new programme means that chronic stable patients are no longer required to go to facilities to pick up their medication, behaviour that they had become accustomed to over the years. Some stakeholders mentioned the difficulties in encouraging patients to use the new system and emphasised how important consistent communication with patients was in this regard.

*“Some patients still go to the clinic instead of going to the pick-up points.”*

Provincial Department of Health official

The noteworthy success of CCMDD is understood to be linked to the strong and visible leadership behind the programme. While it was not the view of all stakeholders, the majority of stakeholders indicated that the political leadership behind CCMDD resulted in the programme being well aligned with existing national policies and strategies, such as the pharmaceuticals strategy. Stakeholders also observed this intervention was well integrated with other interventions, and this integration was evidenced by information sharing between the CCMDD programme and the WBPHCOTs.

*“There is political will for CCMDD (and SVS). Whenever we needed to do something, it would be backed up by the Minister.”*

National Department of Health official

*“CCMDD – you had to report on the number of patients you put on CCMDD, and the WBPHCOTs could trace the patients that did not pick their medication.”*

District official

In addition to the strong political will behind the programme, effective communication between stakeholders has been highlighted as one of the main contributors to the success of the programme. The vision of the programme was reported to have been well communicated, ensuring that all relevant stakeholders had clarity about its implementation. The importance of this communication is discussed further in *Section 13.1: Clarity of vision*. Furthermore, the CCMDD programme reportedly had good feedback mechanisms put in place, allowing for frequent and sustained communication between different departmental levels and stakeholders throughout the entire implementation period.

*“. . . we made feedback a priority. We had a communication strategy. It is also important for national to follow up.”*

National Department of Health official

The monitoring and evaluation (M&E) of programmes is imperative, and particularly critical in the initial stages of implementation or piloting of programmes as it allows the programme implementers to gain insights on the programme’s performance, identify issues, and implement interventions to help improve the programme in future (World Health Organization, 2018). Ultimately, M&E supports the programme in the achievement of its goals. Moreover, this process is an important aspect of ensuring accountability to stakeholders (World Health Organization, 2018). The approaches for M&E should be developed at the beginning of the programme design and planning. However, this process is often undermined during this critical period, to the detriment of programmes. National stakeholders emphasised the importance of having good M&E structures and identified this as one of the aspects that had facilitated the success of CCMDD over the previous five years.

*“M&E is so important . . . we know what is working and not working.”*

National Department of Health official

Like any other programme, funding is critical to the success of CCMDD. While the programme had limited donor funding initially, additional funding was requested and availed by National Treasury and donors when it became evident that the programme was growing and could not be halted as this would negatively impact its success in the future. This additional funding assisted the programme in achieving continued growth in NHI Phase 1.

Nevertheless, stakeholders noted that additional funding was still required for CCMDD to realise its true potential, not only for the purposes of scaling-up the programme, but to ensure the programme's long-term sustainability.

*"[CCMDD] was scaled-up . . . We are now in 46 districts . . . we are at 2% growth because of finances, but we can achieve 5% growth."*

National Department of Health official

Interventions such as CCMDD need to have sufficient resourcing to realise success. CCMDD comprises various components that all need to work together. There is therefore a need for not only adequate but well-trained human resources to guide the implementation of the programme.

*"Training is more about fixing the aircraft as you fly. CCMDD – training of health workers, working with the private sector and working with other offices to train the workers about CCMDD as they go along."*

National Department of Health official

Good-quality infrastructure is considered by stakeholders to be essential for the successful implementation of CCMDD. This was identified during the initial planning stages of CCMDD while the various models of chronic medicines dispensing were being explored, including the option of using facilities as PUPs. After exploring all possible options, it became evident that the state of the infrastructure at PHC facilities at the time of implementation would hinder the programme's success.

*"When we started off, we did an assessment of facilities for CCMDD implementation . . . the state of facilities indicated that the programme would need to start by dealing with infrastructure issues for the first two years. This is why we decided on external facilities."*

National Department of Health official

Stakeholders noted that the implementation of CCMDD had not been without challenges. A major challenge in the implementation of CCMDD was the apparent lack of coordination and communication between the private providers and the facilities. This resulted in patients being able to wrongly access medication at both facilities and through CCMDD without anyone noticing. In addition, there was no adequate follow up with patients who were on CCMDD and no longer presenting at the clinic to collect their chronic medication.

*". . . the patients in the clinic were marked lost to follow up at the clinic even though they were getting their medication. [There was] no collaboration between CCMDD and the clinic."*

Provincial Department of Health official

*"They picked [medication] up at CCMDD places, and then the patients still went to the clinic and received two times the medicine."*

Provincial Department of Health official

While CCMDD has been seen to be largely successful, stakeholders communicated that the effects on adherence as a result of the implementation CCMDD were difficult to establish. This is not surprising given that the criteria used to enrol patients in the programme stipulated "stable" chronic patients, which implies that these patients' adherence levels would already be high. In addition, CCMDD is not necessarily tracking patients' adherence through follow-up procedures; instead, adherence is only based on whether they collect their medication. This means that the effect on adherence is impossible to establish.

## 12.7. E-HEALTH

This section outlines the implementation successes and challenges related to the e-health interventions implemented as part of NHI Phase 1. e-Health interventions are those that employ digital solutions to assist health workers and PHC facilities to operate more efficiently, with the ultimate aim of contributing to improved access to and improved quality healthcare.

### 12.7.1. Health Patient Registration System

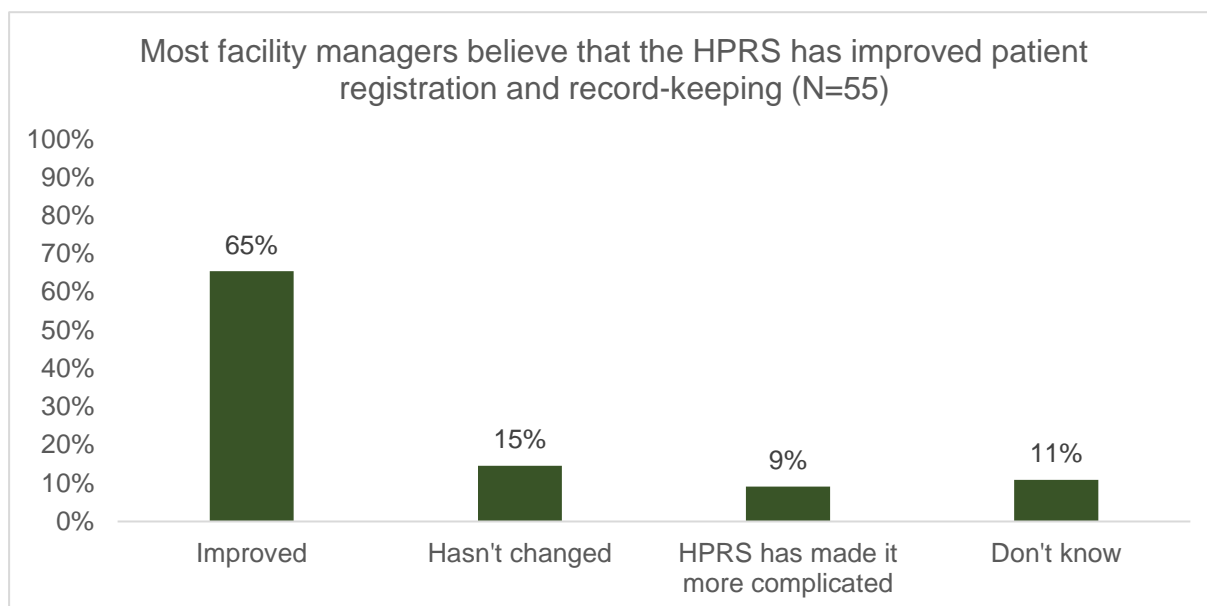
The purpose of the HPRS is to serve as an online registry of all patients using healthcare services in South Africa that can be accessed at any facility to provide health workers with patients' demographic information and their most up-to-date health records (Wolmarans, et al., 2015). Patients are registered with a unique identification number (for example, their national identity number or passport number) and assigned to a host facility, which is the facility that they attend most frequently. The HPRS is thus the entry point for patients into the formal health system. The HPRS is expected to lead to more efficient patient registration and record-keeping, which is in turn expected to contribute to better decision-making, to facilitate easier access to patient data and to lead to a better referral system.

Overall, the implementation of the HPRS during NHI Phase 1 can be understood to have presented both successes and challenges. At the end of 2017/2018, 2968 PHC facilities were using the HPRS, and there were 20 million people registered on the system (National Department of Health, 2018). Moreover, IT hardware for an additional 918 PHC facilities in 13 health districts was purchased, totalling 4862 computers in total (National Department of Health, 2018). However, challenges have hindered the intervention's ability to contribute to improved decision-making and referrals thus far. It should be noted, however, that the first stage of implementation was focused largely on setting up user profiles and is not expected to contribute greatly to decision-making as yet. As the implementation of NHI continues and the HPRS becomes more widely used, it will need to be further populated with routine and referral information to improve patient tracking and, in turn, contribute to improved decision-making.

The findings of the evaluation suggest that stakeholders at all levels recognise the importance of the HPRS for improved patient registration and record-keeping and the potential it has for improved decision-making. While it was reported that the initial roll-out was slow, the HPRS has experienced a degree of success in the pilot districts, as evidenced by the survey results. Of the facility managers who responded to our survey (N=55), 36 (65%) reported that the HPRS has contributed to improved patient registration and record keeping (Figure 45). A total of 28 respondents (51%) indicated that patient waiting times have decreased as a result of the HPRS.



**Figure 45: Effect of the HPRS on patient registration and record-keeping**



Where the HPRS has been implemented with success, much of this success has been attributed to the way in which the HPRS was introduced to the facilities and communities. There are positive examples of how the HPRS was communicated through an engagement model with feedback mechanisms, which created alignment between the different stakeholders involved. It was reported that facility managers were included in the implementation on the ground to ensure customised implementation at each site, and that the HPRS was communicated to communities through open days to inform them of the new system and the need for them to bring their identity documents when visiting a healthcare facility so that they could be registered. These efforts have created a sense of ownership among the implementers and, in doing so, have generated buy-in at all levels.

*“An engagement model was approved at the outset by the NHC [National Health Commission] whereby the HoDs, Members of Executive Councils [MECs], district coordinators, HPRS coordinators and teams would all be kept informed and engaged.”*

National Department of Health official

*“The feedback mechanisms were tailored per province.”*

National Department of Health official

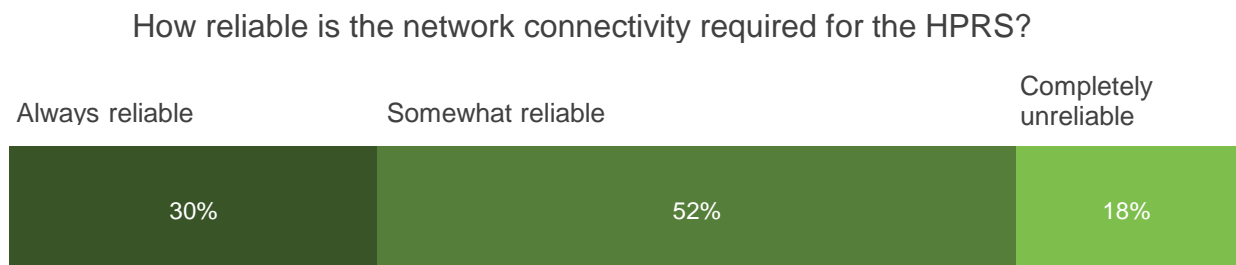
*“The HPRS has been marketed to communities to be able to bring their form of identification when visiting a public health [facility].”*

District Department of Health official

However, the HPRS has not been without its challenges. One of the biggest constraints to facilities in using the HPRS effectively is insufficient hardware (computers) and unreliable internet connectivity. To ensure its most effective use, it was reported that facilities would need one computer per examination room; however, this is not the case. Many stakeholders reported that there are simply not enough computers at facilities for clinic staff to use the system appropriately and that computers are often stolen from the facilities. Furthermore, when the facilities experience issues with their computers, it was reported that these issues often take a long time to be fixed as there are too few IT support staff available to assist. Additionally, facilities frequently experience poor

network connectivity, which results in the duplication of patient files. According to the vast majority of facility managers that responded to the survey, network connectivity for the HPRS is either completely unreliable or only somewhat reliable (Figure 46).

**Figure 46: HPRS network connectivity reliability**



Source: Facility Managers Survey

*“The main barrier is connectivity and a lack of IT equipment and skills to implement the system.”*  
 National Department of Health official

*“Connectivity and IT skills are a threat to the HPRS intervention. Lack of connectivity results in the duplication of patient files.”*  
 Provincial Department of Health official

A related issue is that of human resources and lack of capacity. It was noted by many stakeholders that the task of registering patients frequently falls to nurses, who are often very busy and do not have time to upload patient details to the system. It was also noted that computer literacy among clinic staff is poor and that for the HPRS to be implemented effectively, facilities would need to hire admin clerks to support the clinic staff in registering patients.

*“Had only a month to implement, which was not enough to provide training to all admin staff.”*  
 Provincial Department of Health official

*“In 24-hour CHCs, there aren’t people to capture these patients.”*  
 Facility manager

Lastly, there have also been challenges associated with the lack of integration between the HPRS and other e-health interventions such as MomConnect and the SVS, as well as with the WBPHCOTs, who do not have access to the HPRS yet and are often the first point of contact with patients. Stakeholders felt that greater efficiencies can be reached and improved decision-making facilitated through the integration of the HPRS with other interventions, such as the WBPHCOTs.

*“The next phase would be to integrate the SVS, MomConnect, the HPRS and all the other systems simultaneously.”*  
 Provincial Department of Health official

*“They bought tablets for all the WBPHCOTs, but [they] no longer sync to the HPRS, and they are no longer used and are locked in a cupboard.”*

District official

## 12.7.2. MomConnect

MomConnect is an SMS-based initiative that “aims to support maternal health through the use of cell phone-based technologies integrated into maternal and child health services” (National Department of Health, 2018). The purpose of MomConnect is ultimately to prevent maternal and child deaths through targeted health promotion messages to pregnant women to improve their health and that of their infants (National Department of Health, 2018). At the end of 2017/2018, the number of pregnant women and mothers registered on MomConnect was 1 888 918, which had doubled from the previous financial year. Moreover, a total of 818 688 pregnant women and mothers were receiving health-promotion messages at the end of 2017/2018.

MomConnect was not an official NHI pilot intervention; however, it is often discussed in conjunction with the other e-health interventions and experiences similar challenges to those outlined above. However, given that MomConnect was on the periphery compared to the other NHI interventions, consultations with stakeholders were not extensive and the depth of insights regarding this intervention is therefore limited to a few observations.

Because MomConnect is cell-phone based, there is the challenge that the patients who most need the service may not have cell phones or may experience connectivity issues, which hinders the effectiveness of the initiative. Similarly, it was reported that nurses often forget or are unable to register patients onto MomConnect, pointing again to the need for admin clerks to assist in this respect.

## 12.7.3. Stock Visibility System

A key challenge faced by the South African public health system is the unreliable availability of medicines and the occurrence of stock-outs at PHC facilities. These challenges are underpinned by poor planning and stock management due to a lack of information on the demand for certain medicines.

To address this challenge and ensure that all South Africans have access to the medicines they need, the NDoH introduced the SVS, a mobile application used in PHC clinics to monitor and report on stock availability levels for essential medicines like antiretrovirals, TB medication and vaccines. The purpose of the SVS is to enable more informed decision-making and proactive stock management at PHC facility level.

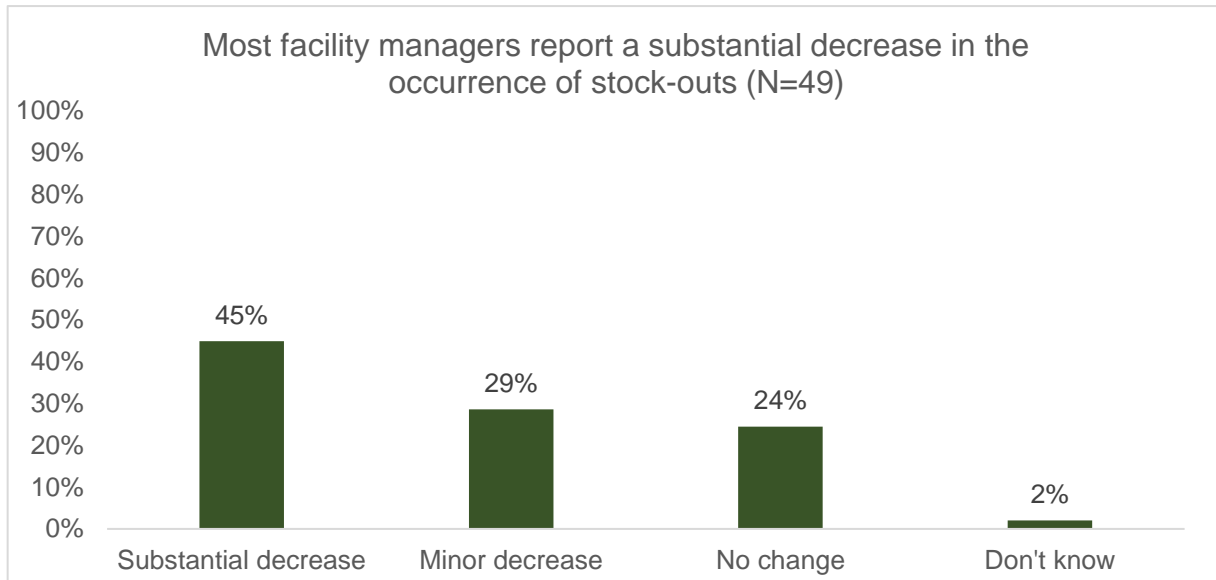
Using the SVS application, clinic staff are able to capture information on the availability of essential medicines at PHC facilities, which is then uploaded to a central online repository. The data from this repository is consolidated in real time to improve oversight of stock availability and, consequently, improve the accuracy and efficiency of stock distribution based on demand.

The SVS is able to detect reported stock-outs at clinic level and automatically send early warning alerts to managers at each point in the supply chain when stock-outs are predicted, from clinic through to national level. In a similar vein, the system also alerts managers to over-stocking, which is necessary to avoid situations where stock is lost due to expiry. These types of alerts thus enable managers to more proactively manage stock levels and avoid stock-outs as well as stock losses.

At the end of 2017/2018, the SVS was being implemented in 3167 clinics and CHCs, which equated to 92% coverage (National Department of Health, 2018). The findings of the evaluation indicate that, where it has been implemented as planned, the implementation of the SVS has largely been a success, leading to a reduction in

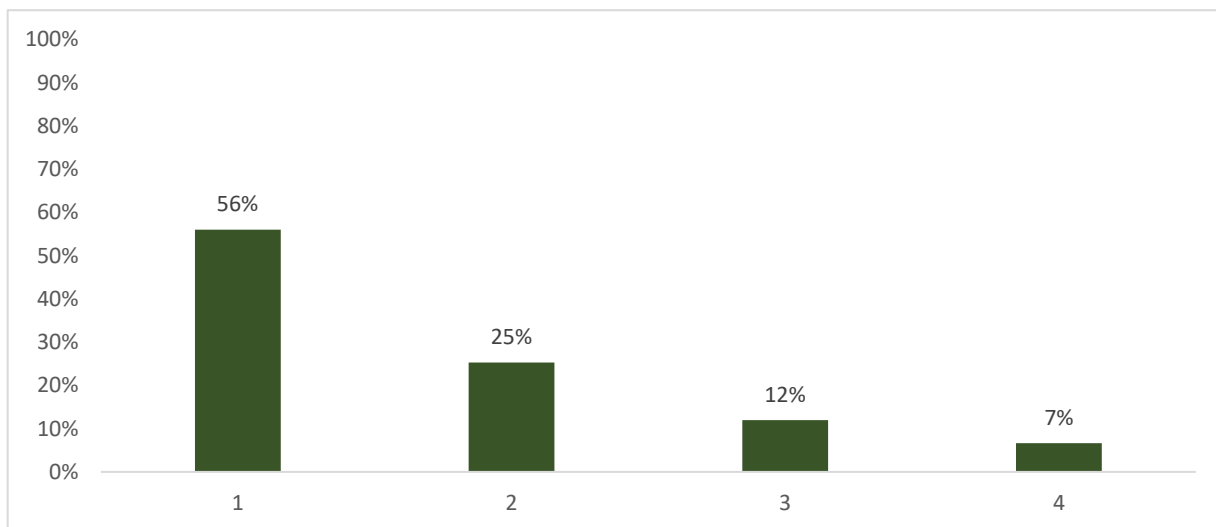
stock-outs and reduced pressure at facilities. Of the facility managers reporting that the SVS was present at their facility (N=49), 22 (45%) reported a substantial decrease in the occurrence of stock-outs as a result of the SVS, and a further 14 (29%) respondents reported a minor decrease, as depicted in Figure 47.

**Figure 47: Changes in the occurrence of stock-outs as a result of the SVS**



This success was echoed in the responses of the facility users (N=75), where the majority of respondents (56%) reported that they had never been told that they couldn't access medication because it was out of stock. A further 25% reported that this had not occurred often (Figure 48).

**Figure 48: User access to medication**



*“[The SVS has] impacted quality and access positively. The facility teams have done visits, and they have all come back to say stock-out is no longer an issue and medicines are now available, but in 2013/2014, this was not the case, so we see improvement.”*

National Department of Health official

*“What we are seeing in terms of financial management is that, if there are certain medicines that shouldn't be in a facility, then already there is some cost saving at PHC (SVS).”*

National Department of Health official

*“The system is good because you can track the consumption of drugs.”*

District Department of Health official

However, while there has been some success, many stakeholders also reported challenges in the implementation of the SVS. As with other interventions, these challenges largely relate to constraints around personnel capacity and infrastructure. In terms of capacity, it was reported by many stakeholders that for the SVS to be implemented effectively, facilities require a pharmacist assistant who can dedicate time to doing stocktakes. However, many facilities do not have a pharmacist assistant, which means the burden of using the SVS falls to the nurses or the pharmacists who are already time- and resource-constrained. Furthermore, it was reported that where training has been provided to pharmacy staff on how to use the system, there has been success. However, it takes time to roll out refresher training when the system is updated, and the lack of training has posed a challenge to the success of the intervention.

*“We do refresher training as we roll out and get new devices. New devices come with improved functionality, which needs refresher training. The training is staggered per province so [it is] not all happening at once.”*

National Department of Health official

*“You have to invest in the resources of pharmacist assistants otherwise you burden the nurses.”*

Provincial Department of Health official

*“Training should be ongoing as the system changes all the time.”*

District Department of Health official

*“You may not have a pharmacist assistant to update the system, so again you rely on the sister to do it all, and it may not happen, and you don't see the stock at the level it actually is at.”*

District Department of Health official

Infrastructure challenges have also posed a challenge to the successful implementation of the SVS. Given that the SVS is based on an online data repository, a key consideration for the success of the system is reliable network connectivity. Where this has been unreliable, it was reported that facilities have struggled to effectively implement the SVS. Furthermore, stakeholders also reported that the cell phones used for the SVS have been stolen or lost at many facilities, which naturally means that the facilities are unable to use the system when these are missing. Finally, there have been challenges related to the integration of the SVS with other e-health interventions. There were concerns among certain stakeholders that different mobile phones or electronic devices are required for the different interventions and that it would be more efficient if there were better interoperability between the interventions.

*“[For the] HPRS, we have the computers and routers, but we have data access issues, which affects the SVS in some facilities where there's no connection.”*

Provincial Department of Health official

*“[The] challenge is you don’t have connectivity and phone lines.”*

District Department of Health official

*“The next phase would be to integrate SVS, MomConnect, HPRS and all other systems simultaneously.”*

Provincial Department of Health official

*“They also used tablets for [the] ISHP and WBPHCOTs, and [the] SVS had a different phone, so this all needs to be interoperable.”*

Provincial Department of Health official

## 12.8. INFRASTRUCTURE

Through the introduction of the NHI programme, the NDoH seeks to increase access to and improve the quality of services for all South African citizens. In preparation, the NDoH has committed to implementing HSS activities to help strengthen service delivery at PHC facilities. One of the preparatory activities undertaken includes infrastructure improvements to support the delivery of quality healthcare in the public sector.

The healthcare sector is heavily dependent on good-quality infrastructure in the delivery of quality healthcare. Infrastructure can either promote health, wellness and healing or hinder health and aid ill health in the population. Poor infrastructure limits the extent of health services that can be provided to communities. Moreover, since infrastructure is the visible interface between the NDoH and communities, the conditions of health facilities reflect on the standards of the NDoH. Through understanding the importance of having good infrastructure to promote health, the NDoH has committed to a massive investment to improve infrastructure in the form of physical structures and equipment in the public health sector.

More than R1.9 billion has been spent on infrastructure projects since 2013/2014 in the NHI pilot districts, as depicted in Table 8 (National Department of Health, 2018).

**Table 8: Summary of the NHI pilot districts' performance in relation to infrastructure projects**

	Eastern Cape – OR Tambo	Free State – Thabo Mofutsanyana	Gauteng – Tshwane	KwaZulu-Natal – Amajuba, uMgungundlovu, uMzinyathi	Limpopo – Vhembe	Mpumalanga – Gert Sibande	Northern Cape – Pixley ka Seme	North West – Dr Kenneth Kaunda	Western Cape – Eden	Completed	Total
<b>Expenditure since 2013/2014 to date</b>	692 012 061	163 218 156	74 307 342	146 634 342	590 822 123	208 410 479	30 073 503	23 711 487	48 956 518		1 978 146 011
<b>CHC and clinics (NHI rehabilitation) – DBSA</b>	42 completed, 1 facility in identification and currently undergoing a conditional assessment	11 completed	12 completed	2 completed	13 completed	23 completed	16 completed	19 completed	1 completed	139	140
<b>CHC and clinics (replacements) – NDoH</b>		3 tendering stage			4 in construction, 1 feasibility stage	3 in pre-construction, 2 in construction				0	13
<b>CHC and clinics (replacements) – Coega</b>	8 completed	1 in pre-construction and 2 under planning (design and development)								8	11
<b>Doctors consulting rooms (construction – new) – DBSA</b>	16 completed	14 completed	5 completed	16 completed	15 completed	19 completed	8 completed	8 completed		101	101

Evaluation of the Phase 1 Implementation of the Interventions in the National Health Insurance Pilot Districts in South Africa, Evaluation Report, Final.  
NDOH10/2017-2018

	Eastern Cape – OR Tambo	Free State – Thabo Mofutsanyana	Gauteng – Tshwane	KwaZulu-Natal – Amajuba, uMgungundlovu, uMzinyathi	Limpopo – Vhembe	Mpumalanga – Gert Sibande	Northern Cape – Pixley ka Seme	North West – Dr Kenneth Kaunda	Western Cape – Eden	Completed	Total
<b>Doctors consulting rooms (construction – new) – NDoH</b>	13 completed	6 completed			16 completed	21 completed			5 completed	61	61
<b>Hospitals (new) – Coega</b>			1 in feasibility stage							0	1
<b>Hospitals (revitalisation) – Coega</b>		Coega 213 projects for Dihlabeng – 2 for revitalisation of existing hospital and 1 to redevelop the entire facility								unclear	3
<b>Hospitals (rehabilitation) – DBSA</b>			2 in feasibility stage		1 feasibility stage					0	3
<b>Hospitals (emergency maintenance) – DBSA</b>	2 completed									2	2
<b>Hospitals (rehabilitation) – Coega</b>										0	0



Evaluation of the Phase 1 Implementation of the Interventions in the National Health Insurance Pilot Districts in South Africa, Evaluation Report, Final.  
NDOH10/2017-2018

	Eastern Cape – OR Tambo	Free State – Thabo Mofutsanyana	Gauteng – Tshwane	KwaZulu-Natal – Amajuba, uMgungundlovu, uMzinyathi	Limpopo – Vhembe	Mpumalanga – Gert Sibande	Northern Cape – Pixley ka Seme	North West – Dr Kenneth Kaunda	Western Cape – Eden	Completed	Total
<b>Hospitals (replacement) – NDoH</b>					2 construction, 2 feasibility stage					4	6
<b>Ideal clinics (alignment to standards) – DBSA</b>	44 in feasibility/design stage	1 completed								1	45
<b>Maintenance (clinics/CHC) – NDoH</b>	2 in construction stage	24 completed, 5 in construction, the rest in pre- construction (71 in total)	1 completed	12 completed, 8 in construction and the rest in pre-construction (25 in total)	4 completed, 15 in construction, the rest in pre- construction (66 in total)	13 completed, 15 in construction, 28 in pre- construction	2 completed, 31 in pre- construction		8 in construction, 40 in pre- construction	56	260
<b>Maintenance (backlog) – DBSA</b>	9 projects completed, 23 at practical completion, 9 projects on hold (tendering) and 23 in construction, others still in identification (65 in total)									9	65
<b>Maintenance (hospital) – NDoH</b>		1 completed, 7 in construction		1 in construction, 4 in pre- construction	1 completed, 6 planning phases	1 completed, 4 in construction, 4 in pre- construction			1 completed	4	30

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NDOH10/2017-2018

	Eastern Cape – OR Tambo	Free State – Thabo Mofutsanyana	Gauteng – Tshwane	KwaZulu-Natal – Amajuba, uMgungundlovu, uMzinyathi	Limpopo – Vhembe	Mpumalanga – Gert Sibande	Northern Cape – Pixley ka Seme	North West – Dr Kenneth Kaunda	Western Cape – Eden	Completed	Total
<b>Nursing colleges (refurbishment)</b>	1 completed		1 completed		1 in construction	1 in construction	1 in planning			2	5
<b>PPP (feasibility study)</b>	1 completed		2 completed	1 completed						4	4
<b>Maintenance (various) – DoH</b>				29 in construction						0	29
<b>Maintenance (ceiling and fencing)</b>					64 completed, 5 in construction, the rest in pre-construction (74 in total)					64	74
<b>Maintenance (water and sanitation)</b>					93 in construction, 5 in pre-construction					0	98
<b>Maintenance (Enviro-loo and Lilliput)</b>					94 completed					94	94

Notes: DBSA, Development Bank of South Africa; NDoH, National Department of Health; NHI, National Health Insurance

In 2017/2018 alone, 107 facilities were maintained, repaired and/or refurbished in the NHI pilot districts (National Department of Health, 2018).

Stakeholders generally recognised that infrastructure is a key contributor to HSS and agreed that the success of the interventions is influenced by the existence of an enabling environment. The noted success of the infrastructure intervention is that it has, to some extent, created an enabling environment in the public healthcare sector.

*“The community and our district have improved, and our infrastructure has improved.”*

District official

*Congestion, reduced waiting [times], workload and quality of healthcare has improved at all the facilities where the projects [have been] completed.”*

Provincial Department of Health official

Among 60 facility managers, 32 (54%) reported infrastructure improvements at their facilities; however, it is unclear whether the infrastructure developments at facilities were all related to the implementation of NHI Phase 1. While stakeholders noted some successes and improvements as a result of infrastructure projects, they mentioned the need for infrastructure projects to be evidence-informed to ensure that infrastructure projects are tailored to the needs of the facility as the needs of each facility are not the same.

*“Integrated planning is necessary as infrastructure and other things may not be aligned to the clinic’s actual needs.”*

District official

Stakeholders reported that during NHI Phase 1 implementation, there were challenges that affected the timely release of funds and ultimately adversely influenced the timely initiation of planned infrastructure and maintenance upgrades at facilities.

*“They took long to get the infrastructure part of the grant going.”*

National Department of Health official

*“Most constructions are slow, and most communities are complaining.”*

Provincial Department of Health official

*“Projects take longer than expected.”*

District official

In addition to the delays in the timing of the release of funds, it is evident that the funding conditions act as a barrier to the successful implementation of the infrastructure programmes. Provincial stakeholders expressed frustration at the funding mechanism and the lack of budget allocated to these projects. The delays in implementation mean that there is a growing backlog of infrastructure projects, which creates further frustrations on the ground.

*“There was no special grant for infrastructure under NHI . . . there was fragmentation, and this is [why] we needed to have an NHI-specific pot.”*

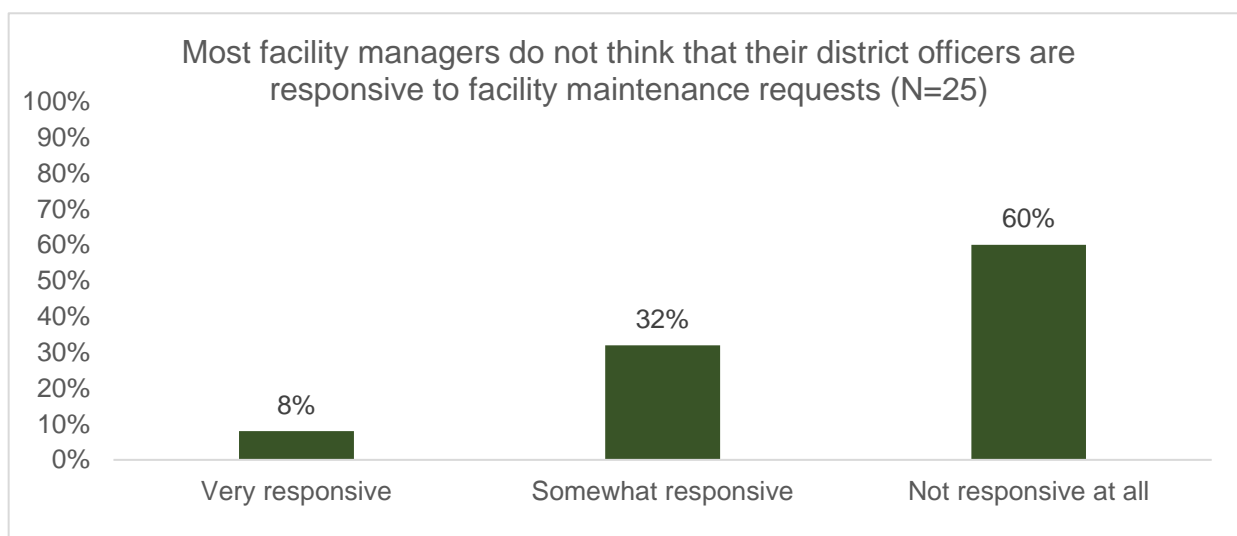
Provincial Department of Health official

*“Funding should be given to provincial to implement itself so we can also account to the community if certain things are not built and we have a valid reason.”*

Provincial Department of Health official

This was supported by the facility managers, many of whom felt that they were not empowered to spend funds for infrastructure improvements. None of the surveyed facility managers knew their facility’s budget allocation for infrastructure. Moreover, almost all the surveyed facility managers did not have financial delegations to undertake the maintenance of their facility. Most facility managers expressed that they felt that their districts were not very responsive to their maintenance requests (Figure 49).

**Figure 49: Perceptions of facility managers on how responsive district offices were to infrastructure requests**



Interestingly, the mandate around the implementation of infrastructure programmes under NHI implementation was queried by stakeholders. Stakeholders held divergent views as to which government department should be responsible for the implementation and oversight of health-related infrastructure programmes, specifically whether they should be the responsibility of the NDoH or the Department of Public Works.

*Infrastructure [outside the DoH mandate] could be a problem.”*

National Department of Health official

Stakeholders at all levels concurred that infrastructure is an important component of patient perceptions of quality of care and also affects the likelihood of success when scaling interventions. Patients reported that they valued “space” above any other improvements to infrastructure, as shown in Figure 38. This implies that, despite the introduction of ICRM, infrastructure improvements and CCMDD, facilities remain congested.

## 12.9. WORKLOAD INDICATORS FOR STAFFING NEEDS

WISN is a planning tool advocated by the WHO that aims to support health managers in making more efficient staffing decisions. The purpose of this tool is to ensure that there are adequate numbers of healthcare workers with the right skills and in the right places to effectively meet the healthcare demands of the population. The WISN method also assesses the workload pressure of health workers in that facility. According to the WHO (2010), “the WISN method is based on a health worker’s workload, with activity (time) standards applied for each workload component”.

The WISN method aims to highlight staff shortages and surpluses in the health system based on the differences between actual and predicted numbers of healthcare workers of a particular type in a particular facility. The method also calculates the ratio of the actual to the required number of healthcare workers to understand workload pressures at particular facilities. The NDoH adopted WISN in 2015 and developed the WISN implementation guidelines, which take account of PHC facility-specific staffing norms. Using WISN to determine staffing needs is expected to lead to better staffing decisions and ultimately to the more efficient assignment of workloads across healthcare workers as well as improved utilisation of HRH.

Stakeholders recognised the potential usefulness of WISN and its intention to support more informed and standardised staffing decisions; however, the lack of funding for staff posts has resulted in the full benefit of WISN being unrealised during NHI Phase 1. This challenge is well recognised by the South African government. In the 2019 budget speech given by the Minister of Finance, Mr Tito Mboweni, an HRH grant of up to R2.8 billion was announced as a means to increase the number of doctors and nurse personnel in health facilities across the country (Government of South Africa, 2019).

Stakeholders at national and provincial levels reported that they recognised the value of WISN to inform staffing decisions and to address capacity issues such as those brought about by the retirement of healthcare workers. It was reported that, before staffing norms were determined, “staffing decisions were driven by vacancy rates, rather than needs”. Furthermore, the intervention is widely seen as one that can be easily scaled up, and while it was not implemented as an official part of NHI at the beginning of Phase 1, it is seen as a key mechanism for the effective implementation of NHI going forward.

*“The tool is more like a mirror and shows you where the challenges and gaps are, as well as where there is surplus or overstaffing. So, [it] provides a systemic way of properly distributing staff.”*

National Department of Health official

*“If WISN can be implemented, it can bring some changes so that the facilities can function well.”*

Provincial Department of Health official

Unfortunately, while there is positive sentiment towards WISN, it has not been effectively implemented during NHI Phase 1. One of the key reasons for this has been budget constraints around filling vacant posts. WISN is effective at pointing out where the shortages and surpluses in the health system are in terms of resources; however, due to budget constraints, facility managers have been unable to fill the identified gaps with the necessary staff, which has meant that the same capacity constraints have persisted, and WISN has not been applied by facility managers.

*“Although WISN showed us the results we need, we couldn’t implement it because of budget constraints.”*

Provincial Department of Health official

*“[There is] no money in the budget to appoint more people.”*

District Department of Health official

*“WISN is only good on paper but poor on implementation.”*

Facility manager

Another issue has been the lack of communication around WISN from national level down to district level, which has contributed to limitations in the understanding of WISN. Consequently, stakeholders have not felt

empowered to use it, and this has created scepticism among facility managers as to the benefits associated with the initiative.

*“WISN is national-driven, so we are still waiting for feedback on that.”*

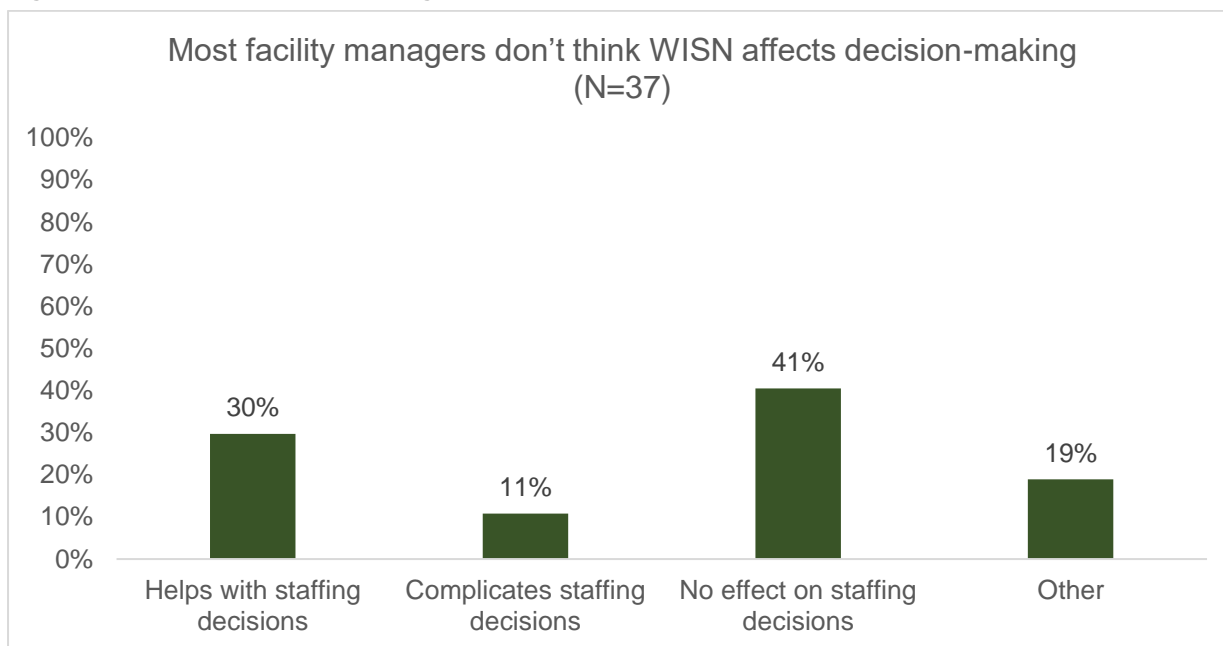
District Department of Health official

*“This programme has not been successful as it has not been followed through.”*

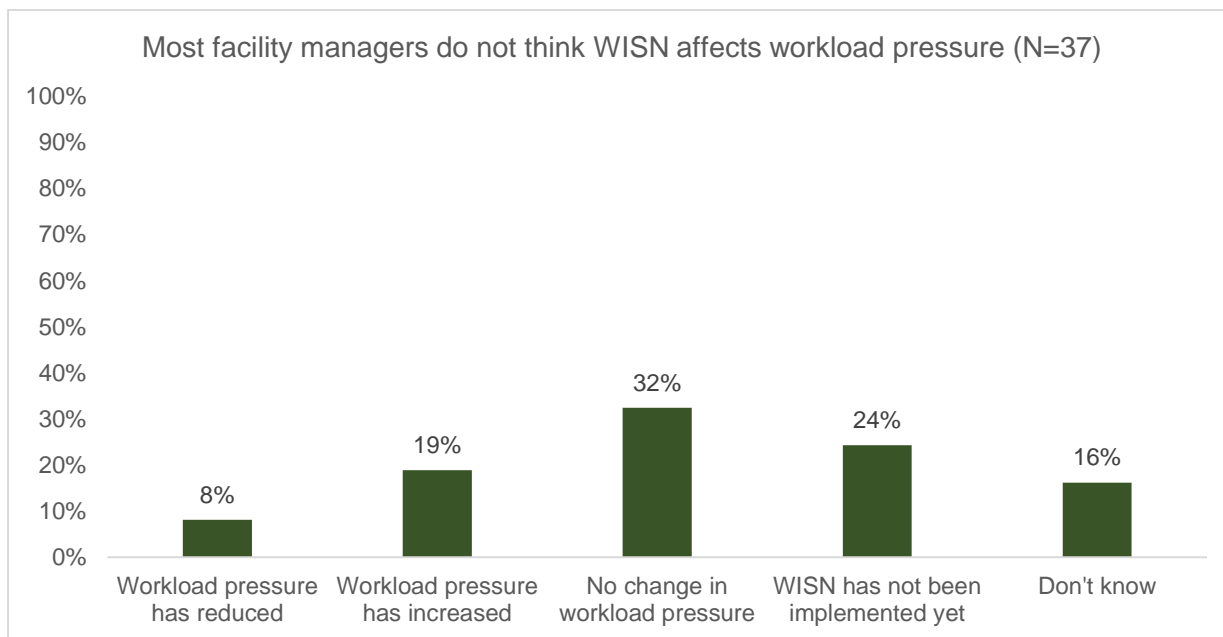
District Department of Health official

Responses from the facility manager survey echo this sentiment (Figure 50). Of the 37 respondents who reported using WISN at their facility, 15 (41%) claimed that it had had no effect on staffing decisions, and a further four (11%) respondents declared that it had in fact complicated staffing matters. Only 11 (30%) of the respondents reported that WISN was helping with staffing decisions. Furthermore, when asked about workload pressure (Figure 51), just three (8%) reported that WISN had contributed to a reduction in workload pressure, while 32% of the respondents stated that there had been no change in workload pressure or that it had in fact increased.

**Figure 50: Impact of WISN on staffing decisions**



**Figure 51: Impact of WISN on workload pressure**

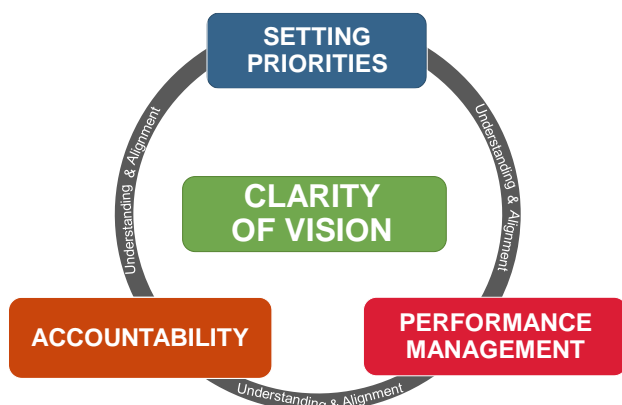


### 13. GOVERNANCE OF NHI PHASE 1

Recognition of the importance of leadership, governance and “health management strengthening” (Gilson & Daire, 2011) pre-date NHI. The government’s responsibility for stewardship of the health system has long been an area of focus (World Health Organization, 2000). While leadership and governance are understood to be two of the most important government functions within the health system (Smith, et al., 2012), the precise ingredients for effective health system governance are relatively new areas of exploration, with gaps in understanding of how best to assess governance (Pyone, Smith, & van den Broek, 2017).

Through consultations with evaluation stakeholders at national, provincial, district and facility levels, the evaluation found four aspects of governance that affected the implementation of NHI Phase 1, namely, achieving clarity of vision, setting priorities, performance management and maintaining accountability (Figure 52).

**Figure 52: Factors affecting the effective governance of NHI**



Source: Genesis Analytics, 2018

## 13.1. CLARITY OF VISION

NHI requires complete reorganisation of the health system, namely, a process of immense change in institutional and individual functions, roles and responsibilities. In order to support this change process, multifaceted leadership capabilities are required. Government leaders must be able to provide a vision that sets the direction of the NHI programme and inspires others to deliver on its mandate (Gilson & Daire, 2011). This vision enables the coordination and alignment of interventions across different units within each participating government department and between different levels of government.

Most stakeholders consulted during this evaluation understand that NHI contributes to HSS. However, the link between NHI and UHC is not understood by many, with awareness and understanding of this vision declining from national level to provinces, districts and facilities. This role has therefore not been fully achieved by policymakers, and this is a key area for strengthening in NHI Phase 2.

### Box 2: Exploring the link between NHI and universal health coverage

UHC means that all people and communities can use the promotive, preventive, curative, rehabilitative and palliative health services they need and that these are of sufficient quality to be effective, without exposing users to financial hardship.

The NHI White Paper indicates that NHI is intended to move South Africa towards UHC (National Department of Health, 2017). The White Paper presents a vision of NHI as a facilitator of UHC, which it describes as encompassing:

- Population coverage: The extent to which the population has access to needed health services.
- Service coverage: The extent to which the health needs of the population are addressed by available quality health services.
- Cost coverage: The extent to which the population is protected from direct costs and catastrophic health expenditure.
- By implication, the vision for NHI is layered and far-reaching and requires careful reading of the White Paper to fully understand the extent of this vision.

Sources: WHO, 2017; NHI White Paper, 2017

*"I report to the DDG of NHI in the new structure but that wasn't communicated to us. We saw it in a meeting on an organogram. I'm not sure what is happening. We are expected to implement change management with provinces, but the same is not done for us."*

National Department of Health official

Further, the logic linking each intervention to the vision for NHI and UHC has not been made explicit. This was an obstacle to successful and coordinated implementation in the early days of NHI Phase 1. In fact, some national stakeholders felt that the coordination between national and provincial levels could have been improved through greater buy-in across provinces, aided by clear and consistent communication of a compelling vision.

*"NHI was forced on provinces; they weren't volunteering to participate. In the first few years, this was the stumbling block. National and provincial had the same projects at different levels that didn't speak to each other."*

National Department of Health official

Finally, stakeholders have even lower levels of awareness and understanding concerning the planned implementation of NHI, as well as their own roles in NHI. Despite the NHI White Paper providing a definition of Phase 1 and the phases that are intended to follow (National Department of Health, 2017), this understanding



is not consistent across stakeholders, which makes it difficult for these stakeholders to understand what the plans are and what their roles are within the plans.

*“My role in [the] Phase 1 interventions is not clear as I do not know what Phase 1 is.”*

National Department of Health official

Clarity of vision is essential to enable the other important elements of NHI governance: setting priorities, performance management and accountability. Stakeholders across all levels emphasised that good coordination and the breaking down of implementation silos is crucial for the successful implementation of NHI and the reorganisation of the health system.

*“They also need to make provinces partners, setting up structures to consult on the ground where the reform takes place; reforms are about people, and change management is important.”*

Provincial Department of Health official

*“. . . it is important that it is a continuous process – as the ability to grasp the concept of NHI is not the same at all levels.”*

Provincial Department of Health official

## 13.2. SETTING PRIORITIES

Priority-setting is defined as a systematic approach to allocating available resources (financial and non-financial) between competing needs towards an optimal health system (Smith, et al., 2012). The task of priority-setting requires that high-level goals (the vision for NHI) are converted into operational actions within defined indicators and targets. This conversion will also need to be conducted for various subnational levels to ensure that the goals are disaggregated and appropriately customised to specific regional realities. For this reason, priority-setting should be informed by a process of consultation and consensus-building. Priorities should be set in response to the specific realities of South Africa’s burden of disease and to balance prevention and curative services.

### Box 3: Consequences of priority-setting

Priority-setting is essential for the coherence of health strategies, policies and plans. With limited coherence across these important governance tools, decision-making becomes more complicated and ineffectual. Priority-setting is also required to establish rules and responsibilities for allocating resources. With a limited fiscus and limited capacity within key institutions, priority-setting helps to establish a rank order for budget allocation. Priority-setting therefore makes it possible to promote cost-effective and transparent budget use.

There was consensus among national stakeholders that priority-setting is crucial for planning, which is fundamental to budgetary processes. It is also very important in a resource-constrained environment where there has to be rationalisation and trade-offs between the ideal and what is financially possible.

Despite the process by which the policy was formulated, including the preparation of the NHI Green Paper and the NHI White Paper and the internal processes relating to budget allocations against the departmental Annual Performance Plan, stakeholders still observed that they were not entirely clear on (a) how to use the allocated budgets (despite some districts participating in business plan development), (b) which required activities were not allocated budget and (c) how to use NHI budgets to support ongoing activities within districts. The lack of priority-setting and rationalisation led to confusion regarding where to allocate budget and what this budget was intended to achieve.

*“[There was] no indication of what the money was supposed to be used for, and the money was sent back to Treasury.”*

*“Other projects required the district to fund them, which was unfortunately not budgeted for. For example, internet connectivity for PHC facilities.”*

*“[Many] of the plans were not synchronised. District did its best to implement the intervention. We used NHI interventions to supplement the existing operations [in] the district.”*

District official

Most stakeholders acknowledged and agreed that interventions like CCMDD, WBPHCOTs, DCSTs, inter alia, have commendable and appropriate objectives that do balance prevention and curative health services. However, stakeholders also recognised that there were specific instances where interventions were “parachuted” into various provinces with limited customisation to suit district realities.

*“The NDoH is the implementing body and provincial is where the delivery happens (a method called parachuting), but the two are not always coordinated.”*

National Department of Health official

A specific example is ICRM, which has specific criteria to indicate improvement and was eventually rolled out beyond the pilot districts. Most national, provincial and district officials felt that ICRM contributes towards well-equipped facilities. However, provincial stakeholders mentioned that it is often the case that the criteria are not customised to the district, which can lead to unnecessary and wasteful expenditure. For example, the quote that follows describes a case where unnecessary equipment was claimed to have been bought in a province. Irrespective of whether or not this purchase was unnecessary (which an audit would be able to clarify), the fact that the stakeholders perceived it as such is indicative that priority-setting may not have buy-in across all levels of government. Priority-setting that is both top-down and bottom-up and is supported by consensus-building will ensure that any criteria that are applied are suited to district realities

*“In order to reach ideal clinic status, unnecessary equipment is bought, and it just goes to waste.”*

Provincial Department of Health official

This process of consultation and consensus-building requires time and resources, which should not be underestimated. Stakeholders at all levels were clear that these communication fora were established and were used, especially in the early days of NHI Phase 1. However, they also emphasised that the timing and frequency of the consultative fora are sometimes insufficient to ensure that it is feasible to gain useful inputs and consensus. This observation is triangulated across stakeholders across national, provincial and district levels.

*“. . . we need to take into account timing. We need to speak sooner rather than later.”*

National Department of Health official

*“Governance was at first good, but as the programme has rolled out, there is less and less engagement.”*

National Department of Health official

*“Quarterly meetings [have been] scheduled with province since 2012 but stopped in 2017 due to a lack of funding and drive.”*

Provincial Department of Health official

*“Province should revive the provincial structures. Facilities rely on the district to provide answers and implement NHI.”*

District official

Therefore, the importance of this aspect of governance cannot be overstated.

*“Make sure that the planning and the design is clear upfront. Include the managers on the ground and customise the implementation for each site.”*

National Department of Health official

*“We need to plan collectively for NHI, with the rest of the NDoH.”*

National Department of Health official

There are numerous approaches that can be taken to set priorities. These may be according to required standards of service or aspirational targets of attainment aligned to the vision for NHI (Hauck, Smith, & Goddard, 2004). Alternatively, where there is mandated health insurance and/or devolved tax funding of healthcare, a set of specified health services may be prescribed to establish the exact services to which populations are entitled. These specified health services may then be described further based on other priorities that have been set; for example, targets for health improvement, patient safety standards, clinic waiting times or other indicators to assess whether access is guaranteed (Smith, et al., 2012). The decision concerning what to fund should be an exercise steeped in consultation, priority-setting and best fit for the population’s needs.

## 13.3. PERFORMANCE MANAGEMENT

The generation, dissemination and use of credible information within the health system is crucial. Information is essential for supporting managerial, strategic, political and democratic control of the health system. Furthermore, information may contribute towards a variety of decisions, including tracking national public health outcomes, monitoring healthcare safety, determining appropriate patient treatment options, promoting performance improvement among HCPs and improving accountability of the health system to citizens (Smith, et al., 2012). However, the availability of information is only beneficial when this information is used to affect decisions. The subsections that follow discuss particular factors that were found to influence performance management during NHI Phase 1.

### 13.3.1. Conducive organisational culture

Organisational culture not only determines routine practices and ways of doing business in the health system, but also describes particular values and sentiments, which often indicate power balances in the health system (Gilson & Daire, 2011). In fact, it was suggested as early as 2011 that PHC re-engineering in South Africa will ultimately require the re-engineering of power relationships in the health system because the current system favours hierarchy and top-down decision-making within individual silos (Gilson & Daire, 2011).

The CCMDD is a good example of how organisational culture influences implementation. CCMDD is a programme driven by data, where national, facilities and suppliers all need to understand the demand for chronic medications at all times. A process was undertaken whereby each level of the health system was oriented towards the approach needed and bought into the concept, especially seeing as it held the promise of reducing

patient waiting times and volumes at facilities. By taking the time to do this, the CCMDD implementers used data to make decisions and the intervention was implemented effectively. This was evidenced by the decision to change service providers as the original provider was not delivering to the satisfaction of the stakeholders. This experience helps to further build the case for the use of data and a culture that is responsive to evidence to support implementation and decision-making.

*“ . . . we made feedback a priority. We had a communication strategy. It is also important for national to follow up. M&E is so important . . . we know what is working and not working.”*

National Department of Health official

This learning-oriented culture is a positive finding of this evaluation; however, it was not observed across the health system or across interventions. During our consultations, stakeholders were asked to reflect on the quality of communication and collaboration between the different levels of government and across the interventions. Generally, the findings were mixed. Certain stakeholders indicated that communication had been “excellent”, focusing specifically on the level of engagement between districts, provinces and the NDOH and the structured process by which communication is made.

*“Very good collaboration between districts, provinces and national; however, each district and each province is unique. The means of engagement and communication had to be tailored for each district based on various factors to ensure that success was attained.”*

National Department of Health official

Other stakeholders thought that communication had not been effective, citing different “office(s)” within the NDOH tending to find fault with others and indicating that this does not translate into positive communications for improvement. Stakeholders consulted in partner national departments suggested that, despite regular submissions, questions were met with defensiveness instead of a desire to collaboratively uncover potential solutions.

*“So, communication has not been the best – every office complains about the other. Communication is poor due to our governance mode.”*

National Department of Health official

*“No real feedback loops. [I] just focused on what was submitted, asked questions and then engaged with [the] NDoH to discuss. But this was the point where requests for more information were met with [a] defensive stance.”*

National government official

### 13.3.2. Robust evidence for feedback and learning

From a general perspective, stakeholders acknowledged that there are numerous feedback platforms between the three levels of government and between the partner departments. However, these platforms are usually attended by senior officials and most concern high-level discussions. For this reason, feedback platforms might not generate the type of detailed, frank communications required to facilitate learning and action based on evidence. These observations were made by national and district officials. Crucially, NDOH officials cited examples of provinces and districts not sharing their true and complete views.

*“There are feedback platforms, but people don’t always share what is in their hearts at those platforms. Better when there are one-on-one discussions because there is fear in the lower-level administrators.”*

National Department of Health official

National stakeholders presented the view that the mistrust that this has generated is used to inform decisions, particularly since the NDOH is “fix(ed) on a path” and unlikely to adapt implementation based on evidence that has surfaced. This perspective suggests low commitment to evidence-informed decision-making. It also suggests that factors other than the available evidence are preferred when leaders make decisions; however, stakeholders did not present perspectives on what else is used to inform decisions.

*“There are opportunities for learning, but [the] NDoH seems to fix on a path and not be willing to shift once they’ve decided what to do, and this is a pity since it is counter to what is needed to have scale.”*

National Department of Health official

The example of CCMDD indicates the importance of generating and using robust evidence to support feedback and learning. Similarly, the HPRS included feedback mechanisms that were tailored to each province and included specific strategies for MECs, HoDs, HPRS coordinators and project teams. This was important to test the functionality of the e-health platform. However, there are also examples of poor use of evidence for feedback and learning. Within GP contracting, a mechanism to monitor the performance of GPs and surface their perspectives was absent, which meant that it was difficult for the department to intervene where implementation was difficult as they were either not aware there was a challenge or were not aware of how the GPs were experiencing this new role. There also appeared to be misinformation between contracted GPs and national and provincial officials.

*“Engagements with GPs and GP associations seemed limited. There was consultation, but it seemed like there was also misinformation.”*

National Department of Health official

There are many reasons to prefer basing decisions on factors other than evidence, as indicated by the experiences of certain district officials.

*“Recommendations are sometimes made, but the final approval is made by the province.”*

District official

*“The recommendations were not addressed since the next phase of the budget did not allow for this.”*

District official

It could be that the quality of the data is not trusted by stakeholders, that the credibility of the data is questionable, that sufficiently detailed information is unavailable or that information is not timeous. This may also tie back to organisational culture and the extent to which there is genuine commitment to the organisational mission and the priorities that have been set versus prevalent sentiments or political motivations.

### 13.3.3. Strong and credible leadership

Good governance is dependent on strong and credible leadership. Leadership underpins the creation of a conducive organisational culture through to supporting the generation and use of robust evidence for feedback

and learning. Indeed, leadership is required to give life to the vision for the health system and to embed priorities in the everyday practices of the health system. This is because leadership must inspire many different people with diverse roles and responsibilities to adopt a new and common sense of the organisational mission, the organisational values and new routines to enact these (Gilson & Daire, 2011). Leadership is commonly thought to only be a function of those in senior management positions in the health system. However, effective governance of the South African health system requires distributed leadership, which indicates that leadership must be seen as a collective capacity across the system (Gilson & Daire, 2011).

Stakeholders consulted, whether at national, provincial or district level, voiced the importance of good governance and leadership within the health system.

*“Leadership and governance – we need strong-willed people; a lot of success is due to individuals’ force of will. We need to continue to create such leadership (and I am worried I do not see this at lower levels).”*

*National Department of Health Official*

In fact, stakeholders suggested that ineffective leadership is a factor that undermines the sustainability and scalability of NHI, especially as South Africa moves towards NHI Phase 2. Good leaders are needed at all levels of the health system. WBPHCOT team leaders are an excellent example of where leadership has not been sufficiently strong consistently across all districts. If WBPHCOT team leaders interfacing with communities do not engender confidence in their ability, patients will not buy into the vision of NHI. Further, if team leaders are not confident in the vision and priorities of NHI, their actions are not likely to be aligned to its overarching objectives. Leadership interfacing with the community is as important as within departmental structures.

*“[WBPHCOTs leaders] cannot be just school leavers – but more competent and confident so that they can convincingly advise patients.”*

*National Department of Health Official*

## 13.4. ACCOUNTABILITY

### Box 4: Examples of accountability mechanisms

Performance information is insufficient to promote the accountability of service providers unless there is a mechanism that enables health system stakeholders to communicate a judgment on their performance. Accordingly, accountability is only promoted if an incentive is available to encourage the service provider to act to improve their performance, for example, via performance-based payment arrangements, accreditation systems, oversight systems or reputational pressure derived from the scrutiny of peers.

Source: Gilson & Daire, 2011

Without accountability mechanisms, priority-setting and performance management will have little to no effect on health systems governance. It is only through a combination of consequences and incentives that encourage specific behaviours that HSS and reorganisation is enabled. Within South Africa, there are numerous state structures (for example, reporting to Parliament) and frameworks (for example, the punitive measures described within the Public Financial Management Act) that act as accountability mechanisms. However, adherence to these mechanisms might be uneven.

On the other hand, as evidenced by the quote below, operating within the bounds of these accountability mechanisms may stifle requirements to reorganise the health system. Given that new structures have been and will continue to be added to the health system, it must be anticipated that this will change how effective the current rules are and what incentives are in place to follow these rules. This has already been experienced within NHI Phase 1, in particular as roles and responsibilities within clinics need to be adjusted to account for newly formed teams.

*“This is another unintended consequence – clinical governance is seen as the role of DCSTs only; it absolves clinicians of this responsibility.”*

National Department of Health official

Further, there is a prevailing view across national, provincial and district levels that low performance is more symptomatic of the limited consequences for poor performance, which limits accountability, than of inadequate capacity. Therefore, there is acknowledgement that strengthening accountability is fundamental to implementing NHI.

*“We don’t need training – people have been over-trained; instead there needs to be accountability.”*

District official

*“With leadership comes management and accountability – if people aren’t delivering, there need to be consequences.”*

District official

## 14. FINANCIAL ANALYSIS

The evaluation of the NHI Phase 1 initiatives is aimed at identifying areas that can be expanded upon based on their successes and identifying the mechanisms to rapidly upscale such initiatives. It would therefore be prudent to review the financial obligations made over the past few years via the NHI direct and indirect grants in order to align successful initiatives with the financial resources allocated. This analysis is based on the financial reports provided by the NDoH and is a high-level review of the expenditure per province as well as some of the

key interventions. The analysis was based on the audited financial statements of the NDoH being compared to the NHI pilot progress reports and individual intervention reports and figures.

## 14.1. ANALYSIS OF NHI GRANT SPENDING

### 14.1.1. NHI Direct Grant

The NHI direct grant was a Schedule 5 direct conditional grant from which the NDOH allocated funds to provincial health departments. Grant funding in 2015/2016 was intended to be used to strengthen district capacity for M&E, to strengthen the coordination and integration of selected municipal ward-based outreach teams within the pilot districts, and to strengthen processes and supply chain management systems at district level. The NHI direct grant began in 2012/2013 with the NHI Green Paper and ended in 2016/2017 when the funds were redirected to the ICRM project.

Figure 53 shows the cumulative budget and expenditure over the financial years against the proportion of budget spent. The total budget given over the five-year period was ~R503m, and expenditure was recorded as ~R381m. This represents 76% of the total budget. However, the proportion spent varied between the provinces, with Gauteng showing the highest under-expenditure at 56% of its budget (~R42m of its ~R75m budget spent) while North West came closest to spending all its budget at 94% (~R37m of ~R39m budget spent).

**Figure 53: NHI direct grant cumulative budget and expenditure by province, FY 2012/2013 – FY 2016/2017**

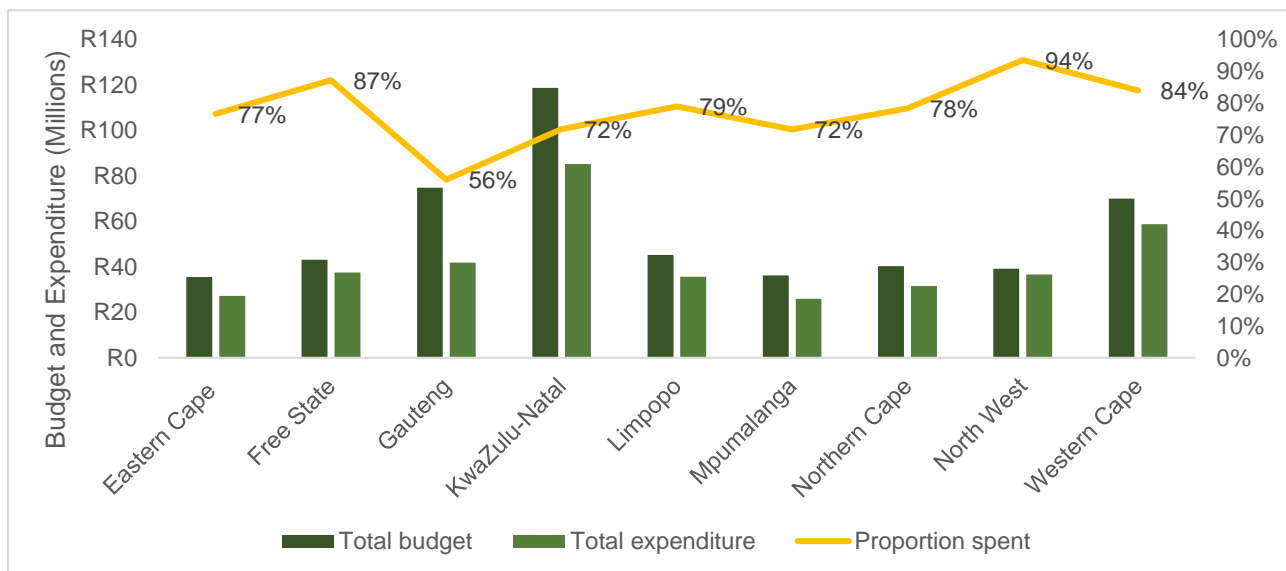
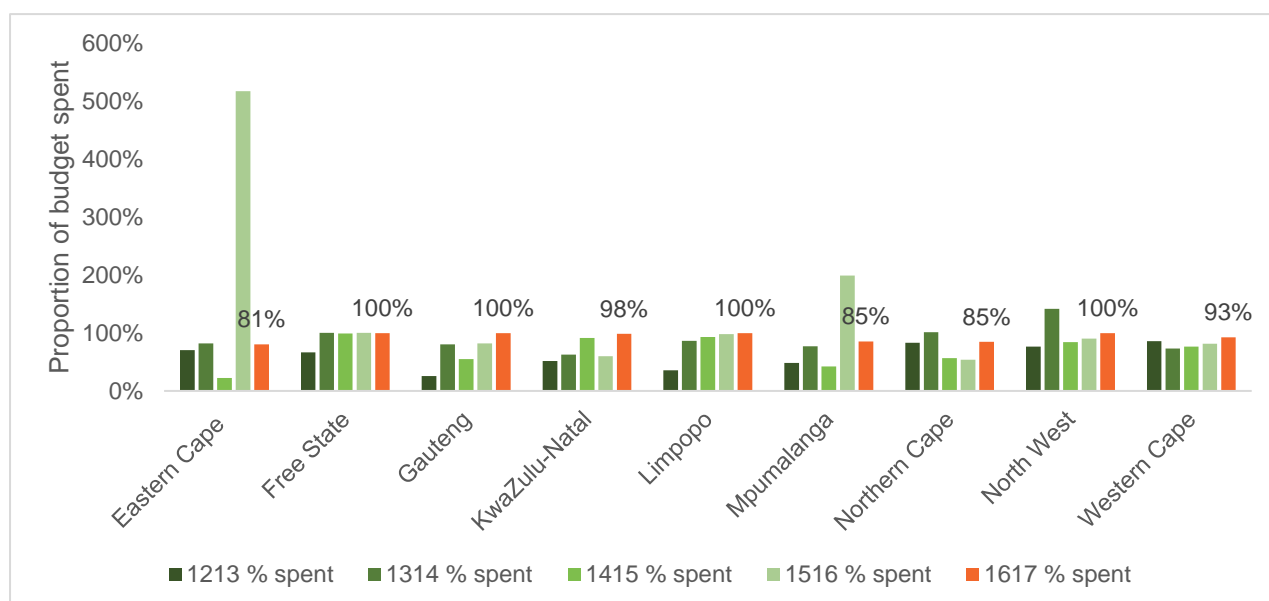


Figure 54 and Table 9 show that, over the period, provinces were able to make increasingly better use of the grant. This could be an indication of initial uncertainty among the districts and provinces in terms of what the grant should be used for and what the procurement process was. KwaZulu-Natal's pilot districts showed marked improvement in their key health indicators year on year, and an expenditure percentage of 72% of their budget was achieved. KwaZulu-Natal was allocated a higher budget as they had two pilot districts funded from the NHI grant (and one funded from the provincial budget).



**Figure 54: Proportion of budget spent annually, by province**



The Eastern Cape showed very high over-expenditure in 2015/2016 (~R5.1m spent despite a budget of R992K). However, the higher spending percentages are due to huge reductions by National Treasury because of the non-surrender of funds by provinces, resulting in a perceived over-expenditure of 517%. (This was due to a division of revenue amount of ~R7.2m, minus the government gazette reduction of ~R6.2m, leaving an allocated budget of ~R992 000 for the year compared to expenditure of ~R5.1m). Table 9 displays the total budget versus expenditure amounts for the period 2012/2013 to 2016/2017.

**Table 9: Budget and expenditure, 2012/2013 – 2016/2017**

Province	Total budget (R'000)	Total expenditure (R'000)	% spent
Eastern Cape	35,490	27,207	77%
Free State	43,057	37,551	87%
Gauteng	74,787	41,864	56%
KwaZulu-Natal	118,800	85,300	72%
Limpopo	45,201	35,725	79%
Mpumalanga	36,162	25,960	72%
Northern Cape	40,258	31,555	78%
North West	39,201	36,680	94%
Western Cape	69,958	58,751	84%
<b>Total</b>	<b>502,914</b>	<b>380,593</b>	<b>76%</b>

## 14.1.2. National Health Insurance Indirect Grant

The NHI indirect grant was a schedule 6A indirect grant, which was managed by the NDOH on behalf of the provincial health departments. It was introduced to deal with under-spending of the direct grant and to enable the NDOH to play a greater role in delivering services. The two parts of the direct grant were for the contracting of GPs and the development of diagnosis-related groups. The indirect grant funding was used to develop and implement innovative models for the contracting of health practitioners, supporting the establishment of fully constituted and functional DCSTs, strengthening school health services and implementing alternate CCMDDs. This model changed slightly over the three years it was implemented.

This indirect grant was for key NHI pilot projects. Between 2014/2015 and 2017/2018, a total budget of R2.5b was allocated for NHI pilot projects. Of this R2.5b, ~R2.1b was spent, representing 84% of the total allocated budget. Figure 55 shows the budget and expenditure for each pilot project for 2014/2015 to 2017/2018. The indirect grant grew substantially in 2017/2018 and achieved a 94% expenditure rate compared to the budget. Health practitioner contracting continued to receive the largest budget throughout the three-year period (R1.28bn) and achieved a 79% expenditure rate over the three years (R1.02bn). The contracting of health professionals in the NHI pilot sites is reflected in Table 10 below.

**Table 10: Health professional contracting in pilot sites, 2014/2015 – 2017/2018**

	2014/2015	2015/2016	2016/2017	2017/2018
<b>Health professionals contracted at pilot sites</b>	287*	531	679	626

\* GP contracting only. This was expanded to healthcare professionals from 2015/2016.

The HPV vaccination immunizations for first- and second-dose immunisations for Grade 4 learners are reflected in Table 11.

**Table 11: HPV immunization programme for Grade 4 learners nationally, 2014/2015 – 2017/2018**

	2014/2015	2015/2016	2016/2017	2017/2018
<b>Grade 4 learners vaccinated for HPV – dose 1</b>	419 000	228 211	265 865	169 102
<b>Grade 4 learners vaccinated for HPV – dose 2</b>	-	329 665	320 292	289 623
<b>Total</b>	419 000	557 876	586 157	458 725

Notes: HPV, human papillomavirus

Patients and facilities registered on the CCMDD programme are reflected in Table 12 below.

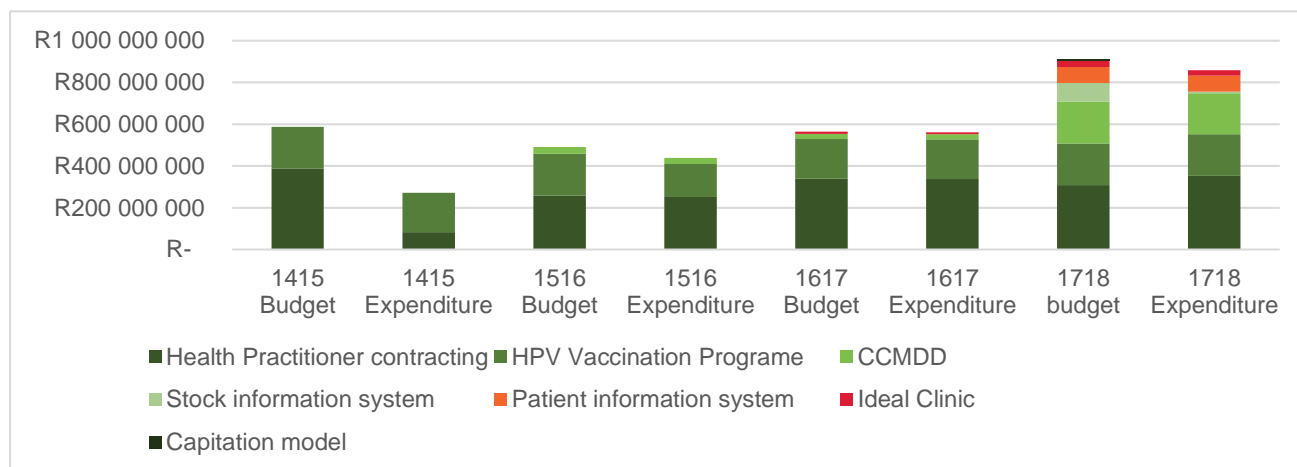
**Table 12: CCMDD patient and facility registration, 2014/2015 – 2017/2018**

	2014/2015	2015/2016	2016/2017	2017/2018
<b>Patients registered in pilot districts</b>	14 657	393 149	650 452	875 175
<b>Facilities registered in pilot districts</b>		671	721	778

Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution

In 2016/2017, the ICRM project received a R10m budget. In 2017/2018, the NHI Conditional Grant was converted into the Ideal Clinic Conditional Grant. Funding for the HPRS and SVS began in 2017/2018. The SVS application, which aimed to improve medicine availability in clinics, was rolled out to 3167 facilities by 2017/2018. The HPRS was rolled out to 2967 PHC facilities by 2017/2018, with 20 700 149 patients registered on the system. Additionally, 4862 computers were delivered to facilities with 4598 being set up for usage.

**Figure 55: Budget and expenditure per pilot project (excluding health facility revitalisation component), 2014/2015 – 2017/2018**



It is important to note that several of these interventions received funding from other sources (e.g. donor funding), hence this allocation of the indirect grant to these interventions does not represent the full extent of funding for the interventions. The timing of the funding allocations is aligned to the project's maturity and the scaling-up of the various interventions over the first phase of the NHI implementation.

### 14.1.3. Health facility revitalisation component

The health facility revitalisation grant has the following aims:

- To accelerate the construction, maintenance, upgrading and rehabilitation of new and existing health infrastructure.
- To enable provinces to plan, manage, modernise, rationalise and transform the infrastructure, health technology and M&E of hospitals and to transform hospital management and improve quality of care in line with the national policy objectives.
- To supplement provincial funding of health infrastructure, to accelerate the provision of health facilities including office furniture and related equipment, as well as to ensure proper maintenance of provincial health infrastructure for nursing colleges and schools.

Figure 56 shows the cumulative budget and expenditure for the three financial years 2014/2015 – 2016/2017. The budget for the three years combined was ~R1.9b and expenditure ~R1.6b. Therefore, the provinces managed to spend 83% of the total budget allocated for the health facility revitalisation component. Of the provinces, Limpopo received the highest allocation, followed by the Eastern Cape. KwaZulu-Natal, North West and the Northern Cape all overspent on the grant by 7%, 251% and 13%, respectively. (North West was allocated a budget of ~R2.9m and spent ~R10.3m over the period.)

**Figure 56: Health facility revitalisation component, 2014/2015 – 2016/2017 (cumulative)**

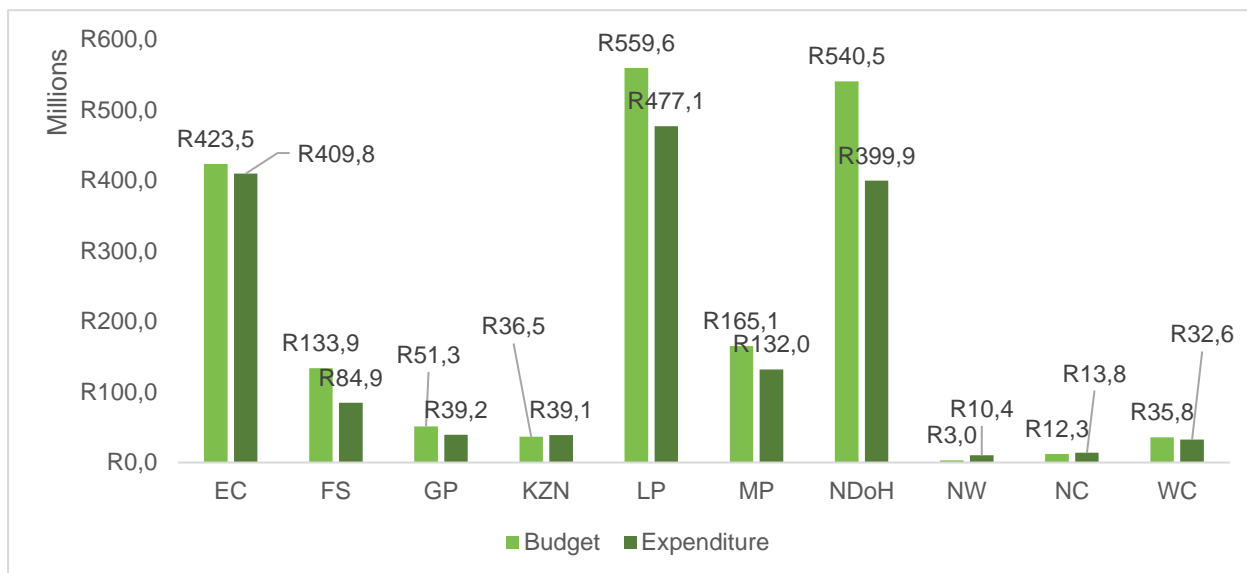
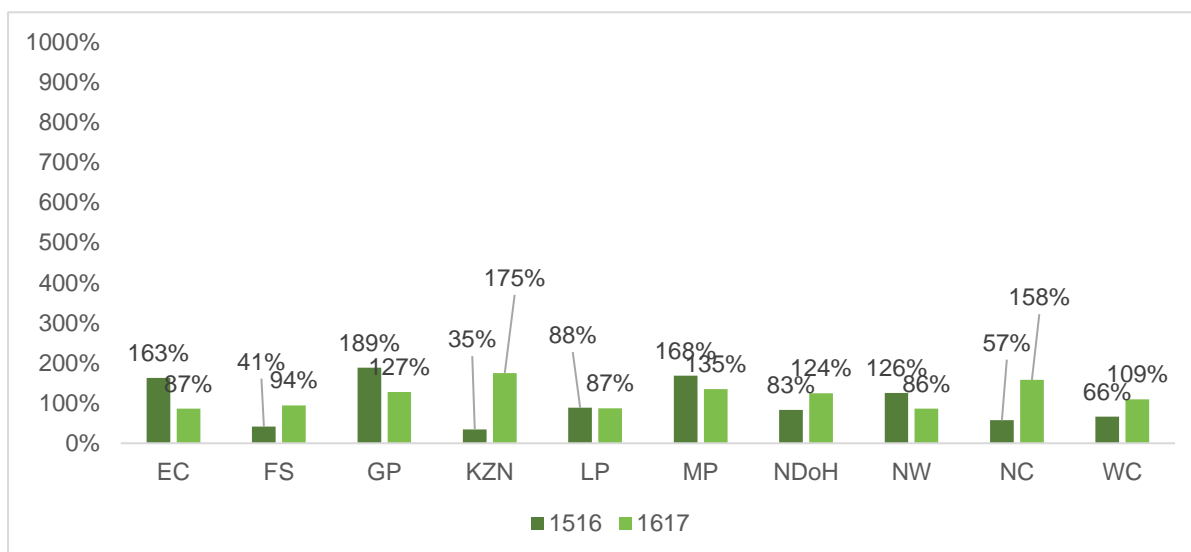


Figure 57 shows the proportion of budget spent, by province, for two financial years. In 2015/2016, spending improved significantly, with an average expenditure of 102% of budget being spent. In 2016/2017, Gauteng, KwaZulu-Natal, Mpumalanga and the Northern Cape all overspent based on their reported budget allocations. However, it is possible that some funds were rolled over from 2015/2016, and therefore the overspending is not a true reflection. This is likely due to the long-term nature and unpredictability of the maintenance and upgrade projects.

**Figure 57: Health facility revitalisation component, proportion of budget spent, 2014/2015 – 2016/2017**



There is an ongoing risk of a lack of capacity in the provinces in terms of human resources and necessary skills, which impacts the overall management of the various grants. The quality of the variance reports has not fully

improved; however, the NDOH is continuously interacting with provincial grants managers and grant coordinators to correct the issue of the variance reports.

Provinces did however show an improving ability to spend allocated funding as the years progressed, and the indirect grant appears to be a valuable way to fund new initiatives. Whilst these increases in expenditure are welcomed, the inflexible nature of the funding grants along with specified criteria did make it difficult for provinces to apply the funding grants to specific needs relevant to their province or district. It would be useful to understand the needs and requirements of the provinces in order for future funding to be flexible enough to allow for specific initiatives in certain provinces that might not be relevant to other provinces. This however needs to be considered within the framework and guidelines of the grant expenditure. In future years, it would be valuable to see itemised spending on the NHI projects so that a deeper analysis of the cost-effectiveness and impact of the projects can be conducted.

### KEY OBSERVATIONS

- 76% of the total direct grant budget was spent over the five-year period 2012/2013 – 2016/2017.
- Provinces were able to make better use of the grant over time. This could be an indication of initial uncertainty amongst the districts and provinces in terms of what the grant should be used for and what the procurement process was.
- 84% of the indirect grant was spent over the period. The majority of the spend was for GP contracting and HPV vaccination programs.
- Additional programs (i.e. SVS, CCMDD, HPRS) started receiving funding from 2016/2017.
- Several programs were reliant on donor funding initiatives.
- 83% of the health facility revitalisation component was spent over the period. Looking forward, clearer procurement processes need to be established for provinces to be able to make full use of the grants provided.
- Looking forward, clearer procurement processes need to be established for Provinces to plan make full use of the grants provided
- Key objectives and expectations need to be communicated, per programme, to the provinces and districts to ensure the appropriate business plans are aligned to the budget allocations.
- The lack of capacity in the provinces in terms of human resources and necessary skills needs to be addressed as this has an impact on the overall management and reporting of the various grants.

## CHAPTER 4: CONCLUSIONS

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### 15. OVERALL PROGRESS MADE IN PHASE 1

The primary objective of this evaluation was to assess the progress made during NHI Phase 1 implementation against the set objectives and targets. Specifically, the evaluation intended (1) to identify which of the interventions have been successful and the factors that promoted their success during implementation and (2) to identify which interventions have been the least successful and the barriers to successful implementation and the unintended consequences of implementation. Furthermore, the aim of the evaluation was to assess the impact of the pilot districts on the access and quality of services; however, it has been very difficult to assess the impact of NHI Phase 1 because of various important factors.

The majority of the interventions implemented during NHI Phase 1 were implemented to scale. Since some interventions were scaled-up beyond the pilot districts, it is difficult to identify major differences in performance between the pilot and non-pilot districts. The lack of a “control group” made it difficult to evaluate the impact of the interventions.

Indicators of access and quality are complex and difficult to measure. While national and international guidelines are being developed, these were neither available nor measured during NHI Phase 1 implementation. Additionally, baseline measures were not established in all the pilot districts and at the start of implementation, making it difficult to assess if there has been any improvement since the start of NHI Phase 1 implementation.

In assessing the routine and outcomes data, it was difficult to identify a clear trend as the data varied. In some years, indicator performance appears to have increased significantly in one year; however, these indicators showed little to no improvement in the following year. Moreover, the assessment of indicators depends on the availability of accurate denominators, which were not always available and varied from year to year. While the quality of the data provided improved over the course of implementation, there was still a data quality challenge with the final dataset obtained. All the aforementioned factors contributed to the challenge in assessing health outcomes and the impact of the various interventions.

It is therefore unsurprising that the evaluators are unable to provide an overall assessment of the success or failure of NHI Phase 1 implementation. The answer is nuanced, and it is more feasible to comment on the implementation success of the 10 interventions, which have been the focus of this evaluation. The conclusions of this evaluation are based on literature findings, findings from the interviews and surveys undertaken during the evaluation and the analysis of the routine and outcomes data from the DHIS undertaken as part of the evaluation.

The NHI Phase 1 interventions experienced both success and challenges during implementation. The success of interventions was driven by a number of factors, including strong political will, adequate human and financial resources for implementation, good coordination and communication and good monitoring systems in place at the time of implementation. During implementation, the interventions also faced a number of challenges and to varying degrees, these factors hindered their success. These included inadequate planning, a lack of resources, inconsistent communication, a lack of coordination where necessary and insufficient mechanisms to monitor progress to ensure course correction.

## 15.1. WARD-BASED PRIMARY HEALTHCARE OUTREACH TEAMS

The WBPHCOTs intervention was largely successful in NHI Phase 1 implementation. These outreach teams were successfully introduced into communities and were reported to have reached a large proportion of community members in need of health services during Phase 1. Reaching individuals in need of healthcare is imperative in the attainment of the goal to improve access to health for South African communities. The success of this intervention is seen in the districts' indicator improvements via the increase in OHH visits (household visits and referrals to facilities). Stakeholders viewed WBPHCOTs as an important component in promoting increased access to healthcare services. The value that has been placed on these teams meant that each district was well staffed with WBPHCOTs, and the use of community healthcare workers from the same communities played a major role in their success. This meant that they had a real understanding of the geography, community characteristics and social setting of the communities when undertaking their work. The WBPHCOTs collected data during their household visits, which was integrated into the DHIS system.

However, some notable challenges have been experienced during the implementation of this intervention. While these teams are well staffed, the staff composition of many of the teams lacked an OTL, which altered perceptions among community members about the quality of care received. One of the WBPHCOTs' core functions is to channel referrals to facilities. However, there is limited data on the effectiveness of the referrals and follow ups made from communities and facilities. Finally, while data was collected routinely during household visits, this data was collected using a paper-based system, which compromised the data quality due to the lag between capturing the data and transferring it into the system. The next phase of this programme needs to focus on ensuring that referrals are taking place and tracked through unique patient identifiers and that data elements are recorded electronically for real-time integration with the DHIS.

## 15.2. INTEGRATED SCHOOL HEALTH PROGRAMME

It is evident that the ISHP programme has successfully screened a large number of school-going children for health conditions. Screening is mainly carried out for vision and hearing impairments and oral health. The successful implementation of this programme required good interdepartmental collaboration with the DBE, and this collaboration was demonstrated during NHI Phase 1 implementation.

While screening has been a major success, the intervention has been less successful in ensuring that learners access the much-needed services they have been referred to. A major barrier to the success of the ISHP programme has been ineffective and non-standardised referral systems, which also had no feedback measures in place between the ISHP teams, healthcare facilities and schools or the DBE. This translated to ISHP nurses not being able to establish whether school-going learners were indeed able to access the required services. Ultimately, the feedback mechanism should link the referral process to the ISHP nurse as well as the WBPHCOTs for the district. Unique patient identifiers would also allow for better M&E of the programme. The lack of sufficient equipment and resources further hindered the programme's success in NHI Phase 1. Lastly, the ISHP programme is standardised across primary and high school learners; however, research has shown that learners of older ages have different health needs compared to younger learners and that this age group would benefit more from programmes focused on sexual and reproductive health.

## 15.3. GENERAL PRACTITIONER CONTRACTING

Historically, PHC facilities have not had medical officers present to support the teams led by PHC professional nurses. The introduction of this intervention, which contracts GPs to PHC facilities, has improved direct access to medical officers for communities. As a result of the increased GP presence, patients perceived an improvement in the quality of care received during their visits. However, GP contracting was not implemented to scale, and in the NHI pilot districts, many facility managers reported not having a GP contracted to support the facility during NHI Phase 1 implementation.

The programme initially struggled to attract large numbers of GPs although it later gained more momentum as Phase 1 progressed. However, the management of the programme seems to have been inadequate. The lack of adequate planning impacted the coordination between GPs and the NDoH. Contracted GPs were essentially viewed as “subcontractors” and could not be paid using NDoH guidelines or through the government payroll system. This loophole allowed contracted GPs to claim for an unverified number of hours and for expenses that typically would not be reimbursed to other staff in the public health sector. The increasing human resources bill in PHC facilities through GP contracting became unaffordable to effectively sustain and scale up. Furthermore, the impact on the actual quality (not just patients’ perceptions of quality) of services provided in public healthcare facilities is unknown.

An unintended consequence of GP contracting is evident in the shifting of limited resources within the public sector. Public sector doctors are understood to have resigned from their full-time employment positions and opted to be contracted under the NHI GP contracting agreement. While the intention was to encourage private sector doctors to avail themselves to support the public healthcare system, it appears the incentives attached to GP contracting resulted in further constraints as it drained full-time resources from the public healthcare sector. Although increased access to doctors in PHC settings may be desirable, it may not currently be affordable at scale nor may it be the most cost-effective method to improving health outcomes in PHC.

## 15.4. IDEAL CLINIC REALISATION AND MAINTENANCE

The success of this intervention lies in its ability to help facilities quantify their needs and better advocate for the required funding. Where implemented as envisioned, there was a perceived improvement in quality of care by both facility managers and patients.

However, implementation of ICRM became frustrating for facility managers who complained about the lack of funding to implement the identified measures required to obtain ideal clinic status, as well as the seemingly wasteful expenditure on equipment that was required for ideal clinic status but ultimately not used and the short duration of implementation allocated to the fast-changing requirements of ICRM. The programme became implemented as a regulatory exercise rather than being driven by the vision to provide quality healthcare. Like other interventions, it has been hard to assess whether ICRM did indeed lead to improvements in the quality of care being delivered at PHC facilities because of the generalised implementation beyond the NHI pilot districts.

## 15.5. DISTRICT CLINICAL SPECIALIST TEAMS

These highly trained medical specialists were introduced as a means to improve the quality of services through strong mentorship and capacity building of staff in districts. Where implemented, DCSTs have indeed been shown to have capacitated staff and ultimately improved some aspects of healthcare at facilities. Stakeholders noted that the introduction of DCSTs in districts had indeed promoted better clinical governance.



However, this success was not uniform and was largely dependent on achieving the full DCST composition. There was an intended focus on improved neonatal, child and maternal health, and the DCSTs were supposed to include specialists such as obstetricians, gynaecologist and paediatricians. However, the majority of the teams were missing these critical resources. This meant that, while there has been some success in the introduction of these teams and there have been initiatives to improve quality of care, the implementation of the DCSTs continues to be patchy, and the impact on improving neonatal, child and maternal care is difficult to assess. These specialised teams of clinicians may not necessarily be effective as mentors and trainers and, with the high cost attached to distributing these teams in districts, the long-term cost-effectiveness and sustainability of the DCSTs may need to be reassessed.

## 15.6. CENTRALISED CHRONIC MEDICINE DISPENSING AND DISTRIBUTION

CCMDD has been identified as the NDoH's flagship programme during NHI Phase 1 implementation. A number of facilitating factors are understood to have contributed to the success of CCMDD. The most important is the leadership behind the programme. The presence of visible leadership driving the process of implementation is beneficial for a number of reasons: the vision is well communicated, ensuring all implementers are clear on the vision and furthermore motivated to put their efforts behind the intervention. More significantly, strong leadership assists in finding solutions to challenges as they arise and assists in finding ways to work through bureaucratic blockages, which often act as barriers to successful implementation.

The initial facilitating factor was the emphasis on communication and training. The aims and objectives of CCMDD were communicated to all district-level staff, facility staff were well trained on CCMDD and the enrolment of patients onto the programme, and this facilitated rapid scale-up. A contributing factor to the awareness and training surrounding the CCMDD programme was the appointment of service providers in the provinces who were appointed to manage CCMDD implementation. When it became apparent that the programme was going to continue to enrol patients beyond its initial plans, managers were able to develop a scale-up plan and budget, which was required to ensure the successful scalability of the programme in conjunction with service providers. An evidence-based proposal was presented to National Treasury, and this is understood to have assisted in the release of additional funding for the programme. Significant donor funding for this initiative and the appointment of service providers was also made available. The ability to provide an evidence-based proposal speaks to the strength of the performance monitoring of the programme. The strong focus on performance monitoring meant that there was good data collection and reporting, which allowed programme managers to be able to support the request for additional funding. Strong reporting requirements were included in the service providers' contracts, which removed the burden from facilities and strengthened data collection and quality.

Nevertheless, there were some factors that hindered the success of the implementation of CCMDD. The appointment of a new service provider towards the end of NHI Phase 1 implementation posed a challenge to the continuity of the programme. Furthermore, the large scale-up meant that a large number of patients across the country who had in the past received their chronic medication at facilities were now registered on the programme, and this required extensive coordination between the two processes. However, there was a lack of sufficient integration and coordination between facilities and the CCMDD PUPs, which resulted in inadequate tracking of patients between the two systems. This requires strengthening in the next phase of implementation.

## 15.7. HEALTH PATIENT REGISTRATION SYSTEM

The HPRS is understood to have significantly contributed to improved patient registration and record-keeping in facilities. Where the HPRS has been implemented with success, much of this success has been attributed to the way in which the HPRS was introduced to the facilities and communities. There was a sense of ownership of the programme and the strong communication from “owners” about the HPRS implementation through the use of an engagement model with feedback mechanisms, which has been noted as a facilitator to this success. This created alignment between the different stakeholders involved and ensured good coordination within the programme during the implementation phase.

Where the HPRS has not been implemented with success, it has largely been attributed to poor connectivity at facilities and challenges with the hardware required for this intervention. The HPRS has been implemented in parallel to existing IT systems and the lack of integration between IT systems has contributed to duplicated efforts at facilities. Moreover, there is some disconnect in the prioritising of this intervention at national and provincial levels within the department, which impacted the intervention’s success.

## 15.8. STOCK VISIBILITY SYSTEM

The SVS programme was largely implemented as planned and has been successful in its aims to reduce stock-outs and administrative pressure at PHC facilities. The SVS allowed facilities to electronically capture information related to stock levels in the facilities, and managers who had live access to the system could use the tool to effectively plan and ultimately minimise stock-outs. The benefit of the SVS, which has real-time reporting of stock levels, motivated staff to update the system regularly and promoted the proactive management of drug levels in facilities among managers. Ultimately, the success of this intervention is underpinned by the large-scale implementation, the good coordination and, more importantly, the robust reporting of data (drug stock levels), which assisted and promoted proactive planning.

The implementation challenges of the SVS were mostly related to issues around connectivity and challenges with the hardware required to input information. Where there is poor connectivity, facilities have been unable to regularly update the system. The staff trained and responsible for the use of the SVS are pharmacists and pharmacy assistants; however, there is a lack of these cadres in facilities. The intervention will require continuous training to ensure that staff are able to use the system. The future focus of this intervention should allow for robust stock control management. Additionally, implementation of the SVS during Phase 1 was largely dependent on donor funding, and the lack thereof going forward will impact the scalability and sustainability of this intervention.

## 15.9. INFRASTRUCTURE

Infrastructure is a critical component in ensuring not only access to services, but the ability to provide quality services to communities. It is evident that even small infrastructure changes have a large positive impact on the overall environment at facilities for staff and patients.

While this is evident, the success of this intervention has been significantly impacted by the perceived lack of ownership of the programme. The understanding regarding which government department is responsible for the implementation of infrastructure programmes in the health sector is not aligned. While some stakeholders believed it to be the Department of Public Works’ mandate, other stakeholders believed that health-related infrastructure is the NDoH’s responsibility and the department must ensure successful implementation. The lack

of alignment and coordination between these two departments has been detrimental to the success of this intervention.

Infrastructure and maintenance programmes are evidently not a one-size-fits-all intervention and need careful planning to ensure adequate implementation in order to successfully meet the needs of each district. This careful planning was not evident during the implementation of NHI Phase 1. Finally, infrastructure programmes are often costly interventions to implement. Infrastructure development is not a once-off intervention and requires consistent maintenance. The lack of planning capacity meant that infrastructure budgets went unspent, and as a result, the maintenance and repair of existing buildings was neglected. Ownership, effective planning, good coordination and realistic budgeting is critical to the future success of infrastructure programmes.

## 15.10. WORKLOAD INDICATORS FOR STAFFING NEEDS

WISN provides assessments of standardised, evidence-based staffing needs at facility level. WISN assessments increase facilities' ability to understand the staffing required to provide quality services to patients.

However, this intervention faced a number of challenges. WISN was initially seen as an external departmental programme not associated with NHI implementation. Although later acknowledged as an intervention that could be beneficial to NHI implementation, there continued to be a lack of full integration of WISN with other NHI Phase 1 initiatives. Assessments of staffing norms should take place within the broader context of a review of staff workloads and performance management.

The ultimate goal of the WISN standards is to ensure appropriate numbers of healthcare workers (determined by doctor, nurse, patient and bed ratios) with the right skills mix and in the right places to effectively meet the healthcare needs of communities. WISN identifies where there are gaps or surpluses in human resources, and this ought to assist facilities to motivate for additional resources or a reduction in resources. To date, where assessments have been done, WISN has indeed been able to identify the staffing needs of facilities. However, there is often a lack of funding available to hire the required staff or create new posts. Thus, while facility managers could use the tool to understand their staffing needs, they were unable to fill the hiring gaps due to various hiring freezes enacted by provincial DoHs or provincial treasuries. This indicates a lack of coordination and alignment between stakeholders. Intervention budgets need to be deeply aligned with the intended outcomes of the intervention in order to drive success. Furthermore, transferring personnel from one facility to another may not happen easily due to labour relations and condition of work considerations. In this case, implementing a plan without the ability to act on the outcomes only leads to frustration and dissatisfaction among managers.

## CHAPTER 5: RECOMMENDATIONS

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This chapter presents the recommendations arising from this evaluation, which are presented in two distinct sections: (1) Strategic recommendations for NHI Phase 2 and (2) Intervention-specific interventions, as these interventions are scaled in NHI Phase 2.

### 16. STRATEGIC RECOMMENDATIONS FOR NHI PHASE 2

Based on the findings of this evaluation, the following recommendations are proposed to promote the goals of HSS and re-organisation of the health system, which underpin the NHI. These recommendations are intended to support effective implementation of NHI Phase 2, based on the factors demonstrated to influence the degree of success experienced in implementing NHI Phase 1 interventions within pilot districts.

As demonstrated in *Section 6: Governance of NHI Phase 1*, “stewardship” of the health system is dependent on setting priorities, performance management and accountability. Leadership is central to each of these and is enabled by effective communication to ensure clarity of vision. It is critical that programmes such as these included all stakeholders, including provinces and districts, which are ultimately the leaders in implementation. Accordingly, a number of recommendations are presented.

#### Recommendation 1

Make the vision “real” for all stakeholders, and communicate this vision clearly and regularly – for example, the Health Summit was used to create support and share the vision for HSS. Similarly, NHI Phase 2 should be launched with a clear vision and plan, which includes plans to realistically address weaknesses in the public health sector. The plan needs to include a clear theory of change that clearly illustrates how change is envisioned; a results chain to link the various inputs, activities, outputs and outcomes leading to the achievement of project impact; a set of defined indicators of success that will be used to measure improvements over time and baseline measurements to ensure that before-and-after comparisons can be made to ascertain the success of the programme. The plan needs to be clearly communicated, so as to ensure that all stakeholders are clear about the vision of NHI and the goals of Phase 2.

To achieve clarity of vision and to generate buy-in during the process of priority-setting, it is important that the understanding of cooperative governance and intergovernmental collaboration, as defined within the Intergovernmental Relations Framework Act, 2005 (Act 13 of 2015), is imbued throughout the planning and implementation of NHI. Therefore, it will continue to be important to:

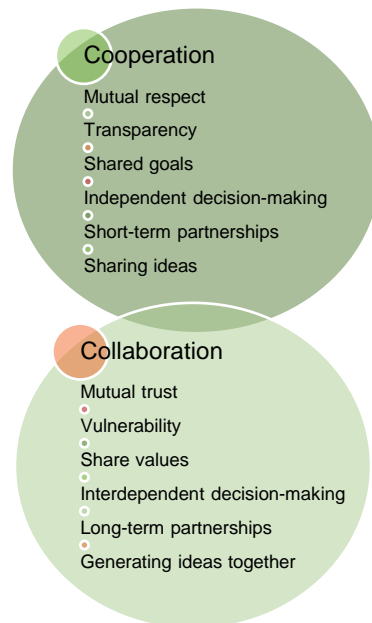
#### Recommendation 2

Bring all stakeholders on board, especially provinces and districts, through cooperative governance and intergovernmental collaboration between all levels. Provide regular feedback to encourage common purpose and continued commitment to the NHI programme.

It is important to understand the subtle nuance that differentiates cooperation from collaboration. Cooperation without collaboration can lead to group think; a situation in which actors with experiences and views differentiated from common group views do not have space to influence group action, and decisions then do

not reflect the combined knowledge, experience and wisdom of the full group. Collaboration without cooperation can lead to disunity; a situation where there is conflict and disagreement because the governance structures required for collaboration are absent. However, when there is cooperation and collaboration, there is opportunity for more meaningful decision-making, greater creativity and more successful implementation (Gilson & Daire, 2011).

**Figure 58: Cooperation and collaboration**



Sources: Gilson and Daire (2011)

To ensure that the vision of HSS and the reorganisation of the health system through NHI is central to implementation, it is important that leaders and champions of NHI are identified throughout the health system. These leaders and champions should be responsible for assessing, designing and transitioning the current governance structures within the health system to match the requirements for the NHI functions. They should progress the vision of NHI and support implementation changes on a day-to-day, operational and tactical basis.

### Recommendation 3

Identify champions and intervention leaders at all levels, provide them with clearly defined roles and responsibilities. Leverage these champions and leaders to drive the vision and programme.

Strong accountability mechanisms are essential for good governance. Based on the findings of this evaluation, there is a need to strengthen accountability mechanisms and enable greater accountability at all levels of the health system. This implies a need to strengthen performance management. In particular, roles within NHI structures and NHI interventions should be aligned with the goals and priorities of interventions, such that key personnel KPIs can have improved alignment to the NHI vision and objectives. Therefore, the following is recommended:

### Recommendation 4

Develop implementation plans with milestones and targets that are linked to conditional grant business plans and annual performance plans. These milestones and targets should be used to identify KPIs for personnel performance management to encourage accountability.

Accountability will be further enhanced by ensuring that progress towards milestones and targets can be reliably assessed. This enables a judgment to be made as to whether the terms of conditional grants are being upheld and that plans are being implemented as intended. Progress should be measured by establishing indicators of success and using these indicators to develop monitoring plans that include mechanisms to ensure data quality. Further, regular reporting and communication should be built into monitoring plans to enable course correction and continuous improvement, as well as stronger accountability to the terms of conditional grants.

#### **Recommendation 5**

Define clear metrics for success that are measured and reported on regularly to enable continuous improvement and stronger accountability towards the terms of conditional grants. These should include measures of access to and the quality of health services.

This evaluation found that the existing organisational culture limits staff's license to be creative, responsive and to take the initiative, which are qualities required when embarking on a comprehensive health system strengthening and reorganisation programme. However, the current structures, rules and regulations were perceived by the evaluation participants to stifle levels of innovation. The devolved nature of health systems governance implies that quality leadership must be available at all levels of the health system. This suggests that leaders need greater scope to adjust implementation to suit the realities of their local social, economic and political contexts.

Further, there is evidence that certain stakeholders are fearful of raising issues within current governance structures and of questioning the status quo. This stifles the generation of useful evidence, limits learning and diminishes the opportunity to benefit from the health system's greatest resource – the experiences and ideas of the people that work within the system. By encouraging a learning-oriented culture, the health system will not only enable greater innovation, but will also contribute to staff feeling more empowered and hence more valued. Therefore:

#### **Recommendation 6**

Develop a problem-solving, innovative and high-performance culture. Managers' leadership styles need to be assessed, and mentorship should be made available to support a change in culture.

There is agreement in the literature that, while HSS and reorganisation requires "big picture" systems thinking, there is significant value in incremental reform, which includes incremental changes to governance structures (de Savigny & Adams, 2009). It has been shown that there are immense opportunities to learn which governance structures are most suitable based on implementation experience (Management Sciences for Health, 2015).

#### **Recommendation 7**

Allow for incremental implementation and learn from successes and challenges. Monitor for unintended consequences during programme implementation and course correct throughout.

Additionally:

#### **Recommendation 8**

Have feedback loops between all stakeholder levels that allow for course correction throughout the system.

Building on the development of implementation plans with linked milestones and targets and clear metrics for success, it should now be possible to enable a greater level of accountability among staff for programme delivery. This requires improving personnel performance management. Personnel roles should therefore be located in

alignment with the goals and priorities of interventions, and staff KPIs and all performance management development systems should be aligned accordingly.

#### **Recommendation 9**

Hold all staff accountable for programme delivery through measurable and actioned KPIs and incentivise good performance.

Within this system of improved performance monitoring and strong accountability, it will be essential to showcase and celebrate successes. Motivation can be created by generating excitement around successes. This can be achieved through communications, the capturing of lessons learned, the provision of incentives, inter alia. Successes can also be used as examples from which lessons can be learned. Finally, celebrating successes is a good counter for when it is necessary to take a firmer stance on issues of poor performance. Therefore:

#### **Recommendation 10**

Celebrate successes and progress towards milestones and targets.

## **17. INTERVENTION-SPECIFIC RECOMMENDATIONS FOR NHI PHASE 2**

The recommendations in this section are specific to the interventions that have been implemented during NHI Phase 1. It is recognised that the interventions assessed within this evaluation are being implemented in a fluid environment. These recommendations will therefore be pertinent should the interventions continue and be scaled up in NHI Phase 2.

### **17.1. WARD-BASED PRIMARY HEALTHCARE OUTREACH TEAMS**

The aim of the WBPHCOTs to service the community is important and, based on the evidence generated through this evaluation, has been generally successful. It is important to build on this success in order to generate further value for the health system. Indeed, the on-the-ground presence of the WBPHCOTs can be used to generate important insights that can be integrated into decision-making at district, provincial and national levels.

Evidenced by both the literature review and evaluation evidence, one of the defining factors of success for the WBPHCOTs is strong management and support structures. It is clear that there is a need for continuous skills development of the WBPHCOTS<sup>2</sup>, specifically since team members change over time. In some districts, these structures have been absent or ineffective. This has resulted in certain WBPHCOTs being unclear of their role. Therefore:

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<sup>2</sup> This perspective was provided across the range of stakeholders, including the Northern Cape Department of Health.

### **WBPHCOTs Recommendation 1**

Each WBPHCOT should be provided with regular and appropriate supervision. They should be assigned a designated supervisor to realise their full staffing complement. Managers and supervisors should be responsible for clearly communicating the vision, objectives, priorities and KPIs of their teams.

The evaluation also found that, in some instances, WBPHCOTs were limited in their ability to discharge their duties because they were not able to travel to certain locations. WBPHCOTs should be provided with requisite resources to realise their important role within communities. In particular:

### **WBPHCOTs Recommendation 2**

Transport and equipment should be planned and adequately budgeted.

The evaluation also found that WBPHCOTs are recognised as the “soldiers of the community”. They are able to reach population groups that do not often access clinics. There is an opportunity for WBPHCOTs to go beyond their current practice to be truly transformational in underserved areas. Therefore:

### **WBPHCOTs Recommendation 3**

WBPHCOTs’ scope of practice should be expanded to more than health promotion and referrals.

A shortcoming of WBPHCOTs demonstrated through this evaluation is that their service provision has not streamlined the referral of household members to facilities. While referrals are being made, these are not executed in a manner that improves the efficiency of referrals. By improving the simplicity, ease and speed of referrals, WBPHCOTs have the opportunity to engender greater trust between these teams and the populations they service.

#### **Box 5: Factors influencing the effectiveness of CHWs**

There are several factors that present challenges for CHW programmes, and the challenges experienced by CHWs are the same between low- and middle-income countries. In fact, the following factors were identified within the WBPHCOT stream: sub-standard training, poor governance, unsatisfactory support and supervision, insufficient coverage and distribution, inadequate linkages with facilities, inconsistent remuneration, and a lack of targets for coverage or quality.

Adequate training and support is critical to minimise knowledge gaps and to ensure CHWs provide good quality of care. Reviews of national CHW programmes in the 1980s and 1990s concluded that a lack of ongoing training and supervision as well as poor logistical and financial support were the causes of poor quality of care delivered by CHWs.

*Source: Genesis Analytics (2018)*

### **WBPHCOTs Recommendation 4**

Referrals from WBPHCOTs should be prioritised by the facility. This could be done through the implementation of a strong management system as suggested by the Free State province. Teams should be empowered to facilitate a simple, easy and speedy referral process by setting up “priority status” appointments at facilities on behalf of the identified patients. The WBPHCOTs should also be alerted via a referral process to conduct home-based visits to follow up on patients who have visited the facility.

WBPHCOTs are also uniquely positioned to play an important strategic and tactical role in the health information systems aligned to the WHO Building Block referring to health information systems. While this is not currently within the scope of their role, the tools that they use can easily be adapted to generate valuable information. It can then be explored how this information could be integrated into the district and provincial health information system. Planning within the health systems can



benefit from more regular and more disaggregated data. Therefore:

#### **WBPHCOTs Recommendation 5**

WBPHCOTs should be utilised as data collectors to obtain data on population health and across interventions in order to better understand the population and their priority health needs. Electronic systems should allow for WBPHCOTs to report on household data.

However, the accumulation of data is meaningless without ensuring that this data is aligned with agreed milestones and targets (as per the conditional grants) in order for newly generated data to be considered as meaningful evidence for decision-making. For example, indicators such as OHH visit rates are currently not integrated into the DHIS, but WBPHCOTs could conceivably feed this data into the system. This could provide a means of generating wellness status profiles at household level within each WBPHCOT catchment area. These wellness status profiles could then be aggregated to inform service provision. Given the frequency of WBPHCOTs' visits to households, it is likely that this data could be updated more regularly. The availability of this data would enable a more responsive health system that caters to the specific health needs of district populations.

## **17.2. INTEGRATED SCHOOL HEALTH PROGRAMME**

From the literature review and primary data, it is evident that programmes that are unable to provide on-site services are unlikely to generate improvements in health outcomes. If a child is screened and it is indicated that

#### **Box 6: Does vision screening make a difference? Evidence from a recent Cochrane Review**

A recent Cochrane Review, which included studies from China, India and Tanzania, was conducted to determine whether the vision screening of school-age children and adolescents reduced the number of children who needed spectacles but do not have any or were wearing the wrong prescription. The original studies compared vision screening with the provision of free spectacles versus vision screening with no provision of free spectacles (prescription only), among other treatments. The findings of this review provided high-certainty evidence that vision screening with the provision of free spectacles resulted in a higher proportion of children wearing spectacles than if vision screening is accompanied by the provision of a prescription only (risk ratio, 1.60; 95% confidence interval, 1.34 to 1.90; 1092 participants).

*Source: Evans, Morjaria, & Powell, 2018*

they need spectacles, a more considered system of linking the child to care will improve the likelihood of spectacles being provided. If it is expected that the child's family will seek further care on their own initiative, it is more likely that they will attrition out of the system. The success of this intervention is dependent on the implementation of strong management systems for referrals.<sup>3</sup> Therefore:

#### **ISHP Recommendation 1**

For primary schools, screening programmes need to have a close link to services that are ideally delivered on site, or referrals should be standardised and include effective feedback mechanisms.

Like other interventions, the ISHP should be based on the needs of the population they serve, in this case, the needs of the school-going population. The provision of services should be age-linked. For example, it may be more appropriate to provide vision and hearing services for younger learners in primary schools but introduce sexual and reproductive health services in secondary schools.

<sup>3</sup> The Free State Department of Health mentioned this specific dependency, which is crucial for the successful implementation of strong management systems for referrals.

### ISHP Recommendation 2

The services provided through the ISHP should be tailored to the health needs of particular age groups within the school-going population and take into account cultural and demographic considerations. For high schools, the priority should be on sexual and reproductive health services where nurses are referring to care.

Further:

### ISHP Recommendation 3

Transport and equipment (both capex and maintenance) should be adequately budgeted for.

## 17.3. GENERAL PRACTITIONER CONTRACTING

GP contracting was indicated by the evaluation findings to be an expensive model. An additional cost item pertained to doctors claiming for kilometres travelled to facilities and the hours they work, as mentioned by the Mpumalanga province. As a result, the evaluation participants cited challenges to sustaining the current contracting mechanisms. While the intentions of the intervention are well-founded, without ensuring the

### Box 7: Effects of poor communication on contracted doctors

A case study from the OR Tambo district in the Eastern Cape of South Africa found that private doctors had the capacity to deliver quality care to public patients. However, low uptake of the national contract related mostly to a lack of effective communication and consultation between private doctors and national government, which created mistrust and apprehension.

*Sources: Hongoro, 2015*

budgetary capacity to implement the model, its potential cannot be realised. Therefore:

### GP Contracting Recommendation 1

The contracting of GPs needs to shift from contracting GPs to work sessions at public sector facilities to contracting GPs to work in their own facilities but seeing all patients and being reimbursed by the state. This could be implemented using the capitation model, which has been supported by provinces<sup>4</sup> or via other outcomes-based reimbursement schemes. Ideally, fee-for-service payment models should not be used for this intervention.

Further, the evaluation found that it proved difficult to manage the performance of GPs and to ensure that their services within districts justified the costs of their remuneration. The management of GPs will need to be guided by clear management plans<sup>5</sup> that are put into effect in the contracting stages.

Therefore:

### GP Contracting (and the Contracting of Other HCPs) Recommendation 2

HCP contracts need to be carefully monitored and processes should be put in place for regular supervision and oversight. For example, there should be regular auditing to ensure there is no fraudulent activity. There should also be clear performance indicators, as mentioned by the Eastern Cape province.

<sup>4</sup>This feedback was provided by the Eastern Cape Department of Health.

<sup>5</sup> The Free State Department of Health mentioned this specific need in order to enable effective contracting.

**Box 8: Factors influencing the effective implementation of specialist contracting**

A study on contracting specialists for emergency medical obstetric care in India found that contracting-in was useful for non-emergency conditions such as elective caesareans but not for emergency obstetrics. A number of barriers to the effective implementation of contracting-in with obstetric specialists were cited:

- Poor infrastructure required for emergency obstetric care meant that there was limited availability of blood storage facilities.
- Long distances and difficult terrain with poor access to private specialists were some of the issues cited.
- Government-employed specialists reported unsatisfactory financial provision for their services. This speaks to the importance of determining a contracting fee that does not disincentivise practitioners from working within the public sector but is still attractive enough to draw private practitioners in.

*Source: Randive, Chaturvedi, & Mistry, 2012*

Finally:

**GP Contracting (and the Contracting of Other HCPs) Recommendation 3**

Salaries should be benchmarked and consistent so as not to shift resources and to ensure the sustainability of the intervention.

## 17.4. IDEAL CLINIC REALISATION AND MAINTENANCE

ICRM is an intervention with excellent intentions. However, according to evaluation participants, the ultimate vision of the ICRM was diminished by over-bureaucratisation and inflexible guidelines that were unsuitable to local social and economic realities. The evaluation participants also indicated that the ICRM standards can undermine economy and cost-effectiveness when they are not adjusted to suit facility-specific conditions. Specifically, it was mentioned that the ICRM and OHSC assessments appeared to duplicate each other and created a burden on HCPs<sup>6</sup> because of their frequent implementation at facilities. Further frustrations were caused because funding created barriers to ensuring ideal clinic status was continuously maintained, as mentioned by the Mpumalanga province. Thus:

**ICRM Recommendation 1**

There should be a limited set of core ICRM standards for all facilities. A flexible set of standards based on the conditions and needs at specific facilities.

Further, some evaluation participants within districts and facilities indicated that certain requirements were impossible to meet due to procurement mechanisms at facility level. This hampered the successful attainment of the ICRM standards. Therefore:

**ICRM Recommendation 2**

Simplify the procurement mechanisms at a facility level, especially for routine maintenance through delegations.

Finally, this evaluation found that the ICRM standards changed just as districts and facilities began processes to comply with the original ICRM standards. According to the evaluation participants, these changes created policy uncertainty, resulting in demotivation to comply. This limited the seriousness and commitment facilities

<sup>6</sup> This perspective was shared by the Mpumalanga Department of Health.

showed towards implementing ICRM reforms. Because a programme of HSS does require a degree of flexibility to enable responsiveness, it is understood that changes to standards can be expected and, under certain circumstances, is desirable. However, this must be balanced with maintaining policy certainty and working within existing budget cycles. Therefore:

### **ICRM Recommendation 3**

ICRM standards should be set for a two-year period and reviewed in that timeframe or longer. For example, the Free State province suggested that this be a three-year period.

## **17.5. DISTRICT CLINICAL SPECIALIST TEAMS**

The evaluation findings demonstrate that the implementation of the DCSTs was not uniform across the NHI pilot districts, and in some instances, the teams were carrying out clinical work rather than serving the intended role of capacity building. Therefore, the implementation of the DCSTs in NHI Phase 1 serves as a good example of the importance of maintaining the NHI vision across all levels of government and ensuring the strong and effective communication of plans throughout the system.

It is also a good example of provinces and districts adjusting a plan based on their capacity needs. Accordingly, it serves as a reminder of the importance of bottom-up planning such that the intended functions of the DCSTs are responsive to local contexts. It is further recognised that the Minister of Health has championed the DCSTs, and this has generated buy-in, at least within the NDoH and provincial departments.

This evaluation determined that the DCSTs have largely been successful; however:

### **DCST Recommendation 1**

The DCST model should be reviewed via a cost-effectiveness analysis to determine if it is the most cost-effective and highest impact method for improving clinical governance and the quality of services and whether or not the model is appropriate for implementation in different settings.

The DCSTs received a mixed reception in some districts. This is primarily related to the DCST composition not reflecting the correct skills to undertake capacity building and training activities. This could have been mitigated by training or mentorship.<sup>7</sup> Additionally, task-shifting could be employed as a strategy to foster the optimal use of scarce resources, as mentioned by the KwaZulu-Natal Department of Health. Therefore:

### **DCST Recommendation 2**

The role of the DCSTs should be clearly defined, and there needs to be clear communication that the primary role of the DCSTs is to improve the quality of care at PHC facilities rather than to provide services.

Finally, there is a need for awareness of unanticipated results in the future implementation of the DCSTs. For example, this evaluation found that payment disparities resulted in an expensive model that pulled specialist resources out of secondary and tertiary facilities. Thus:

### **DCST Recommendation 3**

Salaries should be benchmarked and consistent with those of specialist services in the rest of the public service sector.

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<sup>7</sup> Free State Department of Health

## 17.6. CENTRALISED CHRONIC MEDICINE DISPENSING AND DISTRIBUTION

Overall, evaluation participants viewed CCMDD as a successful intervention. However, one factor was described by all stakeholders as having affected implementation: the change of service providers appointed to implement CCMDD. Transfer from one service provider to another requires careful management to ensure the proper handover of databases, standard practices and institutional knowledge. Unfortunately, the evaluation participants indicated that this was not the case. There is therefore a need for policies and guidelines to inform the process for changing service providers. This will be a vital component of sustainability for NHI Phase 2.

### CCMDD Recommendation 1

There needs to be a planned transition of service providers if and when there is a change in service providers.

One specific issue negatively affected the success of CCMDD. During the transfer from one service provider to another, the list of patients was not shared by the original provider with the incumbent. In fact, it was recommended that the incumbent create a new list since issues had been encountered with the first list. While this strategy was appropriate for ensuring that implementation challenges were not encountered, adhering and valid patients faced delays in obtaining medicines. Therefore:

### Box 9: Factors that influence contracting relationships with private providers

The literature suggests that important factors in the relationship between contracting parties are the degree of flexibility and cooperation rather than the specifics of the contract document. It has further been concluded that appropriate incentives, not necessarily financial, for both the purchaser and the provider should be considered when negotiating contracts.

*Sources: Palmer, 2000*

### CCMDD Recommendation 2

Systems must be in place to ensure coordination between CCMDD PUPs and facilities to ensure that no patients are lost to care. Furthermore, PUPs should be stationed at clinics in remote/rural areas where service providers are unable to provide standalone PUPs.<sup>8</sup>

Finally, CCMDD demonstrates good potential for scaling up. Therefore, as the system expands, thoughts should turn to how best to maintain the current levels of success. In particular:

### CCMDD Recommendation 3

As the system grows, it will require additional oversight and management support, and all provinces should have a transition plan in place.<sup>9</sup>

## 17.7. HEALTH PATIENT REGISTRATION SYSTEM

The HPRS intervention has been successful in moving facilities onto the system, but unequal implementation has created frustration as the system is yet to be implemented successfully in all facilities. Healthcare IT

<sup>8</sup> This requirement was suggested by the Eastern Cape Department of Health.

<sup>9</sup> The importance of managing such transitions was highlighted by the Free State Department of Health.

connectivity helps bridge fragmentation to provide better integration.<sup>10</sup> It is also important that once the system has been implemented in a facility, it can be sustained. Thus:

#### **HPRS Recommendation 1**

The programme requires holistic budgeting for hardware, software, connectivity and staffing to ensure it can be expanded to the electronic medical records (EMR) stage across all health facilities, as mentioned by the KwaZulu-Natal Province Department of Health.

The HPRS system benefited from a small implementing team and a dedicated programme champion. This enabled the team to seek creative solutions to work within existing regulatory and bureaucratic frameworks. This factor was key to the success of the HPRS. Importantly, this manner of adapting the HPRS implementation to suit the context is a lesson that should be applied to other interventions.

Despite this commendable and creative way of working, it is also true that the team operated in a siloed manner, which meant that implementation at facility level was challenging given that the intervention was spearheaded at the NDoH. Small teams need to be cautious that the future vision and purpose of the intervention is effectively communicated from the top down and that communications reach facilities timeously. It is therefore worth considering how a small team might achieve the degree of sustainability and scalability required for NHI Phase 2. Therefore:

#### **HPRS Recommendation 2**

Capacity building and mentoring of new team members is recommended as the programme needs to have continuity beyond a single champion.

The HPRS has enjoyed good success and resulted in a tangible change in the way information is managed at facilities. This was supported by the thorough training of the system implementers. The next phase of the HPRS should include the generation of medical records associated with each patient profile, so that the system can be used for value-generating activities (for example, tracking patients' facility visits to assess frequency and reasons for visits).

#### **HPRS Recommendation 3**

Once the next phase of the HPRS commences, the duplication of processes (paper-based and online registration) needs to be avoided through robust system architecture.

Great utility can be achieved through the HPRS as it is aligned with the vision for NHI and the improvement of health information systems (in terms of the WHO building blocks). Deepening and scaling up this intervention should therefore be prioritised. The next phase will require ensuring the interoperability of all the IT systems.

#### **HPRS Recommendation 4**

Expertise needs to be sourced to strengthen the interoperability of the various NHI IT systems (as supported by the findings of the KwaZulu-Natal Department of Health pilot report), including the HPRS.

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<sup>10</sup> This insight was shared by the Gauteng Department of Health.

## 17.8. STOCK VISIBILITY SYSTEM

The findings of this evaluation demonstrate that this intervention has been successful in decreasing stock-outs nationally. However, in certain locations, this success has been limited by access to updated information. Therefore:

### SVS Recommendation 1

District officials need to ensure that facility managers and staff understand the importance of regularly updating information on the system. This requires the presence of pharmacists and pharmacy assistants at facilities.<sup>11</sup> They should also be continuously trained so that they fully understand and have the ability to use the system.

While successful, this intervention has relied heavily on donor funding, which creates concern around its sustainability and scalability to other facilities should only government funding be available. Thus:

### SVS Recommendation 2

Planning needs to take place to ensure sufficient domestic funding is available to maintain the current success of the SVS into the future.

This intervention's success is largely impacted by the availability of adequate internet connectivity and hardware; therefore:

### SVS Recommendation 3

Funding needs to be allocated for software, hardware, connectivity and staffing to ensure the efficient continuity of the SVS at all PHC facilities throughout the country.<sup>12</sup>

Finally, to ensure the success of this intervention:

### SVS Recommendation 4

There needs to be a focus on stock control management in the future so as to enable more dynamic stock management. This should include warnings for low stocks and better forecasting for the medicines required at facilities.

## 17.9. INFRASTRUCTURE

Infrastructure is a critical component of a well-functioning PHC system. Indeed, infrastructure affects the success of all other interventions. Its importance can therefore not be overstated. Long-term planning related to infrastructure is critical; however, too often, investments in new infrastructure are made with little thought to its maintenance. Therefore:

### Infrastructure Recommendation 1

Differentiate funding for maintenance and funding for infrastructure development. Funding mechanisms also need to be put in place for both these activities. This may precipitate the need for multiple funding sources.<sup>13</sup>

<sup>11</sup> This requirement was specifically mentioned by the Mpumalanga Department of Health.

<sup>12</sup> The Northern Cape Department of Health highlighted the national scope of this recommendation.

<sup>13</sup> The Gauteng Department of Health suggested the implication of this recommendation.

Further, a fundamental issue with infrastructure can be ameliorated through the following recommendation:

#### **Infrastructure Recommendation 2**

District and facility managers need capacity building around planning for the procurement and maintenance of infrastructure.

## **17.10. WORKLOAD INDICATORS FOR STAFFING NEEDS**

While WISN has only shown limited success, it is commendable that it is aligned with the global standard and is an internationally recognised system. This evaluation found that the success of WISN was limited, in particular, because funding for human resources was reduced just as WISN was launched. The value of this important system therefore remains to be seen. The intention of WISN is clearly aligned with NHI given the importance of information systems to understand how and where staffing allocation decisions need to be made. Despite these positive findings, this evaluation also determined that there is a need to ensure that WISN is context-specific. This is supported by the Gauteng Department of Health, which identified that more work needs to be done to contextualise WISN norms to the local South African setting.

#### **WISN Recommendation 1**

Any assessment of staffing norms should take place within the broader context of a review of workloads (e.g. the number of patients seen per day)<sup>14</sup> and the performance management of staff.

WISN could become a key tool within NHI; however, it requires that the governance structures and accountability considerations described in previous recommendations be enacted. Therefore:

#### **WISN Recommendation 2**

Communication between relevant stakeholders (National Treasury) should take place before an assessment of staffing norms is conducted.

Finally, to ensure the success, sustainability and scalability of the NHI interventions:

#### **WISN Recommendation 3**

There should be a holistic assessment of human resources, of which staffing is just one component.

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<sup>14</sup> This example was provided by the Gauteng Department of Health.



# APPENDIX

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## APPENDIX 1: APPROACH AND METHODS

### EVALUATION AIMS, OBJECTIVES AND QUESTIONS

The overall aim of this evaluation was to evaluate the inputs invested, outputs made and intermediate outcomes of the service delivery improvement and interventions that were implemented as part of NHI Phase 1 pilot districts. Additionally, the evaluation aimed to make recommendations to inform the implementation of Phase 2 of NHI. The specific objectives of the evaluation were:

- To evaluate the progress made during NHI Phase 1 against the objectives and targets set for the NHI initiative
- To identify the NHI Phase 1 interventions (or aspects thereof) that are working and to analyse the factors that promoted their successful implementation
- To identify the NHI Phase 1 interventions (or aspects thereof) that are not working and to analyse the factors (causal links/relationships) that have been barriers to successful implementation, as well as to identify any possible unintended consequences of the implementation of the NHI Phase 1 interventions
- To assess the effect(s) of the interventions on service delivery in the pilot districts
- To identify best practices in the implementation of NHI Phase 1
- To assess the required coordination and collaboration mechanisms that should have been put in place to enhance coherence in the implementation of the identified interventions
- To assess sustainability measures that could facilitate the phased implementation of NHI, with a particular focus on NHI Phase 2
- To describe what would be required to scale up successful interventions in NHI Phase 2
- To make recommendations that are actionable, realistic and feasible to implement

Part of the evaluation included undertaking:

- A systematic review of the reviews/assessments/evaluations that had been conducted in the NHI pilot districts
- A comparative literature review of the evaluation of NHI implementation between South Africa and other developing countries

## Levels of enquiry

The Genesis Consortium developed a set of evaluation questions that aimed to achieve the evaluation objectives. The evaluation questions are distinguishable across three levels of enquiry, namely, overarching, cross-cutting and intervention-specific.

- **Overarching questions:** This was a set of questions that applied to the entire implementation of NHI Phase 1 focusing on HSS at the broadest level. These questions sought to understand the overarching drivers of success and key challenges experienced during NHI Phase 1 implementation (the “what”), what the key reasons for success and failure have been (the “why”) and what the implications of these lessons are for the NDoH and provincial departments of health for NHI Phase 2 implementation (the “now what”).
- **Cross-cutting questions:** This was a set of common questions that applied to multiple NHI Phase 1 interventions. These questions focused on common issues such as human and financial resources, alignment across district, provincial and national levels and intended and unintended consequences. The purpose of these questions was to unpack the implementation and impact of the interventions.
- **Intervention-specific questions:** This set of questions probed specific aspects of particular NHI Phase 1 interventions. The purpose of these questions was to understand the more granular details of each intervention.

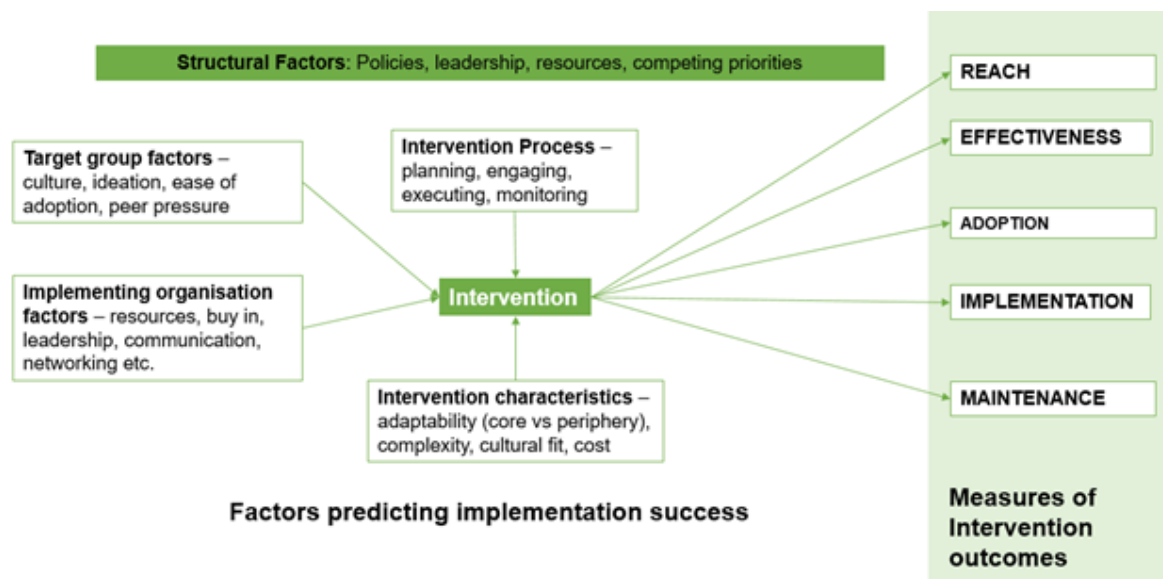
The full list of evaluation questions according to their level of enquiry can be found in Annexure 8.

## EVALUATION FRAMEWORK

### Identifying factors that affect implementation success

Damschroder et al. (2009) described how an implementation science framework can be applied specifically to health systems in order to understand why and how health system interventions are implemented. The evaluation team adapted this framework to also include five key measures of intervention success, namely, reach, effectiveness, adoption, implementation and maintenance, as seen in Figure 59 (Damschroder, et al., 2009). The framework highlights the important factors, such as intervention characteristics and processes, target groups and the environmental context, which are all important when considering whether an intervention has been successfully implemented or not. The evaluation questions were categorised according to these measures. In this way, the evaluation team was able to ensure that there was interrogation of all the factors that relate to implementation success.

Figure 59: Factors predicting implementation success



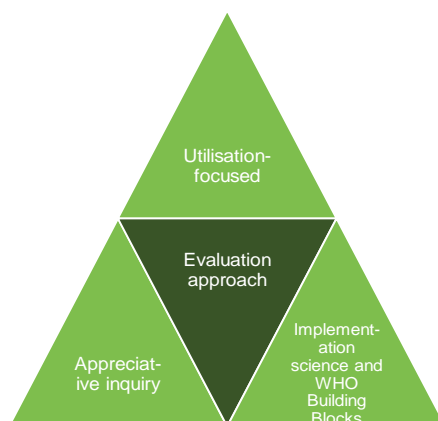
Source: Damschroder et al. (2009)

## EVALUATION APPROACH

### Evaluation principles

The evaluation approach used for this evaluation consisted of three components. These are depicted in Figure 60 and described in more detail below.

Figure 60: Evaluation principles



Source: Genesis Consortium proposal submitted for the Tender NDOH10/2016-2017

- Principles of utilisation-focused evaluation:** A utilisation-focused evaluation is one that engages with the intended users of the evaluation at the outset, thereby ensuring that the evaluation addresses what is important and increases the probability that the evaluation findings will be relevant and appropriate (Ramirez & Brodhead, 2013). The tools used in this evaluation were developed through a consultative process with the Genesis Consortium and the NDoH, consortium members and the TAC. Part of the inception phase of this evaluation included discussions with the Chief Operating Officer and DDGs of the NDoH. These discussions were used to access “what matters” to each member and to obtain their

nuanced insights into the NHI programme. These discussions were used to inform the evaluation and protocol in terms of questions and interventions to be included in the evaluation.

- **Principles of appreciative inquiry:** The evaluation tools employed the principle of appreciative inquiry, which is based on an appreciative framework. In other words, the first questions asked did not focus on what has failed, but rather on stories of best practices, on positive moments, on the greatest learnings, on successful processes and on generative partnerships (Coghlan, Preskill, & Catsambas, 2003). This enabled the evaluation to assess the success of the NHI Phase 1 interventions and to create images of a future built on those positive experiences. The evaluation teams were also trained on how to conduct interviews and discussions in a way that promoted positive engagement in order to gain the most useful insights for the sustainability and scalability of the NHI programme.
- **Elements of implementation science and the WHO building blocks of health systems:** The evaluation framework was also developed with the guiding principles of an implementation science framework in mind. An implementation science approach was used to supplement the WHO building blocks to understand why and how changes are implemented in a health system. In doing so, the evaluation was framed according to the core components that contribute to the strengthening of health systems in terms of improving access to health coverage and quality of healthcare (World Health Organization, 2007). The WHO building blocks comprise six elements that are crucial for HSS, namely, (1) service delivery, (2) health information systems, (3) financing, (4) health workforce, (5) access to essential medicines and (6) leadership/governance. When appropriate, the WHO building blocks were incorporated into the evaluation case studies so as to highlight the importance of this framework to the NHI Phase 1 interventions.

## EVALUATION METHODS

This evaluation made use of mixed methods to assess the NHI Phase 1 pilot districts and interventions. The combined qualitative and quantitative approaches help achieved the evaluation aims and objectives. In general, qualitative methods were used to understand why interventions succeeded and what impeded the success of other interventions. Quantitative methods were used to show the extent to which the interventions made a difference to the health system according to the health indicator outcomes.

The following sections describe the process implemented to complete this evaluation: obtaining ethics approval, sampling and selecting sites, developing data collection tools, collecting data, managing and quality-assuring data, and analysing and synthesising data.

### Ethics approval

National ethics approval was obtained from the University of the Witwatersrand's Human Research Ethics Committee (non-medical). The evaluation team also obtained provincial access approval through the NHRD. Certificates for national research ethics approval and for provincial access approval are provided in Appendices 5–6.

A study protocol was developed for both national and provincial levels, which captured all the details pertaining to the evaluation aims and objectives, methods, data collection, data management and analysis, and reporting. Using the research protocol, the evaluation team first applied for national research approval. Conditional approval was granted on 20 April 2018 on the basis that the evaluation teams obtained letters of permission to enter the different healthcare facilities (protocol number: H18/04/06). Using this conditional national approval, the evaluation team was then able to apply for provincial access approvals. The provinces each had various

procedures, which were followed as required. Once each province granted access approval, the evaluation team was able to enter the provinces and obtain permission letters from facility managers to undertake the evaluation at their facilities. The letters were submitted to the HREC, retrospectively. Full national ethics approval was granted on 21 July 2018.

## Description of sample and site selection

The evaluation team used carefully selected sampling approaches to sample at different levels. The first step in the approach was the sampling of facilities from the 10 pilot districts. Following this, the evaluation team identified a sample of representatives for the interviews and surveys (national, provincial, district and facility level), as per Table 13.

### Selection of facilities

#### Selection of facilities for in-person visits

The central component of the fieldwork was a series of facility visits. The facility visits were used to obtain qualitative (interview) and quantitative (survey) data through engagements with patients and staff involved in the implementation of the NHI interventions. Stratified random sampling was used to select facilities within the 10 districts.

**Study population:** All PHC clinics and CHCs in the 10 pilot districts

**Sample size:** Four PHC clinics/CHCs per district (40 facilities in total)

**Type of sampling:** Stratified random sampling

**Methodology:** The NDoH supplied the evaluation team with a list of all the facilities in the 10 NHI pilot districts. The list stratified the facilities according to area (urban, peri-urban or rural) and according to facility type (PHC facility or CHC). The first step in sampling was to identify appropriate sub-districts. It was noted that eight sub-districts had less than four facilities, which was below the required sample. For this reason, these sub-districts were excluded from the sample. Thereafter, two sub-districts were purposively sampled for each district. These sub-districts were sampled to represent an urban–rural split (as far as possible). Sampling was also based on their proximity to one another.

Since an aim of the evaluation was to generate lessons for Phase 2, it was important not to rely solely on purposive sampling so as to ensure that the sites were not only those that presented “best” practice. Thereafter, one CHC and three PHCs were randomly selected across the two sub-districts. Due to the small number of CHCs in a sub-district, options were sometimes limited to a single facility, which was used in the final sample. In the case of Thabo Mofutsanyana, there was no CHC in the district. PHCs were randomly selected using random number generation in Microsoft Excel. Random sampling ensured that the team was not directed to only the “best” facilities. The total sample of 40 facilities can be found in Annexure 9.

#### Selection of facilities for telephonic interviews

Another 100 facilities were sampled in order to collect quantitative data through telephonic interviews with facility managers.

**Study population:** All PHC clinics and CHCs in the 10 pilot districts

**Sample size:** 100 PHC clinics/CHCs across the 10 districts (10 facilities per district)

**Type of sampling:** Convenience sampling

**Methodology:** An additional 100 facilities were included in the study for telephonic interviews. The NDoH supplied the evaluation team with a database of facilities in the pilot districts. From the list, the facilities that had already been selected for in-person visits were removed. Facilities were then randomly selected by applying a random number generator in Microsoft Excel. However, due to high non-response rates using random sampling, non-responses were substituted. It was agreed that telephonic interviews would continue until at least 60% of the final sample was achieved (i.e. 60 facilities were sampled).

## Strategy for identifying participants for the interviews

The evaluation population included key representatives at national, provincial, district and facility level. Table 13 below describes the evaluation population at these levels. The sections that follow describe how the evaluation team identified these representatives for participation in interviews.

**Table 13: Evaluation population at different levels**

Level	Evaluation population
<b>National</b>	DDGs DoH programme managers Government stakeholders
<b>Provincial</b>	Provincial HoDs DHS programme managers NHI coordinators
<b>District</b>	DHMTs DMs DCST members
<b>Facility</b>	Facility managers Pharmacists Clerks WBPHCOTs GPs Clinic committee members ISHP nurses Patients

Notes: CHC, community health centre; DDG, Deputy Director General; DCST, District clinical specialist team; DHMT, District Health Management Teams; DHS, District Health Services; DM, District Manager; DOH, Department of Health; GP, general practitioner; HoD, Head of Department; ISHP, Integrated School Health Programme; NHI, National Health Insurance; WBPHCOTs, Work-based Primary Healthcare Outreach Teams

### National informants

**Study population:** DDGs, DoH programme managers and other government stakeholders

**Type of sampling:** Purposive sampling

**Methodology:** These stakeholders were identified in consultation with the NDoH. The evaluation team was supplied with a list of roles and designations of key stakeholder groups for interviews. The NDoH selected these

representatives as they were key role players in the implementation of the NHI programme. The final number of national stakeholder interviews was then dependent on the willingness and availability of the identified stakeholders to participate.

### Provincial informants

**Study population:** Provincial representatives, DHS programme managers and NHI coordinators

**Type of sampling:** Purposive sampling

**Methodology:** These stakeholders were identified in consultation with the NDoH. It was agreed that personnel in roles related to the NHI programme would be selected for provincial-level interviews. The number of provincial stakeholder interviews was dependent on the willingness and availability of the identified provincial stakeholders to participate.

### District informants

**Sample population:** DHMT, district managers and DCSTs

**Type of sampling:** Purposive sampling

**Methodology:** Similarly, to the national and provincial interviewees, these stakeholders were identified in consultation with the NDoH. Stakeholders were selected according to their roles related to the NHI programme. Again, the final sample was based on the willingness and availability of the identified district stakeholders to participate.

### Facility informants

**Sample population:** Intervention-specific stakeholders (pharmacists, clerks, GPs, ISHP nurses and WBPHCOTs), clinic committee members and 40 PHC/CHC facility managers

**Types of sampling:** Purposive sampling

**Methodology:** The 40 PHC/CHC facility managers were those who managed the selected facilities. In addition, the evaluation teams conducted interviews with pharmacists, clerks, GPs, ISHP nurses, clinic committee members and WBPHCOTs at the facilities. For the intervention-specific stakeholders (pharmacists, clerks, GPs, ISHP nurses and WBPHCOTs) and clinic committee members, interviews were held with those who were available and willing to participate. When a facility manager was not available, interviews were undertaken with the acting facility manager or operations manager instead.

## Strategy for identifying patients for the quantitative survey

At the PHC/CHC healthcare facilities, patients were surveyed on their experiences of accessing care. Using a quantitative survey, insights were gained into the views and opinions of patients regarding the quality of care, overall service offering and improvement in basic services. Since the purpose of the facility user survey was to gauge patients' perceptions of changes in the quality of care over time, it was important to select patients who were likely to have experienced care at that facility over the previous three years.

**Study population:** All patients visiting the PHC clinics and CHCs on the day of the evaluation team visits and who had made regular use of that facility over the previous three years

**Sample size:** Five patients per facility, 20 per district, 200 in total

**Type of sampling:** Systematic random sampling

**Methodology:** The intention was to select patients awaiting assistance in queues at the facilities. Based on the number of people in the queue, the team would sample every nth patient, where n would be obtained by dividing the number of people in the queue by five, in order to sample five patients per facility. However, during the piloting, it was evident that patients had reservations regarding participation in a survey with “outsiders”. The facility managers then introduced the fieldworkers to the patients. These patients would only be interviewed once their informed consent had been obtained.

The evaluation team anticipated lower response rates at certain facilities and so preempted this by oversampling at other facilities where patients were eager to participate. These patients were included in the final sample of patients, which eventually exceeded the expected 200 patients.

## EVALUATION TOOLS

The evaluation made use of the five evaluation tools listed below:

- NHI Rapid Assessment review and comparative literature review outlines
- Qualitative key informant interview (KII) guides
- A quantitative facility manager survey questionnaire
- A quantitative facility user survey questionnaire
- Routine and outcomes data dashboards

Two review outlines were developed for the review of the NHI Rapid Assessments that had been conducted in the NHI pilot districts since 2012 and for the review of comparative literature of South Africa and other developing countries. The information gathered from these reviews was used to inform the evaluation throughout.

The qualitative and quantitative data collection tools were derived from the evaluation framework to ensure that the data collected was meaningful and not transitional. The evaluation framework, in turn, was developed from the evaluation aims, objectives and questions. This guaranteed that the evaluation tools were made to answer the questions and achieve the evaluation aims and objectives. The data collection tools included qualitative interview guides and quantitative survey questionnaires and dashboards.

All the qualitative and quantitative data collection tools were pretested as described in the section “Pretesting of tools”. Language considerations were accounted for. Information sheets and consent forms were translated into five languages (Afrikaans, Sesotho, Setswana, isiXhosa and isiZulu), and evaluators were selected with language preferences in mind.

### Qualitative interview guides

The evaluation team developed five qualitative interview guides, which were customisable according to the participants’ expertise and familiarity with the 12 NHI Phase 1 interventions. The four interview guides included:

- 1) A national-level interview guide (Annexure 4)
- 2) A provincial/district-level interview guide (Annexure 4)



- 3) An intervention staff interview guide (Annexure 4)
- 4) A clinic committee interview guide (Annexure 4)
- 5) A facility manager interview guide (Annexure 4)

The guides were divided into the three levels of enquiry and collected data on the following topics:

- Background information
- The factors that contributed to and hindered the success of the NHI Phase 1 pilot districts and interventions
- Possible unintended consequences of implementation during NHI Phase 1
- The lessons learned from NHI Phase 1
- The coordination and collaboration mechanisms that contributed towards the success of the implementation of the NHI Phase 1 interventions
- Governance and leadership structures and how they impacted the implementation of NHI Phase 1
- The factors that are important for intervention scale-up in Phase 2
- The factors that are important for intervention sustainability

The interview guides were semi-structured with broad questions. The guides were also customisable according to the stakeholders' roles and experience with implementing NHI Phase 1 interventions. The tools provided prompts and guidance to evaluators to ensure that questions were always relevant despite stakeholders being diverse.

## Quantitative survey questionnaires

The quantitative survey questionnaires were developed using a platform called SurveyGizmo, which is an appropriate and efficient tool for survey design and data collection. The quantitative survey questionnaires included:

- A facility manager survey questionnaire (Annexure 5)
- A facility user survey questionnaire (Annexure 6)

The facility manager questionnaire made use of close-ended questions (yes/no questions or scaled questions) designed to be delivered telephonically. The questionnaire collected quantitative data on the 12 NHI Phase 1 interventions in relation to:

- Background information
- Financial and human resources during the implementation of NHI Phase 1
- Training during the implementation of NHI Phase 1
- Communication during the implementation of NHI Phase 1

- The impact of NHI Phase 1 on improving access and quality of healthcare
- The success or challenges of the NHI Phase 1 interventions

The facility user survey questionnaire was a short quantitative tool with close-ended questions that was administered to patients at PHC facilities. This questionnaire covered the following topics:

- Demographics
- Use of healthcare facilities
- Experience of healthcare facilities

## DATA COLLECTION

The purpose of the data collection was to ensure that this evaluation gathered both qualitative and quantitative primary and secondary data and considered both international and national experience, while enabling the evaluation team to triangulate diverse findings. The use of multiple data collection methods enabled the evaluation team to gather perspectives from multiple stakeholders from national down to district level to obtain a complete picture of NHI Phase 1 implementation. In this way, the evaluation team was able to understand what had happened internally, as well as the impact on end users. The data collection also enabled the review of trends over time and between areas as quantitative data was used to assess the changes in health outcomes across the years and the pilot and non-pilot districts. The use of a mixed methods approach enabled greater rigour and the collection of more nuanced and contextualised data. This contributed to a more credible and insightful evaluation.

Secondary data collection included a review of the NHI Rapid Assessments and other NHI reports, a review of international literature, as well as the collection of health outcomes data for dashboard development. Each of these data collection processes was unique, as described below.

Quantitative and qualitative primary data collection was completed by conducting interviews and surveys at national, provincial, district and facility levels. Both in-person and telephonic methods were used to gather all the data. The evaluation teams made in-person visits to the 10 districts. Each evaluation team consisted of a senior-level evaluator who was responsible for facilitating the interviews and a mid-level evaluator who was responsible for notetaking during the interviews. All the data was collected on a digital platform called SurveyGizmo. The in-person interviews were audio-recorded on a laptop if consent was given. The telephonic interviews were conducted in Johannesburg by a mid-level evaluator. The evaluation teams were provided with training and a fieldwork protocol prior to going into the field. The primary data collection was pretested in one district before data collection continued in the other districts. A total of 463 stakeholders were interviewed during primary data collection.

### Secondary data collection

#### Review of NHI rapid assessments

The evaluation team reviewed four Status of NHI Pilot Districts Reports, the NHI Green Paper, the NHI Draft White Paper and the NHI Final White Paper. The purpose of this review was to obtain an overview of the successes and challenges of each improvement intervention according to these inputs. From the review, the evaluation team was able to identify the factors that influenced the success of the implementation of the

interventions, and these were then used to guide the data analysis. The findings from the review can be found in Annexure 10.

## **Comparative review of international literature**

A key component of this evaluation was to undertake a comparative literature review. The aim of this review was to provide evidence on the effects of selected HSS interventions and the factors facilitating or hindering their implementation in LMICs. The literature review aimed:

- To synthesise evidence on the effects of selected HSS interventions in LMICs
- To explore the factors contributing to or hindering the implementation of selected NHI initiatives in LMICs
- To gather lessons learned from other LMICs when implementing similar NHI initiatives

This review focused on interventions aimed at improving access to healthcare for school learners, increasing access to scarce HCPs, improving community outreach services to promote health and improving referrals in the health system.

In order to identify relevant literature, the evaluation team searched online databases and asked health sector experts to share relevant documentation. The evaluation team searched for literature on the implementation of the interventions mentioned above as well as their effects on access to and quality of care. The evaluation team searched for articles that investigated factors explaining the successes, challenges and lessons learned as a result of these selected interventions. In instances where there was limited literature from LMICs, literature from developed countries was included in the review, but where applicable, this has been stated explicitly.

The findings from the comparative literature review were used to triangulate the findings from the primary data collection. The evaluation team also used the comparative literature review to support the evaluation recommendations.

The draft literature review underwent various rounds of reviews by the Genesis Consortium before finally being reviewed by the TWG. The draft comparative literature review can be found in Annexure 10.

## **Primary data collection**

### **Pretesting of tools**

All the qualitative and quantitative data collection tools were pretested in one district, namely, uMzinyathi in KwaZulu-Natal.

### **Purpose of the pretesting**

The purpose of the pretest was to test the district data collection component of the evaluation. Specifically, the pilot tested two dimensions of the data collection.

The first dimension aimed to test the proposed fieldwork methods and processes, while the second dimension was undertaken to test the appropriateness, understandability and usability of the evaluation tools. The NHI evaluation fieldwork methods were specifically tailored according to the evaluation team's understanding of the fieldwork process. While similar data collection exercises have been implemented successfully by the Genesis

Consortium in the past, there are always valuable lessons to be learned by undertaking a pilot. The pretest also allowed the team to test whether five days in the field would be sufficient to collect data from the specified structures and respondents listed in the evaluation protocol and whether the evaluation tools required adjustments.

## Methods

uMzinyathi was chosen as the pretest district as the KwaZulu-Natal Provincial Health Research Committee was the first to provide approval to undertake fieldwork in the province. In addition, the office of the DDG for Macro Policy Planning and NHI in the KwaZulu-Natal DoH was highly responsive to the fieldwork needs, and the evaluation team was mobilised in time to undertake fieldwork in uMzinyathi for piloting. These factors were addressed before the commencement of the main fieldwork phase.

## Pretesting findings

The findings from the pretest are presented below:

- The envisaged five-day structure per district was confirmed to be appropriate to undertake fieldwork.
- Overall, the developed tools were found to be relevant and allowed for rich data collection.
- Language considerations were anticipated, and all the tools and interviewers were specifically allocated to districts based on their ability to communicate in the predominant language in each district.
- Service delivery protests occurred during pretesting and affected the completion of the fieldwork. In anticipation of such challenges, the fieldwork training included scenario briefs for various security alerts to ensure the safety of evaluators while the research continued.
- The success of the pretest week depended greatly on the support that the evaluation team received from officials at the national, provincial and district offices. Therefore, building rapport and good working relationships with provincial and district officials was key in ensuring a smooth and effective fieldwork process.

The findings from the pretest were used:

- To approve the proposed five-day fieldwork structure per district
- To revise and amend the fieldwork tools by making minor changes to the written instructions to fieldworkers
- To identify language considerations and align the language dynamics in each district and province
- To note logistical challenges and brief the evaluation teams on potential challenges in the field
- To address any general challenges and appeal to the national, provincial and district officials for support

These amendments were implemented prior to the commencement of the main fieldwork phase. The uMzinyathi pretest district was not revisited as it was felt that these changes were minor and did not impact the quality of the data collected. Thus, the data collected from uMzinyathi was included in the analysis. The full pretest report can be found in Annexure 7.

## Qualitative key informant interviews

### National-level interviews

A total of 27 national stakeholders were identified and contacted to participate in the KIIs. Overall, 19 interviews were completed at national level although 22 national stakeholders were interviewed as some interviews were undertaken in a group interview format. These interviews were conducted in-person at national department offices. Table 14 below provides details of the number of national stakeholders contacted, the number of national interviews completed and their representation.

**Table 14: Number of completed KIIs at national level**

National department	Number of stakeholders contacted	Number of KIIs completed
<b>NDoH</b>	<b>21</b>	<b>17</b> <b>General (6)</b> DDGs (3) NHI (1) DHS (1) Affordable Medicine (1) <b>Intervention-specific (11)</b> WISN (2) HPRS (1) CCMDD (1) GP contracting (1) ICRM (2) ISHP (1) DCSTs (3)
<b>National Treasury</b>	<b>4</b>	<b>3</b>
<b>DBE</b>	<b>1</b>	<b>1</b>
<b>DPME</b>	<b>1</b>	<b>1</b>
<b>TOTAL</b>	<b>27</b>	<b>22</b>

Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; DDG, Deputy Director General; DCST, District Clinical Specialist Team; DHS, District Health Services; DPME, Department of Planning, Monitoring and Evaluation; GP, general practitioner; HPRS, Health Patient Registration System; ICRM, Ideal Clinic Realisation and Maintenance; ISHP, Integrated School Health Programme; NDoH, National Department of Health; NHI, National Health Insurance; WISN, Workload Indicators of Staffing Need

### Provincial-level interviews

Provincial interviews were conducted at the provincial DoH offices through a series of provincial visits. The first provincial visit took place between 11 and 15 June 2018 (which served as the pretesting). The provincial visits were concluded during the week of 23–27 July 2018. The stakeholders interviewed included provincial representatives, DDGs, Chief Directors, NHI programme managers and NHI coordinators. The majority of the provincial stakeholders were interviewed in-person, but when stakeholders were unavailable on the given date, every effort was made to reschedule the interviews, which were conducted telephonically. The number of provincial interviews conducted is summarised in Table 15.

### District-level interviews

At district level, a total of 10 NHI pilot districts were visited, with the 11<sup>th</sup> retained as a case study. Fieldwork began in the uMzinyathi district in KwaZulu-Natal, and the final district was Dr Kenneth Kaunda in the North West. At a district level, interviews were conducted with the DHMTs, DHS managers and DCSTs. In some instances, interviews were held in groups with more than one representative from a district team. Table 15 below provides details on the number of stakeholders interviewed in each district.

**Table 15: Number of completed KIIs at provincial and district level**

Province	District	Number of KIIs completed	
		Provincial	District
Eastern Cape	OR Tambo	3	8
Free State	Thabo Mofutsanyana	1	1
Gauteng	City of Tshwane	1	2
KwaZulu-Natal	uMzinyathi	2	3
KwaZulu-Natal	uMgungundlovu		4
Limpopo	Vhembe	2	2
Mpumalanga	Gert Sibande	2	3
Northern Cape	Pixley ka Seme	3	2
North West	Dr Kenneth Kaunda	2	2
Western Cape	Eden	4	4
<b>TOTAL</b>		20	31
		<b>51</b>	

There may be variations between the number of provincial and district representatives due to the availability of stakeholders. Managers were interviewed individually or in group settings. The members of the DHMT in the Eastern Cape were interviewed individually, which explains the large number of district-level KIIs in the province.

### Facility-level interviews

The evaluation teams visited four PHC/CHC facilities in each district. At the PHC facilities, KIIs were conducted with PHC facility managers, intervention staff (pharmacists, clerks, GPs, ISHP nurses, WBPHCOTs) and clinic committee members.

Table 16 provides a breakdown of the number of KIIs completed with each of these stakeholder groups.

**Table 16: Number of interviews completed per stakeholder group**

Stakeholder group	Number of KIIs completed
Facility managers	40
Clinic committee members	22
Intervention staff	65
<b>TOTAL</b>	<b>127</b>

## Quantitative surveys

### Telephonic surveys with facility managers

Telephonic interviews were also conducted with PHC facility managers with a different sample of facilities across the 10 pilot districts. The target was to complete 100 surveys although an oversample of 20 was used to account for expected non-responses. Unwillingness to participate, incorrect or outdated contact details or the unavailability of participants all contributed to an unexpectedly low response rate. This was despite numerous efforts to retrieve the correct contact details, to notify facility managers of the survey through formal channels and repeated attempts to make contact with the given sample. In the end, the evaluation team settled for 60 out of 100 completed interviews. This 60% completion rate was agreed to be adequate for quantitative data collection, and the TWG approved this change to the methods. Table 17 below provides details on the target number of surveys, the actual number achieved and the percentage of surveys completed per province.

**Table 17: Number of facility manager surveys completed**

Province	Number of contacts identified	Number of interviews completed	Response rate
<b>Eastern Cape</b>	12	5	42%
<b>Free State</b>	14	5	36%
<b>Gauteng</b>	15	6	40%
<b>KwaZulu-Natal</b>	20	9	45%
<b>Limpopo</b>	11	8	73%
<b>Mpumalanga</b>	15	5	33%
<b>Northern Cape</b>	13	8	62%
<b>North West</b>	6	3	50%
<b>Western Cape</b>	14	11	79%
<b>TOTAL</b>	<b>120 (100 target)</b>	<b>60</b>	<b>60%</b>

### In-person surveys with facility users

During the district visits, the evaluation teams administered a quantitative survey to patients at facilities. Before approaching patients to participate, the evaluation team introduced themselves to the manager in charge and requested a private room or quiet space in which to administer the survey. Queueing patients asked for their place in the queue to be reserved while the team administered the survey. The teams found that, at some facilities, patients were eager to participate and so the total number of patients surveyed was 226. Notwithstanding, some facilities happened to have fewer users and so there were fewer patients to interview. Table 18 provides the sociodemographic characteristics of the patients.

**Table 18: Age and gender of the patients surveyed at facilities**

Age (years)	Gender	
	Male	Female
18 – 25	7	30
26 – 35	4	11
36 – 50	1	9
51 – 55	25	55
56 – 60	9	32
60+	4	37
<b>TOTAL</b>	<b>50</b>	<b>174</b>
<b>OVERALL TOTAL</b>	<b>226</b>	

## DATA MANAGEMENT AND QUALITY

This section outlines the data management and quality measures employed.

### General data storage and protection

The data collected during this evaluation is being housed at Genesis. The Genesis premises are access controlled so that only staff may enter and exit. Guests are escorted by Genesis staff members through the premises. To avoid any loss of data, hardcopy data was captured in soft copy at the earliest possible convenience post-fieldwork. Softcopy data is being stored on internal servers. These servers are backed up to the cloud, and backups can only be accessed with an electronic key, which is in the possession of the IT manager. The Genesis servers are firewall-protected and are only accessible to those who have been granted access to the domain. The servers are therefore restricted to Genesis staff members only.

### Qualitative data management

Prior to fieldwork, all the fieldworkers received training on the appropriate storage and management of data on a day-to-day basis while in the field, and the project manager was responsible for monitoring the effective management and storage of data on the internal servers.

All data was collected only from individuals who gave informed consent to participate in the research process, and where the data was of a sensitive nature, this data was anonymised such that all identifying information was removed.

Data was captured from the interviews on SurveyGizmo using a mobile device (laptop/tablet) and voice recordings where consent was provided. SurveyGizmo is a web-based platform, which enables easy, accurate, cost-effective and mobile survey data collection and collation. At the end of each day, the notes were checked and collated with the recordings. The transcriptions were contained within a web-enabled tracking tool, enabling efficient quality assurance processes and easy collaboration between evaluation team members. Once the data collection was complete, the interviews were downloaded and saved on the Genesis internal server for protection. The data was then analysed using Atlas.ti version 7.5.



## Quantitative data management

The facility manager surveys and PHC user surveys were administered using SurveyGizmo, and the collected data was only accessible to the Genesis staff who had access to the Genesis SurveyGizmo account. The facility manager survey was kept anonymous, while the PHC user survey was anonymous as no names were captured. Once data collection was complete, the facility manager and PHC user survey results were downloaded and saved on the Genesis internal server for protection. The data was then analysed using Microsoft Excel 2016.

The ISP for the PwC global network is aligned to the control requirements of ISO27002:2013. The member firms are expected to comply with the requirements of this policy and are audited to the requirements of the ISP by PwC Global Risk & Quality – Information Security Compliance, which is independent of the member firms.

The security practices and methods used by the PwC Global Risk & Quality Security – Information Security Compliance team have been independently audited by the BSI to ensure compatibility with and conformity to ISO/IEC 27001:2013. An annual review of these processes is conducted by BSI. ISO/IEC 27002:2013 outlines the standards for security policies, the organisation of information security, asset management, human resources security, physical and environmental security, communications and operations management, access control, information systems acquisition, development and maintenance, information security incident management, and compliance. These standards were adhered to for this evaluation.

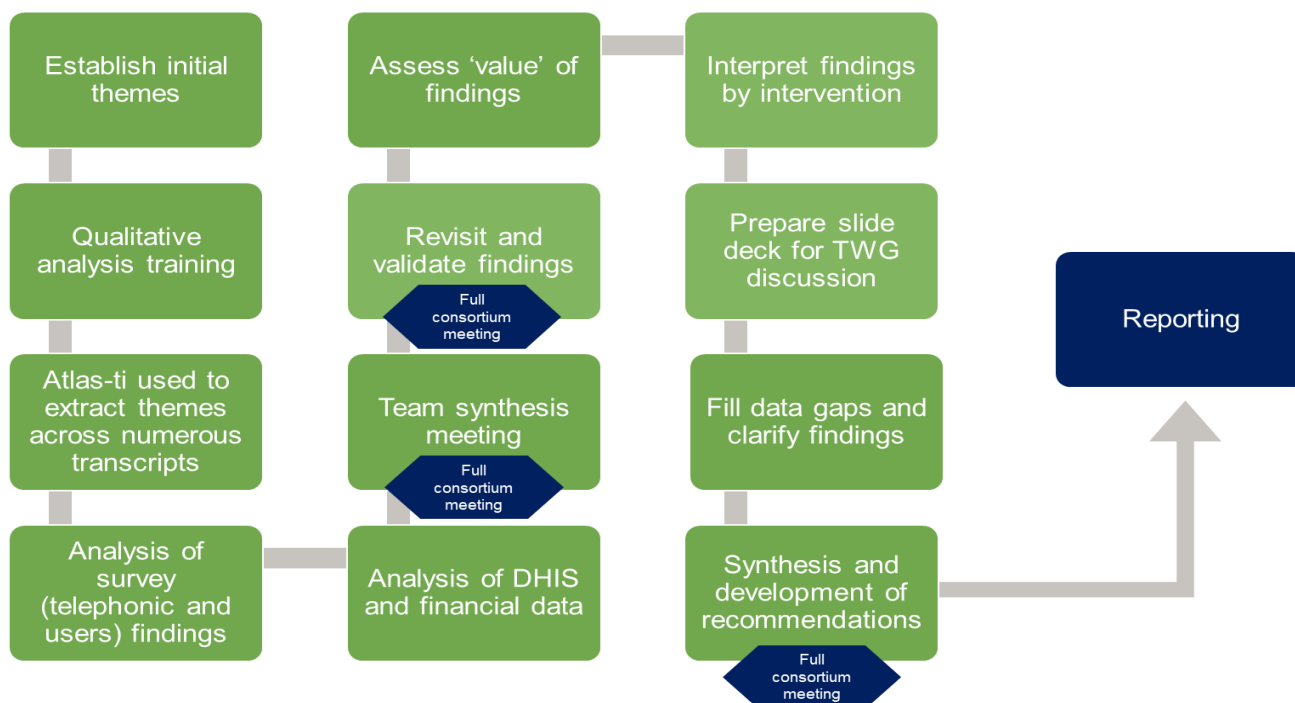
## PROCESS FOR ANALYSIS AND SYNTHESIS

This section describes the process that the evaluation team followed for the analysis and synthesis of the data (Figure 61). The steps undertaken were as follows:

1. A full consortium meeting was held to establish the initial themes that were surfacing from both the qualitative and quantitative primary data.
2. The evaluators received training on how to conduct a qualitative data analysis, which was important to drive consistency in the data analysis process.
3. The evaluators used Atlas.ti version 7.5 to extract the themes across the qualitative interview transcripts, while Microsoft Excel 2016 was used for the quantitative analysis of the facility manager and PHC user survey data sets. Tableau was used to analyse the quantitative routine and outcomes data.
4. The data was then interpreted and aligned to the objectives of the evaluation terms of reference. This involved extensive synthesis meetings with the full complement of the consortium. Some of the fieldworkers were also present in these meetings so as to provide deeper context to the findings.
5. A validation meeting was held with the consortium, which was used to interrogate common findings arising from the different data sources and to assess the value of the findings. The findings were interpreted according to overarching, cross-cutting and intervention-specific themes, as defined in *Effectiveness of NHI Phase 1*.
6. The preliminary findings were presented to the TWG, following which the evaluation team was able to refine the findings and fill any data gaps based on these discussions. For example, the routine and outcomes data were used to locate findings within the sector trends.
7. This led to the development of recommendations using all three data sources. The recommendations were again presented to the TWG and refined according to these discussions.

- The final recommendations are presented in this evaluation report under *Strategic recommendations for NHI Phase 2*.

**Figure 61: Data analysis and synthesis process**



## LIMITATIONS OF THE EVALUATION APPROACH AND METHOD

The factors discussed in this section posed limitations to this evaluation. Despite these limitations, the evaluation team is confident that the quality of the evaluation has not been adversely affected.

The evaluation was limited to the representivity of the national stakeholders included in the interviews and surveys. Despite having conducted numerous interviews and surveys with stakeholders at all levels, some stakeholders were unable or unwilling to participate in this evaluation. Attempts were made to include additional stakeholders; for example, five additional national-level stakeholders were interviewed. However, in instances where there was unequal representation of stakeholders, data may have been skewed. The evaluation team mitigated this misrepresentation by ensuring each intervention was analysed with equal consideration.

Stakeholders that had only recently been involved in NHI Phase 1 were unable to answer questions dating back to the onset of NHI Phase 1. Every effort was made to extract the most useful and pertinent information from these interviews.

A small sample bias, at some levels, presents as a limitation. For example, national-level stakeholders may represent a single position. However, by analysing the data across the different stakeholder levels and triangulating the results with the quantitative data and other reviews, the information is unbiased of a single opinion. It should be noted that, while only 60% of the sample for the facility manager interviews was reached,

the evaluation team is confident that this has not affected the quality of data at a facility level as common themes arose in the 60 interviews and were triangulated by the other data collected.

Self-reported information is often subject to recall errors or misreporting, as is the case with having to remember events from 2011. Questions asking for data over reasonable intervals of time can limit recall errors. Recall bias was also limited by the triangulation of data, particularly by linking shared experiences to the indicator trends over time.

The evaluation team also recognise that the data is based on perspectives, which can be subjective as experiences are perceived differently by individuals. The risk of subjectivity bias was alleviated by asking interviewees to provide concrete examples of their experiences. The inclusion of various stakeholders also allowed the evaluation team to understand the complete picture.

A lack of financial data also presented as a limitation to the routine and outcomes data dashboard development. The evaluation team was unable to perform a financial analysis per district. However, the team still included a financial analysis for each province.

Despite these limitations, this evaluation still achieved its overall aim and specific objectives, and it answered the evaluation questions, as demonstrated in Appendix 2.

## APPENDIX 2: ACHIEVING THE EVALUATION AIMS, OBJECTIVES AND QUESTIONS

Table 19: Evaluation aims, objectives and questions

		Primary qualitative data	Primary quantitative data	Routine and outcomes data	Secondary data
<b>Aims</b>	To evaluate the inputs invested, outputs made and intermediate outcomes of the service delivery improvement and interventions that were implemented as part of the NHI Phase 1 pilot districts.	x	x	x	x
<b>Objective 1</b>	To evaluate the progress made during NHI Phase 1 against the objectives and targets set at the outset of the NHI initiative.	x	x	x	
<b>Objective 2</b>	To identify NHI the Phase 1 interventions (or aspects thereof) that are working and to analyse the factors that promoted their successful implementation.	x	x		x

		Primary qualitative data	Primary quantitative data	Routine and outcomes data	Secondary data
<b>Objective 3</b>	To identify the NHI Phase 1 interventions that are not working and to analyse the factors that have been barriers to successful implementation, as well as possible unintended consequences of the implementation of these Phase 1 interventions.	x	x		x
<b>Objective 4</b>	To assess the effect(s) of interventions on service delivery in the pilot districts.	x	x	x	
<b>Objective 5</b>	To identify best practices in the implementation of NHI Phase 1.	x	x		
<b>Objective 6</b>	To assess the required coordination and collaboration mechanisms that should have been put in place to enhance coherence in the implementation of the identified interventions.	x	x		
<b>Objective 7</b>	To assess sustainability measures that could facilitate the phased implementation of NHI, with a particular focus on NHI Phase 2.	x	x		x

		Primary qualitative data	Primary quantitative data	Routine and outcomes data	Secondary data
<b>Objective 8</b>	To describe what would be required to scale up successful interventions in NHI Phase 2.	x	x		
<b>Objective 9</b>	To make recommendations that are actionable, realistic and feasible.	x	x	x	x
<b>Objective 10</b>	To conduct a systematic review of the reviews/assessments/evaluations that had been conducted in the NHI pilot districts.				x
<b>Objective 11</b>	To conduct a comparative literature review of the evaluation of NHI implementation between South Africa and other developing countries.				x

Notes: NHI, National Health Insurance

## APPENDIX 3: CASE STUDY TABLE

Table 20: Case studies

Case study title	Case study description
<b>1. Amajuba district</b>	Amajuba constitutes the 11 <sup>th</sup> district of the 10+1 NHI pilot districts. This case study explored how the Amajuba district implemented the NHI interventions using provincial budgetary allocations rather than national budget allocations. This case study sought to understand the possible ease of spending using provincial funds and how the province identified spending priorities as part of the NHI interventions.
<b>2. Leadership and governance</b>	This case study explored scenarios where good leadership was displayed and scenarios where good leadership was understood not to be displayed at a national, provincial and/or district level. The aim was to try to understand the importance of having champions at each level.
<b>3. Contracting models</b>	This case study investigated the strengths and weaknesses of the different contracting models explored during the implementation of NHI Phase 1. The focus was on two contracting models, namely, CCMDD and GP contracting. The aim was to better understand how external service providers can be used to fill gaps in the provision of services and how these providers can be managed effectively in order to achieve positive outcomes.
<b>4. Differing perceptions of the impact of the interventions (particularly between national and other levels)</b>	This case study explored varying perceptions of the NHI Phase 1 interventions. The preliminary data analysis indicated that, at various stakeholder levels (national, provincial, district and facility), there were varying perceptions of the extent to which the interventions had been successfully implemented and beneficial to communities. The aim was to identify bottlenecks in the implementation of the interventions.
<b>5. Budgeting and resourcing</b>	Ensuring adequate budgets, resources and training is crucial to implementing new inventions successfully. This also involves detailed planning. This case study used various interventions as a lens to further explore how budgeting and resourcing contributed towards an intervention's success.
<b>6. Coordination, alignment and feedback</b>	The case study investigated how delegations were made between national and provincial levels. The case study sought to understand how conditional grants and equitable share funds were conceptualised at a national level and how their implementation was carried out at provincial level. The case study interrogated the development of WISN and its subsequent implementation at national and provincial levels, respectively.
<b>7. External stakeholder and community buy-in</b>	Buy-in from external stakeholders, including the communities that facilities serve, is important for a successful and sustainable NHI. This case study sought to understand how community buy-in was achieved and the degree to which clinic committees feed back into the community.
<b>8. Adaptive programming: the example of the Western Cape</b>	South Africa is a country with vastly different landscapes, regions and cultures. In this context, a national programme needs to be adaptable and flexible to suit this diverse environment. This case study identified the Western Cape as a province that had tailored interventions for a provincially adapted programme. Four interventions, namely, WBPHCOTs, DCSTs, CCMDD and contracted GPs, are discussed to understand the lessons learned for future adaptive programming.

Case study title	Case study description
<p><b>9. SDGs 3.8.1 and 3.8.2</b></p>	<p>The 2030 Agenda for Sustainable Development emphasises that achieving UHC (Target 3.8) is the core driver of SDG 3. This target is measured through two related indicators: indicator 3.8.1 (coverage of essential health services) and indicator 3.8.2 (proportion of a country's population with large household expenditure on health as a share of household total consumption or income). The relevance of these target indicators to NHI Phase 1 and NHI Phase 2 is clear.</p> <p>In 2017, the WHO and the World Bank published the UHC Global Monitoring Report, which established a 2015 baseline for the service coverage ratio and provides a composite measure of national performance with respect to indicators 3.8.1 and 3.8.2. The service coverage ratio includes 16 tracer indicators and covers reproductive, maternal, newborn and child health, infectious disease, non-communicable disease and health sector capacity.</p> <p>This case study assessed South Africa's readiness to report the service coverage ratio for 2017. It also assessed the feasibility of calculating South Africa's performance in relation to indicator 3.8.2, which is intrinsically linked to NHI Phase 2. Finally, the case study considered the potential for national and subnational monitoring of the effective service coverage ratio (including measurement of the quality of care received by those who need care) and equity in service coverage.</p>

Notes: CCMDD, Centralised Chronic Medicine Dispensing and Distribution; DCST, District Clinical Specialist Team; GP, general practitioner; NHI, National Health Insurance; SDG, sustainable development goal; UHC, universal health coverage; WBPHCOTs, Work-based Primary Healthcare Outreach Team; WHO, World Health Organization; WISN, Workload Indicators of Staffing Need



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