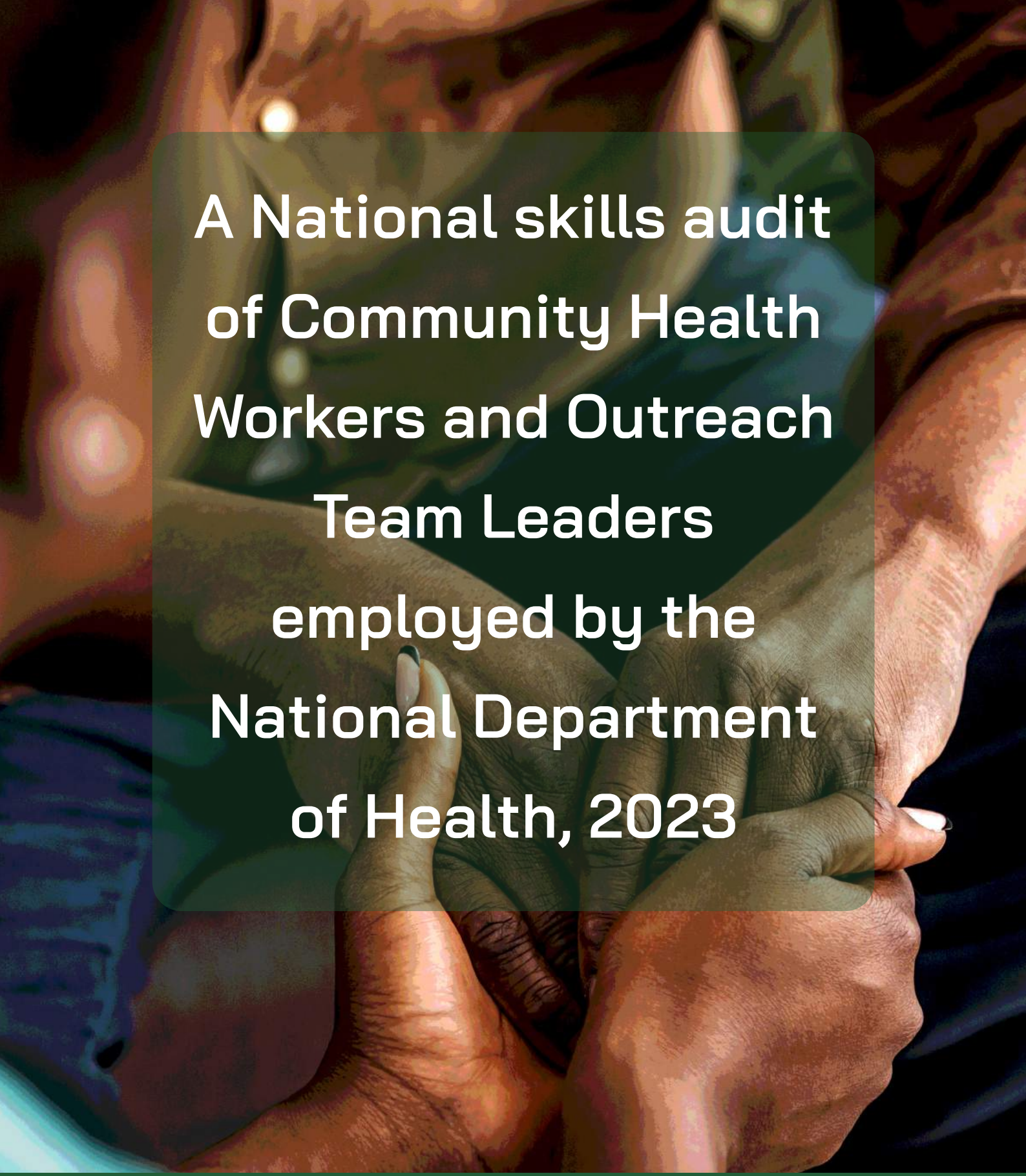

A National skills audit of Community Health Workers and Outreach Team Leaders employed by the National Department of Health, 2023

health
Department:
Health
REPUBLIC OF SOUTH AFRICA

HSRC
Human Sciences
Research Council

science & innovation
Department:
Science and Innovation
REPUBLIC OF SOUTH AFRICA

Published by Human Sciences Research Council
Private Bag X9182, Cape Town 8000, South Africa
www.hsrc.ac.za

RESEARCH REPORT
A National skills audit of Community Health Workers and Outreach Team Leaders employed by the National Department of Health, 2023

ISBN 978-1-7764752-4-7 print
ISBN 978-1-7764752-5-4 epub

This study and the dissemination of the findings were supported by a grant from the Johnson and Johnson Foundation through the Health Systems Trust and the HSRC. The views expressed in this publication are those of the authors. They do not necessarily reflect the views or policies of the Human Sciences Research Council (the Council) or indicate that the Council endorses the views of the authors. In quoting from this publication, readers are advised to attribute the source of the information to the individual author concerned and not to the Council.

Suggested Citation: Jooste, S., Ramlagan, S., Magobo, R., Shean, Y., Sewpaul, R., Dukhi, N., Cloete, A., Petersen, Z., Mabaso, M., Davids, A., Maseko, G., Ginyana, T., Molopa, L., Vondo, N., Parker, S., Zuma, K., Moyo, S. (2023) *A National Skills Audit of Community Health Workers and Outreach Team Leaders employed by the National Department of Health 2023*. Pretoria: Human Sciences Research Council

A National skills audit of Community Health Workers and Outreach Team Leaders employed by the National Department of Health, 2023

> “The implementation of the (Ward-Based Primary Health Care Outreach Teams) policy framework and strategy will bring healthcare closer to vulnerable communities, families, and individuals – especially in the rural areas of South Africa – thus building on our national culture of caring.”

South African Minister of Health, Dr M.J. Phaahla [1]

1. Johnson, J. (2022) Strengthening Primary Healthcare in South Africa Through Multi-Stakeholder Collaboration and Effort. Doi: Available at: https://chwi.jnj.com/news-insights/strengthening-primary-healthcare-in-south-africa-through-multi-stakeholder-collaboration-and-effort.

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List of Abbreviations

CBO	Community Based Organization
CHW	Community Health Worker
CHW TTT	Community Health Worker Technical Task Team
CHW TT	Community Health Worker Think Tank
DHS	District Health System
DHIS	District Health Information System
DM	District Municipality
DoH	Department of Health
EN	Enrolled Nurse
HBC	Home-Based Care
HIV	Human Immunodeficiency Virus
HSRC	Human Sciences Research Council
KIIs	Key Informant Interviews
LMIC	Low- and Middle-Income Countries
MDGs	Millennium Development Goals
MM	Metropolitan Municipality
NCDs	Non-communicable Diseases
NDoH	National Department of Health
NGOs	Non-Governmental Organisations
NHI	National Health Insurance
NQF	National Qualifications Framework
OTL	Outreach Team Leader
PDoH	Provincial departments of health
PHC	Primary Health Care
PN	Professional Nurse
RPHC	Re-engineering of Primary Health Care
RTC	Regional training centre
SAQA	South Africa Qualifications Authority
SDG	Sustainable Development Goals
StatsSA	Statistics South Africa
TB	Tuberculosis
WBPHCOT	Ward-Based Primary Health Care Outreach Team
WHO	World Health Organisation

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Acknowledgements

We are grateful to the National Department of Health (NDoH) for the opportunity to undertake this project and the Johnson and Johnson Foundation for providing the funding through the Health Systems Trust. We would also like to thank the members of the National Department of the Health Community Health Worker Think Tank (NDoH CHWTT) led by the Deputy Director-General (DDG) Primary Health Care, Ms JR Hunter, who provided input and support to the research team in developing the project tools and facilitating implementation.

We acknowledge the members of the technical task team under the leadership of Dr Nozipho Jaxa. We acknowledge the guidance and support of the National Department of Health Project Team: Dr L Malinga, Ms G Buthelezi and Ms L Madikizela, as well as the team from the Health Systems Trust who form part of the CHWTT secretariat led by Dr Themba Moeti.

Acknowledgement is due to the field team who implemented the survey. Originally part of the Presidents' Youth Employment Initiative (PYEI), your experience, hard work, and dedication resulted in a successful project.

The Provincial Regional Training Centre (RTC) and Ward-Based Primary Health Care Outreach Team (WBPHCOT) Programme Managers supported and assisted the field implementation teams. These managers facilitated entry into sampled facilities and paved the way for scheduling officers and data collectors to do what was required at the provincial level.

Thanks are also due to facility/operational/clinic managers who were the first port of call when contacting sampled facilities – they provided logistical support and guidance to facilitate participation amongst the Community Health Workers (CHWs) and Outreach Team Leaders (OTLs) based at the health facilities they manage.

We are grateful to the OTLs and CHWs who participated in the study – thank you for your time, effort, and input. We hope this report's recommendations will assist the NDoH in further supporting you in your critical work for the country.

Thank you to the Health Systems Trust (HST) members who worked closely with the project team in contract management. Also, thank you to Ms Morongwa Mohlala and Ms Sinazo Ndiki for their excellent administration and financial management.

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EXECUTIVE SUMMARY

Introduction

The *National skills audit of Community Health Workers (CHWs) and Outreach Team Leaders (OTLs) employed by the National Department of Health (NDoH), 2023,* project was undertaken by a team of multi-disciplinary researchers at the behest of the NDoH through the Health Systems Trust (HST). This is the first national skills and training audit amongst CHWs and OTLs to be undertaken by the NDoH in the country since 2011 when the Department launched the model for re-engineering Primary Health Care (PHC).

This report highlights the distribution of OTLs and CHWs across the country, and their training and skills. The report also examines the views of key provincial managers to determine how CHW and OTL training needs can be met when policies and programmes are reviewed.

Aim and objectives

The aim of this study was to:
Undertake an audit of the current qualifications and skills profile of CHWs and OTLs deployed in the public health system in South Africa.

The objectives were to:

1. Establish the number and distribution of CHWs and OTLs and their geographical coverage (ratio per uninsured population) at the national, provincial, district, subdistrict and ward levels.
2. Establish the qualifications of CHWs and OTLs nationally, provincially, and at the district level.
3. Identify the skills and competencies of CHWs and OTLs.
4. Establish existing CHW training infrastructure and model/s.
5. Identify skills and training gaps of CHWs and OTLs.
6. Determine the views of key provincial managers on models and strategies for meeting CHW and OTL training needs.

The fieldwork was implemented from the 9th of June, 2023, until the 16th of August, 2023.

Methodology

This was mixed methods study. Data to determine CHW and OTL coverage per 100 000 uninsured population was obtained from provincial managers. A survey was conducted with a sample of CHWs and OTLs from randomly facilities selected across the country. The telephonic survey collected information on demographics, tasks, skills, proficiency and training received. Qualitative interviews were conducted with provincial managers to determine training needs and gaps for CHWs and OTLs.

Key findings

CHW and OTL coverage

Number and geographical coverage of CHWs and OTLs by Province and District

The table below shows the number and geographical coverage of CHWs and OTLs by province. In total, there are 42 323 CHWs and 2 234 OTLs in eight provinces. These figures exclude the Western Cape, as the data from that province was not available.

Table 1 *Number of CHWs and OTLs by province, October 2023*

Province	CHW	OTL
Northern Cape	1 745	0
North West	5 307	207
Mpumalanga	5 347	200
Limpopo	7 029	332
KwaZulu-Natal	10 283	352
Gauteng	5 685	646
Free State	2 320	161
Eastern Cape	4 607	336
Western Cape	*	*
TOTAL	**42 323**	**2 234**

Source: Provincial managers, National Department of Health

**Data from the Western Cape province was not available at the time of analysis*

CHW and OTL coverage per uninsured population at provincial level

The average CHW coverage was 81.5 CHWs per 100 000 uninsured population and ranged from 46.1 in Gauteng to 156.8 in the Northern Cape. The average OTL coverage was 4.3 per 100 000 uninsured population and ranged from 0.0 in the Northern Cape to 6.4 in the Free State (see Figure 1 below). [Please note that data from the Western Cape was not available].

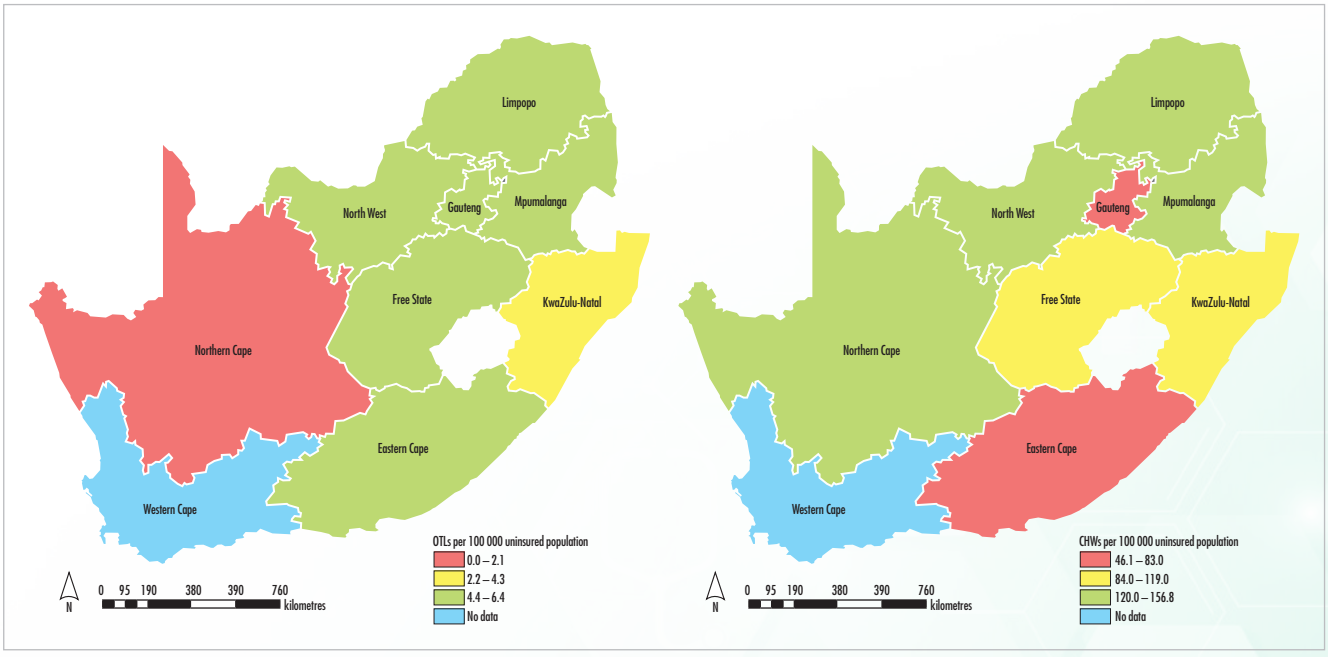


Figure 1a *OTLs per 100 000 uninsured population by province*

Figure 1b *CHWs per 100 000 uninsured population by province*

CHW and OTL coverage per uninsured population at district level

Coverage by districts showed heterogeneity within provinces for both CHWs and OTLs. Districts with low CHW coverage were Ekurhuleni Metropolitan Municipality (MM) and Johannesburg MM, both in Gauteng province. Each had under 40 CHWs per 100 000 uninsured people.

There were no OTLs in the Northern Cape province in October 2023. The highest number of OTLs per 100 000 uninsured people was 14 per 100 000 in Joe Gqabi District Municipality (DM) in the Eastern Cape province.

Districts with less than 100 CHWs per 100 000 uninsured people included:

- Nkangala DM in Mpumalanga.
- Sedibeng DM, West Rand DM, Tshwane MM, Johannesburg MM, and Ekurhuleni MM in Gauteng.
- Chris Hani DM, Amathole DM, OR Tambo DM, Sarah Baartman DM, Alfred Nazo DM, and Nelson Mandela Bay MM in the Eastern Cape.
- Amajuba DM, Umzinyathi DM, uMgungundlovu DM and eThekwini MM in KwaZulu-Natal.
- ZF Mgcawu DM in the Northern Cape.
- Lejweleputswa DM and Mangaung MM in the Free State.

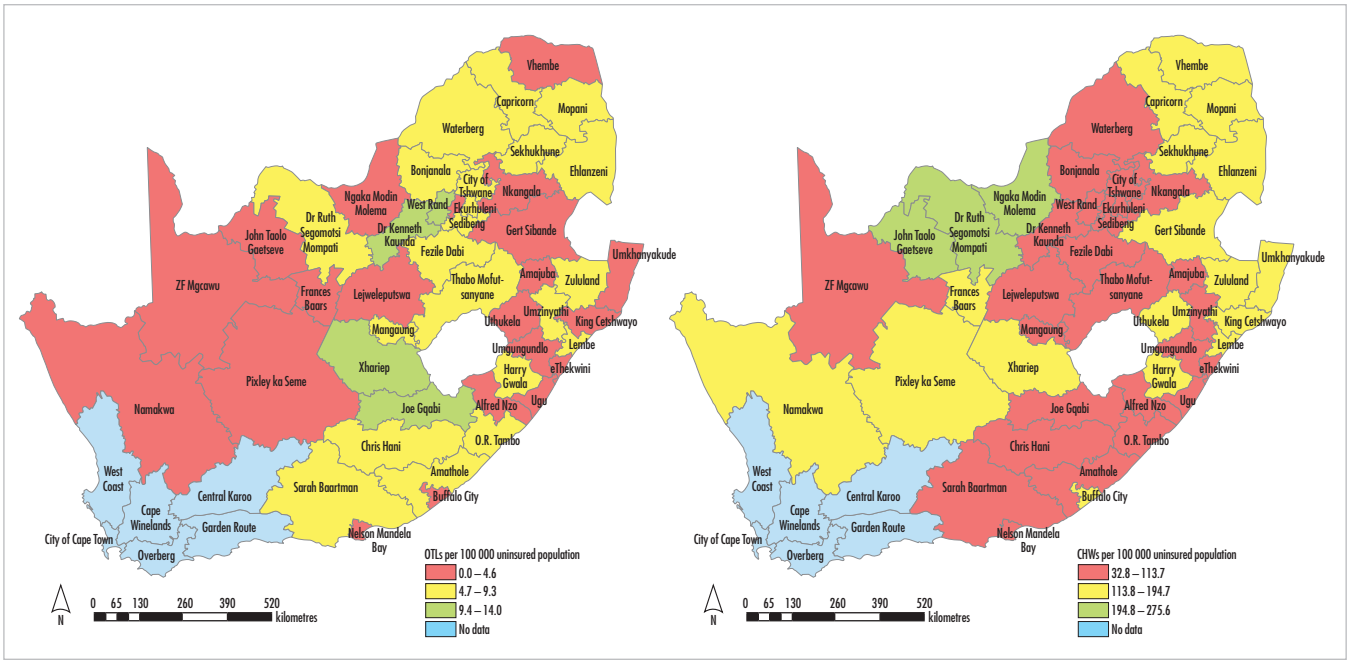


Figure 2a *OTLs per 100 000 uninsured population by district*

Figure 2b *CHWs per 100 000 uninsured population by district*

Number of CHWs and OTLs by District

Figure 3 below indicates the number of CHWs and OTLs by district. The highest numbers of CHWs were in Mpumalanga province in the Ehlanzeni DM with 2 376 CHWs, followed by 1 935 CHWs in the Ngaka Modiri Molema DM, and 1 874 CHWs in the eThekwini MM.

The highest number of OTLs was in Gauteng province, with Johannesburg MM having 176 OTLs, followed by Ekurhuleni MM with 162, and Tshwane MM with 159 OTLs. Ehlanzeni DM which had the most CHWs in the country, had the fourth-highest number of OTLs, with 109 reported at the time of this analysis.

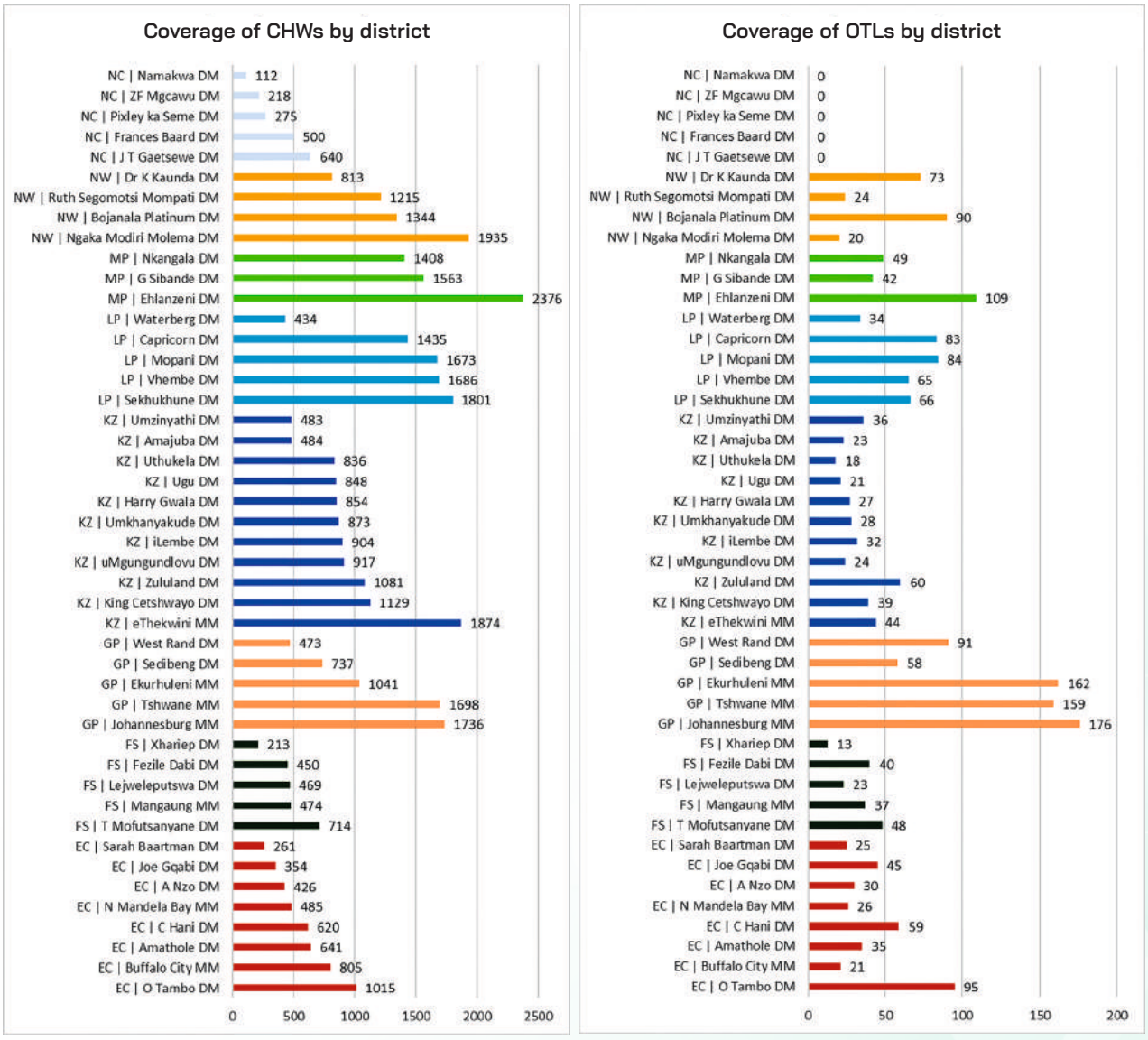


Figure 3 *Coverage of CHWs and OTLs by district, 2023*

Ratio of CHWs to OTLs by District

Figure 4 shows the ratio of CHWs to OTLs. The highest ratios of CHWs to OTLs were in two districts in the North West: the Ngaka Modiri Molema DM with 96.8 CHWs to 1 OTL (96.8:1) followed by the Ruth Segometsi Mompati DM with 50.6 CHWs to 1 OTL (50.6:1). KwaZulu Natal had the next highest ratio of CHWs to 1 OTLs, with six out of eleven districts (Uthukela, eThekwini MM, Ugu, uMgungundlovu, Umkhanyakude and Harry Gwala) having a ratio of more than 30 CHWs to 1 OTL. The Eastern Cape had one district, Buffalo City, with 38.3 CHWs to 1 OTL (38.3:1).

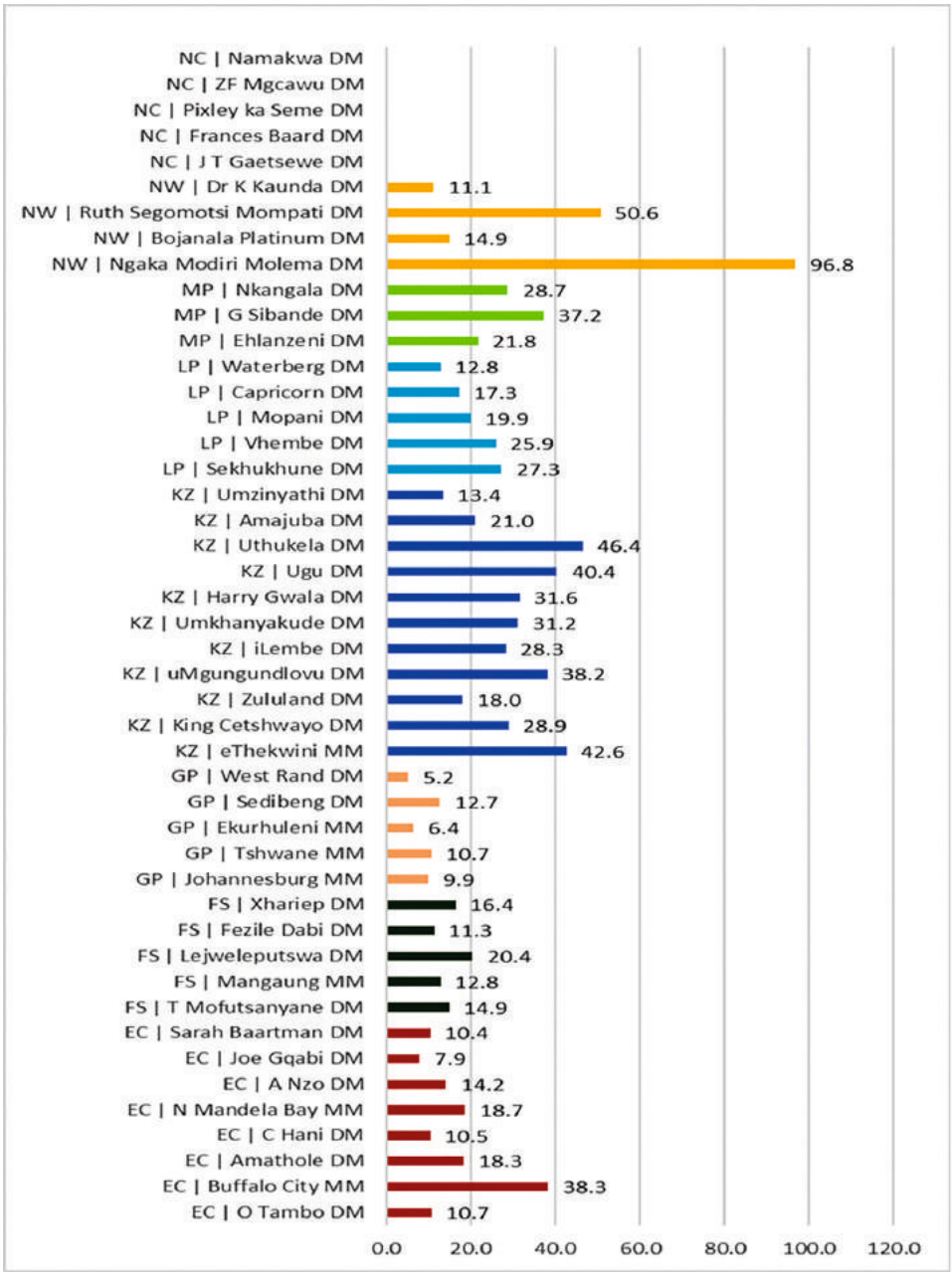


Figure 4 *CHW to OTL ratio by district, October 2023*

Survey findings

622 CHWS and 110 OTLs from 192 facilities participated in the survey

Profile of CHWs and OTLs who participated in the survey

Of the CHWs and OTLs participating in the survey:

- Most were female (89.8%) 675/750
- The average age for both CHWs and OTLs was 46 years (range: 23-69 years)
- Almost half (47.7%, 344/722) had a matric qualification
- 61.5% (67/109) of OTLs had a tertiary level qualification
- 37.5% (230/613) of CHWs had their highest education level between Grade 8–11.

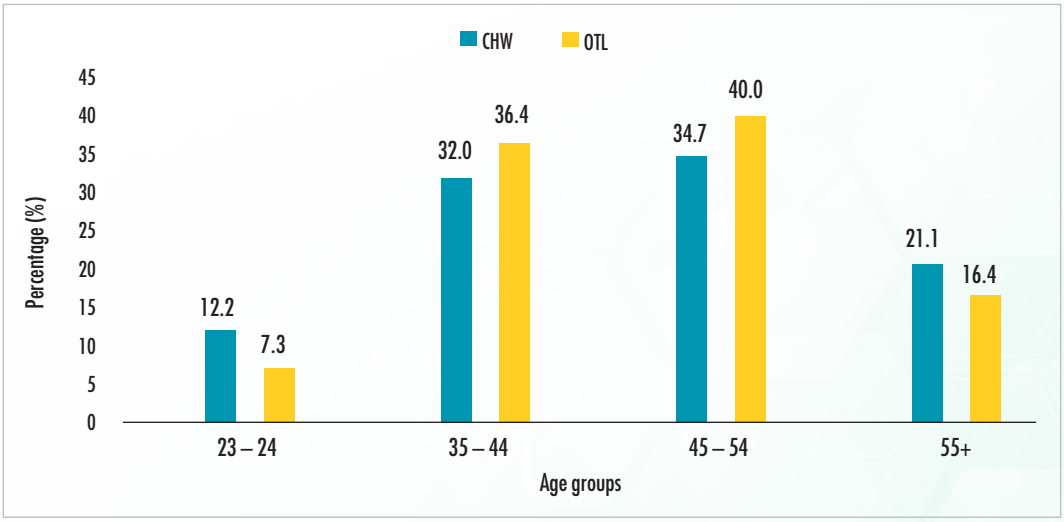


Figure 5 *Age distribution of survey participants*

Years of experience in current position

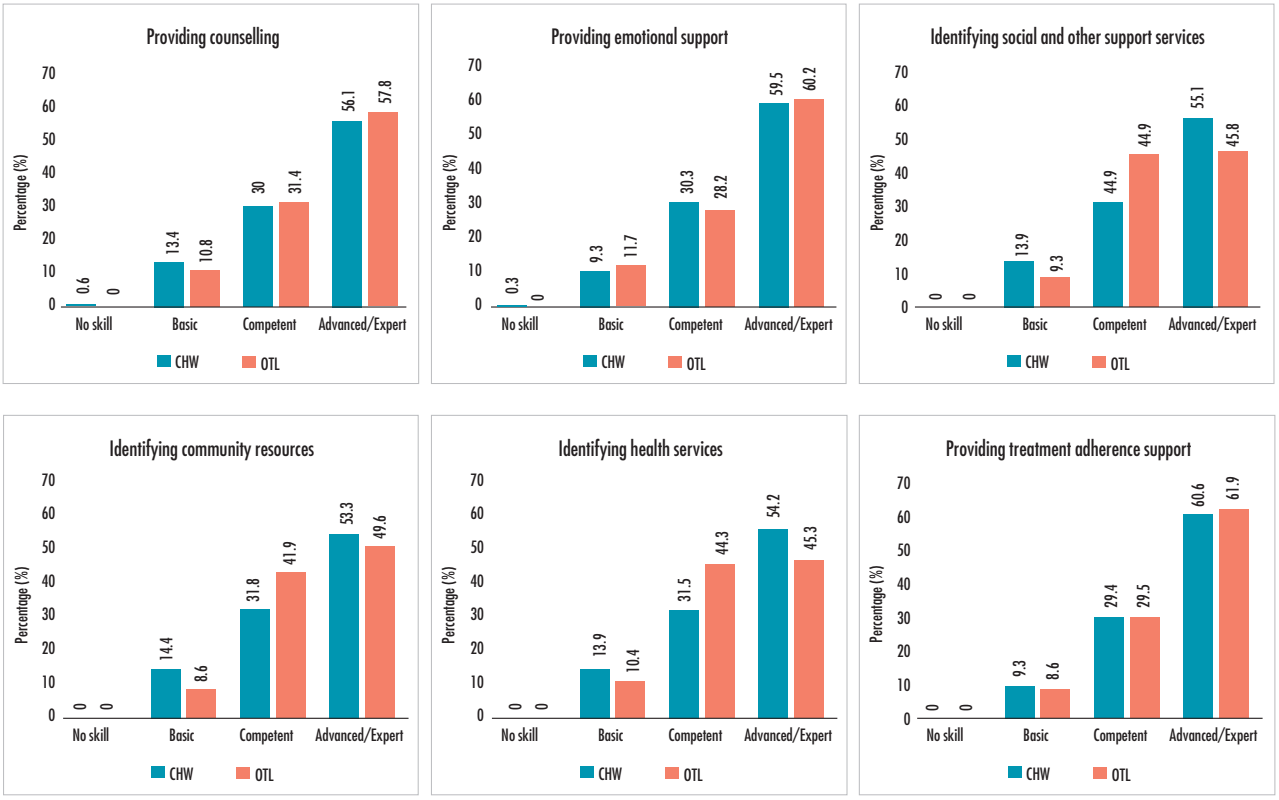
- Most CHWs (86.6%, 538/621) had five years of experience or longer compared to 42.7% (47/110) of OTLs.
- Over a fifth (22.7%, 25/110) of OTLs had one to two years of experience compared to 4.2% (26/621) of CHWs.

Skills and proficiency

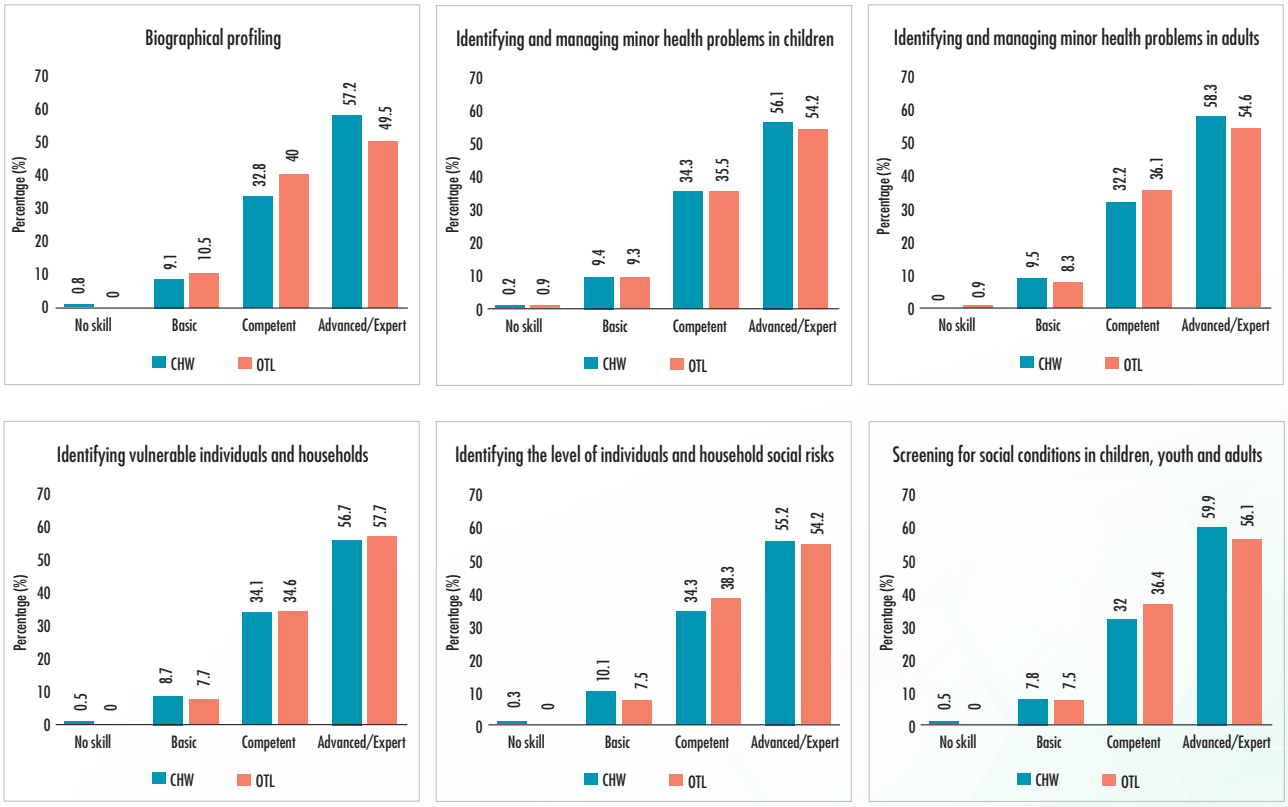
Skills and Proficiencies among CHWs and OTLs

Most CHWs (over 80%) reported being skilled in providing education supporting healthy behaviours, facilitating appropriate home care, and distributing health promotion material for Maternal, Child and Women's health, HIV, TB and other communicable diseases, and chronic and non-communicable diseases. A lower proportion reported having these skills for substance use, and violence and injuries.

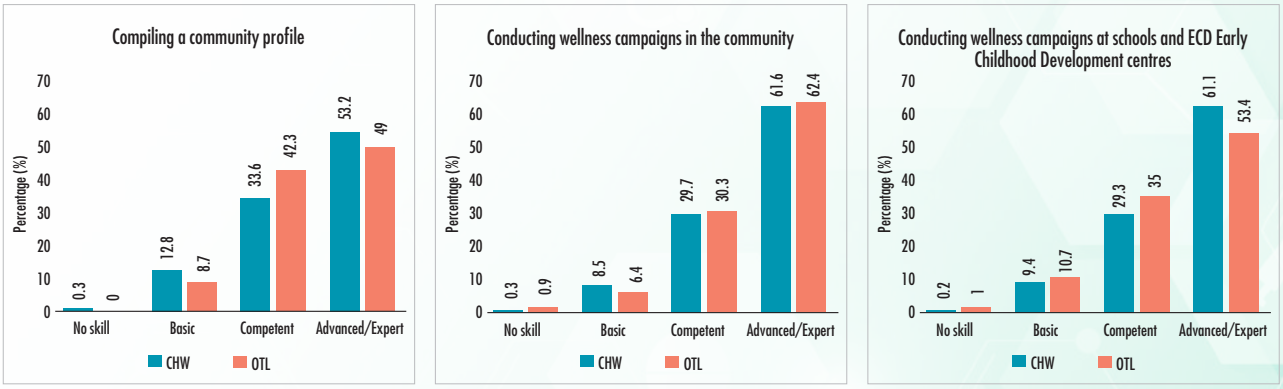
The majority of CHWs and OTLs rated themselves as advanced/expert in providing counselling and identifying of support services, in community and individual-level profiling, in referrals, in community campaigns and in communication, teamwork, and administration.



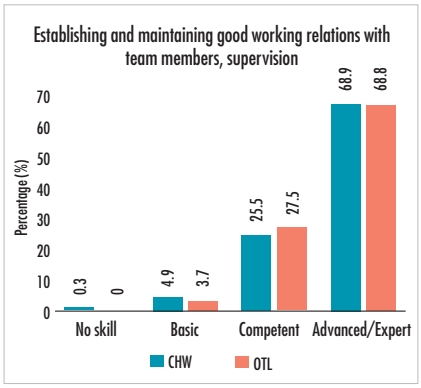
Counselling and support: self-rating proficiency

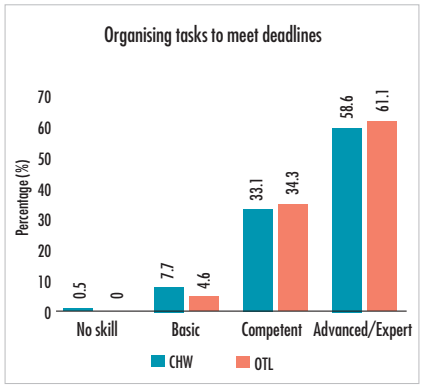


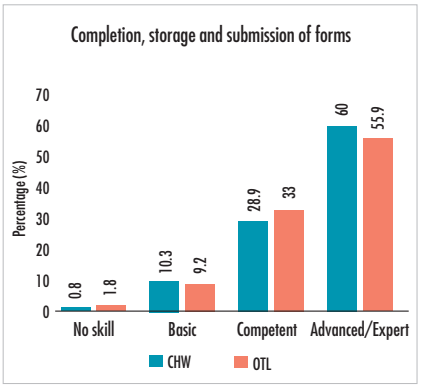
Household and individual-level profiling: self-rating proficiency

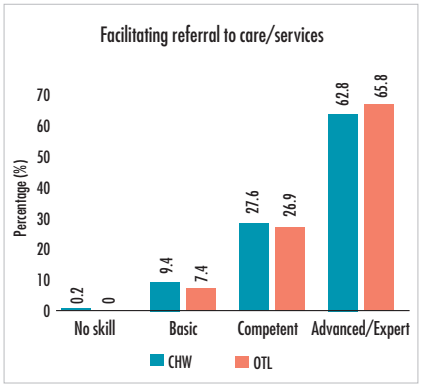


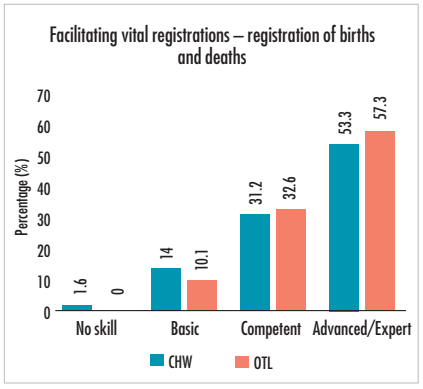
Community profiling and campaigns: self-rating proficiency

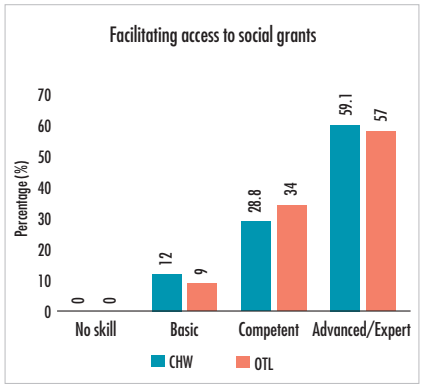


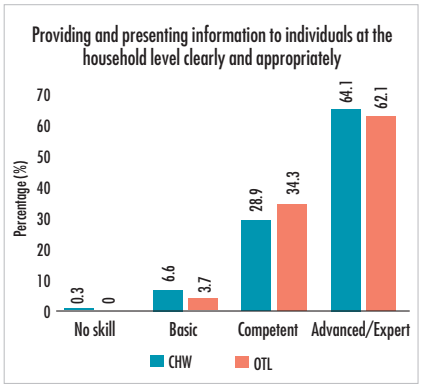


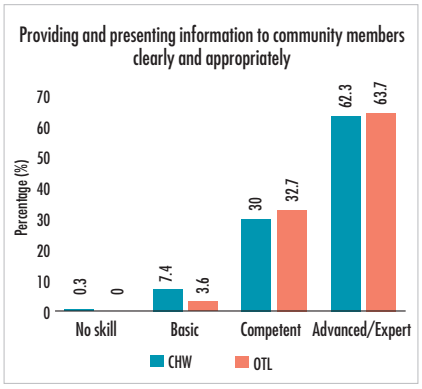












Communication, team work and administration: self-rating proficiency

TRAINING

79.4%

79.4% of CHWs reported having completed Foundation Phase NDoH training

68.5%

68.5% reported having completed Phase 1 NDoH training

38.3%

38.3% indicated to having completed Phase 2 NDoH training

36.1%

36.1% indicated having completed Occupational Health Promotion training

The main reason provided by CHWs for not completing all levels of training was that training was not yet offered

Over 87.0% reported that they were assessed across all training phases

The majority (78.9% – 88.9%) had received a job aid or manual after training

Overall, the training was regarded as relevant for the work undertaken – more than 90% of respondents rated the training as relevant and very relevant

QUALITATIVE INTERVIEWS

Qualitative interviews conducted with fifteen provincial managers from eight provinces, highlighted for both CHWs and OTLs:

Current status of provision of training

- The NDoH is the primary training provider, and collaborates with other institutions and government departments.
- Training follows a cascade model where CHWs are trained by OTLs, who in turn are trained by master trainers. Master trainers are trained by Regional Training Centre (RTC) managers.
- Foundation Phase training is regarded as “true training”. OTLs are then trained in how to conduct work skills training.
- In-house programs focus on specific topics.
- Overall, CHW and OTL training was seen as beneficial and appropriate for the implementation of ART programmes, improvement in health education, and reporting in full to the health promotion units.

Challenges and shortcomings

- There are insufficient numbers of trainers across provinces
- Literacy levels and educational qualifications of CHWs vary, therefore making it difficult to train them because everyone is not at the same level
- Funding constraints are a barrier
- There is a lack of training material and equipment required for practical training

Strategies to improve training

- Adequate attention to the training needs of OTLs is needed
- There is a need for the practical part of training to receive greater attention. Currently, there is more focus on theory
- More trainers, hard copy training manuals (including translated manuals), and training manuals that address province-specific issues are needed
- Enhanced mentoring and training is needed
- Adequate and appropriate resources, including the budget for training, are needed

Recommendations

1. **Recruitment**
   - » Prioritise recruitment in areas of greatest need. There is a need to focus on specific districts, especially in the Eastern Cape, KwaZulu-Natal, and the North West provinces for CHWs, and to better understand the dynamics and needs of CHWs in Gauteng.
   - » OTLs need to be recruited in districts where there is a low coverage and low OTL to CHW ratio (North West, KwaZulu-Natal and Eastern Cape).
   - » Recruit younger CHWs, especially in the North West, Eastern Cape and Limpopo provinces and ensure that there is a process of skills transfer in place from those with experience.
   - » Ensure new recruits meet the matric entry-level criteria and capacitate those already in the system to matric qualification.

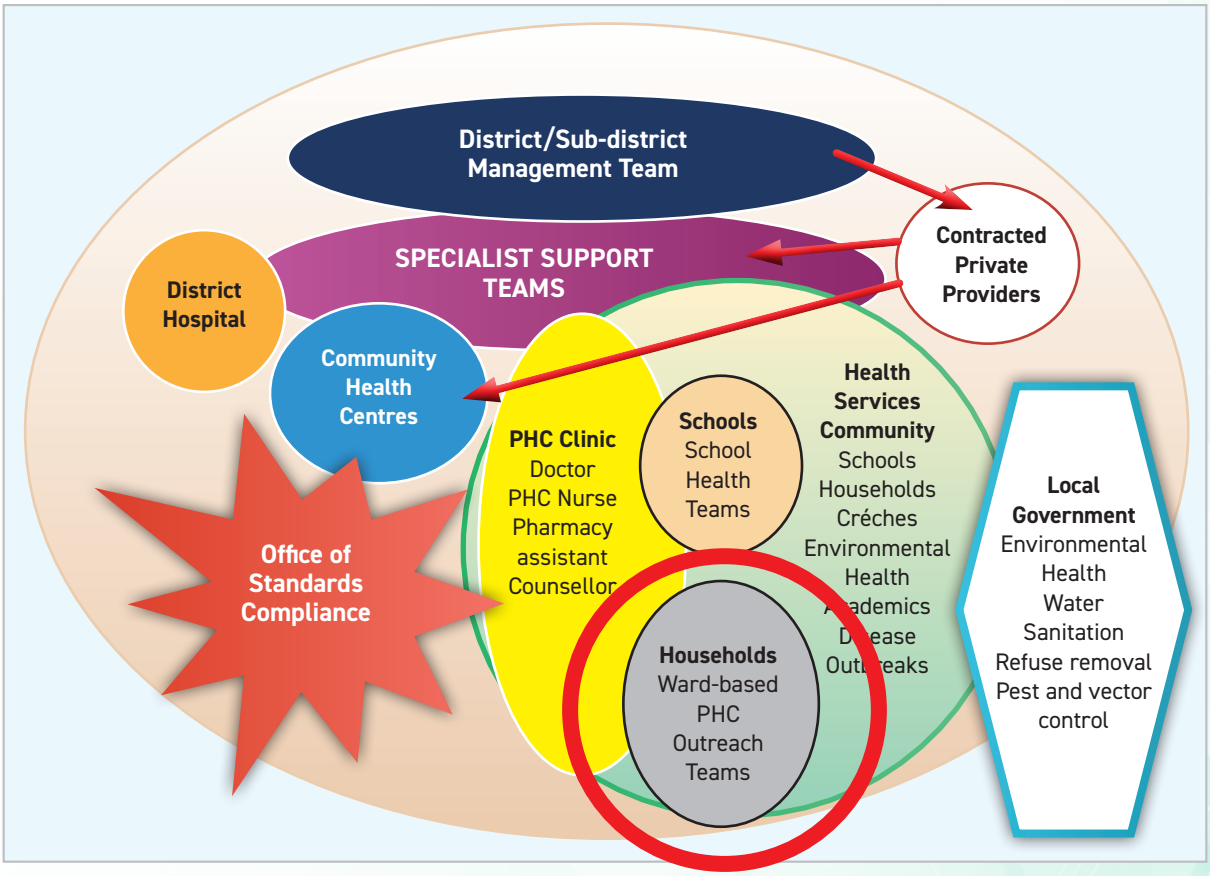
2. **Organisation of training**
   - » Newly recruited CHWs must be offered the Foundation phase training before commencing duties or as soon as possible after recruitment.
   - » Prioritise training for new recruits.
   - » Offer Foundation phase training to OTLs.
   - » Place adequate emphasis on practical training.
   - » Provide more coaching/mentorship programmes and leadership training for OTLs.

3. **Resources**
   - » Review and allocate an adequate budget to support training.
   - » Increase the number of trainers to ensure all CHWs and OTLs are trained.
   - » Provide printed training manuals and job aids.
   - » English language competence is a challenge: training manuals and job aids should also be available in local languages.

4. **Supervision and mentoring**
    - » Strengthen supportive supervision and provide regular coaching.
    - » Implement formalised continuous assessments for CHWs and OTLs.
5. **Future studies**
    - » Assess job satisfaction amongst CHWs and OTLs.
    - » Determine the views of more CHW trainers on models and strategies for meeting CHW training needs.

1 INTRODUCTION AND BACKGROUND TO THE STUDY

In 2009, the National Department of Health (NDoH) pledged to increase life expectancy; reduce maternal and child mortality rates; combat HIV/AIDS, tuberculosis and other communicable diseases; and strengthen the healthcare system (NDoH, 2018). As part of the efforts to meet this pledge, in 2011, the NDoH launched the model for re-engineering Primary Health Care (PHC) through three streams: i) ward-based primary health care outreach teams (WBPHCOTs); ii) school health teams; and iii) district clinical specialist teams (NDoH, 2011).



Source Adapted from the WBPHCOT CHW Training Foundation Phase participant manual, 2020

Figure 6 *Re-engineering PHC through three streams of Primary Health Care (PHC)*

The WBPHCOT stream in the PHC re-engineered model denotes the level of the health service that provides community services to families and individuals to facilitate improved population health outcomes (Figure 6). The team composition of WBPHCOTs has been approved as six to ten community health workers (CHWs), one data capturer, and one team leader. CHWs must become part of the multi-disciplinary primary healthcare team within the district health system, and their health promotion, disease prevention, therapeutic, rehabilitative and palliative functions must be supported by health practitioners in PHC facilities, and by environmental health officers in the community (NDoH, 2018).

South Africa has a rich and long history of community-based health care (Malatji et al, 2023). However, due to the lack of coordination between non-governmental organisations (NGOs), community-based organisations (CBOs) and the government, and disparities in CHW models, there has been siloed approaches to providing community-based services for a long time, and this has resulted in a fragmented CHW programme.

WBPHCOTs build upon pre-existing NGO-based community care and support systems that emerged in response to HIV and AIDS in South Africa (Nyalunga et al, 2019). Their main role is to improve access to primary healthcare services nationwide (Khuzwayo & Moshabela, 2017). The teams now form part of the health system and contribute data to the District Health Information System (DHIS). In early 2017, 42% of the expected 7 800 teams had submitted activity data to the DHIS (Mantell *et al*, 2022). The WBPHCOTs are also considered a crucial element of primary healthcare in the future National Health Insurance (NHI) system (Mantell *et al*, 2022).

CHWs are generally a diverse group of healthcare workers who mainly work outside health facilities to deliver primary healthcare services and bridge the gap between health facilities and communities – particularly in resource-constrained and low-middle-income nations (Mantell *et al*, 2022). They work directly with people in their homes, neighbourhoods, communities and other non-clinical settings; and are regarded as flexible and able to perform various tasks (Mhlongo *et al*, 2020). They are often recruited from communities and were historically not required to have formal professional training (Hartzler *et al*, 2018). In South Africa, difficult working conditions, vertical scopes of work, and interrupted compensation have caused discontent among CHWs, and ongoing labour protests have highlighted the need for coordinated interventions (Johnson, 2022).

1.1 Scope of work of Outreach Team Leaders and Community Health Workers

With the formalisation of WBPHCOTs, explicit scopes of work were developed for CHWs and Outreach Team Leaders (OTLs). Table 2 outlines the scope of work for OTLs and CHWs. As part of the outreach team, the OTL is responsible for managing and supervising a team of CHWs who are assigned to a specific health facility and provide community-based services at the ward level. The primary responsibilities of the OTL include supervising, managing, coordinating, and reporting on the geographic area they are responsible for. CHWs provide a wide range of healthcare services that integrate maternal and child health, HIV/AIDS, tuberculosis (TB), sexually transmitted infections (STIs), non-communicable diseases (such as diabetes and hypertension), mental health, substance abuse and injury prevention, to households and individuals in their assigned catchment areas.

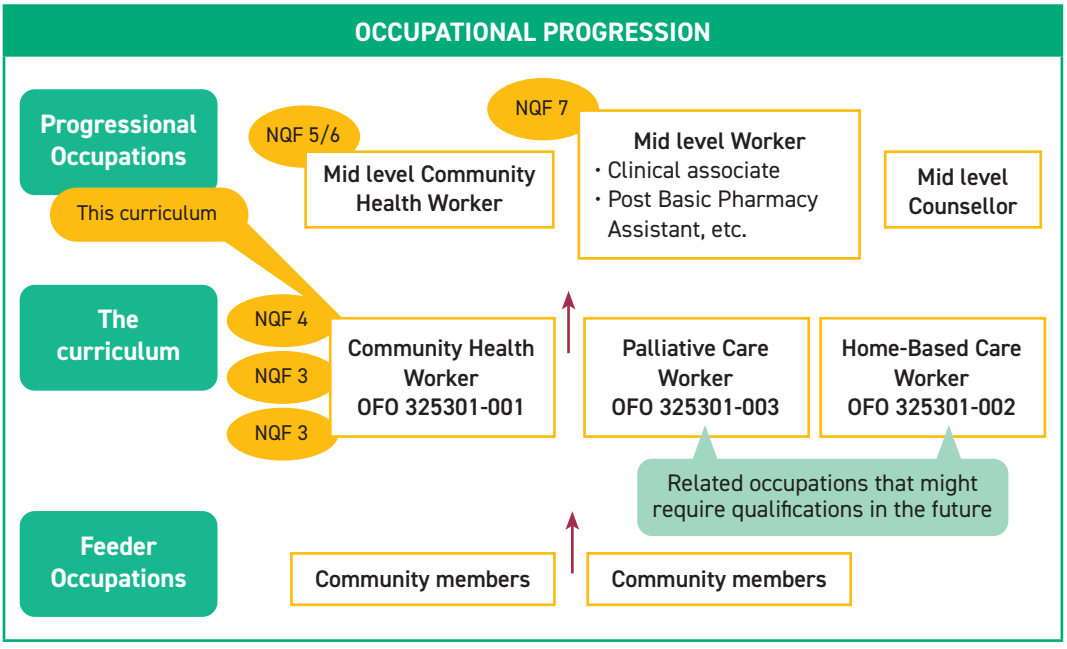
Table 2 *Scope of work of Outreach Team Leaders (OTLs) and Community Health Workers (CHWs)*

OTLs	CHWs
• Leadership and management: training and mentoring of CHWs; supervision of CHWs; coordination of CHWs (work allocation, leave management); staff leadership and development; planning and delegating work and tasks; and monitoring, evaluation and reporting.	• Promote overall health and well-being within households and communities.
• Administration, reporting and document keeping.	• Provide information and health education, and promote healthy behaviour and disease prevention.
• Stakeholder management.	• Conduct structured household screening and profiling to identify health needs.
• Clinical competencies: Screening, preliminary diagnosis, and referral; clinical activities during home visits; clinical duties at the clinic.	• Provide appropriate direct basic services, including treatment for minor health problems and needs, counselling, and psychosocial support for individuals or households, as defined by the CHW's scope of work.
• Facilitating upward and downward referral of WBPHCOT clients within the clinic and other established referral points in the community.	• Facilitate appropriate referrals for health, rehabilitation, and social support services as needed for individuals or households.
	• Provide adherence support for people on medication and support follow-up care, including delivery of chronic medication.

OTLs	CHWs
	• Facilitate community mobilisation and create awareness of health diseases through awareness campaigns and mobilisation around community needs.
	• The scope of work defines the role of CHWs but focuses on the following: • Screening, Referral, Tracing, Health Promotion

Source WBPHCOT CHW Training, Foundation Phase participant manual, 2020

Before 2018, the training of CHWs comprised Phase 1 training, Phase 2 training and the Occupational Health Promotion certificate. Since 2018, Phase 1 and 2 training has been updated and repackaged into what is now referred to as Foundation Phase training (Appendix 1) (Personal communication, NDoH).



Source: Adapted from the Quality Control for Trades & Occupations (QCTO) and Health and Welfare Sector Education and Training Authority (HWSETA)

Figure 7 *Occupational Progression for CHWs, South Africa, 2023*

Training for CHWs and OTLs continues to be essential in improving their role in PHC and Universal Health Coverage (Motsieloa, 2022), and forms part of NDoH's commitment towards the continuous improvement and provision of PHC. The NDoH working with the Community Health Worker Think Tank (CHW TT) and the Human Sciences Research Council (HSRC), undertook a skills and qualifications audit of CHWs and OTLs deployed in the public health system in South Africa to identify gaps in training received and skills and proficiency levels. This audit will be used to inform the planning of future training for CHWs and OTLs.

1.2 Aim, objectives and project indicators

1.2.1 Aim

The aim of this study was to:

1. Undertake an audit of the current qualifications and skills profile of CHWs and OTLs deployed in the public health system in South Africa.

1.2.2 Objectives

The objectives were to:

1. Establish the number and distribution of CHWs and OTLs and their geographical coverage (ratio per uninsured population) at the national, provincial, district, subdistrict and ward levels.
2. Establish the qualifications of CHWs and OTLs nationally, provincially, and at the district level.
3. Identify the skills and competencies of CHWs and OTLs.
4. Establish existing CHW training infrastructure and model/s.
5. Identify skills and training gaps of CHWs and OTLs.
6. Determine the views of key provincial managers on models and strategies for meeting CHW and OTL training needs.

1.2.3 Project indicators

The project indicators included:

- The number and distribution of CHWs and OTLs and their geographical coverage (at national, provincial, district, subdistrict and ward level).
- The level of education of CHWs and OTLs .
- The percentage of CHWs and OTLs with Phase 1 NDoH training.
- The percentage of CHWs and OTLs with Phase 2 NDoH training.
- The percentage of CHWs and OTLs with NDoH Foundation Phase training.
- The percentage of CHWs and OTLs with NDoH in-service training.
- The percentage of CHWs and OTLs with other training.

2 METHODOLOGY

2.1 Study design and population

A mixed-methods study utilising a cross-sectional survey and qualitative interviews was implemented to assess skills, competencies and views on training needs. Data about the number of CHWs and OTLs as requested from and provided by provincial managers.

Inclusion criteria for interviews: CHWs, OTLs, and provincial managers deployed and registered in the public health system in South Africa, and those linked to NGOs in the Western Cape who gave informed consent.

Exclusion criteria: CHWs, OTLs and provincial managers who did not consent. CHWs, OTLs and managers who were members of the CHW Task Team.

2.2 Sample size and sampling

2.2.1 Survey

A stratified two-stage cluster sample design was used, with the province as the sole stratum. The health facilities linked to the WBPHCOTs were the primary sampling unit.

In the first sampling stage, a 10% subsample of public health facilities was randomly selected from all the facilities within each province. Data on public health facilities [primary healthcare clinics (PHCs) and community health centres (CHCs)] in South Africa that are linked to CHW teams was extracted from the Ideal Clinic Database (ICD) in February 2023.

At the second stage of sampling, one OTL and four CHWs were proposed to be randomly selected from each selected facility. At the time of data extraction, the ICD had 36 922 CHW-filled positions in 2 021 public health facilities. A total of 202 facilities across the country were randomly selected (Figure 8). This resulted in a proposed total sample of 1 010 (808 CHWs and 202 OTLs).

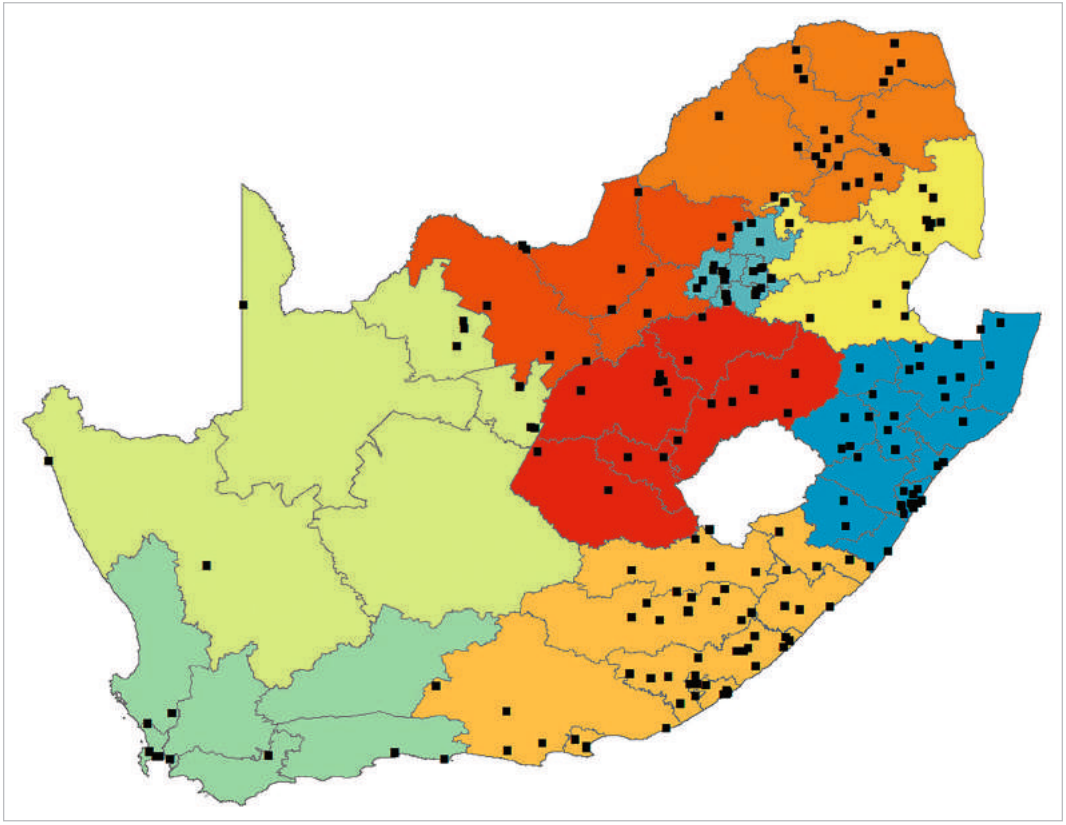


Figure 8 *Provincial distribution of sampled facilities, South Africa, 2023*

For the second sampling stage, provincial managers from the nine provinces provided a list of OTLs and CHWs based at each sampled facility. These lists revealed that some (20) facilities had less than four registered CHWs, which was less than the proposed sample of four per facility. Therefore, all the CHWs in these facilities were sampled (i.e. if there were only three CHWs in a facility, then all three were sampled). Additionally, the lists for some facilities did not contain any OTL details. Therefore, the number of OTLs and CHWs that could be sampled in the 202 selected facilities was less than the proposed initial sample of 1 010. Based on these lists, 892 participants (123 OTLs and 769 CHWs) were selected to participate in the survey.

Table 3 shows the provincial breakdown of the proposed versus the actual sample.

Table 3 *Proposed sample of CHWs and OTLs based on the Ideal Clinic Data base (February 2023) versus the actual number of CHWs and OTLs based at sampled facilities, South Africa 2023*

Province	Proposed sample of CHWs and OTLs at the selected facilities (based on a proposed sample of one OTL and four CHWs per facility)		Number of CHWs and OTLs sampled at the selected facilities (based on information from NDoH provincial managers)	
	CHW	OTL	CHW	OTL
Eastern Cape	232	58	208	29
Western Cape	36	9	36	9
Northern Cape	36	9	36	0
Free State	68	17	68	13
Gauteng	84	21	81	15
Limpopo	84	21	80	0
North West	48	12	45	12
Mpumalanga	64	16	64	16
KwaZulu-Natal	156	39	151	29
Total	**808**	**202**	**769**	**123**

2.2.2 Qualitative interviews

Key informant interviews (KIIs) were conducted with purposively sampled participants who consented to participate. Eighteen participants for the KIIs were purposively selected through engagement with the NDoH, Provincial Departments of Health (PDoH), and the CHW TT. Provincial managers who served as part of the CHW TTT were excluded from the study as they reviewed and contributed to the protocol and the questionnaire.

2.3 Recruitment and training

A project training workshop was held in May 2023. The training covered project-specific topics related to the project protocol, the survey instruments, implementation, monitoring of data collection, and research ethics including informed consent. The data collectors were assessed for proficiency in administering questionnaires telephonically. They received a training manual that provided all relevant project information and standard operating procedures for data collection. A virtual refresher training session was held before implementation, with a final written and video assessment to test proficiency and readiness to implement the study. The researchers undertaking the qualitative interviews received a fieldwork manual and attended a two-day qualitative research training workshop before the implementation of the study.

2.4 Data collection tools

2.4.1 Development of the survey questionnaire

A review of the literature, which included the NDoH's scope of work for CHWs, training manuals and templates of skills audits, was undertaken to develop the survey questionnaire. The questionnaire was finalised after review and input from the CHW TTT. The survey questionnaire was developed for online data collection and was hosted on the Research.NET online platform. The questionnaire included three sections (Biographical data, Occupational position (including skills and proficiency) and Training) and contained approximately sixty (60) questions.

2.4.2 Development of the qualitative questionnaire

A semi-structured interview guide was developed and finalised after review and input from members of the CHW TTT. The questions to provincial managers for this skills audit centred on their definition of their roles in training CHWs and OTLs. Interviews also explored training, coaching, or mentorship programme availability, and the model for and frequency of supervision offered to CHWs and OTLs.

2.4.3 Fieldwork toolkit

A fieldwork toolkit consisting of the HSRC Research Ethics Committee approval letter, a letter of support for the study from NDoH provincial and/or district ethics approval letters, translated study flyers, and the study information sheet, was developed.

2.5 Communication

A communications strategy for the project was developed during the inception phase. The strategy provided the framework for engagement with provincial, district and facility officials. The first step in the process was to engage with provincial managers to share the study information (which included all the documentation in the fieldwork toolkit). The study flyer was translated into all official languages and shared with provincial managers and district officials over WhatsApp and email. They primarily shared it with sampled facilities. Where it was difficult to reach facilities, provincial and district managers were approached to facilitate entry. 'Thank You' flyers were shared with participants after interviews were concluded.

2.6 Implementation of the survey

The fieldwork was implemented from 9 June 2023 until 16 August 2023. The fieldwork flow is represented in Figure 9 and reflects the multi-step process adopted to ensure permissions and participation in the study. After receipt of provincial and district approvals, the data collectors designated as scheduling officers contacted the facility and proceeded as shown in the figure. Participants for the qualitative interviews were contacted and informed about the study before the interview was scheduled. If the

scheduling officer could not contact the sampled participant after three attempts, or if the sampled participant declined to be interviewed, another participant was selected if there were additional potential participants to choose from in the list from that facility.

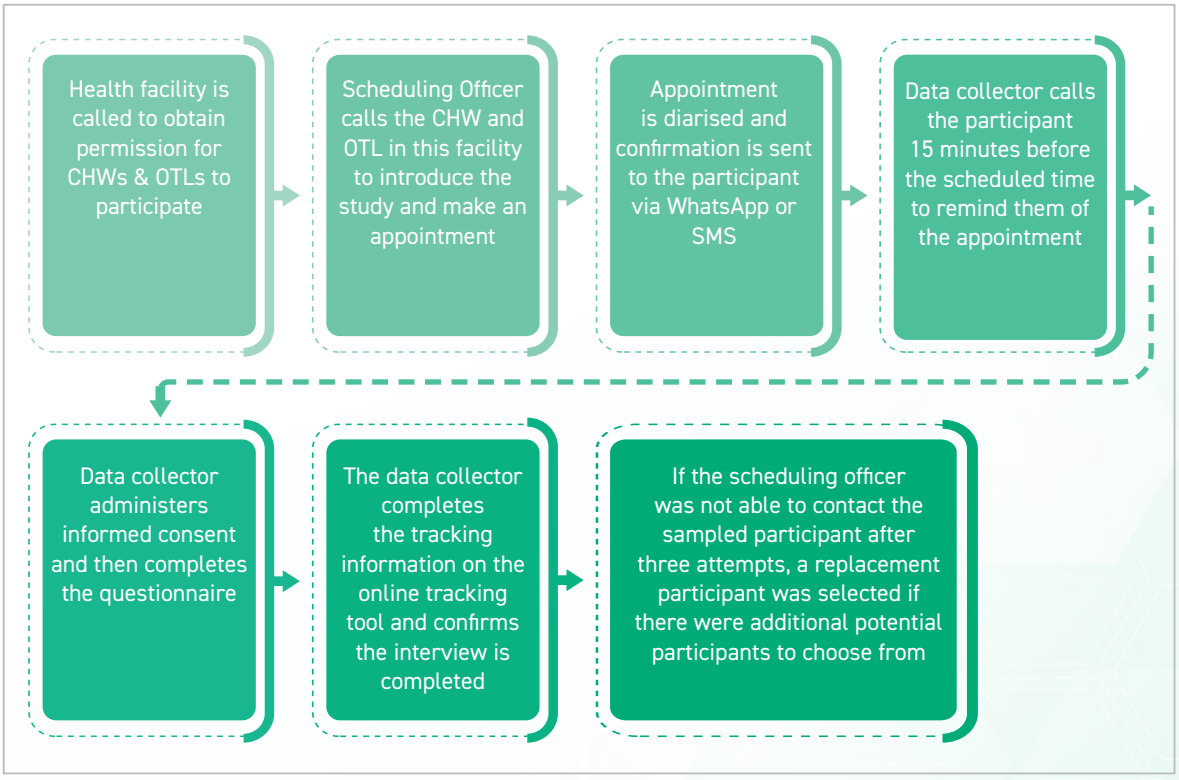


Figure 9 *Fieldwork flow*

Fieldwork flow for implementation

The survey questionnaire hosted on the RESEARCH.net platform was administered telephonically by the data collectors. The data was captured using Samsung Galaxy internet-enabled tablets. The system was paired with DataFree services, which enabled reverse-billed data services to ensure no cost to participants.

The data collector read out the information sheet and consent form to the selected participant, answered any questions and sought verbal consent for the interview to continue. Verbal consent was indicated by completing a tick box on the online tool. The interview was indicated as a refusal on the online tool if consent was not obtained.

A similar process was followed for the qualitative interviews. The information sheet and consent form was also read out to the participants, and any questions were answered, and verbal consent was sought before the interview was conducted. However, consent was recorded as part of the audio recording.

2.6.1 Data management and monitoring

Three data systems were developed to support the fieldwork component and functioned on the internet-enabled tablets. The data systems were:

1. The scheduling officer online call logs, a system to monitor scheduling officers' interactions with facility managers.
2. The data collectors' online call monitoring tool to record the outcomes of phone calls.
3. The online primary survey data collector tool for the survey questionnaire.

Data were extracted weekly and incorporated into automated data dashboards for monitoring progress, identifying potential challenges, directing resources, and conducting quality assurance (See Appendix 2 for an example of the metrics recorded on the data dashboard).

2.7 Implementation of the qualitative interviews

Interviews with provincial managers were also conducted telephonically. The toolkit and consent form were emailed to participants before the interview. All interviews were conducted in English. Interviews were audio recorded. The interviewers assessed the transcriptions' quality based on their interview notes to validate and ensure accuracy to support the analysis. Interviews were transcribed verbatim, and where words and phrases in vernacular were used, these were translated into English. Data were de-identified during the translation and transcription process and verified by the core research team.

2.8 Ethical considerations

The Human Sciences Research Council (HSRC) Research Ethics Committee granted ethics approval for the study (REC 1/26/04/23). Provincial ethics approvals were obtained for all provinces except Gauteng, where district approval was required. In the Western Cape, approval was required from the City of Cape Town for facilities in the Cape Town MM. Overall, in Gauteng, ethics approval was not received for Sedibeng District, and in the Western Cape, ethics approval was not obtained from three facilities in the Cape Town MM.

2.9 Data analysis

2.9.1. Calculations of CHW and OTL coverage per geographic area

The number and distribution of CHWs (ratio per uninsured population) at national, provincial, district, subdistrict and ward level is given by:

$$\text{The ratio of CHWs per uninsured population in the area } (i) \ (n \text{ per } 100\,000) = \frac{\text{Number of CHWs in the area } (i)}{\text{Number of people in the uninsured population in the area } (i)} \times 100\,000$$

where area (i) is a province, district, subdistrict, ward or country.

A similar formula was used to calculate the number of OTLs per 100 000 uninsured population.

Data on the numbers of CHWs and OTLs per district and province as obtained from the national and provincial departments of health managers. Data for the Western Cape province as not available for this analysis.

Estimates of the uninsured population per province, district and national level were obtained from the South African Health Review 2021 (Ndlovu et al, in SAHRC, 2021). These estimates were derived using data from the District Health Information System (DHIS) Population Estimates 2000 – 2030 (Ndlovu et al , 2021) and actuarial estimates on the proportion of uninsured population (Shapiro, 2019). These estimates were available only down to the district level; hence ward level analysis could not be undertaken. The number of CHWs per 100 000 uninsured population was therefore calculated at national, provincial and district levels. The estimates were mapped using GIS software to visually represent coverage across the country.

2.9.2 Survey data

Data were extracted from the online survey platform into Excel and SPSS (Statistical Package for the Social Sciences) formats and exported to Stata v. 15.0, which was used for data management and statistical analyses. Data management procedures involved identifying and cleaning duplicate and blank records. Descriptive statistics were used to summarise the data. Percentages and frequencies are reported for categorical variables, and either means and standard deviations or medians and ranges are reported for continuous variables, depending on their distribution.

2.9.3 Qualitative interviews

The qualitative data was analysed using a deductive thematic analysis approach, using Atlas ti 23 to facilitate analysis. Because of the small sample size, all identifiers (names and provinces) were removed from all quotes used in the report. The first step in the analysis was to become familiar with the data and generate initial codes on four transcripts to create an initial thematic content-based codebook. Coding involved a process whereby specific text segments were attached to certain meaningful key labels or codes. In practice, this involved reading and re-reading transcripts to make meaning of the patterns and themes observed from the data. Since a deductive approach was used, the next step involved a review of the objectives of the study in order to generate themes. The team suggested themes based on the data and the objectives of the interviews. The reliability of the themes was verified by co-researchers who individually scrutinised transcripts and collectively evaluated the themes that were derived.

3 RESULTS

3.1 CHW and OTL coverage

3.1.1 Number and geographical coverage of CHWs and OTLs by province and district

The table below shows the number of CHWs and OTLs by province. In total, there are 42 323 CHWs and 2 234 OTLs in eight provinces. These figures exclude the Western Cape province, as the data from that province was not available.

Table 4 *Number of CHWs and OTLs by Province, October 2023*

Province	CHW	OTL
Northern Cape	1 745	0
North West	5 307	207
Mpumalanga	5 347	200
Limpopo	7 029	332
KwaZulu-Natal	10 283	352
Gauteng	5 685	646
Free State	2 320	161
Eastern Cape	4 607	336
Western Cape	*	*
TOTAL	**42 323**	**2 234**

Source: Provincial managers, National Department of Health

**Data from the Western Cape province was not available at the time of analysis*

3.1.2 CHW and OTL coverage per uninsured population at provincial level

The average CHW coverage was 81.5 CHWs per 100 000 uninsured population and ranged from 46.1 in Gauteng province to 156.8 in the Northern Cape province. The average OTL coverage was 4.3 per 100 000 uninsured population and ranged from 0.0 in the Northern Cape province to 6.4 in the Free State province (see Figure 10 below). [Please note that data from the Western Cape province was not available].

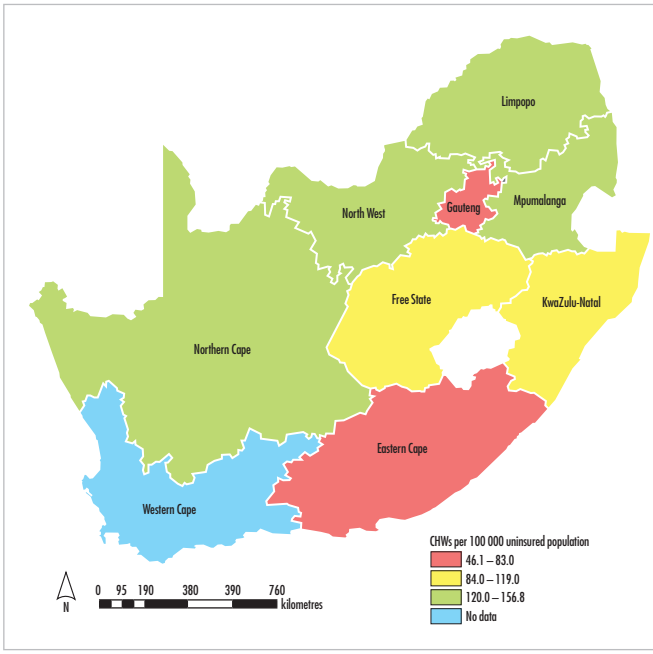


Figure 10a *CHWs per 100 000 uninsured population by province*

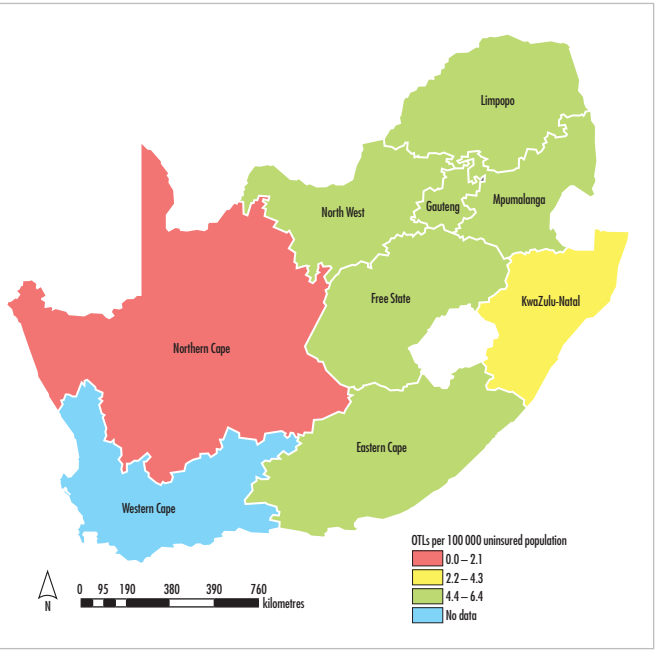


Figure 10b *OTLs per 100 000 uninsured population by province*

3.1.3 CHW and OTL coverage per uninsured population at district level

Coverage by districts showed heterogeneity within provinces for both CHWs and OTLs. Districts with low CHW coverage were Ekurhuleni Metropolitan Municipality (MM) and Johannesburg MM, both in Gauteng province. Each had under 40 CHWs per 100 000 uninsured people, Figures 11a and 11b.

There were no OTLs in the Northern Cape province in October 2023. The highest number of OTLs per 100 000 uninsured people was 14 per 100 000 in Joe Gqabi DM in the Eastern Cape province.

Districts with less than 100 CHWs per 100 000 uninsured people included:

- Nkangala DM in Mpumalanga province
- Sedibeng DM, West Rand DM, Tshwane MM, Johannesburg MM and Ekurhuleni MM in Gauteng province
- Chris Hani DM, Amathole DM, OR Tambo DM, Sarah Baartman DM, Alfred Nazo DM and Nelson Mandela Bay MM in the Eastern Cape province
- Amajuba DM, Umzinyathi DM, uMgungundlovu DM and eThekwini MM in KwaZulu-Natal province
- ZF Mgcawu DM in the Northern Cape province
- Lejweleputswa DM and Mangaung MM in the Free State province.

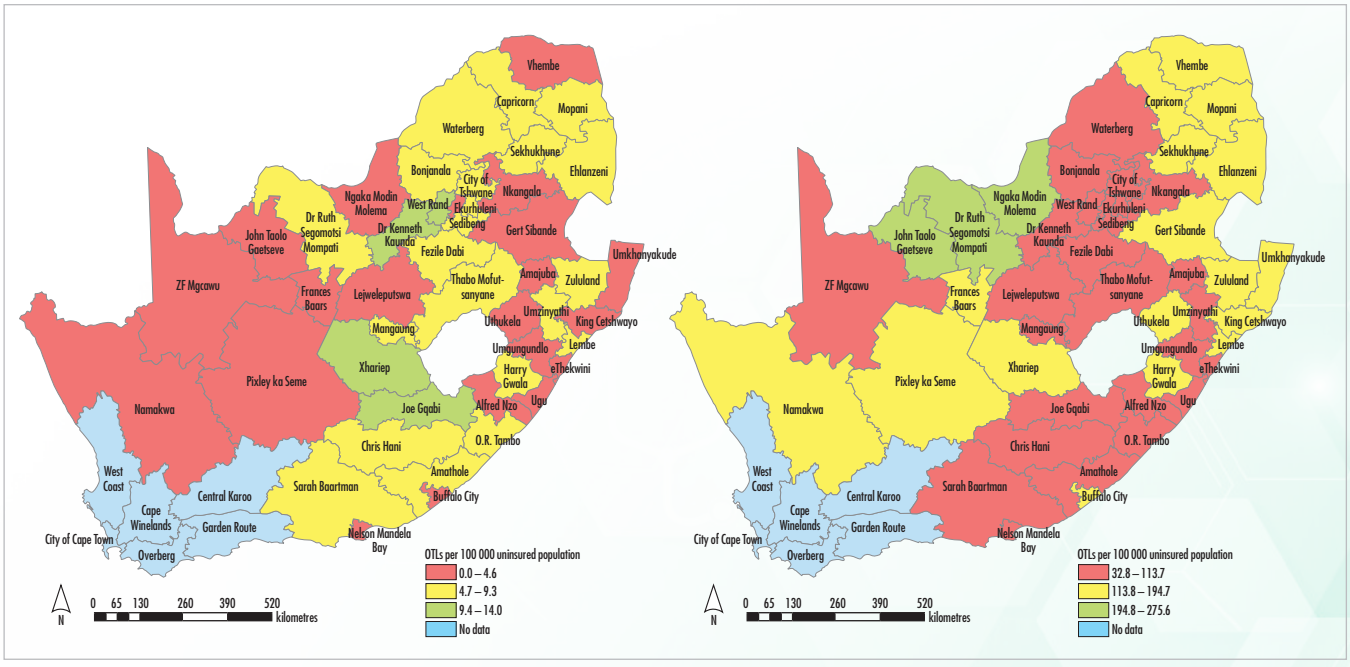


Figure 11a *OTLs per 100 000 uninsured population per district*

Figure 11b *CHWs per 100 000 uninsured population per district*

3.1.4 Number and geographical coverage of CHWs and OTLs by Province and District

Figure 12 below indicates the number of CHWs and OTLs by district. The highest numbers of CHWs were in Mpumalanga province in the Ehlanzeni DM with 2 376 CHWs, followed by 1 935 CHWs in the Ngaka Modiri Molema DM, and 1 874 CHWs in the eThekwini MM.

The highest number of OTLs was in Gauteng province, with Johannesburg MM having 176 OTLs, followed by Ekurhuleni MM with 162, and Tshwane MM with 159 OTLs. Ehlanzeni DM which had the most CHWs in the country, had the fourth-highest number of OTLs, with 109 reported as the time of this analysis.

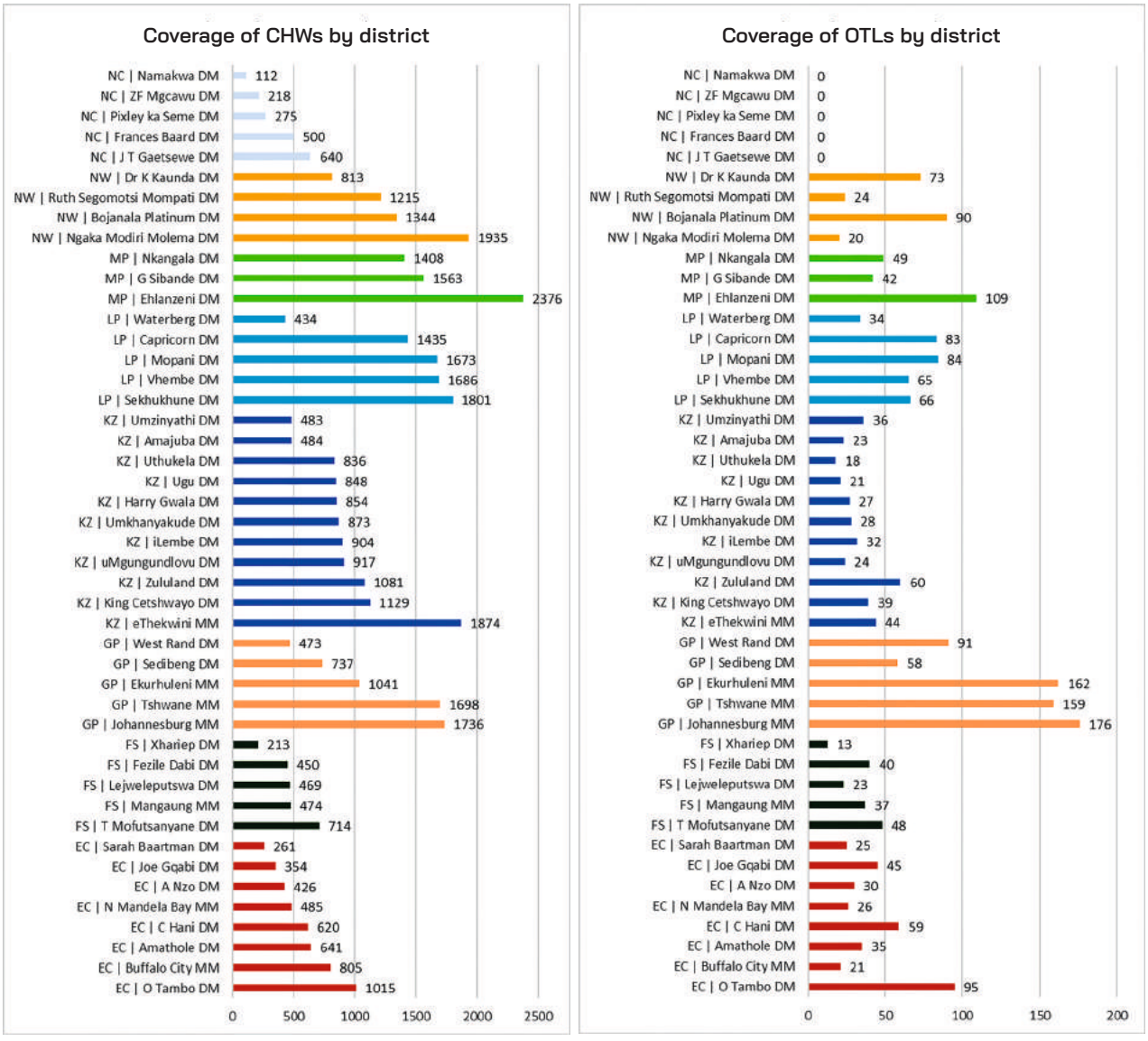


Figure 12 *Coverage of CHWs and OTLs by district, 2023*

Figure 13 shows the ratio of CHWs to OTLs. The highest ratios of CHWs to OTLs were in two districts in the North West province: the Ngaka Modiri Molema DM with 96.8 CHWs to 1 OTL (96.8:1) followed by the Ruth Segometsi Mompati DM with 50.6 CHWs to 1 OTL

(50.6:1). KwaZulu-Natal province had the next highest ratio of CHWs to 1 OTL, with six out of eleven districts (Uthukela, eThekwini MM, Ugu, uMgungundlovu, Umkhanyakude and Harry Gwala) having a ratio of more than 30 CHWs to 1 OTL. The Eastern Cape province had one district, Buffalo City, with 38.3 CHWs to 1 OTL (38.3:1).

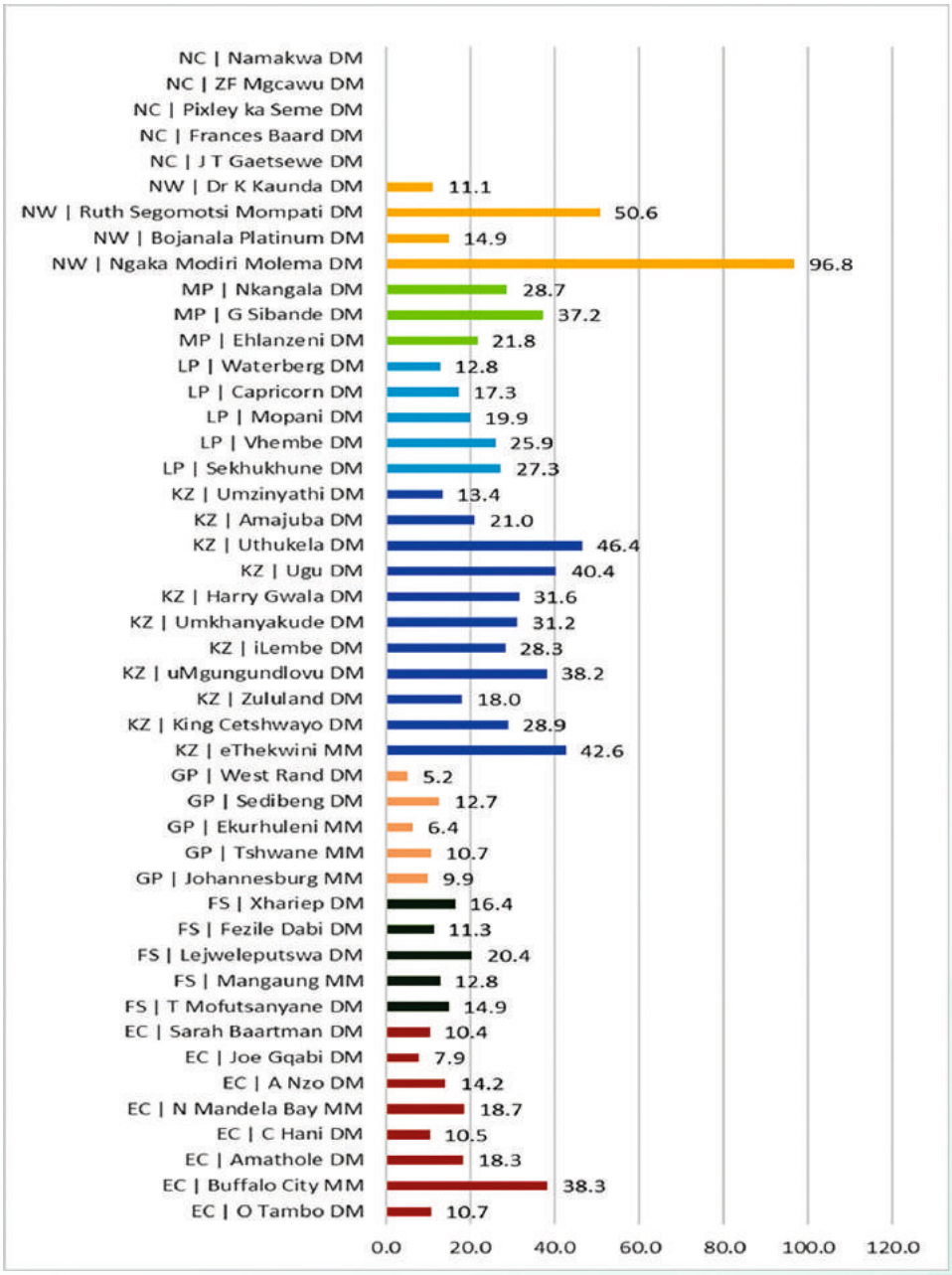


Figure 13 *CHW to OTL ratio by district, October 2023*

3.2 Survey

3.2.1 Response rates

The response rate is estimated based on the number of sampled participants at the facilities against sampled participants who consented and participated in the quantitative survey. All 192 facilities agreed to the interviews. Twelve facilities (7 in Gauteng and 5 in the Western Cape) were not approached because there were no ethics approvals for the study in these facilities.

Table 5 shows that the response rate for OTLs (89.4%) was higher than for CHWs (80.9%). Free State had the highest OTL (92.3%) response rate, while North West had the highest CHW (95.6%) response rate.

The primary reason for non-participation was upfront refusal (37.0%), followed by those who did not respond to calls after agreeing to interview times (13.0%), those who feared being scammed (10.9%), and those who had resigned from their positions (8.7%).

Table 5 *Survey response rates*

	Number of facilities sampled	OTLs			CHWs		
		Number of OTLs expected to participate	Number of OTLs who participated	OTL % participated/ expected	Number of CHWs expected	Number of CHWs participated	CHW % participated/ expected
Eastern Cape	58	29	26	89.7	208	171	82.2
Free State	17	13	12	92.3	68	58	85.3
Gauteng	21	15	12	80.0	81	50	61.7
KwaZulu-Natal	39	29	19	65.5	151	132	87.4
Limpopo	21	0	16	-	80	74	92.5
Mpumalanga	16	16	12	75.0	64	53	82.8
Northern Cape	9	0	1	**	36	23	63.9
North West	12	12	9	75.0	45	43	95.6
Western Cape	9	9	3	33.3	36	18	50.0
Total	202	123	110	89.4	769	622	80.9

*** While the Ideal Clinic Database and the provincial data showed that there was no OTL in the NC, the study team found 1 OTL who was interviewed during the interview period.*

3.2.2 Sample demographics

Table 6 shows that most CHWs (91.2%) were community-based and that about a quarter of OTLs (24.5%) supervised CHWs in addition to their other duties. These OTLs were defined as assigned OTLs in this study. Over half (51.9%) of these assigned OTLs were Enrolled Nurses (ENs), while the rest were either Registered/Professional nurses (40.7%), or Auxiliary nurses (7.4%).

Table 6 *Staff category of survey participants*

CHW	%	n
Total	**100**	**622**
CHW (Facility-based)	8.8	55
CHW (Community-based)	91.2	567
OTL		
Total	**100**	**110**
*OTL Full-time designated	75.5	83
Part-time OTL (**assigned)	24.5	27
Professional category of assigned/part-time OTLs		
Registered Professional nurse	40.7	11
Enrolled nurse	51.9	14
Auxiliary nurse	7.4	2

**Full-time designated – nurses who are employed full-time as OTLs*

***Assigned OTL – individuals employed full-time as nurses in facilities linked to outreach teams who also supervise the CHWs*

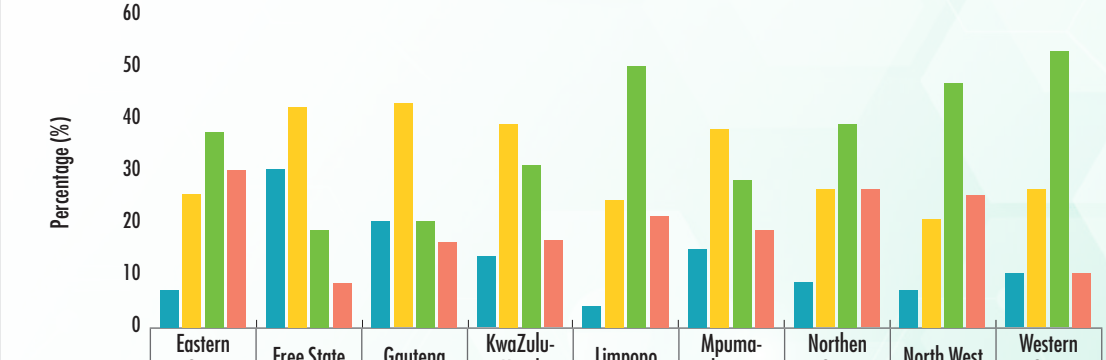
Table 7 shows the demographic characteristics of those who participated in the survey. The average age of the CHWs and OTLs was 46 years (SD=8.6) and 46 years (SD=9.5) respectively. The study had more CHWs older than 55 years (21.1%) compared to OTLs (16.4%). Most of the participants were females (89.8%), Black Africans (95.6%), and from the Eastern Cape (23.6%). Less than half (47.7%) of the participants had completed matric. Over sixty per cent (61.5%) of OTLs had a tertiary qualification, 63.5% had a Diploma vs. 10.2% for CHWs, and 7.7% had a Degree vs. 0.4% for CHWs. 37.5% of CHWs had their highest education level between Grades 8 – 11.

Table 7 *Demographic characteristics of CHWs and OTLs who participated in the survey*

Demographics	CHWs		OTLs	
	%	*n*	%	*n*
Total	**100**	**622**	**100**	**110**
Age (years)				
23 – 34	12.2	76	7.3	8
35 – 44	32.0	199	36.4	40
45 – 54	34.7	216	40.0	44
55+	21.1	131	16.4	18
Sex				
Male	8.7	54	19.1	21
Female	91.3	568	80.9	89
Race				
Black African	95.3	593	97.3	107
White	0.0	0	0.9	1
Coloured	4.0	25	1.8	2
Indian/Asian	0.3	2	0.0	0
Other	0.3	2	0.0	0
Province				
Eastern Cape	27.2	169	23.6	26
KwaZulu-Natal	21.3	132	18.2	20
Limpopo	11.9	74	14.5	16
Free State	9.5	59	10.9	12
Mpumalanga	8.5	53	10.9	12
Gauteng	7.9	49	10.9	12
North West	6.9	43	7.3	8
Northern Cape	3.7	23	0.9	1
Western Cape	3.1	19	2.7	3

Demographics	CHWs		OTLs	
Highest educational level				
	%	***n***	**%**	***n***
None/No schooling	0.0	0	0.9	1
Primary: Grade R to Grade 7	3.3	20	0.0	0
Secondary: Grade 8 – 11	37.5	230	2.8	3
Secondary: Grade 12 (National Senior Certificate/Matric)	49.9	306	34.9	38
Tertiary	9.0	55	61.5	67
Don't know	0.3	2	0	0
Highest qualifications				
Certificate	89.4	237	28.8	30
Diploma	10.2	27	63.5	66
Degree	0.4	1	7.7	8

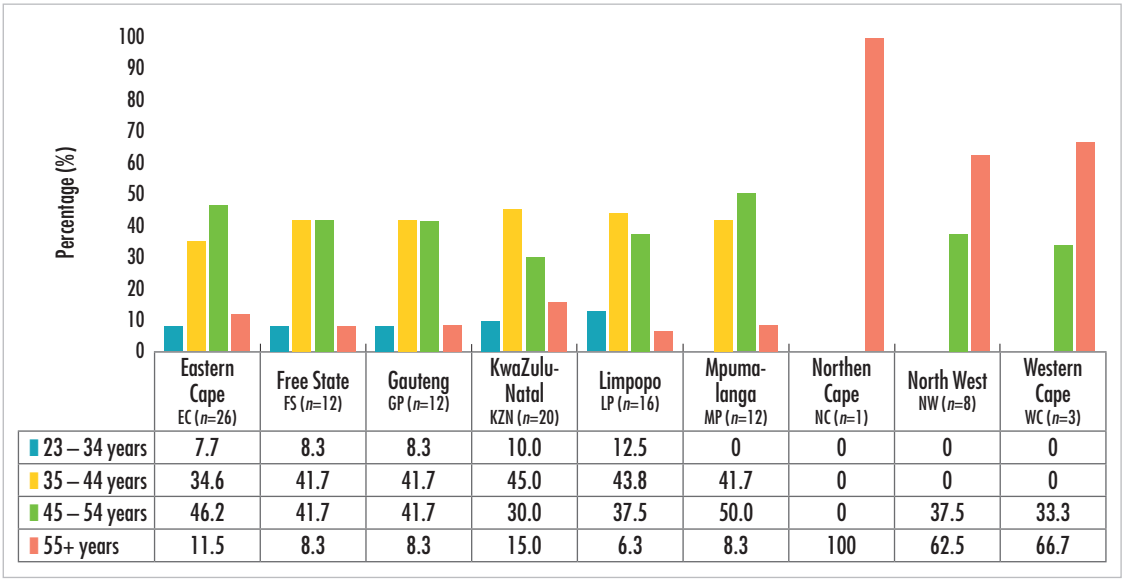
Figure 14 shows that the Eastern Cape (30.2%), Northern Cape (26.1%), and North West (25.6%) provinces had the largest portion of CHWs that were 55 years and older. Most provinces had an older age group (45 years and older) of CHWs. Free State (30.5%) and Gauteng (20.4%) had the largest group of CHWs aged 23 – 34 years.



	Eastern Cape EC (*n*=169)	Free State FS (*n*=59)	Gauteng GP (*n*=49)	KwaZulu-Natal KZN (*n*=132)	Limpopo LP (*n*=74)	Mpuma-langa MP (*n*=53)	Northen Cape NC (*n*=23)	North West NW (*n*=43)	Western Cape WC (*n*=19)
23 – 34 years	7.1	30.5	20.4	13.6	4.1	15.1	8.7	7.0	10.5
35 – 44 years	25.4	42.4	42.9	38.6	24.3	37.7	26.1	20.9	26.3
45 – 54 years	37.3	18.6	20.4	31.1	50.0	28.3	39.1	46.5	52.6
55+ years	30.2	8.5	16.3	16.7	21.6	18.9	26.1	25.6	10.5

Figure 14 *Age group of CHWs by province (n=621)*

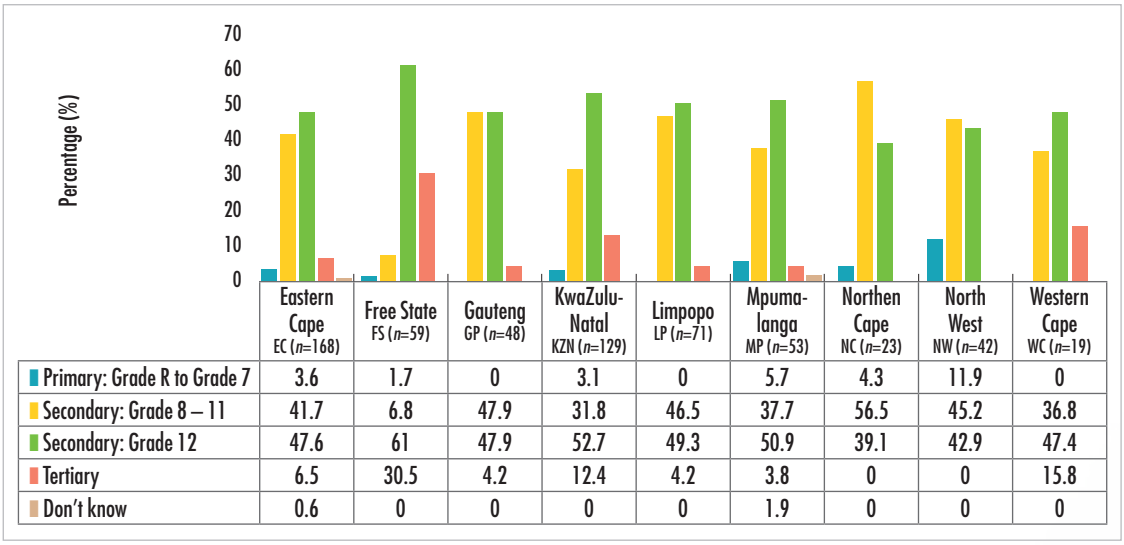
Figure 15 shows the age group of OTLs by province. Sixteen percent of OTLs were aged 55 years and older. KwaZulu-Natal (15.0%) and Eastern Cape (11.5%) had more OTLs aged 55 years and older. In the North West and Western Cape, all OTLs were older than 45 years.



	Eastern Cape EC (*n*=26)	Free State FS (*n*=12)	Gauteng GP (*n*=12)	KwaZulu-Natal KZN (*n*=20)	Limpopo LP (*n*=16)	Mpuma-langa MP (*n*=12)	Northen Cape NC (*n*=1)	North West NW (*n*=8)	Western Cape WC (*n*=3)
23 – 34 years	7.7	8.3	8.3	10.0	12.5	0	0	0	0
35 – 44 years	34.6	41.7	41.7	45.0	43.8	41.7	0	0	0
45 – 54 years	46.2	41.7	41.7	30.0	37.5	50.0	0	37.5	33.3
55+ years	11.5	8.3	8.3	15.0	6.3	8.3	100	62.5	66.7

Figure 15 *Age group of OTLs by province (n=110) (* only 1 OTL participated in the NC)*

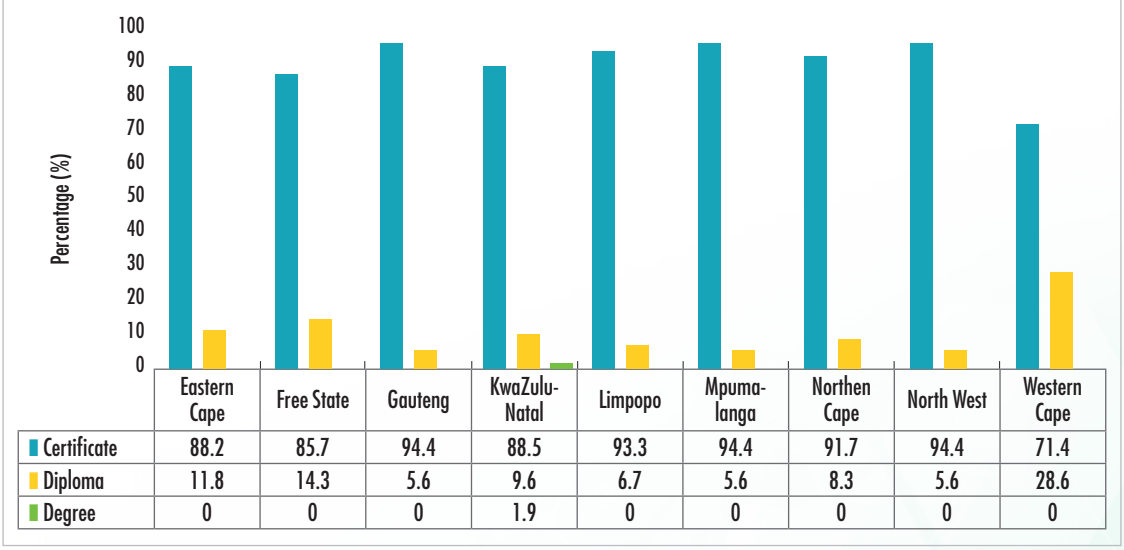
Figure 16 shows the highest level of education for CHWs by province. Free State (61%) had the highest proportion of CHWs with Grade 12, followed KwaZulu-Natal (52.7%), by Mpumalanga (50.9%), and Limpopo (49.3). The Free State (30.5%) had the highest proportion of CHWs with a tertiary-level education, followed by the Western Cape (15.8%).



	Eastern Cape EC (*n*=168)	Free State FS (*n*=59)	Gauteng GP (*n*=48)	KwaZulu-Natal KZN (*n*=129)	Limpopo LP (*n*=71)	Mpuma-langa MP (*n*=53)	Northen Cape NC (*n*=23)	North West NW (*n*=42)	Western Cape WC (*n*=19)
Primary: Grade R to Grade 7	3.6	1.7	0	3.1	0	5.7	4.3	11.9	0
Secondary: Grade 8 – 11	41.7	6.8	47.9	31.8	46.5	37.7	56.5	45.2	36.8
Secondary: Grade 12	47.6	61	47.9	52.7	49.3	50.9	39.1	42.9	47.4
Tertiary	6.5	30.5	4.2	12.4	4.2	3.8	0	0	15.8
Don't know	0.6	0	0	0	0	1.9	0	0	0

Figure 16 *Highest level of schooling of CHWs by province (n= 612)*

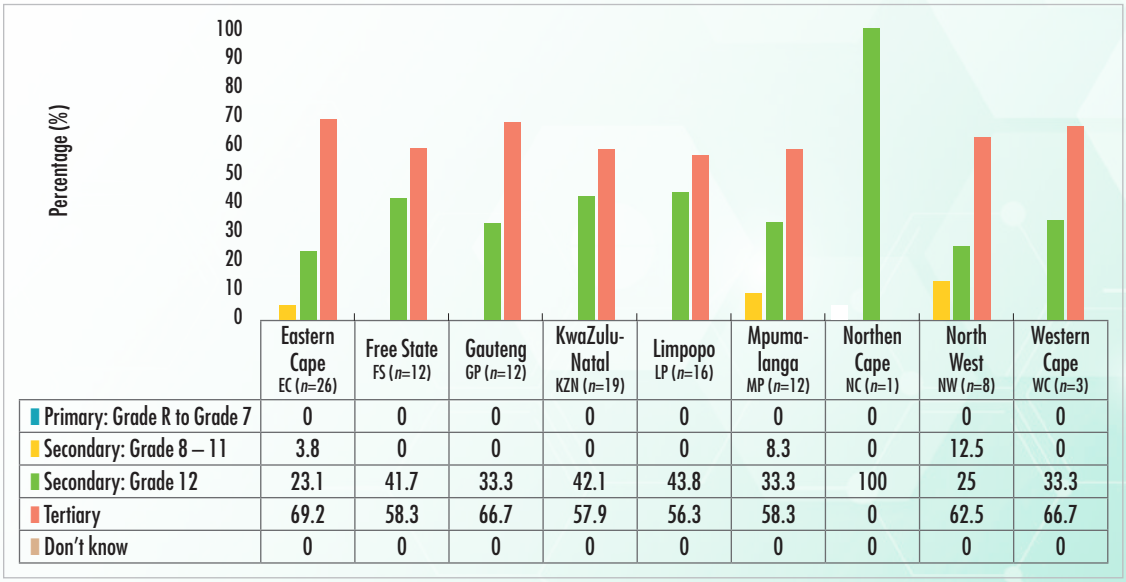
Figure 17 shows the highest level of qualification for CHWs by province. Overall, over 70% of CHWs had a certificate qualification, with Gauteng (94.4%), North West (91.7%) and Mpumalanga (94.4%) having the highest proportions of those with a certificate qualification. The Western Cape had the highest proportion (28.6%) of CHWs with a degree qualification.



	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpuma-langa	Northen Cape	North West	Western Cape
Certificate	88.2	85.7	94.4	88.5	93.3	94.4	91.7	94.4	71.4
Diploma	11.8	14.3	5.6	9.6	6.7	5.6	8.3	5.6	28.6
Degree	0	0	0	1.9	0	0	0	0	0

Figure 17 *Highest level of qualification of CHWs by province (n= 265)*

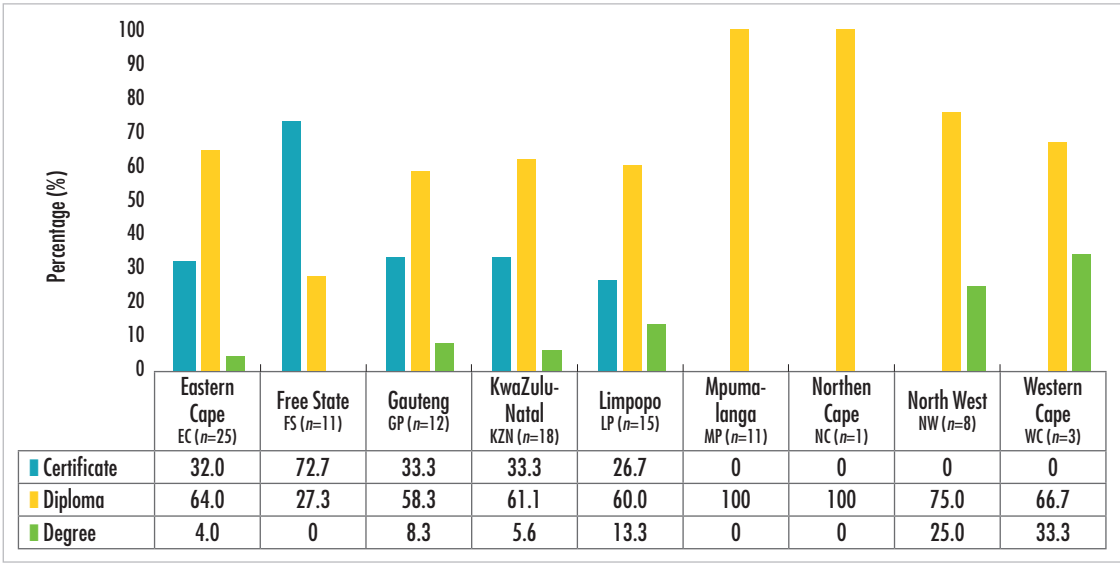
Figure 18 shows the level of education of OTLs by province. Among the OTLs interviewed in Limpopo and KwaZulu-Natal, 43.8% and 42.1%, respectively, had a secondary level of education (100% in the Northern Cape represents *n*=1 OTL interviewed in this province). The Eastern Cape had the highest proportion of OTLs with a tertiary level education, with Gauteng and the Western Cape having the second highest (66.7%). Free State and Mpumalanga had the same proportion of OTLs with a tertiary level education (58.3%).



	Eastern Cape EC (*n*=26)	Free State FS (*n*=12)	Gauteng GP (*n*=12)	KwaZulu-Natal KZN (*n*=19)	Limpopo LP (*n*=16)	Mpuma-langa MP (*n*=12)	Northen Cape NC (*n*=1)	North West NW (*n*=8)	Western Cape WC (*n*=3)
Primary: Grade R to Grade 7	0	0	0	0	0	0	0	0	0
Secondary: Grade 8 – 11	3.8	0	0	0	0	8.3	0	12.5	0
Secondary: Grade 12	23.1	41.7	33.3	42.1	43.8	33.3	100	25	33.3
Tertiary	69.2	58.3	66.7	57.9	56.3	58.3	0	62.5	66.7
Don't know	0	0	0	0	0	0	0	0	0

Figure 18 *Highest level of education of OTLs by province (n=109)*

Figure 19 shows the highest qualification for OTLs by province. Over 60% of the OTLs had a diploma qualification, except for Free State (27.3%) and Gauteng (58.3%). Mpumalanga (100%) and Northern Cape (100%, *n*=1) had the highest proportion of OTLs with a diploma qualifications. The Western Cape had the highest proportion (33.3%) of OTLs with degree qualifications.



	Eastern Cape EC (*n*=25)	Free State FS (*n*=11)	Gauteng GP (*n*=12)	KwaZulu-Natal KZN (*n*=18)	Limpopo LP (*n*=15)	Mpuma-langa MP (*n*=11)	Northen Cape NC (*n*=1)	North West NW (*n*=8)	Western Cape WC (*n*=3)
Certificate	32.0	72.7	33.3	33.3	26.7	0	0	0	0
Diploma	64.0	27.3	58.3	61.1	60.0	100	100	75.0	66.7
Degree	4.0	0	8.3	5.6	13.3	0	0	25.0	33.3

Figure 19 *Highest qualification of OTLs by province (n=104)*

3.2.3 Years of experience

Figure 20 shows years of experience of CHWS and OTLs. CHWs had longer years of experience when compared to OTLs (Figure 21). Most CHWs (86.6%) had five years of experience or longer compared to 42.7% of OTLs. Over a fifth (22.7%) of OTLs had one to two years of experience, compared to 4.2% of CHWs.

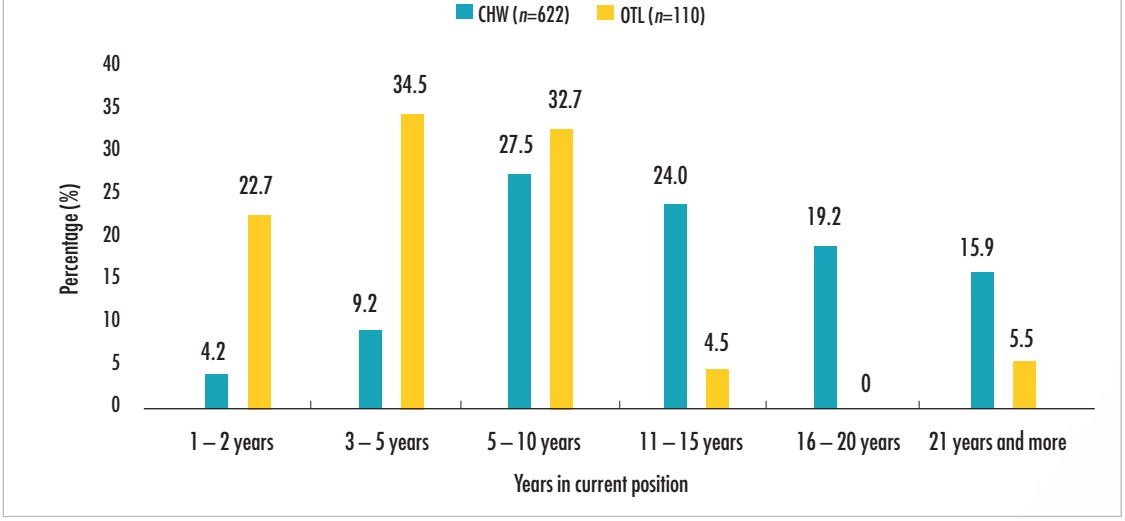
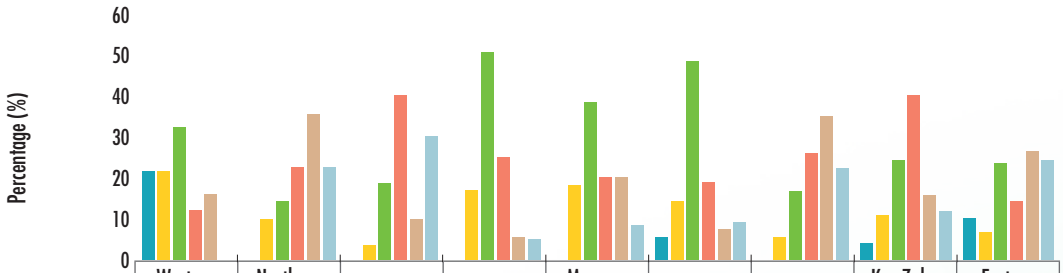


Figure 20 *Years of experience in current position by CHW and OTL (n=731)*

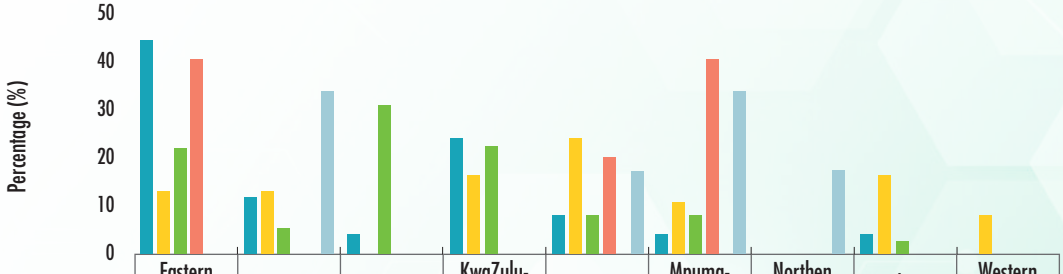
In Limpopo, North West and Northern Cape provinces, 80.8%, 79% and 78.2% (respectively) of the CHWs had more than ten years' experience in their current position (Figure 19). The CHWs from the Western Cape had the least number of years of experience.



	Western Cape	Northern Cape	North West	Gauteng	Mpuma-langa	Free State	Limpopo	KwaZulu-Natal	Eastern Cape
1 – 2 years	21.1	0	0	0	0	5.1	0	2.3	9.5
3 – 5 years	21.1	8.7	2.3	16.3	17.0	13.6	4.1	9.8	5.3
5 – 10 years	31.6	13.0	18.6	51.0	37.7	47.5	15.1	23.5	22.5
11 – 15 years	10.5	21.7	39.5	24.5	18.9	18.6	24.7	39.4	13.0
16 – 20 years	15.8	34.8	9.3	4.1	18.9	6.8	34.2	14.4	26.0
21 years and more	0	21.7	30.2	4.1	7.5	8.5	21.9	10.6	23.7

Figure 21 *Years of experience in CHW position by province (n=620)*

OTLs sampled in Mpumalanga and Free State had more years of experience in their current position when compared to other provinces. Eastern Cape (44.0%) and KwaZulu-Natal (24.0%) had more OTLs with one to two years of experience.



	Eastern Cape	Free State	Gauteng	KwaZulu-Natal	Limpopo	Mpuma-langa	Northen Cape	North West	Western Cape
1 – 2 years	44.0	12.0	4.0	24.0	8.0	4.0	0	4.0	0
3 – 5 years	13.2	13.2	0	15.8	23.7	10.5	0	15.8	7.9
5 – 10 years	22.2	5.6	30.6	22.2	8.3	8.3	0	2.8	0
11 – 15 years	40.0	0	0	0	20.0	40.0	0	0	0
21 years and more	0	33.3	0	0	16.7	33.3	16.7	0	0

Figure 22 *Years of experience in OTL position by province (n=110)*

Figure 23 shows the CHWs' self-reported skills in key health areas. Most CHWs (over 80%) reported being skilled in providing education supporting healthy behaviours, facilitating appropriate home care, and distributing health promotion material for Maternal, Child and Women's health, HIV, TB and other communicable diseases, and chronic and non-communicable diseases. A lower proportion reported having these skills for substance use, and violence and injuries.

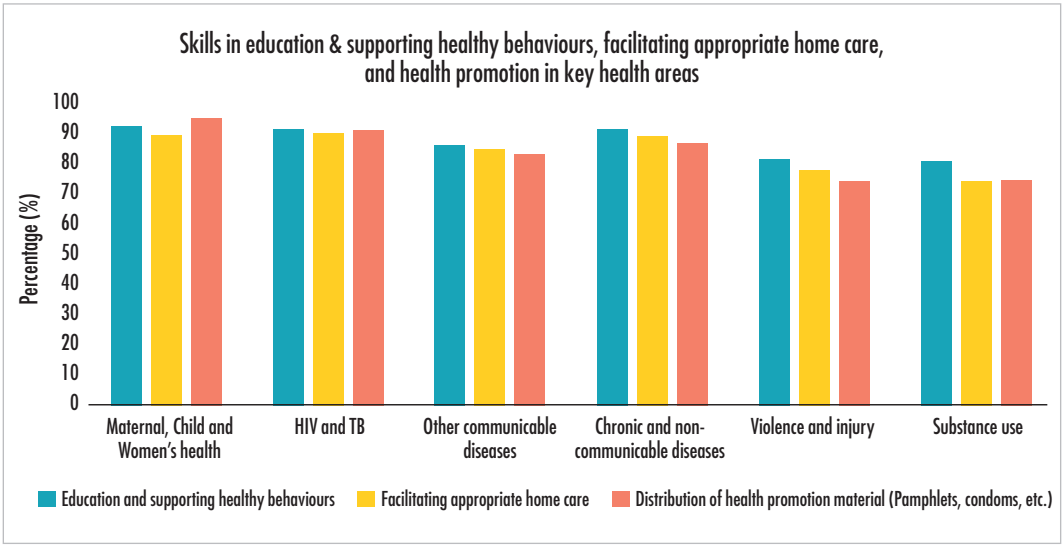


Figure 23 *CHW self-reported skills in relation to key health conditions within their scope of practice*

3.2.4 Activities/tasks performed by CHWs and OTLs

Table 8 indicates the proportion of CHWs and OTLs who reported undertaking various tasks as prescribed for their roles. Generally, over 90% of CHWs reported that they carry out the activities and tasks assigned to them as listed in Table 7, with lower proportions reporting that they facilitate vital registrations (registration of births and deaths) (84.1%) and provide counselling (84.9%). The pattern was similar for OTLs. Over 90% reported that they carry out activities and tasks assigned to them, with 80.9% reporting that they facilitate vital registrations (registration of births and deaths). All OTLs interviewed reported establishing and maintaining good working relations with team members and supervisors and self-reported having good communication skills (providing and presenting information to community members clearly and appropriately, and providing and presenting information to individuals at the household level clearly and appropriately).

Table 8 *Tasks carried out by CHWs and OTLs, based on self-report*

Task/activity	CHW		OTL	
	%	*n*	%	*n*
Obtaining biographical profiles of household members	97.9	604	97.3	107
Screening for social conditions in children, youth and adults	98.7	608	98.2	108
Identifying the level of individual and household social risks	96.8	596	98.2	107
Identifying vulnerable individuals and households	97.6	601	96.3	104
Providing counselling	84.9	524	93.6	102
Providing emotional support	93.9	580	94.5	104
Providing treatment adherence support	95.9	591	96.3	105
Compiling a community profile	93.7	578	94.5	104
Identifying community resources	93.5	577	95.5	105
Identifying health services	97.2	600	97.2	106
Identifying social and other support services	96.6	594	97.3	107
Identifying and managing minor health problems in children	98.4	609	98.2	108
Identifying and managing minor health problems in adults	99.0	613	99.1	109
Conducting wellness campaigns in the community	95.6	592	99.1	109
Conducting wellness campaigns at schools and ECD centres	92.0	567	94.5	104
Facilitating referral to care/services	98.2	606	98.2	108
Facilitating access to social grants	91.7	566	91.8	101
Facilitating vital registrations – registration of births and deaths	84.1	517	80.9	89
Establishing and maintaining good working relations with team members, supervisors, and other stakeholders	99.8	613	100.0	110
Providing and presenting information to community members clearly and appropriately	99.0	611	100.0	110
Providing and presenting information to individuals at the household level clearly and appropriately	98.9	609	100.0	110
Organising tasks to meet deadlines	96.6	597	98.2	108
Completion, storage and submission of forms	97.6	604	99.1	109

Table 9 shows activities and tasks assigned to OTLs only according to their scope of work. Over 90% reported carrying out the assigned tasks and activities. 6.6% did not carry out clinical duties at the clinic, 5.6% were not involved in community engagements, and less than 2% did not prepare weekly reports.

Table 9 *Tasks carried out by OTLs, based on self-report*

Activity/Task	%	*n*
Training and mentoring of CHWs	95.4	103
Supervising CHWs	100.0	108
Coordinating CHWs – work allocation, leave management	98.1	106
Staff leadership and development	100.0	108
Planning and delegation of work and tasks	100.0	108
Monitoring, evaluation and reporting	99.1	107
Preparing weekly/monthly reports	98.2	108
Record keeping	99.1	107
Conducting community engagements	94.4	101
Conducting or supporting intervention campaigns	97.2	105
Engaging community leaders in CHW activities	96.3	103
Screening, providing preliminary diagnosis and referral	98.1	106
Carrying out clinical activities during home visits	96.3	104
Carrying out clinical duties at the clinic	92.5	98
Facilitating upward and downward referral of WBPHCOT clients within the clinic	97.2	105

3.2.5 Proficiency in conducting tasks, based on self report

In terms of proficiency in carrying out the tasks and activities listed in Table 7, participants rated their proficiency in performing these tasks on a 5-point Likert scale, where the responses were 1=No skill, 2=Basic, 3=Competent, 4=Advanced, and 5=Expert. Overall, over 85% of CHWs rated themselves as competent, advanced, or expert, and over 50% reported having advanced or expert-level skills for all tasks. The skill in which CHWs and OTLs reported the highest expert-level ratings was establishing and maintaining good working relations with team members, supervisors, and other stakeholders, where 41% of CHWs and 43% of OTLs rated themselves as experts. More OTLs rated themselves as experts regarding their skills and carrying out assigned tasks and activities than CHWs

(see Figure 24–27). The median rating for CHWs and OTLs was 4=Advanced for most activities and skill areas in Table 9. Those who completed Foundation Phase training had a higher median rating (median=4) than those who did not complete the Foundation Phase training (median=3).

3.2.6 CHW and OTL skills ratings

3.2.6.1 Counselling and Identifying support services

Figure 24 shows the counselling and identifying support services skills ratings among CHWs and OTLs. The majority rated themselves as advanced/expert, this was the highest ratings in all the skill areas presented.

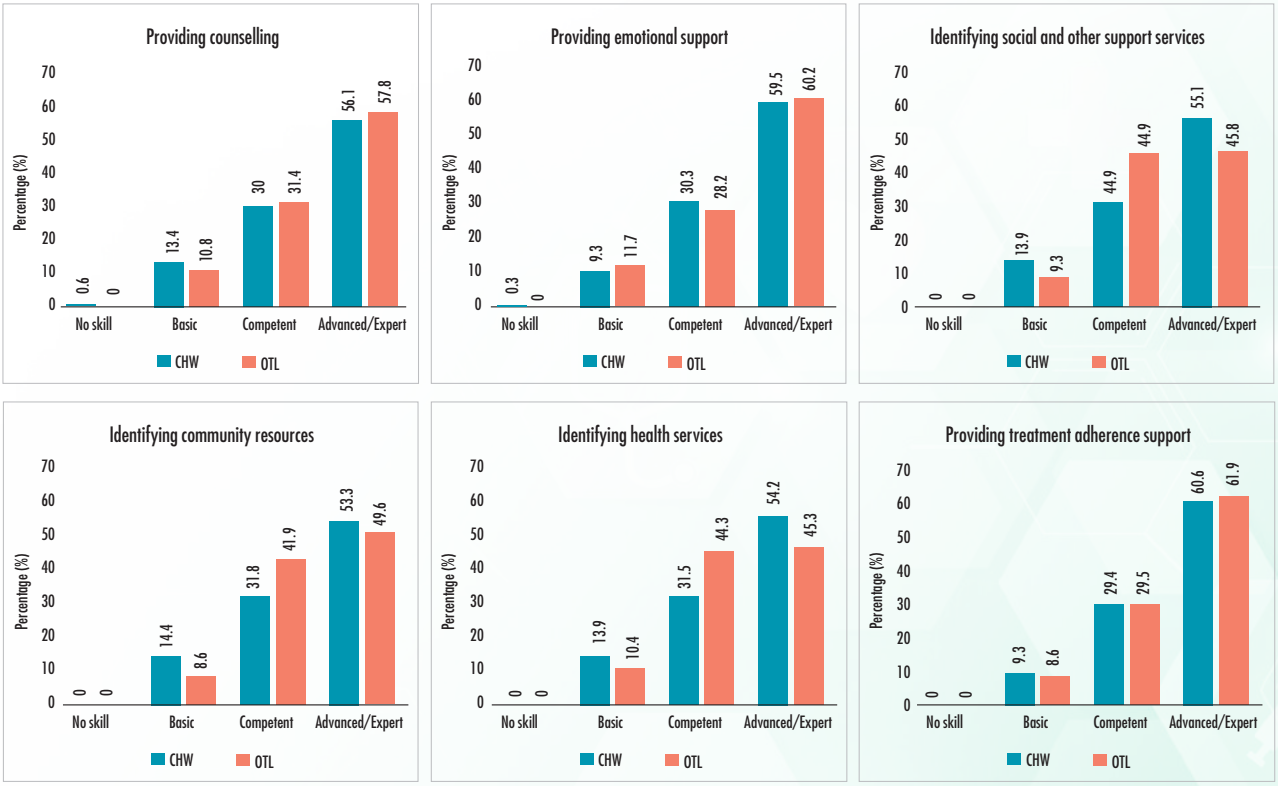


Figure 24 *Counselling and support: self-rating proficiency*

3.2.6.2 Household and individual level profiling

Figure 25 shows skills ratings in household and individual level profiling. The majority of CHWs and OTLs rated themselves as advanced/experts in household and individual level profiling.

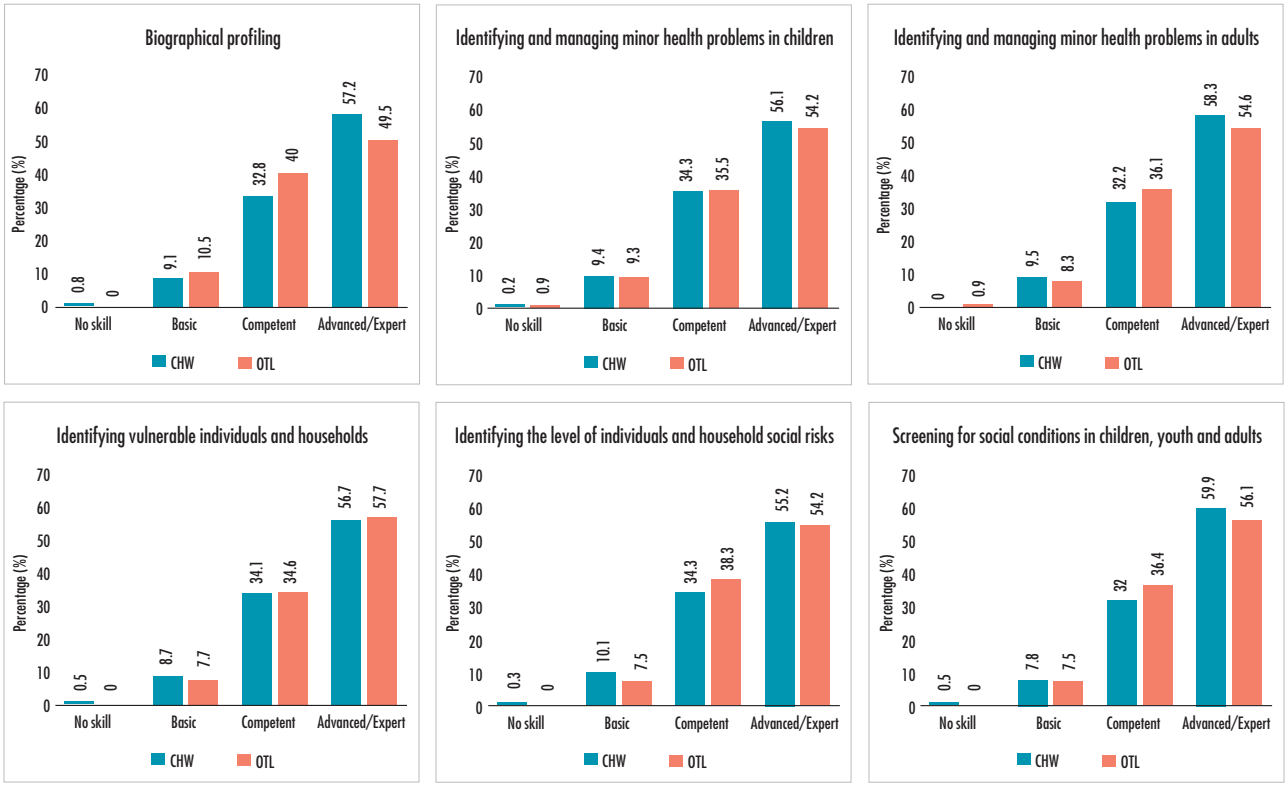


Figure 25 *Household and individual-level profiling: self-rating proficiency*

3.2.6.3 Community profiling and campaigns

Figure 26 shows the skills ratings for CHWs and OTLs in conducting community level profiling and wellness campaigns. The majority of CHWs and OTLs rated themselves as advanced/expert in compiling community profiles and conducting wellness campaigns.

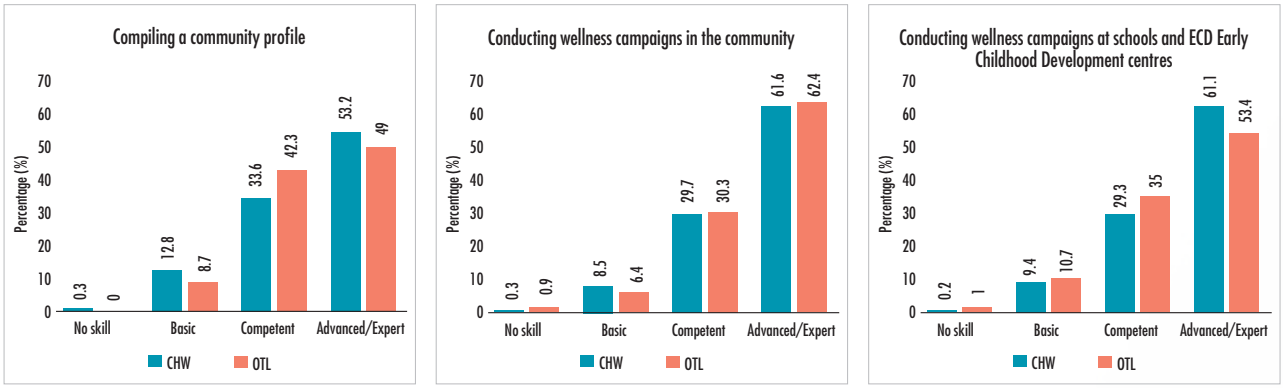


Figure 26 *Community profiling and campaigns: self-rating proficiency*

3.2.6.4 Communication, teamwork, and administration

Figure 27 shows skills ratings in communication, team work and administration. The ratings among CHWs and OTLs are mostly advanced/expert across all skill areas.

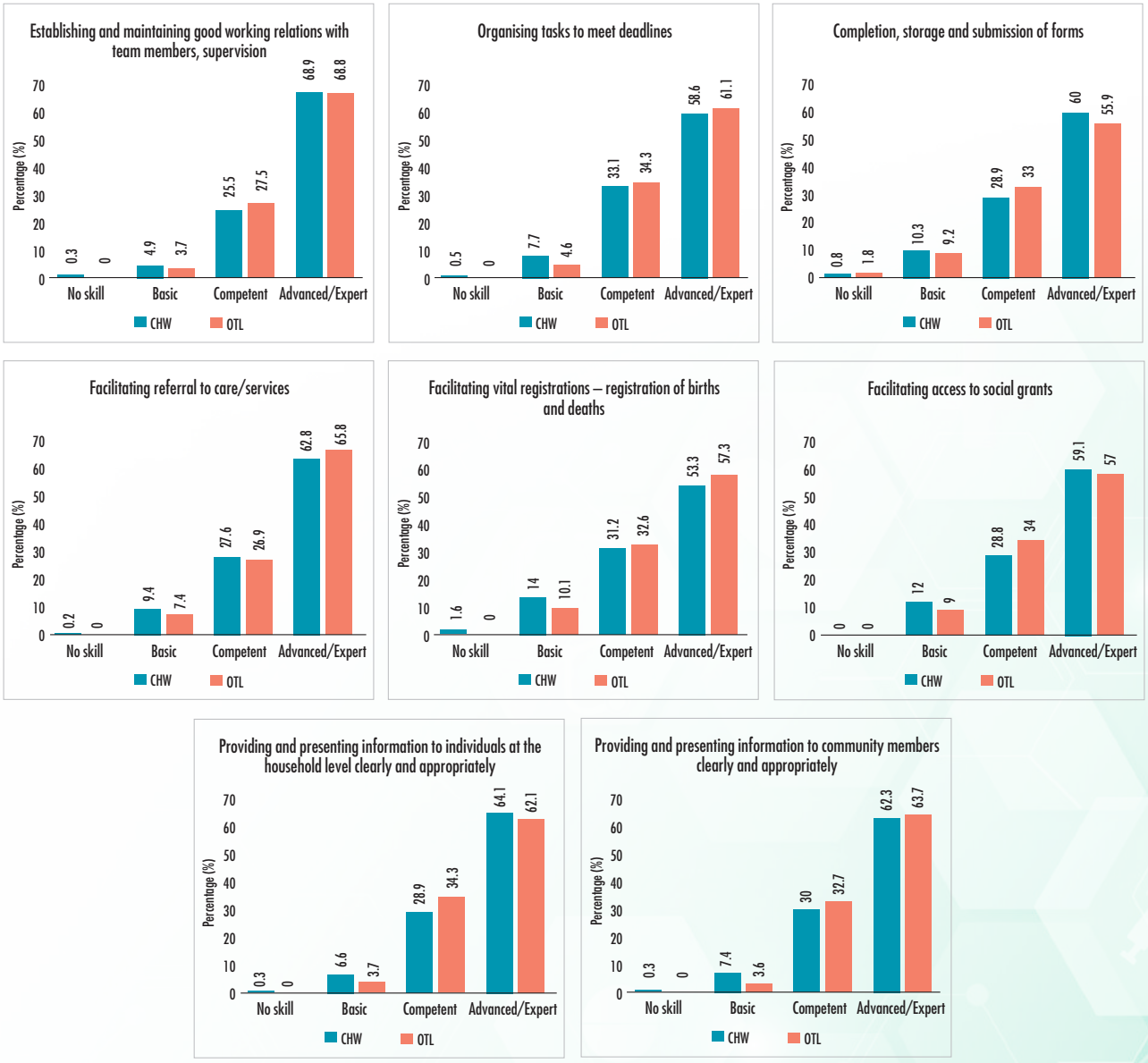


Figure 27 *Communication, team work and administration: self-rating proficiency*

3.2.7 OTL Skills ratings

The OTL Skills rating who reported performing each of the activities in Table 9 were also asked to rate their proficiency in performing each activity on a 5-point Likert scale where 1=No skill, 2=Basic, 3= Competent, 4=Advanced and 5=Expert. OTLs mostly rated themselves as competent, advanced, and expert. Preparing weekly reports (38%) and record keeping (40%) had the highest ratings (experts). One OTL (0.9%) reported having no skill in conducting wellness campaigns in the community, and 4.6% reported having basic proficiency in preparing weekly/monthly reports.

The median proficiency rating was 4 out of 5 across all the skills. OTLs with 1 – 2 years experience had lower median proficiency scores (median=3) than those with more than two years' experience (median=4).

3.2.7.1 Management and leadership

Figure 28 shows the skills ratings in areas of management and leadership among OTLs. Overall, OTLs rated themselves as either competent of experts with the skills presented.

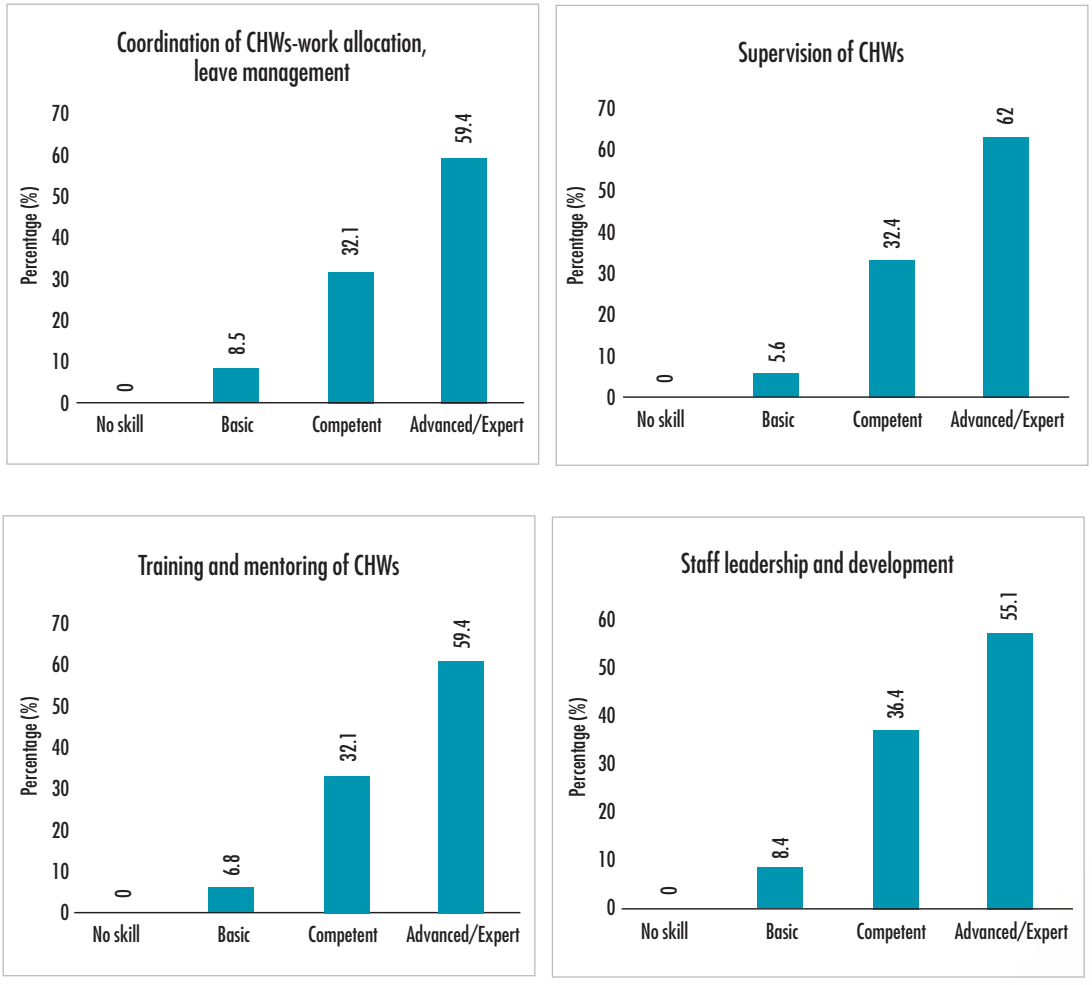


Figure 28 *Management and leadership: self-rating proficiency*

3.2.7.2 Administration

Figure 29 shows the ratings for administrative skills among OTLs. Similar trends are also indicated showing that most OTLs consider themselves as competent or experts, with the majority rating themselves as experts regarding admin.

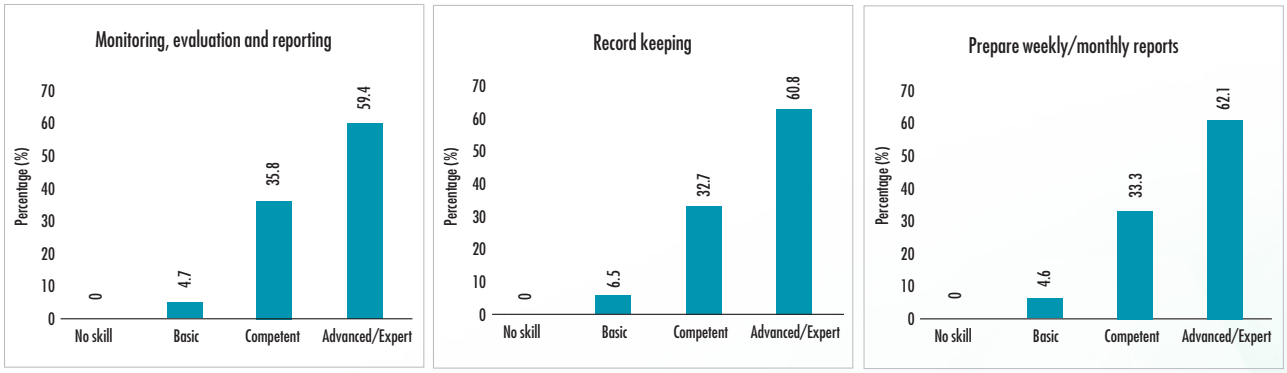


Figure 29 *Administrative skills: self-rating proficiency*

3.2.7.3 Community engagement

Figure 30 shows the community engagement ratings among OTLs. The majority of OTLs rated themselves as competent in community engagement.

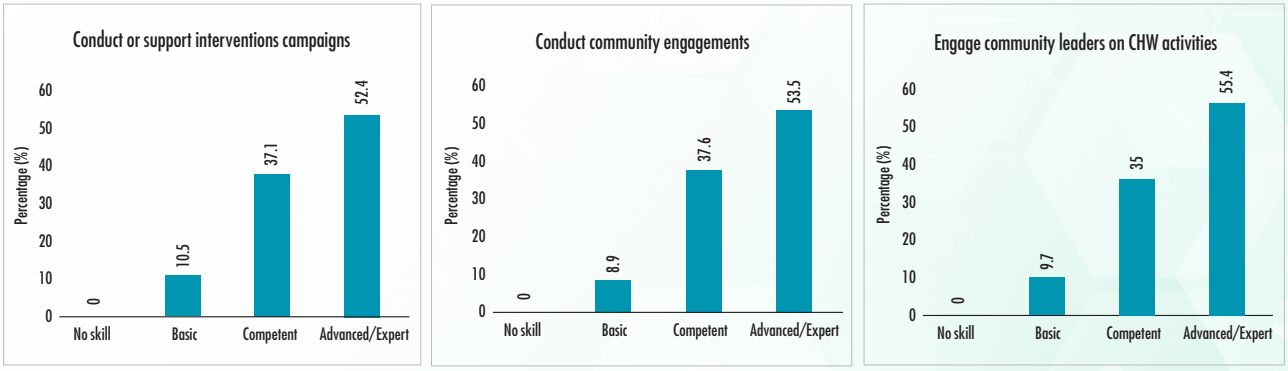


Figure 30 *Community engagement: self-rating proficiency*

3.2.7.4 Clinical skills

Figure 31 shows the clinical skills ratings among OTLs. OTLs have rated themselves as advanced/expert regarding their clinical skills.

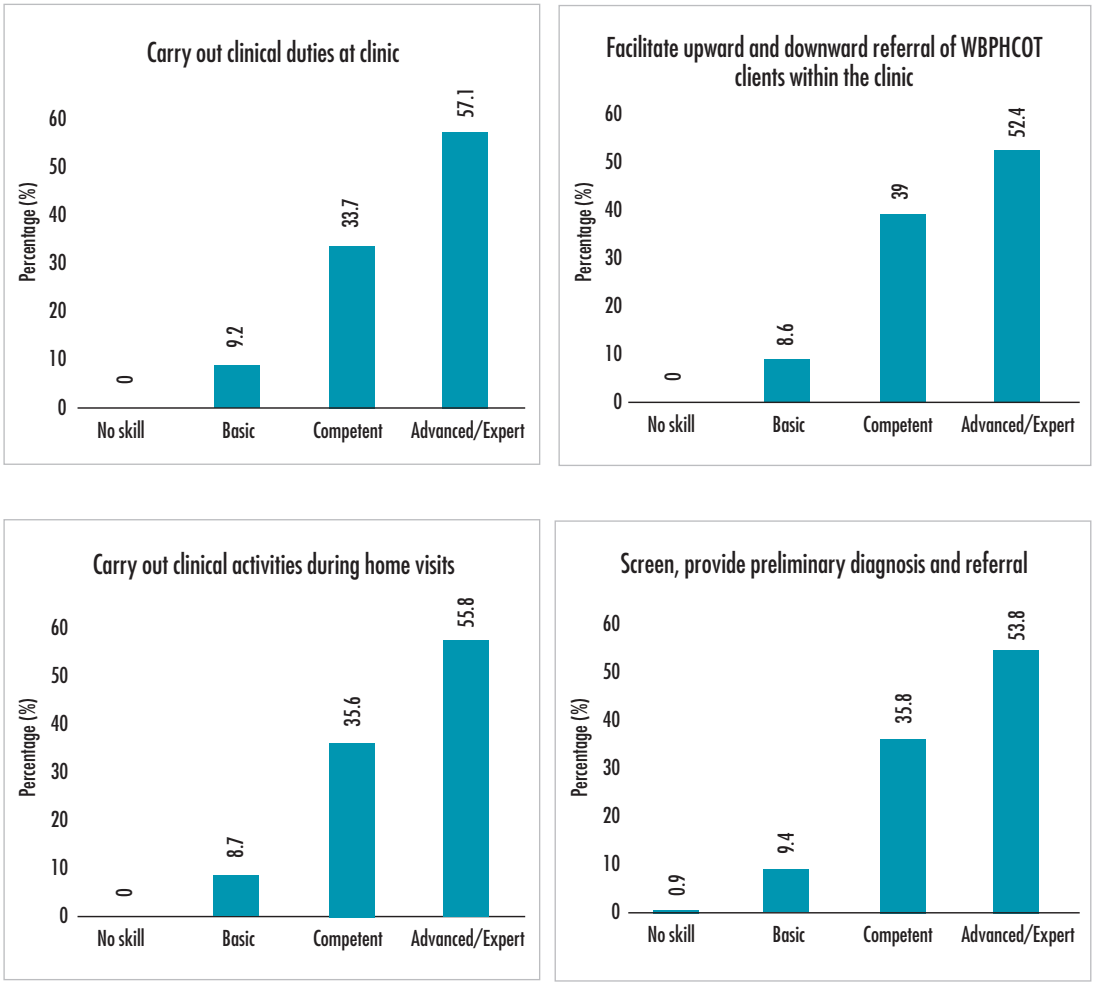


Figure 31 *Clinical skills: self-rating proficiency*

3.2.7.5 CHW and OTL training received

Figure 32 shows the types of training that CHWs completed. 79.4% of the CHWs reported having completed Foundation Phase NDoH training, with about 68.5% having completed Phase 1 NDoH training. 38.3% indicated having completed Phase 2 level training, and approximately 36.1% had completed Occupational Health Promotion training.

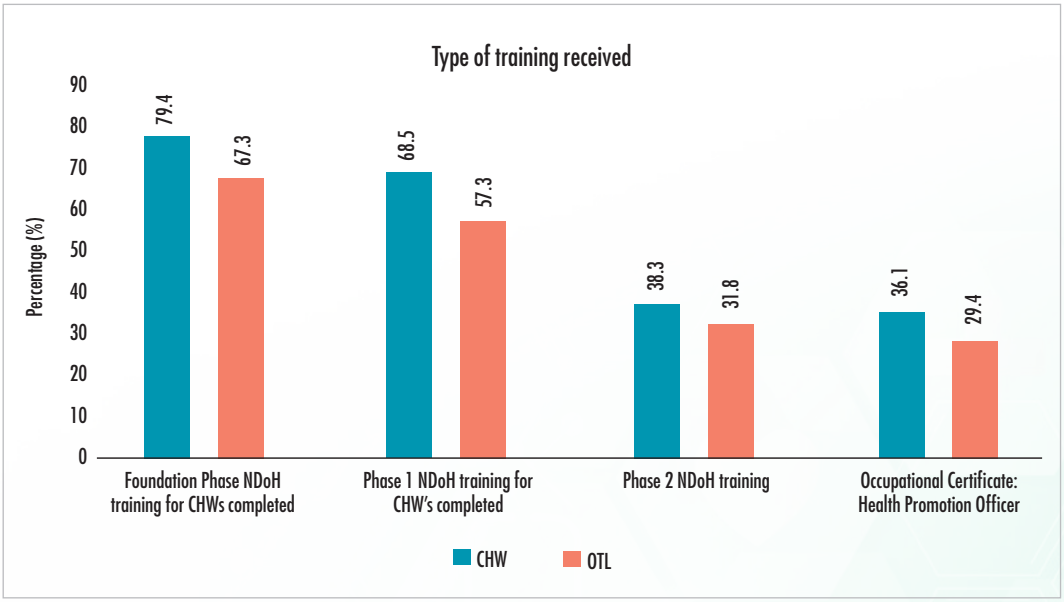


Figure 32 *Training received by CHWs and OTLs*

The majority of CHWs interviewed had completed Foundation Phase training, Gauteng (95.9%), followed by KwaZulu-Natal (88.5%), with Free State and Northern Cape provinces above 80%. The province with the lowest proportion of CHWs who had completed Foundation Phase training was the North West (58.1%). Gauteng also had the highest number of CHWs who had completed Phase 1 training (95.9%), followed by the Free State (86.2%) and Limpopo provinces (83.6%). North West and Mpumalanga had low proportions of CHWs who had completed Phase 1 training compared to other provinces (56.5% North West and 54.7% Mpumalanga). Gauteng was at 68.8% for CHWs having completed Phase 2 training, followed by Limpopo at 56.2%, and the Western Cape at 47.4%. The Free State had the lowest proportion of CHWs who had completed Phase 2 training (17.5%). In the Western Cape, 63.2% of CHWs interviewed had completed Occupational Health training, followed by KwaZulu-Natal at 51.5%). The remaining provinces had less than 50% of CHWs who had completed Occupational Health training.

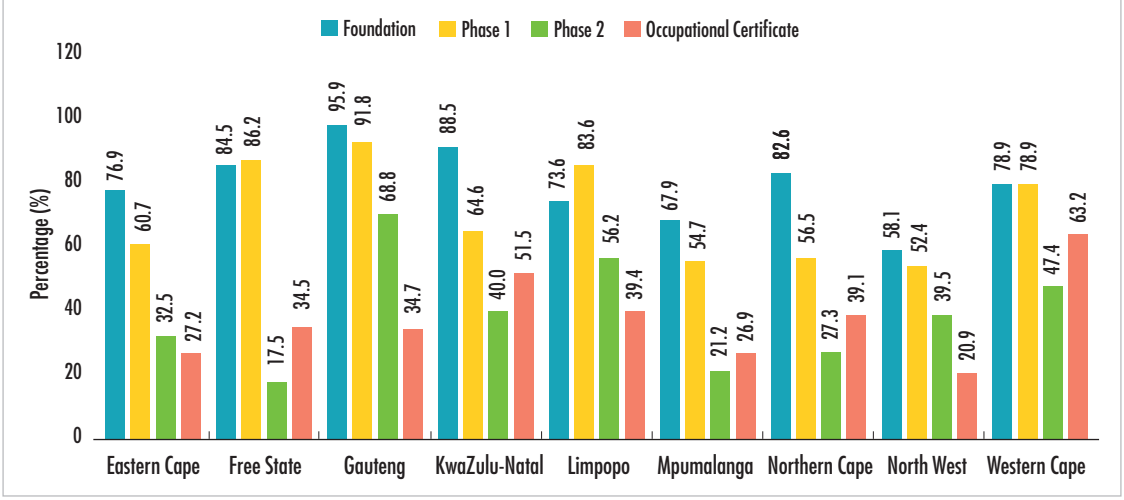


Figure 33 *Types of training completed by CHWs by province*

**Since 2018, Phase 1 and 2 training has been updated and repackaged into what is now referred to as Foundation Phase training (Appendix 1) (Personal communication, NDoH).*

Figure 34 shows the types of training completed by OTLs in each province. The results indicate that most OTLs who had received Foundation Phase training were from Gauteng province (91.7%), followed by Mpumalanga (75.0%). The province with the lowest proportion of OTLs with Foundation Phase training was North West (58.1%). In Gauteng, 75% of CHWs interviewed had completed Phase 1 training, followed by Limpopo (68.8%), Western Cape (66.7%), and the Eastern Cape (65.4%). The rest of the provinces were at about 50%. In all provinces, less than 50% of CHWs had completed Phase 2 Occupational Health training, with Free State having only 8.3% of OTLs who had completed Phase 2 training.

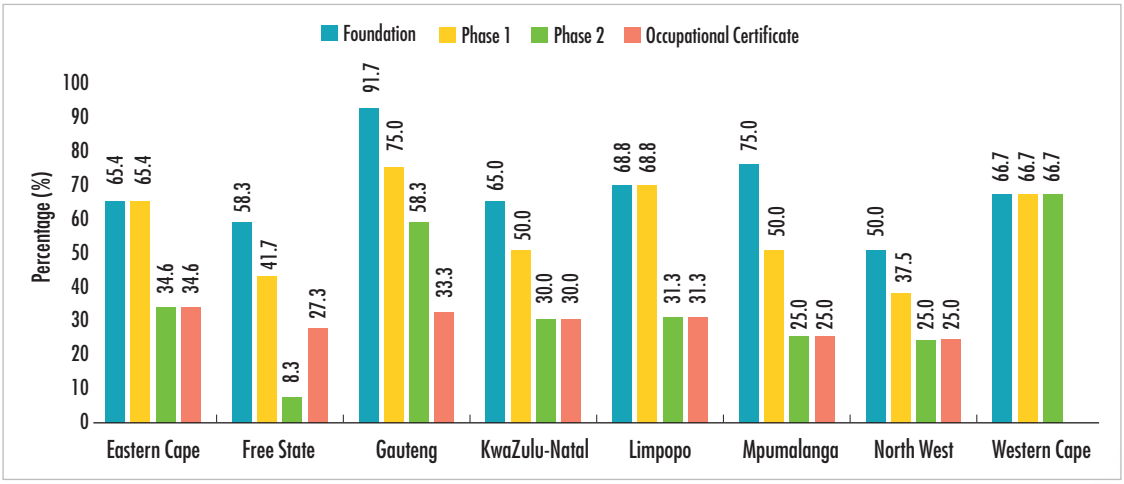


Figure 34 *Types of training completed by OTLs by province*

**Since 2018, Phase 1 and 2 training has been updated and repackaged into what is now referred to as Foundation Phase training (Appendix 1) (Personal communication, NDoH).*

3.2.8 Training service providers and venues

NDoH provided the majority of all phases of training: 90.6% of those who had received Foundation Phase training, 95% of those with Phase 1 training, 94% of those with Phase 2 training, and 94.5% of those with the Occupational Certificate training. Between 5.5% and 9.4% of participants reported receiving training sessions from other organisations, which includes various NGOs, with "Right To Care" and the "Aurum Institute" as the most frequent training providers mentioned.

	TOTAL	(%)	(%)
		NDoH	Other
Foundation Phase NDoH training for CHWs	561	90.6	9.4
Phase 1 NDoH training for CHWs	479	95.0	5.0
Phase 2 NDoH training for CHWs	267	94.0	6.0
Occupational Certificate: Health Promotion Officer	253	94.5	5.5

**Since 2018, Phase 1 and 2 training has been updated and repackaged into what is now referred to as Foundation Phase training (Appendix 1) (Personal communication, NDoH).*

Over 50% of all types of training occurred and over 30% of all types of training were conducted in the district and province where the CHW or OTL lived.

3.2.9 Reasons for not completing training

Among the CHWs who had not completed training, most had not completed Occupational Health Promotion and Foundation Phase because the training was not offered (Table 10).

Table 10 *Reasons for not completing training among CHWs*

	Foundation Phase NDoH Training		Occupational Certificate: Health Promotion Officer (CHW)	
Reason for not completing training	**%**	***n***	**%**	***n***
Training has not yet been offered to me	92.1	116	94.1	369
I have received other training and so do not need this particular training	0.0	0	1.3	5
I have no transport/have logistical difficulties to get to the venue	1.6	2	0.8	3
I have no time to attend training	0.8	1	0.5	2
Other	5.6	7	3.3	13

Table 11 shows that, among OTLs who did not receive each type of training, the training not being offered to them was the main reason for not completing training. Among OTLs, 16.7% and 17.4% reported having received other training and did not require Foundation Phase and Phase 1 training, respectively.

Table 11 *Reason for not completing training among OTLs*

	Foundation Phase NDoH Training		Occupational Certificate: Health Promotion Officer	
Reason for not receiving training	**%**	***n***	**%**	***n***
Training has not yet been offered to me	66.7	24	92.2	71
I have received other training and so do not need this particular training	16.7	6	5.2	4
I have no transport/have logistical difficulties to get to the venue	0.0	0	0.0	0
I have no time to attend training	2.8	1	1.3	1
Other	13.9	5	1.3	1

3.2.10 Assessments and material received during and on completion of training

CHWs and OTLs were asked if they were assessed and provided with a job aid/health promotion booklet, screening tool, manual, and other resources. Over 87.0% reported that they were assessed across all training phases. The majority had also received a job aid or manual after training (see Appendix 6).

3.2.11 Perceived relevance of training

Table 12 shows participants' ratings of the relevance of the training for their roles. CHWs and OTLs were asked to rate if the training was very relevant, relevant, somewhat relevant, or not at all relevant. Overall, the training was regarded as relevant – ratings for very relevant and relevant were over 90%.

Table 12 *Training relevance for your job for each type of training received**

	CHW		OTL		Total	
Foundation phase NDoH Training	**%**	***n***	**%**	***n***	**%**	***n***
Very relevant	70.6	344	63.5	47	69.7	391
Relevant	28.3	138	35.1	26	29.2	164
Somewhat relevant	1.0	5	0.0	0	0.9	5
Not at all relevant*	0.0	0	1.4	1	0.2	1
Total	**10**	**487**	**100**	**74**	**100**	**561**
Phase 1 NDoH Training						
Very relevant	71.7	297	62.9	39	70.6	336
Relevant	27.8	115	37.1	23	29	138
Somewhat relevant	0.5	2	0.0	0	0.4	2
Total	**100**	**414**	**100**	**62**	**100**	**476**
Phase 2 NDoH Training						
Very relevant	71.0	164	79.4	27	72.1	191
Relevant	28.6	66	20.6	7	27.5	73
Somewhat relevant	0.4	1	0.0	0	0.4	1
Total	**100**	**231**	**100**	**34**	**100**	**265**
Occupational Certificate: Health Promotion Officer (CHW)						
Very relevant	67.9	150	68.8	22	68.0	172
Relevant	30.8	68	28.1	9	30.4	77
Somewhat relevant	0.9	2	0.0	0	0.8	2
Not at all relevant	0.5	1	3.1	1	0.8	2
Total	**100**	**221**	**100**	**32**	**100**	**253**

**% and n are reported among those who reported that they received each type of training*

3.2.12 Level of satisfaction with the training

CHWs and OTLs were asked to indicate their level of satisfaction with the Foundation Phase training, rated as very satisfied, satisfied, neutral, and dissatisfied. The majority (over 90%) of the participants were either very satisfied or satisfied with the content, language, assessment, and the time allocated for the training received (see Appendix 5).

3.3 Qualitative interviews

The qualitative interviews sought to obtain the views of provincial managers on models and strategies for meeting CHW and OTL training needs.

In total, 15 interviews were conducted between July and August 2023 across eight provinces. On average, interviews lasted approximately 30 to 45 minutes. The majority of the participants were females.

The study participants' roles varied from provincial managers to master trainers, Regional Training Centre (RTC) managers, Acting Directors for Primary Health Care, Community Health Care Services Directors, Acting Chief Directors of District Health System, and Programme Managers. All had been identified as supporting or overseeing the training of WBPHCOTs in their provinces. The views of participants on models and strategies for meeting CHW and OTL training needs are captured in the following three themes:

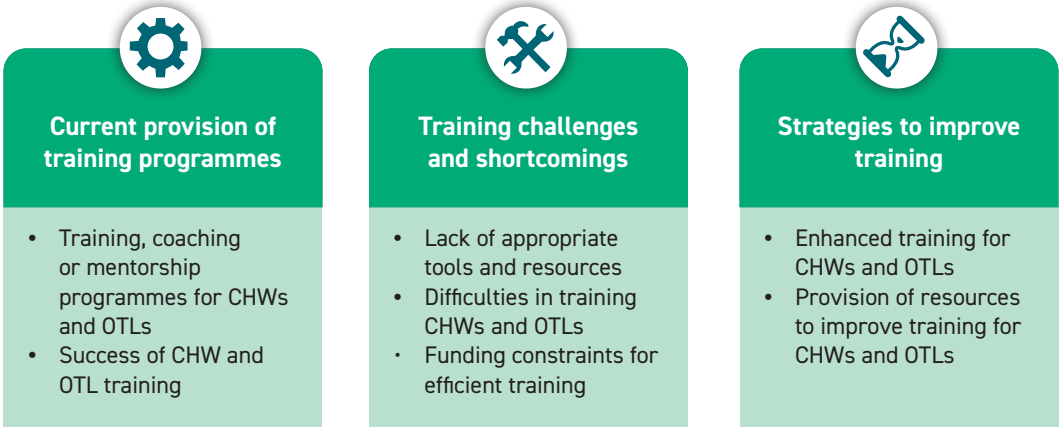


Figure 35 *Themes and sub-themes from interviews with key provincial managers, South Africa, 2023*

3.3.1 Current provision of the training programme

This section describes the current practices regarding training that were observed from the qualitative data. It includes coaching and mentorship-related issues and highlights the successes and challenges of how training is currently provided to CHWs and OTLs.

3.3.1.1 Training, coaching, and mentorship for CHWs and OTLs

Training model

According to study participants, the cascade training model is primarily used to train CHWs. In this model, CHWs are trained by OTLs, who in turn are trained by master trainers, and the master trainers, who are sub-district coordinators, are trained by RTC managers.

> *"We had an average of five people per district that we trained to actually conduct training. They were trained on mentorship... and for them to capacitate the OTLs to be able to support the CHWs. So, it was the cascade model. So even with the OTLs, it's the same that the master trainers are there to cascade the information for training to them for them to be able to confidently train the CHWs."*

Some provincial managers indicated that the Foundation Phase training was identified as "true training", after which the training was passed on to OTLs who conduct work skills training that included HIV and TB testing. At the health facility level, some in-house programs focus on malaria, non-communicable diseases (NCDs), COVID-19, mobilisation campaigns, child and maternal health, child nutrition, pregnancy, and emergency management. According to study participants, CHW and OTL training was seen as beneficial for the implementation of the antiretroviral therapy (ART) programme, improvement in health education, and reporting to the health promotion units.

External and internal training

NDoH is understood to be the primary provider for training CHWs and OTLs and training provided by NDoH is regarded as internal training. However, when the need arises, external service providers are also used. Most of the training was conducted internally, with some academic institutions assisting as service providers for training. The cascade training model is sometimes decentralised (i.e., in-house training). Participants also noted that with regard to internal training, while OTLs may be good at their respective nursing jobs, they needed to be capacitated to train CHWs. In supervisory positions, the OTLs are taught how to manage leave, reporting skills, how to deal with insubordination, and how to maintain a supervisory role.

External training refers to institutions outside the NDoH that train CHWs and OTLs. There are instances where the training is facilitated by external partners, as indicated in the excerpt below:

> *"...so again, on occasion, we had a little bit of external people who were doing the training... which is always very much appreciated, but we found that for sustainability, it helps to have a training vehicle that is internal[ly] [capacitated], so that is kind of that sustained support because sometimes there's an external budget constraint."*

Coaching and mentorship programmes

Qualitative interviews revealed that there were no structured or formal coaching or mentorship programmes led by a designated individual in place at facilities. Instead, it was the responsibility of the line managers of the CHWs and OTLs to know their needs and act on the required training accordingly.

Study participants did, however, refer to in-service training through mentoring of CHWs and OTLs but indicated the shortcomings of the current mentoring model:

> *"...we don't mentor them because though they are attached to a certain facility... the [Occupational Performance Model] OPM does not have enough time because remember 7:00-8:00 am is a very good hour for them to be mentored effectively (but the OPM does not have time) ...There is no structured position ...so we trust the OPM to supervise them of which the OPM is also having a conflict of priorities..."*

3.3.1.2 Success of CHW and OTL training

Overall, it is important to note that while participants clearly articulate the aspects that are challenging as discussed in other parts of this report, the overall sense is that training for CHWs does take place, that it is useful, and that the topics covered are appropriate. The trainings were highlighted as beneficial as seen in ART programmes, and improvement in health education. Reporting to the health promotion units, the quality of reporting and overall communication is improved, so that updates and latest developments on medicines, etc., are communicated timeously and others can also request information, highlighting a direct line of communication among CHWs and district and provincial staff at the facility levels.

> *"Some may receive training for your NCDs. They will be able to screen for diabetes, hypertension, mental health and refer accordingly. So all of them are standardised, but within that very same group we then have a different set of skills that enables them to cut across different programs and offer support to your maternal health, your child health, your post-natal health."*

3.3.2. Training challenges and shortcomings

Interviews with provincial managers yielded information about aspects of training that require improvement. Managers highlighted the gaps related to training for both CHWs and OTLs.

3.3.2.1 Lack of appropriate training tools and resources

Trainees were expected to print training material from a USB – and this was a challenge. They were also expected to register on the Knowledge Hub to access materials, especially as the guidelines were often updated. Accessing the Knowledge Hub was not always possible.

Study participants also discussed the need for more essential tools during training, including training material and equipment required for practical training.

> *"...stationery is not enough for us and them ...also the equipment, each one should be able to have some basic equipment with them. We do get some donations that I have been telling you about from the WHO ... and then they must have your thermometer, your own BP machine, and your scale that can be put in a bag, they must also be having their sanitisers ... So, they need to have the basic equipment and supplies they need."*

Furthermore, it was noted that not all provinces indicated that monitoring of assessments at the household level was undertaken. Provincial managers indicated that practical lessons were conducted via Work Integrated Learning (WIL), while others also reported that CHWs met with OTLs weekly to identify concerns and resolutions.

3.3.2.2 Difficulties in training CHWs and OTLs

Literacy levels and educational qualifications of CHWs

According to study participants, one of the main challenges to providing efficient training was the literacy level and educational qualifications of CHWs. A large proportion of CHWs do not have a matric qualification, and some were reported to be illiterate, which made understanding basic concepts and content challenging during training.

> *"... some of the illiterate ones would not follow, you know they would be very slow to learn. They will not understand complex issues or definitions. You would have to explain... most of the training material should be now transcribed in isiZulu, for the illiterate ones to be able to learn. But in the past, we find that even the ones where the material would be in isiZulu because they could not read, some of them were a challenge."*

It was also noted that CHWs and OTLs differ in their educational qualifications, and this impacts training in terms of developing a curriculum that works for both groups.

> *"...sometimes where the program will be CHWs with the OTL, it's important to remember that there is a vast difference in academic capability, so the CHW may have got matric and the OTL might be a professional nurse with a four-year qualification so to get a curriculum that matches both of those groups."*

Shortage of trainers

A recurring theme mentioned by study participants across all provinces was the insufficient number of master trainers per province.

> *"...I think the other barrier to training is insufficient training facilitators, your master trainers, the training of the trainers who would be able to help us to roll out training. Currently, the province only has around five master trainers, and if you look at a group of 2 500 CHW – that's too little to be able to make the progress you want."*

Participants reported that an increase in trainers and training sessions is required to meet the training demands across and within provinces. Moreover, the sustainability of external trainers was also questioned, with a suggestion that the use of trainers in the NDoH would be more realistic while providing internal capacity at the same time.

> *"...there is kind of that sustained support (if internal) because sometimes there's an external budget constraint... so we're trying to have an internal capacity so that it can be an ongoing thing. So, we know in six months it might change course a little bit but it's the same people and mechanism. I'd say that is what we've learned and where possible, we should use internal capacity maybe at the district level to train our OTLs."*

3.3.2.3 Funding and other constraints for efficient training

Overall, study participants mentioned limited funding to cover training essentials, including transport, catering, and other materials needed to conduct training efficiently. Transportation to training venues was noted as one of the biggest challenges for most provincial managers.

> *"...if you don't have the transport that is going to bring the people to the training venue, it becomes critical, and then you must know that payment also for the transport itself if they are bringing themselves. Usually, they are being taken by Union, the person must not be more than five kilometres from their home you understand to come and do the work ... but they must be able to reach the health facility... so transport does become a barrier to their learning."*

Another big challenge that some provincial managers spoke about during the qualitative interviews was about instances where food for trainees was not provided. This included catering not provided over weekends when delegates travel for training, resulting in trainees having to arrange their own meals.

3.3.3 Strategies to improve training

The following sub-themes present the data related to views and suggestions from provincial managers on improving training for CHWs and OTLs.

3.3.3.1. Enhanced training for CHWs and OTLs

Study participants talked about the training required for OTLs to be able to function at optimum levels. Issues raised ranged from communication skills to training modules and the need for more training amongst team leaders to act as a leader of an outreach team. When asked about the training and mentoring needs of OTLs, the participant below mentioned targeted training in specific fields and improved mentoring.

> *"...that supervisory level, management skills, leadership skills, district management all those issues they need more management skills. Also, with this mentorship, they need to be mentored. When there is no one mentoring them when they are out in the community, they will end up doing... procedures that are not in the guidelines. So, all those, they need a lot of mentoring and a lot of training."*

Several participants discussed the need for improved communication and communication skills – especially for OTLs – and how this would strengthen relationships and productivity among outreach teams.

> *"...the OTLs are mostly professional nurses or enrolled nurses... communication skills are very important for us to bridge that gap... and then enable decision-making instead of us making decisions on behalf of the patient. And then, depending on the skills and knowledge that they have, I would say the OTL training is very important as well as other additional trainings in the programs based on recent developments and updates."*

It was noted that urgency should be given to the leadership training for OTLs. Currently there is greater emphasis on the clinical skills they bring to the team, rather than developing a capable leader who is expected to monitor and guide CHWs. OTLs, therefore, require training that would strengthen partnerships within the outreach team.

> *"...it probably gets even worse with the mentoring and coaching... so I am under the impression that the enrolled nurse or the professional nurse would make a good OTL but we're not always following them in the community to check up on them. So there is training, and it has practical application, but in terms of follow-up I think we need to strengthen that...*

but the challenge that we have sometimes is that OTLs might not be capacitated or educated (to lead a team) so they are probably good at their job as a nurse..."

One participant reported that job satisfaction and retention challenges are determined by how OTLs are appointed, with nurses who volunteer to act as OTLs behaving differently from those assigned to the role.

"...the mere fact that they are not being appointed but assigned, some you find that they lose interest then they go back to the facility when they encounter challenges and they (facility) have got to appoint/to assign new ones."

Participants discussed a dedicated training budget that would include all training components – from transport to printed training materials to providing in-person instead of online training.

"...we don't even have specific funding that is set aside for the training and development of the CHWs. We don't even have special funding that is set aside for the OTL[s], they're all squashed within what is affordable and doable at a particular point in time, and if there is any funding that we can source from the partners in the health (sector)."

"Some CHWs have challenges with the devices, so the phones to log in so they probably need somebody who can log them into a system to do that... some of them are not equipped to manage the online training that we expect them to do."

One participant felt that while CHWs were competent in dealing with HIV and TB, they needed more training in other public health areas, which is an aspect of training that should improve.

"...the other areas would be that are not yet that much explored now it's around your maternal health, your post-natal health, child health, and your NCDs. We are now making more progress on TB [and] HIV, especially the testing part, and the referral and the follow-up care. But in those areas like that mentioned, we still have to expand and assist them to improve their skills and their competency in those areas."

Participants talked about inclusion of both CHWs and OTLs in upcoming training, which would facilitate a dialogue between the two about the importance of in-service training and mentorship.

"...we do come together and make a training plan. Within the training plan, we do involve CHWs as our main point. Also, OTLs we do have training planned for them, but... nobody is mentoring them there in the community if they are doing the right thing."

3.3.3.2 Provision of resources to improve training for CHWs and OTLs

Participants also discussed the availability and improvement of training manuals as another way of improving the training provided to CHWs and OTLs. Manuals should thus match the province where they are used to facilitate more efficient practical learning during training. In addition, the fact that training materials were outdated was also mentioned.

> *"Our manuals are also sorted out at the national level. We don't develop them in the province. We take time as a department to update those manuals in line with the research development around different programs. So, you'd find that sometimes, when you conduct these trainings, the scenarios that would still be referred to in the manual when you look at the practical part of it, it is no longer a relevant scenario... We need to update ...those are challenges that affect the quality of training that our CHWs receive."*

It was noted that standardisation of training material was necessary since it was used in various settings and with people of varying literacy levels and qualifications. The difference in academic qualifications was an important reminder of the distinction between OTLs (who most often were nurses) and CHWs (with a matric qualification), and participants highlighted this difference as a challenge when training both groups at the same time. Besides the content of manuals, simple translations of manuals in locally spoken languages are also crucial because CHWs have varying literacy levels and abilities. According to some participants, it is also important that guidelines are updated regularly and that communication regarding changes reaches the Outreach Team timeously. Improvement of tools for practical learning during training was also regarded as essential for delivering an improved training service.

> *"...the use of the tools that they are given in the training when we give them ten days training. They don't give that much time into the practical part, you are trained on this, tomorrow, when you get back to your facility, this is what you will do. It's just sort of theory, but I think it needs another time where we can do more practice to make sure that they can apply knowledge learned when it comes to practice."*

In addition to the usual standardised formal training, some participants also talked about ad-hoc training that responds to environmental conditions and events as they arise.

> *"...the training should be based on the health context in terms of content... there might be a needs assessment or a community diagnosis to see what the current needs of those communities are but at the same time, we also need cross-country training so the CHW and the OTL are capacitated to respond to the changing dynamics...to say that these are the skills you need to build and these are the skills you need to adapt to new environmental requirements. So that for me is important, the adaptability and a little bit of training..."*

4 DISCUSSION AND CONCLUSION

4.1 Geographical distribution of CHWs

The rollout and scale-up of WBPHCOTs in South Africa was guided by the PHC principle of equity, where the poorest communities deserve to be served first. Therefore, the initial scale-up focused on municipalities with a multi-dimensional poverty index per Statistics South Africa's (StatsSA) upper bound poverty line of $p \geqslant 0.6$. In addition, provinces were to identify and service pockets of poor communities in municipalities that fall below this poverty line. This may explain differences in coverage across provinces and districts. At the provincial level, the higher coverage of over 100 CHWs per 100 000 (or over 1 in 1 000) uninsured people in Limpopo, Mpumalanga, North-West and Northern Cape may be due to poverty levels in the communities in these provinces. In line with this, districts such as Vhembe, Sekukhune and Mopani (Limpopo), Ugu, Harry Gwala and Umkhanyakude (KwaZulu-Natal), JT Gaetsewe (Northern Cape), Joe Gqabi (Eastern Cape) and Ruth Segomotsi Mompati (North West) that have high poverty headcounts (Statistics South Africa 2020, Statistics South Africa 2016) (Stats SA, 2020; Stats SA, 2016), also had higher average CHW coverage of over 100 per 100 000 uninsured people. The districts of Ekurhuleni MM, Johannesburg MM, and Tshwane MM in Gauteng, Nelson Mandela Bay MM in the Eastern Cape, and eThekwini MM and uMgungundlovu DM in KwaZulu-Natal have low poverty levels and also had lower CHW coverage of less than 60 per 100 000 uninsured population. However, the following districts have high poverty levels but low CHW coverage: Alfred Nzo, OR Tambo and Amathole in the Eastern Cape with between 53 and 86 CHWs per 100 000 uninsured population, and Umzinyathi in KwaZulu-Natal with 88.7 CHWs per 100 000 uninsured population. These areas/districts, therefore, require more urgent attention to address the gaps.

The high coverage in KwaZulu-Natal probably reflects both the need, efforts, and roles played by CHWs initially directed at addressing the high HIV burden in the province. However, this province's low district-level coverage in the uMgungundlovu, Amajuba, and uMkhanyakude districts is noteworthy and indicates a need for further attention in these districts. The relatively low coverage in the Eastern Cape, a largely rural province, and in the Alfred Nzo and Sarah Baartman districts in this province, also indicates areas that need urgent attention, given the process for rolling out WBPHCOTs (NDoH, 2018).

The PHC model recommends one OTL and six to ten CHWs in a WBPHCOT, to support guidance and supervision in delivery of services to communities. In this study, the ratio of OTLs to CHWs ranged from 1 OTL to 5.2 CHWs in the West Rand district of Gauteng to as high as 1 OTL to 50.6 CHWs (Ruth Segomotsi Mompati district), and 1 OTL to 96.8 CHWs (Ngaka Modiri Molema district) in North West. Ruth Segomotsi Mompati and Ngaka Modiri Molema districts were among the districts with the highest CHW coverage at over 200 CHWs per 100 000 uninsured people. Several districts in KwaZulu-Natal had on average, over 30 CHWs per OTL. The larger the number of CHWs and CHW teams that one OTL leads, the more difficult it would be for an OTL to manage and coordinate the team members' activities. These findings indicate both a shortage of CHWs in some areas and need to recruit more OTLs in the areas with high ratios of CHWs to OTLs.

4.2 Profile of CHWs and OTLs

Educational qualifications

In the survey sample, only 50% of CHWs had a matric level of education, with 40.8% with an education level of Grade 11 and lower. The level of education attained varied in CHWs across the country. The Free State had the highest proportion of CHWs that had matric, while the Northern Cape had over 60% of CHWs whose educational level was below matric. This indicates need for a mechanism to capacitate CHWs without a matric to matric level to enable adequate grasp of concepts. In addition materials and training could be adapted for those who are about to exit the system through retirement given that the current entry level is now a matric qualification. The North West and Eastern Cape had OTLs that had no matric qualification. The majority of OTLs were suitably qualified for the positions with two thirds having a diploma level of qualification.

Age

The survey results indicate an older cohort of CHWs, with only 10% being younger than 35 years of age. As older and more experienced CHWs move towards retirement, a gap in experience and training is likely. It may be earlier in North West, Limpopo and Mpumalanga, where substantially more CHWs are older and have many years of experience. CHW recruitment strategies need to address recruiting and adequately training younger people. Experienced CHWs can transfer their skills to younger ones, thereby building the capacity of younger and newly recruited CHWs. Considering this, only 42% of CHWs with one to two years of experience indicated that they had completed the Foundation Phase training, therefore, more training resources should be channelled to this relatively new group of CHWs.

4.3 Training, skills and competencies

Tasks, Skills and competencies

The CHWs and OTLs interviewed reported undertaking the majority of the tasks in their job profiles covering the key health areas and social assessments. When compared to those with skills in maternal and child health, communicable and chronic diseases, fewer CHWs reported skills in the areas of violence and injuries as well a substance use. This is significant given the increasing burden of violence and substance abuse in the country. Training and support in these areas should be strengthened. The CHWs surveyed reported high self-ratings of their competencies, which can be attributed to the many years of experience most of them have. Most OTLs and CHWs reported high competency levels in their assigned tasks and activities. Furthermore, participants who received training reported higher median proficiency ratings in various activities and skill areas, which suggests the value of training in increasing competency levels.

Training received, training infrastructure and models

Overall almost 80% of CHWs had received Foundation Phase training, considered the key training for CHWs. While this is a high proportion of trained CHWs it is important to provide training to all CHWs. The majority of those who had not completed training reported that it had not yet been offered to them. This aligns with reported constraints (trainers, funding) in providing training reported in the qualitative interviews with managers. it should also be noted that before 2018, Foundation Phase training was conducted as Phase 1 and Phase 2 training therefore some CHWs who have been in the system for longer could have received this training instead.

Fewer OTLs has completed Foundation Phase training possibly because of they had received other training and because some of them are OTLs in addition to other duties in facilities. In our survey sample 15% of OTLs were part time/assigned OTLs. Among the OTLs who has not completed this training 16.7% reported receiving other training.

Most survey participants reported that the training received was relevant for the tasks and duties they were performing indicating the appropriateness of the curriculum for the population.

Although the CHWs indicated that they were satisfied with training being conducted in English, our study found that more than 50% requested to complete the survey in their local language. Qualitative interviews with managers also highlighted the need to conduct training in the local languages and have training materials available in locally spoken languages to facilitate learning among CHWs with low literacy levels and possibly a lower command of the English language. Other studies also found that English as a training medium is challenging and that training in the vernacular would be useful (Motsieloa, 2022; Puoane et al, 2017).

Even though a standardised and accredited curriculum has been approved nationally and is meant to be implemented through a decentralised training infrastructure (Schneider et al., 2018), this did not fully not emerge from the qualitative study findings. Hence, due to the informal way some of the training is conducted, there appears to be a fragmented and uncoordinated way of implementing training, coaching, and mentorship programmes for CHWs and OTLs. These findings are consistent with the observations made by Johnson and Johnson (2022) regarding the fragmentation and its unintended impact on the CHW training and programme (Johnson, 2022).

Overall, training was primarily conducted using the cascade model. Study participants mentioned that training consisted of two phases, with the initial phase emphasising the scope of work currently being done and the second phase consisting of more practical work. Findings from the qualitative component also highlighted the need for the practical part of the training to receive greater attention, as trainees often find this component challenging to grasp. This should be considered along with other recommendations to improve the practical part of the training, including providing equipment and resources to facilitate effective practical training.

Skills and training gaps

Provincial managers identified several challenges in the implementation of CHW training. One challenge identified is the literacy level and educational qualifications of CHWs. According to provincial managers, low literacy levels also tied in with the need for training materials to be translated into the local languages. Approximately 50% of CHWs did not have a matric qualification, which made understanding concepts and content challenging during training (in the survey sample, 40.8% of CHWs had a Grade 11 or lower level of education).

Another challenge identified by the provincial managers is the limited funding, which presents a considerable obstacle to providing effective training. Training is severely hampered by inadequate funding because participants only sometimes have access to materials needed, including Standard Operating Procedures (SOPs) and printed material. Limited funding was also noted to limit transportation of CHWs to training venues and provision of catering during training. Similar findings – particularly the challenges about transportation to the training venue – were mentioned as one of the main challenges in a study conducted by Motsieloa (2022) in Tshwane (Motsieloa, 2022). CHWs in Motsieloa's (2022) study reported that travelling to designated training venues becomes a challenge because they were not subsidised for their travelling costs (Motsieloa, 2022). Additionally, some training venues were often far, and they had to use two taxis to get to the venue (Motsieloa, 2022).

Another finding from the qualitative interviews was that outdated training materials and curriculum modules were used, which had significant negative consequences for CHWs as it undermines the quality of the information they access. Although the CHWs interviewed had reported that the training provided was relevant to their tasks, we also found that fewer CHWs reported skills in the areas of violence and injuries and substance. These areas that require updating as these issues increase in communities across the country. In addition, as with other health care workers CHWs had to adapt to dealing with COVID-19 a condition that had never been included in training and training manuals. Therefore training should also be easily adaptable to address new and emerging conditions.

4.4 Strategies to improve training

Provincial managers indicated that coaching and mentorship programmes for OTLs are rarely available and that the training needs of CHWs and OTLs were left as the responsibility of their line managers. In addition, provincial managers talked about the need to train OTLs to act as a leader of an Outreach Team and improve their mentoring skills. Mantell and colleagues (2022), in their evaluation of the implementation of the policy framework, mentioned, amongst other programme challenges, a need for more routine mentoring and supportive supervision (Mantell *et al*, 2022). Another study investigating the productivity of CHWs highlighted the relevance of supportive supervision as an essential building block to productivity and effectiveness among CHWs (Jaskiewicz & Tulenko, 2012). Furthermore, linked to supervision, the above-mentioned study proposed using mobile technology to facilitate connectedness between CHWs and OTLs and OTLs and their line managers. It was noted that a dedicated budget for training would improve the efficiency of the training and provide the necessary trainers, and training materials.

As mentioned above translation of materials to local languages was also discussed as a strategy to improve training.

5 STUDY STRENGTHS AND LIMITATIONS

This study used a mixed-method approach combining qualitative and quantitative research methods. Triangulation of these complementary approaches enhances the validity of the findings. However, the study has several limitations. Generally, self-reported skills audits are subject to social desirability bias. Participants may choose a higher rating to appear skilled and knowledgeable. To the extent that social desirability bias is uniform within a group under study, it will inflate individual responses but not alter their rank order.

There were challenges with telephonically administered interviews, which included poor network coverage and connectivity. As a result, some interviews were conducted on a single telephone, either of a CHW or OTL, and this might have compromised privacy, introduced information bias and increasing social desirability bias even further. However participants were assured of anonymity to increase the validity of the findings.

In addition initially, all study instruments were in English. However, during the survey, implementation participants requested interviews in their local languages. Although questionnaires and communication flyers were subsequently translated and provided to field staff for use, the quality of online translation prior to the English language proficiency challenges being reported might have affected congruency between the words and their true meaning in the English version of the questionnaires. Nevertheless, this challenge was identified early after the onset of the survey, and any impact is likely minor.

Finally, only 10% of health facilities in each province were randomly selected, with four CHWs and one OTL sampled per facility. This means the findings may only be generalisable to some health facilities in the country. Nevertheless, the triangulation of quantitative and qualitative research methods offers robust and insight into the skills, competencies and gaps in the training of CHWs and OTLs.

6 RECOMMENDATIONS

Below are recommendations based on the findings of the study.

6.1 Recruitment

- Prioritise recruitment in areas of greatest need. There is a need to focus on specific districts, especially in the Eastern Cape, KwaZulu-Natal, and the North West provinces for CHWs, and to better understand the dynamics and needs of CHWs in Gauteng.
- OTLs need to be recruited in districts where there is a low coverage and low OTL to CHW ratio (North West, KwaZulu-Natal and Eastern Cape).
- Recruit younger CHWs, especially in the North West, Eastern Cape and Limpopo provinces and ensure that there is a process of skills transfer in place from those with experience.
- Ensure new recruits meet the matric entry-level criteria and capacitate those already in the system to matric qualification.

6.2 Organisation of training

- Newly recruited CHWs must be offered the Foundation phase training before commencing duties or as soon as possible after recruitment.
- Prioritise training for new recruits.
- Offer Foundation phase training to OTLs.
- Place adequate emphasis on practical training.
- Provide more coaching/mentorship programmes and leadership training for OTLs.

6.3 Resources

- Review and allocate an adequate budget to support training.
- Increase the number of trainers to ensure all CHWs and OTLs are trained.
- Provide printed training manuals and job aids.
- English language competence is a challenge: training manuals and job aids should also be available in local languages.

6.4 Supervision and mentoring

- Strengthen supportive supervision and provide regular coaching.
- Implement formalised continuous assessments for CHWs and OTLs.

6.5 Future studies

- Assess job satisfaction amongst CHWs and OTLs.
- Determine the views of more CHW trainers on models and strategies for meeting CHW training needs.

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APPENDICES

APPENDIX 1

Training modules for Community Health Workers, South Africa, 2023

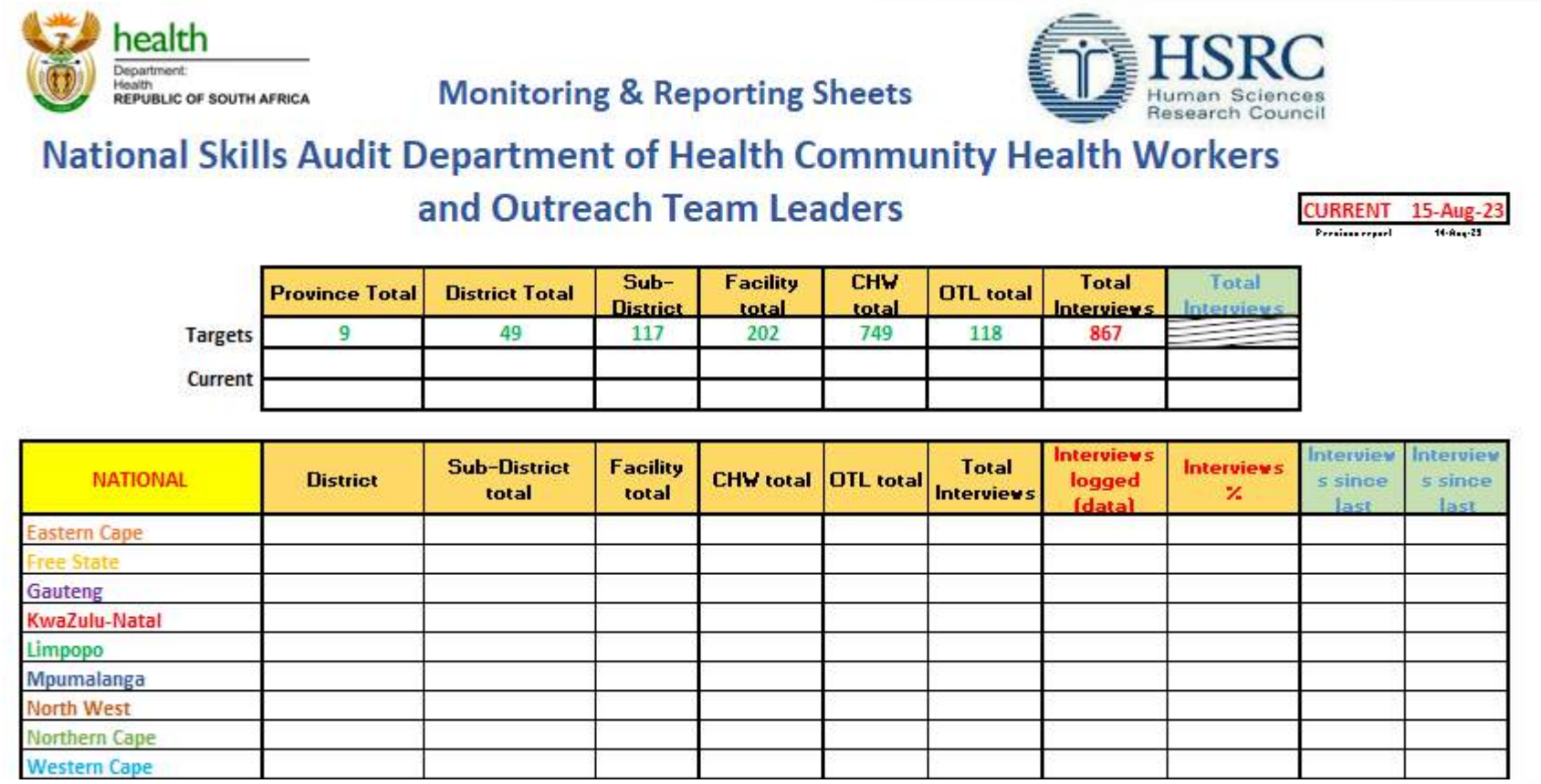
Foundation Phase	Phase 1 NDoH training for CHWs	Phase 2 NDoH training for CHWs	Occupational certificate: Health promotion officer (CHW)	NQF Level
The national health system and the role of CHW	Introduction to the South African healthcare system for the CHW	Assisting CHWs in understanding their position in the PHC Outreach Team as well as in the delivery of healthcare in the communities they serve	Public and Community health support	3
The basics of health, environmental health, basic signs of health, and basic primary health care	Explaining the PHC re-engineering model	To give support and advice to CHWs for them to build the competencies needed to perform their role correctly	Family and Community Services	3
Understanding HIV and TB	Describes the responsibilities of a CHW on the PHC team		Basics of Community Health	3
Non-communicable diseases	Recognition of the PHC and PHC outreach teams and how they fit into the SA healthcare system		Mobilise the community to address community health issues Identify the service needs and ease of access to health and social services	3
Maternal health	Recognition of patients' rights		Promote healthy lifestyles and mental well-being	3

Foundation Phase	Phase 1 NDoH training for CHWs	Phase 2 NDoH training for CHWs	Occupational certificate: Health promotion officer (CHW)	NQF Level
Child health and nutrition	Learn what patients' rights are		Promote HIV prevention, including HIV testing, condom use, partner reduction, circumcision, STIs	3
Adolescent and youth health	Understand the Millennium Development Goals (MDGs) and how CHWs involvement can help to achieve them		Provide information on the prevention of accidents and incidents in homes	3
Treatment adherence			Record and report on information provided to individuals, households, and communities	2
COVID-19			Promote and provide support for maternal and women's health	3
			Promote child health	2
			Support community members with psychosocial problems	4
			Provide an integrated approach to support treatment	4
			Identify and treat a select number of minor ailments	3
			Provide basic support to people who are unable to care for themselves	2

Source: Ideal Clinic Facility data, Department of Health

APPENDIX 2

Data dashboard for data monitoring, CHW and OTL skills audit study



health
Department:
Health
REPUBLIC OF SOUTH AFRICA

Monitoring & Reporting Sheets

HSRC
Human Sciences
Research Council

National Skills Audit Department of Health Community Health Workers and Outreach Team Leaders

CURRENT 15-Aug-23

	Province Total	District Total	Sub-District	Facility total	CHW total	OTL total	Total Interviews	Total Interviews
Targets	9	49	117	202	749	118	867	
Current								

NATIONAL	District	Sub-District total	Facility total	CHW total	OTL total	Total Interviews	Interviews logged (data)	Interviews %	Interviews since last	Interviews since last
Eastern Cape										
Free State										
Gauteng										
KwaZulu-Natal										
Limpopo										
Mpumalanga										
North West										
Northern Cape										
Western Cape										

APPENDIX 3

CHW coverage per district, South Africa, 2023

	Total CHWs[1]	Uninsured population[2]	Number CHWs per 100 000 uninsured population
District			
Cape Town MM	303	3 716 111	8.2
Cape Winelands DM	79	814 888	9.7
West Coast DM	44	396 098	11.1
Overberg DM	36	259 713	13.9
Johannesburg MM	872	4 897 566	17.8
uMgungundlovu DM	187	1 035 383	18.1
Ekurhuleni MM	671	3 173 814	21.1
Bojanala Platinum DM	413	1 733 558	23.8
Sarah Baartman DM	129	442 014	29.2
Nelson Mandela Bay MM	289	968 078	29.9
Alfred Nzo DM	245	799 530	30.6
Buffalo City MM	222	616 388	36.0
NM Molema DM	308	827 504	37.2
Mangaung MM	280	707 926	39.6
OR Tambo DM	602	1 490 468	40.4
Garden Route DM	213	524 561	40.6
JT Gaetsewe DM	98	240 279	40.8
Mopani DM	476	1 150 530	41.4
eThekwini MM	1 478	3 303 144	44.7
ZF Mgcawu DM	117	241 149	48.5
Dr K Kaunda DM	368	718 077	51.2
Tshwane MM	1 443	2 741 451	52.6
Vhembe DM	742	1 402 168	52.9
Umkhanyakude DM	362	651 312	55.6
Amajuba DM	301	535 110	56.3

	Total CHWs[1]	Uninsured population[2]	Number CHWs per 100 000 uninsured population
District			
Amathole DM	421	745 392	56.5
Namakwa DM	54	94 252	57.3
Waterberg DM	408	710 169	57.5
West Rand DM	509	745 910	68.2
Capricorn DM	865	1 244 980	69.5
Nkangala DM	1 016	1 429 152	71.1
King Cetshwayo DM	661	890 179	74.3
Ehlanzeni DM	1 261	1 664 831	75.7
T Mofutsanyana DM	524	687 518	76.2
Harry Gwala DM	374	485 006	77.1
Central Karoo DM	51	65 139	78.3
Joe Gqabi DM	252	321 523	78.4
Lejweleputswa DM	463	567 069	81.6
Chris Hani DM	559	677 116	82.6
Umzinyathi DM	458	544 669	84.1
Gert Sibande DM	941	1 115 552	84.4
Sedibeng DM	664	767 447	86.5
Fezile Dabi DM	406	439 854	92.3
Ruth Segomotsi Mompati DM	418	440 915	94.8
Sekhukhune DM	1 195	1 179 799	101.3
Pixley ka Seme DM	192	182 414	105.3
Ugu DM	873	779 101	112.1
Frances Baard DM	400	355 056	112.7
Zululand DM	948	826 777	114.7
iLembe DM	767	636 683	120.5
Xhariep DM	201	113 890	176.5
Uthukela DM	11 763	665 979	1766.3

	Total CHWs[1]	Uninsured population[2]	Number CHWs per 100 000 uninsured population
Province			
Western Cape	726	5 787 573	12.54411823
Gauteng	4 159	12 337 063	33.7114271
North West	1 507	3727 757	40.42645484
Eastern Cape	2 719	6 053 696	44.91470996
Limpopo	3 686	5 683 482	64.8546085
Free State	1 874	2 526 213	74.18218495
Mpumalanga	3 218	4 213 178	76.37939816
Northern Cape	861	1 112 876	77.36711008
KwaZulu-Natal	18 172	10 374 651	175.1576993
Grand Total	36 922	51 946 363	71.07716088

1. Ideal Clinic Facility data, Department of Health
2. Ndlovu et al. (South African Health Review 2021, Chapter 29, Table 4)

APPENDIX 4

Materials received by participants who attended training

	CHW	OTL	Total
Foundation phase NDoH Training	***n* (%)**	***n* (%)**	***n* (%)**
Assessed after training	437 (89.7)	61 (87.1)	498 (89.4)
Provided with a job aid/health promotion booklet	398 (81.7)	56 (80.0)	454 (81.5)
Provided with a screening tool	389 (79.9)	54 (77.1)	443 (79.5)
Provided with a manual	422 (86.7)	55 (78.6)	477 (85.6)
Other resources	175 (35.9)	21 (30.0)	196 (35.2)
Phase 1 NDoH Training			
Assessed after training	386 (92.6)	57 (93.4)	443 (92.7)
Provided with a job aid/health promotion booklet	355 (85.1)	48 (78.7)	403 (84.3)
Provided with a screening tool	352 (84.4)	48 (78.7)	400 (83.7)
Provided with a manual	378 (90.7)	51 (83.6)	429 (89.8)
Other resources	155 (37.2)	20 (32.8)	175 (36.6)
Phase 2 NDoH Training			
Assessed after training	216 (94.5)	31 (96.9)	247 (93.9)
Provided with a job aid/health promotion booklet	200 (86.6)	23 (71.9)	223 (84.8)
Provided with a screening tool	196 (84.9)	25 (781)	221 (84.0)
Provided with a manual	211 (91.3)	24 (75.0)	235 (89.4)
Other resources	82 (35.5)	8 (25.0)	90 (34.2)
Occupational Certificate: Health Promotion Officer (CHW)			
Assessed after training	199 (90.9)	31 (96.9)	230 (91.6)
Provided with a job aid/health promotion booklet	173 (79.0)	25 (78.1)	198 (78.9)
Provided with a screening tool	174 (79.5)	26 (81.2)	200 (79.7)
Provided with a manual	193 (88.1)	27 (84.4)	220 (87.7)
Other resources	73 (33.3)	7 (21.9)	80 (31.9)

APPENDIX 5
Level of satisfaction with training

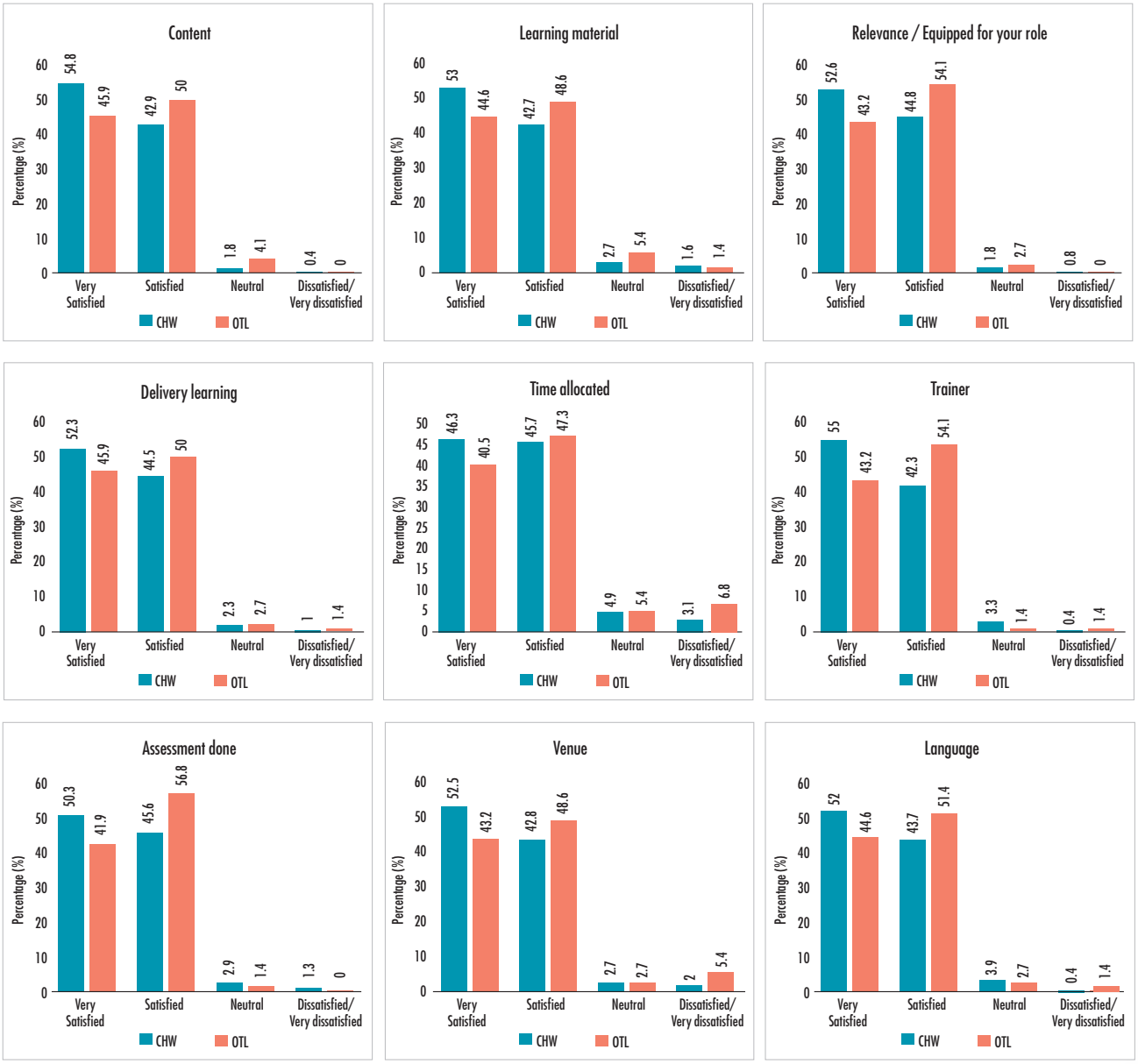


Figure 36 *Level of satisfaction with Foundation Phase training*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